

Summary | Series



Temperature and signal converters (from PAG.1)

series



Temperature and signal transmitters and converters for DIN rail mounting (from PAG.10) **SMART** series

Temperature and signal transmitters and converters for use in potentially explosive atmospheres in according to the ATEX 94/9/EC directive (x). (from PAG.18)

SMART ATEX series

Temperature and signal transmitters and converters, isolators signal splitters (from PAG.28) P.D.S. series

Trip amplifiers for din rail mounting (from PAG.38)

DAT5028 / DAT5024 Trip amplifiers

Signal transmitters and converters, galvanic isolators (from PAG.44) DAT200 / DAT500 series

Data acquisition and control modules (from PAG.50)

DAT3000 series



Intelligent modules (from PAG.64) DAT9000 series



A/d interface Modules for plc "DAT6000 SERIES" (from PAG.73)

DAT6000 series

Temperature transmitters for DIN B In-head mounting (from PAG.78)

DAT1000 series

Digital meters and

Indicators for panel mounting (from PAG.84)

DAT 9550 / DAT8050 DAT700 series

MEANWELL DIN rail power supply. Software and interfaces between device and PC (from PAG.90) Accessories and software

Product Index DATEXEL



Temperature and signal converters **SLIM** series

(PAG.1 / PAG.9)



Temperature and signal transmitters and converters **SMART series**

(PAG.10 / PAG.17)



Temperature and signal transmitters and converters for use in potentially explosive atmospheres. ATEX 94/9/EC

(PAG.18 / PAG.27)



Temperature and signal transmitters and converters for DIN rail mounting P.D.S. series

(PAG.28 / PAG.37)



Trip amplifiers for din rail mounting **DAT5024/5028** series

(PAG.38 / PAG.43)



Signal transmitters and converters **DAT200** series

Galvanic isolators **DAT500 series**

(PAG.44 / PAG.49)





Data acquisition and control modules **DAT3000 series**

(PAG.50 / PAG.63)



Intelligent units **DAT9000 series**

(PAG.64 / PAG.71)



A/D interface Modules for PLC **DAT6000 series**

(PAG.72 / PAG.77)



Temperature transmitters for DIN B In-head mounting **DAT1000 series**

(PAG.78 / PAG.83)



Digital meters and indicators for panel mounting DAT9550, DAT8050, DAT700 series

(PAG.84 / PAG.89)



Meanwell power supply MDR series

(PAG.92 / PAG.93)



Accessories and software (PAG.94 / PAG.95)

Ш

The Company

ODATEXEL

The success of a company depends on many factors: expertise, reliability, professionalism.

If all this is also true for DATEXEL, nevertheless it is not enough to draw a full picture.

DATEXEL was founded in 1992 on the commitment and ambitions of a few partners as a small provincial company, and through the years became a consolidated entity that today operates on national and international markets as a manufacturer of electronic equipment for industrial automation and process control.









Products that represent innovative solutions capable of satisfying the requirements of the main industrial automation sectors:

- Energy production
- Oil
- Foodstuffs
- Pharmaceutical
- Chemical industry
- Water processing
- Automation & engineering
- Paper

A wide range of products

The DATEXEL range is vast and complete: Transmitters, Temperature converters (both analogue and digital), Galvanic isolators, Signal splitters, Distributed I/O modules, A/D interface modules for PLC, Trip amplifiers, Power suppliers, Current loop isolators, Digital meters and Indicators.



Products that represent innovative solutions capable of satisfying the requirements of the main industrial automation sectors: energy production, oil, foodstuffs, pharmaceutical, chemical industry, water processing, automation & engineering, paper.



The synergy

But behind the equipments and systems branded DATEXEL, there is the dedication and professionalism of our employees. All work processes (design, assembly, testing) are carried out within our company.

DATEXEL is organized:

- DESIGN/ RESEARCH & DEVELOPMENT
- PRODUCTION
- SALES ITALY / ABROAD
- ADMINISTRATION and PURCHASING
- QUALITY

DATEXEL

EXPERTISE · RELIABILITY

٧



Technological innovation and the constant search for integrated solutions allow us to offer our customers an exclusive service: the work process is carried out automatically with the use of cutting-edge machinery (pick and place for assembly), and the products are 100% tested, also thanks to the use of specific software applications and instruments regularly subjected to calibration.



All departments and offices are perfectly integrated and compatible one with the other. And each one contributes to the company's overall success.

Specifically, the SALES, RESEARCH & DEVELOPMENT—DESIGN, PRODUCTION units play a crucial role.

During the design phase, a team of specialized technicians assists the customer, identifying all its specific needs and requirements.

In the PRODUCTION department, duly trained personnel handle the manufacture and finishing of DATEXEL equipment, as well as the final testing (before the delivery). In a constantly evolving sector such as industrial automation, RESEARCH & DEVELOPMENT represents a strategic department capable of acquiring and maintaining COMPETITIVE ADVANTAGES.



The company's growth and expansion philosophy translates into a wider and wider product offer.

As a result, qualified personnel are always searching for customers and distributors in order to acquire new markets: not only in Italy, but in EC and non-EC countries too, specifically in developing countries such as Brazil, South Africa, Australia and China.

New and distant horizons then: the same horizons that DATEXEL is striving to reach in the areas of quality and innovation as well.



Quality control

DATEXEL invests significantly in RESEARCH & DEVELOPMENT, obtaining first-class results thanks to the contribution of highly specialized researchers and technicians.

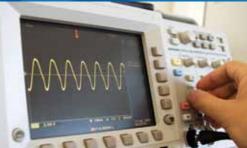
And let's not forget the QUALITY factor: DATEXEL has taken on the quality challenge, developing a careful study of production processes and paying great attention to materials and innovative systems.

Operating daily in full compliance with quality standards has made it possible for DATEXEL to obtain its certification according to Standard UNI EN ISO 9001 (1996), subsequently converted into the current standard ISO 9001:2008.

Another important acknowledgement is the ATEX 94/9/EC certification, concerning the type-approval of safety requirements for equipment and protection systems intended for use in potentially explosive atmospheres.

Lastly, in July 2006 DATEXEL conformed to the RoHS Directive (regulation 2002/95/EC) which sets restrictions on the use of certain hazardous substances when building various types of electric and electronic equipment, thus offering environmental guarantees as well with its products.





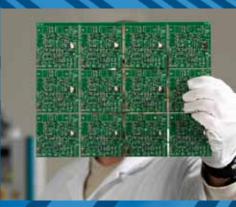
A well-structured organization, operating in facilities that cover a surface area of 450 square meters, with spaces efficiently subdivided into three macro areas: managerial, technical, production.

With regards to the sales area, DATEXEL relies on an in-company division that interacts with Customers on a daily basis in handling the usual commercial activities (issuing proposals or negotiating discounts or delivery times), through a capillary network of distributors (in Italy and abroad) that coordinates and provides assistance with an uninterrupted series of contacts.











The products of Datexel cover several type of applications due to a wide variety of conditions of use and ambient factors:

Industries:



Industrial automation and control process linked to all sectors.

Food business:



Food production, Cellars, dairies, pasta production, packaging and bottling lines.

Energy:



Thermal, hydropower, alternative energy (photovoltaic, solar, geothermal, wind, etc...)

Board Machine - Industrial automation:



Process control in steel plants, steel works, cement works, pharmaceutical, food and paper industry, etc.

Water treatment:



Water recycling, dams, remote control and management, data-logging.

Petrochemical offshore:



Process control in the petrochemical and offshore sectors.

06

38

04

DAT200 / DAT500 Series

> DAT3000 Series

DAT9000 Series

09 DAT6000

DAT1000 Series

Series

DAT 9550 / DAT8050 DAT700 Series

Accessories and software

PRODUCT CATALOGUE

ELECTRONIC AND CONTROL PROCESS DEVICES

DATEXE

THILITINITI

www.datexel.it

ODATEXEL







Temperature and signal converters "SLIM SERIES"

The line of converters "SLIM series" has been designed to provide to the user the highest flexibility in the signals conversion. The series is composed of:

- · Converters for universal input with double output and trip amplifier (DAT4530)
- Single channel converters dedicated for typology of input (DAT4531)
- Double channel converters (two independent inputs and outputs) dedicated for typology of input (DAT4532)
- Signal splitters dedicated for typology of input (DAT4631)
- Mathematical modules (DAT4632D)
- Frequency converters (**DAT4540**)

It is possible to program the devices either via dip-switches to set the most common input and output ranges or via Personal Computer using the software DATESOFT by which the user can personalize the input and output ranges for his own necessities.

All of these features are available in only 12.5 mm thickness.

INDEX

02 . **DAT 4530**

Universal isolated converter configurable by Dip-Switch or PC double output & trip amplifier

DAT 4531 A 03

Isolated converter for TC and mV configurable by Dip-Switch or PC

DAT 4531 B

Isolated converter for RTD and resistance configurable by Dip-Switch or PC

DAT 4531 C

Isolated converter for PTC/NTC/Pot configurable by Dip-Switch or PC **DAT 4531 D**

Isolated converter for voltage and current configurable by Dip-Switch or PC

DAT 4532 A

Double channel, isolated converter for TC and mV configurable by Dip-Switch or PC

Double channel, isolated converter for RTD and resistance configurable by Dip-Switch or PC

DAT 4532 C 06 .

Isolated, double channel converter for PTC/NTC/Pot configurable by Dip-Switch or PC

Double channel, isolated converter for voltage and current configurable by Dip-Switch or PC

DAT 4540

Isolated F/V, F/I Converter Configurable by Dip-Switch or PC, Transistor or Relay Outputs **DAT 4631 A**

Isolated Splitter / Converter for TC and mV configurable by Dip-Switch or PC

DAT 4631 B

Isolated Splitter / Converter for RTD and resistance configurable by Dip-Switch or PC **DAT 4631 C**

Isolated, Splitter / Converter for PTC/NTC/Pot configurable by Dip-Switch or PC

DAT 4631 D

Isolated Splitter / Converter for voltage and current configurable by Dip-Switch or PC

Isolated mathematical module for voltage and current input configurable by Dip-Switch or PC



SLIM SERIES

01

⊕D**∀**1EXEL



SLIM Temperature and signal series converters



mΑ mV, V, mA



GENERAL DESCRIPTION

The universal isolated converter DAT 4530 is able to measure and linearise voltage, current and resistance signals, potentiometers and the standard thermocouples and Sensors with, if required, the cold junction compensation, the wires compensation. For mV, V and mA input it is possible to set an option for the fast sampling (option HS) or to extract the square root of the measured signal (option SQRT). In function of programming, the measured values are converted in a current or voltage signal on the two outputs. Moreover an output contact is available as trip alarm.

The device guarantees high accuracy and performances stability both versus time and temperature.

FEATURES

- Universal configurable input for:
- mV, TC, RTD, Res, Potentiometer, V and mA
- Two outputs configurable in current or voltage
- Trip alarm
- Configurable by dip-switch or PC
- High accuracy
- On-field reconfigurable
- Galvanic isolation among all the ways
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035





Application areas











POWER SUPPLY ISOLATION		TEMPERATURE AND HUMIDITY						
Power supply voltage	20 30 Vdc			1500 Vac	Operative temperature			-20°C +60°C
117 3					Storage temperature			-40°C +85°C
		ways		50 Hz, 1 min	J 1			
Rever. polarity protection	60 Vdc max)		!	Humidity (not condensed)		0 90 %		
CURRENT CONSUMPTION		EMC (for industrial environments)		ALARM T	RIP	HOUSING		
Current output	90 mA max.	DIRECTIVE: 2004 / 108 / EC		04 / 108 / EC	Contact	SPST Material S		Self-extinguishing plastic
Current output	70 IIIA IIIax.	lana and the c			Max Load	l (resistive):	Dimensions	
	ır	Immunity EN 61000-6-2	61000-6-2				W x L x H : 90 x 112 x 12.5	
Voltage output	30 mA max.	,			Voltage	48 V (ac/dc)	(mm)	

INPUT				
Input type	Min	Max	Span min	
TC (CJC int./ext.)				
J	-200°C	1200°C	100°C	
K	-200°C	1300°C	100°C	
S	0°C	1750°C	400°C	
R	0°C	1750°C	400°C	
В	0°C	1850°C	400°C	
E	-200°C	1000°C	100°C	
Т	-200°C	400°C	100°C	
N	-200°C	1300°C	100°C	
Voltage				
mV	-100 mV	+90 mV	5 mV	
mV	-100 mV	+200 mV	10 mV	
mV	-100 mV	+800 mV	20 mV	
RTD (2, 3, 4 wires)				
Pt100	-200°C	850°C	50°C	
Pt1000	-85°C	185°C	30°C	
Ni100	-60°C	180°C	50°C	
Ni1000	-60°C	150°C	30°C	
RES. (2, 3, 4 wires)	0 Ω	500 Ω	50 Ω	
KL3. (2, 3, 4 Wiles)	0 Ω	2000 Ω	50 Ω	
Pot. (Rnom.< 50KΩ)	0 %	100 %	10 %	
Voltage	-10 V	10 V	1 V	
Current	0 mA	20 mA	1 mA	
Calibration (1)				
mV, TC	the higher of ±0.1 % and ±12 uV			
RTD		0.1 % and ±0.2°C		
Res.	the higher of ±	0.1 % and ±0.15		
Potentiometer	± 0.05 % f.s.			
Volt		0.1 % and ± 2 m		
mA	the higher of ± 0.1 % and \pm 6 uA			

(1) referred to the input Span (difference between max. and min.)

± 0.5 % f.s (opt. HS)

Linearity (1)	
TC, RTD	± 0.1 % f.s.
mV, V, mA	± 0.05 % f.s.
Input impedance	
TC, mV	>= 10 MΩ
mA	~22 Ω
Sensor excitation current	
RTD,Res	400 uA
Voltage Aux.	>18 V @ 20 mA
Line resistance influence (1)	
TC, mV	<=0.8 uV/Ohm
RTD 3 wires	$0.05\%/\Omega$ (50 Ω max balanced)
RTD 4 wires	$0.005\%/\Omega$ (100 Ω max balanced)
Thermal drift (1)	
Full scale	± 0.01 % / °C
CJC	± 0.01 % / °C
CJC compensation	± 0.5°C

OUTPUT (2 CHANNELS)			
Output type	Min	Max	Span min
Current	0 mA	20 mA	4 mA
Voltage	0 V	10 V	1 V
Output calibration			
Current		± 7 uA	
Voltage		± 5 mV	
Voltage Aux.		>12V @ 20 mA	
Burn-out values			
Max. output value		22 mA or 11 V	
Min. output value		0 mA or -0.6 V	
Output load Resistance -	Rload		
Current output		< 500 Ω	
Voltage output		> 10 KΩ	
Short circuit current		30 mA max	
Bessesses time (10 : 00%)	-4 F C)	about 400 ms	
Response time (10÷ 90% of F.S)		100 ms (opt. HS)	

ISOLATED CONVERTER FOR TC AND mV CONFIGURABLE BY DIP-SWITCH OR PC

DAT 4531

GENERAL DESCRIPTION

The isolated converter DAT 4531 A is able to measure and linearise the standard thermocouples with internal or external cold junction compensation. In function of programming, the measured values are converted in a current or voltage signal. The device guarantees high accuracy and performances stability both versus time and temperature.

FEATURES

- Configurable input for TC and mV
- Configurable output in current or voltage
- Configurable by dip-switch or PC
- High accuracy

- On-field reconfigurable
- Galvanic isolation among the ways
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035





Application areas



TC, mV



Line resistance influence (1)





<=0.8 uV/Ohm

POWER SU	JPP	LY				
Power supply voltage			18 30	Vdc		
Rever. polari	ty pı	otec	tion	60 Vdd	max	
CURRENT	COI	NSU	MPT	ION		
Current outp	ut		35 m	nA max.		
Voltage outp	out		20 m	nA max.		
ISOLATION	V					
Among all th ways	1500 Vac, 50 Hz, 1 m		nin			
TEMPERATURE AND HUMIDITY					ITY	
Operative temperature -20°C			+60°C			
Storage temperature				-40°C	+85°C	
Humidity (not	t con	dense	ed)	0 90 %		
EMC (for industrial environments)						
DIRECTIVE: 2004 / 108 / EC						
Immunity	EN 61000-6-2					
Emission	EN	EN 61000-6-4				
HOUSING						
Material	Self	f-exti	nguis	hing pla	stic	
Dim. (mm)	W	(Lxl	H: 90	x 112 x	12.5	

Input type	Min	Max	Span mii		
TC (CJC int.,	/ext.)				
J	-200°C	1200°C	100°C		
K	-200°C	1300°C	100°C		
S	0°C	1750°C	400°C		
R	0°C	1750°C	400°C		
В	0°C	1850°C	400°C		
E	-200°C	1000°C	100°C		
Т	-200°C	400°C	100°C		
N	-200°C	1300°C	100°C		
Voltage					
mV	-100 mV	+90 mV	5 mV		
mV	-100 mV	+200 mV	10 mV		
mV	-100 mV	+800 mV	20 mV		
Input calibra	ation (1)				
mV, TC	> ± 0.1 % f.s	s. and ± 12 uV	,		
Linearity (1)					
TC	± 0.2 % f.s.				
mV	± 0.1 % f.s.	± 0.1 % f.s.			
Input imped	lance (1)				
TC, mV	>= 10 MΩ				

i nermai drift (1)				
Full scale		± 0.01% / °C		
CJC		± 0.01% / °C		
CJC compensation		± 0.5°C		
OUTPUT				
Output type	Min	Max	Span min	
Current	0 mA	20 mA	4 mA	
Voltage	0 V	10 V	1 V	
Output calibration				
Current		± 7 uA		
Voltage		± 5 mV		
Burn-out values				
Max. output value		22 mA or 11 V		
Min. output value		0 mA or -0.6 V		
Output load Resista	ance - Rloa	ad		

Current	± 7 uA
Voltage	± 5 mV
Burn-out values	
Max. output value	22 mA or 11 V
Min. output value	0 mA or -0.6 V
Output load Resistance - Rloa	d
Current output	< 500 Ω
Voltage output	> 10 KΩ
Short circuit current	26 mA max
Response time (10÷90% of f.s.)	about 500 ms
and min.)	

ISOLATED CONVERTER FOR RTD AND RESISTANCE CONFIGURABLE BY DIP-SWITCH OR PC

4531 DAT,

Weight



about 90 g.

GENERAL DESCRIPTION

The isolated converter DAT 4531 B is able to measure and linearise the standard RTD and resistances with 2 or 3 wires cable

In function of programming, the measured values are converted in a current or voltage signal. The device guarantees high accuracy and performances stability both versus time and temperature.

- Configurable input for RTD and resistance
- Configurable output in current or voltage
- Configurable by dip-switch or PC
- High accuracy

- On-field reconfigurable
- Galvanic isolation among the ways
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035





Application areas











POWER SUPPLY

Power supply voltage 18 .. 30 Vdc Rever. polarity protection 60 Vdc max

CURRENT CONSUMPTION

Current output 35 mA max Voltage output 20 mA max

ISOLATION

1500 Vac, Among all the 50 Hz, 1 min

TEMPERATURE AND HUMIDITY

Operative temperature -20°C .. +60°C Storage temperature -40°C .. +85°C Humidity (not condensed) 0 .. 90 %

EMC (for industrial environments)

DIRECTIVE: 2004 / 108 / EC

Immunity EN 61000-6-2 EN 61000-6-4 Emission

HOUSING

Material Self-extinguishing plastic Dim. (mm) W x L x H : 90 x 112 x 12.5 about 90 g.

INPUT				
Input type	Min	Max	Span min	
RTD (2, 3 wire	es)			
Pt100	-200°C	850°C	50°C	
Pt1000	-85°C	185°C	30°C	
Ni100	-60°C	180°C	50°C	
Ni1000	-60°C	150°C	30°C	
RES. (2, 3	0 Ω	500 Ω	50 Ω	
wires)	0 Ω	2000 Ω	50 Ω	
Calibration (1)			
RTD	the higher of ±0.1 % f.s. and ±0.2°C			
Low Res.	the higher of ± 0.1 % f.s. and ± 0.15 Ω			
High Res.	the higher of ± 0.2 % f.s. and \pm 1 Ω			
Linearity (1)				
RTD	± 0.1 % f.s.			
Sensor excita	tion curren	t		
RTD, Res	500 uA			
Line resistance influence (1)				
RTD 3 wires	0.05%/Ω (50	Ω max balan	ced)	
Thermal drift	(1)			
Full scale	± 0.01% / °C			
•				

OUTPUT				
Output type	Min	Max	Span min	
Current	0 mA	20 mA	4 mA	
Voltage	0 V	10 V	1 V	
Output calibration				
Current		± 7 uA		
Voltage		± 5 mV	± 5 mV	
Burn-out values				
Max. output value		22 mA or 1	0.6 V	
Min. output value		0 mA or -0.	.6 V	
Output load Resista	ance - Rloa	nd		
Current output	Current output		< 500 Ω	
Voltage output		> 10 KΩ		
Short circuit current		26 mA max		
Response time (10÷90)% of f.s.)	about 500	ms	
(1) referred to the input	Span (differe	nce betweer	max. and min	

4



The isolated converter DAT 4531 C is able to measure and linearise the standard PTC and NTC sensors and potentiometers. In function of programming, the measured values are converted in a current or voltage signal. The device guarantees high accuracy and performances stability both versus time and temperature.

FEATURES

- Configurable input for PTC, NTC and Pot.
- Configurable output in current or voltage
- Configurable by dip-switch or PC
- High accuracy

- On-field reconfigurable
- Galvanic isolation among the ways
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035















POWER SUPPLY				
Power supply voltage		18 30 Vdc		
Rever. polarity protection		60 Vdc max		
CURRENT CONSUMPTION				
Current output	25 m	Λ may		

20 mA max.

Voltage output **ISOLATION**

Among all the 1500 Vac, 50 Hz, 1 min

TEMPERATURE AND HUMIDITY

Operative temperature	-20°C +60°C
Storage temperature	-40°C +85°
Humidity (not condensed)	0 90 %

EMC (for industrial environments)

DIRECTIVE: 2004 / 108 / EC

HOUSING					
Emission	EN 610	00-6-4	÷		
Immunity	EN 610	00-6-2	-		

HOOSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT				
Input type	Min	Max	Span min	
PTC				
KTY81-210	-55°C	150°C	50°C	
KTY81-220	-55°C	150°C	50°C	
KTY84-130	-40°C	300°C	50°C	
KTY84-150	-40°C	300°C	50°C	
NTC				
Coster 10K	-10°C	100°C	50°C	
Coster 1K	-30°C	40°C	25°C	
Pot. (Rnom.< 50KΩ)	0 %	100 %	10 %	
Calibration (1)				
PTC, NTC	the higher o	f ±0.1 % f.s. a	nd ±0.2°C	
Potentiometer	± 0.05 % f.s.			
Linearity (1)				
PTC, NTC	± 0.1 % f.s.			
Sensor excita	tion curren	t		
PTC,NTC	500 uA			

OUTPUT					
Min	Max	Span min			
0 mA	20 mA	4 mA			
0 V	10 V	1 V			
	± 7 uA				
	± 5 mV				
Burn-out values					
Max. output value 22 mA or 11 V					
Min. output value 0 mA or -0.6 V					
Output load Resistance - Rload					
Current output < 500 Ω					
ge output > 10 KΩ					
Short circuit current 26 mA max					
)% of f.s.)	about 500 m	S			
	0 mA 0 V	0 mA 20 mA 0 V 10 V ± 7 uA ± 5 mV 22 mA or 11 V 0 mA or -0.6 ance - Rload < 500 Ω > 10 KΩ 26 mA max			

(1) referred to the input Span (difference between max. and min.)

± 0.01% / °C

ISOLATED CONVERTER FOR VOLTAGE AND CURRENT CONFIGURABLE BY DIP-SWITCH OR PC

DAT 4531

GENERAL DESCRIPTION

Thermal drift (1)

Full scale

The isolated converter DAT 4531 D is able to measure voltage and current signals. In function of programming, the measured values are converted in a current or voltage signal.

The device guarantees high accuracy and performances stability both versus time and temperature.

FEATURES

- Configurable input for voltage and current
- Configurable output in current or voltage
- Configurable by dip-switch or PC
- High accuracy

- On-field reconfigurable
- Galvanic isolation among the ways
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035





Application areas











POWER SUPPLY

Power supply voltage 18 .. 30 Vdc Rever. polarity protection 60 Vdc max

CURRENT CONSUMPTION

Current output	35 mA max.
Voltage output	20 mA max.

ISOLATION

Among all the 1500 Vac, 50 Hz, 1 min

TEMPERATURE AND HUMIDITY

Operative temperature	-20°C +60°C
Storage temperature	-40°C +85°C
Humidity (not condensed)	0 90 %

EMC (for industrial environments)

DIRECTIVE: 2004 / 108 / EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING

Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g

INPUT			
Input type	Min	Max	Span min
Voltage	0 V	10 V	1V
Current	0 mA	20 mA	1 mA
Calibration (1)			

Voltage	0 0	10 V	1.0	
Current	0 mA	20 mA	1 mA	
Calibration (1)				
Volt	the higher o	f ±0.1 % f.s. aı	nd ± 2 mV	
mA	the higher o	f ±0.1 % f.s. aı	nd ± 6 uA	
Linearity (1)				
V, mA ± 0.05 % f.s.				
Input impedance				
Volt	/olt >= 1 MΩ			
Current	<= 50 Ω			
Thermal drift (1)				
Full scale	± 0.01% / °C			

OUTPUT				
Output type	Min	Max	Span min	
Current	0 mA	20 mA	4 mA	
Voltage	0 V	10 V	1 V	
Output calibration				
Current		± 7 uA		
Voltage	± 5 mV			
Burn-out values				
Max. output value 22 mA or 10.6 V				
Min. output value 0 mA or -0.6 V			V	
Output load Resistance - Rload				
Current output	< 500 Ω			
Voltage output		> 10 KΩ		
Short circuit current		26 mA max		
Response time (10÷90% of f.s.) about 100 ms			S	

DOUBLE CHANNEL, ISOLATED CONVERTER FOR TC AND mV CONFIGURABLE BY DIP-SWITCH OR PC

DAT 4532

GENERAL DESCRIPTION

The isolated converter DAT 4532 A is able to measure and linearise the standard thermocouples with internal or external cold junction compensation. In function of programming, the measured values are converted in a current or voltage signal.

The device guarantees high accuracy and performances stability both versus time and temperature. The double channel allows the high density mounting where is necessary to reduce the encumbrances.

- Configurable input for TC and mV
- Configurable output in Current or Voltage
- Configuration by PC allows to program the two channels with two independent settings
- Double channel in the same enclosure
- Configurable by dip-switch or PC
- High accuracy
- On-field reconfigurable

- Galvanic isolation among the ways
 EMC compliant CE mark
 Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035















\mathbf{n}	MAZ	ED	CII	חח	1 1/
PU	w	EK	SU	PP	ШΥ
_	سب		-		

Power supply voltage	18 30 Vdc
Rever. polarity protection	60 Vdc max

CURRENT CONSUMPTION

Current output	55 mA max.
Voltage output	25 mA max.

ISOLATION

1500 Vac, Among all the 50 Hz, 1 min

TEMPERATURE AND HUMIDITY

Operative temperature	-20°C +60°C
Storage temperature	-40°C +85°C
Humidity (not condensed)	0 90 %

EMC (for industrial environments)

DIRECTIVE: 2004 / 108 / EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING

Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

Application areas

INPUT (2 CHANNELS)			
Input type	Min	Max	Span min
TC (CJC int./ext.)			
J	-200°C	1200°C	100°C
K	-200°C	1300°C	100°C
S	0°C	1750°C	400°C
R	0°C	1750°C	400°C
В	0°C	1850°C	400°C
E	-200°C	1000°C	100°C
Т	-200°C	400°C	100°C
N	-200°C	1300°C	100°C
Voltage			
mV	-100 mV	+90 mV	5 mV
mV	-100 mV	+200 mV	10 mV
mV	-100 mV	+800 mV	20 mV
Input calibration (1)			
mV, TC	mV, TC the higher of ± 0.1 % f.s. and ± 12 uV		
Linearity (1)			
TC	± 0.2 % f.s.	± 0.2 % f.s.	
mV	± 0.1 % f.s.	± 0.1 % f.s.	
Input impedance			
TC, mV	>= 10 MΩ	·	

Line resistance influence (1)	
TC, mV	<=0.8 uV/Ohm
Thermal drift (1)	
Full scale	± 0.01 % / °C
CJC ± 0.01 % / °C	
CJC compensation ± 0.5°C	

OUTDUT (2 CHANK	IEI C\		
OUTPUT (2 CHANNELS)			
Output type	Min	Max	Span min
Current	0 mA	20 mA	4 mA
Voltage	0 V	10 V	1 V
Output calibration			
Current		± 7 uA	
Voltage		± 5 mV	
Burn-out values			
Max. output value		22 mA or 10.	6 V
Min. output value		0 mA or -0.6	V
Output load Resistance - Rload			
Current output		< 500 Ω	
Voltage output		> 10 KΩ	
Short circuit current		26 mA max	
Response time (10÷90% of f.s.)		about 500 ms	

(1) referred to the input Span (difference between max. and min.)

DOUBLE CHANNEL, ISOLATED CONVERTER FOR RTD AND RESISTANCE CONFIGURABLE BY DIP-SWITCH OR PC

4532 DAT



GENERAL DESCRIPTION

The isolated double channel converter DAT 4532 B is able to measure and linearise the standard RTD and resistances with 2 or 3 wires cable compensation. In function of programming, the measured values are converted in a current or voltage signal. The device guarantees high accuracy and performances stability both versus time and temperature. The double channel allows the high density mounting where is necessary to reduce the encumbrances.

FEATURES

- Configurable input for RTD and resistance
- Configurable output in current or voltage
- Double channel in the same enclosure
- Configurable by dip-switch or PC
- Galvanic isolation among the ways
 - EMC compliant CE mark

- On-field reconfigurable

- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035





Application areas











POWER SUPPLY

Power supply voltage 18 .. 30 Vdc Rever. polarity protection 60 Vdc max

CURRENT CONSUMPTION

Current output	55 mA max.
/oltage output	25 mA max.

ISOLATION

1500 Vac, Among all the 50 Hz, 1 min

TEMPERATURE AND HUMIDITY

Operative temperature	-20°C +60°C
Storage temperature	-40°C +85°C
Humidity (not condensed)	0 90 %

EMC (for industrial environments)

DIRECTIVE: 2004 / 108 / EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING

Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT (2 CHANNELS)				
Input type	Min	Max	Span min	
RTD (2, 3 wire	es)			
Pt100	-200°C	850°C	50°C	
Pt1000	-85°C	185°C	30°C	
Ni100	-60°C	180°C	50°C	
Ni1000	-60°C	150°C	30°C	
RES. (2, 3	0 Ω	500 Ω	50 Ω	
wires)	0 Ω	2000 Ω	50 Ω	
Calibration (1)				
RTD	the higher of $\pm 0.1 \%$ f.s. and $\pm 0.2 ^{\circ}\text{C}$			
Low Res.	the higher of ±0.1 % f.s. and ±0.15 Ω			
High Res.	the higher of ± 0.2 % f.s. and \pm 1 Ω			
Linearity (1)				
RTD	± 0.1 % f.s.			
Sensor excita	tion curren	t		
RTD, Res	500 uA			
Line resistance influence (1)				
RTD 3 wires	0.05 %/Ω (50 Ω max balanced)			
Thermal drift (1)				
Full scale	± 0.01 % / °C			

OUTPUT (2 CHANN	IELS)		
Output type	Min	Max	Span min
Current	0 mA	20 mA	4 mA
Voltage	0 V	10 V	1 V
Output calibration			
Current		± 7 uA	
Voltage		± 5 mV	
Burn-out values			
Max. output value 22 mA or 10.6 V		6 V	
Min. output value 0 mA or -0.6 V		V	
Output load Resista	ance - Rloa	d	
Current output		< 500 Ω	
Voltage output > 10 KΩ			
Short circuit current 26 mA max			
Response time (10÷90	% of f.s.)	about 500 m	ıs
(1) referred to the input S	Span (differen	ice between n	nax. and min.)

6

Weight



GENERAL DESCRIPTION

The isolated double channel converter DAT 4532 C is able to measure and linearise the standard PTC and NTC sensors and potentiometers. In function of programming, the measured values are converted in a current or voltage signal.

The device guarantees high accuracy and performances stability both versus time and temperature. The double channel allows the high density mounting where is necessary to reduce the encumbrances.

FEATURES

- Configurable input for PTC, NTC and Pot.
- Configurable output in current or voltage
- Double channel in the same enclosure - Configurable by dip-switch or PC
- High accuracy

Input type

KTV81-220

- On-field reconfigurable
- Galvanic isolation among the ways
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035



PTC KTY81-210



INPUT (2 CHANNELS)



Span min

50°C

50°C

Max

150°C

150°C









POWER SUPPLY			
Power supply voltag	е	18 30 Vdc	
Rever. polarity prote	ction	60 Vdc max	
CURRENT CONSU	JMPT	TION	
Current output	55 r	nA max.	
Voltage output	25 r	nA max.	
ISOLATION			
3			
TEMPERATURE A	ND F	HUMIDITY	
Operative temperature -20°C +60°			
Storage temperature		-40°C +85°C	
Humidity (not condensed)		0 90 %	

EMC (for industrial environments)

DIRECTIVE: 2004 / 108 / EC EN 61000-6-2 Immunity EN 61000-6-4 Emission HOUSING Material Self-extinguishing plastic

Dim. (mm) W x L x H : 90 x 112 x 12.5

about 90 g.

K1181-220	-55 C	150 C	50 C	
KTY84-130	-40°C	300°C	50°C	
KTY84-150	-40°C	300°C	50°C	
NTC				
Coster 10K	-10°C	100°C	50°C	
Coster 1K	-30°C	40°C	25°C	
Pot. (Rnom.< 50KΩ)	0 %	100 %	10 %	
Calibration (1)				
PTC, NTC	the higher of ±0.1 % f.s. and ±0.2 °C			
Potentiometer	± 0.05 % f.s.			
Linearity (1)				
PTC, NTC	± 0.1 % f.s.			
Sensor excitation current				
PTC,NTC	500 uA			
Thermal drift (1)				

Min

-55°C

-55°C

OUTPUT (2 CHANNELS)					
Output type	Min	Max	Span min		
Current	0 mA	20 mA	4 mA		
Voltage	/oltage 0 V				
Output calibration					
Current		± 7 uA			
Voltage	± 5 mV				
Burn-out values					
Max. output value	22 mA or 10.	6 V			
Min. output value	0 mA or -0.6	V			
Output load Resist	ance - Rloa	d			
Current output	< 500 Ω				
Voltage output		> 10 KΩ			
Short circuit current	26 mA max				
Response time (10÷90	0% of f.s.)	about 500 m	S		
		S			

(1) referred to the input Span (difference between max. and min.)

± 0.01 % / °C

DOUBLE CHANNEL, ISOLATED CONVERTER FOR VOLTAGE AND CURRENT CONFIGURABLE BY DIP-SWITCH OR PC

DAT 4532

GENERAL DESCRIPTION

Full scale

The isolated converter DAT 4532 D is able to measure voltage and current signals. In function of programming, the measured values are converted in a current or voltage signal.

The device guarantees high accuracy and performances stability both versus time and temperature. The double channel allows the high density mounting where is necessary to reduce the encumbrances.

- Configurable input for voltage and current
- Configurable output in current or voltage
- Double channel in the same enclosure
- Configurable by dip-switch or PC

INDIT (2 CHANNELS)

- Two independent channels
- High accuracy
- On-field reconfigurable
- Galvanic isolation among the ways
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035





Application areas





OUTPUT (2 CHANNELS)







POWER SUPPLY

Power supply voltage 18 .. 30 Vdc Rever. polarity protection 60 Vdc max

CURRENT CONSUMPTION

Current output 55 mA max. Voltage output 25 mA max

ISOLATION

1500 Vac, Among all the 50 Hz, 1 min

TEMPERATURE AND HUMIDITY

Operative temperature -20°C .. +60°C Storage temperature -40°C .. +85°C Humidity (not condensed) 0 .. 90 %

EMC (for industrial environments)

DIRECTIVE: 2004 / 108 / EC			
Immunity	EN 61000-6-2		
Emission	EN 61000-6-4		

ŀ	1	0	US	Ш	NG		
						_	

Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

IN OT (E CHANNELS)				
Input type	Min	Max	Span min	
Voltage	0 V	10 V	1 V	
Current	0 mA	20 mA	1 mA	
Calibration (1)				
Volt the higher of $\pm 0.1 \%$ f.s. and $\pm 2 \text{ mV}$				
mA the higher of $\pm 0.1 \%$ f.s. and $\pm 6 \text{ uA}$				
Linearity (1)				

=incurrey (1)			
V, mA	± 0.05 % f.s.		
Input impedance			
Volt	>= 1 MΩ		
Current	<= 50 Ω		
Thermal drift (1)			
Full scale	± 0.01 % / °C		

Min	Max	Span min	
0 mA	20 mA	4 mA	
0 V	10 V	1 V	
	± 7 uA		
	± 5 mV		
Max. output value			
Min. output value		V	
nce - Rloa	d		
Current output		< 500 Ω	
Voltage output			
Short circuit current 26 mA max			
Response time (10÷90% of f.s.) about 100 ms		s	
	0 mA 0 V	0 mA 20 mA 0 V 10 V ± 7 uA ± 5 mV 22 mA or 10. 0 mA or -0.6 ence - Rload < 500 Ω > 10 KΩ 26 mA max	

ISOLATED FREQUENCY TO VOLTAGE, FREQUENCY TO CURRENT CONVERTER CONFIGURABLE BY DIP-SWITCH OR PC, TRANSISTOR OR RELAY OUTPUTS



The isolated frequency converter DAT 4540 is able to measure, up to 20 KHz, the frequency of TTL, Namur, NPN, PNP and Tachometer digital signals. In function of programming, the measured values are converted in a current or voltage signal. Moreover two relays are available in order to be programmed as trip alarm (version "-R"). For the Namur input is continuously checked the integrity of the sensor; in case of fault (short circuit or interruption), on the transistor output is generated an alarm. The device guarantees high accuracy and performances stability both versus time and temperature.

FEATURES

- Measure of the frequency for the following digital contacts input: Namur, TTL, NPN, PNP, Tachometer, Volt
- Configurable output as current or voltage
- Double optional trip alarm
- Fault alarm condition for Namur sensor
- Configurable by Dip-switch or PC



- On-field reconfigurable
- Galvanic isolation among all ways
- EMC compliant CE mark
- Suitable for DIN rail mounting in according to EN-50022 and EN-50035 standards





Application areas



Frequency





0.1 Hz ÷ 20 KHz



PO	W	ER	SU	PP	LY	
Day	r		بامد		1+200	

Power supply voltage	18 30 Vdc
Rever. polarity protection	60 Vdc max

CURRENT CONSUMPTION

Current output	90 mA max.	
Voltage output 30 mA max.		
(+ 10mA for each relay output active)		

ISOLATION

Among all the ways 1500 Vac, 50 Hz, 1 min

TEMPERATURE AND HUMIDITY

Operative temperature	-20°C +60°C
Storage temperature	-40°C +85°C
Humidity (not condensed)	0 90 %

EMC (for industrial environments)

DIRECTIVE: 2004 / 108 / EC

HOUSING	
Emission	EN 61000-6-4
iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii	LIN 01000-0-2

4631

Material	Self-extinguishing plastic
DAT 4540 (mm)	WxLxH: 90 x 112 x 12.5
DAT 4540-R (mm)	WxL xH: 90 x 112 x 22.5
Weight	about 90 g.

INPUT			
Namur (DIN 19234)			
Low level Trig.	< 1.2 mA		
High level Trig.	> 2.1 mA		
Voltage Aux.	8.2 V – 8 mA		
Impedance	~ 1000 Ohm		
Interruption Alarm	< 0.2 mA		
Short Circuit Alarm	> 7.0 mA		
TTL			
Low level Trig.	< 0.8 V		
High level Trig.	> 2.0 V		
Impedance	> 20 KOhm		
PNP			
Low level Trig.	< 4.0 V		
High level Trig.	> 7.0 V		
Voltage Aux.	17 V – 20 mA		
Impedance	~ 2.2 KOhm		
Tachometer			
Low level Trig.	< -50 mV		
High level Trig.	> +50 mV		
Impedance	> 100 KOhm		
Voltage (programmable)			
Level Trigger	0.05 V ÷ 7.0 V		
Voltage Aux.	5 ÷ 17 V @ 20 mA		
	1		

> 20 KOhm

Min	Max	Span min	
0 mA	20 mA	4 mA	
0 V	10 V	1 V	
Current			
Voltage		± 5 mV	
Voltage Aux.		>12V @ 20 mA	
Burn-out values			
Max. output value		/	
Min. output value		0 mA or -0.6 V	
Output load Resistance - Rload			
Current output			
Voltage output			
Short circuit current			
	0 mA 0 V	0 mA 20 mA 0 V 10 V ± 7 uA ± 5 mV >12V @ 20 n 22 mA or 11 V 0 mA or -0.6	

RELAY OUTPUTS		
Relay Outputs (Only for version "-R")		
N° 2 SPDT		
Max. load (Resistive)	250 Vac, 2A	
Isolation between terminals	1000 Vac max	
Transistor Output		
Max. load (Resistive)	30 Vdc, 100mA	

ISOLATED SPLITTER/CONVERTER FOR TC AND mV CONFIGURABLE BY DIP-SWITCH OR PC



GENERAL DESCRIPTION

Impedance

The isolated splitter/converter DAT 4631 A is able to measure and linearise the standard thermocouples with internal or external cold junction compensation. In function of programming, the measured values are converted in a current or voltage signal. The device guarantees high accuracy and performances stability both versus time and temperature.

FFATURES

- Configurable input for TC and mV
- Double output configurable in current or voltage
- Configurable by dip-switch or PC
- High accuracy

- On-field reconfigurable
- Galvanic isolation among the ways
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035





Application areas











POWER SUPPLY

Power supply voltage	18 30 Vdc
Rever. polarity protection	60 Vdc max

CURRENT CONSUMPTION

Current output	55 mA max.
Voltage output	25 mA max.

