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"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.

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- 61 **DAT 3018** 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
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DAT3000 SERIES

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DAT 3580	The device tees a full i allowing th It is design sion up to	solation betwe le use of the de ed to operate e 115.2 Kbps. The	i isolated interfa een power supp evice even in the ither on serial in transmission is	ly, serial line RS-232 and heavy environmental cor iterface RS-422 full-duples asynchronous without se	Inchronous serials lines RS232 and F serial line RS-485 or 422 removes e nditions. x 4 wires or RS485 half-duplex 2 wire ttings of protocol, data format and CTS, etc) to control the baud rate.	ventual s, with a	ground-loop effects, baud-rate transmis-
o patexel	- Asynchr - Automa - Distance - Point to 32 mod	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 		
		ROHS 2002/96/EC	a-tree	Application areas	version and the sense of the se	Food bu	sines aster treatment
POWER SUPPLY		EMC (for in	ndustrial envir	onments)	RS485 Interface		
10 ÷ 30 Vdc		DIRECTIV	E 2004 / 108	/ EC	Baud-rate	up to	115.2 Kbps
9 ÷ 18 Vac (18 ÷ 30 Vac optio	onal)	Immunity	EN 61000-6-2	2		1.2 Kn	n @ 38400 bps
CURRENT CONSUMPTIC	N	Emission EN 61000-6-4				@ 19200 bps	
35 mA typ. @ 24Vdc		HOUSING				@ 9600 bps	
ISOLATIONS		Material	Calf and a sub-lab and a last a		ratio (recommended) (1)	4 Km (@ 4800 bps
Power Supply/ RS232		Mounting	DIN rail				@ 2400 bps
Power Supply/ RS485-422	2000 Vac, 50 Hz, 1 min.	Dim. (mm)	W x L x H : 12	0 x 100 x 22.5			@ 1200 bps
RS232 / RS485-422	1 11111.	Weight	About 150 g.		Number of modules in multipoin		32 max.
TEMPERATURE & HUM	DITY	CONNECT			Switching time TX/RX (RS485)		150 us.
Operative temperature	-20°C ÷ +60°C	RS-232		ovable screw terminals		ationall	
Storage temperature	-40°C ÷ +85°C	KS-485/422	removable so	rew terminals	Internal terminator resistance (op		· · ·
Humidity (not condensed)	0 ÷ 90 %				(1) = The maximum distance de devices connected, type c		

ISOLATED CONVERTER USB → RS485 / 422

1 3580-USB	The device DAT3 guarantees a full the use of the de It is designed to d			DESCRIPTION DAT3580-USB is an isolated interface converter between USB port and asyncl a full isolation between power supply, USB and serial line RS-485 or 422 remove the device even in the heavy environmental conditions. ed to operate either on serial interface RS-422 full-duplex 4 wires or RS485 half-c 115.2 Kbps. The transmission is asynchronous without settings of protocol, data			
DATE STREET	- Automat - Distance	bnous serial d ic baud-rate f up to 1200 m point connect	itting up t		 DC or AC power Galvanic isolatio EMC compliance USB 2.0. EIA RS4 Suitable for DIN with EN-50022 		
En en	Ce		b) Tree	Application areas	Industries South Machine		
POWER SUPPLY		EMC (for in	dustrial e	nvironments)	RS485 Interface		
10 ÷ 30 Vdc		DIRECTIVE	2004 / '	108 / EC	Baud-rate		
9 ÷ 18 Vac (18 ÷ 30 Vac optiona	I)	Immunity	EN 61000	-6-2			
CURRENT CONSUMPTION		Emission	EN 61000	-6-4			
35 mA typ. @ 24Vdc		HOUSING			Max. distance / bau		
ISOLATIONS		Material		nguishing plastic	ratio (recommended)		
Power Supply/ USB		Mounting	DIN rail				
Power Supply/ RS485-422 2	2000 Vac, 50 Hz, 1 min.	Dim. (mm)		I : 120 x 100 x 22.5			
USB / RS485-422		Weight	About 15	0 g.	Number of modules ir		
TEMPERATURE & HUMIDI	тү	CONNECT USB		e integrated	Switching time TX/RX		
Operative temperature	-20°C ÷ +60°C	RS-485/422		le screw terminals	Internal terminator res		
Storage temperature	-40°C ÷ +85°C	103 703/722	Terriovau		(1) = The maximum c		
Humidity (not condensed)	0 ÷ 90 %				devices connect		

hronous serial lines RS485 or RS422 that es eventual ground-loop effects, allowing

duplex 2 wires, with a baud-rate transmis-a format and baud rate.

- er supply ion on all ways
- ce CE mark S485 and RS422 compliant
- N rail mounting in compliance

RS485 Interface				
Baud-rate up to 7		115.2 Kbps		
	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 (op	tional)	120 Ohm (optional)		

n distance depends of: number of ected, type of cabling, noises, etc...