ISOLATION

Among all the 1500 Vac, 50 Hz, 1 min

TEMPERATURE AND HUMIDITY

Operative temperature	-20°C +60°C
Storage temperature	-40°C +85°C
Humidity (not condensed)	0 90 %

EMC (for industrial environments)

DIRECTIVE: 2004 / 108 / EC

immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING

Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT					
Input type	Min	Max	Span min		
TC (CJC int./e	xt.)				
J	-200°C	1200°C	100°C		
K	-200°C	1300°C	100°C		
S	0°C	1750°C	400°C		
R	0°C	1750°C	400°C		
В	0°C	1850°C	400°C		
E	-200°C	1000°C	100°C		
Т	-200°C	400°C	100°C		
N	-200°C	1300°C	100°C		
Voltage	Voltage				
mV	-100 mV	+90 mV	5 mV		
mV	-100 mV	+200 mV	10 mV		
mV	-100 mV	+800 mV	20 mV		
Input calibration (1)					
mV, TC	mV, TC the higher of ±0.1 % f.s. and ±12 uV				
Linearity (1)					
TC	± 0.2 % f.s.				
mV	± 0.1 % f.s.				
Input impedance (1)					
TC, mV	>= 10 MΩ	•			

Line resistance influence (1)		
TC, mV	<=0.8 uV/Ohm	
Thermal drift (1)		
Full scale	± 0.01% / °C	
CJC	± 0.01% / °C	
CJC compensation	± 0.5°C	

OUTPUT (2 CHANN	ELS)		
Output type	Min	Max	Span min
Current	Current 0 mA		4 mA
Voltage 0 V		10 V	1 V
Output calibration			
Current		± 7 uA	
Voltage		± 5 mV	
Burn-out values			
Max. output value		22 mA or 10.	6 V
Min. output value		0 mA or -0.6	V
Output load Resista	nce - Rloa	d	
Current output		< 500 Ω	
Voltage output		> 10 KΩ	
Short circuit current		26 mA max	
Response time (10÷90% of f.s.)		about 500 ms	

8



GENERAL DESCRIPTION

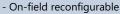
The isolated Splitter/converter DAT 4631 B is able to measure and linearise the standard RTD and resistances with 2 or 3 wires cable compensation. In function of programming, the measured values are converted in a current or voltage signal. The device guarantees high accuracy and performances stability both versus time and temperature.

FEATURES

- Configurable input for RTD and resistance
- Double output configurable in current or voltage
- Configurable by dip-switch or PC

ROHS PROHS LEAST-Free

- High accuracy



- Galvanic isolation among the ways
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035











POWER SUPPLY	ow	ER	SU	PPL	Υ
--------------	----	----	----	-----	---

Power supply voltage	18 30 Vdc
Rever. polarity protection	60 Vdc max

CURRENT CONSUMPTION

Current output	55 mA max.
Voltage output	25 mA max.

ISOLATION

Among all the 1500 Vac, 50 Hz, 1 min

TEMPERATURE AND HUMIDITY

Operative temperature	-20°C +60°C
Storage temperature	-40°C +85°C
Humidity (not condensed)	090%

EMC (for industrial environments)

DIRECTIVE: 2004 / 108 / EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING

Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT	INPUT				
Input type	Min	Max	Span min		
RTD (2, 3 wires)					
Pt100	-200°C	850°C	50°C		
Pt1000	-85°C	185°C	30°C		
Ni100	-60°C	180°C	50°C		
Ni1000	-60°C	150°C	30°C		
RES. (2, 3	0 Ω	500 Ω	50 Ω		
wires)	0 Ω	2000 Ω	50 Ω		
Calibration (1)					
RTD	the higher of ±0.1 % f.s. and ±0.2 °C				

R.	TD	the higher of ± 0.1 % f.s. and ± 0.2 °C
Lo	ow Res.	the higher of ± 0.1 % f.s. and ± 0.15 Ω
Н	igh Res.	the higher of ± 0.2 % f.s. and ± 1 Ω

Line	arity	(1)

Sensor	excita	tion	current
KID		± 0.	1 % 1.5.

Selisor excita	tion car
RTD, Res	500 uA

Line resistance	e influence (1)
RTD 3 wires	$0.05 \%/\Omega$ (50 Ω max balanced

°C

Thermal arm	(1)	
Full scale	± 0.01 % /	

OUTPUT (2 CHANNELS)				
Output typ	e	Min	Max	Span min
Current		0 mA	20 mA	4 mA
Voltage		0 V	10 V	1 V
Output cali	bration			
Current	Current		± 7 uA	
Voltage		± 5 mV		
Burn-out v	alues			
Max. output value		22 mA or 10.	6 V	
Min. output value		0 mA or -0.6 V		
Output loa	d Resista	ance - Rloa	d	
Current output		< 500 Ω		
Voltage output		> 10 KΩ		
Short circuit current		26 mA max		
Response tin	ne (10÷90)% of f.s.)	about 500 m	S
(1) referred to	the input	Span (differer	ce between n	nax and min)

ISOLATED, SPLITTER/CONVERTER FOR PTC/NTC/POT CONFIGURABLE BY DIP-SWITCH OR PC

DAT 4631

GENERAL DESCRIPTION

Thormal drift (1)

The isolated Splitter/converter DAT 4631 C is able to measure and linearise the standard PTC and NTC sensors and potentiometers. In function of programming, the measured values are converted in a current or voltage signal

The device guarantees high accuracy and performances stability both versus time and temperature.

FEATURES

- Configurable input for PTC, NTC and Pot.
- Double output configurable in current or voltage
- Configurable by dip-switch or PC
- High accuracy

- On-field reconfigurable
- Galvanic isolation among the ways
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035





Application areas











POWER SUPPLY

Power supply voltage 18	. 30 Vdc
Rever. polarity protection 60 \	Vdc max

CURRENT CONSUMPTION

Current output	55 mA max.
Voltage output	25 mA max.

ISOLATION

1500 Vac, Among all the 50 Hz, 1 min

TEMPERATURE AND HUMIDITY

Operative temperature -	-20°C +60°C
Storage temperature -	-40°C +85°C

0 .. 90 %

EMC (for industrial environments)

DIRECTIVE: 2004 / 108 / EC

Humidity (not condensed)

Immunity	EN 61000-6-2
Emission	EN 61000-6-4
,	

HOUSING

110051110		
Material	Self-extinguishing plastic	
Dim. (mm)	W x L x H : 90 x 112 x 12.5	
Weight	about 90 g.	

INPUT					
Input type	Min	Max	Span min		
PTC					
KTY81-210	-55°C	150°C	50°C		
KTY81-220	-55°C	150°C	50°C		
KTY84-130	-40°C	300°C	50°C		
KTY84-150	-40°C	300°C	50°C		
NTC					
Coster 10K	-10°C	100°C	50°C		
Coster 1K	-30°C	40°C	25°C		
Pot. (Rnom.< 50KΩ)	0 %	100 %	10 %		
Calibration (1	Calibration (1)				
PTC, NTC	the higher o	f ±0.1 % f.s. a	nd ±0.2 °C		
Potentiometer	± 0.05 % f.s.				
Linearity (1)					
PTC, NTC	± 0.1 % f.s.				
Sensor excitation current					
PTC,NTC	500 uA				
Thermal drift (1)					
Full scale	± 0.01 % / °C				

OUTPUT (2 CHANNELS)				
Output type	Min	Max	Span min	
Current	0 mA	20 mA	4 mA	
Voltage	0 V	10 V	1 V	
Output calibration				
Current		± 7 uA		
Voltage		± 5 mV		
Burn-out values				
Max. output value	22 mA or 10.	6 V		
Min. output value		0 mA or -0.6	0 mA or -0.6 V	
Output load Resista	ance - Rloa	d		
Current output		< 500 Ω		
Voltage output		> 10 KΩ		
Short circuit current		26 mA max		
Response time (10÷90)% of f.s.)	about 500 m	S	

DATEXEL

ISOLATED SPLITTER/CONVERTER FOR VOLTAGE AND CURRENT CONFIGURABLE BY DIP-SWITCH OR PC

4631

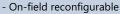
GENERAL DESCRIPTION

The isolated Splitter/converter DAT 4631 D is able to measure voltage and current signals. In function of programming, the measured values are converted in a current or voltage signal.

The device guarantees high accuracy and performances stability both versus time and temperature.

FEATURES

- Configurable input for voltage and current
- Double output configurable in current or voltage
- Configurable by dip-switch or PC
- High accuracy



- Galvanic isolation among the ways
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

















POWER SUPPLY					
Power supply voltage 18 30 Vdd					
Rever. polarity protection		60 Vdc max			
CURRENT CONSUMPTION					
Current output	55 m	A max.			
Voltage output 25 mA max.					
ISOLATION					
450014					

Voltage output		25 m	nA ma	X.	
ISOLATION					
Among all the ways 1500 Vac, 50 Hz, 1 min					
TEMPERATURE AND HUMIDITY					
Operative temperature			-20°C		+60

FRAC (for in decapital and income and a			
Humidity (not condensed)	0 90 %		
Storage temperature	-40°C +85°C		
Operative temperature	-20°C +60°C		

EMC (for industrial environments)			
DIRECTIVE: 2004 / 108 / EC			
Immunity	EN 61000-6-2		
Emission	EN 61000-6-4		
HOUSING			
Material	Self-extinguishing plastic		
Dim. (mm)	W x L x H : 90 x 112 x 12.5		

about 90 g.

INPUT					
Input type	Min	Max	Span min		
Voltage	0 V	10 V	1 V		
Current	0 mA	20 mA	1 mA		
Calibration (1))				
Volt	the higher o	f ±0.1 % f.s. a	nd ± 2 mV		
mA	the higher of ± 0.1 % f.s. and \pm 6 uA				
Linearity (1)					
V, mA	± 0.05 % f.s.				
Input impeda	Input impedance				
Volt	>= 1 MΩ				
Current	<= 50 Ω				
Thermal drift (1)					
Full scale	± 0.01 % / °C				

_					
	OUTPUT (2 CHANN	IELS)			
1	Output type	Min	Max	Span min	
	Current	0 mA	20 mA	4 mA	
	Voltage	0 V	10 V	1 V	
	Output calibration				
	Current		± 7 uA		
	Voltage	± 5 mV			
	Burn-out values				
	Max. output value 22 mA or 10.6 V			6 V	
	Min. output value		0 mA or -0.6	V	
	Output load Resista	ance - Rloa	d		
	Current output		< 500 Ω		
	Voltage output		> 10 KΩ		
	Short circuit current		26 mA max		
Response time (10÷90% of f.s.) about 100 ms			S		
	(1) of condition the first Constalling to the first one and of con-				

⁽¹⁾ referred to the input Span (difference between max, and min.)

ISOLATED MATHEMATICAL MODULE FOR VOLTAGE AND CURRENT INPUT CONFIGURABLE BY DIP-SWITCH OR PC

4632

Weight



GENERAL DESCRIPTION

The isolated converter DAT 4632 D is able to measure voltage and current signals, execute a programmable mathematical function and provide on output a normalized current or voltage signal. The device guarantees high accuracy and performances stability both versus time and temperature.

FEATURES

- Configurable input for voltage and current
- Configurable output in current or voltage
- Calculation function (two independent outputs)
- Configurable by dip-switch or PC

INDUIT (2 CHANNELS)

- High accuracy

- On-field reconfigurable
- Galvanic isolation among all the ways
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035





Application areas











POWER SUPPLY

Power supply voltage 18 .. 30 Vdc Rever. polarity protection 60 Vdc max

CURRENT CONSUMPTION

Current output 55 mA max Voltage output 25 mA max

ISOLATION

1500 Vac, Among all the 50 Hz, 1 min

TEMPERATURE AND HUMIDITY

Operative temperature -20°C .. +60°C Storage temperature -40°C .. +85°C Humidity (not condensed) 0 .. 90 %

EMC (for industrial environments)

DIRECTIVE: 2004 / 108 / EC Immunity EN 61000-6-2

,	
Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing pla

Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT (2 CHANNELS)				
Input type	Min	Max	Span min	
Voltage	0 V	10 V	1 V	
Current	0 mA	20 mA	1 mA	
Calibration (1)				
Volt	the higher o	f ±0.1 % f.s. aı	nd ± 2 mV	
mA	the higher o	f ±0.1 % f.s. aı	nd ± 6 uA	
Linearity (1)				
V, mA	± 0.05 % f.s.			
Input impeda	nce			
Volt	Volt >= 1 MΩ			
Current	<= 50 Ω			
Thermal drift (1)				
Full scale	± 0.01 % / °C			
	•	•		

OUTPUT (2 CHANN	ELS)		
Output type	Min	Max	Span min
Current	0 mA	20 mA	4 mA
Voltage	0 V	10 V	1 V
Output calibration			
Current		± 7 uA	
Voltage	Voltage ± 5 mV		
Burn-out values			
Max. output value 22 mA or 10.6 V			6 V
Min. output value		0 mA or -0.6 V	
Output load Resista	nce - Rloa	d	
Current output		< 500 Ω	
Voltage output		> 10 KΩ	
Short circuit current 26 mA max			
Response time (10÷90	% of f.s.)	about 100 m	s
(1)	/-l:ff		

⁽¹⁾ referred to the input Span (difference between max. and min.)

DATEXEL

"SMART SERIES" Temperature and signal transmitters and converters for DIN rail mounting

The SMART series devices can accept on their input several types of signals coming from the field; the series is composed of:



- 4÷20 mA two wires isolated Transmitter for universal input (**DAT4035**)
- Isolated Converters for universal input with configurable output as voltage or current (**DAT4135, DAT 4235**)
- Isolated Converter for universal input with configurable output as voltage or current and trip amplifier (**DAT4520**)







INDEX

DAT 4035

PC programmable Two wire isolated universal signal transmitter

DAT 4135

PC programmable isolated universal signal converter

DAT 4135/SEL

PC configurable universal signal converter with command of enable/disable output

PC programmable 3 ways isolated universal signal converter

Universal converter with Trip Amplifier



⊕DATEXEL



SMART Temperature and signal series transmitters and converters for DIN rail mounting

DAT 4035



GENERAL DESCRIPTION

The transmitter DAT 4035 is able to execute many functions such as: measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a standard active current signal, conversion of a voltage signal

even coming from a potentiometer connected on its input.

Moreover the DAT 4035 is able to measure and linearise the standard thermocouples with internal cold junction compensation.

The measured values are converted in a 4÷20 mA current signal. The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, TC, mV, V, mA, Resistance and Potentiometer
- High accuracy
- Configurable by Personal Computer
- 4 ÷ 20 mA configurable output on current loop
- On-field reconfigurable
- Galvanic isolation at 2000 Vac
- Programming of the unit measure as °C or °F
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035







Application areas











POWER SUPPLY		ISOLATION VOLTAGE		TEMPERATURE & HUMIDITY	
Power supply voltage	10 30 Vdc			Operative temperature	-20°C +70°C
Tomor cuppy romage		Input/Power supply	2000 Vac 50 Hz, 1 min.	Storage temperature	-40°C +85°C
Reverse polarity protection	60 Vdc max.	supply	1111111.	Humidity (not condensed)	0 90 %

EMC (for industrial environments)		HOUSING		
DIRECTIVE 2004/108/EC		Material	Self-extinguishing plastic	
Immunity	EN 61000-6-2	Dimensions (mm)	W x L x H : 90 x 112 x 12.5	
Emission	EN 61000-6-4	Weight	about 90 g.	
INPUT				

-200°C -200°C -50°C -50°C	1200°C 1370°C 1760°C	2 mV 2 mV
-200°C -50°C -50°C	1370°C	
-200°C -50°C -50°C	1370°C	
-50°C		2 mV
-50°C	1760°C	
		2 mV
	1760°C	2 mV
400°C	1820°C	2 mV
-200°C	1000°C	2 mV
-200°C	400°C	2 mV
-200°C	1300°C	2 mV
-200°C	850°C	50°C
-200°C	200°C	50°C
-60°C	180°C	50°C
-60°C	150°C	50°C
-400 mV	+400 mV	2 mV
-100 mV	+700 mV	2 mV
- 10 V	+10 V	500 mV
0 Ω	200 Ω	10 %
200 Ω	500 Ω	10 %
0.5 ΚΩ	50 ΚΩ	10 %
0 Ω	300 Ω	10 Ω
0 Ω	2000 Ω	200 Ω
-10 mA	+24 mA	2 mA
>= 10 N	ΙΩ	
>= 1 MΩ		
~ 50 Ω		
	400°C -200°C -200°C -200°C -200°C -200°C -200°C -60°C -60°C -400 mV -10 V 0Ω 200Ω $0.5 \text{ K}\Omega$ 0Ω 0Ω -10 mA $\Rightarrow = 10 \text{ M}$ $\Rightarrow = 1 \text{ N}$	400°C 1820°C -200°C 1000°C -200°C 400°C -200°C 400°C -200°C 1300°C -200°C 1300°C -200°C 200°C -60°C 180°C -60°C 150°C -60°C 150°C -400 mV $+400 \text{ mV}$ -100 mV $+700 \text{ mV}$ -10 V $+10 \text{ V}$ 0Ω 200Ω 200Ω $0.5 \text{ K}\Omega$ 0Ω $0.5 \text{ K}\Omega$ 0Ω $0.5 \text{ K}\Omega$ 0Ω

INPUT	
Input calibration (1)	
RTD	the higher of ±0.1% f.s. and ±0.2°C
Res. Low	the higher of $\pm 0.1\%$ f.s. and $\pm 0.15~\Omega$
Res. High	the higher of $\pm 0.2\%$ f.s. and $\pm 1~\Omega$
mV, TC	the higher of ±0.1% f.s. and ±18 uV
Volt	the higher of $\pm 0.1\%$ f.s. and ± 2 mV
mA	the higher of $\pm 0.1\%$ f.s. and ± 6 uA
Linearity (1)	
TC	± 0.2 % f.s.
RTD	± 0.1 % f.s
Line resistance influence (1)	
TC, mV,V	<=0.4 uV/Ohm
RTD 3 wires	0.05 %/Ω (50 Ω balanced max.)
RTD 4 wires	0.005 %/Ω (100 Ω balanced max.)
RTD excitation current	
Typical	0.350 mA
CJC Comp.	± 0.5 °C
Thermal drift (1)	
Full scale	± 0.01 % / °C
CJC	± 0.01 % / °C
Burn-out values	
Max. value output	about 22.5 mA
Min. value output	about 3.6 mA
Response time (10÷90% of f.s.)	about 400 ms
(1)	and between many and main values

OUTPUT				
Output type	Min	Max	Span min	
Direct current	4 mA	20 mA	4 mA	
Reverse current	20 mA	4 mA	4 mA	
Output calibration				
Current		± 7 uA		

PC PROGRAMMABLE ISOLATED UNIVERSAL SIGNAL CONVERTER

DAT 4135



GENERAL DESCRIPTION

The converter DAT 4135 is able to execute many functions such as: measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a standard active current signal, conversion of a voltage signal even coming from a potentiometer connected on its input. Moreover the DAT 4135 is able to measure and linearise the standard thermocouples with internal cold junction compensation.

In function of programming, the measured values are converted in a current or voltage signal. The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, TC, mV, V, mA, Resistance and Potentiometer
- High accuracy
- Configurable by Personal Computer
- Configurable output in current or voltage
- On-field reconfigurable
- Galvanic isolation at 2000 Vac
- Programming of the unit measure as °C or °F
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035





Application areas











POWER SUPPLY		ISOLATION VOLTAGE		TEMPERATURE & HUMIDITY			
		Input/Power supply-Output 2000 Vac 50 Hz, 1 min.		Operative temperature		-20°C +70°C	
Power supply voltage	18 30 Vdc	OUTPUT LOAD RESISTANCE (RLOAD)			20 C II / I		
		Current output		= 650 Ω</td <td colspan="2">Storage temperature</td> <td>-40°C +85°C</td>	Storage temperature		-40°C +85°C
Reverse polarity	60 Vdc max.	Voltage output		>/= 3.5 KΩ			0 00 0/
protection		Limitation current		about 25 mA	Humidity (not condensed)		0 90 %
CURRENT CONSUMPTION		EMC (for industrial environments)		HOUSING			
Current output	40 mA max.	DIRECTIVE 2004/108/EC			Material Self-extinguishing plastic		ing plastic
		Immunity EN 610		EN 61000-6-2		W x L x H : 90 >	112 x 12.5
Voltage output	20 mA max.	Emission	EN 610		Weight	about 90 g.	

INPUT					
Input type	ı	Vlin	Max	Span min	
TC (CJC int./ext.)					
J	-20	00°C	1200°C	2 mV	
K	-20	00°C	1370°C	2 mV	
S	-!	50°C	1760°C	2 mV	
R	-!	50°C	1760°C	2 mV	
В	4(00°C	1820°C	2 mV	
E		00°C	1000°C	2 mV	
Т	-20	00°C	400°C	2 mV	
N	-20	00°C	1300°C	2 mV	
RTD 2,3,4 wires					
Pt100	-20	00°C	850°C	50°C	
Pt1000	-20	00°C	200°C	50°C	
Ni100	-6	0°C	180°C	50°C	
Ni1000	-6	0°C	150°C	50°C	
Voltage					
mV	-400 mV		+400 mV	2 mV	
mV	-100 mV		+700 mV	2 mV	
Volt	- 10 V		+10 V	500 mV	
Potentiometer	0 Ω		200 Ω	10 %	
(Nominal value)	200 Ω		500 Ω	10 %	
<u> </u>	0.5 ΚΩ		50 ΚΩ	10 %	
Resistance 2,3,4 wires					
Low	C) Ω	300 Ω	10 Ω	
High	C) Ω	2000 Ω	200 Ω	
Current mA	-10) mA	+24 mA	2 mA	
Input calibration (1)					
RTD	the higher of ±0.1 % f.s. and ±0.2°C				
Res. Low the higher of $\pm 0.1 \%$ f.s. and $\pm 0.15 \%$					
Res. High the higher of ±0.2 % f.s. and ±					
mV, TC the higher of ±0.1 % f.s. and ±18 uV				and ±18 uV	
Volt	the higher of ± 0.1 % f.s. and \pm 2 mV				
mA the h			the higher of ±0.1 % f.s. and ± 6 uA		

INPUT			
Input impedance			
TC, mV	>= 10 MΩ		
Volt	>= 1 MΩ		
Current	~ 50 Ω		
Linearity (1)			
TC	± 0.2 % f.s.		
RTD	± 0.1 % f.s		
Line resistance influence (1)			
TC, mV,V	<=0.8 uV/Ohm		
RTD 3 wires	0.05 %/ Ω (50 Ω balanced max.)		
RTD 4 wires	$0.005 \%/\Omega$ (100 Ω balanced max.)		
RTD excitation current			
Typical	0.350 mA		
CJC Comp.	± 0.5°C		
Thermal drift (1)			
Full scale	± 0.01 % / °C		
CJC	± 0.01 % / °C		
Burn-out values			
Max. value output	about 23 mA or 10.8 Vdc		
Min. value output	about 0 mA or 0 Vdc		
Response time (10÷90% of f.s.)	about 400 ms		

OUTPUT				
Output type	Min	Max	Span min	
Direct current	0 mA	20 mA	4 mA	
Reverse current	20 mA	0 mA	4 mA	
Direct voltage	0 V	10 V	1 V	
Reverse voltage	10 V	0 V	1 V	
Output calibration				
Current	± 7 uA			
Voltage	± 5 mV			

PC CONFIGURABLE UNIVERSAL SIGNAL CONVERTER WITH COMMAND OF ENABLE/DISABLE OUTPUT



GENERAL DESCRIPTION

The converter DAT 4135/SEL is able to execute many functions such as: measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a standard active current signal, conversion of a voltage signal even coming from a potentiometer connected on its input.

Moreover the DAT 4135/SEL is able to measure and linearise the standard thermocouples with internal cold junction compensation. In function of programming, the measured values are converted in a current or voltage signal. The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, TC, mV, V, mA, Resistance and Potentiometer
- High accuracy
- Configurable by Personal Computer
- Configurable output in current or voltage
- On-field reconfigurable

Emission

the higher of $\pm 0.2\%$ f.s. and $\pm 1\,\Omega$

the higher of ±0.1% f.s. and ±18 uV

the higher of $\pm 0.1\%$ f.s. and ± 2 mV

the higher of $\pm 0.1\%$ f.s. and ± 6 uA

- Galvanic isolation at 2000 Vac
- Programming of the unit measure as °C or °F
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035





Application areas





SEL INPUT COMMAND







POWER SUPPLY				
Power supply voltage	18 30 Vdc			
Reverse polarity protection	60 Vdc max.			

CURRENT CONSUMPTION		
Current output	40 mA max.	
Voltage output	20 mA max.	

ISOLATION VOLTAGE					
Input/Power supply-Output	2000 Vac 50 Hz, 1 min.				
OUTPUT LOAD RESISTANCE (RLOAD)					
Current output	= 650 Ω</td				
Voltage output	>/= 3.5 KΩ				
Limitation current	20 mA max.				
·					
TNAC (for indicating any income anta)					

EMC (for industrial environments) **DIRECTIVE 2004/108/EC** EN 61000-6-2 **Immunity**

EN 61000-6-4

Disable output	4÷30 Vdc			
Enable output	0 Vdc or ne	0 Vdc or not connected		
TEMPERATURE & HUMIDITY				
Operative temperature		-20°C +70°C		
Storage temperature		-40°C +85°C		
Humidity (not condense	ed)	0 90 %		
HOUSING				
Material	Self-exting	uishing plastic		
Dimensions (mm)	W x L x H : 90 x 112 x 12.5			
Weight about 90 g.				

INPUT					
Input type		Min	Max	Span min	
TC (CJC int./ext.)					
J	-20	00°C	1200°C	2 mV	
K	-20	00°C	1370°C	2 mV	
S	-:	50°C	1760°C	2 mV	
R		50°C	1760°C	2 mV	
В	400°C		1820°C	2 mV	
E	-20	00°C	1000°C	2 mV	
Т	-20	00°C	400°C	2 mV	
N	-20	00°C	1300°C	2 mV	
RTD 2,3,4 wires					
Pt100	-20	00°C	850°C	50°C	
Pt1000	-20	00°C	200°C	50°C	
Ni100	-60°C		180°C	50°C	
Ni1000	-6	o°C	150°C	50°C	
Voltage					
mV	-40	00 mV	+400 mV	2 mV	
mV	-100 mV		+700 mV	2 mV	
Volt	- 10 V		+10 V	500 mV	
Potentiometer	0 Ω		200 Ω	10%	
(Nominal value)	200 Ω		500 Ω	10%	
(rtorrimar varae)	0.5 ΚΩ		50 ΚΩ	10%	
Resistance 2,3,4 wires					
Low	0 Ω		300 Ω	10 Ω	
High	0 Ω		2000 Ω	200 Ω	
Current mA	-10 mA		+24 mA	2 mA	
Input calibration (1)					
RTD		the high	ner of ±0.1% f.s. and ±0.2°C		
Res. Low	the high		ner of $\pm 0.1\%$ f.s. and $\pm 0.15~\Omega$		

INPUT	
Input impedance	
TC, mV	>= 10 MΩ
Volt	>= 1 MΩ
Current	~ 50 Ω
Linearity (1)	
TC	± 0.2 % f.s.
RTD	± 0.1 % f.s
Line resistance influence (1)	
TC, mV,V	<=0.8 uV/Ohm
RTD 3 wires	$0.05\%/\Omega$ (50 Ω balanced max.)
RTD 4 wires	$0.005\%/\Omega$ (100 Ω balanced max.)
RTD excitation current	
Typical	0.350 mA
CJC Comp.	± 0.5°C
Thermal drift (1)	
Full scale	± 0.01% / °C
CJC	± 0.01% / °C
Burn-out values	
Max. value output	about 23 mA or 10.8 Vdc
Min. value output	about 0 mA or 0 Vdc
Response time (10÷90% of f.s.)	about 400 ms

(1) referred to input Span (difference between max. and min. values)

OUTPUT			
Output type	Min	Max	Span min
Direct current	0 mA	20 mA	4 mA
Reverse current	20 mA	0 mA	4 mA
Direct voltage	0 V	10 V	1 V
Reverse voltage	10 V	0 V	1 V
Output calibration			
Current	± 7 uA		
Voltage	± 5 mV		

Res. High

mV, TC

Volt

mΑ

PC PROGRAMMABLE 3 WAYS ISOLATED UNIVERSAL SIGNAL CONVERTER

DAT 4235



GENERAL DESCRIPTION

The converter DAT 4235 is able to execute many functions such as: measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a standard active current signal, conversion of a voltage signal even coming from a potentiometer connected on its input.

Moreover the DAT 4235 is able to measure and linearise the standard thermocouples with internal cold junction compensation. In function of programming, the measured values are converted in a current or voltage signal. The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, TC, mV, V, mA, Resistance and Potentiometer
- High accuracy
- Configurable by Personal Computer
- Configurable output in current or voltage
- On-field reconfigurable

RoHS Poble Road-free

- Galvanic isolation at 2000 Vac on the 3 ways
- Programming of the unit measure as °C or °F
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

POWER SUPPLY	R SUPPLY ISOLATION VOLTAGE		TEMPERATURE & HUMIDITY						
			Input/Power supply-Output 2000 Vac 50 Hz, 1 min.		Operative temperature -20°C		0°C +70°C		
Power supply voltage	18 30 Vdc	OUTPUT LOAD RESISTAL	NCE (RLOAD)	•	· · · · · · · · · · · · · · · · · · ·				
		Current output	Current output $$		Storage temperature		-40	0°C +85°C	
Reverse polarity	60 Vdc max.	Voltage output	>/= 600 Ω						
		Limitation current	30 mA max.	Humidity (not condensed)		0 90 %			
CURRENT CONSUMPTION EMC (for industrial environments) HOUSING									
CORREINT CONSONIF HOL	•	LIVIC (101 IIIdustriai erivironinierits)		HOUSIN	10				
		DIRECTIVE 2004/108/EC		Material		c	olf-ovt	inguichi	na plactic

Application areas

Current output 70 mA max. DIRECTIVE 2004/108/EC Immunity EN 61000-6-2 Dimensions (mm) W x L x H : 90 x 112 x 12.5 Voltage output 50 mA max. Emission EN 61000-6-4 Weight about 90 g.	CURRENT CONSUMPTION	l	EMC (for industrial environments)		HOUSING		
Voltage output 50 mA may	Current output	70 mA max.	DIRECTIVE 2004/1	08/EC	Material	Self-extinguishing plastic	
Voltage output 50 mA max. Emission EN 61000-6-4 Weight about 90 g.			Immunity	EN 61000-6-2	Dimensions (mm)	W x L x H : 90 x 112 x 12.5	
	Voltage output	50 mA max.	Emission	EN 61000-6-4	Weight	about 90 g.	

INPUT						
Input type	ı	Min	Max	Span min		
TC (CJC int./ext.)						
J	-20	00°C	1200°C	2 mV		
К	-20	00°C	1370°C	2 mV		
S	-:	50°C	1760°C	2 mV		
R	-:	50°C	1760°C	2 mV		
В	4(O0°C	1820°C	2 mV		
E	-20	00°C	1000°C	2 mV		
Т	-20	00°C	400°C	2 mV		
N	-20	00°C	1300°C	2 mV		
RTD 2,3,4 wires						
Pt100	-20	00°C	850°C	50°C		
Pt1000	-20	00°C	200°C	50°C		
Ni100	-6	o°C	180°C	50°C		
Ni1000	-60°C		150°C	50°C		
Voltage						
mV	-400 mV		+400 mV	2 mV		
mV	-100 mV		+700 mV	2 mV		
Volt	- 10 V		+10 V	500 mV		
D-44'4	200.0		200 Ω	10%		
Potentiometer (Nominal value)			500 Ω	10%		
(Nonlinal value)	0.5 ΚΩ		50 ΚΩ	10%		
Resistance 2,3,4 wires						
Low	0 Ω		300 Ω	10 Ω		
High	0 Ω		2000 Ω	200 Ω		
Current mA	-10 mA		+24 mA	2 mA		
Input calibration (1)						
		ner of ±0.1 % f.s. and ±0.2°C				
Res. Low	the high		her of ± 0.1 % f.s. and ± 0.15 Ω			
Res. High	the high		her of ± 0.2 % f.s. and ± 1 Ω			
mV, TC	the hig		her of ±0.1 % f.s. and ±18 uV			
Volt			the higher of $\pm 0.1 \%$ f.s. and $\pm 2 \text{ mV}$			
mA		the high	ner of ±0.1 % f.s.	and ± 6 uA		
				the higher of ±0.1 % i.s. and ± 6 uA		

>= 10 MΩ
>= 1 MΩ
~ 50 Ω
± 0.2 % f.s.
± 0.1 % f.s
<=0.8 uV/Ohm
$0.05 \%/\Omega$ (50 Ω balanced max.)
$0.005 \%/\Omega$ (100 Ω balanced max.)
0.350 mA
± 0.5°C
± 0.01 % / °C
± 0.01 % / °C
about 25 mA or 10.8 Vdc
about -25 mA or -10.8 Vdc
about 400 ms

(1) referred to input Span (difference between max. and min. values)

OUTPUT			
Output type	Min	Max	Span min
Direct current	-20 mA	20 mA	4 mA
Reverse current	20 mA	-20 mA	4 mA
Direct voltage	-10 V	10 V	1 V
Reverse voltage	10 V	-10 V	1 V
Output calibration			
Current	± 7 uA or ± 15 uA (2)		
Voltage	± 10 mV		

(2) referred to the output ± 20 mA.







GENERAL DESCRIPTION

The DAT 4520 device measures mV, V, mA or resistance signals, and can be directly connected to Thermocouple, RTD or potentio-

The input signal is filtered, linearised, amplified and transfered to the output circuit, that converts it in a 0-10V range or 0-20mA range signal. Auxiliary power supply allows to supply the output current loop. Moreover, the device is able to control two trip alarm relay outputs. DAT 4520 has a 3 way isolation: input is 2000 Vac isolated from power supply and output; power supply and output are 1500 Vac isolated between them.

FEATURES

- Configurable input for Tc, RTD, Res, mV, V, mA, Potentiometer
- High accuracy
- Configurable by Personal Computer
 0 to 10V, 0 to 20mA configurable output
- On-field reconfigurable

- 2000 Vac galvanic isolation between input, output
- Programming of the unit measure as °C or °F
- EMC compliance CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035





Application areas



Weight



TEMPERATURE & HUMIDITY

Operative temperature







-20°C .. +60°C

TRIP ALARMS	
Output type	n° 2 Relay SPDT
C t t t	2A, 250 Vac
Contact rating	2A, 30 Vdc
Load	resistive
Minimum load	5Vdc, 10mA
Voltage max	250 Vac (50/60 Hz) 110 Vdc
Isolation voltage	coil-to-contacts: 2000Vac between contacts: 1000Vac
POWER SUPPLY	

POWER SUPPLY	
Power supply voltage	20 30 Vdc
Reverse polarity protection	60 Vdc max.

Isolation voltage			
Input/Output	2000 Vac, 50 Hz, 1min.		
Input/Supply	2000 Vac, 50 Hz, 1min.		
Supply/Output	1500 Vac, 50 Hz, 1min.		
FMC (for industrial environments)			

EMC (for industrial environments)					
DIRECTIVE 2004/108/EC					
Immunity	EN 61000-6-2				
Emission	EN 61000-6-4				

	- реголисти		
•	Storage temperatur	-40°C +85°C	
	Humidity (not condensed)		0 90 %
	HOUSING		
	Material Self-extinguish		ing plastic
	Mounting	DIN Rail	

Dimensions (mm) W x L x H : 120 x 100 x 22.5

about 150 g.

INPUT							
Input type	Min	Max	Span min				
TC (CJC int./ext.)							
J	-200°C	1200°C	2 mV				
K	-200°C	1370°C	2 mV				
S	-50°C	1760°C	2 mV				
R	-50°C	1760°C	2 mV				
В	400°C	1820°C	2 mV				
E	-200°C	1000°C	2 mV				
Т	-200°C	400°C	2 mV				
N	-200°C	1300°C	2 mV				
RTD 2,3,4 wires							
Pt100	-200°C	850°C	50°C				
Pt1000	-200°C	200°C	50°C				
Ni100	-60°C	180°C	50°C				
Ni1000	-60°C	150°C	50°C				
Voltage							
mV	-100 mV	+700 mV	2 mV				
Volt	0 mV	10 V	500 mV				
B	0 Ω	200 Ω	10%				
Potentiometer (Nominal value)	200 Ω	500 Ω	10%				
(rvorriiriar varae)	0.5 ΚΩ	50 KΩ	10%				
Resistance 2,3,4 wires							
Low	0 Ω	300 Ω	10 Ω				
High	0 Ω	2000 Ω	200 Ω				
Current mA	0 mA	20 mA	2 mA				

Input calibration (1)	
RTD	the higher of ± 0.1 % f.s. and ± 0.2 °C
Res. Low	the higher of ± 0.1 % f.s. and ± 0.15 Ω
Res. High	the higher of ± 0.2 % f.s. and ± 1 Ω
mV, TC	the higher of ± 0.1 % f.s. and ± 10 uV
Volt	the higher of $\pm 0.1 \%$ f.s. and $\pm 2 \text{ mV}$
mA	the higher of $\pm 0.1 \%$ f.s. and ± 6 uA

INPUT				
Input impedance				
TC, mV	>= 10 MΩ			
Volt	>= 1 MΩ			
Current	~ 50 Ω			
Linearity (1)				
TC	± 0.2 % f.s.			
RTD	± 0.1 % f.s			
Line resistance influence (1)				
TC, mV,V	<=0.8 uV/Ohm			
RTD 3 wires	$0.05 \%/\Omega$ (50 Ω balanced max.)			
RTD 4 wires	0.005 %/ Ω (100 Ω balanced max.)			
RTD excitation current				
Typical	0.350 mA			
CJC Comp.	± 0.5°C			
Thermal drift (1)				
Full scale	± 0.01 % / °C			
CJC	± 0.01 % / °C			
Response time (10÷90% of f.s.) about 400 ms				

OUTPUT						
Output type		Min	Max	Span min		
Direct voltage		0 V	10 V	1 V		
Direct current		0 mA	20 mA	4 mA		
Output calibration						
Current	± 7 uA					
Voltage	± 10 mV					
Output Load Resistance						
Current	< 650 Ω					
Voltage	> 4.7 KΩ					







DATEXEL



Intrinsically safe smart series ATEX94/9/EC 69



The Intrinsically Safe SMART Series devices, type-approved according to Directive ATEX94/9/EC, are subdivided into three different product categories: universal input transmitters to be installed in a potentially explosive atmosphere (Zone 0) codes: DAT 2015 IS, DAT 4035 IS, DAT 1010 IS, DAT 1015 IS, DAT 1065 IS.

Converters / Barriers for universal input or current loop (0-4....20 mA), suitable for installation in safe zone for connections towards zone 0. codes:



DAT 4235 IS in the following versions:

A = Converter/Barrier, B = Double trip amplifier, **C**= Converter/Barrier + Double trip amplifier.



DAT 5030 IS in the following versions:

A= Single-channel barrier, **AH**= HART transparent single-channel barrier, **B**= Double-channel barrier, **BH**= HART transparent double-channel barrier.



INDEX

20 . **DAT 2015IS DAT 2015 IS/HT**

Universal Intrinsically Safe transmitter

DAT 4035 IS DAT 4035 IS/HT

Universal Intrinsically Safe isolated transmitter

Signal Converter with Trip Amplifier for hazardous area sensors

23 · DAT 5030 IS

Current Loop Repeater / Supply for hazardous area sensors

DAT 1010 IS DAT 1010 IS/HT

Intrinsically safe PC configurable transmitter for RTD

25 • **DAT 1015 IS DAT 1015 IS/HT**

Intrinsically safe PC configurable transmitter for universal input

DAT 1065 IS DAT 1065 IS/HT

Isolated Intrinsically safe PC configurable transmitter for universal input

ELECTRONIC AND CONTROL PROCESS DEVICES



⊕DATEXEL



SMART Transmitters and converters **ATEX** for use in potentially explosive series atmospheres

DAT 2015 IS DAT 2015 IS/HT



GENERAL DESCRIPTION

The transmitter DAT 2015 IS is able to execute many functions such as measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a voltage signal even coming from a potentiometer connected

Moreover the DAT 2015 IS is able to measure and linearise the standard thermocouples with internal cold junction compensation. The measured values are converted in a 4÷20 mA current signal.

The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, mV, Tc, Resistance and Potentiometer
- High accuracy
- Configurable by Personal Computer
- 4 ÷ 20 mA configurable output on current loop
- On-field reconfigurable

- Applicable in zones with explosion risk (ZONE 0)
- Programming of the unit measure as °C or °F
- EMC compliant CE mark
- PROTECTION MODE: II 1 G Ex ia IIC certified in according to the Directive ATEX 94/9/EC
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035



















POWER SUPPLY		TEMPERATURE & HUMIDI	ТҮ	EX DATA	
		Operative temperature	-20°C +70°C	Output /supply	Input
Power supply voltage	11 30 Vdc		-20°C +85°C (vers. 'HT')	Ui = 30 V	Uo = 6.2 V
Reverse polarity	(0)//	Storage temperature	-40°C +85°C	Ii = 100 mA	Io = 100 mA
protection	60 Vdc max.	Humidity (not condensed)	0 90 %	Pi = 0.75 W	Po = 500 mW
EMC (for industrial environments)		HOUSING		Li = 0.1 mH	Lo = 3.6 mH
DIRECTIVE 2004/108/EC		Material	Self-extinguishing plastic	Ci = 10 nF	Co = 5 uF
Immunity EN 61000-6-2		Dimensions (mm)	W x L x H : 90 x 112 x 12.5	T6:-20 ÷ +55°C T5:-20 ÷ +70°C	
Emission EN 61000-6-4		Weight	about 90 g.	T4:-20 ÷ +85°	

INPUT								
Input type	Min	Max	Span min					
TC CJC int./ext.								
J	-200°C	1200°C	2 mV					
K	-200°C	1370°C	2 mV					
S	-50°C	1760°C	2 mV					
R	-50°C	1760°C	2 mV					
В	400°C	1820°C	2 mV					
E	-200°C	1000°C	2 mV					
Т	-200°C	400°C	2 mV					
N	-200°C	1300°C	2 mV					
RTD 2,3,4 wires								
Pt100	-200°C	850°C	50°C					
Pt1000	-200°C	200°C	50°C					
Ni100	-60°C	180°C	50°C					
Ni1000	-60°C	150°C	50°C					
Voltage								
mV	-100 mV	+700 mV	2 mV					
	0 Ω	200 Ω	10%					
Potentiometer (Nominal value)	200 Ω	500 Ω	10%					
(**************************************	0.5 ΚΩ	2 ΚΩ	10%					
RES. 2,3,4 wires								
Low	0 Ω	300 Ω	10 Ω					
High	0 Ω	2000 Ω	200 Ω					

INPUT				
Input calibration (1)				
RTD	the higher of ±0.1 % f.s. and ±0.2 °C			
Res. Low	the higher of ± 0.1 % f.s. and ± 0.15 Ω			
Res. High	the higher of ± 0.2 % f.s. and ± 1 Ω			
mV, TC	the higher of ±0.1 % f.s. and ±10 uV			
Input impedance				
TC, mV	>= 10 MΩ			
Linearity (1)				
TC	± 0.2 % f.s.			
RTD	± 0.1 % f.s			
Line resistance influence (1)				
TC, mV,V	<=0.4 uV/Ohm			
RTD 3-wires	$0.05 \%/\Omega$ (50 Ω balanced max.)			
RTD 4-wires	0.005 %/ Ω (100 Ω balanced max.)			
RTD excitation current				
Typical	0.350 mA			
CJC comp.	± 0.5 °C			
Thermal drift (1)				
Full scale	± 0.01 % / °C			
CJC	± 0.01 % / °C			
Burn-out values				
Max. output value	about 22.5 mA			
Min. output value	about 3.6 mA			
Response time (10÷90% of f.s.) about 400 ms				
(1) referred to input Span (difference between max. and min. values)				

ОИТРИТ					
Output type		Min	Max	Span min	
Direct current		4 mA	20 mA	4 mA	
Reverse current	;	20 mA	4 mA	4 mA	
Output calibration					
Current		± 7 uA			

UNIVERSAL INTRINSICALLY SAFE ISOLATED TRANSMITTER

DAT 4035 IS DAT 4035 IS/HT



GENERAL DESCRIPTION

The isolated transmitter DAT 4035 IS is able to execute many functions such as: measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a voltage signal even coming from a potentiometer connected on its input.

Moreover the DAT 4035 IS is able to measure and linearise the standard thermocouples with internal cold junction compensation. The measured values are converted in a 4÷20 mA current signal.

The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, mV, Tc, Resistance and Potentiometer
- High accuracy
- Configurable by Personal Computer
- 4 ÷ 20 mA configurable output on current loop
- Galvanic isolation at 2000 Vac
- On-field reconfigurable

- Applicable in zones with explosion risk (ZONE 0)
- Programming of the unit measure as °C or °F
- EMC compliant CE mark
- PROTECTION MODE: II 1 G Ex ia IIC certified in according to the Directive ATEX 94/9/EC
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035







Application areas









POWER SUPPLY		TEMPERATURE & HUMIDI	TY	EX DATA	
		Operative temperature	-20°C +70°C -20°C +85°C (vers. 'HT')	Output /supply	Input
Power supply voltage	11 30 Vdc			Ui = 30 V	Uo = 6.2 V
Reverse polarity	(0)//	Storage temperature	-40°C +85°C	li = 100 mA	Io = 100 mA
protection	60 Vdc max.	Humidity (not condensed)	0 90 %	Pi = 0.75 W	Po = 500 mW
EMC (for industrial environments)		HOUSING		Li = 0.1 mH	Lo = 3.6 mH
DIRECTIVE 2004/108/E0		Material	Self-extinguishing plastic	Ci = 10 nF	Co = 5 uF
Immunity EN 61000-6-2		Dimensions (mm)	W x L x H : 90 x 112 x 12.5	T6 : -20 ÷ +55°C T5 : -20 ÷ +70°C	
Emission	Emission EN 61000-6-4 Weight		about 90 g.	T4:-20 ÷ +85°	

INPUT								
Input type	Min	Max	Span min					
TC CJC int./ext.								
J	-200°C	1200°C	2 mV					
К	-200°C	1370°C	2 mV					
S	-50°C	1760°C	2 mV					
R	-50°C	1760°C	2 mV					
В	400°C	1820°C	2 mV					
E	-200°C	1000°C	2 mV					
Т	-200°C	400°C	2 mV					
N	-200°C	1300°C	2 mV					
RTD 2,3,4 wires								
Pt100	-200°C	850°C	50°C					
Pt1000	-200°C	200°C	50°C					
Ni100	-60°C	180°C	50°C					
Ni1000	-60°C	150°C	50°C					
Voltage								
mV	-100 mV	+700 mV	2 mV					
	0 Ω	200 Ω	10%					
Potentiometer (Nominal value)	200 Ω	500 Ω	10%					
	0.5 ΚΩ	2 ΚΩ	10%					
RES. 2,3,4 wires								
Low	0 Ω	300 Ω	10 Ω					
High	0 Ω	2000 Ω	200 Ω					

INPUT					
Input calibration (1)					
RTD	the higher of ±0.1 % f.s. and ±0.2 °C				
Res. Low	the higher of ± 0.1 % f.s. and ± 0.15 Ω				
Res. High	the higher of ± 0.2 % f.s. and ± 1 Ω				
mV, TC	the higher of ± 0.1 % f.s. and ± 10 uV				
Input impedance					
TC, mV	>= 10 MΩ				
Linearity (1)					
TC	± 0.2 % f.s.				
RTD	± 0.1 % f.s				
Line resistance influence (1)					
TC	<=0.8 uV/Ohm				
RTD 3-wires	$0.05 \%/\Omega$ (50 Ω balanced max.)				
RTD 4-wires	0.005 %/ Ω (100 Ω balanced max.)				
RTD excitation current					
Typical	0.350 mA				
CJC comp.	± 0.5 ℃				
Thermal drift (1)					
Full scale	± 0.01 % / °C				
CJC	± 0.01 % / °C				
Burn-out values					
Max. output value	about 22.5 mA				
Min. output value	about 3.6 mA				
Response time (10÷90% of f.s.) about 400 ms					
1) referred to input Span (difference between max, and min, values)					

ОИТРИТ						
Output type		Min	Max	Span min		
Direct current		4 mA	20 mA	4 mA		
Reverse current	1	20 mA	4 mA	4 mA		
Output calibration						
Current		± 7 uA				

SIGNAL CONVERTER WITH TRIP AMPLIFIER FOR HAZARDOUS AREA SENSORS

DAT 4235 IS



GENERAL DESCRIPTION

The DAT 4235 IS device is a galvanic isolated Intrinsically Safety Barrier, defined as "Associated Apparatus".

The input measures mV, V, mA or resistance signals, and can be directly connected to Thermocouple, RTD or potentiometer sensors. The input signal is filtered, linearized, amplified and transfered to the output circuit, that converts it in a 0-10V range or 0-20mA range

FEATURES

- Configurable input Tc, RTD, Res, mV, V, mA, Potentiometer
- High accuracyConfigurable by PC
- 0 to 10V, 0 to 20mA configurable output
- 2000 Vac galvanic isolation between input and output
- Programming of the unit measure as °C / °F
- EMC compliance CE mark
- PROTECTION MODE: II (1) G D [Ex ia] IIC [Ex iaD] in according to the Directive ATEX 94/9/EC

- Suitable for DIN rail mounting in according to EN-50022

Available in 3 different versions:

- DAT4235 IS A Signal converter DAT4235 IS B Double trip amplifier
- DAT4235 IS C Signal converter + Double trip amplifier









Application areas









TRIP ALARMS		ISOLATION		TEMPERATURE & HUMIDITY		EX DATA		
Output type Contact	n° 2 Relays 2A , 250 Vac		Input/Output	2000 Vac, 50 Hz, 1min.	Operative	-20°C +60°C	Terminals A-B-C-D; E-F-G-H-I-J; K-L Um=250V	
rating	2A , 30 Vdc	<u> </u>	Input/Supply	2000 Vac,	temperature		Terminals	Terminals
Load	resistive		50 Hz, 1mir		Llungidity (not		1-2-3-4-5-6-7	5-6-7
Minimum load	5Vdc, 10mA		Supply/Output	1500 Vac, 50 Hz, 1min.	Humidity (no condensed)	0 90 %	Uo = 7.8 V	Uo = 30 V
Max Voltage	250 Vac (50/6	60 Hz) 110 Vdc	EMC (for industrial environments)		HOUSING		Io = 32 mA	li = 100 mA
Isolation coil-to-contacts: 2000Vac between contacts: 1000Vac		DIRECTIVE 2004/108/EC				Po = 140 mW	Pi = 0.75W	
				Material	Self-extinguish plastic	10 - 140 11100	11 - 0.75	
POWER SUPPLY		Manadia	•	Lo = 20 mH	Li = ~0 mH			
			Immunity	EN 61000-6-2	Mounting	DIN Rail		
Power supply voltage 20 30	20 30 Vdc	,		Dimensions	120 x 100 x 22.5	Co = 2 uF	Ci = 24 nF	
Reverse polarity protection 60 Vdc max		Emission	EN 61000-6-4	Weight	about 150 g.	Ta : -20	÷ +55°C	

INPUT				
Input type	Min	Max	Span min	
TC CJC int./ext.				
J	-200°C	1200°C	2 mV	
K	-200°C	1370°C	2 mV	
S	-50°C	1760°C	2 mV	
R	-50°C	1760°C	2 mV	
В	400°C	1820°C	2 mV	
E	-200°C	1000°C	2 mV	
Т	-200°C	400°C	2 mV	
N	-200°C	1300°C	2 mV	
RTD 2,3,4 wires				
Pt100	-200°C	850°C	50°C	
Pt1000	-200°C	200°C	50°C	
Ni100	-60°C	180°C	50°C	
Ni1000	-60°C	150°C	50°C	
Voltage		_		
mV	-100 mV	+700 mV	2 mV	
V	0 V	10 V	500 mV	
Current mA	0 mA	20 mA	2 mA	
Potentiometer	0 Ω	200 Ω	10%	
(Nominal value)	200 Ω	500 Ω	10%	
	0.5 ΚΩ	2 ΚΩ	10%	
Resistance				
Low	0 Ω	300 Ω	10 Ω	
High	0 Ω	2000 Ω	200 Ω	
Input calibration (1)	·····			
RTD		the higher of ±0.1 % f.s. and ±0.2 °C		
Res. Low				
Res. High	3			
mV, TC				
V the higher of ± 0.2 % f.s. and ± 2				
mA the higher of $\pm 0.1 \%$ f.s. and $\pm 6 \text{ uV}$				

INPUT					
Input impedance					
>= 10 MΩ					
>= 1 MΩ					
<= 50 Ω					
± 0.2 % f.s.					
± 0.1 % f.s					
<=0.8 uV/Ohm					
0.05 %/Ω (50 Ω balanced max.)					
0.005 %/ Ω (100 Ω balanced max.)					
0.350 mA					
± 0.5°C					
± 0.01 % / °C					
± 0.01 % / °C					
about 0.4 sec.					

ОИТРИТ					
Output type	Min	Max	Span min		
Voltage	0 V	10 V	1 V		
Current	0 mA 20 mA 4 mA				
Output calibration					
Current	± 7 uA				
Voltage	± 10 mV				
Output Rload resistance					
Current	< 650 Ω				
Voltage	> 4.7 KΩ				

CURRENT LOOP REPEATER / SUPPLY FOR HAZARDOUS AREA SENSORS

DAT 5030 IS



GENERAL DESCRIPTION

The DAT 5030 IS device is a galvanic isolated Intrinsically Safety Barrier, defined as "Associated Apparatus"

The input can measure 0-20 mA or 4-20 mA current loops, both active or passive mode; auxiliary power supply is available to supply the current loop through the hazardous area (ZONE 0).

The measure is converted in output as voltage signal (0-10V or 2-10V) or current signal (0-20mA or 4-20mA). Auxiliary power supply is available to supply the current loop connected to the output.

FEATURES

- 0-20mA or 4-20mA active or passive configurable input
 0-10V, 2-10V, 0-20mA, 4-20mA configurable output
 Configurable by DIP switch

- Single or Double Channel
- HART Compatible on request
- Galvanic isolation on all ways
- Power supply for current loop in hazardous area (ZONE 0)
- EMC compliance CE Mark

- PROTECTION MODE: II (1) G D [Ex ia] IIC [Ex iaD] according to the Directive ATEX 94/9/EC
- Din Rail mounting suitable in according to EN-50022

Available in 4 different versions:

- DAT5030 IS A Single channel
- DAT5030 IS B Double channel
- DAT5030 IS AH Single channel HART compatible
- DAT5030 IS BH Double channel HART compatible









Application areas









POWER SUPPLY	TEMPERATURE & HUMIDITY			HOUSING		
Power supply voltage	20 ÷ 30 Vdc	Operating temperature		-20°C +60°C	Material	Self-extinguish plastic
Current consumption	80 mA per channel with Vaux operating	Storage temperature		-40 ÷ 85 °C	Mounting	DIN Rail
Reverse polarity protecti	on 60 Vdc max.	Relative humidity (not condensed)		0 90 %	Dimensions (mm)	120 x 100 x 22.5
ISOLATION		EMC (for industria	EMC (for industrial environments)		WEIGHT	
Input/Output	2000 Vac @ 50 Hz, 1min.	DIRECTIVE 2004/1	DIRECTIVE 2004/108/EC		Circula CII	-h - · · t 100
Input/Supply	2000 Vac @ 50 Hz, 1min.	I			Single CH	about 100 g.
Supply/Output	1500 Vac @ 50 Hz, 1min.	Immunity EN 61000-6-2		•	D 11 CH	1 1460
Between channels	2000 Vac @ 50 Hz, 1min.	Emission EN 61000-6-4			Double CH	about 160 g.

INPUT		
Input signal Active or passive current loop		
Range		
Configurable	0÷20 mA , 4÷20 mA	
Zero regulation	± 5 %	
Span regulation	± 5 %	
Auxiliary Supply	> 15V @ 20mA	
Input impedance	< 25 Ω	

OUTPUT		
Output signal		
Configurable	4÷20 mA, 0÷20 mA, 0÷10 V and 2÷10 V	
Output Rload resistance		
Voltage	> 5 KΩ	
Current	< 500 Ω	
Auxiliary Supply	> 12V @ 20mA	

PERFORMANCES			
Calibration error	± 0.1 % of f.s.		
Linearity error (*)	± 0.2 % of f.s.		
Thermal drift	0.02 % of Full scale/°C		
Response time (10÷90% of f.s.)	< 0.2 sec.		
Frequency response (HART Protocol)	bidirectional 0.5 ÷ 4 Khz @ 3dB		

(*) = inclusive of hysteresis, power supply variation and linearisation error.

EX DATA				
Terminals J-I; A-B-C-D; O-P-Q-R Um=250V				
Terminals 4-6; 14-16;				
Uo = 26.4 V		Ui = 30 V		
Io = 93 mA		li = 100 mA		
Po = 615 mW		Pi = 0.75W		
Lo = 4.2 mH		Li = ~0 mH		
Co = 75 nF		Ci = 12 nF		
Torminals 6 E. 16 1E.				

Terminals 6-5; 16-15;				
Uo = 1.2 V	Ui = 30 V			
Io = 46 mA	Ii = 100 mA			
Po = 14 mW	Pi = 0.75W			
	Li = ~0 mH			
	Ci = 12 nF			

DAT 1010 IS DAT 1010 IS/HT



GENERAL DESCRIPTION

The transmitter DAT 1010 IS is able to execute many functions such as: measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a voltage signal even coming from a potentiometer connected on its input. The measured values are converted in a 4÷20 mA current signal.

The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, mV, Resistance and Potentiometer
- High accuracy
- Configurable by Personal Computer
- 4 ÷ 20 mA configurable output on current loop
- On-field reconfigurable

- Applicable in zones with explosion risk (ZONE 0)
- Programming of the unit measure as °C or °F EMC complaint CE mark
- PROTECTION MODE: II 1 G Ex ia IIC certified in according to the Directive ATEX 94/9/EC
- Suitable for DIN B in-head mounting









Application areas









POWER SUPPLY		TEMPERATURE & HUMIDI	ТҮ	EX DATA	
			-20°C +70°C	Output /supply	Input
Power supply voltage	11 30 Vdc	Operative temperature	-20°C +85°C (vers. 'HT')	Ui = 30 V	Uo = 6.2 V
Reverse polarity	(0)//	Storage temperature	-40°C +85°C	Ii = 100 mA	Io = 100 mA
protection	60 Vdc max.			Pi = 0.75 W	Po = 500 mW
EMC (for industrial envi	ronments)	HOUSING		Li = 0.1 mH	Lo = 3.6 mH
DIRECTIVE 2004/108/EC		Material	Self-extinguishing plastic	Ci = 10 nF	Co = 5 uF
TNI (1000 (2		Dimensions Ø= 43 mm ; H = 24 mm		T6:-20 ÷ +55°C	
Immunity	EN 61000-6-2	Weight	about 50 g.	T5: -20 ÷ +55 C T5: -20 ÷ +70°C T4: -20 ÷ +85°C (vers. 'HT')	
Emission	EN 61000-6-4	Mounting	DIN B head or bigger		

INPUT						
Input type	ı	Min	Max	Span min		
RTD 2,3,4 wires						
Pt100	-20	00°C	850°C	50°C		
Pt1000	-20	00°C	200°C	50°C		
Ni100	-6	o°C	180°C	50°C		
Ni1000	-6	0°C	150°C	50°C		
Voltage						
mV	-10	00 mV	+700 mV	2 mV		
		0 Ω	200 Ω	10%		
Potentiometer (Nominal value)	200 Ω		500 Ω	10%		
(Normal Value)	0.5 ΚΩ		2 ΚΩ	10%		
RES. 2,3,4 wires						
Low	C) Ω	300 Ω	10 Ω		
High	C) Ω	2000 Ω	200 Ω		
Input calibration (1)						
RTD		the higher of ± 0.1 % f.s. and ± 0.2 °C				
Res. Low		the higher of ± 0.1 % f.s. and ± 0.15 Ω				
Res. High		the higher of ± 0.2 % f.s. and ± 1 Ω				
mV	the higher of ±0.1 % f.s. and ±10 uV					
Input impedance	Input impedance					
mV	>= 10 MΩ					
Linearity (1)						
RTD		± 0.1 % f.s				

INPUT				
Line resistance influence (1)				
mV	<=0.8 uV/Ohm			
RTD 3-wires	$0.05~\%/\Omega$ (50 Ω balanced max.)			
RTD 4-wires	$0.005~\%/\Omega$ (100 Ω balanced max.)			
RTD excitation current				
Typical	0.350 mA			
Thermal drift (1)				
Full scale	± 0.01 % / °C			
Burn-out values				
Max. output value	about 22.5 mA			
Min. output value	about 3.6 mA			
Response time (10÷90% of f.s.)	about 400 ms			

ОИТРИТ						
Output type	Min	Max	Span min			
Direct current	4 mA	20 mA	4 mA			
Reverse current	20 mA	4 mA	4 mA			
Output calibration						
Current	± 7 uA					

INTRINSICALLY SAFE PC CONFIGURABLE TRANSMITTER FOR UNIVERSAL INPUT

DAT 1015 IS DAT 1015 IS/HT



GENERAL DESCRIPTION

The transmitter DAT 1015 IS is able to execute many functions such as: measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a voltage signal even coming from a potentiometer connected on its input. Moreover the DAT 1015 IS is able to measure and linearise the standard thermocouples with internal cold junction compensation. The measured values are converted in a 4÷20 mA current signal.

The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, mV, TC, Resistance and Potentiometer
- High accuracy
- Configurable by Personal Computer
- $4 \div 20$ mA configurable output on current loop
- On-field reconfigurable

- Applicable in zones with explosion risk (ZONE 0)
- Programming of the unit measure as °C or °F
- EMC compliant CE mark
- PROTECTION MODE: II 1 G Ex ia IIC certified in according to the Directive ATEX 94/9/EC
- Suitable for DIN B in-head mounting









Application areas









POWER SUPPLY TEMPERATURE & H			TY	EX DATA	
			-20°C +70°C	Output /supply	Input
Power supply voltage	11 30 Vdc	Operative temperature	-20°C +85°C (vers. 'HT')	Ui = 30 V	Uo = 6.2 V
Reverse polarity	(0)//	Storage temperature	-40°C +85°C	Ii = 100 mA	Io = 100 mA
protection	60 Vdc max.	Humidity (not condensed)	0 90 %	Pi = 0.75 W	Po = 500 mW
EMC (for industrial envi	EMC (for industrial environments)		HOUSING		Lo = 3.6 mH
DIRECTIVE 2004/108/EC		Material	Self-extinguishing plastic	Ci = 10 nF	Co = 5 uF
TNI (1000 (2		Dimensions	Ø= 43 mm ; H = 24 mm		· , EE°C
Immunity EN 61000-6-2 Emission EN 61000-6-4		Weight	about 50 g.	T6:-20 ÷ +55°C bout 50 g. T5:-20 ÷ +70°C	
		Mounting	DIN B head or bigger	T4:-20 ÷ +85	°C (vers. 'HT')

INPUT						
Input type	I	Min	Max	Span min		
TC CJC int./ext.						
J	-20	00°C	1200°C	2 mV		
K	-20	00°C	1370°C	2 mV		
S	-!	50°C	1760°C	2 mV		
R	-!	50°C	1760°C	2 mV		
В	4(O0°C	1820°C	2 mV		
E	-20	00°C	1000°C	2 mV		
Т	-20	00°C	400°C	2 mV		
N	-20	00°C	1300°C	2 mV		
RTD 2,3,4 wires						
Pt100	-20	00°C	850°C	50°C		
Pt1000	-20	00°C	200°C	50°C		
Ni100	-6	50°C	180°C	50°C		
Ni1000	-60°C		150°C	50°C		
Voltage						
mV	-10	00 mV	+700 mV	2 mV		
D: .	0 Ω		200 Ω	10%		
Potentiometer (Nominal value)	200 Ω		500 Ω	10%		
(rremman rande)	0.5	5 ΚΩ	2 ΚΩ	10%		
Resistance						
Low	C	Ω	300 Ω	10 Ω		
High	C) Ω	2000 Ω	200 Ω		
Input calibration (1)						
RTD the higher of $\pm 0.1 \%$ f.s. and $\pm 0.2 \%$						
Res. Low the higher of $\pm 0.1 \%$ f.s. and ± 0.15						
Res. High	the higher of ± 0.2 % f.s. and ± 1 Ω					
mV, TC	the higher of ±0.1 % f.s. and ±10 uV					

INPUT		
Input impedance		
TC, mV	>= 10 MΩ	
Linearity (1)		
TC	± 0.2 % f.s.	
RTD	± 0.1 % f.s	
Line resistance influence		
TC, mV	<=0.8 uV/Ohm	
RTD 3-wires	0.05 %/Ω (50 Ω balanced max.)	
RTD 4-wires	0.005 %/ Ω (100 Ω balanced max.)	
RTD excitation current		
Typical	0.350 mA	
CJC comp.	± 0.5 ℃	
Thermal drift (1)		
Full scale	± 0.01 % / °C	
CJC	± 0.01 % / °C	
Burn-out values		
Max. output value	about 22.5 mA	
Min. output value	about 3.6 mA	
Response time (10÷90% of f.s.)	about 400 ms	

OUTPUT				
Output type	Min	Max	Span min	
Direct current	4 mA	20 mA	4 mA	
Reverse current	20 mA	4 mA	4 mA	
Output calibration				
Current	± 7 uA			



DAT 1065 IS DAT 1065 IS/HT



GENERAL DESCRIPTION

The isolated transmitter DAT 1065 IS is able to execute many functions such as: measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a voltage signal even coming from a potentio-

meter connected on its input.

Moreover the DAT 1065 IS is able to measure and linearise the standard thermocouples with internal cold junction compensation. The measured values are converted in a 4÷20 mA current signal.

The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, mV, TC, Resistance and Potentiometer
- High accuracy
- Configurable by Personal Computer
- 4 ÷ 20 mA configurable output on current loop
- Galvanic isolation at 2000 Vac
- On-field reconfigurable

- Applicable in zones with explosion risk (ZONE 0)
- Programming of the unit measure as °C or °F
- EMC compliant CE mark
- PROTECTION MODE: II 1 G Ex ia IIC certified in according to the Directive ATEX 94/9/EC
- Suitable for DIN B in-head mounting









Application areas







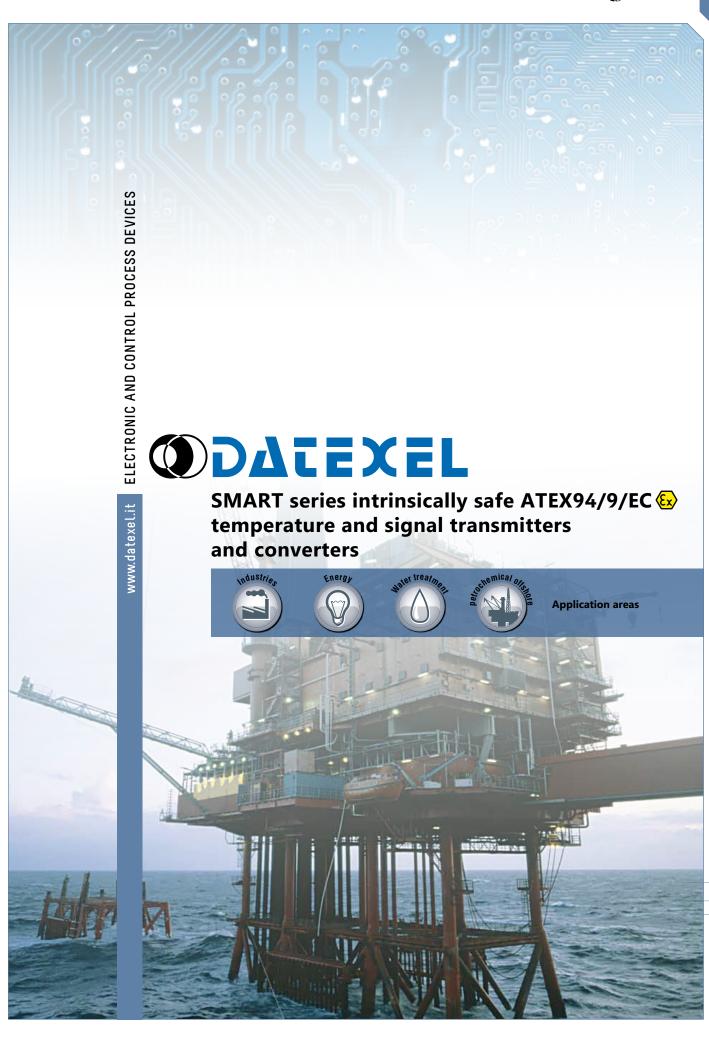


POWER SUPPLY		TEMPERATURE & HUMIDI	ТҮ	EX DATA		
Power supply voltage	11 30 Vdc	-20°C +70°C		Output /supply	Input	
Reverse polarity protection	n 60 Vdc max.	Operative temperature	-20°C +85°C (vers. 'HT')	Ui = 30 V	Uo = 6.2 V	
ISOLATION		Storage temperature	-40°C +85°C	li = 100 mA	Io = 100 mA	
Input - Output/Power supply	2000 Vac, 50 Hz,1 min.	Humidity (not condensed) 0 90 %		Pi = 0.75 W	Po = 500 mW	
EMC (for industrial environments)		HOUSING		Li = 0.1 mH	Lo = 3.6 mH	
DIRECTIVE 2004/108/EC		Material	Self-extinguishing plastic	Ci = 10 nF	Co = 5 uF	
EN (1000 (2		Mounting	DIN B head or bigger	T6:-20 ÷ +55°C T5:-20 ÷ +70°C		
Immunity	EN 61000-6-2 Dimensions (mm)		Ø = 43 mm ; H = 24 mm			
Emission EN 61000-6-4 W		Weight	about 90 g.	T4:-20 ÷ +85°	C (vers. 'HT')	

INPUT			
Input type	Min	Max	Span min
TC CJC int./ext.			
J	-200°C	1200°C	2 mV
K	-200°C	1370°C	2 mV
S	-50°C	1760°C	2 mV
R	-50°C	1760°C	2 mV
В	400°C	1820°C	2 mV
E	-200°C	1000°C	2 mV
Т	-200°C	400°C	2 mV
N	-200°C	1300°C	2 mV
RTD 2,3,4 wires			
Pt100	-200°C	850°C	50°C
Pt1000	-200°C	200°C	50°C
Ni100	-60°C	180°C	50°C
Ni1000	-60°C	150°C	50°C
Voltage			
mV	-100 mV	+700 mV	2 mV
	0 Ω	200 Ω	10%
Potentiometer (Nominal value)	200 Ω	500 Ω	10%
·	0.5 ΚΩ	2 ΚΩ	10%
RES. 2,3,4 wires			
Low	0 Ω	300 Ω	10 Ω
High	0 Ω	2000 Ω	200 Ω
Input calibration (1)			
RTD	the higher of ±	0.1 % f.s. and ±0	.2°C
Res. Low	the higher of ±	0.1 % f.s. and ±0	.15 Ω
Res. High	the higher of ± 0.2 % f.s. and ± 1 Ω		
mV, TC	the higher of ±0.1 % f.s. and ±10 uV		

INPUT		
Input impedance		
TC, mV	>= 10 MΩ	
Linearity (1)		
TC	± 0.2 % f.s.	
RTD	± 0.1 % f.s	
Line resistance influence (1)		
TC, mV	<=0.4 uV/Ohm	
RTD 3-wires	$0.05~\%/\Omega$ (50 Ω balanced max.)	
RTD 4-wires	$0.005~\%/\Omega$ (100 Ω balanced max.)	
RTD excitation current		
Typical	0.350 mA	
CJC comp.	± 0.5 °C	
Thermal drift (1)		
Full scale	± 0.01 % / °C	
CJC	± 0.01 % / °C	
Burn-out values		
Max. output value	about 22.5 mA	
Min. output value	about 3.6 mA	
Response time (10÷90% of f.s.)	about 400 ms	

OUTPUT				
Output type		Min	Max	Span min
Direct current		4 mA	20 mA	4 mA
Reverse current		20 mA	4 mA	4 mA
Output calibration				
Current		± 7 uA		



DATEXEL



'P.D.S. SERIES": temperature and signal transmitters and converters for DIN rail mounting

The P.D.S. (programmable by dip-switches) series transmitters and converters can accept on their input signals coming from 2 or 3 wires Pt100. Thermocouple and Strain Gauge sensors or Voltage and Current signals.



- Single and double channel 4÷20 mA two wires transmitters for Pt100 input without galvanic isolation (DAT2065, DAT2066)
- 4÷20 mÅ two wires transmitter for Thermocouple input without galvanic isolation (DAT2045)
- Single and double channel converters for Pt100 input with configurable output as voltage or current without galvanic isolation (DAT2165, DAT2166)
- Isolated converter for Pt100 input with configurable output as voltage or current (DAT2061)
- Converter for Thermocouple input with configurable output as voltage or current without galvanic isolation (**DAT2145**)
- Isolated signal converters with configurable input and output as voltage or current (DAT5020. DAT5021, DAT5023I, DAT5023V)
- Isolated signal splitter with configurable input and output as voltage or current (**DAT5022**)
- Isolated signal converter for Strain Gauge input with configurable output as voltage or current (DAT5025)







INDEX

30 • **DAT 2065**

Dip Switch Configurable transmitter for Pt100

DAT 2066

Double channel Dip Switch Configurable transmitter for Pt100

31 **DAT 2165**

Dip Switch Configurable converter for Pt100

Double Channel Dip Switch Configurable converter for Pt100

DAT 2061

Isolated Dip switch configurable converter for Pt100

DAT 2045

Not linearized Dip Switch configurable transmitter for thermocouple

33 • **DAT 2145**

Not linearized Dip Switch configurable converter for thermocouple **DAT 5020**

Dip Switch configurable 3 ways isolated signal converter

DAT 5021

3 ways isolated Dip Switch configurable signal converter

4 ways isolated Dip Switch configurable signal converter/signal splitter

DAT 5023 lac

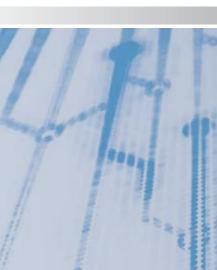
Dip Switch configurable converter for AC current signal

DAT 5023 ldc Isolated converter for DC current signal with fixed input, and Dip Switch configurable output

36 • **DAT 5023/V**

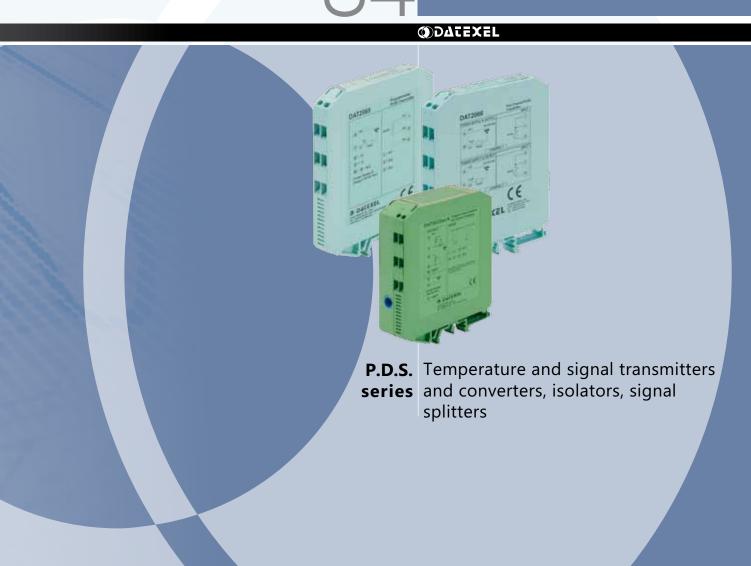
Dip Switch configurable converter for AC / DC voltage signal

Isolated programmable Dip Switch converter for Strain Gauge / Bridge sensors



D.S. SERIES

04



DAT 2066



GENERAL DESCRIPTION

The transmitter DAT 2065 is designed to provide on its output a linearised $4 \div 20$ mA current loop signal proportional with the temperature characteristic of the Pt100 sensor connected on its input.

It is possible to connect on the input both 3 wires and 2 wires Pt100.

FEATURES

- Configurable Input for Pt100
- Good accuracy and performance stability
- Configurable by DIP-switches
- 4 to 20 mA linearised output on current loop
- Unit of measure configurable in °C or °F
- EMC compliant CE mark
- DIN rail mounting in compliance with EN-50022 and EN-50035







Application areas









PO	W	ER	SU	PI	PL	Y

Power supply voltage	10 30 Vdc
Rever. polarity protection	60 Vdc max

TEMPERATURE & HUMIDITY

Operative temperature	-20°C +70°C
Storage temperature	-40°C +85°C
Humidity (not condensed)	0 90 %

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

DIRECTIVE	. 2004 / 100 / LC	
Immunity	EN 61000-6-2	
Emission	EN 61000-6-4	
HOUSING		
Material	Self-extinguishing plastic	
Dim. (mm)	W x L x H : 90 x 112 x 12.5	
Weight	about 80 g.	

INPUT (RTD) Input type Min Max Span min Pt100 (2-3 wires) -50°C 650°C 50°C

OUTPUT			
Output type	Min	Max	Span min
Direct current	4 mA	20 mA	-
Min. input value programmability			
Programmable		-50 ÷ 50 °C	
Input Calibration (1)			
the higher of ± 0.1 % f.s. and 0.2 °C			
RTD sensor excitation current			
Тур.		0.6 mA	
Thermal drift (1)			
Full Scale		± 0.02 % / °C	

Linearity error (*)			
± 0.15 % of f.s.			
Burn-out values			
Max. value output	>20 mA		
Line resistance influence (1)			
0.05 % f.s. / Ω (100 Ω max balanced for wire)			
Response time (10÷90% of f.s.) about 300 ms			

- (1) = referred to the input Span (difference between max. and min.)
- (*) = inclusive of hysteresis, power supply variation and linearisation error.

DOUBLE CHANNEL DIP SWITCH CONFIGURABLE TRANSMITTER FOR PT100

The double channel transmitter DAT 2066 is designed to provide on the output two linearised $4 \div 20$ mA current loop signals proportional with the temperature characteristics of the Pt100 sensors connected on its inputs. It is possible to connect on the input both 3 wire Pt100 and 2 wire Pt100.

FEATURES

- Configurable double Input for Pt100
- Good accuracy and performance stability
- Configurable by DIP-switches

GENERAL DESCRIPTION

- 4 to 20 mA linearised double output on current loop
- 1000 Vac isolation among the channels
- Unit of measure configurable in °C or °F
- EMC compliant CE mark
- DIN rail mounting in compliance with EN-50022 and EN-50035





Application areas











POWER SUPPLY

TEMPERATURE & HUMIDITY		
Rever. polarity protection	60 Vdc max	
Power supply voltage	10 30 Vac	

Operative temperature	-20°C +70°C
Storage temperature	-40°C +85°C
Humidity (not condensed)	0 90 %

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

Immunity	EN 61000-6-2	
Emission	EN 61000-6-4	
HOUSING		
Material	Self-extinguishing plastic	
Dim. (mm)	W x L x H : 90 x 112 x 12.5	

about 80 g.

INPUT (RTD) Input type Min Max Span min Pt100 (2-3 wires) -50°C 650°C 50°C

OUIPUI			
Output type	Min	Max	Span min
Direct current	4 mA	20 mA	-
Min. input value programmability			
Programmable	Programmable −50 ÷ 50 °C		
Input Calibratio	n (1)		
the higher of \pm 0.1	% f.s. and 0.2	2 °C	
RTD sensor exci	tation curr	ent	
Тур.		0.6 mA	
Thermal drift (1)			
Full Scale		± 0.02 % / °C	-

Linearity error (*)

± 0.15 % of f.s.

Burn-out values

>20 mA Max. value output

Line resistance influence (1)

0.05 % f.s. / Ω (100 Ω max balanced for wire)

Response time (10÷90% of f.s.) about 300 ms

(1) = referred to the input Span (difference between max. and min.)

(*) = inclusive of hysteresis, power supply variation and linearisation error.

Weight

DIP SWITCH CONFIGURABLE CONVERTER FOR PT100



GENERAL DESCRIPTION

The converter DAT 2165 is designed to provide on its output a linearised voltage or current signal proportional with the temperature characteristic of the Pt100 sensor connected on its input. It is possible to connect on the input both 3 wires and 2 wires Pt100.

FEATURES

- Configurable Input for Pt100
- Good accuracy and performance stability
- Configurable by DIP-switches
- Linearised voltage or current output
- Unit of measure configurable in °C or °F
- EMC compliant CE mark
- DIN rail mounting in compliance with EN-50022 and EN-50035



OUTDUT



Application areas









about 300 ms

POWER SUPPLY	
Power supply voltage	18 30 Vdc
Rever. polarity protection	60 Vdc max

CURRENT CONSUMPTION		
Current output	40 mA max.	
Voltage output	10 mA max.	

TEMPERATURE & HUMIDITY

Operative temperature	-20°C +70°
Storage temperature	-40°C +85°C
Humidity (not condensed)	0 90 %

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

Immunity EN 61000-6-2

Weight

Emission	EN 61000-6-4
HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5

about 80 g.

INPUT (RTD)			
Input type	Min	Max	Span min
Pt100 (2-3 wires)	-50°C	650°C	50°C

OUIPUI			
Output type	Min	Max	Span min
Direct current	0 mA	20 mA	-
Direct Voltage	0 V	10 V	-
Min. input value	e programr	nability	
Programmable		-50 ÷ 50 °C	
Input Calibratio	n (1)		
the higher of ± 0.1	% f.s. and 0.2	2 °C	
RTD sensor exci	itation curr	ent	
Тур.		0.6 mA	
Thermal drift (1))		
Full Scale		± 0.02 % / °C	

Linearity error (*)		
± 0.15 % of f.s.		
Burn-out values		
Max. value output	>20 mA or > 10 Vdc	
Line resistance influence (1)		
$0.05~\%$ f.s. / Ω (100 Ω max balanced for wire)		

(1) = referred to the input Span (difference between max. and min.)

Response time (10÷90% of f.s.)

(*) = inclusive of hysteresis, power supply variation and linearisation error.

DOUBLE CHANNEL DIP SWITCH CONFIGURABLE CONVERTER FOR PT100



GENERAL DESCRIPTION

The double channel converter DAT 2166 is designed to provide on the output two linearised voltage or current signals proportional with the temperature characteristics of the Pt100 sensors connected on its inputs. It is possible to connect on the input both 3 wire and 2 wire Pt100.

FEATURES

- Configurable double Input for Pt100
- Good accuracy and performance stability
- Configurable by DIP-switches
- Linearised double voltage or current output
- 1000 Vac isolation among the channels
- Unit of measure configurable in °C or °F
- EMC compliant CE mark
- DIN rail mounting in compliance with EN-50022 and EN-50035



Full Scale



Application areas





Linearity error (*)







POWER SUPPLY

Power supply voltage	18 30 Vdc
Rever. polarity protection	60 Vdc max

CURRENT CONSUMPTION (for each channel)

Current output	40 mA max.
Voltage output	15 mA max.

TEMPERATURE & HUMIDITY

Operative temperature	-20°C +70°C
Storage temperature	-40°C +85°C
Humidity (not condensed)	0 90 %

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING

Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 80 g.

INPUT (RTD) Input type Min Max Span min Pt100 (2-3 wires) -50°C 650°C 50°C

ОИТРИТ			
Output type	Min	Max	Span min
Direct current	0 mA	20 mA	-
Direct Voltage	0 V	10 V	-
Min. input value programmability			
Programmable		-50 ÷ 50 °C	
Input Calibration (1)			
the higher of ± 0.1 % f.s. and 0.2 °C			
RTD sensor excitation current			
Тур.		0.6 mA	
Thermal drift (1)			

± 0.02 % / °C

± 0.15 % of f.s.	
Burn-out values	
Max. value output	>20 mA or > 10 Vdc
Line resistance influence (1)	
$0.05~\%$ f.s. / Ω (100 Ω max balanced for wire)	
Response time (10÷90% of f.s.)	about 300 ms

- (1) = referred to the input Span (difference between max. and min.)
- (*) = inclusive of hysteresis, power supply variation and linearisation error.