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ETHERNET ISOLATED GATEWAY MODBUS TCP → MODBUS RTU

580-MBTCP	The second	The gateward gh the Mo By means of the Modbu	dbus TCP prot of the Telnet ir is RTU side op	IBTCP allows to conr tocol. hterface it is possible ptions (baud rate, etc	to configure all the	TU devices of a RS-485 network t e Modbus TCP side options (IP ac he use even in the heavy environ	ldress, sub	onet mask, etc) and
DAT 35		- Telnet co - RJ45 con - RS-485 S - Modbus	interface 10/100Base-T onfiguration		- Remov. - LED sig - Galvani - EMC co - Etherne	e up to 1200 m, up to 32 device able screw-terminal connection nalling for Link/Act Ethernet, se c Isolation on all ways mpliance – CE mark t IEEE 802.3 and RS485 complia e for DIN rail mounting in comp	rial RX-TX nt	, power supply
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ACTION ACTION ACTION	Ce		Appli	cation areas	vodustrier vodust) food bu	singer water treatment
POWER SUPPLY			EMC (for in	ndustrial environm	ents)	Network interface	Ether	net 10/100 Base-T
18 ÷ 30 Vdc			DIRECTIV	E 2004 / 108 / EC		Protocol	Modk	ous TCP
CURRENT CONSUMP	ΓΙΟΝ		Immunity	EN 61000-6-2		Connection	RJ-45	
45 mA typ. @ 24Vdc (slee	o mode)		Emission	EN 61000-6-4		Baud-rate (RS-485)	up to	115.2 Kbps
80 mA max			HOUSING	i			1.2 Kn	n @ 38400 bps
ISOLATIONS			Material Self-extinguishing plastic			2 Km (@ 19200 bps	
Power Supply/ Ethernet	1500 Vac, 50	0 Hz, 1 min.	Mounting	DIN rail		Max. distance / baud-rate	3 Km (@ 9600 bps
Power Supply/ RS485	2000 Vac, 50	0 Hz, 1 min.	Dim. (mm)	W x L x H : 120 x 10	00 x 22.5	ratio (recommended) (1)	4 Km (@ 4800 bps
11.25	2000 Vac 5	0 Hz, 1 min.	Weight	About 150 g.			5 Km (@ 2400 bps
Ethernet / RS485	2000 vac, J						71/10	0 10 00 1
11.3			CONNECT	ION			7 KM (@ 1200 bps
Ethernet / RS485	MIDITY	÷ +60°C	CONNECT Ethernet	RJ-45		Number of modules in multipo		@ 1200 bps 32 max.
Ethernet / RS485	MIDITY -20°C	÷ +60°C ÷ +85°C			terminals	Number of modules in multipe Switching time TX/RX (RS485)		

devices connected, type of cabling, noises, etc...

DAT3000 SERIES

REPEATER/ ISOLATOR RS485 / 422



GENERAL DESCRIPTION

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.

- DC or AC power supply

- EIA RS485 and RS422 compliant

- Suitable for DIN rail mounting in compliance

- Galvanic isolation - EMC compliance – CE mark

with EN-50022

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
 - CE KOHS Pb

Immunity Emission

HOUSING

Material

Weight

CONNECTION

Mounting

Self-extinguishing plastic

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

EN 61000-6-2

EN 61000-6-4

Dim. (mm) W x L x H : 120 x 100 x 22.5

About 150 g.

RS485/422 removable screw terminals

DIN rail

Baud-rate	up to 1	115.2 Kbps	
	1.2 Km	n @ 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 (op	tional)	120 Ohm	

mber of devices connected, type of cabling, noises, etc...

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. RS485-422 / RS485-422 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 %

	Max. distance / baud-rate	2 Km @	<u>۵</u> 19200	
		3 Km @) 9600 ۋ	
	ratio (recommended) (1)	4 Km @	0 4800 I	
		5 Km @	0 2400	
		7 Km @	@ 1200 k	
	Number of modules in multipoint		32 max	
	Switching time TX/RX (RS485)		150 us.	
	Internal terminator resistance (opt	tional)	120 Oh	
	(1) = The maximum distance de			

(D) DATEXEL



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

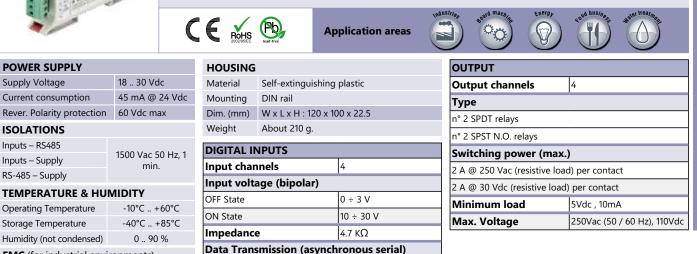
GENERAL DESCRIPTION

e 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.

FEATURES

- 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



TEMPERATURE & HUMIDITY

POWER SUPPLY

Current consumption

Supply Voltage

ISOLATIONS

Inputs – RS485

Inputs – Supply

RS-485 - Supply

DAT3000 SERIES

54

Operating Temperature	-10°C +60°C
Storage Temperature	-40°C +85°C
Humidity (not condensed)	0 90 %
EMC (for industrial envi	ironments)

EIVIC	(for	industrial	environment	CS

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

up to 38.4 Kbps

1.2 Km - 4000ft

5 ms max

GENERAL DESCRIPTION

Baud rate Max Distance

Sample time

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.

DISTRIBUTED I/O MODULE 4 DIGITAL INPUTS + 8 NPN OUTPUTS 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

DIN rail

About 210 g.