DAT 2061

GENERAL DESCRIPTION

The converter DAT 2061 is designed to provide on its output a linearised voltage or current signal proportional with the temperature characteristic of the Pt100 sensor connected on its input.

It is possible to connect on the input both 3 wires and 2 wires Pt100.

FEATURES

- Input for RTD type Pt100
- Unit of measure configurable in °C or °F
- Zero and Span values configurable by DIP-switches
- Voltage or current output
- Output values configurable by DIP-switches
- Galvanic isolation at 2000 Vac between input / output and power supply
- Good accuracy and performance stability
- EMC compliant CE mark
- DIN rail mounting in compliance with EN-50022 and EN-50035





Application areas









POWER S	UPF	PLY
_		

Power supply voltage	18 30 Vdc
Rever. polarity protection	60 Vdc max

CURRENT CONSUMPTION

Current output	60 mA max.
Voltage output	40 mA max.

ISOLATION

2000 Vac, 50 Hz, 1 min.

TEMPERATURE & HUMIDITY

Operative temperature	-20°C +70°C
Storage temperature	-40°C +85°C
Humidity (not condensed)	090%

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

mmunity	EIN 01000-0-2
mission	EN 61000-6-4

HOUSING

Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 80 g.

INPUT (RTD) Input type Min Max Span min Pt100 (2-3 wires) -50°C 650°C 50°C

OUTPUT				
Output type	Min	Max	Span min	
Direct current	0 mA	20 mA	-	
Direct Voltage	0 V	10 V	-	
Min. input value programmability				
Programmable -50 ÷ 50 °C				
Input Calibration (1)				

the higher of ± 0.1% f.s. and 0.2 °C				
RTD sensor excitation current				
Тур.	0.6 mA			

± 0.02 % / °C

Linearity error (*)	
± 0.15 % of f.s.	
Burn-out values	
Max. value output	>20 mA or > 10 Vdc

Line resistance influence (1)

0.05 % f.s. / Ω (100 Ω max balanced for wire)

Response time (10÷90% of f.s.) about 500 ms

- (1) = referred to the input Span (difference between max. and min.)
- (*) = inclusive of hysteresis, power supply variation and linearisation error.

NOT LINEARIZED DIP SWITCH CONFIGURABLE TRANSMITTER FOR THERMOCOUPLE

GENERAL DESCRIPTION

Thermal drift (1) Full Scale

The transmitter DAT 2045 is designed to provide on its output a $4 \div 20$ mA current loop signal linear and proportional with the value of voltage generated from the thermocouple connected to its input.

The DAT 2045 doesn't execute the linearisation of the input signal; this feature allows to use the transmitter with acquisition systems with an internal linearisation software.

- Configurable Input for thermocouples type K, J, R, S and T
- Good accuracy and performance stability
- Configurable by DIP-switches
- 4 to 20 mA "voltage linear" output on current loop
- Unit of measure configurable in °C or °F
- EMC compliant CE mark
- DIN rail mounting in compliance with EN-50022 and EN-50035







Application areas











POWER SUPPLY Power supply voltage

Rever. polarity protection	60 Vdc max	
TEMPERATURE & HUMIDITY		
Operative temperature	-20°C +70°C	

10 .. 30 Vdc

Storage -40°C .. +85°C temperature Humidity (not condensed) 0 .. 90 %

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING

Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	About 90 a.

INPUT (TC) Input type Min Max Span min -50°C 950°C 100°C Κ -50°C 1370°C 100°C -50°C 1760°C 700°C -50°C 1760°C 700°C -50°C 100°C т 450°C

OUTPUT				
Output type Min		Max	Span min	
Direct current	4 mA	20 mA	-	
Min. input value programmability				
Programmable -50 ÷ 50 °C				
Input Calibration (1)				
the higher of ± 0.1 % f.s. and 0.2 °C				
CJC compensation ± 0.5°C				

Thermal drift (1) Full Scale ± 0.02 % / °C Linearity error (*) \pm 0.05 % of f.s. **Burn-out values** Max. value output >20 mA Input Impedance

10 MΩ

Line resistance influence (1)

Response time (10÷90% of f.s.) about 500 ms

- (1) = referred to the input Span (difference between max. and min.)
- (*) = inclusive of hysteresis, power supply variation and linearisation error.

NOT LINEARIZED DIP SWITCH CONFIGURABLE CONVERTER FOR THERMOCOUPLE



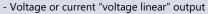
GENERAL DESCRIPTION

The converter DAT 2145 is designed to provide on its output a voltage or current signal linear and proportional with the value of voltage generated from the thermocouple connected to its input.

The DAT 2145 doesn't execute the linearisation of the input signal; this feature allows to use the converter with acquisition systems with an internal linearisation software.

FEATURES

- Configurable Input for thermocouples type K, J, R, S and T
- Good accuracy and performance stability
- Configurable by DIP-switches



- Unit of measure configurable in °C or °F
- EMC compliant CE mark
- DIN rail mounting in compliance with EN-50022 and EN-50035















POWER SUPPLY				
Power supply voltage		18 30 Vdc		
Rever. polari	ty protec	tion	60 Vdc max	
CURRENT	CONSU	MP1	ΓΙΟΝ	
Current outp	ut	40 r	mA max.	
Voltage outp	out	10 n	mA max.	
TEMPERAT	TURE &	HUI	MIDITY	
Operative temperature			-20°C +70°C	
Storage temperature			-40°C +85°C	
Humidity (not condensed) 0 90 %				
EMC (for industrial environments)				
DIRECTIVE 2004 / 108 / EC				
Immunity	EN 61000-6-2			
Emission	EN 61000-6-4			
HOUSING				
Material	Self-extinguishing plastic			
Dim. (mm)	W x L x H : 90 x 112 x 12.5			
Weight	About 90 g.			

INPUT (TC)				
Input type	Min	Max	Span min	
J	-50°C	950°C	100°C	
K	-50°C	1370°C	100°C	
S	-50°C	1760°C	700°C	
R	-50°C	1760°C	700°C	
Т	-50°C	450°C	100°C	

OUTPUT				
Output type	Min		Max	Span min
Direct current	4 mA	2	.0 mA	-
Direct Voltage	0 V		10 V	-
Min. input value programmability				
Programmable -5		-50	÷ 50 °C	
Input Calibration (1)				
the higher of ± 0.1 % f.s. and 0.2 °C				
CJC compensation			± 0.5°C	
Thermal drift (1)				
Full Scale			± 0.02 %	/ °C
()			± 0.02 %	/°C

Linearity error (^)	
± 0.05 % of f.s.	
Burn-out values	
Max. value output	>20 mA or 10 Vdc
Input Impedance	
10 ΜΩ	
Line resistance influence (1)	
0.2 μV / Ω	
Response time (10÷90% of f.s.)	about 500 ms

- (1) = referred to the input Span (difference between max. and min.)
- (*) = inclusive of hysteresis, power supply variation and linearisation error.

DIP SWITCH CONFIGURABLE 3 WAYS ISOLATED SIGNAL CONVERTER



GENERAL DESCRIPTION

The converter DAT 5020 is designed to provide on its output a voltage or current signal proportional with the value of the normalised signal or the potentiometer applied on its input. The user can program the input and output ranges by the proper DIP-switches available after opening the suitable door located on the side of device. The regulation of Zero and Span values is made by the ZERO and SPAN potentiometers located on the top of device. The 2000 Vac isolation between input, power supply and output eliminates the effects of all ground loops eventually existing and allows the use of the converter in heavy environmental conditions found in industrial applications. On the input side, an auxiliary supply source isolated from the power supply is provided; this allows to connect on input both active and passive current loops.

FEATURES

- Input for voltage, current and potentiometer signal
- Voltage or current configurable output
- High number of Input / output configuration
- Galvanic isolation at 2000 Vac on the 3 ways
- Isolated power supply source for passive current transmitter on input
- Good accuracy and performance stability
- EMC compliant CE mark
- DIN rail mounting in compliance with EN-50022 and FN-50035



± 0.15 % f.s.



Application areas











POWER SUPPLY Power supply voltage 18 .. 32 Vdc Rever. polarity protection 60 Vdc max 18 Vdc min @ 20 mA Aux. Power Supply

	@ 0
Current consumption	
Current output with active F aux operative input (20 mA)	ower supply : 110 mA max

80 mA max.

Voltage output **ISOLATION**

2000 Vac, All the ways 50 Hz, 1 min

TEMPERATURE & HUMIDITY

Operative temperature -20°C .. +60°C Storage -40°C .. +85°C temperature 0..90% Humidity (not condensed)

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

Immunity EN 61000-6-2 Emission EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 80 g.

INPUT				
Input type	Min	Max	Span min	
Current	0 mA	20 mA	-	
Voltage	-10 V	10 V	-	
Potentiometer				
(Rnom. from $1K\Omega$ to $5~K\Omega$)	0 %	100 %	-	
Max input signa	al			
30 Vdc or 50 mA				
Input Calibratio	n (1)			
± 0.1 % f.s.				
Linearity (*)				

Input Impedance			
Voltage	>/= 1 M Ω , Current: ~ 50 Ω		
Thermal drift (1)			
Full Scale	± 0.02 % / °C		

OUTPUT				
Output type	Min	Max	Span min	
Current	0 mA	20 mA	-	
Voltage	-10 V	10 V	-	
Max output signal				

15 Vdc or 30 mA

Response time (10÷90% of f.s.) about 500 ms

- (1) = referred to the input Span (difference between max. and min.)
- (*) = inclusive of hysteresis and power supply variation.

Ω

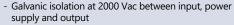


GENERAL DESCRIPTION

The converter DAT 5021 is designed to provide on its output a voltage or current signal proportional with the value of the normalised signal applied on its input. The user can program the input and output ranges by the proper DIP-switches available after opening the suitable door located on the side of device. The regulation of Zero and Span values is made by the ZERO and SPAN potentiometers located on the top of device.

FEATURES

- Input for voltage and current signal
- Input range configurable by DIP-switches
- Isolated power supply source for passive current transmitter on input
- Isolated power supply source for passive loads on output
- Voltage or current output configurable by DIP-switches



- Good accuracy and performance stability
- EMC compliant CE mark
- DIN rail mounting in compliance with EN-50022 and EN-50035





Application areas









POWER SUPPLY	
Power supply voltage	18 30 Vdc
Rever. polarity protection	60 Vdc max
Aux. Power Supply OUT	12 Vdc min @ 20 mA
Aux. Power Supply IN	18 Vdc @ 20 mA

CURRENT CONSUMPTION

Current output with active I aux operative input (20 mA	Power supply): 90 mA max.
Voltage output 40 mA max.	

ISOLATION

All the ways 2000 Vac, 50 Hz, 1 min

TEMPERATURE & HUMIDITY

Operative temperature	-20°C +60°C
Storage temperature	-40°C +85°C
Humidity (not condensed)	0 90 %

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING				
Material	Self-extinguishing plastic			
Dim. (mm)	W x L x H : 90 x 112 x 12.5			
Weight	About 90 g.			

INPUT				
Input type	Min		Max	Span min
Current	0 mA		20 mA	-
Current	4 mA		20 mA	-
	0 V		10 V	-
Voltage	2 V		10 V	-
	0 V		5 V	-
	1 V		5 V	-
Input Calibration ± 0.1 % f.s.				
Linearity (*) ± 0.05 % f.s			0.05 % f.s.	
Thermal drift				
Full Scale		± (0.02 % / °C	
Response time (fr	om 10 to	90	% of f.s.)	< 10 ms

ОИТРИТ			
Output type	Min	Max	Span min
Current	0 mA	20 mA	-
Current	4 mA	20 mA	-
	0 V	10 V	-
. V-16	2 V	10 V	-
Voltage	0 V	5 V	-
	1 V	5 V	-

l	Load resistance	(Rload)		
ļ	Voltage output	>/=	5 ΚΩ	
	Current output	=</th <th>500 Ω</th> <th></th>	500 Ω	

(*) = inclusive of hysteresis and power supply variation.

4 WAYS ISOLATED DIP SWITCH CONFIGURABLE SIGNAL CONVERTER/SIGNAL SPLITTER

DAT 5022

GENERAL DESCRIPTION

The converter DAT 5022 is designed to provide on its output two voltage or current signals proportional with the value of the normalised signal applied on its input. The user can program the input and outputs ranges by the proper DIP-switches available after opening the suitable door located on the side of device.

The regulation of Zero and Span values is made by the ZERO and SPAN potentiometers located on the top of device.

FEATURES

- Input for voltage and current signal
- Input range configurable by DIP-switches
- Voltage or Current two independent output channels
- Voltage or current outputs configurable by DIP-switches
- Isolated power supply source for passive current transmitter on input
- Isolated power supply source for passive loads on outputs
- Galvanic isolation at 2000 Vac between input, power supply and outputs
- Good accuracy and performance stability
- EMC compliant CE mark
- DIN rail mounting in compliance with EN-50022 and EN-50035

















POWER SUPPLY	
Power supply voltage	18 30 Vdc
Rever. polarity protection	60 Vdc max
Aux. Power Supply OUT	12 Vdc min @ 20 mA
Aux. Power Supply IN	18 Vdc @ 20 mA

CURRENT CONSUMPTION

Current output with active Power supply aux operative input (20 mA): 120 mA max. 60 mA max. Voltage output

ISOLATION

2000 Vac, 50 Hz, 1 min All the ways

TEMPERATURE & HUMIDITY

Operative temperature	-20°C +60°C
Storage temperature	-40°C +85°C
Humidity (not condensed)	0 90 %

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

DIRECTIVE 2001, 100, 20				
Immunity	EN 61000-6-2			
Emission	EN 61000-6-4			

HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	About 90 g.

INPUT				
Input type	Min		Max	Span min
Current	0 mA		20 mA	-
Current	4 mA		20 mA	-
	0 V		10 V	-
V 1.	2 V		10 V	-
Voltage	0 V		5 V	-
	1 V		5 V	-
Input Calibration ± 0.1 % f.s.				
Linearity (*) ± 0.05 % f.s.				
Thermal drift				
Full Scale		± (0.02 % / °C	
Response time (from 10 to 90 % of f.s.)			< 10 ms	

OUTPUT (2 CH	OUTPUT (2 CHANNELS)			
Output type	Min	Max	Span min	
Current	0 mA	20 mA	-	
Current	4 mA	20 mA	-	
	0 V	10 V	-	
Voltage	2 V	10 V	-	
Voitage	0 V	5 V	-	
	1 V	5 V	-	
Load resistance (Rload)				
Voltage output	>	/= 5 KΩ		
Current output	= 500 Ω</td			

(*) = inclusive of hysteresis and power supply variation.

DIP SWITCH CONFIGURABLE CONVERTER FOR AC CURRENT SIGNAL

DAT 5023lac



The converter DAT 5023Iac is designed to detect the TRMS value of the AC current signal from 0÷5 A to 0÷60 A applied on its input providing a voltage or current output signal. The user can program the input and output ranges by the proper DIP-switches available after opening the suitable door located on the side of device. The regulation of Zero and Span values is made by the ZERO and SPAN potentiometers located on the top of device. The 2000 Vac isolation between power supply and output eliminates the effects of all ground loops eventually existing and allows the use of the converter in heavy environmental conditions found in Industrial applications.

The measure of the input signal is executed by a cross connector and a Hall effect transducer, this allows to isolate the input side from the output and power supply.

FEATURES

- Input for AC current signal
- Build-in cross connector (8mm diameter)
- Measure by Hall effect transducer
- True Root Mean Square (TRMS) measure
- Galvanic isolation at 2000 Vac

- Isolated power supply source for passive loads on output
- Independent zero and full scale regulations
- EMC compliant CE mark

Current output

- DIN rail mounting in compliance with EN-50022 and EN-50035







Application areas











POWER SUPPLY	
Power supply voltage	18 30 Vdc
Rever. polarity protection	60 Vdc max
Aux. Power Supply OUT	12 Vdc min @ 20 mA

Rever. polarity protection	60 Vdc max	
Aux. Power Supply OUT	12 Vdc min @ 20 mA	
CURRENT CONCUMPTION		

COKKENI	CONSON	IPTION
Current out	put with Au	supply out

rative (20 mA): 90 mA max. Voltage output 60 mA max.

ISOLATION

2000 Vac, 50 Hz, 1 min All the ways

TEMPERATURE & HUMIDITY

Operative temperature	-20°C +60°C
Storage temperature	-40°C +85°C
Humidity (not condensed)	0 90 %

EMC (for industrial environments) **DIRECTIVE 2004 / 108 / EC**

Immunity EN 61000-6-2 Emission EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 22.5
Weight	About 170 g.

INPUT				
Input type	Min		Max	Span min
DAT5023lac/A	0÷5 A		0÷10 A	-
DAT5023lac/B	0÷20 A		0÷30 A	-
DAT5023lac/D	0÷40 A		0÷60 A	-
Bandwidth (-3dB)				
40 Hz ÷ 1KHz				
Input Calibratio	n	± (0.1 % f.s.	
Linearity (*)			% f.s.	
Thermal drift				
Full Scale		± (0.02 % / °C	

OUTPUT			
Min	Max	Span min	
0 mA	20 mA	-	
4 mA	20 mA	-	
0 V	10 V	-	
2 V	10 V	-	
0 V	5 V	-	
1 V	5 V	-	
Load resistance (Rload)			
>	/= 5 KΩ		
	0 mA 4 mA 0 V 2 V 0 V 1 V (Rload)	0 mA 20 mA 4 mA 20 mA 0 V 10 V 2 V 10 V 0 V 5 V 1 V 5 V	

(*) = inclusive of hysteresis and power supply variation.

Response time (10÷90% of f.s.) About 400 ms

</= 500 Ω

ISOLATED CONVERTER FOR DC CURRENT SIGNAL WITH FIXED INPUT AND DIP SWITCH CONFIGURABLE OUTPUT

DAT 50231



The converter DAT 5023Idc is designed to convert the DC current signal from $0 \div 5$ A to $0 \div 60$ A applied on its input in a voltage or current output signal. The device is available in three versions (A, B and D) in function of the input current value.

The user can program the output ranges by the proper DIP-switches available after opening the suitable door located on the side of device

The regulation of Zero and Span values is made by the ZERO and SPAN potentiometers located on the top of device.

FEATURES

- Input for DC current signal
- Build-in cross connector (8mm diameter)
- Measure by Hall effect transducer
- Isolated power supply source for passive loads on output
- Independent zero and full scale regulations
- EMC compliant CE mark
- DIN rail mounting in compliance with EN-50022 and EN-50035







Application areas











POWER SUPPLY

Power supply voltage	18 30 Vdc
Rever. polarity protection	60 Vdc max
Aux. Power Supply OUT	12 Vdc min @ 20 mA

CURRENT CONSUMPTION

Current output with Aux supply out operative (20 mA): 90 mA max. 60 mA max. Voltage output

ISOLATION

2000 Vac, 50 Hz, 1 min All the ways

TEMPERATURE & HUMIDITY

Operative temperature	-20°C +60°C
Storage temperature	-40°C +85°C
Humidity (not condensed)	0 90 %

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

Immunity EN 61000-6-2 EN 61000-6-4 **Emission**

110031110	
Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 22.5
Weight	About 170 a

INPUT				
Input type	Min		Max	Span min
Current (A) (1)	0÷5 A		0÷60 A	-
Input Calibration ± 0.1 % f.s.		0.1 % f.s.		
Linearity (*)		±1 % f.s.		
Thermal drift				
Full Scale		± 0.02 % / °C		
(1) To also and the import many refer to the trademical				

(1) = To choose the input range refer to the technical data sheet.

OUTPUT				
output type	Min	Max	Span min	
Current	0 mA	20 mA	-	
Current	4 mA	20 mA	-	
	0 V	10 V	-	
Voltage	2 V	10 V	-	
	0 V	5 V	-	
	1 V	5 V	-	

		/DL I\
Load	resistance	(Kload)

Response time (10÷90% of	f.s.)	About 400 ms
Current output	=</td <td>500 Ω</td>	500 Ω
Voltage output	>/=	5 ΚΩ

(*) = inclusive of hysteresis and power supply variation.



The converter DAT 5023/V is designed to detect the TRMS value of the AC voltage signal or to convert the DC voltage signal applied on its input in a voltage or current output signal. The user can program the input type and output ranges by the proper DIP-switches available after opening the suitable door located on the side of device.

The regulation of Zero and Span values is made by the ZERO and SPAN potentiometers located on the top of device.

The 1500 Vac isolation between input, power supply and output eliminates the effects of all ground loops eventually existing and allows the use of the converter in heavy environmental conditions found in industrial applications.

- Input for AC/DC voltage signal
- Dedicated measure inputs
- Input type of measure (AC / DC) configurable by DIP-switches
- True Root Mean Square (TRMS) measure
- Isolated power supply source for passive loads on output
- Voltage or current output configurable by DIP-switches
- Galvanic isolation at 1500 Vac between input, power supply and output
- Good accuracy and performance stability
- EMC compliant CE mark
- DIN rail mounting in compliance with EN-50022 and EN-50035



Dim. (mm)



Application areas











POWER SUPPLY		
Power supply voltage	18 30 Vdc	
Rever. polarity protection	60 Vdc max	
Aux. Power Supply OUT	12 Vdc min @ 20 mA	

CURRENT CONSUMPTION

Current output with Aux su rative (20 mA): 80 mA max	
Voltage output	60 m∆ may

II the ways	1500 Vac,	
iii trie ways	50 Hz, 1 min	

TEMPERATURE & HUMIDITY

Operative temperature	-20°C +60°C
Storage temperature	-40°C +85°C
Humidity (not condensed)	0 90 %

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic

Weight	About 90 g.		
INPUT			
Input type ⁽¹⁾	Min	Max	Span min

W x L x H : 90 x 112 x 12.5

Input type ⁽¹⁾	Min	Max	Span min
Voltage (Vac)	0÷36 Vac	0÷550 Vac	-
Voltage (Vdc)	0÷36 Vdc	0÷550 Vdc	-
Bandwidth (-3d	B)		
40 Hz ÷ 1KHz			
Input Calibration ± 0.1 % f.s.			
Linearity (*)			
(AC) ±1 % f.s. (DC) ± 0.1 % f.s.			
Thermal drift			
Full Scale	1	0.02 % / °C	

ОИТРИТ			
Output type	Min	Max	Span min
Current	0 mA	20 mA	-
Current	4 mA	20 mA	-
	0 V	10 V	-
Voltage	2 V	10 V	-
	0 V	5 V	-
	1 V	5 V	-

Load resistance (Rload)				
Voltage output		>/=	5 ΚΩ	
Current output		=</td <td>500 Ω</td> <td></td>	500 Ω	
Response time (10÷90% of f.s.)		٠,	(AC) 250 ms	
		(DC) 20 ms		
(A) = 1 .1				

- (1) = To choose the input range refer to the technical data sheet.
- (*) = Inclusive of hysteresis and power supply variation.

ISOLATED PROGRAMMABLE DIP SWITCH CONVERTER FOR STRAIN GAUGE / BRIDGE SENSORS



GENERAL DESCRIPTION

The converter DAT 5025 is designed to provide on its output a voltage or current signal linear and proportional with the output voltage coming from the output of a bridge transducer applied on its input.

The user can program the bridge excitation voltage value, the input and the output ranges by the proper DIP-switches available after opening the suitable door located on the side of device.

The regulation of Zero and Span values is made by the ZERO and SPAN potentiometers located on the top of device.

FEATURES

- Input for Strain-Gauge
- Input range configurable from 0÷10 mV up to 0÷200
- mV or from $\pm 5 \, mV$ up to $\pm 200 \, mV$
- Current limiter on the input side
- Galvanic isolation at 2000 Vac on the 3 ways
- Isolated power supply source for passive loads on output
- Independent zero and full scale regulations
- EMC compliant CE mark
- Din rail mounting in compliance with EN-50022
- and FN-50035





Application areas











POWER SUPPLY

Power supply voltage	18 30 Vdc
Rever. polarity protection	60 Vdc max
Aux. Power Supply OUT	12 Vdc min

CURRENT CONSUMPTION

Current output with active Power supply aux operative (20 mA): 120 mA max. Voltage output 80 mA max.

ISOLATION

2000 Vac, All the ways 50 Hz, 1 min

TEMPERATURE & HUMIDITY

Operative temperature	-20°C +60°C
Storage temperature	-40°C +85°C
Humidity (not condensed)	0 90%

EMC (for industrial environments) **DIRECTIVE 2004 / 108 / EC**

	,
Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING

Material Self-extinguishing plastic Dim. (mm) W x L x H : 90 x 112 x 12.5 Weight About 90 g.

INPUT			
Input type ⁽¹⁾	Min	Max	Span min
Strain-Gauge	0 mV	10 mV	-
	0 mV	200 mV	-
	± 5 mV	± 200 mV	-

Bridge excitation voltage (Vexc)

3.60 Vdc \pm 0.1% (with bridge's resistance included between 100 Ω and 10 K Ω)

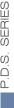
10 Vdc \pm 0.1% (with bridge's resistance included between 300 Ω and 10 K Ω)

	bridge excitation current		
65 mA max.			
	Input Calibration	± 0.1 % f.s.	
Linearity (*) ± 0.1 % f.s. Thermal drift		± 0.1 % f.s.	
	Full Scale	± 0.01 % / °C	

OUTPUT					
Output type	Min	Max	Span min		
Current	0 mA	20 mA	-		
Current	4 mA	20 mA	-		
Voltage	0 V	10 V	-		
	2 V	10 V	-		
	0 V	5 V	-		
	1 V	5 V	-		
Lond resistance (Blood)					

Load resistance (Rload)		
Voltage output	>/= 5 KΩ	
Current output	= 500 Ω</td <td></td>	
Response time (10÷ 90% o	40 ms	

- (1) = To choose the input range refer to the technical data sheet.
- (*) = Inclusive of hysteresis and power supply variation.







DATEXEL



DAT5028-DAT5024 SERIES: Trip amplifiers for DIN rail mounting

The devices of the "DAT5028 - DAT5024" series can accept on input several types of sensor coming from the field.



- TRIP AMPLIFIERS with universal analog input configurable by Dip-switch indication on display of the trip level value (DAT5028)
- TRIP AMPLIFIERS with dedicated analog input (**DAT5024**)
- TRIP AMPLIFIERS with configurable input Voltage or Current (**DAT5024E**)





INDEX

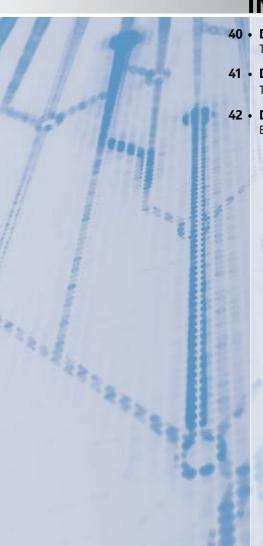
DAT 5028

Trip amplifier with display for universal analog input

Trip amplifier with dedicated analog input

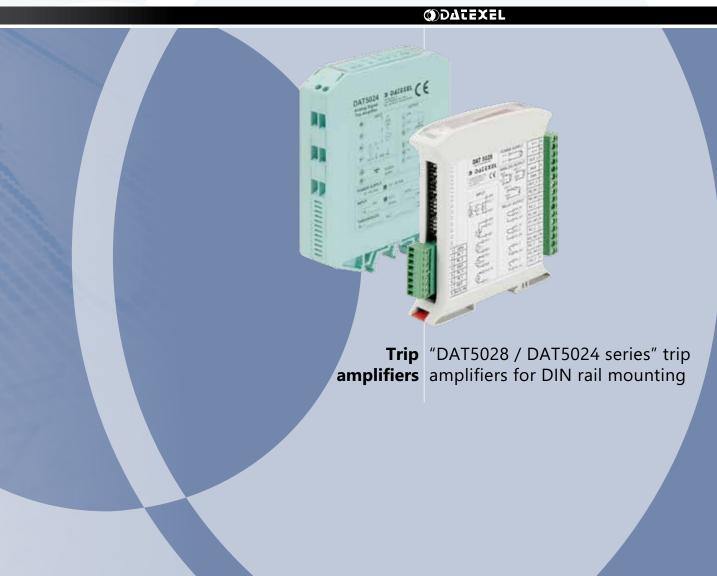
DAT 5024E

Economic, isolated trip amplifier configurable by Dip-Switches



TRIP AMPLIFIERS

05





GENERAL DESCRIPTION

The DAT 5028 device is able to acquire RTD or Tc sensors, mV, V or mA input signals connected to the universal analog input. By means of push-button and 4-digit display on the front panel, four different trip alarms are configurable. Each alarm threshold commands an output relay. Input signal can be retransmitted on the analog output in a Voltage or Current signal, configurable by means of dip-switch on the side of the device.

By means of an internal 16 bit converter, the device guarantees high accuracy and a stable measure versus time and temperature. The 1500 Vac isolation on all ways removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.

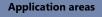
FEATURES

- Universal Analog Input : Voltage, Current, TC, RTD, Resistance
- 2 SPDT + 2 SPST Relay Outputs (Version with 4 trips)
- 2 SPDT Relay Outputs (Version with 2 trips)
- 1 V/mA Analog Output for signal transmission
- 1500 Vac galvanic isolation on all ways
- High Accuracy EMC compliance CE Mark
- DIN rail suitable mounting (EN-50022)



















POWER SUPPLY			TEMPERATURE AND HUMIDITY		
Power supply voltage 12 ÷ 30 Vdc		Operative temperature		-30°C ÷ +60°C	
Current Consum	Current Consumption 120 mA @24Vdc (300mA max) Storage temperature		-40°C ÷ +85°C		
Rever. polarity protection 60 Vdc ma		60 Vdc max	Humidity (not condensed)		0 ÷ 90 %
ISOLATION		HOUSING			
Isolation voltage	e	1500 Vac (on all ways)	Material	Self-extinguishing plastic	
EMC (for industrial environments)		Mounting	DIN Rail		
DIRECTIVE 2004/108/EC		Dimensions (mm)	W x L x H : 90 x 112 x 22.5		
Immunity EN 61000-6-2		Difficusions (min)	VV X L X H . 70 X HZ X ZZ.3		
Emission EN 61000-6-4		Weight	about 150 g.		

ANALOG INPUT							
Туре	Range	Accuracy	Linearity	Thermal drift			
100 mV	-100 / +100 mV	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C			
10 V	-10 / +10 V	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C			
20 mA	0 / 20 mA	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C			
Pt100	-200 / +850 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C			
Pt1K	-200 / +200 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C			
Ni100	-60 / +180°C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C			
Ni1K	-60 / +150 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C			
Res	0 / 2 Kohm	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C			
Pot	0 / 100 %	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C			
Tc J	-210 / +1200 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C			
Tc K	-210 / +1370 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C			
Tc R	-50 / +1760 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C			
Tc S	-50 / +1760 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C			
Тс В	+400 / +1825 C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C			
Tc E	-210 / +1000 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C			
Тс Т	-210 / +400 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C			
Tc N	-210 / +1300 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C			

Lead wire res. influence				
RTD (3 wires) 0.05 %/Ω		(50 Ω max)		
mV, Tc < 0.8 uV/		'Ohm		
RTD excitation current, Res,	~ 0.7 mA			
Pot. Nominal value		2 KOhm		
Sample Time		1 sec.		
Warm-up time	3 min.			

DIGITAL OUTPUT	
n.2 SPDT + n.2 SPST Relay	
Max Load (resistive)	2 A @ 250 Vac (per contact)
iviax Load (resistive)	2 A @ 30 Vdc (per contact)
Min Load	5Vdc , 10mA
Voltage Max.	250Vac (50 / 60 Hz) ,110Vdc

ANALOG	ANALOG OUTPUT							
Туре	Range	Accuracy	Linearity	Thermal drift				
10 V	0 / +10 V	±0.1 % f.s.	±0.05 % f.s.	100 ppm/°C				
20 mA	0 / +20 mA	±0.1 % f.s.	±0.05 % f.s.	100 ppm/°C				
Load Resistance			< 500 Ohm (current output) > 5 KOhm (voltage output)					
Auxiliary Voltage			>12V					

TRIP AMPLIFIER WITH DEDICATED ANALOG INPUT

DAT 5024



GENERAL DESCRIPTION

The trip amplifier DAT 5024 is able to accept on its input a wide range of normalised voltage signals, normalised current signals coming from both active and passive current loop, signals coming from RTDs, Thermocouples and resistance sensors. The input type and the input range are fixed: refer to the section "Technical Specifications", table "Input type " to order the device. The Threshold 1 is programmed as high alarm, while, by dip-switches, it is possible to set the Threshold 2 either as high or low alarm. The trip level of each threshold can be adjusted by the potentiometers and checked by the test-points located on the front of the device. It is possible to adjust by potentiometers also the values of the hysteresis level and delay time. The isolation between input and power supply is 2000 Vac. The isolation between input and contacts of relays is 2000 Vac. The isolation between power supply and contacts of relays is 1500 Vac. The isolations eliminate the effects of all ground loops eventually existing and allows the use of the converter in heavy environmental conditions found in industrial applications.

FFATURES

- Available analog inputs: RTD, TC, Voltage, Resistance and Current
- Two independent threshold: two high alarm or one high and one low alarm
- Trip level and hysteresis adjustable by potentiometer
- Delay time adjustable by potentiometer up to 25 sec.
- Two relays SPDT 250Vac, 2A
- Galvanic isolated among the three ways
- High accuracy
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035















POWER SUPPLY		EMC (for industrial environments)		TEMPERATURE AND HUMIDITY	
Power supply voltage	18 ÷ 32 Vdc	DIRECTIVE 2004/108/FC		DIRECTIVE 2004/108/EC Operative temperature	
Current Consumption	110 mA max @ 24 Vdc		,,	Operative temperature -30°C ÷ +	
Rever. polarity protection	60 Vdc max	Immunity EN 61000-6-2		Storage temperature	-40°C ÷ +85°C
AUXILIARY SUPPLY					
(only for mA input)	> 18 V @ 20 mA	Emission EN 61000-6-4		Humidity (not condensed)	0 ÷ 90 %
ISOLATION			HOUSING		
Input – power supply 2000 Vac 50 Hz,		, 1 min	Material	Self-extinguishing plastic	

ISOLATION		HOUSING		
Input – power supply	2000 Vac 50 Hz, 1 min	Material	Self-extinguishing plastic	
Input – contact of relays	2000 Vac 50 Hz, 1 min	Dimensions (mm)	W x L x H : 90 x 112 x 22.5	
Power supply – contact of relays	1500 Vac 50 Hz, 1 min.	Weight	about 90 g.	

INPUT		
Input type*	Min	Max
Voltage	IVIIII	IVIAX
50 mV	0 mV	+50 mV
100 mV	0 mV	+100 mV
500 mV	0 mV	+250 mV
1V	0 mV	+230 IIIV
10 V	0 mV	+10 V
Thermocouple	Jv	10 0
J	-210 °C	+1200 °C
K	-210 °C	+1370 °C
R	-50 °C	+1760 °C
S	-50 °C	+1760 °C
В	+400 °C	+1820 °C
E	-210 °C	+1000 °C
T	-210 °C	+400 °C
N	-210 °C	+1300 °C
RTD		
Pt100	-50 °C	+400 °C
Pt1000	-200 °C	+200 °C
Ni100	-60 °C	+180 °C
Ni1000	-60 °C	+150 °C
Resistance		
250 Ω	0 Ω	250 Ω
2 ΚΩ	0 Ω	2000 Ω
Current mA		
20 mA	0 mA	20 mA

* Specify	in	phase	of	order
-----------	----	-------	----	-------

Input calibration (1)	±0.1% f.s.	
,	10.170 1.3.	
Linearity (1)		
mV, V, mA	± 0.05% f.s.	
Tc, RTD	± 0.2% f.s.	
Input impedance		
mV, Tc	> 1 MΩ	
V	> 100 KΩ	
mA	< 50 Ω	
RTD excitation current		
Typical	0.6 mA	
Thermal drift (1)		
Full scale	± 0.02 % / °C	
CJC comp.		
Тс	± 0.5 °C	
Thermal drift CJC		
Full scale	± 0.02 °C/ °C	
Line resistance influence (1)		
mV, Tc	< 0.8 uV/Ohm	
Threshold	Adjustable from 2 up to 98% f.s.	
Hysteresis	Adjustable from 0.5 up to 10 % f.s.	
Delay	Adjustable up to 25 sec.	

250 Vac, 2A
1000 Vac max

⁽¹⁾ referred to input Span (difference between max. and min. values)

GENERAL DESCRIPTION

The DAT 5024E is an economic trip amplifier able to accept on its input normalised voltage and current signals coming from both active and passive current loops. Both the trips can be configured as high or low alarm, the adjustment of the trip values is performed by the potentiometers THR1 and THR2 located on the front side of the device.

. The adjustment of the hysteresis and delay value can be performed by the potentiometers accessible opening the suitable door located on the side of the device.

On the devices are foreseen the following isolation power supply/input: 1500 Vac; contact of relays/output-input: 1000 Vac.

FEATURES

- Input for Voltage and Current
- Two independent thresholds
- Type of alarm programmable by dip-switch as high or low
- Galvanic isolated among the ways Trip level and hysteresis adjustable by potentiometers
- Delay time adjustable by potentiometer from 1 up to 6 sec.
- Two relays SPDT (Form C)
- Good accuracy and linearity
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035







Application areas











Power Supply	
Power supply voltage	18 ÷ 30 Vdc
Current Consumption	110 mA max @ 24 Vdc
Rever. polarity protection	60 Vdc max
AUXILIARY SUPPLY	
(only for mA input)	> 18 V @ 20 mA

EMC (for indus	trial environments)	TEMPERATURE AND HUMIDITY	
DIRECTIVE 200	4/108/EC	Operative temperature	-20°C ÷ +60°C
Immunity	EN 61000-6-2	Storage temperature	-40°C ÷ +85°C
Emission	EN 61000-6-4	Humidity (not condensed)	0 ÷ 90 %

ISOLATION		HOUSING	
Input – Power Supply	1500 Vac 50 Hz, 1 min	Material	Self-extinguishing plastic
Input – contact of relays	1000 Vac 50 Hz, 1 min	Dimensions (mm)	W x L x H : 90 x 112 x 12.5
Power Supply – Contact of relays	1000 Vac 50 Hz, 1 min.	Weight	about 90 g.

Input type Min Max 0 V 5 V 0 V 10 V 1 V 5 V 2 V 10 V Current 0 mA 20 mA 4 mA 20 mA	INPUT		
Voltage 0 V 10 V 1 V 5 V 2 V 10 V Current	Input type	Min	Max
Voltage 1 V 5 V 2 V 10 V Current 0 mA 20 mA		0 V	5 V
1 V 5 V 2 V 10 V Current 2 0 mA 20 mA	Voltage	0 V	10 V
Current 0 mA 20 mA		1 V	5 V
Current		2 V	10 V
	Current	0 mA	20 mA
4 ma 20 ma		4 mA	20 mA

Maximum		voltana	/ ~~	wasistive.	laad)
Maximum	operating	voitage	(OH	resistive	ioau

125 Vac, 30 Vdc

Maximum operating current (on resistive load)

0.5 A @ 125 Vac, 1 A @ 30 Vdc

Maximum switching capacity (on resistive load)

62.5 VA, 30 W

Trip value regulation

Configurable from 2 to 96 % of f.s.

Delay time value regulation

Configurable from 1 to 6 sec.

Hysteresis value regulation

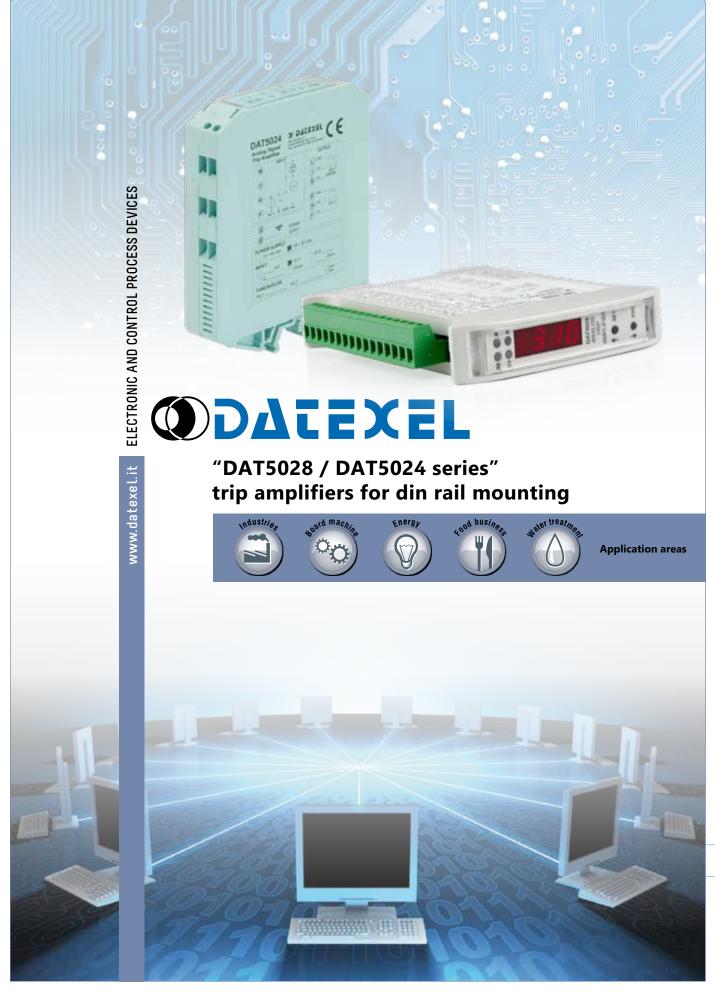
Configurable from 1 al 9.5 % of f.s.

Input calibration (1)	
±0.1% f.s.	
Thermal drift (1)	
Full scale	± 0.02 % / °C

RELAY OUTPUT
N° 2 SPDT (Form C)







ODATEXEL

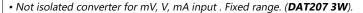


"DAT200, DAT500 SERIES": signal transmitters and converters, galvanic isolators

The transmitters and converters of the DAT200 series can accept on their input signal coming from potentiometer sensors (DAT205) or voltage and current signals (DAT207) The series is composed of:



- Not isolated transmitter for potentiometer input from 1 Kohm up to 10 Kohm. Powered from 4÷20 mA current loop (**DAT205 2W**).
- Not isolated converter for potentiometer input from 1 Kohm up to 10 Kohm. Fixed range (DAT205 3W).
- Not isolated transmitter for mV, V, mA input . Fixed range. Powered from 4÷20 mA current loop (DAT207 2W).



- Self-powered, 3000 Vac isolated converter for 0÷20 mA current loop. (DAT511).
- Self-powered, 1500 Vac isolated converter for 0÷20 mA current loop. Hart compatible (DAT511-H).







INDEX

46 . **DAT 205 2W** Fixed range Transmitter for potentiometer **DAT 205 3W** Fixed range Converter for potentiometer

DAT 207 2W

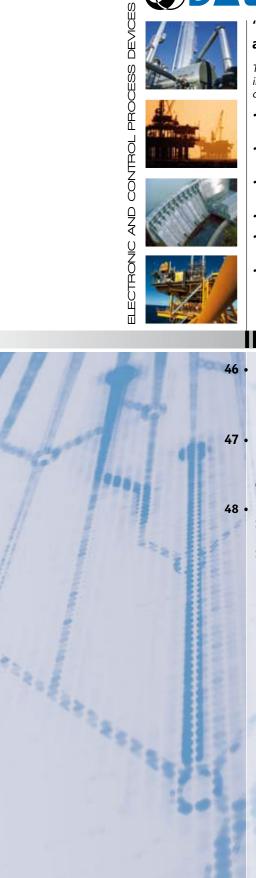
Fixed range transmitter for mV,V and mA signals

DAT 207 3W

Converter for mV,V and mA signals

Self-powered current loop isolator

Self-powered current loop isolator HART compatible



DAT200/500 SERIES

06



DAT200 Signal transmitters and converters, galvanic isolators



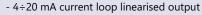


GENERAL DESCRIPTION

The transmitter DAT 205 2W is designed to provide on output a 4÷20 mA current loop linearised signal proportional with the variation of resistance introduced from the potentiometer connected to its input; to make the measure, a 1 Vdc voltage reference is provided at the ends of the potentiometer. The regulation of the zero and full-scale value are made using the ZERO and SPAN potentiometers; there is not influence between the regulations.

FEATURES

- Input for potentiometer
- Zero and Span values adjustable by potentiometers
- Independent Zero and Span adjustment



- High accuracy
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035











10 .. 32 Vdc Power supply voltage Reverse polarity protection 60 Vdc max

TEMPERATURE & HUMIDITY

Operative temperature	-20°C +70°C
Storage temperature	-40°C +85°C
Humidity (not condensed)	0 90 %

EMC (for industrial environments)

DIRECTIVE 2004/108/EC

Immunity EN 61000-6-2

Emission HOUSING

Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 62 x 64 x 17
Weight	about 50 g.

EN 61000-6-4

INPUT				
Input type	Min		Max	Span min
Potentiometer (Rnom.1 10KΩ)	0%		100%	-
Calibration				
Potentiometer			± 0.1 % f.s	5.
Linearity				
± 0.1 % f.s.				
Thermal drift				

ОИТРИТ			
Output type Min		Max	Span min
Current	4 mA	20 mA	-
Burn-out values			
Max. value output		25 mA	
Response time (10÷90%)		about 500 ms	S

46

DAT 205 3W

FIXED RANGE CONVERTER FOR POTENTIOMETER

GENERAL DESCRIPTION

Full scale

The converter DAT 205 3W is designed to provide on output a linearised voltage or current signal proportional with the variation of resistance introduced from the potentiometer connected to its input; to make the measure, a 1 Vdc voltage reference is provided at the ends of the potentiometer. The regulations of the zero and full-scale value are made using the ZERO and SPAN potentiometers; there is not influence between the regulations.

FEATURES

- Input for potentiometer
- Zero and Span values adjustable by potentiometers
- Independent Zero and Span adjustment
- Output in voltage or current
- High accuracy
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035



INPUT





Application areas

± 0.02 % / °C











POWER SUPPLY

Power supply voltage 18 .. 30 Vdc Reverse polarity protection 60 Vdc max

CURRENT CONSUMPTION

Current output	30 mA max.
Voltage output	10 mA max.

TEMPERATURE & HUMIDITY

-20°C .. +70°C Operative temperature Storage temperature -40°C .. +85°C Humidity (not condensed) 0 .. 90 %

EMC (for industrial environments)

DIRECTIVE 2004/108/EC

Immunity EN 61000-6-2 Emission EN 61000-6-4 HOUSING

10031110				
Material	Self-extinguishing plastic			
Dim. (mm)	W x L x H : 62 x 64 x 17			
Weight	about 50 g.			

Input type	Min	Max	Span min
Potentiometer (Rnom.1 10KΩ)	0%	100%	-
Calibration			
Potentiometer		± 0.1 % f.	S.
Linearity			
± 0.1 % f.s.			
Thermal drift			
Full scale		± 0.02 %	/ °C
			•

OUTPUT				
Output type Min		Max	Span min	
Current	0 mA	20 mA	-	
Voltage	0 V	10 V	-	
Burn-out values				
Max. value output		25 mA or 15V		
Response time (10÷90%)		about 500 ms		

FIXED RANGE TRANSMITTER FOR mV, V AND mA SIGNALS



GENERAL DESCRIPTION

The transmitter DAT 207 2W is designed to provide on output a 4÷20 mA current loop signal proportional with the variation of the normalised current or voltage signal applied to its input.

FEATURES

- Input for current or voltage signals
- Zero and Span values adjustable by potentiometers
- Independent Zero and Span adjustment
- 4÷20 mA current loop output
- High accuracy
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

The transmitter is available in 3 different versions:

- DAT 207A 2W to measure voltage signals included between $0 \div 5$ mV and $0 \div 200$ mV;
- DAT 207B 2W to measure voltage signals included between $0 \div 200$ mV and $0 \div 20$ V;
- DAT 207C 2W to measure current signals between $0 \div 5$ mA and $0 \div 50$ mA.







Application areas











POWER SUPPLY					
Power supply	y voltage		10 32 Vdc		
Reverse pola	rity protection	า	60 Vdc max		
TEMPERAT	TURE & HU	V	IIDITY		
Operative ter	nperature		-20°C +70°C		
Storage temperature			-40°C +85°C		
Humidity (not condensed) 0 90 %					
EMC (for industrial environments)					
DIRECTIVE 2004/108/EC					
Immunity	nunity EN 61000-6-2				
Emission EN 61000-6-4					
HOUSING					
Material	Self-extinguishing plastic				
Dim. (mm)	Dim. (mm) W x L x H : 62 x 64 x 17				
Weight	about 50 g.				

INPUT				
Input type	Min		Max	Span min
Voltage				
Version"A"	0 ÷ 5 mV	0 ÷	200 mV	-
Version"B"	0 ÷ 200 mV	0	÷ 20 V	-
Current	rent			
Version"C"	0 ÷ 5 mA	0 ÷	÷ 50 mA	-
Calibration				
mV, V, mA	± 0.1 % f.s.		S.	
Linearity				
± 0.1 % f.s.				
Thermal drift				
Full scale			± 0.02 %	/ °C

	OUTDUT					
	OUIPUI	ОИТРИТ				
	Output type	Min	Max	Span min		
	Current	4 mA	20 mA	-		
]	Burn-out values					
]	Max. value output		25 mA			
	Response time (10÷90%)		about 300 ms	5		
٦						

CONVERTER FOR mV,V AND mA SIGNALS

38 **DAT 207**



GENERAL DESCRIPTION

The converter DAT 207 3W is designed to provide on output a 4÷20 mA current loop signal proportional with the variation of the normalised current or voltage signal applied to its input.

- Input for current or voltage signals
- Zero and Span values adjustable by potentiometers
- Independent Zero and Span adjustment
- Output in voltage or current
- High accuracy
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

The converter is available in 3 different versions:

- DAT 207A 3W to measure voltage signals included between 0 ÷ 5 mV and 0 ÷ 200 mV;
- DAT 207B 3W to measure voltage signals included between 0 \div 200 mV and 0 \div 20 V;
- DAT 207C 3W to measure current signals between $0 \div 5$ mA and $0 \div 50$ mA.







Application areas











POWER SUPPLY

Power supply voltage	18 30 Vdc
Reverse polarity protection	60 Vdc max

CURRENT CONSUMPTION

Current output	30 mA max.
Voltage output	10 mA max.

TEMPERATURE & HUMIDITY

Operative temperature	-20°C +70°C
Storage temperature	-40°C +85°C
Humidity (not condensed)	0 90 %

EMC (for industrial environments)

DIRECTIVE 2004/108/EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING

Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 62 x 64 x 17
Weight	about 50 g.

INPUT				
Input type	Min		Max	Span min
Voltage				
Version"A"	0 ÷ 5 mV	0 ÷	200 mV	-
Version"B"	0 ÷ 200 mV	0	÷ 20 V	-
Current				
Version"C"	0 ÷ 5 mA	0 ÷	- 50 mA	-
Calibration				
mV, V, mA			± 0.1 % f.	S.
Linearity				
± 0.1 % f.s.				
Thermal drift				
Full scale			± 0.02 %	/ °C
,				

ОИТРИТ			
Output type	Min	Max	Span min
Current	0 mA	20 mA	-
Voltage	0 V	10 V	-
Burn-out values			
Max. value output 25 mA or 15V			
Response time (10÷90%) about 300 ms		5	
-			



48



GENERAL DESCRIPTION

The transmitter DAT 511 is a passive 0÷20 mA current loop isolator.

The input current, variable from 0 up to 20 mA, is converted in an output current of the same value but keeping a galvanic isolation from the input circuit.

The converter is a passive isolator: this means that the device employs the measurement signal to power it self, so it does not require any external power supply.

FEATURES

- 0÷20 mA isolated conversion
- No external supply required
- 3000 Vac galvanic isolation

- Good accuracy and performance stability
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035







Application areas









TEMPERATURE & HUMIDITY

Operative temperature	-20°C +70°C
Storage temperature	-40°C +85°C
Humidity (not condensed)	0 90 %

EMC (for industrial environments)

DIRECTIVE 2004/108/EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING

Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 62 x 64 x 17
Weight	About 60 g.

INPUT Input type Min Max Span min Current 0 mA 20 mA Max. INPUT signal 50 mA Load resistance (Rload) From 0 to 700 ohm Thermal drift Full scale ± 0.02 % / °C

OUTPUT			
Output type	Min	Max	Span min
Current	0 mA	20 mA	-
Burn-out values			
Max. value output		25 mA	
Isolation voltag	e		
3000 Vac, 50 Hz 1 n	nin.		
Response time (10	÷90%)	About 20 ms	

SELF-POWERED CURRENT LOOP ISOLATOR HART COMPATIBLE

DAT 511/H

GENERAL DESCRIPTION

The transmitter DAT 511/H is a passive 0÷20 mA current loop isolator. The input current, variable from 0 up to 20 mA, is converted in an output current of the same value but keeping a galvanic isolation from the input circuit. The device allows the bidirectional communication of signals HART protocol compatible. The converter is a passive isolator: this means that the device employs the measurement signal to power itself, so it does not require any external power supply.

- 0÷20 mA isolated conversion
- Hart compatible
- No external supply required
- 1500 Vac galvanic isolation

- Good accuracy and performance stability
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035







Application areas











TEMPERATURE & HUMIDITY

Operative temperature	0°C +55°C
Storage temperature	-40°C +85°C
Humidity (not condensed)	0 90 %

EMC (for industrial environments)

DIRECTIVE 2004/108/EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING

Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 62 x 64 x 17
Weight	About 60 g.

INPUT					
Input type	Min	Max	Span min		
Current	0 mA	20 mA	-		
Max. INPUT signal 50 mA					
Load resistance (Rload)					
From 0 to 700 ohm					
Thermal drift					
Full scale ± 0.02% / °C					
Bandwidth					
From 0.5 up to 4 KHz bidirectional within 3 dB					

OUTPUT					
Output type	Min	Max	Span min		
Current	0 mA	20 mA	-		
Burn-out values					
Max. value output 25 mA					
Isolation voltage					
1500 Vac, 50 Hz 1 min.					
Response time (10÷90%) About 20 ms					







ODATEXEL



ECTRONIC AND CONTROL PROCESS DEVICES





"DAT3000 SERIES" data acquisition and control modules

The distributed I/O modules of the DAT3000 series represent a complete solution for the acquisition and control of the analog and digital I/O signals. The series is composed of:

- Serial line converters and repeaters (DAT3580, DAT3580 USB, DAT3580 MBTCP, DAT3590).
- Modules for digital inputs and outputs (DAT3130, DAT3140, DAT3148/8, DAT3148/12, DAT3188/4, DAT3188/8).
- Modules for analog inputs (DAT3011, DAT3014, DAT3015, DAT3016, DAT3017, DAT3018, DAT3019).
- Modules with analog outputs (DAT3022, DAT3024, DAT3028).

The devices communicate on the RS-485 serial line by the MODBUS RTU communication protocol and are able to communicate with the host computer on multipoint net using only two wires.

INDEX

- 52 DAT 3580 Isolated converter RS232 ← → RS485 / 422 **DAT 3580-USB**
 - Isolated converter USB → RS485 / 422
- DAT 3580-MBTCP Isolated Ethernet Gateway Modbus TCP ← ► Modbus RTU **DAT 3590** Repeater/Isolator RS485 / 422
- **DAT 3130** Distributed I/O Module 4 digital inputs + 4 relay outputs on RS-485 network **DAT 3140** Distributed I/O Module 4 digital inputs + 8 NPN outputs on RS-485 network
- **DAT 3148/8**Distributed I/O Module 8 digital inputs on RS-485 network **DAT 3148/12**Distributed I/O Module 12 digital inputs on RS-485 network
- **DAT 3188/4**Distributed I/O Module 4 digital inputs + 8 PNP outputs on RS-485 network DAT 3188/8
 Distributed I/O Module 8 digital inputs + 8 PNP outputs on RS-485 network
- **57 DAT 3011**Universal Remote I/O module on RS-485 network
- **DAT 3014**Remote I/O module 4 channels RTD input on RS-485 network 58 • **DAT 3015-I** Remote I/O module 4 channels +/-20mA input on RS-485 network
- **59 DAT 3015-V**Remote I/O module 4 channels +/-10V input on RS-485 network **DAT 3016** Remote I/O module 4 channels mV / TC input on RS-485 network
- Remote I/O module 8 channels ±20mA input on RS-485 network **DAT 3017-V** Remote I/O module 8 channels ±10V input on RS-485 network
- Remote I/O module 8 channels mV / TC input on RS-485 network **DAT 3019** Remote I/O module 8 channels RTD input on RS-485 network
- 62 **DAT 3022** Remote I/O module 2 channels V / mA output on RS-485 network DAT 3024 Remote I/O module 4 channels V / mA output on RS-485 network
- **DAT 3028**Remote I/O module 8 channels Voltage output on RS-485 network 63 •

DAT3000 SERIES

07



DAT3000 Data acquisition and **SERIES** control modules





GENERAL DESCRIPTION

The device DAT3580 is an isolated interface converter between asynchronous serials lines RS232 and RS485 or RS422 that guarantees a full isolation between power supply, serial line RS-232 and serial line RS-485 or 422 removes eventual ground-loop effects,

allowing the use of the device even in the heavy environmental conditions. It is designed to operate either on serial interface RS-422 full-duplex 4 wires or RS485 half-duplex 2 wires, with a baud-rate transmission up to 115.2 Kbps. The transmission is asynchronous without settings of protocol, data format and baud rate.

On the line RS-232 are not necessary handshake commands (RTS, CTS, etc..) to control the baud rate.

FEATURES

- Asynchronous serial data transmission
- Automatic baud-rate fitting up to 115.2 Kbps
- Distance up to 1200 m
- Point to point connection or multipoint connection up to 32 modules
- DC or AC power supply

- Galvanic isolation on all ways
- RS232 connection on DB9 or removable terminals
- EMC compliance CE mark
- EIA RS232, RS485 and RS422 compliant
- Suitable for DIN rail mounting in compliance with EN-50022









Application areas









POWER SUPPLY			
FOWER SOFFET			
10 ÷ 30 Vdc			
9 ÷ 18 Vac (18 ÷ 30 Vac opti	ional)		
CURRENT CONSUMPTI	ON		
35 mA typ. @ 24Vdc			
ISOLATIONS			
Power Supply/ RS232			
Power Supply/ RS485-422 2000 Vac, 50 Hz, 1 min.			
RS232 / RS485-422			
TEMPERATURE & HUMIDITY			
Operative temperature	-20°C ÷ +60°C		
Storage temperature	-40°C ÷ +85°C		

EMC (for industrial environments)		
`	2004 / 108 / EC	
Immunity	EN 61000-6-2	
Emission	EN 61000-6-4	
HOUSING		
Material	Self-extinguishing plastic	
Mounting	DIN rail	
Dim. (mm)	W x L x H : 120 x 100 x 22.5	
Weight	About 150 g.	
CONNECTION		
RS-232	DB9 and removable screw terminals	
RS-485/422	removable screw terminals	

RS485 Interface				
Baud-rate	up to	up to 115.2 Kbps		
		1.2 Km @ 38400 bps		
Max. distance / baud-rate ratio (recommended) (1)	2 Km @	2 Km @ 19200 bps		
	3 Km @	3 Km @ 9600 bps		
	4 Km @	4 Km @ 4800 bps		
	5 Km @	5 Km @ 2400 bps		
	7 Km @	7 Km @ 1200 bps		
Number of modules in multipoint		32 max.		
Switching time TX/RX (RS485)		150 us.		
Internal terminator resistance (optional)		120 Ohm (optional)		
(1) - The maximum distance depends of number of				

(1) = The maximum distance depends of: number of devices connected, type of cabling, noises, etc...

52

ISOLATED CONVERTER USB → RS485 / 422

DAT 3580-USB

Humidity (not condensed)

GENERAL DESCRIPTION

The device DAT3580-USB is an isolated interface converter between USB port and asynchronous serial lines RS485 or RS422 that guarantees a full isolation between power supply, USB and serial line RS-485 or 422 removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.

It is designed to operate either on serial interface RS-422 full-duplex 4 wires or RS485 half-duplex 2 wires, with a baud-rate transmission up to 115.2 Kbps. The transmission is asynchronous without settings of protocol, data format and baud rate.

FEATURES

0 ÷ 90 %

- Asynchronous serial data transmission
- Automatic baud-rate fitting up to 115.2 Kbps
- Distance up to 1200 m
- Point to point connection or multipoint connection up to 32 modules

FRAC (for in deserting and income and a)

- DC or AC power supply
- Galvanic isolation on all ways
- EMC compliance CE mark
- USB 2.0. EIA RS485 and RS422 compliant
- Suitable for DIN rail mounting in compliance with EN-50022



-40°C ÷ +85°C

0 ÷ 90 %



Application areas











	POWER SUPPLY			
	10 ÷ 30 Vdc			
	9 ÷ 18 Vac (18 ÷ 30 Vac opti	ional)		
	CURRENT CONSUMPTION			
	35 mA typ. @ 24Vdc			
ISOLATIONS				
	Power Supply/ USB			
	Power Supply/ RS485-422	upply/ RS485-422 2000 Vac, 50 Hz, 1 min.		
	USB / RS485-422			
TEMPERATURE & HUMIDITY				
	Operative temperature -20°C ÷ +60°C			

EMC (for industrial environments)					
DIRECTIVE 2004 / 108 / EC					
Immunity	EN 61000-6-2				
Emission	EN 61000-6-4				
HOUSING					
Material	Self-extinguishing plastic				
Mounting	DIN rail				
Dim. (mm)	W x L x H : 120 x 100 x 22.5				
Weight	About 150 g.				
CONNECTION					
USB	USB cable integrated				
RS-485/422	removable screw terminals				

RS485 Interface			
Baud-rate	up to	 115.2 Kbps	
	1.2 Km @ 38400 bps		
Max. distance / baud-rate ratio (recommended) (1)	2 Km @	2 Km @ 19200 bps	
	3 Km @	3 Km @ 9600 bps	
	4 Km @ 4800 bps		
	5 Km @ 2400 bps		
	7 Km @	7 Km @ 1200 bps	
Number of modules in multipoint		32 max.	
Switching time TX/RX (RS485)		150 us.	
Internal terminator resistance (optional)		120 Ohm (optional)	

(1) = The maximum distance depends of: number of devices connected, type of cabling, noises, etc...

Humidity (not condensed)

Storage temperature

ETHERNET ISOLATED GATEWAY MODBUS TCP←→MODBUS RTU



GENERAL DESCRIPTION

The gateway DAT3580-MBTCP allows to connect the Modbus RTU devices of a RS-485 network to the Ethernet network through the Modbus TCP protocol.

By means of the Telnet interface it is possible to configure all the Modbus TCP side options (IP address, subnet mask, etc..) and the Modbus RTU side options (baud rate, etc...)

The device guarantees a full isolation between lines, allowing the use even in the heavy environmental conditions.

- Network interface
- Ethernet 10/100Base-T, Modbus TCP
- Telnet configuration
- RJ45 connection
- RS-485 Serial interface
- Modbus RTU Master
- Baud rate up to 115.2 Kbps

- Distance up to 1200 m, up to 32 devices in multipoint
- Removable screw-terminal connection
- LED signalling for Link/Act Ethernet, serial RX-TX, power supply
- Galvanic Isolation on all ways
- EMC compliance CE mark
- Ethernet IEEE 802.3 and RS485 compliant
- Suitable for DIN rail mounting in compliance with EN-50022









Application areas











POWER SUPPLY			
18 ÷ 30 Vdc	18 ÷ 30 Vdc		
CURRENT CONSUMPT	IC	ON	
45 mA typ. @ 24Vdc (sleep	m	node)	
80 mA max			
ISOLATIONS			
Power Supply/ Ethernet	1	500 Vac, 50 Hz, 1 min.	
Power Supply/ RS485 2000 Vac, 50 Hz, 1 mi		000 Vac, 50 Hz, 1 min.	
Ethernet / RS485 2000 Vac, 50 Hz, 1 min		000 Vac, 50 Hz, 1 min.	
TEMPERATURE & HUMIDITY			
Operative temperature		-20°C ÷ +60°C	
Storage temperature -40°C ÷ +85°C		-40°C ÷ +85°C	
Humidity (not condensed)		0 ÷ 90 %	

EMC (for industrial environments)		
DIRECTIVE	2004 / 108 / EC	
Immunity	EN 61000-6-2	
Emission	EN 61000-6-4	
HOUSING		
Material	Self-extinguishing plastic	
Mounting	DIN rail	
Dim. (mm)	W x L x H : 120 x 100 x 22.5	
Weight	About 150 g.	
CONNECTION		
Ethernet	RJ-45	
RS-485	removable screw terminals	

0 0	_			
Network interface	ork interface Etherr		et 10/100 Base-T	
Protocol	Modb	us TCP		
Connection	RJ-45			
Baud-rate (RS-485)	up to 115.2 Kbps		ps	
	1.2 Km	1.2 Km @ 38400 bps		
	2 Km @ 19200 bps			
Max. distance / baud-rate	3 Km @ 9600 bps			
ratio (recommended) (1)	4 Km @ 4800 bps			
	5 Km @ 2400 bps			
	7 Km @ 1200 bps			
Number of modules in multipoint		32 max.		
Switching time TX/RX (RS485)		150 us.		
Internal terminator resistance (optional)		120 Ohm (optional)		

(1) = The maximum distance depends of: number of devices connected, type of cabling, noises, etc...

REPEATER/ ISOLATOR RS485 / 422



The device DAT 3590 is an isolated repeater between asynchronous serials lines RS485 or RS422 that guarantees a full isolation between power supply and serial line removing eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions. It is designed to operate either on serial interface RS-422 full-duplex 4 wires or RS485 half-duplex 2 wires, with a baud-rate transmission up to 115.2 Kbps.

The transmission is asynchronous without settings of protocol, data format and baud rate.

FEATURES

- Asynchronous serial data transmission
- Automatic baud-rate fitting up to 115.2 Kbps
- Distance up to 1200 m
- Point to point connection or multipoint connection up to 32 modules
- DC or AC power supply
- Galvanic isolation
- EMC compliance CE mark
- EIA RS485 and RS422 compliant
- Suitable for DIN rail mounting in compliance with EN-50022







EMC (for industrial environments)

Application areas











POWER SUPPLY

10 ÷ 30 Vdc

9 ÷ 18 Vac (18÷24 Vac optional)

CURRENT CONSUMPTION

35 mA @ 24Vdc

ISOLATIONS

Power Supply/ RS485-422 2000 Vac, 50 Hz, 1 min. 2000 Vac, 50 Hz, 1 min. RS485-422 / RS485-422

TEMPERATURE & HUMIDITY

Operative temperature	-20°C ÷ +60°C
Storage temperature	-40°C ÷ +85°C
Humidity (not condensed)	0 ÷ 90 %

DIRECTIVE 2004 / 108 / EC EN 61000-6-2 Immunity Emission EN 61000-6-4 **HOUSING** Material Self-extinguishing plastic Mounting W x L x H : 120 x 100 x 22.5 Dim. (mm) Weight About 150 g. CONNECTION RS485/422 removable screw terminals

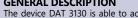
Baud-rate	up to 115.2 Kbps		
Max. distance / baud-rate ratio (recommended) (1)	1.2 Km	1.2 Km @ 38400 bps	
	2 Km @	@ 19200 bps	
	3 Km @	@ 9600 bps	
	4 Km @	4 Km @ 4800 bps	
	5 Km @	5 Km @ 2400 bps	
	7 Km @	7 Km @ 1200 bps	
Number of modules in multipoint		32 max.	
Switching time TX/RX (RS485)		150 us.	
Internal terminator resistance (optional)		120 Ohm	
(1) The manifestor of description of			

(1) = The maximum distance depends of: number of devices connected, type of cabling, noises, etc... **DAT 3130**

54

DISTRIBUTED I/O MODULE 4 DIGITAL INPUTS + 4 RELAY OUTPUTS ON RS-485 NETWORK

GENERAL DESCRIPTION



The device DAT 3130 is able to acquire up to 4 digital inputs and to drive up to 4 relay outputs. The data are transmitted with MODBUS RTU/ASCII protocol on RS-485 network.

To assure safe operation of the system, the device is equipped with two Watch-Dog timers: in case of alarm, the outputs are forced automatically on the safe configuration. The 1500 Vac galvanic isolation between inputs, outputs, power supply and RS-485 serial line cancels any ground-loop effect noise, allowing the use of the device in worst ambient conditions.



- Field Bus data acquisition
- Master/Slave communication on RS-485 network
- MODBUS RTU/ASCII protocol
- 4 digital inputs
- 4 relay outputs (2 SPDT + 2 SPST)
- Watch-Dog alarm
- Configurable from a remote terminal
- Three ways galvanic isolation 1500 Vac
- High accuracy
- EMC compliance CE Mark
- In compliance to EN-50022 DIN rail mounting





Application areas









POWER SUPPLY	
Supply Voltage	18 30 Vdc
Current consumption	45 mA @ 24 Vdc
Rever. Polarity protection	60 Vdc max
ISOLATIONS	

Inputs – RS485	
Inputs – Supply	1500 Vac 50 Hz, 1 min.
RS-485 – Supply	111111.

TEMPERATURE & HUMIDITY

Operating Temperature	-10°C +60°C
Storage Temperature	-40°C +85°C
Humidity (not condensed)	0 90 %

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 22.5
Weight	About 210 a.

DIGITAL INPUTS			
Input channels	4		
Input voltage (bipolar)			
OFF State	0 ÷ 3 V		
ON State	10 ÷ 30 V		
Impedance	4.7 ΚΩ		
Data Transmission (asynchronous serial)			
Baud rate	up to 38.4 Kbps		
Max. Distance	1.2 Km - 4000ft		
Sample time	5 ms max		

ОUТРUТ		
Output channels	4	
Туре		
n° 2 SPDT relays		
n° 2 SPST N.O. relays		
Switching power (max.)		
2 A @ 250 Vac (resistive load) per contact		
2 A @ 30 Vdc (resistive load) per contact		
Minimum load	5Vdc , 10mA	
Max. Voltage	250Vac (50 / 60 Hz), 110Vdc	

DISTRIBUTED I/O MODULE 4 DIGITAL INPUTS + 8 NPN OUTPUTS ON RS-485 NETWORK

DAT 3140

GENERAL DESCRIPTION

The device DAT 3140 is able to acquire up to 4 digital inputs and to drive up to 8 transistor outputs. The data are transmitted with MODBUS RTU/ASCII protocol on RS-485 network.

To assure safe operation of the system, the device is equipped with two Watch-Dog timers: in case of alarm, the outputs are forced automatically on the safe configuration. The galvanic isolation between inputs, outputs, power supply and RS-485 serial line cancels any ground-loop effect noise, allowing the use of the device in worst ambient conditions.

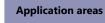
FEATURES

- Field Bus data acquisition
- Master/Slave communication on RS-485 network
- MODBUS RTU/ASCII protocol
- 4 digital inputs
- 8 digital outputs, NPN type

- Watch-Dog alarm
- Configurable from a remote terminal
- Galvanic isolation on all ways
- High accuracy
- EMC compliance CE Mark
- In compliance to EN-50022 DIN rail mounting















PΟ\	ΝEI	R S	UP	PLY
_				

Supply Voltage	10 30 Vdc
Current consumption	45 mA @ 24 Vd
Rever. Polarity protection	60 Vdc max

ISOLATIONS

Inputs – Outputs	1000 Vac 50 Hz, 1 min
Inputs – RS485	2000 Vac 50 Hz, 1 min
Inputs – Supply	2000 Vac 50 Hz, 1 min
Outputs – RS485	2000 Vac 50 Hz, 1 min
Outputs –Supply	2000 Vac 50 Hz, 1 min
RS-485 - Supply	2000 Vac 50 Hz, 1 min

TEMPERATURE & HUMIDITY

Operating Temperature	-10°C +60°C
Storage Temperature	-40°C +85°C
Humidity (not condensed)	0 90%

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 17.5
Weight	About 210 g.

DIGITAL INPUTS		
Input channels	4	
Input voltage (bipolar)		
OFF State	0 ÷ 3 V	
ON State	10 ÷ 30 V	
Impedance	4.7 ΚΩ	
Data Transmission (asynchronous serial)		
Baud rate	up to 38.4 Kbps	
Max. Distance	1.2 Km - 4000ft	
Sample time	20 ms max	

ОИТРИТ		
Output channels	8	
Туре	NPN	
Max. Load	600 mA per channel	
	3 A max per module	
Max. Voltage	30 Vdc	
Over-current protection	NO	

DISTRIBUTED I/O MODULE 8 DIGITAL INPUTS ON RS-485 NETWORK



GENERAL DESCRIPTION

The device DAT 3148/8 is able to acquire up to 8 digital inputs. The data are transmitted with MODBUS RTU/ASCII on RS-485 network. To assure safe operation of the system, the device is equipped with two Watch-Dog timers.

The 2000 Vac galvanic isolation between inputs, power supply and RS-485 serial line cancels any ground-loop effect noise, allowing

the use of the device in worst ambient conditions.

FEATURES

- Field Bus data acquisition
- Master/Slave communication on RS-485 network

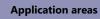
==== (C : 1 .: 1 : ...

- MODBUS RTU/ASCII protocol
- 8 digital inputs
- Watch-Dog alarm

- Configurable from a remote terminal
- Four ways galvanic isolation 2000 Vac
- High accuracy
- EMC compliance CE Mark
- In compliance to EN-50022 DIN rail mounting















POWER SUPPLY	
Supply Voltage	10 30 Vdc
Current consumption	35 mA @ 24 Vdc
Rever. Polarity protection	60 Vdc max
1661 4716116	

	Rever. Polarity protection		60 Vdc max
	ISOLATIONS		
	Input 0÷7	150	00 Vac 50 Hz, 1 mir
	Inputs – RS485	20	00 Vac 50 Hz, 1 mir
	Inputs – Supply	20	00 Vac 50 Hz, 1 mir
	RS-485 – Supply	20	00 Vac 50 Hz, 1 mir
TEMPERATURE & HUMIDITY			
	Operating Temperature		-10°C +60°C

Storage Temperature

Humidity (not condensed)

EMC (for industrial environments)		
DIRECTIVE 2004 / 108 / EC		
Immunity	EN 61000-6-2	
Emission	EN 61000-6-4	
HOUSING		
Material	Self-extinguishing plastic	
Mounting	DIN rail	
Dim. (mm)	W x L x H : 120 x 100 x 17.5	
Weight	About 210 g.	

DIGITAL INPUTS	
Input channels	8
Input voltage (bipola	ar)
OFF State	0 ÷ 3 V
ON State	10 ÷ 30 V
Impedance	4.7 ΚΩ
Data Transmission (a	synchronous serial)
Baud rate	38.4 Kbps
Max. Distance	1.2 Km - 4000ft
Sample time	5 ms max

DISTRIBUTED I/O MODULE 12 DIGITAL INPUTS ON RS-485 NETWORK

-40°C .. +85°C

0 .. 90 %

DAT 3148/12

POWER SUPPLY

GENERAL DESCRIPTION

The device DAT 3148/12 is able to acquire up to 12 digital inputs. The data are transmitted with MODBUS RTU/ASCII on RS-485 network. To assure safe operation of the system, the device is equipped with two Watch-Dog timers.

The 2000 Vac galvanic isolation between inputs, power supply and RS-485 serial line cancels any ground-loop effect noise, allowing the use of the device in worst ambient conditions.

FEATURES

- Field Bus data acquisition
- Master/Slave communication on RS-485 network
- MODBUS RTU/ASCII protocol
- 12 digital inputs
- Watch-Dog alarm

- Configurable from a remote terminal
- Four ways galvanic isolation 2000 Vac
- High accuracy
- EMC compliance CE Mark
- In compliance to EN-50022 DIN rail mounting





Application areas









Supply Voltage		10 30 Vdc
Current consumption		35 mA @ 24 Vdc
Rever. Polarity protection		60 Vdc max
ISOLATIONS		
Input 0÷7 / 8÷11	150	00 Vac 50 Hz, 1 min.
Inputs – RS485	20	00 Vac 50 Hz, 1 min.
Inputs – Supply	20	00 Vac 50 Hz, 1 min.
RS-485 – Supply	20	00 Vac 50 Hz, 1 min.

TEMPERATURE & HUMIDITY		
Operating Temperature	-10°C +60°C	
Storage Temperature	-40°C +85°C	
Humidity (not condensed)	0 90 %	

EMC (for industrial environments)		
DIRECTIVE 2004 / 108 / EC		
Immunity	EN 61000-6-2	
Emission	EN 61000-6-4	
HOUSING		
Material	Self-extinguishing plastic	
Mounting	DIN rail	
Dim. (mm)	W x L x H : 120 x 100 x 17.5	
Weight	About 210 g.	

DIGITAL INPUTS		
Input channels	12	
Input voltage (bipolar)		
OFF State	0 ÷ 3 V	
ON State	10 ÷ 30 V	
Impedance	4.7 ΚΩ	
Data Transmission (asynchronous serial)		
Baud rate	38.4 Kbps	
Max. Distance	1.2 Km - 4000ft	
Sample time	5 ms max	

DAT3000 SERIES

DISTRIBUTED I/O MODULE 4 DIGITAL INPUTS + 8 PNP OUTPUTS ON RS-485 NETWORK



GENERAL DESCRIPTION

The device DAT 3188/4 is able to acquire up to 4 digital inputs and to drive up to 8 transistor outputs. The data are transmitted with MODBUS RTU/ASCII protocol on RS-485 network (is available the RS-232 interface model).

To assure safe operation of the system, the device is equipped with two Watch-Dog timers: in case of alarm, the outputs are forced automatically on the safe configuration. Also, the outputs are protected against over currents and over temperature

The 2000 Vac galvanic isolation between inputs, outputs, power supply and RS-485 serial line cancels any ground-loop effect noise, allowing the use of the device in worst ambient conditions.

FEATURES

- Field Bus data acquisition
- Master/Slave communication on RS-485 network
- MODBUS RTU/ASCII protocol
- 4 digital inputs
- 8 digital outputs, PNP type

- Over-temperature and over-current protection
- Watch-Dog alarm
- All the ways galvanic isolation 2000 Vac
- High accuracy
- EMC compliance CE Mark
- In compliance to EN-50022 DIN rail mounting





Application areas









POWER SUPPLY	
Supply Voltage	10 30 Vdc
Current consumption	45 mA @ 24 Vdc
Rever. Polarity protection	60 Vdc max

ISOLATIONS (Input / Output / RS485 / Supply)

2000 Vac 50 Hz, 1 min.

TEMPERATURE & HUMIDITY

Operating Temperature	-10°C +60°C
Storage Temperature	-40°C +85°C
Humidity (not condensed)	0 90 %

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING					
Material	Self-extinguishing plastic				
Mounting	DIN rail				
Dim. (mm)	W x L x H : 120 x 100 x 17.5				
Weight	About 210 g.				

DIGITAL INPUTS				
Input channels	4			
Input voltage (bipolar)				
OFF State	0 ÷ 3 V			
ON State	10 ÷ 30 V			
Impedance	4.7 ΚΩ			
Data Transmission (asynchronous serial)				
Baud rate	115.2 Kbps			
Max. Distance	1.2 Km - 4000ft			
Sample time	5 ms max			

DIGITAL OUTPUTS				
Output channels 8				
Type PNP				
Max. Load	500 mA per channel*			
	1 A per module			
Inductive Load	48 Ω - 2 H max.			
Voltage	10.5 ÷ 30 Vdc			

(*) = Protection against over-current and over-temperature Short circuit current 1.7 A max.

DISTRIBUTED I/O MODULE 8 DIGITAL INPUTS + 8 PNP OUTPUTS ON RS-485 NETWORK

DAT 3188/8

GENERAL DESCRIPTION

The device DAT 3188/8 is able to acquire up to 8 digital inputs and to drive up to 8 transistor outputs. The data are transmitted with

MODBUS RTU/ASCII protocol on RS-485 network (is available the RS-232 interface model).

To assure safe operation of the system, the device is equipped with two Watch-Dog timers: in case of alarm, the outputs are forced automatically on the safe configuration. Also, the outputs are protected against over currents and over temperature The 2000 Vac galvanic isolation between inputs, outputs, power supply and RS-485 serial line cancels any ground-loop effect noise, allowing the use of the device in worst ambient conditions.

- Field Bus data acquisition
- Master/Slave communication on RS-485 network
- MODBUS RTU/ASCII protocol
- 8 digital inputs
- 8 digital outputs, PNP type

- Over-temperature and over-current protection
- Watch-Dog alarm
- All the ways galvanic isolation 2000 Vac
- High accuracy
- EMC compliance CE Mark
- In compliance to EN-50022 DIN rail mounting





Application areas











POWER SUPPLY	
Supply Voltage	10 30 Vdc
Current consumption	45 mA @ 24 Vd
Rever. Polarity protection	60 Vdc max

ISOLATIONS (Input / Output / RS485 / Supply)

2000 Vac 50 Hz, 1 min.

DOWER CURRY

TEMPERATURE & HUMIDITY

Operating Temperature	-10°C +60°C
Storage Temperature	-40°C +85°C
Humidity (not condensed)	0 90 %

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

Immunity EN 61000-6-2 Emission EN 61000-6-4

HOUSING Material Self-extinguishing plastic Mounting DIN rail Dim. (mm) W x L x H : 120 x 100 x 17.5

weight	About 210 g.				
DIGITAL INPUTS					
Input channels 8					
Input volta	age (bipolar)				
OFF State		0 ÷ 3 V			
ON State		10 ÷ 30 V			
Impedance 4.7 KΩ					
Data Transmission (asynchronous serial)					
Baud rate		115.2 Kbps			
Max. Distanc	е	1.2 Km - 4000ft			
Sample tin	ne	5 ms max			

DIGITAL OUTPUTS				
Output channels	8			
Туре	PNP			
Max. Load	500 mA per channel*			
	1 A per module			
Inductive Load	48 Ω - 2 H max.			
Voltage	10.5 ÷ 30 Vdc			

(*) = Protection against over-current and over-temperature Short circuit current 1.7 A max.

UNIVERSAL REMOTE I/O MODULE ON RS-485 NETWORK

DAT 3011



GENERAL DESCRIPTION

The device DAT 3011 is able to acquire RTD or Tc sensors, mV, V or mA input signals connected to the universal analog input. Moreover a second V/mA analog input is available. The device is able to acquire up to 3 digital inputs and to drive one solid-state relay and two SPST relays. Data values are transmitted with MODBUS RTU protocol on the RS-485 network.

By means of a 16 bit converter, the device guarantee a high accuracy and a stable measure versus time and temperature. To ensure the plant safety, two Watch-Dog timer alarms are provided.

The 1500 Vac isolation on all ways (Power Supply / RS485 / Universal input / V-mA input / Digital inputs / Relay outputs) removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.

FEATURES

- Field-Bus remote data acquisition
- RS-485 Modbus RTU (Slave) communication
- 1 Universal Analog Input
- 1 V/mA Analog Input
- 2 0-20mA Analog Outputs
- 3 Digital Inputs

- 1 SSR Digital Output + 2 Relay Outputs
- Watch-Dog Alarm
- 1500 Vac galvanic isolation on all ways
- High Accuracy
- EMC compliance CE Mark
- DIN rail suitable mounting (EN-50022)







Application areas











POWER SUPPLY		SERIAL PORT		TEMPERATURE & HUMIDITY		
Supply Voltage	18 ÷ 30 Vdc	Туре	RS-485	Operating Temperature	-10°C +60°C	
Current consumption	30 mA (100mA max)	Protocol	Modbus RTU (Slave)	Storage Temperature	-40°C +85°C	
Rever. Polarity protection	60 Vdc max	Baud Rate	up to 38400 bps	Humidity (not condensed)	0 90 %	
EMC (for industrial environments)		ISOLATIONS		HOUSING		
DIRECTIVE 2004 / 108 / EC				Material	Self-extinguishing plastic	
Immunity	EN 61000-6-2	Type of	1500 Vac	Mounting	DIN rail	
IIIIIIuiiity	EN 01000-0-2	Isolation		(on all ways)	Dimensions (mm)	W x L x H : 120 x 100 x 22.5
Emission	EN 61000-6-4			Weight	About 150 a.	