Self-extinguishing plastic

W x L x H : 120 x 100 x 17.5

4

0 ÷ 3 V

47 KO

10 ÷ 30 V

up to 38.4 Kbps

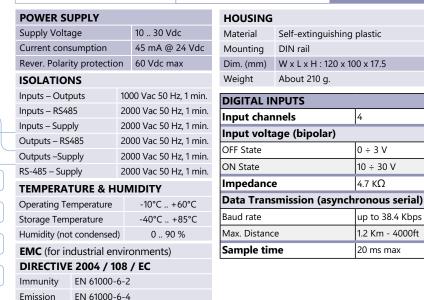
1.2 Km - 4000ft

20 ms max

- MODBUS RTU/ASCII protocol
- 4 digital inputs
- 8 digital outputs, NPN type
 - CE Kohs

Application areas

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



- Configurable from a remote terminal - Galvanic isolation on all ways
 - High accuracy

- Watch-Dog alarm

- EMC compliance CE Mark
- In compliance to EN-50022 DIN rail mounting

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3140	-	and the second second
DAT 3140		
	Sector of	
	HIII	Cl.

DICITAL INDUITS ON DS 405 NETWORK CTDIDII

STRIBUTED I/O MO	DOLL O DIGI					
DAT 3148/8	The work The The	. To assure safe o 2000 Vac galvanic	PTION 8 is able to acquire up to 8 digital inpu peration of the system, the device is er isolation between inputs, power supp n worst ambient conditions.	quipped wit	h two Watch-Dog timers.	
HILL CONTRACT	- Fie - Ma - M0 - 8 c	TURES Id Bus data acqu aster/Slave comr DDBUS RTU/ASC ligital inputs atch-Dog alarm	nunication on RS-485 network	- Four - High - EMC	igurable from a remote ways galvanic isolation accuracy compliance – CE Mark mpliance to EN-50022 I	2000 Vac
			Application area		Stries South machine Ene	rache track and the track and
POWER SUPPLY		EMC (for in	ndustrial environments)		DIGITAL INPUTS	
POWER SUPPLY Supply Voltage	10 30 Vdc		ndustrial environments) E 2004 / 108 / EC		DIGITAL INPUTS Input channels	8
	10 30 Vdc 35 mA @ 24 Vdc	DIRECTIV	,			
Supply Voltage	35 mA @ 24 Vdc	DIRECTIV	E 2004 / 108 / EC		Input channels Input voltage (bip OFF State	0 ÷ 3 V
Supply Voltage Current consumption	35 mA @ 24 Vdc	DIRECTIV Immunity	E 2004 / 108 / EC EN 61000-6-2 EN 61000-6-4		Input channels Input voltage (bipe OFF State ON State	olar) 0 ÷ 3 V 10 ÷ 30 V
Supply Voltage Current consumption Rever. Polarity protection ISOLATIONS	35 mA @ 24 Vdc	DIRECTIV Immunity Emission HOUSING	E 2004 / 108 / EC EN 61000-6-2 EN 61000-6-4		Input channels Input voltage (bip OFF State ON State Impedance	olar) 0 ÷ 3 V 10 ÷ 30 V 4.7 KΩ
Supply Voltage Current consumption Rever. Polarity protection ISOLATIONS Input 0÷7 1	35 mA @ 24 Vdc 60 Vdc max	DIRECTIV Immunity Emission HOUSING	E 2004 / 108 / EC EN 61000-6-2 EN 61000-6-4 Self-extinguishing plastic		Input channels Input voltage (bip OFF State ON State Impedance Data Transmission	olar) 0 ÷ 3 V 10 ÷ 30 V 4.7 KΩ (asynchronous serial)
Supply Voltage Current consumption Rever. Polarity protection ISOLATIONS Input 0÷7 1 Inputs – RS485 2	35 mA @ 24 Vdc 60 Vdc max 500 Vac 50 Hz, 1 mir	DIRECTIV Immunity Emission HOUSING	E 2004 / 108 / EC EN 61000-6-2 EN 61000-6-4 Self-extinguishing plastic DIN rail		Input channels Input voltage (bip OFF State ON State Impedance Data Transmission Baud rate	olar) 0 ÷ 3 V 10 ÷ 30 V 4.7 KΩ (asynchronous serial) 38.4 Kbps
Supply Voltage Current consumption Rever. Polarity protection ISOLATIONS Input 0÷7 1 Inputs – RS485 2 Inputs – Supply 2	35 mA @ 24 Vdc 60 Vdc max 500 Vac 50 Hz, 1 mir 2000 Vac 50 Hz, 1 mir	 DIRECTIVE Immunity Emission HOUSING Material Mounting Dim. (mm) 	E 2004 / 108 / EC EN 61000-6-2 EN 61000-6-4 Self-extinguishing plastic DIN rail W x L x H : 120 x 100 x 17.5		Input channels Input voltage (bip OFF State ON State Impedance Data Transmission Baud rate Max. Distance	olar) 0 ÷ 3 V 10 ÷ 30 V 4.7 KΩ (asynchronous serial) 38.4 Kbps 1.2 Km - 4000ft
Supply Voltage Current consumption Rever. Polarity protection ISOLATIONS Input 0÷7 1 Inputs – RS485 2 Inputs – Supply 2	35 mA @ 24 Vdc 60 Vdc max 500 Vac 50 Hz, 1 mir 2000 Vac 50 Hz, 1 mir 2000 Vac 50 Hz, 1 mir 2000 Vac 50 Hz, 1 mir	 DIRECTIVE Immunity Emission HOUSING Material Mounting Dim. (mm) 	E 2004 / 108 / EC EN 61000-6-2 EN 61000-6-4 Self-extinguishing plastic DIN rail		Input channels Input voltage (bip OFF State ON State Impedance Data Transmission Baud rate	olar) 0 ÷ 3 V 10 ÷ 30 V 4.7 KΩ (asynchronous serial) 38.4 Kbps
Supply Voltage Current consumption Rever. Polarity protection ISOLATIONS Input 0÷7 1 Inputs – RS485 2 Inputs – Supply 2 RS-485 – Supply 2 TEMPERATURE & HU	35 mA @ 24 Vdc 60 Vdc max 500 Vac 50 Hz, 1 mir 2000 Vac 50 Hz, 1 mir 2000 Vac 50 Hz, 1 mir 2000 Vac 50 Hz, 1 mir MIDITY	 DIRECTIVE Immunity Emission HOUSING Material Mounting Dim. (mm) 	E 2004 / 108 / EC EN 61000-6-2 EN 61000-6-4 Self-extinguishing plastic DIN rail W x L x H : 120 x 100 x 17.5		Input channels Input voltage (bip OFF State ON State Impedance Data Transmission Baud rate Max. Distance	olar) 0 ÷ 3 V 10 ÷ 30 V 4.7 KΩ (asynchronous serial) 38.4 Kbps 1.2 Km - 4000ft
Supply Voltage Current consumption Rever. Polarity protection ISOLATIONS Input 0÷7 1 Inputs – RS485 2 Inputs – Supply 2 RS-485 – Supply 2	35 mA @ 24 Vdc 60 Vdc max 500 Vac 50 Hz, 1 mir 2000 Vac 50 Hz, 1 mir 2000 Vac 50 Hz, 1 mir 2000 Vac 50 Hz, 1 mir	 DIRECTIVE Immunity Emission HOUSING Material Mounting Dim. (mm) 	E 2004 / 108 / EC EN 61000-6-2 EN 61000-6-4 Self-extinguishing plastic DIN rail W x L x H : 120 x 100 x 17.5		Input channels Input voltage (bip OFF State ON State Impedance Data Transmission Baud rate Max. Distance	olar) 0 ÷ 3 V 10 ÷ 30 V 4.7 KΩ (asynchronous serial) 38.4 Kbps 1.2 Km - 4000ft

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



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
 - CE NOHS BO

Application areas

- Configurable from a remote terminal
- Four ways galvanic isolation 2000 Vac

Ö

- High accuracy
- EMC compliance CE Mark
- In compliance to EN-50022 DIN rail mounting

		2002/95/EC	kad-freé				
POWER SUPPLY		EMC (for in	EMC (for industrial environments)		DIGITAL INPUTS		
Supply Voltage	10 30 Vdc	DIRECTIV	DIRECTIVE 2004 / 108 / EC		nput channels	12	
Current consumption	35 mA @ 24 Vdc	Immunity	EN 61000-6-2 Input voltage (bipolar)				
Rever. Polarity protection 60 Vdc max		Emission	EN 61000-6-4 OFF State		OFF State	0 ÷ 3 V	
ISOLATIONS		HOUSING		C	ON State 10 ÷ 30 V		
				h	mpedance	4.7 ΚΩ	
Input 0÷7 / 8÷11 1500 Vac 50 Hz, 1 min.		Material	ial Self-extinguishing plastic Data Transmission (asyncl		nchronous serial)		
Inputs – RS485 2000 Vac 50 Hz, 1 min.		Mounting	DIN rail	В	aud rate	38.4 Kbps	
Inputs – Supply 2000 Vac 50 Hz, 1 min.		Dim. (mm)	W x L x H : 120 x 100 x 17.5	N	lax. Distance	1.2 Km - 4000ft	
RS-485 – Supply	2000 Vac 50 Hz, 1 min.	Weight	About 210 g.	s	ample time	5 ms max	
TEMPERATURE & H	UMIDITY	-	-	-			
Operating Temperature -10°C +60°C							
Storage Temperature	-40°C +85°C						
Humidity (not condensed)	0 90 %						

DAT3000 SERIES

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

- Watch-Dog alarm

- EMC compliance - CE Mark

Ö

- High accuracy

- Over-temperature and over-current protection

- In compliance to EN-50022 DIN rail mounting

Energy

- All the ways galvanic isolation 2000 Vac

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.

DAT 3188/4

POWER SUPPLY Supply Voltage

Current consumption

2000 Vac 50 Hz, 1 min.

Operating Temperature

Humidity (not condensed)

Storage Temperature

Immunity

Emission

DAT 3188/8

POWER SUPPLY

Current consumption

2000 Vac 50 Hz, 1 min.

Supply Voltage

5	-	. 3		-
	thittelli a	3	山田田	
	(Teres	F	ALC: N	
	围	-	CARRE	

Rever. Polarity protection 60 Vdc max ISOLATIONS (Input / Output / RS485 / Supply)

TEMPERATURE & HUMIDITY

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

EN 61000-6-4

10 .. 30 Vdc 45 mA @ 24 Vdc

-10°C .. +60°C

-40°C ... +85°C

0..90%

- 8 digital outputs, PNP type							
CE	ROHS 2002/95/EC	Pb					

- Field Bus data acquisition

- MODBUS RTU/ASCII protocol

FEATURES

- 4 digital inputs

b) **Application areas**

- Master/Slave communication on RS-485 network

HOUSING							
Material	Self-extinguishing plastic						
Mounting	DIN rail						
Dim. (mm)	W x L x H : 120 x 10	00 x 17.5					
Weight	About 210 g.						
DIGITAL IN	DIGITAL INPUTS						
Input channels 4							
Input volta	Input voltage (bipolar)						
OFF State		0 ÷ 3 V					
ON State 10 ÷ 30 V							
Impedance	Impedance 4.7 KΩ						
Data Transmission (asynchronous serial)							
Baud rate	Baud rate 115.2 Kbps						
Max. Distanc	e	1.2 Km - 4000ft					

DIGITAL OUTPUTS							
Output channels	8						
Туре	PNP						
Max. Load	500 mA per channel*						
Wax. Load	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

GENERAL DESCRIPTION

Sample time

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.