ANALOG INPUTS					
Туре	Range		Accuracy	Linearity	Thermal Drift
100 mV	-100 ÷ +100	mV	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
10 V	-10 ÷ +10	٧	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
20 mA	0 ÷ +20	mA	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Pt100	-200 ÷ +850	°C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Pt1K	-200 ÷ +200	°C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Ni100	-60 ÷ +180	°C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Ni1K	-60 ÷ +150	°C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Res	0 ÷ 2000	Ohm	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Pot	20 ÷ 2000	Ohm	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc J	-210 ÷ +1200	°C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc K	-210 ÷ +1370	°C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc R	-50 ÷ +1760	°C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc S	-50 ÷ +1760	°C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Тс В	+400 ÷ +1825	°C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc E	-210 ÷ +1000	°C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc T	-210 ÷ +400	°C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Tc N	-210 ÷ +1300	°C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Lead wire res. influence					
RTD (3 wires)			0.05 %/Ω (50 Ω max)		
mV, Tc		< 0.8 uV/Ohm			
Excitation current					
RTD, Res	D, Res, Pot ~ 0.7 mA				
Sample	time		1 sec.		
Warm-u	arm-up time 3 min.				

ANALOG OUTPUT				
Туре	Range	Accuracy	Linearity	Thermal Drift
20 mA	0÷+20 mA	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C
Load Resistance		< 500 Ohm		
Auxiliary Voltage		>12V		

DIGITAL INPUTS		
Input channels	3	
Innut voltage (hineles)	OFF State : 0÷3 V	
Input voltage (bipolar)	ON State : 10÷30 V	
Input Impedance	4.7 KOhm	

DIGITAL OUTPUTS		
N.1 Solid State Relay (dry contacts)		
Max. Voltage	48 V (ac/dc)	
Max. Load	0.4A max (resistive)	
N.2 Relays SPST		
Switching power	2 A @ 250 Vac (per contact)	
(resistive load)	2 A @ 30 Vdc (per contact)	
Minimum load	5 Vdc , 10mA	
Max. Voltage	250 Vac (50 / 60 Hz) ,110Vdc	
Dielectric strength between contacts	1000 Vac, 50 Hz, 1 min.	
Dielectric strength between coil and contacts	4000 Vac, 50 Hz, 1 min.	

DAT 3015-1



GENERAL DESCRIPTION

The DAT 3014 device is able to acquire up to 4 analog input signals. Data values are transmitted with MODBUS RTU/ASCII protocol on the RS-485 network (RS-232 interface is available).

It is possible to connect RTD, Potentiometers or Resistance signals.

By means of a 16 bit converter, the device guarantees high accuracy and a stable measure versus time and temperature. To ensure the plant safety, two Watch-Dog timer alarms are provided.

The 2000 Vac isolation between input, power supply and serial line RS-485 (or RS-232) removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.

FEATURES

- Field-Bus remote data acquisition
- RS-485 Master/Slave communication type
- MODBUS RTU/ASCII protocol
- 4 channel input
- RTD, Resistance and Potentiometer configurable input

- Watch-Dog Alarm

- Configurable from a remote terminal
- 2000 Vac 3-way Galvanic Isolation
- High Accuracy
- EMC compliance CE mark
- DIN rail suitable mounting EN-50022 compliance





Application areas











POWER SUPPLY	
Supply Voltage	10

30 mA @ 24 Vdc Current consumption Rever. Polarity protection 60 Vdc max

.. 30 Vdc

ISOLATIONS

Inputs - RS485 2000 Vac 50 Hz, Power Supply-Input 1 min. Power Supply-RS-485

TEMPERATURE & HUMIDITY

-10°C .. +60°C Operating Temperature Storage Temperature -40°C .. +85°C Humidity (not condensed) 0 .. 90 %

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

EN 61000-6-2 Immunity Emission EN 61000-6-4

HOUSING

Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 17.5
Weight	About 150 g.

INPUT			
Input type	Min	Max	
RTD 2 or 3 wires			
Pt100	-200°C	850°C	
Pt1000	-200°C	200°C	
Ni100	-60°C	180°C	
Ni1000	-60°C	150°C	
Resistance 2 or 3 wires			
Low	0 Ω	500 Ω	
High	0 Ω	2000 Ω	
POT. (nom. value)			
Low	20 Ω	500 Ω	
High	20 Ω	2000 Ω	

Input Calibration (1)		
RTD	±0.05 % f.s.	
Res.	±0.05 % f.s	
Pot.	±0.05 % f.s	
Linearity (1)		
RTD	± 0.1 % f.s.	
Lead wire res. influence (1)		
RTD/res.3 wires	$0.05~\%/\Omega~(50~\Omega~max~balanced)$	
RTD excitation current		
Typical	0.350 mA	
Thermal drift (1)		
Full scale	± 0.01 % / °C	
Sample time	0.5 ÷ 1 sec.	
Data Transmission (asynchronous serial)		
Baud rate	38.4 Kbps	
Max. Distance	1.2 Km - 4000ft	
Warm-up time	3 min.	

(1) Referred to input Span (difference between max, and min, values)

GENERAL DESCRIPTION

The device DAT 3015I is able to acquire on input up to 4 analog current signals. Data values are transmitted with MODBUS RTU/ASCII protocol on the RS-485 network (RS-232 interface is available).

It is possible to connect up to ± 20mA current signals.

By means of a 16 bit converter, the device guarantees high accuracy and a stable measure versus time and temperature. To ensure the plant safety, two Watch-Dog timer alarms are provided.

The 2000 Vac isolation between input, power supply and serial line RS-485 (or RS-232) removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.

FEATURES

- Field-Bus remote data acquisition
- RS-485 Master/Slave communication type
- MODBUS RTU/ASCII protocol
- 4 channel input
- Up to ± 20mA input

- Watch-Dog Alarm

REMOTE I/O MODULE 4 CHANNELS +/-20mA INPUT ON RS-485 NETWORK

- Configurable from a remote terminal
- 2000 Vac 3-way Galvanic Isolation
- High Accuracy
- EMC compliance CE mark
- DIN rail suitable mounting EN-50022 compliance







Application areas











POWER SUPPLY

10 .. 30 Vdc Supply Voltage 30 mA @ 24 Vdc Current consumption Rever. Polarity protection 60 Vdc max

ISOLATIONS

Inputs - RS485 2000 Vac 50 Hz, Power Supply-Input Power Supply- RS-485

TEMPERATURE & HUMIDITY

-10°C .. +60°C Operating Temperature -40°C .. +85°C Storage Temperature 0 .. 90 % Humidity (not condensed)

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

Immunity EN 61000-6-2 Emission EN 61000-6-4

HOUSING

Material Self-extinguishing plastic Mounting DIN rail W x L x H : 120 x 100 x 17.5 Dim. (mm) About 150 g. Weight

INPUT			
Input type	Min	Max	
Current			
20 mA	-20 mA	+20 mA	
Input Calibration	± 20 uA		
Linearity (1)	± 0.1% f.s.		
Input Impedan	= 50 Ω</td		
Thermal drift (1)			
Full scale	± 0.005 % / °C		

Sample time 0.5 ÷ 1 sec. **Data Transmission (asynchronous serial)** 38.4 Kbps Baud rate Max. Distance 1.2 Km - 4000ft

REMOTE I/O MODULE 4 CHANNELS +/-10V INPUT ON RS-485 NETWORK



GENERAL DESCRIPTION

The device DAT 3015V is able to acquire on input up to 4 analog voltage signals. Data values are transmitted with MODBUS RTU/ ASCII protocol on the RS-485 network (RS-232 interface is available).

It is possible to connect up to \pm 10V voltage signals.

By means of a 16 bit converter, the device guarantees high accuracy and a stable measure versus time and temperature. To ensure the plant safety, two Watch-Dog timer alarms are provided.

The 2000 Vac isolation between input, power supply and serial line RS-485 (or RS-232) removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.

FFATURES

- Field-Bus remote data acquisition
- RS-485 Master/Slave communication type
- MODBUS RTU/ASCII protocol
- 4 channel input
- Up to ± 10V input

- Watch-Dog Alarm
- Configurable from a remote terminal
- 2000 Vac 3-way Galvanic Isolation
- High Accuracy
- EMC compliance CE mark
- DIN rail suitable mounting EN-50022 compliance





Application areas











POWER SUPPLY	
Supply Voltage	10 30 Vdc
Current consumption	30 mA @ 24 Vdc
Rever. Polarity protection	60 Vdc max
ICOL ATIONIC	

ISOLATIONS

Inputs - RS485 2000 Vac 50 Hz, Power Supply-Input 1 min. Power Supply-RS-485

TEMPERATURE & HUMIDITY

-10°C .. +60°C Operating Temperature -40°C .. +85°C Storage Temperature Humidity (not condensed) 0..90%

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC Immunity EN 61000-6-2

Emission EN 61000-6-4

HOUSING		
Material	Self-extinguishing plastic	
Mounting	DIN rail	
Dim. (mm)	W x L x H : 120 x 100 x 17.5	
Weight	About 150 g.	

INPUT		
Type input	Min	Max
Voltage		
10 V	-10 V	+10 V
Input Calibration (1)		± 10 mV
Linearity (1)		± 0.1% f.s.
Input Impedance		> 100 KΩ
Thermal drift (1)		
Full scale		± 0.005 % / °C

Sample time		
0.5 ÷ 1 sec.		
Data Transmission (asynchronous serial)		
Baud rate	38.4 Kbps	
Max. Distance	1.2 Km - 4000ft	

(1) Referred to input Span (difference between max. and min. values)

REMOTE I/O MODULE 4 CHANNEL mV / TC INPUT ON RS-485 NETWORK



GENERAL DESCRIPTION

The DAT 3016 device is able to acquire up to 4 analog input signals. Data values are transmitted with MODBUS RTU/ASCII protocol on the RS-485 network (RS-232 interface is available). It is possible to connect Thermocouples or up to +/- 1V voltage signals. The Cold Junction compensation for thermocouples is performed internally. By means of a 16 bit converter, the device guarantees high accuracy and a stable measure versus time and temperature. To ensure the plant safety, two Watch-Dog timer alarms are provided. The 2000 Vac isolation between input, power supply and serial line removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions. The DAT 3016 is in compliance with the Directive 2004/108/EC on the electromagnetic compatibility. The device is housed in a rough self-extinguishing plastic container which, thanks to its thin profile of 17.5mm only, allows a high density mounting on EN-50022 standard DIN rail.

FEATURES

- Field-Bus remote data acquisition
- RS-485 Master/Slave communication type
- MODBUS RTU/ASCII protocol
- 4 channel input
- Up to +/- 1V and TC configurable input Type J,K,R,S,B,E,T,N
- Watch-Dog Alarm
- Configurable from a remote terminal
- 2000 Vac 3-way Galvanic Isolation
- High Accuracy
- EMC compliance CE mark
- DIN rail suitable mounting EN-50022 compliance







Application areas











POWER	SUPPLY
Ca.al \/a	مممدا

10 .. 30 Vdc Supply Voltage Current consumption 30 mA @ 24 Vdc 60 Vdc max Rever. Polarity protection

ISOLATIONS

Inputs - RS485 2000 Vac 50 Hz, Power Supply– Input Power Supply- RS-485

TEMPERATURE & HUMIDITY

Operating Temperature -10°C .. +60°C -40°C .. +85°C Storage Temperature Humidity (not condensed) 0..90%

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC Immunity EN 61000-6-2

EN 61000-6-4 Emission HOUSING

INPUT		
Input type	Min	Max
Voltage		
25 mV	-25 mV	+25 mV
100 mV	-100 mV	+100 mV
250 mV	-250 mV	+250 mV
1000 mV	-1000 mV	+1000 mV
Thermocouple		
J	-210 °C	+1200 °C
K	-210 °C	+1372 °C
R	-50 °C	+1767 °C
S	-50 °C	+1767 °C
В	+400 °C	+1825 °C
E	-210 °C	+1000 °C
Т	-210 °C	+400 °C
N	-210 °C	+1300 °C

Input Calibration (1)	
the higher of \pm 0.05% or 5 uV (1)	_

Linearity (1)	
mV	± 0.1% f.s.
TC	± 0.2% f.s.
CJC Comp.	± 0.5 °C
Input Impedance	
mV, TC	>=1 MΩ
Thermal drift (1)	
Full scale	± 0.005 % / °C
CJC Thermal drift	
Full scale	± 0.02 °C / °C
Lead wire res. influen	ce (1)
mV, Tc	< 0.8 uV/Ohm
Response time	0.5 ÷ 1 sec.
Data Transmission (as	synchronous serial)
Baud rate	38.4 Kbps
Max. Distance	1.2 Km - 4000ft
Warm-up time	3 min.



The device DAT 3017I is able to acquire on input up to 8 analog current signals. Data values are transmitted with MODBUS RTU/ASCII protocol on the RS-485 network (RS-232 interface is available).

It is possible to connect up to \pm 20mA current signals.

By means of a 16 bit converter, the device guarantees a high accuracy and a stable measure versus time and temperature. To ensure the plant safety, two Watch-Dog timer alarms are provided.

The 2000 Vac isolation between input, power supply and serial line RS-485 (or RS-232) removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.

FEATURES

- Field-Bus remote data acquisition
- RS-485 Master/Slave communication type
- MODBUS RTU/ASCII protocol
- 8 channel input
- Up to ± 20mA input

- Watch-Dog Alarm
- Configurable from a remote terminal
- 2000 Vac 3-way Galvanic Isolation
- High Accuracy
- EMC compliance CE mark
- DIN rail suitable mounting EN-50022 compliance





Application areas











POWER SUPPLY		
Supply Voltage	10 30 Vdc	
Current consumption	30 mA @ 24 Vdc	
Rever. Polarity protection	60 Vdc max	

ISOLATIONS

Inputs – RS485	200011 5011
Power Supply– Input	2000 Vac 50 Hz, 1 min.
Power Supply– RS-485	

TEMPERATURE & HUMIDITY

Operating Temperature	-10°C +60°C
Storage Temperature	-40°C +85°C
Humidity (not condensed)	0 90 %

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING	
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 17.5
Weight	About 150 g.

INPUT		
Type input	Min	Max
Current		
20 mA	-20 mA	+20 mA
Input Calibration (1)		± 20 uA
Linearity (1)		± 0.1% f.s.
Input Impedance		<=50 Ω
Thermal drift (1)		
Full scale		± 0.005 % / °C

Sample time		
0.5 ÷ 2 sec.		
Data Transmission (asynchronous serial)		
Baud rate	38.4 Kbps	
Max. Distance	1.2 Km - 4000ft	

(1) Referred to input Span (difference between max. and min. values)

REMOTE I/O MODULE 8 CHANNELS ±10V INPUT ON RS-485 NETWORK

DAT 3017-V

GENERAL DESCRIPTION

The devices DAT 3017V is able to acquire on input up to 8 analog voltage signals. Data values are transmitted with MODBUS RTU/ASCII protocol on the RS-485 network (RS-232 interface is available).

It is possible to connect up to \pm 10V voltage signals.

By means of a 16 bit converter, the device guarantees a high accuracy and a stable measure versus time and temperature. To ensure the plant safety, two Watch-Dog timer alarms are provided.

The 2000 Vac isolation between input, power supply and serial line RS-485 (or RS-232) removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.

FEATURES

- Field-Bus remote data acquisition
- RS-485 Master/Slave communication type
- MODBUS RTU/ASCII protocol
- 8 channel input
- Up to ± 10V input

- Watch-Dog Alarm
- Configurable from a remote terminal
- 2000 Vac 3-way Galvanic Isolation
- High Accuracy
- EMC compliance CE mark
- DIN rail suitable mounting EN-50022 compliance





Application areas











I OWEN SOLLE	
Supply Voltage	10 30 Vdc
Current consumption	30 mA @ 24 Vdc
Rever. Polarity protection	60 Vdc max

ISOLATIONS

DOWED SHIDDLY

Inputs – RS485	
Power Supply– Input	2000 Vac 50 Hz, 1 min.
Power Supply– RS-485	

TEMPERATURE & HUMIDITY

Operating Temperature	-10°C +60°C
Storage Temperature	-40°C +85°C
Humidity (not condensed)	0 90 %

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING Material Self-extinguishing plastic Mounting DIN rail Dim. (mm) W x L x H : 120 x 100 x 17.5 Weight About 150 g.

INPUT		
Type input	Min	Max
Voltage		
10 V	-10 V	+10 V
Input Calibration (1)		± 10 mV
Linearity (1)		± 0.1% f.s.
Input Impedance		> 100 KΩ
Thermal drift (1)		
Full scale		± 0.005 % / °C

Sample time 0.5 ÷ 2 sec. Data Transmission (asynchronous serial) Baud rate 38.4 Kbps Max. Distance 1.2 Km - 4000ft

REMOTE I/O MODULE 8 CHANNELS mV / TC INPUT ON RS-485 NETWORK



GENERAL DESCRIPTION

The device DAT 3018 is able to acquire up to 8 analog input signals. Data values are transmitted with MODBUS RTU/ASCII protocol on the RS-485 network (RS-232 interface is available).

It is possible to connect Thermocouples or up to +/- 1V voltage signals. The Cold Junction compensation for thermocouples is performed internally. By means of a 16 bit converter, the device guarantees a high accuracy and a stable measure versus time and temperature. To ensure the plant safety, two Watch-Dog timer alarms are provided. The 2000 Vac isolation between input, power supply and serial line RS-485 (or RS-232) removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.

- Field-Bus remote data acquisition
- RS-485 Master/Slave communication type
- MODBUS RTU/ASCII protocol
- 8 channel input
- Up to \pm 1V and TC configurable input \pm 1V and TC Type J,K, R,S,B,E,T,N
- Watch-Dog Alarm
- Configurable from a remote terminal
- 2000 Vac 3-way Galvanic Isolation
- High Accuracy
- EMC compliance CE mark
- DIN rail suitable mounting EN-50022 compliance







Application areas









POWER SUPPLY	
Supply Voltage	10 30 Vdc
Current consumption	30 mA @ 24 Vdc
Rever. Polarity protection	60 Vdc max
ISOLATIONS	
Inputs – RS485	20001/ 5011

TEMPERATURE & HUMIDITY		
Power Supply– RS-485	1 111111.	
Power Supply– Input	2000 Vac 50 Hz, 1 min.	

Operating Temperature	-10°C +60°C
Storage Temperature	-40°C +85°C
Humidity (not condensed)	0 90 %
EMC (for industrial environments)	

Immunity	EN 61000-6-2	
Emission	EN 61000-6-4	
HOUSING		
Material	Self-extinguishing plastic	
Mounting	DIN rail	
Dim. (mm)	W x L x H : 120 x 100 x 17.5	

About 150 g.

DIRECTIVE 2004 / 108 / EC

Weight

INPUT		
Input type	Min	Max
Voltage		
25 mV	-25 mV	+25 mV
100 mV	-100 mV	+100 mV
250 mV	-250 mV	+250 mV
1000 mV	-1000 mV	+1000 mV
Thermocouple		
J	-210 °C	+1200 °C
K	-210 °C	+1372 °C
R	-50 °C	+1767 °C
S	-50 °C	+1767 °C
В	+400 °C	+1825 °C
Е	-210 °C	+1000 °C
Т	-210 °C	+400 °C
N	-210 °C	+1300 °C
Input Calibration (1)		
The higher of ± 0.05% or 5 uV (1)		

Linearity (1) mV \pm 0.1% f.s. TC \pm 0.2% f.s. CJC Comp. \pm 0.5 °C Input Impedance mV, TC >/=1 MΩ Thermal drift (1) Full scale \pm 0.005 % / °C Thermal drift CJC Full scale \pm 0.02 % / °C Lead wire res. influence (1) mV, TC < 0.8 uV/Ohm Sample time 0.5 ÷ 2 sec. Data Transmission (asynchronous serial) Baud rate 38.4 Kbps Max. Distance 1.2 Km - 4000ft Warm-up time 3 min			
TC $\pm 0.2\%$ f.s. CJC Comp. ± 0.5 °C Input Impedance mV, TC $>/=1$ MΩ Thermal drift (1) Full scale $\pm 0.005\%$ / °C Thermal drift CJC Full scale $\pm 0.02\%$ / °C Lead wire res. influence (1) mV, TC < 0.8 uV/Ohm Sample time $0.5 \div 2$ sec. Data Transmission (asynchronous serial) Baud rate 38.4 Kbps Max. Distance 1.2 Km - 4000 ft	Linearity (1)		
CJC Comp. $\pm 0.5 ^{\circ}$ CInput Impedance \rightarrow /=1 MΩThermal drift (1) \rightarrow 1 MΩFull scale $\pm 0.005 \% / ^{\circ}$ CThermal drift CJC $\pm 0.02 \% / ^{\circ}$ CFull scale $\pm 0.02 \% / ^{\circ}$ CLead wire res. influence (1) mV , TC $< 0.8 uV/Ohm$ Sample time $0.5 \div 2 \text{sec.}$ Data Transmission (asynchronous serial)Baud rate 38.4Kbps Max. Distance $1.2 \text{Km} - 4000 \text{ft}$	mV	± 0.1% f.s.	
Input Impedance mV, TC >/=1 MΩ Thermal drift (1) Full scale $\pm 0.005\%$ /°C Thermal drift CJC Full scale $\pm 0.02\%$ /°C Lead wire res. influence (1) mV, TC < 0.8 uV/Ohm Sample time $0.5 \div 2$ sec. Data Transmission (asynchronous serial) Baud rate 38.4 Kbps Max. Distance 1.2 Km - 4000 ft	TC	± 0.2% f.s.	
mV, TC $>/=1$ MΩThermal drift (1)Full scale \pm 0.005 % / °CThermal drift CJCFull scale \pm 0.02 % / °CLead wire res. influence (1)mV, TC $<$ 0.8 uV/OhmSample time0.5 \div 2 sec.Data Transmission (asynchronous serial)Baud rate38.4 KbpsMax. Distance1.2 Km - 4000ft	CJC Comp.	± 0.5 °C	
Thermal drift (1) Full scale ± 0.005 % / °C Thermal drift CJC Full scale ± 0.02 % / °C Lead wire res. influence (1) mV, TC Sample time 0.5 ÷ 2 sec. Data Transmission (asynchronous serial) Baud rate 38.4 Kbps Max. Distance 1.2 Km - 4000ft	Input Impedance		
Full scale ± 0.005 % / °C Thermal drift CJC Full scale ± 0.02 % / °C Lead wire res. influence (1) mV, TC < 0.8 uV/Ohm Sample time 0.5 ÷ 2 sec. Data Transmission (asynchronous serial) Baud rate 38.4 Kbps Max. Distance 1.2 Km - 4000ft	mV, TC	>/=1 MΩ	
Thermal drift CJC Full scale ± 0.02 % / °C Lead wire res. influence (1) wV, TC Sample time 0.5 ÷ 2 sec. Data Transmission (asynchronous serial) Baud rate 38.4 Kbps Max. Distance 1.2 Km - 4000ft	Thermal drift (1)		
Full scale ± 0.02 % / °C Lead wire res. influence (1) mV, TC < 0.8 uV/Ohm	Full scale	± 0.005 % / °C	
Lead wire res. influence (1) mV, TC < 0.8 uV/Ohm	Thermal drift CJC		
mV, TC < 0.8 uV/Ohm	Full scale	± 0.02 % / °C	
Sample time0.5 ÷ 2 sec.Data Transmission (asynchronous serial)Baud rate38.4 KbpsMax. Distance1.2 Km - 4000ft	Lead wire res. influence (1)		
Data Transmission (asynchronous serial)Baud rate38.4 KbpsMax. Distance1.2 Km - 4000ft	mV, TC	< 0.8 uV/Ohm	
Baud rate 38.4 Kbps Max. Distance 1.2 Km - 4000ft	Sample time	0.5 ÷ 2 sec.	
Max. Distance 1.2 Km - 4000ft	Data Transmission (asynchronous serial)		
	Baud rate	38.4 Kbps	
Warm-up time 3 min	Max. Distance	1.2 Km - 4000ft	
	Warm-up time	3 min	

(1) Referred to input Span (difference between max, and min, values)

REMOTE I/O MODULE 8 CHANNELS RTD INPUT ON RS-485 NETWORK



GENERAL DESCRIPTION

The device DAT 3019 is able to acquire up to 8 analog input signals. Data values are transmitted with MODBUS RTU/ASCII protocol on the RS-485 network (RS-232 interface is available).

It is possible to connect 2-wires RTD sensors or up to 2 $K\Omega$ resistance signals.

By means of a 16 bit converter, the device guarantees a high accuracy and a stable measure versus time and temperature. To ensure the plant safety, two Watch-Dog timer alarms are provided.

The 2000 Vac isolation between input, power supply and serial line removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.

FEATURES

- Field-Bus remote data acquisition
- RS-485 Master/Slave communication type
- MODBUS RTU/ASCII protocol
- 8 channel 2 wires input
- Pt100, Pt1K, Ni100, Ni1K and resistance up to 2 K Ω configurable input
- Watch-Dog Alarm
- Configurable from a remote terminal
- 2000 Vac 3-way Galvanic Isolation
- **High Accuracy**
- EMC compliance CE mark
- DIN rail suitable mounting EN-50022 compliance





Application areas









POWER SUPPLY

Supply voltage	10 30 Vac
Current consumption	30 mA @ 24 Vdc
Rever. Polarity protection	60 Vdc max

ISOLATIONS

Inputs – RS485	20001/ 5011
Power Supply– Input	2000 Vac 50 Hz 1 min.
Power Supply– RS-485	

TEMPERATURE & HUMIDITY

Operating Temperature	-10°C +60°C
Storage Temperature	-40°C +85°C
Humidity (not condensed)	0 90 %

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING

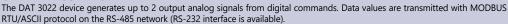
Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 17.5
Weight	About 150 g.

INPUT		
Input type	Min	Max
RTD 2 wires		
Pt100	-200°C	850°C
Pt1000	-200°C	200°C
Ni100	-60°C	180°C
Ni1000	-60°C	150°C
Resistance 2 or 3 wires		
Low	0 Ω	500 Ω
High	0 Ω	2000 Ω

Input Calibration (1)		
RTD	±0.2 % f.s.	
Res.	±0.2 % f.s	
Linearity (1)		
RTD	± 0.2 % f.s.	
Excitation current RTD		
Typical	0.450 mA	
Thermal drift (1)		
Full scale	± 150 ppm/ °C	
Sample time	0.5 ÷ 2 sec.	
Data Transmission (asynchronous serial)		
Baud rate	38.4 Kbps	
Max. Distance	1.2 Km - 4000ft	
Warm-up time	3 min.	
(1) Deferred to input Coop (difference between may and min values)		

REMOTE I/O MODULE 2 CHANNEL V / mA OUTPUT ON RS-485 NETWORK

GENERAL DESCRIPTION



It is possible to generate voltage signals up to 10V and current signals up to 20mA, both active or passive loops.

By means of a 16 bit converter, the device guarantees a high accuracy and a stable measure versus time and temperature. To ensure the plant safety, two Watch-Dog timer alarms are provided.

The 2000 Vac isolation between input, power supply and serial line RS-485 (or RS-232) removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.

FEATURES

- Field-Bus remote data acquisition
- RS-485 Master/Slave communication type
- MODBUS RTU/ASCII protocol
- 2 channel output
- Voltage or Current configurable outputs

- Watch-Dog Alarm

- Configurable from a remote terminal
- 2000 Vac 3-way Galvanic Isolation
- High Accuracy
- EMC compliance CE mark
- DIN rail suitable mounting EN-50022 compliance





Application areas









POWER SUPPLY

Supply Voltage	18 30 Vdc
Current consumption	typ. 35 mA @ 24 Vdc 60 mA max
Rever. Polarity protection	60 Vdc max

ISOLATIONS

Output – RS485	
Power Supply- Output	2000 Vac 50 Hz, 1 min.
Power Supply- RS-485	1 111111.

TEMPERATURE & HUMIDITY

Operating Temperature	-10°C +60°C
Storage Temperature	-40°C +85°C
Humidity (not condensed)	0 90 %

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

mmunity	EN 61000-6-2
Emission	EN 61000-6-4

ŀ	10	USING
	4 - 4	

Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 17.5
Weight	About 150 g.

OUTPUT			
Output type	М	in	Max
Voltage			
V	0	V	+10 V
Current			
mA	0 r	nΑ	+20 mA
Output calibration			
Voltage		±10 mV	
Current		±20 mA	
Load Resistance			
Voltage		> 5 KΩ	
Current		< 500 Ω	

Thermal drift	
Full scale	100 ppm /°C
Auxiliary Voltage	> 12V @ 20mA (2 channels)

Rise time

Analog output Slew-rate (independent programmation for each channel)

Voltage V/s	Current mA/s
0.125	0.250
0.250	0.500
0.500	1.000
1.000	2.000
2.000	4.000
4.000	8.000
Immediate	Immediate

Data Transmission (asynchronous serial)		
	Baud rate	115.2 Kbps
	Max. Distance	1.2 Km - 4000ft

REMOTE I/O MODULE 4 CHANNELS V / mA OUTPUT ON RS-485 NETWORK

DAT 3024

GENERAL DESCRIPTION

The device DAT 3024 generates up to 4 output analog signals from digital commands. Data values are transmitted with MODBUS RTU/ASCII protocol on the RS-485 network (RS-232 interface is available).

It is possible to generate voltage signals up to 10V and current signals up to 20mA, both active or passive loops.

By means of a 16 bit converter, the device guarantees a high accuracy and a stable measure versus time and temperature. To ensure the plant safety, two Watch-Dog timer alarms are provided.

The 2000 Vac isolation between input, power supply and serial line removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.

FEATURES

- Field-Bus remote data acquisition
- RS-485 Master/Slave communication type
- MODBUS RTU/ASCII protocol
- 4 channel output
- Voltage or Current configurable outputs

- Watch-Dog Alarm
- Configurable from a remote terminal
- 2000 Vac 3-way Galvanic Isolation
- High Accuracy
- EMC compliance CE mark
- DIN rail suitable mounting EN-50022 compliance





Application areas











POWER SUPPLY

Supply Voltage	18 30 Vdc
Current consumption	typ. 35 mA @ 24 Vdc 100 mA max
Rever. Polarity protection	60 Vdc max

ISOLATIONS

Output – RS485	
Power Supply– Output	2000 Vac 50 Hz, 1 min.
Power Supply– RS-485	1 111111.

TEMPERATURE & HUMIDITY

Operating Temperature	-10°C +60°C
Storage Temperature	-40°C +85°C
Humidity (not condensed)	0 90%

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING

Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 17.5
Weight	About 150 g.

3	_		
OUTPUT			
Output type	М	in	Max
Voltage			
V	0 V		+10 V
Current			
mA	0 mA		+20 mA
Output calibration			
Voltage		±10 mV	
Current		±20 mA	
Load Resistance			
Voltage		> 5 KΩ	
Current		< 500 Ω	

Thermal drift Full scale 100 ppm /°C **Auxiliary Voltage** > 12V @ 20mA (4 channels)

Rise time

Analog output Slew-rate

(independent programmation for each channel)

Voltage V/s	Current mA/s
0.125	0.250
0.250	0.500
0.500	1.000
1.000	2.000
2.000	4.000
4.000	8.000
Immediate	Immediate

Data Transmission (asynchronous serial)		
Baud rate	115.2 Kbps	
Max. Distance	1.2 Km - 4000ft	

63

REMOTE I/O MODULE 8 CHANNELS VOLTAGE OUTPUT ON RS-485 NETWORK



POWER SUPPLY Supply Voltage

Current consumption

GENERAL DESCRIPTION

The device DAT 3028 generates up to 8 output analog signals from digital commands. Data values are transmitted with MODBUS RTU/ASCII protocol on the RS-485 network (RS-232 interface is available).

It is possible to generate voltage signals up to 10V.

By means of a 16 bit converter, the device guarantees a high accuracy and a stable measure versus time and temperature. To ensure the plant safety, two Watch-Dog timer alarms are provided.

The 2000 Vac isolation between input, power supply and serial line RS-485 (o RS-232) removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.r

FEATURES

Field-Bus remote data acquisition

- RS-485 Master/Slave communication type
- MODBUS RTU/ASCII protocol
- 8 channel 0-10 V output
- Watch-Dog Alarm

- Configurable from a remote terminal
- 2000 Vac 3-way Galvanic Isolation
- High Accuracy
- EMC compliance CE mark
- DIN rail suitable mounting EN-50022 compliance





Application areas









	\in
-	-

18 .. 30 Vdc typ. 35 mA @ 24 Vdc 100 mA max

RoHS 2002/95/EC	Pb
--------------------	----

HOUSING		
Material	Self-extinguishing plastic	
Mounting	DIN rail	
Dim. (mm)	W x L x H : 120 x 100 x 17.5	
Weight	About 150 g.	

rise tille
Analog output Slew-rate (independent programmation for each channel)
Voltage V/s

ISOLATIONS			
Output - RS4	85		
Power Supply- Output		2000 Vac 50 Hz, 1 min	
Power Supply– RS-485		1 111111.	
TEMPERATURE & HUMIDITY			
Operating Te	mperature	-10°C +60°C	
Storage Temperature		-40°C +85°C	
Humidity (not condensed)		0 90 %	
EMC (for industrial environments)			
DIRECTIVE 2004 / 108 / EC			
Immunity	EN 61000-6-2		
Emission	EN 61000-6-4		

Rever. Polarity protection 60 Vdc max

OUTPUT			
Output type	М	in	Max
Voltage			
V	0 V		+10 V
Output calibration		±10 mV	
Load Resistance			> 5 KΩ
Thermal drift			
Full scale		100 ppm	/°C

Voltage V/s
0.125
0.250
0.500
1.000
2.000
4.000
Immediate

Data Transmission (asynchronous serial)		
Baud rate	115.2 Kbps	
Max. Distance	1.2 Km - 4000ft	







"DAT9000 SERIES" Intelligent units



ELECTRONIC AND CONTROL PROCESS DEVICES

The DAT9000 Series intelligent units were designed by DATEXEL to offer its customers products that, thanks to their capabilities, allow them to manage various architectures in the area of small to medium size automation systems and process control through the connection of a network of MODBUS RTU Master/Slave devices connected by way of RS-485.



The DAT9000 units read and write the parameters of the field devices to which they are connected, processing functions of the logical/mathematical type, including complex ones, such as for example: alarms, linearization, means, square roots, etc..



INDEX

66 · DAT 9000

Intelligent unit with Ethernet interface

DAT 9000-DL

Intelligent unit with Data-logger and Ethernet interface

67 · DAT 900010

Intelligent unit with Ethernet Interface and digital I/O

68 • DAT 9000-DL-IO

Intelligent unit with Data-logger, Ethernet interface and digital I/O

69 • DAT 9011

Intelligent unit with Ethernet Interface and digital and analogue I/O

70 • DAT 9011-DL

Intelligent unit with Data-Logger function, Ethernet Interface and digital and analogue I/O

DAT9000 SERIES

08

⊕D∆1EXEL



DAT9000 Intelligent units





GENERAL DESCRIPTION

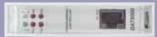
The device DAT9000 is an Intelligent unit able to control a network of slave Modbus RTU devices connected on serial line RS-485 Master executing the reading and writing of the field values and performing the logical and mathematical functions necessary for the system working. By means of the Ethernet interface or the RS-485 "SLAVE" or RS-232 ports it is possible to read and write, in real time, the internal registers value.

Moreover, by means of the Ethernet interface, or by the RS-485 "SLAVE" or RS-232 ports it is possible to:

- Programming of the Control Logic
- Monitor, request of data, programming in real time the Intelligent Unit Direct programming and request of data from the Slave devices connected on the RS-485 Master.

- N.1 serial interface RS-485 Modbus RTU Master
- N.1 serial interface RS-485/232 Modbus RTU Slave
- Interface Ethernet 10Base-T, Modbus TCP
- Functional Block programming software
- Remotely programmable

- Connection by removable screw-terminals
- LED signalling for Link/Act Ethernet, serial RX-TX, power supply
- Galvanic Isolation on all the ways
- EMC compliance CE mark
- Ethernet IEEE 802.3 EIA RS485 and RS232 compliance
- Suitable for DIN rail mounting in compliance with EN-50022 standard









Application areas











10 ÷ 30 Vdc
CURRENT CONSUMPTION
45 mA typ.@24Vdc (standby)
80 mA max

ISOLATIONS

POWER SUPPLY

Power supply / Ethernet	
Power supply / RS485	1500 Vac, 50 Hz, 1 min.
Ethernet / RS485	

TEMPERATURE & HUMIDITY

Operative temperature	-20°C ÷ +60°C
Storage temperature	-40°C ÷ +85°C
Relative humidity (not cond.)	0 ÷ 90 %

CONNECTIONS

Ethernet	RJ-45 (on terminals side)
RS-232D	RJ-45 (on front side)
RS-485 Master / Slave	Remov. screw terminals

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

HOHCING	
Emission	EN 61000-6-4
Immunity	EN 61000-6-2

HOUSING

Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 22.5
Weight	About 160 g.

Network interface	
Ethernet	10 Base-T
Protocol	Modbus TCP
RS-485 Interface	
Baud-rate	up to 38.4 Kbps
Max. distance (1)	1.2 Km @ 38.4 Kbps
Number of modules in multipoint	up to 32
Internal termination resistance	120 Ohm (optional)

(1) = The maximum distance depends of: number of devices connected, type of cabling, noises, etc...

INTELLIGENT UNIT WITH DATA-LOGGER AND ETHERNET INTERFACE

DAT 9000-DI

The device DAT9000 DL is an Intelligent unit able to control a network of slave Modbus RTU devices connected on serial line RS-485 Master executing the reading and writing of the field values and performing the logical and mathematical functions necessary for the system working, managing up to 8 task of recording memorized on files saved on the microSD card. By means of the Ethernet interface or the RS-485 "SLAVE" or RS-232 ports it is possible to read and write, in real time, the internal registers value. By Ethernet it is possible to get access to the files saved on the microSD card when the Data-Logger function is active.

Moreover, by means of the Ethernet interface, or by the RS-485 "SLAVE" or RS-232 ports it is possible to: Programming of the Control Logic; Monitor, request of data, programming in real time the Intelligent Unit; Direct programming and request of data from the Slave devices connected on the RS-485 Master.

FEATURES

- N.1 serial interface RS-485 Modbus RTU Master
- N.1 serial interface RS-485/232 Modbus RTU Slave
- N.1 slot for microSD card
- Interface Ethernet 10Base-T, Modbus TCP
- Functional Block programming software
- Remotely programmable

- Connection by removable screw-terminals
- LED signalling for Link/Act Ethernet, serial RX-TX, power supply
- Galvanic Isolation on all the ways
- FMC compliance CF mark
- Ethernet IEEE 802.3 EIA RS485 and RS232 compliance
- Suitable for DIN rail mounting in compliance with EN-50022 standard









Application areas











POWER SUPPLY

10 ÷ 30 Vdc

CURRENT CONSUMPTION

45 mA typ.@24Vdc (standby)

100 mA max

ISOLATIONS

Power supply / Ethernet	
Power supply / RS485	1500 Vac, 50 Hz
Ethernet / RS485	

TEMPERATURE & HUMIDITY

Operative temperature	-20°C ÷ +60°C
Storage temperature	-40°C ÷ +85°C
Relative humidity (not cond.)	0 ÷ 90 %

CONNECTIONS

Dim. (mm) Weight

Ethernet	RJ-45 (on terminals side
RS-232D	RJ-45 (on front side)
RS-485 Master / Slave	Remov. screw terminals

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

Immunity	EN 61000-6-2	
Emission	EN 61000-6-4	
HOUSING		
Material	Self-extinguishing plastic	
Mounting	DIN rail	

W x L x H : 120 x 100 x 22.5

About 160 g.

Network interface		
Ethernet	10 Base-T	
Protocol	Modbus TCP	
RS-485 Interface		
Baud-rate	up to 38.4 Kbps	
Max. distance (1)	1.2 Km @ 38.4 Kbps	
Number of modules in multipoint	up to 32	
Internal termination resistance	120 Ohm (optional)	
Compatible SD card		
Туре	microSD	
Memory size	Up to 8 GB	
Format	FAT16 or FAT32	

(1) = The maximum distance depends of: number of devices connected, type of cabling, noises, etc...

INTELLIGENT UNIT WITH ETHERNET INTERFACE AND DIGITAL I/O

DAT 900010

GENERAL DESCRIPTION

The device DAT9000IO is an Intelligent unit able to control a network of slave Modbus RTU devices connected on serial line RS-485 Master executing the reading and writing of the field values and performing the logical and mathematical functions necessary for the system working. Moreover, the device is equipped with 4 digital inputs channels and 2 relay outputs. On digital inputs are available

32-bit counters and the measure of the frequency up to 300Hz.

By means of the Ethernet interface or the RS-485 "SLAVE" or RS-232 ports it is possible to read and write, in real time, the internal registers value. Moreover, by means of the Ethernet interface, or by the RS-485 "SLAVE" or RS-232 ports it is possible to:

- Programming of the Control Logic
- Monitor, request of data, programming in real time the Intelligent Unit.
- Direct programming and request of data from the Slave devices connected on the RS-485 Master.