FEATURES

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



Application areas

5 ms max

- All the ways galvanic isolation 2000 Vac

- High accuracy

- Watch-Dog alarm

- EMC compliance CE Mark
- In compliance to EN-50022 DIN rail mounting

- Over-temperature and over-current protection



 TEMPERATURE & HUMIDITY							
 Operating Te	mperature	-10°C +60°C					
Storage Tem	perature	-40°C +85°C					
Humidity (not	t condensed)	0 90 %					
EMC (for in	dustrial envi	ironments)					
DIRECTIVE 2004 / 108 / EC							
Immunity	2						
Emission	4						

Weight	About 210 g.							
DIGITAL IN	DIGITAL INPUTS							
Input chan	nels	8						
Input volta	Input voltage (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 tim	ne in the second s	5 ms max						

DIGITAL OUTPUTS							
Output channels	8						
Туре	PNP						
Max. Load	500 mA per channel*						
IVIAX. LOAU	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

Emission

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

Isolation

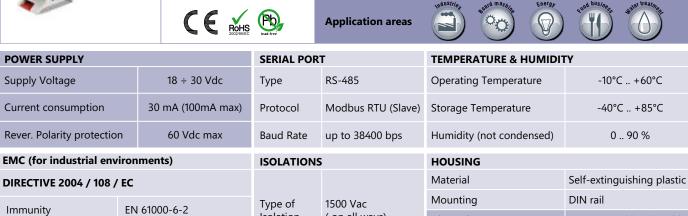
- 1 Universal Analog Input
- 1 V/mA Analog Input
- 2 0-20mA Analog Outputs
- 3 Digital Inputs

- 1 SSR Digital Output + 2 Relay Outputs
- Watch-Dog Alarm
- 1500 Vac galvanic isolation on all ways
- High Accuracy

Dimensions (mm)

Weight

- EMC compliance CE Mark
- DIN rail suitable mounting (EN-50022)



(on all ways)

ANALO	G 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	V	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C	Ī
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	ſ
Tc K	-210 ÷ +1370	°C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C	ł
Tc R	-50 ÷ +1760	°C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C	ł
Tc S	-50 ÷ +1760	°C	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C	ŀ
Tc B	+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 wi	re res. influen	ce				
RTD (3 v	vires)		0.05 %/Ω (5	0Ωmax)		
mV, Tc			< 0.8 uV/Oh	< 0.8 uV/Ohm		
Excitatio	on current					
RTD, Res	s, Pot		~ 0.7 mA			
Sample	time		1 sec.			
Warm-u	ıp time		3 min.			

EN 61000-6-4

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					
Auxiliar	y Voltage	>12V					

DIGITAL INPUTS	
Input channels	3
Input voltage (bipolar)	OFF State : 0÷3 V
	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 (resistive load)	2 A @ 250 Vac (per contact)	
	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.	

W x L x H : 120 x 100 x 22.5

About 150 g.

REMOTE I/O MODULE 4 CHANNELS RTD INPUT ON RS-485 NETWORK



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

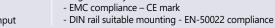
- Field-Bus remote data acquisition - RS-485 Master/Slave communication type
- MODBUS RTU/ASCII protocol
- 4 channel input
- RTD, Resistance and Potentiometer configurable input



HOUSING

Material

Application areas





- Configurable from a remote terminal

- 2000 Vac 3-way Galvanic Isolation

- Watch-Dog Alarm

- High Accuracy

POWER SUPPLY			
Supply Voltage	10 30 Vdc		
Current consumption	30 mA @ 24 Vdc		
Rever. Polarity protection	60 Vdc max		
ISOLATIONS			
Inputs – RS485			
Power Supply– Input	2000 Vac 50 Hz, 1 min		
Power Supply- RS-485			
TEMPERATURE & HU	MIDITY		
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			
In	2		

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

Mounting	DIN	ail			
Dim. (mm)	Wxl	W x L x H : 120 x 100 x 17.5			
Weight	Abou	it 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		

Self-extinguishing plastic

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. influe	ence (1)		
RTD/res.3 wires	0.05 %/ Ω (50 Ω 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 (di	fference between max. and min. values)		

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

- Watch-Dog Alarm

- High Accuracy

- Configurable from a remote terminal

- DIN rail suitable mounting - EN-50022 compliance

- 2000 Vac 3-way Galvanic Isolation

- EMC compliance - CE mark

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 \pm 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.

Max

+20 mA ± 20 uA ± 0.1% f.s.

</= 50 Ω

± 0.005 % / °C

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
- 4 channel input
- Up to ± 20mA input

CE KOHS

HOUSING



lead-free	
с IС	
Self-extingui	ishing plastic

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

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

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

Rever. Polarity protection 60 Vdc max

10 .. 30 Vdc

30 mA @ 24 Vdc

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

	weight	ADOL	it 150 g.	
) Hz,	INPUT			
	Input type		Min	
	Current			
0°C	20 mA		-20 mA	
5°C	Input Calibration (1)			
6	Linearity (1)		
				_

Input Impedance

Thermal drift (1)

Full scale

1	(1) Referred to input Span (difference between max. and min. values)	
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DAT3000 SERIES