- N.1 serial interface RS-485 Modbus RTU Master
- N.1 serial interface RS-485/232 Modbus RTU Slave
- Interface Ethernet 10Base-T, Modbus TCP
- N.4 Digital Inputs
- N.2 SPDT Relay Outputs
- Functional Block programming software
- Remotely programmable

- Connection by removable screw-terminals
- LED signalling for Link/Act Ethernet, serial RX-TX, power supply
- LED signalling for digital inputs and digital outputs state
- Galvanic Isolation on all the ways
- EMC compliance CE mark
- Ethernet IEEE 802.3 EIA RS485 and RS232 compliance
- Suitable for DIN rail mounting in compliance with EN-50022 standard





















POWER SUPPLY CONNECTIONS		TEMPERATURE & HUMIDITY				
	Ethernet RJ-45 (on terminals side)		Operative temperature	e	-20°C +60°C	
PTION	RS-232D RJ-45 (on front side)		Storage temperature		-40°C +85°C	
RS-485 Master / Slave Remov. screw terminals		Storage temperature		10 € 103 €		
100 mA max		ISOLATIONS		Relative humidity (not	cond.)	0 90 %
EMC (for industrial environments) DIRECTIVE 2004 / 108 / EC				HOUSING		
		1500 Vac, 50 Hz, 1 min.	Material	Self-	extinguishing plastic	
				Mounting	DIN	rail
EN 61000-6-2	Inputs / RS-485		2000 Vac, 50 Hz,	Dimensions (mm)	WxI	L x H : 120 x 100 x 22.5
EN 61000-6-4	Inputs / Power supply		1 min.	Weight	Abou	ıt 190 g.
	environments) 8 / EC EN 61000-6-2	Ethernet RS-232D RS-485 Master / Slave ISOLATIONS Power supply / Ethernet Power supply / RS-485 Ethernet / RS-485 Inputs / RS-485	Ethernet RJ-4 PTION RS-232D RJ-4 RS-485 Master / Slave Rem ISOLATIONS Power supply / Ethernet Power supply / RS-485 Ethernet / RS-485 Inputs / RS-485	Ethernet RJ-45 (on terminals side) RS-232D RJ-45 (on front side) RS-485 Master / Slave Remov. screw terminals ISOLATIONS Power supply / Ethernet Power supply / RS-485 Ethernet / RS-485 Inputs / RS-485 Inputs / RS-485 2000 Vac, 50 Hz,	Ethernet RJ-45 (on terminals side) Operative temperature RS-232D RJ-45 (on front side) Storage temperature RS-485 Master / Slave Remov. screw terminals ISOLATIONS Power supply / Ethernet Power supply / RS-485 Ethernet / RS-485 Inputs / RS-485 Inputs / RS-485 Inputs / RS-485 Power supply / RS-485 Inputs / RS-485 In	Ethernet RJ-45 (on terminals side) Operative temperature RS-232D RJ-45 (on front side) RS-485 Master / Slave Remov. screw terminals ISOLATIONS Power supply / Ethernet Power supply / RS-485 Ethernet / RS-485 Inputs / RS-

DIGITAL INPUTS				
Channels	4			
Input voltage (bipolar)				
OFF state	0 ÷ 3 V			
ON state	10 ÷ 30 V			
Impedance	4.7 ΚΩ			
Frequency	up to 300 Hz			
Network interface				
Ethernet	10Base-T			
Protocol	Modbus TCP			
RS-485 Interface				
Baud-rate	up to 38.4 Kbps			
Max. distance (1)	1.2 Km @ 38.4 Kbps			
Number of modules in multipoint	up to 32			
Internal termination resistance	120 Ohm (optional)			

DIGITAL OUTPUTS			
Channels	2		
Туре	SPDT Relays		
Switching Power (max.)			
2 A @ 250 Vac (resistive	2 A @ 250 Vac (resistive load) per contact		
2 A @ 30 Vdc (resistive load) per contact			
Minimum load 5Vdc , 10mA			
Max. voltage			
250Vac (50 / 60 Hz) , 30Vdc			
Dielectric strength between contacts			
1000 Vac, 50 Hz, 1 min.			
Dielectric strength between coil and contacts			
4000 Vac, 50 Hz, 1 min.			

(1) = The maximum distance depends of: number of devices connected, type of cabling, noises, etc...



GENERAL DESCRIPTION

The device DAT9000-DL-IO is an Intelligent unit able to control a network of slave Modbus RTU devices connected on serial line RS-485 Master executing the reading and writing of the field values and performing the logical and mathematical functions necessary for He system working, managing up to 8 task of recording memorized on files saved on the microSD card. The device is equipped with 4 digital inputs channels and 2 relay outputs. For the digital inputs, are also available 32 bit counters and the measure of the frequency up to 300 Hz. By means of the Ethernet interface or the RS-485 "SLAVE" or RS-232 ports it is possible to read and write, in real time, the internal registers value. By Ethernet it is possible to get access to the files saved on the microSD card when the Data-Logger function is active. Moreover, by means of the Ethernet interface, or by the RS-485 "SLAVE" or RS-232 ports it is possible to: Programming of the Cartes Logic Monitor, request of data programming in real time the Intelligent Unit. Direct programming and request of data the Control Logic; Monitor, request of data, programming in real time the Intelligent Unit; Direct programming and request of data from the Slave devices connected on the RS-485 Master.

FEATURES

- N.1 serial interface RS-485 Modbus RTU Master
- N.1 serial interface RS-485/232 Modbus RTU Slave
- N.1 slot for microSD card
- Interface Ethernet 10Base-T, Modbus TCP
- N.4 Digital Inputs + N.2 SPDT Relays
- Functional Block programming software
- Remotely programmable

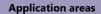
- Connection by removable screw-terminals
- LED signalling for Link/Act Ethernet, serial RX-TX, power supply
- LED signalling for digital input and output state
- Galvanic Isolation on all the ways
- EMC compliance CE mark
- Ethernet IEEE 802.3 EIA RS485 and RS232 compliance
- Suitable for DIN rail mounting in compliance with EN-50022 standard





















POWER SUPPLY	ER SUPPLY CONNECTIONS		TEMPERATURE & HUMIDITY		
18 ÷ 30 Vdc		Ethernet RJ-45 (on terminals side)		Operative temperature	-20°C +60°C
CURRENT CONSUMPTION RS-232D RJ-45 (on front side)		Storage temperature	-40°C +85°C		
45 mA typ.@24Vdc (lc (standby) RS-485 Master / Slave Remov. screw terminals		Storage temperature	10 2 103 2	
100 mA max		ISOLATIONS		Relative humidity (not c	ond.) 0 90 %
EMC (for industrial environments) DIRECTIVE 2004 / 108 / EC		Power supply / Ethernet		HOUSING	
		Power supply / RS485	1500 Vac, 50 Hz, 1 min.	Material	Self-extinguishing plastic
		Ethernet / RS485		Mounting	DIN rail
Immunity	EN 61000-6-2	Inputs / RS485	2000 Vac, 50 Hz,	Dimensions (mm)	W x L x H : 120 x 100 x 22.5
Emission	EN 61000-6-4	Inputs / Power supply	1 min.	Weight	About 160 g.

DIGITAL INPUTS	
Channels	4
Input voltage (bipolar)	
OFF state	0 ÷ 3 V
ON state	10 ÷ 30 V
Impedance	4.7 ΚΩ
Network interface	
Ethernet	10Base-T
Protocol	Modbus TCP
RS485 Interface	
Baud-rate	up to 38.4 Kbps
Max. distance (1)	1.2 Km @ 38.4 Kbps
Number of modules in multipoint	up to 32
Internal termination resistance	120 Ohm (optional)
Compatible SD card	
Туре	microSD
Memory size	Up to 8 GB
Format	FAT16 or FAT32

Weig	,,,,,	About 100 g.		
DIGITAL OUTPUTS				
Channels	2			
Туре	SPDT Relays			
Switching Power (max.)				
2 A @ 250 Vac (resistive load) per contact				
2 A @ 30 Vdc (resistive lo	2 A @ 30 Vdc (resistive load) per contact			
Minimum load	Minimum load 5Vdc, 10mA			
Max. voltage				
250Vac (50 / 60 Hz), 30Vdc				
Dielectric strength between contacts				
1000 Vac, 50 Hz, 1 min.				
Dielectric strength between coil and contacts				
4000 Vac, 50 Hz, 1 min.				

^{(1) =} The maximum distance depends of: number of devices connected, type of cabling, noises, etc...

INTELLIGENT UNIT WITH ETHERNET INTERFACE AND DIGITAL AND ANALOGUE I/O

DAT 9011



GENERAL DESCRIPTION

The device DAT9011 is an Intelligent unit able to control a network of slave Modbus RTU devices connected on serial line RS-485 Master executing the reading and writing of the field values and performing the logical and mathematical functions necessary for the system working. The device is equipped with one universal analogue input channel, one channel for Volt and mA input, two digital inputs and 2 relay outputs. On input an Auxiliary source is available to supply passive sensors on the field.

By means of the Ethernet interface or the RS-485 "SLAVE" or RS-232 ports it is possible to read and write, in real time, the internal

registers value. Moreover, by means of the Ethernet interface, or by the RS-485 "SLAVE" or RS-232 ports it is possible to program the Control Logic, to monitor, to request data and programming in real time the Intelligent Unit, to program directly the Slave devices connected on the RS-485 Master and to request data from them.

FEATURES

- N°1 serial interface RS-485 Modbus RTU Master
- N°1 serial interface RS-485/232 Modbus RTU Slave
- Interface Ethernet 10Base-T, Modbus TCP
- N°1 universal analogue input + N°1 current and voltage analogue input
- N°2 digital Inputs
- Auxiliary supply to power sensors on field
- N°2 passive 4-20 mA analogue outputs
- N°2 SPDT Relay Outputs
- Functional Block programming software

- Remotely programmable
- Connection by removable screw-terminals
- LED signalling for Link/Act Ethernet, serial RX-TX, power
- LED signalling for digital inputs and digital outputs state
- Galvanic Isolation on all the ways
- EMC compliance CE mark
- Ethernet IEEE 802.3 EIA RS485 and RS232 compliance
- Suitable for DIN rail mounting in compliance with EN-50022 standard



















2111	24.0	
POWER SUPPLY		

. •		
Power supply Voltage	9 ÷ 30 Vdc	
Current consumption @ 24 Vdc	60 mA (170 mA max)	
Current consumption @ 10 Vdc	147 mA (300 mA max)	
Reverse polarity protection	60 Vdc max	

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

Auxiliary voltage

RTD 3 wires

Line resistance influence

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

CONNECTIONS				
Ethernet	RJ-45 (on terminals side			
RS-232D	RJ-45 (on front side)			
RS-485 Master / Slave	Screw terminals pitch			
Outputs Relay	5.08mm			
Supply/Inputs/ Analogue outputs	Screw terminals pitch 3.81mm			

ISOLATIONS

solations voltage	1500 Vac
(50 Hz, 1 min.)	(on all the v

	TEMPERATURE & HUMIDITY			
<u>:</u>)	Operative temperature	-20°C +60°C		
	Storage temperature	-40°C +85°C		
	Relative humidity (not cond.)	0 90 %		

HOUSING

tch	HOUSING			
tCH	Material	Self-extinguishing plastic		
	Mounting	DIN rail		
	Dimensions (mm)	W x L x H : 120 x 100 x 22.5		
ways)	Weight	About 190 g.		

ANALOGUE INPUTS				
Range	Calibration	Linearity	Thermal Drift	
-100 ÷ +100 mV	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C	
-10 ÷ +10 V	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C	
-20 ÷ +20 mA	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C	
-200 ÷ +850 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C	
-200 ÷ +200 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C	
-60 ÷ +180 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C	
-60 ÷ +150 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C	
0 ÷ 2000 Ohm	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C	
20 ÷ 50000 Ohm	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C	
-210 ÷ +1200 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C	
-210 ÷ +1370 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C	
-50 ÷ +1760 °C	±0.1 % f.s.	±0.2 % f.s.	100 ppm/°C	
-50 ÷ +1760 °C	±0.1 % f.s.	±0.2 % f.s.	100 ppm/°C	
+400 ÷ +1825 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C	
-210 ÷ +1000 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C	
-210 ÷ +400 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C	
-210 ÷ +1300 °C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C	
		Tc, mV >= 10 MΩ		
Input impedance $Volt >= 1 M\Omega$				
	Current ~ 2	2 Ω		
	Range -100 ÷ +100 mV -10 ÷ +10 V -20 ÷ +20 mA -200 ÷ +850 °C -200 ÷ +200 °C -60 ÷ +180 °C -60 ÷ +150 °C 0 ÷ 2000 Ohm 20 ÷ 50000 Ohm -210 ÷ +1200 °C -50 ÷ +1760 °C -50 ÷ +1760 °C +400 ÷ +1825 °C -210 ÷ +1000 °C -210 ÷ +1000 °C -210 ÷ +1000 °C -210 ÷ +1000 °C -210 ÷ +1300 °C	Range	Range Calibration Linearity -100 ÷ +100 mV ±0.05 % f.s. ±0.1 % f.s. -10 ÷ +10 V ±0.05 % f.s. ±0.1 % f.s. -20 ÷ +20 mA ±0.05 % f.s. ±0.1 % f.s. -200 ÷ +850 °C ±0.05 % f.s. ±0.1 % f.s. -200 ÷ +200 °C ±0.05 % f.s. ±0.1 % f.s. -60 ÷ +180 °C ±0.05 % f.s. ±0.1 % f.s. -60 ÷ +150 °C ±0.05 % f.s. ±0.1 % f.s. 20 ÷ 50000 Ohm ±0.05 % f.s. ±0.1 % f.s. -210 ÷ +1200 °C ±0.05 % f.s. ±0.1 % f.s. -210 ÷ +1370 °C ±0.05 % f.s. ±0.1 % f.s. -50 ÷ +1760 °C ±0.1 % f.s. ±0.2 % f.s. +400 ÷ +1825 °C ±0.1 % f.s. ±0.2 % f.s. +400 ÷ +1825 °C ±0.05 % f.s. ±0.1 % f.s. -210 ÷ +4000 °C ±0.05 % f.s. ±0.1 % f.s. -210 ÷ +1300 °C ±0.05 % f.s. ±0.1 % f.s. -210 ÷ +1300 °C ±0.05 % f.s. ±0.1 % f.s.	

Sensor excitation current	
RTD, Res, Pot	~ 400 uA
CJC comp.	±1°C
Sample time	1 sec.
Warm-up time (TC,RTD)	3 min.
DIGITAL INPUTS	

DIGITAL INPUTS	
Channels	2
Input voltage (bipolar)	OFF state : 0÷3 V
input voitage (bipolar)	ON state : 10÷30 V
Input impedance	4.7 KOhm
N°2 Digital counter	32 bit (up to 300 Hz)

ANALOGUE OUTPUTS (2 CHANNELS)				
Туре	Range	Calibration	Linearity	Thermal Drift
20 mA	4÷+20 mA	±0.05 % f.s.	±0.05 % f.s.	100 ppm/°C

DIGITAL OUTPUTS	
N.2 SPDT Relays	
Switching Power (resistive load)	2 A @ 250 Vac (per contact)
Switching Power (resistive load)	2 A @ 30 Vdc (per contact)
Minimum load	5Vdc , 10mA
Max. voltage	250Vac (50 / 60 Hz) ,110Vdc
Dielectric strength between contacts	1000 Vac, 50 Hz, 1 min.
Dielectric strength between coil and contacts	4000 Vac, 50 Hz, 1 min.

Serial Ports RS-485 (Master & Sl	ave)
Protocol	Modbus RTU
Baud Rate	up to 115.2 Kbps
Max. recommended distance (1)	1.2 Km @ 38.4 Kbps
Number of modules in multipoint	up to 32
Internal termination resistance	120 Ohm (optional)

 $0.05 \%/\Omega (50 \Omega \text{ max})$ < 0.8 uV/Ohm

>14 V @ 20 mA



INTELLIGENT UNIT WITH DATA-LOGGER FUNCTION, ETHERNET INTERFACE AND DIGITAL AND ANALOGUE I/O

DAT 9011-DL



GENERAL DESCRIPTION

The device DAT9011-DL is an Intelligent unit able to control a network of slave Modbus RTU devices connected on serial line RS-485 Master executing the reading and writing of the field values and performing the logical and mathematical functions necessary for the system working and managing up to 8 tasks of storage data. The data are saved on microSD card; it is possible to get access to the saved files by means of the Ethernet connection. The device is equipped with one universal analogue input channel, one channel for Volt and mA input, two digital inputs and 2 relay outputs. On input an Auxiliary source is available to supply passive sensors on the field. By means of the Ethernet interface or the RS-485 "SLAVE" or RS-232 ports it is possible to read and write, in real time, the internal registers value. Moreover, by means of the Ethernet interface, or by the RS-485 "SLAVE" or RS-232 ports it is possible to program the Control Logic,to monitor, to request data and programming in real time the Intelligent Unit,to program directly the Slave devices connected on the RS-485 Master and to request data from them.

FEATURES

- N°1 serial interface RS-485 Modbus RTU Master
- N°1 serial interface RS-485/232 Modbus RTU Slave
- N°1 Slot for microSD card
- Interface Ethernet 10Base-T, Modbus TCP
- N°1 universal analogue input + N°1 current and voltage analogue input
- N°2 digital Inputs
- Auxiliary supply to power sensors on field
- N°2 passive 4-20 mA analogue outputs
- N°2 SPDT Relay Outputs

- Functional Block programming software
- Remotely programmable
- Connection by removable screw-terminals
- LED signalling for Link/Act Ethernet, serial RX-TX, power
- LED signalling for digital inputs and digital outputs state
- Galvanic Isolation on all the ways
- EMC compliance CE mark
- Ethernet IEEE 802.3 EIA RS485 and RS232 compliance
- Suitable for DIN rail mounting in compliance with EN-50022









Application areas







TEMPERATURE & HUMIDITY





POWER SUPPLY				
Power supply Voltage	9 ÷ 30 Vdc			
Current consumption @ 24 Vdc	60 mA (170 mA max)			
Current consumption @ 10 Vdc	147 mA (300 mA max)			
Reverse polarity protection	60 Vdc max			
EMC (for industrial environments)				

DIRECTIVE 2004 / 108 / EC

ANALOGUE INPUTS

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

CONNECTIONS	S		TEMPERATURE & HU	
Ethernet	RJ-45 ((on terminals side)	Operative temperature	
RS-232D	RJ-45	(on front side)	Storage temperature	
RS-485 Master / Slave	Screw	terminals pitch	Storage temperature	
Outputs Relay	5.08m	m .	Relative humidity (not	
Supply/Inputs/	Scrow	terminals pitch	HOUSING	
Analogue outputs	3.81mr		Material	
ISOLATIONS		Mounting		
Isolations voltage		1500 Vac	Dimensions (mm)	
(50 Hz, 1 min.)	gc	(on all the ways)	Weight	

DIGITAL I

Channels

Input volta

Input impedance

N°2 Digital counter

	•				
	Storage temperature				
1	Relative humidity (not cond.)				
	HOUSING				
1	Material	Self-ex	αti		
	Mounting	DIN ra	il		
	Dimensions (mm)	W x L	χl		
ıys)	Weight	About	19		

e	-20°C +60°C
	-40°C +60°C
cond.)	0 90 %
Self-extinguishing plastic	

Vac all the ways)	Dimensions (mm)		W x L x H : 120 x 100 x 22.5
	Weight		About 190 g.
INPUTS			
		2	
age (bipolar)		OFF state	e: 0÷3 V
		ON state : 10÷30 V	

4.7 KOhm

32 bit (up to 300 Hz)

ANALOGUE OUTPUTS (2 CHANNELS)				
Туре	Range	Calibration	Linearity	Thermal Drift
20 mA	4÷+20 mA	±0.05 % f.s.	±0.05 % f.s.	100 ppm/°C

Thermal Drift Type Range Calibration Linearity 100 mV -100 ÷ +100 mV ±0.05 % f.s. ±0.1 % f.s. 100 ppm/°C 10 V +10 V 100 ppm/°C -10 ÷ ±0.05 % f.s. ±0.1 % f.s. 20 mA -20÷ +20 mA ±0.05 % f.s. ±0.1 % f.s. 100 ppm/°C Pt100 -200 ÷ +850°C ±0.05 % f.s. ±0.1 % f.s. 100 ppm/°C Pt1K -200 ÷ +200 °C ±0.05 % f.s. ±0.1 % f.s. 100 ppm/°C Ni100 -60 ÷ +180 °C $\pm 0.05~\%$ f.s. ± 0.1 % f.s. 100 ppm/°C Ni1K -60 ÷ +150 °C ± 0.05 % f.s. ±0.1 % f.s. 100 ppm/°C 100 ppm/°C Res 2000 Ohm ± 0.05 % f.s. ±0.1 % f.s. Pot 20 ÷ 50000 Ohm 100 ppm/°C ± 0.05 % f.s. ±0.1 % f.s. -210 ÷ +1200 °C Tc J ±0.05 % f.s. ±0.1 % f.s. 100 ppm/°C -210 ÷ +1370 °C Tc K ±0.05 % f.s. ±0.1 % f.s. 100 ppm/°C -50 ÷ +1760 °C 100 ppm/°C Tc R ±0.1 % f.s. ±0.2 % f.s. -50 ÷ +1760 °C 100 ppm/°C Tc S ±0.1 % f.s. ±0.2 % f.s. 100 ppm/°C +400 ÷ +1825 °C ± 0.1 % f.s. Тс В ±0.05 % f.s. Tc E -210 ÷ +1000 °C ±0.05 % f.s. ±0.1 % f.s. 100 ppm/°C 100 ppm/°C Tc T -210 ÷ +400 °C ±0.05 % f.s. ±0.1 % f.s. Tc N -210 ÷ +1300 °C ±0.05 % f.s. ±0.1 % f.s. 100 ppm/°C Tc, $mV > = 10 M\Omega$ Input impedance Volt >= $1 M\Omega$ Current ~ 22 Ω Auxiliary voltage >14 V @ 20 mA Line resistance influence RTD 3 wires $0.05 \%/\Omega (50 \Omega \text{ max})$ mV, Tc < 0.8 uV/Ohm

Sensor excitation current	
RTD, Res, Pot	~ 400 uA
CJC comp.	±1°C
Sample time	1 sec.
Warm-up time (TC,RTD)	3 min.

DIGITAL OUTPUTS		
N.2 SPDT Relays		
Switching Power (resistive load)	2 A @ 250 Vac (per contact)	
	2 A @ 30 Vdc (per contact)	
Minimum load	5Vdc , 10mA	
Max. voltage	250Vac (50 / 60 Hz) ,110Vdc	
Dielectric strength between contacts	1000 Vac, 50 Hz, 1 min.	
Dielectric strength between coil and contacts	4000 Vac, 50 Hz, 1 min.	
Serial Ports RS-485 (Master & Slave)		

Serial Ports RS-485 (Master & Slave)		
Protocol	Modbus RTU	
Baud Rate	up to 115.2 bps	
Max. distance (1)	1.2 Km @ 38.4 Kbps	
Number of modules in multipoint	up to 32	
Internal termination resistance	120 Ohm (optional)	

Compatible SD card	
Туре	microSD
Memory size	Up to 8 GB
Format	FAT16 or FAT32

(1) = The maximum distance depends of: number of devices connected, type of cabling, noises, etc...



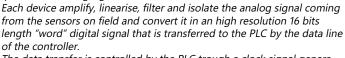
ODVIEXER

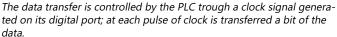


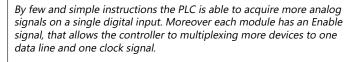
"DAT6000 SERIES": A/D interface modules for PLC



The DAT6000 series devices are an evolution in the connection techniques of the analog signals to the PLC.













INDEX

74 · DAT 6011

A/D interface for PLC 2 input channels for mV or Tc

DAT 6012

A/D interface for PLC 2 input channels for RTD, Res

75 • **DAT 6013**

A/D interface for PLC 2 input channels for V, mA

DAT 6021

A/D interface for PLC 4 input channels for mV, Tc

DAT 6023-I

A/D interface for PLC 4 input channels for +/- 20 mA

DAT 6023-V

A/D interface for PLC 4 input channels for +/- 10V

DAT6000 SERIES

09

⊕DATEXEL



DAT6000 A/D interface modules **SERIES** for PLC



GENERAL DESCRIPTION

The devices of the DAT6000 series are an evolution in the techniques of connection of analog signals to PLC. The devices of this series amplify, linearise, isolate, filter and convert the analog signals coming from various sensors in a high resolution. The digital signal can be connected to any input of the PLC.

- Acquisition of analogue signals on PLC's digital I/O
 Analogue input to any PLC or micro PLC
- Up to 16-bit resolution with Full Scale high accuracy
- 2 input channels
- Configurable input for voltage up to ± 1V or Tc type J,K, R,S,B,E,T,N
- Configurable by DIP-switch
- Galvanic isolation at 2000 Vac on three ways
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035





Application areas









POWER SUPPLY	
Power supply voltage	18 30 Vdc
Current consumption	30 mA @ 24 Vdd
Rever. polarity protection	60 Vdc max

ISOLATION VOLTAGE

INPUT – PLC	222214
Power supply– INPUT	2000 Vac 50 Hz. 1 min.
Power supply– PLC	30 112, 1 111111.

TEMPERATURE AND HUMIDITY

Operative temperature	-10°C +60°C
Storage temperature	-40°C +85°C
Humidity (not cond)	0 90 %

EMC (for industrial environments)

DIRECTIVE 2004/108/EC Immunity FN 61000-6-2

iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii	LIV 01000 0 Z
Emission	EN 61000-6-4

HOUSING

Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT			
Input type	Min		Max
Voltage			
50 mV	-50 mV		+50 mV
100 mV	-100 mV		+100 mV
500 mV	-500 mV	-500 mV +500 mV	
1000 mV	-1000 mV		+1000 mV
Thermocouple			
J	-210 °C		+1200 °C
K	-210 °C		+1372 °C
R	-50 °C		+1767 °C
s	-50 °C +1767		+1767 °C
В	+400 °C +1825 °		+1825 °C
E	-210 °C	+1000 °C	
Т	-210 °C	+400 °C	
N	-210 °C		+1300 °C
INPUT CHANNELS 2			2
Input calibration (1)			±0.05% f.s.
Linearity (1)			
mV	± 0.1 % f.s.		
Тс	± 0.2 % f.s.		
Cold junction compensation ± 0.5 °C			

Input impedance			
>= 1 MΩ			
Thermal drift (1)			
± 0.005 % / °C			
Thermal drift CJC			
± 0.02 %/ °C			
Line resistance influence			
< 0.8 uV/Ohm			

DIGITAL INTERFACE			
Voltage on terminals	typical 24 Vdc (30 Vdc max.)		
ON state	>9 Vdc		
Input impedance			
(ENABLE, CLK)	4.7 KOhm		
Minimum output load			
(DATA)	560 Ohm (2)		
Max. frequency			
Clock signal	500 Hz		
Rise / Fall time	(Tr) < 0.2 ms		

(1) referred to input Span (difference between max. and min. values) (2) The load on the output DATA is controlled with the current taken from the ENABLE signal.

A/D INTERFACE FOR PLC 2 INPUT CHANNELS FOR RTD, Res

The devices of the DAT6000 series are an evolution in the techniques of connection of analog signals to PLC.

The devices of this series amplify, linearise, isolate, filter and convert the analog signals coming from various sensors in a high resolution. The digital signal can be connected to any input of the PLC.

FEATURES

- Acquisition of analog signals on PLC's digital I/O
- Analog input to any PLC or micro PLC
- Up to 16-bit resolution with Full Scale high accuracy
- 2 input channels
- Configurable input for Pt100, Pt1000, Ni100, Ni1000, Resistance and Potentiometers up to 2 Kohm
- Configurable by DIP-switch
- Galvanic isolation at 2000 Vac on three ways
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035



* nominal value



Application areas



Thermal drift (1) Full Scale

RTD, Res

ON state



Line resistance influence

(50 Ω max , 3 wires connection)

DIGITAL INTERFACE Voltage on terminals

Input impedance (ENABLE, CLK)

Max. frequency

Rise / Fall time

Minimum output load





± 0.005 % / °C

< 0.05%/Ohm

>9 Vdc

4.7 KOhm

560 Ohm (2)

500 Hz (Tr) < 0.2 ms

typical 24 Vdc (30 Vdc max.)



POWER SUPPLY

Power supply voltage	18 30 Vdc
Current consumption	30 mA @ 24 Vdc
Rever. polarity protection	60 Vdc max

ISOLATION VOLTAGE

INPUT – PLC	200011
Power supply– INPUT	2000 Vac 50 Hz, 1 min.
Power supply- PLC	30 112, 1111111.

TEMPERATURE AND HUMIDITY

Operative temperature	-10°C +60°C
Storage temperature	-40°C +85°C
Humidity (not cond)	090 %

EMC (for industrial environments)

DIRECTIVE 2004/108/EC

Immunity	EN 61000-6-2	
Emission	EN 61000-6-4	
HOUSING		

Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 a.

INPUT				
Input type	Min		Max	
RTD				
Pt100	-200 °C		+850 °C	
Pt1000	-200 °C		+200 °C	
Ni100	-80 °C		+180 °C	
Ni1000	-60 °C		+150 °C	
Resistance				
500 Ω	0 Ω		500 Ω	
2 ΚΩ	0 Ω		2000 Ω	
Potentiometer				
< 500 Ω*	0 %		100 %	
< 2 KΩ*	0 %		100 %	
Input channels			2	
Input calibration (1)		±0.1 % f.s.		
Linearity (1)				
Res, Pot.	± 0.1 % f.s.			
RDT	± 0.2 % f.s.			
RTD / Res. excitation current 0.350 mA ty			0.350 mA typ.	

values) (2) The load on the output DATA is controlled with the cur-

(DATA)

Clock signal

rent taken from the ENABLE signal

A/D INTERFACE FOR PLC 2 INPUT CHANNELS FOR V, mA

DAT 6013

GENERAL DESCRIPTION

The devices of the DAT6000 series are an evolution in the techniques of connection of analog signals to PLC. The devices of this series amplify, linearise, isolate, filter and convert the analog signals coming from various sensors in a high resolution. The digital signal can be connected to any input of the PLC.

- Acquisition of analog signals on PLC's digital I/O
- Analog input to any PLC or micro PLC
- Up to 16-bit resolution with Full Scale high accuracy
- 2 input channels
- Configurable input for ± 10 V and ± 20 mA
- Configurable by DIP-switch
- Galvanic isolation at 2000 Vac on three ways
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035

















POWER SUPPLY				
Power supply voltage		18 30 Vdc		
Current consumption		30 mA @ 24 Vdc		
Rever. polari	ty protection	60 Vdc max		
ISOLATION	N VOLTAGE			
INPUT – PLC				
Power supply– INPUT		2000 Vac 50 Hz, 1 min.		
Power supply	50 112, 1 111111.			
TEMPERATURE AND HUMIDITY				
Operative temperature		-10°C +60°C		
Storage temperature		-40°C +85°C		
Humidity (not cond)		0 90 %		
EMC (for industrial environments)				
DIRECTIVE 2004/108/EC				
Immunity	EN 61000-6-2			
Emission	EN 61000-6-4			
HOUSING				
Material	Self-extinguishing plastic			
Dim. (mm)	W x L x H : 90 x 112 x 12.5			

INPUT			
Input type	Min	Max	
Voltage			
10 V	-10 V	+10 V	
Current			
20 mA	-20 mA	+20 mA	
Input channels 2			
Input calibration (1) ±0.1 % f			
Linearity (1)		±0.1 % f.s	
Input impedance			
V	>=	100 ΚΩ	
mA <= 5		50 Ω	
Thermal drift (1)			
Full Scale ±		.005 % / °C	

DIGITAL INTERFACE		
Voltage on terminals	typical 24 Vdc (30 Vdc max.)	
ON state	>9 Vdc	
Input impedance		
(ENABLE, CLK)	4.7 KOhm	
Minimum output load		
(DATA)	560 Ohm (2)	
Max. frequency		
Clock signal	500 Hz	
Rise / Fall time	(Tr) < 0.2 ms	
(1) referred to input Span (difference between max. and min.		

- (2) The load on the output DATA is controlled with the current taken from the ENABLE signal

A/D INTERFACE FOR PLC 4 INPUT CHANNELS FOR mV, TC



about 90 g.

6021

DAT

GENERAL DESCRIPTION

The devices of the DAT6000 series are an evolution in the techniques of connection of analog signals to PLC. The devices of this series amplify, linearise, isolate, filter and convert the analog signals coming from various sensors in a high resolution. The digital signal can be connected to any input of the PLC.

- Acquisition of analogue signals on PLC's digital I/O
- Analogue input to any PLC or micro PLC
- Up to 16-bit resolution with Full Scale high accuracy
- 4 input channels
- Configurable input for ± 1 V or Tc type J,K, R,S,B,E,T,N
- Configurable by DIP-switch

- Galvanic isolation at 2000 Vac on three ways
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035





Application areas











carrerre comparinperon	50 (6 2
Rever. polarity protection	60 Vdc max
ISOLATION VOLTAGE	
INPUT – PLC	
Power supply- INPUT	2000 Vac

Current consumption 30 mA @ 24 Vdc

18 .. 30 Vdc

POWER SUPPLY

Power supply-PLC

Power supply voltage

TEMPERATURE AND HUMIDITY

Operative temperature	-10°C +60°C
Storage temperature	-40°C +85°C
Humidity (not cond)	0 90 %

EMC (for industrial environments) **DIRECTIVE 2004/108/EC**

Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUGHIG	

HOUSING

Material	Self-extinguishing plastic
Dim. (mm)	W x L x H : 90 x 112 x 12.5
Weight	about 90 g.

INPUT		
Input type	Min	Max
Voltage		
50 mV	-50 mV	+50 mV
100 mV	-100 mV	+100 mV
500 mV	-500 mV	+500 mV
1000 mV	-1000 mV	+1000 mV
Thermocouple		
J	-210 °C	+1200 °C
K	-210 °C	+1372 °C
R	-50 °C	+1767 °C
S	-50 °C	+1767 °C
В	+400 °C	+1825 °C
E	-210 °C	+1000 °C
Т	-210 °C	+400 °C
N	-210 °C	+1300 °C
Input channels 4		
Input calibration (1) ±0.05 % f.s.		
Linearity (1)		
mV	± 0.1 % f.s.	
Тс	± 0.2 % f.s.	
Cold junction compensation ± 0.5 °C		

Input impedance		
mV, Tc	>= 1 MΩ	
Thermal drift (1)		
Full Scale	± 0.005 % / °C	
Thermal drift CJC		
Full Scale	± 0.02 %/ °C	
Line resistance influence		
mV, Tc	< 0.8 uV/Ohm	

DIGITAL INTERFACE	
Voltage on terminals	typical 24 Vdc (30 Vdc max.)
ON state	>9 Vdc
Input impedance	
(ENABLE, CLK)	4.7 KOhm
Minimum output load	
(DATA)	560 Ohm (2)
Max. frequency	
Clock signal	500 Hz
Rise / Fall time	(Tr) < 0.2 ms

(1) referred to input Span (difference between max. and min. values) (2) The load on the output DATA is controlled with the current taken from the ENABLE signal

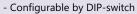


The devices of the DAT6000 series are an evolution in the techniques of connection of analog signals to PLC.

The devices of this series amplify, linearise, isolate, filter and convert the analog signals coming from various sensors in a high resolution. The digital signal can be connected to any input of the PLC.

FEATURES

- Acquisition of analog signals on PLC's digital I/O
- Analog input to any PLC or micro PLC
- Up to 16-bit resolution with Full Scale high accuracy
- 4 input channels
- Configurable input for ± 20 mA



- Galvanic isolation at 2000 Vac on three ways
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035





Application areas









POWER SUPPLY	
Power supply voltage	18 30 Vdc
Current consumption	30 mA @ 24 Vdc
Rever. polarity protection	60 Vdc max
ISOLATION VOLTAGE	

INPUT -	- PLC			
Power s	supply– I	INPUT	2000 Vac 50 Hz, 1 min.	
Power s	supply– l	PLC	30 112, 1111111.	

Operative temperature	-10°C +60°C
Storage temperature	-40°C +85°C
Humidity (not cond)	0 90 %

EMC (for industrial environments)

DIRECTIVE 2004/108/EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	

Self-extinguishing plastic Dim. (mm) W x L x H : 90 x 112 x 12.5 about 90 g. Weight

INPUT	PUT				
Input type	Min	Max			
Current					
20 mA	-20 mA	+20 mA			
Input channels	put channels 4				
Input calibration	on (1)	±0.1 % f.s.			
Linearity (1) ±0.1 % f.s.					

Input impedance					
mA	<= 50 Ω				
Thermal drift (1)					
Full Scale	± 0.005 % / °C				

DIGITAL INTERFACE					
Voltage on terminals typical 24 Vdc (30 Vdc max.)					
ON state >9 Vdc					
Input impedance					
(ENABLE, CLK) 4.7 KOhm					
Minimum output load					
(DATA) 560 Ohm (2)					
Max. frequency					
Clock signal	500 Hz				
Rise / Fall time (Tr) < 0.2 ms					

(1) referred to input Span (difference between max. and min. values) (2) The load on the output DATA is controlled with the current taken from the ENABLE signal

A/D INTERFACE FOR PLC 4 INPUT CHANNELS FOR +/- 10V

DAT 6023-V

GENERAL DESCRIPTION

The devices of the DAT6000 series are an evolution in the techniques of connection of analog signals to PLC.

The devices of this series amplify, linearise, isolate, filter and convert the analog signals coming from various sensors in a high resolution. The digital signal can be connected to any input of the PLC.

- Acquisition of analog signals on PLC's digital I/O
- Analog input to any PLC or micro PLC
- Up to 16-bit resolution with Full Scale high accuracy
- 4 input channels
- Configurable input for ± 10 V

- Configurable by DIP-switch
- Galvanic isolation at 2000 Vac on three ways
- EMC compliant CE mark
- Suitable for DIN rail mounting in compliance with EN-50022 and EN-50035





Application areas











POWER SUPPLY

Power supply voltage	18 30 Vdc
Current consumption	30 mA @ 24 Vdc
Rever. polarity protection	60 Vdc max

ISOLATION VOLTAGE

INPUT – PLC	200011
Power supply– INPUT	2000 Vac 50 Hz. 1 min.
Power supply– PLC	30 112, 1 111111.

TEMPERATURE AND HUMIDITY

Operative temperature	-10°C +60°C
Storage temperature	-40°C +85°C
Humidity (not cond)	0 90 %

EMC (for industrial environments)

DIRECTIVE 2004/108/EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4
HOUSING	

HOUSING				
Material	Self-extinguishing plastic			
Dim. (mm)	W x L x H : 90 x 112 x 12.5			
Weight	about 90 g.			

INPUT Min Max Input type Voltage -10 V +10 V Input channels Input calibration (1) ±0.1% f.s. Linearity (1) ±0.1% f.s.

Input impedance				
Volt >/= 100 KΩ				
Thermal drift (1)				
Full Scale	± 0.005 % / °C			

DIGITAL INTERFACE					
Voltage on terminals typical 24 Vdc (30 Vdc max.)					
ON state >9 Vdc					
Input impedance					
(ENABLE, CLK) 4.7 KOhm					
Minimum output load					
560 Ohm (2)					
Max. frequency					
500 Hz					
Rise / Fall time (Tr) < 0.2 ms					

referred to input Span (difference between max. and min. values)

(2) The load on the output DATA is controlled with the current taken from the ENABLE signal



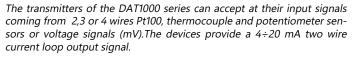








"DAT1000 SERIES": temperature transmitters for DIN B in-head mounting



The series is composed of devices with input configurable by PC with or without galvanic isolation. Moreover it is available a version of the transmitters of the DAT1000 series developed for the use in potentially explosive atmospheres certified in according to the DIRECTIVE ATEX 94/9/EC. (see p. 24 to 26).









80 · DAT 1010

Two wire transmitter for RTD programmable by PC

81 • **DAT 1015**

Two wire universal transmitter programmable by PC

Isolated two wire Transmitter for RTD programmable by PC

Isolated two wire universal transmitter programmable by PC

DAT1000 SERIES

10

③D∆TEXEL



DAT1000 Temperature transmitters for **SERIES** DIN B in-head mounting



GENERAL DESCRIPTION

The transmitter DAT 1010 is able to execute many functions such as: measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a voltage signal even coming from a potentiometer connected on its input.

The measured values are converted in a 4÷20 mA current signal .

The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, mV, Resistance and Potentiometer
- 4 \div 20 mA configurable output on current loop
- Configurable by Personal Computer
- High accuracy

- On-field reconfigurable
- Programming of the unit measure as °C or °F
- EMC compliant CE mark
- Suitable for DIN B in-head mounting
- Option for DIN rail mounting in compliance with EN-50022 ("KIT DIN RAIL" Option)







Application areas











POWER SUPPLY				TEMPERATURE & HUMIDITY			
Power supply voltage		10	10 32Vdc		Operative temperature	-40°C +85°C	
					Storage temperature	-40°C +85°C	
Reverse polarity protec	ction	60 V	/dc max		Humidity (not condensed)	0 90 %	
EMC (for industrial en	EMC (for industrial environments)				HOUSING	HOUSING	
DIRECTIVE 2004/108/	EC				Material	PC + ABS V0	
		ENI A	(1000 / 2		Mounting	DIN B head or bigger	
Immunity		EIN	61000-6-2		Dimensions (mm)	Ø= 43 mm ; H = 24 mm	
Emission	Emission EN 61000-6-4		Weight	about 50 g.			
INPUT	INPUT				INPUT		
Input type	Mir	1	Max	Span min	Line resistance influence(1)		
RTD 2,3,4 wires				•	mV	<=0.8 uV/Ohm	
Pt100	-200°	C	850°C 50°C		RTD 3 wires	$0.05 \%/\Omega$ (50 Ω balanced max.)	
Pt1000	-200°	C	200°C 50°C		RTD 4 wires	$0.005 \%/\Omega$ (100 Ω balanced max.)	
Ni100	-60°C				RTD excitation current		
					Typical	0.350 mA	
Ni1000	-60°C 150°C 50°C			J 20.C	The		

nput type N		Min	Max	Span min			
RTD 2,3,4 wires							
Pt100	-20	00°C	850°C	50°C			
Pt1000	-20	00°C	200°C	50°C			
Ni100	-6	0°C	180°C	50°C			
Ni1000	-6	0°C	150°C	50°C			
Voltage							
mV	-10	0mV	+700mV	2 mV			
Potentiometer							
		0 Ω	200 Ω	10%			
Nominal value	20	0 Ω	500 Ω	10%			
	0.5	5 ΚΩ	2 ΚΩ	10%			
RES. 2,3,4 wires							
Low	() Ω	300 Ω	10 Ω			
High	C) Ω	2000 Ω	200 Ω			
Input calibration(1)							
RTD		the higher of ±0.1 % f.s. or ±0.2 °C					
Res. Low	the higher of ± 0.1 % f.s. or ± 0.15 Ω						
Res. High	the higher of ± 0.2 % f.s. or ± 1 Ω						
mV	the higher of ±0.1 % f.s. or ±18 uV						
Input impedance							
mV	>= 10 M	Ω					
Linearity (1)							
RTD	RTD			± 0.1 % f.s			

INFO			
Line resistance influence(1)			
mV <=0.8 uV/Ohm			
RTD 3 wires	$0.05 \%/\Omega$ (50 Ω balanced max.)		
RTD 4 wires	0.005 %/ Ω (100 Ω balanced max.)		
RTD excitation current			
Typical	0.350 mA		
Thermal drift (1)			
Full scale	± 0.01 % / °C		
Burn-out values			
Max. value output	about 21.6 mA		
Min. value output	about 3.5 mA		
Response time (10÷90% of f.s.) about 400 ms			
(1) () () () () () ()	1		

ОИТРИТ					
Output type	Span min				
Direct current	4 mA	20 mA	4 mA		
Reverse current	20 mA	4 mA	4 mA		
Output calibration					
Current	± 7 uA				

TWO WIRE UNIVERSAL TRANSMITTER PROGRAMMABLE BY PC

DAT 1015



GENERAL DESCRIPTION

The transmitter DAT 1015 is able to execute many functions such as: measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a voltage signal even coming from a potentiometer connected on its input.

Moreover the DAT 1015 is able to measure and linearise the standard thermocouples with internal cold junction compensation. The measured values are converted in a 4÷20 mA current signal.

The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, TC, mV, Resistance and Potentiometer
- $4 \div 20$ mA configurable output on current loop
- Configurable by Personal Computer
- High accuracy

- On-field reconfigurable
- Programming of the unit measure as °C or °F
- EMC compliant CE mark
- Suitable for DIN B in-head mounting
- Option for DIN rail mounting in compliance with EN-50022 ("KITDIN RAIL" Option)











TEMPERATURE & HUMIDITY

Operative temperature

Storage temperature

Humidity (not condensed)







-40°C .. +85°C

-40°C .. +85°C

0 .. 90 %



POWER SUPPLY		
Power supply voltage	10 32Vdc	
Reverse polarity protection	60 Vdc max	

EMC (for industrial environment	ts)
Reverse polarity protection	60 Vdc max
rower supply voltage	10 32 vac

DIRECTIVE 2004/108/EC			
Immunity	EN 61000-6-2		
Emission	EN 61000-6-4		
INDIT			

Span min							
TC CJC int./ext.							
2 mV							
2 mV							
2 mV							
2 mV							
2 mV							
2 mV							
2 mV							
2 mV							
50°C							
50°C							
50°C							
50°C							
2 mV							
10%							
10%							
10%							
10 Ω							
200 Ω							
Input calibration(1)							
the higher of ±0.1 % f.s. or ±0.2 °C							
the higher of ± 0.1 % f.s. or ± 0.15 Ω							
the higher of ± 0.2 % f.s. or ± 1 Ω							
the higher of ±0.1 % f.s. or ±18 uV							

• •	
HOUSING	
Material	PC + ABS V0
Mounting	DIN B head or bigger
Dimensions (mm)	Ø= 43 mm ; H = 24 mm
Weight	about 50 g.

INPUT				
Input impedance				
TC, mV >= 10 MΩ				
Linearity (1)				
TC	± 0.2 % f.s.			
RTD	± 0.1 % f.s			
Line resistance influence(1)				
TC, mV	<=0.8 uV/Ohm			
RTD 3 wires $0.05 \%/\Omega$ (50 Ω balanced max.)				
RTD 4 wires 0.005 %/Ω (100 Ω balanced max.)				
RTD excitation current				
Typical	0.350 mA			
CJC comp. ± 0.5°C				
Thermal drift (1)				
Full scale	± 0.01 % / °C			
CJC	± 0.01 % / °C			
Burn-out values				
Max. value output	about 21.6 mA			
Min. value output	about 3.5 mA			
Response time (10÷90% of f.s.)	about 400 ms			

ОИТРИТ					
Output type		Min Max	Max	Span min	
Direct current		4 mA	20 mA	4 mA	
Reverse current	2	20 mA	4 mA	4 mA	
Output calibration					
Current		± 7 uA			

DAT1000 SERIES





GENERAL DESCRIPTION

The isolated transmitter DAT 1061 is able to execute many functions such as: measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a voltage signal even coming from a potentiometer connected on its input. The measured values are converted in a 4÷20 mA current signal. The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, mV, Resistance and Potentiometer
- Galvanic isolation at 1500 Vac
- 4 \div 20 mA configurable output on current loop
- Configurable by Personal Computer
- High accuracy

- On-field reconfigurable

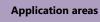
ISOLATED TWO WIRE TRANSMITTER FOR RTD PROGRAMMABLE BY PC

- Programming of the unit measure as °C or °F
- EMC compliant CE mark
- Suitable for DIN B in-head mounting
- Option for DIN rail mounting in compliance with EN-50022 ("DIN RAIL" Option)











TEMPERATURE & HUMIDITY

Operative temperature

Storage temperature







-40°C .. +85°C -40°C .. +85°C



POWER SUPPLY			
Power supply voltage	07 32Vdc		
Reverse polarity protection	60 Vdc max		
ISOLATION VOLTAGE			
Input- output/Power supply 1500 Vac, 50 Hz,1 min.			
EMC (for industrial environments)			

ISOLATION VOLTAGE		
Input- output/Power supply	1500 Vac, 50 Hz,1 min.	
EMC (for industrial environmen	nts)	
DIRECTIVE 2004/108/EC		
Immunity	EN 61000-6-2	
Emission	EN 61000-6-4	

Input						
Input type I		Min	Max	Span min		
RTD 2,3,4 wires						
Pt100	-20	00°C	850°C	50°C		
Pt1000	-20	00°C	200°C	50°C		
Ni100	-6	50°C	180°C	50°C		
Ni1000	-6	50°C	150°C	50°C		
Voltage						
mV	-10	00mV	+700mV	2 mV		
Potentiometer						
		0 Ω	200 Ω	10%		
Nominal value	20	00 Ω	500 Ω	10%		
	0.5	5 ΚΩ	50 KΩ	10%		
Resistance 2,3,4 wires						
Low	C) Ω	300 Ω	10 Ω		
High	С) Ω	2000 Ω	200 Ω		
Input calibration(1)						
RTD		the higher of ±0.1 % f.s. or ±0.2 °C				
Res. Low		the higher of ± 0.1 % f.s. or ± 0.15 Ω				
Res. High		the higher of ± 0.2 % f.s. or ± 1 Ω				
mV		the higher of ±0.1 % f.s. or ±10 uV				
Input impedance						
mV		>= 10 M	Ω			
Linearity (1)						
RTD		± 0.1 % f.s				

Humidity (not condensed)	0 90 %
HOUSING	
Material	PC + ABS V0
Mounting	DIN B head or bigger
Dimensions (mm)	Ø= 43 mm ; H = 24 mm
Weight	about 50 g.

Input		
Line resistance influence(1)		
mV	<=0.8 uV/Ohm	
RTD 3 wires	$0.05~\%/\Omega~(50~\Omega~balanced~max.)$	
RTD 4 wires	0.005 %/Ω (100 Ω balanced max.)	
RTD excitation current		
Typical	0.350 mA	
Thermal drift (1)		
Full scale	± 0.01 % / °C	
Burn-out values		
Max. value output	about 20.5 mA	
Min. value output	about 3.8 mA	
Value max. fault	about 21.6 mA	
Value min. fault	about 3.5 mA	
Response time (10÷90% of f.s.)	about 400 ms	

OUTPUT				
Output type		Min	Max	Span min
Direct current		4 mA	20 mA	4 mA
Reverse current		20 mA	4 mA	4 mA
Output calibration				
Current		± 7 uA		

ISOLATED TWO WIRE UNIVERSAL TRANSMITTER PROGRAMMABLE BY PC

DAT 1066



GENERAL DESCRIPTION

The isolated transmitter DAT 1066 is able to execute many functions such as: measure and linearisation of the temperature characteristic of RTDs sensors, conversion of a linear resistance variation, conversion of a voltage signal even coming from a potentiometer connected on its input.

Moreover the DAT 1066 is able to measure and linearise the standard thermocouples with internal cold junction compensation. The measured values are converted in a $4\div20$ mA current signal.

The device guarantees high accuracy and performances stability both in time and in temperature.

FEATURES

- Configurable input for RTD, TC, mV, Resistance and Potentiometer
- Galvanic isolation at 1500 Vac
- $4 \div 20$ mA configurable output on current loop
- Configurable by Personal Computer

- On-field reconfigurable
- Programming of the unit measure as °C or °F
- EMC compliant CE mark
- Suitable for DIN B in-head mounting
- Option for DIN rail mounting in compliance with EN-50022 ("KITDIN RAIL" Option)







Application areas



TEMPERATURE & HUMIDITY

Operative temperature

Storage temperature

Humidity (not condensed)







-40°C .. +85°C

-40°C .. +85°C

0..90%



POWER SUPPLY	
Power supply voltage	07 32Vdc
Reverse polarity protection	60 Vdc max
ISOLATION VOLTAGE	
Input- output/Power supply	1500 Vac, 50 Hz,1 min.

EMC (for industrial environments	EMC ((for industr	ial enviror	nments
----------------------------------	-------	--------------	-------------	--------

DIRECTIVE 2004/108/EC

EN 61000-6-2 **Immunity Emission** EN 61000-6-4

Input				
Input type	Min	Max	Span min	
TC CJC int./ext.				
J	-200°C	1200°C	2 mV	
K	-200°C	1370°C	2 mV	
S	-50°C	1760°C	2 mV	
R	-50°C	1760°C	2 mV	
В	400°C	1820°C	2 mV	
E	-200°C	1000°C	2 mV	
Т	-200°C	400°C	2 mV	
N	-200°C	1300°C	2 mV	
RTD 2,3,4 wires				
Pt100	-200°C	850°C	50°C	
Pt1000	-200°C	200°C	50°C	
Ni100	-60°C	180°C	50°C	
Ni1000	-60°C	150°C	50°C	
Voltage				
mV	-100 mV	+700 mV	2 mV	
	0 Ω	200 Ω	10%	
Potentiometer (Nominal value)	200 Ω	500 Ω	10%	
(0.5 ΚΩ	50 ΚΩ	10%	
Resistance 2,3,4 wires				
Low	0 Ω	300 Ω	10 Ω	
High	0 Ω	2000 Ω	200 Ω	

ОИТРИТ				
Output type	Min	Max	Span min	
Direct current	4 mA	20 mA	4 mA	
Reverse current	20 mA	4 mA	4 mA	
Output calibration				
Current	± 7 uA			

, (
HOUSING	
Material	PC + ABS V0
Mounting	DIN B head or bigger
Dimensions (mm)	Ø= 43 mm ; H = 24 mm
Weight	about 50 g.

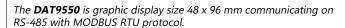
weight	about 50 g.	
Input		
Input calibration(1)		
RTD	the higher of ±0.1 % f.s. or ±0.2 °C	
Res. Low	the higher of ± 0.1 % f.s. or ± 0.15 Ω	
Res. High	the higher of ± 0.2 % f.s. or ± 1 Ω	
mV, TC	the higher of ± 0.1 % f.s. or ± 10 uV	
Input impedance		
TC, mV	>= 10 MΩ	
Linearity (1)		
TC	± 0.2 % f.s.	
RTD	± 0.1 % f.s	
Line resistance influence(1)	luence(1)	
TC, mV	<=0.8 uV/Ohm	
RTD 3 wires	$0.05 \%/\Omega$ (50 Ω balanced max.)	
RTD 4 wires	0.005 %/Ω (100 Ω balanced max.)	
RTD excitation current		
Typical	0.350 mA	
CJC comp.	± 0.5°C	
Thermal drift (1)		
Full scale	± 0.01 % / °C	
CJC	± 0.01 % / °C	
Burn-out values		
Max. value output	about 20.5 mA	
Min. value output	about 3.8 mA	
Value max. fault	about 21.6 mA	
Value min. fault	about 3.5 mA	
Response time (10÷90% of f.s.)	about 400 ms	





Digital indicators for panel mounting DAT9550, DAT8050 and "DAT700 SERIES"

The series is composed of devices dedicated to process and temperature measurement.



The **DAT8050** is a programmable digital indicator for current loop size 48x96 mm with 4 digit LED visualization.

The **DAT700** series is composed of devices size 36x72 mm (DAT701, DAT702, DAT733. DAT734, DAT735).







INDEX

86 • DAT 9550

Remote Graphic Display on RS-485 with Modbus RTU protocol

DAT 8050

Loop powered 4 digit LED programmable digital indicator

87 • **DAT 701**

3.5 digit LED digital indicator

DAT 702

3.5 digit LCD digital indicator

88 • DAT 733

3.5 digit LCD digital indicator

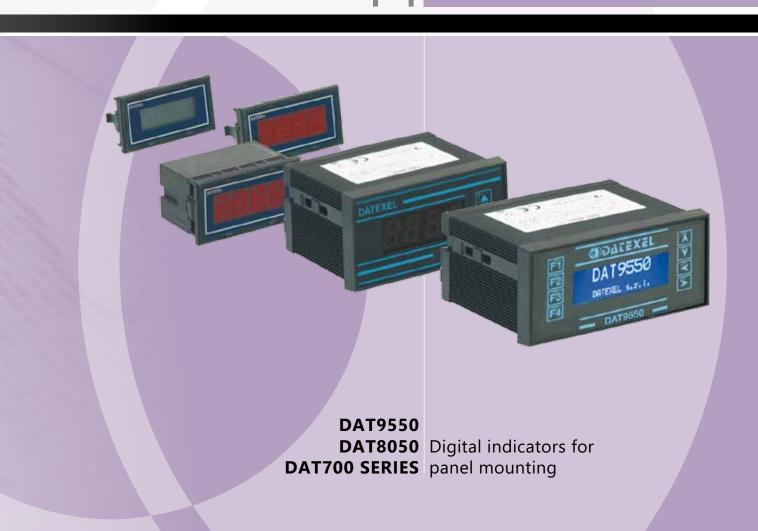
DAT 734

3.5 digit LCD or LED display digital thermometer for Pt100

3.5 digit LCD or LED display digital thermometer for Thermocouple

DIGITAL INDICATORS

11



DAT 9550

REMOTE GRAPHIC DISPLAY ON RS-485 WITH MODBUS RTU PROTOCOL

The device DAT 9550 is a graphic display designed for panel mounting and communicating with Modbus RTU protocol on RS-485 and RS-232 serial Slave port. Moreover on the device there is a RS-485 Master port by means of which it is possible to communicate with the eventual Modbus Slave devices connected. It can be used as Slave peripheral for the visualization of the data coming from the Intelligent Units of the DAT9000 series or from a PC, PLC or panel operator.

FEATURES

- Graphic display 132x32 pixels
- RS-485/RS-232 Modbus-RTU Slave Interface
- RS-485 Modbus-RTU Master Interface
- Remotely programmable
- Connection by removable screw-terminals (power
- supply & RS-485) and RJ45 (RS-232)
- Compact enclosure dimensions (DIN 48 x 96 mm)
- Galvanic Isolation on all the ways
- EMC compliance CE mark
- Suitable for panel mounting in compliance with DIN-43700





Application areas









POWER SUPPLY	
Power supply voltage	10 ÷ 30 Vdc
Current consumantian	45 mA typ. @ 24Vdc (standby,max. brightness)
Current consumption	80 mA max

ISOLATIONS

Power supply/ RS485 1500 Vac, 50 Hz, 1 min.

TEMPERATURE & HUMIDITY

-20°C .. +60°C Operative temperature -30°C .. +80°C Storage temperature Humidity (not condensing) 0 .. 90 %

EMC (for industrial environments)

DIRECTIVE 2004/108/EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

CONNECTIONS

RS-232D RS-485/Supply Removable screw terminal blocks

HOUSING

Material Noryl self-extinguishing plastic (UL94-V0) Mounting Panel mounting W x L x T: 96 x 48 x 74 Dim. (mm) about 160 g. Weight

In compliance with IEE 802.3 EIA RS-485 and RS-232	
Baud-rate	up to 38.4 Kbps
Max. distance (1)	1.2 Km @ 38.4 Kbps
Internal termination resistance	120 Ohm (optional)
Display	
Graphic Area	132x32 pixel 13.2 * 48.1 mm

(1) = The maximum distance depends of: number of devices connected, type of cabling, noises, etc...

LOOP POWERED 4 DIGIT LED PROGRAMMABLE DIGITAL INDICATOR

DAT 8050

GENERAL DESCRIPTION

The digital panel indicator DAT 8050 accept on the input a 4 - 20 mA current loop signal.

The input current signal is used to supply the device introducing a 5 Vdc voltage drop-out on the current loop, so is not required any external supply source. The user can program the visualisation of the measure in the range from -1999 up to 9999 points in order to set the values of the physical or electrical parameter transmitted on the current loop in the desired format. The programming of the visualization is made by the buttons "SET" and "ENTER" located on the front side of the instrument.

FEATURES

- 4÷20 mA loop powered
- Voltage Drop-out < 5V
- High accuracy and linearity
- 0.52" LED display

- Visualization configurable on the front side
- Connections on removable screw terminals
- Compact case size (DIN 48 x 96 mm)
- EMC compliance CE mark





Application areas











TEMPERATURE & HUMIDITY

-20°C .. +60°C Operative temperature Storage temperature -40°C .. +85°C Humidity (not condensing) 0..90%

EMC (for industrial environments)

DIRECTIVE 2004/108/EC

Immunity EN 61000-6-2 Emission EN 61000-6-4

HOUSING

Material Noryl self-extinguishing plastic (UL94-V0) Dim. (mm) W x H x T : 48 x 96 x 74 Weight about 150 g.

INPUT Input signal 4 ÷ 20 mA Voltage drop-out < 5 V Limitation current < 50 mA

DISPLAY	
Type of visualization	4 digits LED
Digit height	0.52"
Range of visualization (*)	Programmable on the front side, from "-1999" up to "9999", with High: 1(on left side). Low: -1(on left side)
Minimum measurable current	3.8 mA (visualization "Lo" in case of lower measure)
Maximum measurable current	20.2 mA (visualization "Hi" in case of higher measure)

CHARACTERISTICS AND PERFORMANCES		
Reading accuracy the better than \pm 0.05 % of f.s. or \pm 1 digit.		
Resolution	4 uA	
Response time	< 0.5 sec.	
Thermal drift	± 0.01 % of f.s. / °C	

(*)= default visualization : 4.00 ÷ 20.00

3.5 DIGIT LED DIGITAL INDICATOR



GENERAL DESCRIPTION

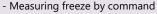
The DAT 701 is a 3.5 digit LED digital indicator with high accuracy and reliability able to measure the normalised current or voltage signal applied to its input.

In function of the parameters requested in phase of order, the following versions of the device are available:

- DAT 701 V A: measure of voltage signal with amplitude from \pm 200 mV up to \pm 20 V;
- DAT 701 V B: measure of voltage signal with amplitude from ± 2 V up to ± 200 V;
- DAT 701 I A: measure of current signal with amplitude from \pm 200 mA up to \pm 2 mA;
- DAT 701 I B: measure of current signal with amplitude from \pm 2 mA up to \pm 200 mA.

FEATURES

- Voltage or current inputs
- Programmable decimal point and Attenuation
- High accuracy and linearity
- Auto-zero



- Options for low consumption or high brightness
- EMC compliant CE mark
- Low profile (15 mm) DIN 36 x 72 mm housing
- Mounting on panel in according to DIN-43700 standard







Application areas



VISUALISATION









TEMPERATURE & HUMIDITY			
Operative temperature		-10°C +60°C	
Storage temperature		-40°C +85°C	
Humidity (no	t condensing)	0 90 %	
EMC (for industrial environments)			
DIRECTIVE 2004/108/EC			
Immunity	EN 61000-6-2		
Emission	EN 61000-6-4		
HOUSING			
Material	Self-extinguishing plastic		
Mounting	Panel mounting		
Dim. (mm)	W x H x T : 72 x 36 x 15		

INPUT		
Configuration	Bipolar, true diffe- rential	
Input impedance		
Voltage	basic scale: 10 MΩ	
voitage	attenuated scale: 1 MΩ	
Current	From 1 Ω up to 1K Ω	
Maximum input signal	2.5 full scale	
Common mode voltage	± 2 V referred to the power supply ground	
Common mode rejection ratio	86 dB	
Normal mode rejection ratio	50 dB @ 50 Hz	
Decimal point programming	From front side, on three decades	

Scale of visualisation	2000 points (from 0 up to 1999 or from -1999 up to 0)	
Out of range visualisation	High = 1; Low = -1	
Type of visualization Display LED	3.5 digit standard LED display (version S)	
	3.5 digit high efficiency LED display (version H)	
Digit height	0.52 "	
CHARACTERISTICS AND PERFORMANCES		
Reading accuracy	± 0.1 % of f.s.	
TI 1.1.0	0.005.0/ ((//0.00	

Digit fleight	0.52	
CHARACTERISTICS AND PERFORMANCES		
Reading accuracy	± 0.1 % of f.s.	
Thermal drift	0.005 % of f.s./°C	
Reading rate	3 read/second	
Power supply voltage	5 Vdc ± 5 %	
Current consumption	Version S: 90 mA	
Current consumption	Version H: 180 mA	

3.5 DIGIT LCD DIGITAL INDICATOR

about 50 g.

Weight



GENERAL DESCRIPTION

The DAT 702 is a 3.5 digit LCD digital indicator with high accuracy and reliability able to measure the normalised current or voltage signal applied to its input.

In function of the parameters requested in phase of order, the following versions of the device are available:

- DAT 702 V A: measure of voltage signal with amplitude from \pm 200 mV up to \pm 20 V;
- DAT 702 V B: measure of voltage signal with amplitude from ± 2 V up to ± 200 V;
- DAT 702 I A: measure of current signal with amplitude from \pm 200 μ A up to \pm 2 mA;
- DAT 702 I B: measure of current signal with amplitude from ± 2 mA up to ± 200 mA.

- Voltage or current inputs
- Programmable decimal point and Attenuation
- High accuracy and linearity
- Auto-zero

- Measuring freeze by command
- Single power supply voltage (5 Vdc or 9 Vdc)
- EMC compliant CE mark
- Low profile (15 mm) DIN 36 x 72 mm housing
- Mounting on panel in according to DIN-43700 standard





Application areas











TEMPERATURE & HUMIDITY

Operative temperature	-10°C +60°C
Storage temperature	-40°C +85°C
Humidity (not condensing)	0 90 %

EMC (for industrial environments) **DIRECTIVE 2004/108/EC**

Immunity	EN 61000-6-2	
Emission	EN 61000-6-4	
HOUSING		
Material	Self-extinguishing plastic	
Mounting	Panel mounting	
Dim. (mm)	W x H x T : 72 x 36 x 15	

about 50 q.

Weight

INPUT	
Configuration	Bipolar, true differential
Input impedance	
Voltage	basic scale: 10 M Ω
voltage	attenuated scale: 1 $M\Omega$
Current	From 1 Ω up to 1K Ω
Maximum input signal	2.5 full scale
Common mode voltage	± 2 V referred to the power supply ground
Common mode rejection ratio	86 dB
Normal mode rejection ratio	50 dB @ 50 Hz
Decimal point programming	From rear side, on three decades

VISUALISATION	
	Static polarised Liquid Cristal Display for wide angle of visualization
Digit height	0.35"

CHARACTERISTICS AND PERFORMANCES		
Reading accuracy	± 0.1 % of f.s.	
Thermal drift	0.005 % of f.s./°C	
Reading rate	3 read/second	
Power supply voltage	Version 5 : 5 Vdc ± 5 %	
	Version 9 : 9 Vdc ± 10 %	
Current consumption	Version 5 : 3 mA	
	Version 9 : 0.5 mA	



GENERAL DESCRIPTION

The DAT 733 is a current loop, 3.5 digit LCD digital indicator with high accuracy and reliability.

By dip-switches and potentiometers, it is possible to set the visualisation of the input measure in engineering units in a range included between 100 and 2000 points, to set the zero point between -1999 and 1999 and the position of the decimal point.

FEATURES

- 4 ÷ 20 mA current loop self-powered
- Visualisation configurable in engineering units
- High accuracy and linearity
- Measure freezing by command

- EMC compliant CE mark
- DIN 36 x 72 mm housing
- Mounting on panel in according to DIN 43700 standard







Application areas









TEMPERATURE & HUMIDITY

Operative temperature	-10°C +60°C
Storage temperature	-40°C +80°C
Humidity (not condensing)	0 90 %

EMC (for industrial environments)

DIRECTIVE 2004/108/EC

nmunity	EN 61000-6-2
mission	EN 61000-6-4

HOUSING

Material	Self-extinguishing plastic
Mounting	Panel mounting
Dim. (mm)	W x H x T : 72 x 36 x 39
Weight	About 100 g.

INPUT	
Signal type	4÷20 mA from current loop
Voltage drop	2.5 V
Maximum input signal	50 mA
Visualisation settings	By dip switch and regulation by potentiometers
Zero value visualisation range	From -1999 up to 1999
Scales of visualisation	Scale 1 from 100 up to 700 points Scale 2 from 700 up to 1400 points Scale 3 from 1400 up to 2000 points

Decimal point setting

From rear side, on three decades by dip-switch

Out of scale visualisation

High: 1(on left side). Low: -1(on left side)

VISUALISATION	
Type of visualization	Static polarised Liquid Crystal Display for wide angle of visualisation
Digit height	0.35"

CHARACTERISTICS AND PERFORMANCES		
Reading accuracy	±0.1 % del f.s.	
Thermal drift	0.005 % of f.s./°C	
Reading rate	3 read/second	
Power supply	Self-powered from the input signal	

3.5 DIGIT LCD OR LED DISPLAY DIGITAL THERMOMETER FOR PT100

DAT

GENERAL DESCRIPTION

The DAT 734 is a 3.5 digit LCD or LED display, digital thermometer for Pt100 2 or 3 wires sensor with high accuracy and reliability. The range of measure must be chosen in phase of order between the two options : -50 ÷ 200 °C or 0 ÷ 600 °C.

FEATURES

- Input for Pt100 2 or 3 wires sensors
- Visualisation on LCD or LED display
- High accuracy
- Measure freezing by command

- Low current consumption
- EMC compliant CE mark
- DIN 36 x 72 mm housing
- Mounting on panel in according to DIN 43700 standard





Application areas











TEMPERATURE & HUMIDITY

Operative temperature	-10 C +60 C
Storage temperature	-40°C +80°C
Relative Humidity (not condensing)	0 90 %

EMC (for industrial environments)

DIRECTIVE 2004/108/EC

Immunity	EN 61000-6-2
Emission	EN 61000-6-4

HOUSING

110031110	
Material	Self-extinguishing plastic
Mounting	Panel mounting
Dim. (mm)	W x H x T : 72 x 36 x 39
Weight	About 100 g.

INPUT Signal type 2 or 3 wires Pt100 sensor Input range -50 ÷ 200 °C / 0 ÷ 600 °C Out of scale visualisation High: 1 (on left side). Low: -1 (on left side)

VISUALISATION	
Type of visualization (LCD - Version C)	Static polarised Liquid Cristal Display for wide angle of visualization
Digit height	0.35"
Type of visualization (LED - Version D)	High efficiency LED display or standard LED display
Digit height	0.52"

CHARACTERISTICS AND PERFORMANCES		
Reading accuracy	± 0.25 % of f.s.	
Response time	800 ms	
Power supply voltage	5 Vdc ± 5 %	
Thermal drift	0.02 % of f.s./°C	
Current consumption		
Version D	180 mA (high efficiency), 90 mA (standard)	
Version C	10 mA	

3.5 DIGIT LCD OR LED DISPLAY DIGITAL THERMOMETER FOR THERMOCOUPLE



GENERAL DESCRIPTION

The DAT 735 is a 3.5 digit LCD or LED display, digital thermometer for Thermocouple sensor type E, K, J, N, S and T with high accuracy and reliability.

FEATURES

- Input for Thermocouple sensors type E, K, J, N, S and T Visualisation on LCD or LED display
- High accuracy
- Measure freezing by command

- Low current consumption
- EMC compliant CE mark
- DIN 36 x 72 mm housing
- Mounting on panel in according to DIN-43700 standard







Application areas











TEMPERATURE & HUMIDITY		
Operative te	Operative temperature	
Storage temp	perature	-40°C +80°C
Humidity (no	t condensing)	0 90 %
EMC (for industrial environments)		
DIRECTIVE 2004/108/EC		
Immunity	EN 61000-6-2	
Emission	EN 61000-6-4	
HOUSING		
Material	Self-extinguishing plastic	
Mounting	Panel mounting	
Dim. (mm)	W x H x T : 72 x 36 x 39	

About 100 g.

Weight

INPUT	
Signal type	Thermocouple type E, K, J, N, S and T
Ranges of measure	
Thermocouple type E	0 ÷ 900 °C
Thermocouple type K	0 ÷ 1200 °C
Thermocouple type J	0 ÷ 600 °C
Thermocouple type N	0 ÷ 1200 °C
Thermocouple type S	0 ÷ 1600 °C
Thermocouple type T	0 ÷ 300 ℃
Out of scale visualisation	High: 1 (On the left side); Low -1 (On the left side)

VISUALISATION			
Type of visualization (LCD - Version C)	Static polarised Liquid Cristal Display for wide angle of visualization		
Digit height	0.35"		
Type of visualization (LED - Version D)	High efficiency LED display or stan- dard LED display		
Digit height	0.52"		

CHARACTERISTICS AND PERFORMANCES			
Reading accuracy	±0.25 % of f.s.		
Cold Junction Compensation	±0.5 °C		
Thermal drift	0.02 % of f.s./°C		
Response time	800 ms		
Power supply voltage	5 Vdc ± 5 %		
Current consumption	Version D: 180 mA (high efficiency), 90 mA (standard)		



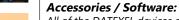
ODATEXEL



ACCESSORIES AND SOFTWARE

Power Supply:

Power Supply MEANWELL MDR-series



All of the DATEXEL devices configurable by PC need, for their configuraton, special software combined with communication interface between device and PC.

Configuration interface with USB INPUT (**PRODAT USB**)

The software available to configure the DATEXEL devices are the following:

- PROSOFT: configuration software for **SMART + SMART IS** series devices
- DATESOFT: configuration software for **SLIM series** devices
- DEV 9K: configuration software for intelligent unit **DAT9000 series**





ECTRONIC AND CONTROL PROCESS DEVICES





INDEX

- 92 MDR 20-12 / MDR 40-12 / MDR 60-12 / MDR 100-12 Power Supply DIN rail
- 93 MDR 20-24 / MDR 40-24 / MDR 60-24 / MDR 100-24 Power Supply DIN rail
- 94 SOFTWARE

PRODAT USB

Configuration interface for USB port

Configuration software for SMART series devices

Configuration software for SLIM series devices

Configuration software for intelligent units DAT9000 series

ACCESSORIES AND SOFTWARE

⊕DATEXEL



AND SOFTWARE and PC.

Power Supply MEANWELL. Devices and software with **ACCESSORIES** interface between devices

DIN RAIL POWER SUPPLY



		ВСЄ	ROHS Rod-free		c UL us	The Device of Proceedings of Procedings of Proceedings of Procedings	CBCE	RoHS 2002/95/EC
INPUT		85264 VAC		INPUT			85264 VAC	
INPOI		120370 VDC		INPUT			120370 VDC	
OUTPUT		12 VDC @ 5 A		OUTPUT			12 VDC @ 1.67 A	4

MDR-40-12

MDR-20-12



c UL us A BOUNT THE COMMENT OF THE C	BCE ROLLS	CULUS A BOOK OF THE STATE OF TH	BCE ROUSE RO	
INDIT	85264 VAC	INDIT	85264 VAC	
120370 VDC		INFOI	120370 VDC	
OUTPUT	12 VDC @ 7.5 A	OUTPUT	12 VDC @ 3.33 A	
			120370 VDC	

Application areas

Other devices are available on request. For more technical information log on to the website: www.meanwell.com

DIN RAIL POWER SUPPLY



INPUT	85264 VAC		
INFOI	120370 VDC		
ОUТРUТ	24 VDC @ 2.5 A		
OUTPUT	24 VDC @ 2.5 A		



INPUT	85264 VAC
INPOT	120370 VDC
OUTPUT	24 VDC @ 1 A



INPUT	85264 VAC		
INPOT	120370 VDC		
OUTPUT	24 VDC @ 4 A		



INPUT	85264 VAC
INPOI	120370 VDC
ОUТРUТ	24 VDC @ 1.7 A

Application areas

Other devices are available on request. For more technical information log on to the website: www.meanwell.com

94



GENERAL DESCRIPTION

The program interface PRODAT USB is suitable to program, by proper software, all the DATEXEL devices of SMART and SLIM series using any Personal Computer, both desktop and laptop type with USB serial port.

Application areas









CONFIGURATION SOFTWARE FOR SMART SERIES DEVICES

PROSOFT



GENERAL DESCRIPTION

PROSOFT is a software developed by Datexel srl, running under the operative system Windows® and designed to program and visualize the measure of the converters and transmitters programmable by PC.

To operate with PROSOFT it is necessary to use the programming interface (PRODAT) between the P.C. and the device; refer to prosoft user guide to use the right interface and device.

SYSTEM REQUIREMENTS

Operative System......Windows® 98 / 2000 / NT / ME / XP / Vista / Win 7 Available Hard Disk space.....2 MB







Application areas







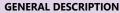




CONFIGURATION SOFTWARE FOR SLIM SERIES DEVICES

DATESOFT





DATESOFT is a software developed by Datexel srl, running under the operative system Windows® designed to program and visualize the measure of the converters program-

To operate with DATESOFT it is necessary to use the programming interface (PRODAT) between the P.C. and the device on programming.

SYSTEM REQUIREMENTS

Operative System......Windows® 98 / 2000 / NT / ME / XP / Vista / Win 7 Available Hard Disk space.....2 MB







Application areas











CONFIGURATION SOFTWARE FOR INTELLIGENT UNITS DAT9000 SERIES

쏭 Dev



GENERAL DESCRIPTION

Dev9K is an Integrated Development Environment running under the Windows® Operative System that allows to design and debug the applications based on the DAT9000 series intelligent units.

With Dev9K it is possible to set the DAT9000 series devices to execute I/O read and write operations (DAT3000 series), mathematical and logic operations and timers. Moreover it is possible to read and write in real time the Internal Registers of the Controller or connect it directly to the slave devices connected to its Modbus Master Port.

SYSTEM REQUIREMENTS

Operative System......Windows 2000 / NT / ME / XP / Vista / Win 7 Available Hard Disk space...... 2 MB







Application areas











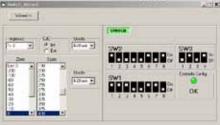
ACCESSORIES / SOFTWARE

DATEXEL: CONFIGURATION SOFTWARE

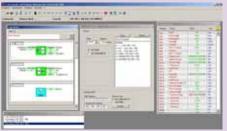








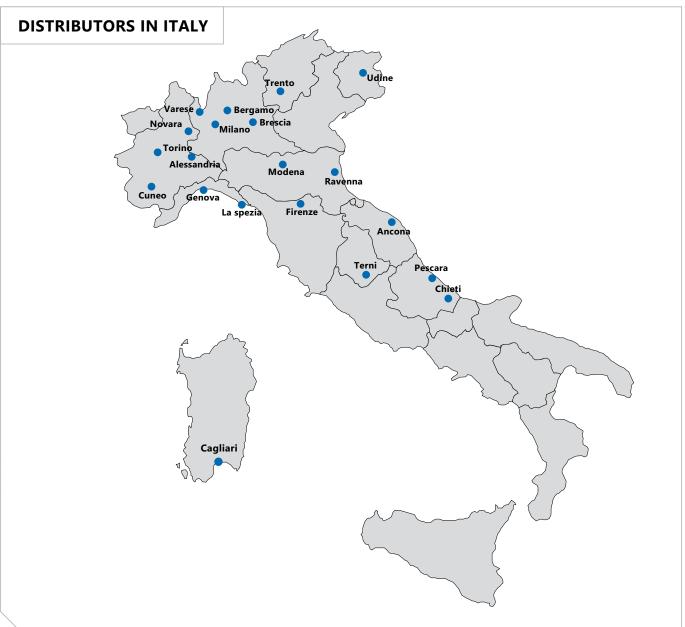


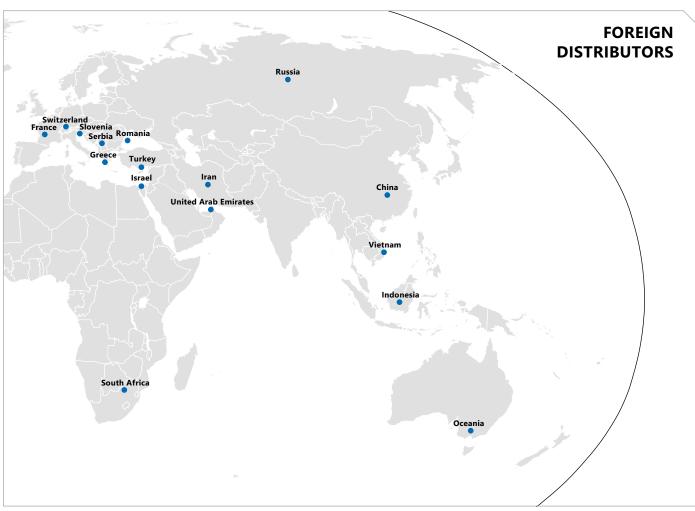
















General conditions

The sale of the products described, in this catalog, is in compliance with the requirements listed below that are considered in force after formal order will be accepted only if received by us in writing. These terms and conditions of sale (including any type of written specification, quotation and / or additional terms and conditions) will determine only the sale of all goods and services (including, without limitation, hardware, software and accessories in the Catalog and described in the proper price list). The receipt or acceptance of delivery by the buyer of any product ordered or purchased will constitute your acceptance of these terms and conditions.

Minimum billable amount

The minimum billable amount for each order is \le 150.00. For orders less than this amount, for orders more than one device for which the total amount does not exceed the minimum billable (\le 150.00) will be required to pay on delivery or bank transfer at ready goods.

Payment terms

All payments must be made with a bank document. At the first delivery cash payment or bank transfer is required. Unless otherwise agreed, payment standards are provided within 30 calendar days from date of invoice. In case of late or missed payment, the company DATEXEL act in accordance with the provisions of Legislative Decree n. 231 October 9, 2002 as required by Directive 2000/35/EC.

Prices

All prices quoted in the catalog list are exclusive of VAT Ex-works our factory Work Tradate (VA).

Guarantee

All products are guaranteed against defects and manufacturing faults under current law. We don't accept returns for repair or replacement under warranty even if not previously authorized. The transportation costs of any product returned for repair or replacement even if under warranty are responsibility of the buyer. Will not be accepted unless agreed in advance, collect shipments (if received materials c / repair or replace, under warranty, shipped freight collect, the same will be rejected). The guarantee of all material we produce is valid for a period of 24 months from date of shipment. All work done under warranty will be ex works DATEXEL (VA). All repaired or replaced products are covered for the remaining period by the remaining term of the original warranty. Are not covered, by warranty products or components subject to wear.

Repairs

Unless otherwise specified, the return devices shall be subject to repair. In advance DATEXEL will provide, to the customer, by fax or e-mail, a document that will be described the type of fault / anomaly. This document, once completed, will be returned to DATEXEL that examined the content, will grant the authorization to return by providing all necessary information regarding the individual appearing on the shipping document and the method of delivery. It will care by DATEXEL, than, to inform the internal staff responsible for return acceptance. Upon receipt of the goods, authorized personnel will verify that the same is accompanied by the documents agreed during a return authorization and will repair or replace the defective product. If the goods were not accompanied by the documents mentioned above can be made to the sender rejected. Will not be repaired under warranty all products received outside the period of 24 months from the delivery date and all products that are damaged due to misuse or failure to comply with the conditions of use indicated on identification labels and related technical data sheets.

Order cancellation

Any cancellation of an order, by the customer, before the shipment must be notified in writing, by fax or e-mail. It will be discretion of the DATEXEL staff whether to accept or reject such request. DATEXEL also has the right to cancel an order for right cause at any time upon written notice.



Claims and liability limitation

Any complaints must be received from DATEXEL within 8 days of receipt of goods. To the fullest extent permitted by applicable law, DATEXEL will not be responsible for disruption or loss of profits, revenues, materials or any form of liability for incidental, indirect or consequential damages of any kind arising from the misuse of its products.

Force majeure

DATEXEL will not be responsible for any loss, damage or delays due to causes beyond its reasonable control, including, without limitation, acts of God, causes or omissions attributable to the buyer, causes of civil or military authority, fires, strikes, floods, epidemics, quarantine restrictions, wars, riots, acts of terrorism, delays in transportation or transportation embargoes.

Changes or order replacement

All requested changes of order, including those relating to the type, scope and delivery of products, must be documented in writing and are subject to prior approval and price adjustment, programming and other relevant terms and conditions by DATEXEL, which, however reserves the right to reject any change that is deemed unsafe, technically inadvisable or inconsistent with the established technical, or quality, standard criteria, or is not compatible with their ability to design or production. DATEXEL also reserves the right to make substitutions using the latest version or set of replacement or an equivalent product that has the comparable shape, size and functions.

Responsibility

DATEXEL will not be responsible for problems, breakages, accidents due to lack of knowledge or lack of compliance with the requirements indicated on products for its use or on technical Data Sheets.

DATEXEL is also not responsible for problems caused by not authorized changes made on their products.

DATEXEL reserves the right to make changes to its products without obligation to promptly update their technical documentation.

Technical data

The technical data in this catalog are provided only as a guideline for compatibility verification with the application of the product's user and does not constitute a functional guarantee or performance of any kind.

DATEXEL

Reserves the right to modify or change the content of this publication without notice at any time.





ELECTRONIC AND CONTROL PROCESS DEVICES

Powered by:

Comunicazione& Immagine Srl

www.comimm.it

Art Director: Alessandro Casazza

Coordinator: Lorenzo Stella - Managing Director