DAT 3015-1

POWER SUPPLY

Current consumption

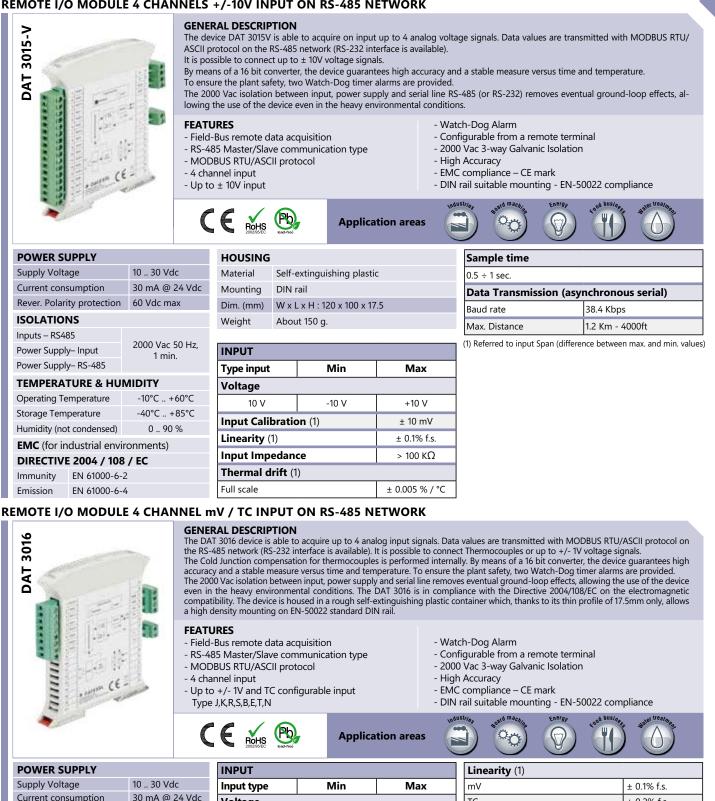
Supply Voltage

ISOLATIONS

DAT3000 SERIES

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



POWER SUPPLY		INPUT		
Supply Voltage	10 30 Vdc	Input type	Min	Max
Current consumption	30 mA @ 24 Vdc	Voltage		
Rever. Polarity protection	60 Vdc max	25 mV	-25 mV	+25 mV
ISOLATIONS		100 mV	-100 mV	+100 mV
Inputs – RS485	2000 Vac 50 Hz,	250 mV	-250 mV	+250 mV
Power Supply– Input	1 min.	1000 mV	-1000 mV	+1000 mV
Power Supply– RS-485		Thermocouple		
TEMPERATURE & HUMIDITY			-210 °C	+1200 °C
Operating Temperature	-10°C +60°C	ĸ	-210 °C	+1372 °C
Storage Temperature	-40°C +85°C			
Humidity (not condensed)	0 90 %	R	-50 °C	+1767 °C
EMC (for industrial envi	ronments)	S	-50 °C	+1767 °C
DIRECTIVE 2004 / 108 / EC		В	+400 °C	+1825 °C
Immunity EN 61000-6-2		E	-210 °C	+1000 °C
Emission EN 61000-6-4		Т	-210 °C	+400 °C
HOUSING		N	-210 °C	+1300 °C
Material Self-extinguishing plastic			·	
Mounting DIN rail		Input Calibratio	on (1)	

the higher of \pm 0.05% or 5 uV (1)

Weight

Dim. (mm) W x L x H : 120 x 100 x 17.5

About 150 g.

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. influence (1)			
mV, Tc	< 0.8 uV/Ohm		
Response 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)

REMOTE I/O MODULE 8 CHANNELS ± 20mA INPUT ON RS-485 NETWORK

- Watch-Dog Alarm

- High Accuracy

- Configurable from a remote terminal

- 2000 Vac 3-way Galvanic Isolation

- EMC compliance - CE mark



GENERAL DESCRIPTION

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



HOUSING

Material

Mounting

Dim. (mm)

Weight

INPUT

Type input

Linearity (1)

Input Calibration (1)

Input Impedance

Thermal drift (1)

Current 20 mA



Self-extinguishing plastic

W x L x H : 120 x 100 x 17.5

Min

-20 mA

DIN rail

About 150 g

C			
	Sample time		
	0.5 ÷ 2 sec.		
	Data Transmission (a	synchronous	serial)
	Baud rate	38.4 Kbps	
	Max. Distance	1.2 Km - 40	00ft

- DIN rail suitable mounting - EN-50022 compliance

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

Rever. Polarity protection 60 Vdc max **ISOLATIONS**

POWER SUPPLY

Current consumption

Supply Voltage

Inputs – RS485	2000 Vac 50 Hz 1 min.	
Power Supply– Input		
Power Supply– RS-485		
TEMPERATURE & HU	MIDITY	
Operating Temperature	-10°C +60°C	

10 .. 30 Vdc

30 mA @ 24 Vdc

Storage Temperature-40°C .. +85°CHumidity (not condensed)0 .. 90 %

EMC (for industrial environments)

DIRECTIVE 2004 / 108 / EC

mmunity	EN 61000-6-2
Emission	EN 61000-6-4

REMOTE I/O MODULE 8 CHANNELS ±10V INPUT ON RS-485 NETWORK

- Watch-Dog Alarm

- High Accuracy

- Configurable from a remote terminal

- 2000 Vac 3-way Galvanic Isolation

- EMC compliance – CE mark

GENERAL DESCRIPTION

Full scale

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.

Max

+20 mA

± 20 uA

± 0.1% f.s.

<=50 Ω

± 0.005 % / °C

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



HOUSING

Material

Mounting

Dim. (mm)

Weight

Application areas

Sample time 0.5 ÷ 2 sec. Data Transmission (asynchronous serial)

- DIN rail suitable mounting - EN-50022 compliance

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)

POWER SUPPLY				
Supply Voltage	10 30 Vdc			
Current consumption 30 mA @ 24 Vdc				
Rever. Polarity protection	60 Vdc max			
ISOLATIONS				
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	0 90 %			
EMC (for industrial environments)				
DIRECTIVE 2004 / 108 / EC				
Immunity EN 61000-6-2				
Emission EN 61000-6-4				

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

Self-extinguishing plastic

W x L x H : 120 x 100 x 17.5

DIN rail

About 150 g.

Sec.

DAT 3017-V



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)

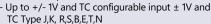
It is possible to connect Thermocouples or up to +/- 1V voltage signals. The Cold Junction compensation for thermocouples is performed internally. By means of a 16 bit converter, the device guarantees a high accuracy and a stable measure versus time and temperature. To ensure the plant safety, two Watch-Dog 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.

FEATURES

DAT 3018

DAT 3019

- Field-Bus remote data acquisition
- RS-485 Master/Slave communication type
- MODBUS RTU/ASCII protocol
- 8 channel input



- Configurable from a remote terminal - 2000 Vac 3-way Galvanic Isolation
- - High Accuracy

- Watch-Dog Alarm

- EMC compliance CE mark
- DIN rail suitable mounting EN-50022 compliance 0_C

POWER SUPPLY		INPUT			Linearity (1)	
Supply Voltage	10 30 Vdc	Input type	Min	Max	mV	± 0.1% f.s.
Current consumption	30 mA @ 24 Vdc	Voltage	•	•	ТС	± 0.2% f.s.
Rever. Polarity protection	n 60 Vdc max	25 mV	-25 mV	+25 mV	CJC Comp.	± 0.5 °C
ISOLATIONS		100 mV	-100 mV	+100 mV	Input Impedance	
Inputs – RS485	2000 Vac 50 Hz,	250 mV	-250 mV	+250 mV	mV, TC	>/=1 MΩ
Power Supply- Input	1 min.	1000 mV	-1000 mV	+1000 mV	Thermal drift (1)	, <u>-</u>
Power Supply- RS-485		Thermocouple			Full scale	± 0.005 % /
TEMPERATURE & H]	-210 °C	+1200 °C	Thermal drift CJC	
Operating Temperature -10°C +60°C		К	-210 °C	+1372 °C	Full scale	± 0.02 % / °
Storage Temperature-40°C +85°CHumidity (not condensed)0 90 %		R	-50 °C	+1767 °C	Lead wire res. influence	(1)
EMC (for industrial environments)		S	-50 °C	+1767 °C	mV, TC	< 0.8 uV/Oh
DIRECTIVE 2004 / 108 / EC		В	+400 °C	+1825 °C	Sample time	0.5 ÷ 2 sec.
Immunity EN 61000-		E	-210 °C	+1000 °C	Data Transmission (asyr	nchronous serial)
Emission EN 61000-	6-4	Т	-210 °C	+400 °C	Baud rate	38.4 Kbps
HOUSING		Ν	-210 °C	+1300 °C	Max. Distance	1.2 Km - 400
Material Self-exting	uishing plastic	Input Calibrati	on (1)	·	Warm-up time	3 min
Mounting DIN rail		The higher of ± 0.	05% or 5 uV (1)		(1) Referred to input Span (differen	ce between max. and min
. ,	120 x 100 x 17.5		. ,			
Weight About 150	g.					

Application areas

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 Ω resistance signals.

By means of a 16 bit converter, the device guarantees a high accuracy and a stable measure versus time and temperature.

200°C

180°C 150°C

500 Ω

2000 O

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.

- Watch-Dog Alarm

High Accuracy

- Configurable from a remote terminal

DIN rail suitable mounting - EN-50022 compliance

2000 Vac 3-way Galvanic Isolation

EMC compliance - CE mark

FEATURES

10 .. 30 Vdc

30 mA @ 24 Vdc

- Field-Bus remote data acquisition
- RS-485 Master/Slave communication type
- MODBUS RTU/ASCII protocol
- 8 channel 2 wires input

Mate

Pt1000

Ni100

Ni1000

Low

High

Resistance 2 or 3 wires

- Pt100, Pt1K, Ni100, Ni1K and resistance up to 2 K $\!\Omega$ configurable input



HOL

USING					
erial	Self-extinguishing plastic				
Inting	DIN rail				
. (mm)	W x L x H : 120 x 100 x 17.5				

Rever. Polarity protection	60 Vdc max				
ISOLATIONS					
Inputs – RS485	2000 Vac 50 Hz, 1 min.				
Power Supply– Input					
Power Supply- RS-485					
TEMPERATURE & HUMIDITY					
Operating Temperature	-10°C +60°C				
Power Supply– Input Power Supply– RS-485 TEMPERATURE & HU	1 min.				

POWER SUPPLY

Current consumption

Supply Voltage

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

EN 61000-6-4

Emission

Wateriai	Sen exanguishing plastic				
Mounting	DIN rail				
Dim. (mm)	WxL	x H : 120 x 100 x 17	.5		
Weight	Abou	it 150 g.			
INPUT					
Input type Min Max					
RTD 2 wires					
Pt100		-200°C	850°C		

-200°C

-60°C

-60°C

0Ω

00

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

Application areas

DAIEXEL

REMOTE I/O MODULE 2 CHANNEL V / mA OUTPUT ON RS-485 NETWORK

- Watch-Dog Alarm

- High Accuracy

- Configurable from a remote terminal

- DIN rail suitable mounting - EN-50022 compliance

- 2000 Vac 3-way Galvanic Isolation

- EMC compliance - CE mark



POWER SUPPLY

Current consumption

Power Supply-Output

Power Supply- RS-485

Operating Temperature

Humidity (not condensed)

Storage Temperature

Immunity

Emission

Rever. Polarity protection 60 Vdc max

TEMPERATURE & HUMIDITY

EMC (for industrial environments)

EN 61000-6-2

EN 61000-6-4

DIRECTIVE 2004 / 108 / EC

Supply Voltage

ISOLATIONS

Output - RS485

GENERAL DESCRIPTION

The DAT 3022 device generates up to 2 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 RS-485 (or RS-232) removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.

FEATURES

18 .. 30 Vdc

typ. 35 mA @ 24 Vdc 60 mA max

2000 Vac 50 Hz.

1 min.

-10°C .. +60°C

-40°C .. +85°C

0..90%

- Field-Bus remote data acquisition
- RS-485 Master/Slave communication type

DIN rail

About 150 g.

- MODBUS RTU/ASCII protocol - 2 channel output
- Voltage or Current configurable outputs



HOUSING

Material

Mounting

Dim. (mm)

OUTPUT

Voltage

Current

Voltage

Current

Voltage

Current

Output type

mΑ

Load Resistance

Output calibration

Weight



Self-extinguishing plastic

W x L x H : 120 x 100 x 17.5

Min

0 V

0 mA

> 5 KΩ

< 500 Ω

hiles was machine Energy	tood bus/new woher treatment				
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				
	1				

1.2 Km - 4000ft

REMOTE I/O MODULE 4 CHANNELS V / mA OUTPUT ON RS-485 NETWORK

Max. Distance

- Watch-Dog Alarm

- High Accuracy

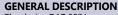
- Configurable from a remote terminal

- DIN rail suitable mounting - EN-50022 compliance

- 2000 Vac 3-way Galvanic Isolation

- EMC compliance – CE mark

00



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.

+20 mA

±10 mV ±20 mA

Max

+10 V

+20 mA

±10 mV

±20 mA

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



HOUSIN Material Mounting Dim. (mm) Weight OUTPUT Output t

Voltage

Current mA

Voltage

Current

Voltage

Current

Output calibration

Load Resistance



_			
G			
	Self-e	extinguishing plas [.]	tic
	DIN r	rail	
)	WxL	x H : 120 x 100 x 1	17.5
	Abou	ıt 150 g.	
_			
yp	е	Min	Max
		0 V	+10 V

0 mA

> 5 KΩ < 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					



POWER SUPPLY					
Supply Volta	age	18 30 Vd	18 30 Vdc		
Current cons	sumption	typ. 35 mA @ 24 Vdc 100 mA max			
Rever. Polari	ity protection	60 Vdc ma	60 Vdc max		
ISOLATIO	NS				
Output – RS4	485				
Power Supply	y– Output	2000 Vac 50 Hz, 1 min.			
Power Supply	y– RS-485				
TEMPERA	TURE & HU	MIDITY			
Operating Te	emperature	-10°C +60°C			
Storage Tem	perature	-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				

ØDATEXEL

REMOTE I/O MODULE 8 CHANNELS VOLTAGE OUTPUT ON RS-485 NETWORK

DAT 3028				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, al- lowing the use of the device even in the heavy environmental conditions.r						
Field-E - RS-4 - MOL - 8 cha		- RS-48 - MOD - 8 chai	us remote data acquisition - Com 35 Master/Slave communication type - 2000 BUS RTU/ASCII protocol - High nnel 0-10 V output - EMC				nfigurable from a remote terminal)0 Vac 3-way Galvanic Isolation Jh Accuracy IC compliance – CE mark I rail suitable mounting - EN-50022 compliance			
V			C	Application areas		ustries south machine Charge cod busines and treatment				
POWER SUPPLY				HOUSING				Rise time		
Supply Volta	age	18 30 Vd	-	Material Self-extinguishing plastic			c	Analog output Slew-rate		
Current con	sumption	typ. 35 m/ Vdc 100 m	4 @ 24 A max	Mounting	DIN rail				(independent programmation for each channel)	
Rever. Polar	ity protection	60 Vdc ma		Dim. (mm)	W x L x H : 12	0 x 100 x 17	7.5		Voltage V/s	
ISOLATIO	NS			Weight About 150 g.				0.125		
Output – RS	485									
Power Supply– Output 2000 Vac 50		/					0.250			
Power Supply– RS-485			OUTPUT				0.500			
TEMPERA	TURE & HU	MIDITY		Output type Min		Мах				
Operating Te	emperature	-10°C +	60°C	Voltage			ITIGA		2.000	
Storage Temperature -40°C +85°C				+10 V	4.000					
Humidity (not condensed) 0 90 %						Immediate				
EMC (for industrial environments)				±10 mV						
DIRECTIV	E 2004 / 108	3 / EC		Load Resistance > 5 KΩ			> 5 ΚΩ		Data Transmission (asynchronous serial)	
Immunity EN 61000-6-2			Thermal drift					Baud rate 115.2 Kbps		
Emission	EN 61000-6-4	4		Full scale	Full scale 100 ppm /°C Max. Dist			Max. Distance 1.2 Km - 4000ft		

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DAT3000 SERIES



ELECTRONIC AND CONTROL PROCESS DEVICES