



"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..



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Intelligent unit with Data-Logger function, Ethernet Interface and digital and analogue I/O

DAT9000 SERIES

08







GENERAL DESCRIPTION

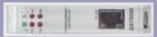
The device DAT9000 is an Intelligent unit able to control a network of slave Modbus RTU devices connected on serial line RS-485 Master executing the reading and writing of the field values and performing the logical and mathematical functions necessary for the system working. By means of the Ethernet 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





Hz,





Application areas







INTELLIGENT UNIT WITH ETHERNET INTERFACE



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 F 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

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

110031110	
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



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
- 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











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, 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

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

Material	Self-extinguishing plastic
Mounting	DIN rail
Dim. (mm)	W x L x H : 120 x 100 x 22.5
Weight	About 160 a

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









Application areas











					\smile	
POWER SUPPLY		CONNECTIONS		TEMPERATURE & HUMIDITY		
18 ÷ 30 Vdc		Ethernet	RJ-45 (on terminals side)	Operative temperature	e -20°C	+60°C
CURRENT CONSUM	IPTION	RS-232D	RJ-45 (on front side)	Storage temperature	-40°C	+85°C
45 mA typ.@24Vdc (standby)	RS-485 Master / Slave Remov. screw terminals		Storage temperature	-10 C	103 C
100 mA max	•	ISOLATIONS		Relative humidity (not o	cond.) 0	90 %
EMC (for industrial	Power supply / Ethernet HOUSING		11.21			
DIRECTIVE 2004 / 10	Power supply / RS-485		1500 Vac, 50 Hz, 1 min.	Material	Self-extinguishing	ng plastic
Ť		Ethernet / RS-485		Mounting	DIN rail	
Immunity	EN 61000-6-2	Inputs / RS-485	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 190 g.	

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 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...

INTELLIGENT UNIT WITH DATA-LOGGER, ETHERNET INTERFACE AND DIGITAL I/O

DAT 9000-DL-IO



GENERAL DESCRIPTION

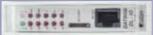
The device DAT9000-DL-IO is an Intelligent unit able to control a network of slave Modbus RTU devices connected on serial line RS- $485\,Master\ executing\ the\ reading\ and\ writing\ of\ the\ field\ values\ and\ performing\ the\ logical\ and\ mathematical\ functions\ necessary\ for\ performing\ the\ logical\ performing\ the\ performing\ the\ logical\ performing\ the\ performing$ the 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 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

TEMPERATURE & HUMIDITY









Application areas



Material

Mounting Dimensions (mm)







Self-extinguishing plastic

W x L x H : 120 x 100 x 22.5



POWER SUPPLY		CONNECTIONS
18 ÷ 30 Vdc		Ethernet
CURRENT CONSUMPTION		RS-232D
45 mA typ.@24Vdc (standby)		RS-485 Master / S
100 mA max		ISOLATIONS
EMC (for industrial environments)		Power supply / Et
DIRECTIVE 2004 / 108 / EC		Power supply / RS
DIRECTIVE 2004 / 100 / EC		Ethernet / RS485
Immunity	EN 61000-6-2	Inputs / RS485

EN 61000-6-4

COMMISSION	
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 / RS485	1500 Vac, 50 Hz, 1 min.	
Ethernet / RS485		
nputs / RS485	2000 Vac, 50 Hz,	
nputs / Power supply	1 min.	

Relative humidity (not cond.)	0 90 %
Storage temperature	-40°C +85°C
Operative temperature	-20°C +60°C

DIN rail

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	

DIGITAL OUTPUTS		
2		
SPDT Rela	ays	
Switching Power (max.)		
2 A @ 250 Vac (resistive load) per contact		
2 A @ 30 Vdc (resistive load) per contact		
5Vdc, 10n	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.		
	2 SPDT Relations SPDT Relations	

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

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Emission

DAT9000 SERIES

DATEXEL

DAT 9011



GENERAL DESCRIPTION

INTELLIGENT UNIT WITH ETHERNET INTERFACE AND DIGITAL AND ANALOGUE I/O

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.

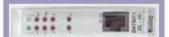
By means of the Ethernet interface or the RS-485 "SLAVE" or RS-232 ports it is possible to read and write, in real time, the internal

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





















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

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	
Isolations voltage	1500 Vac
(50 Hz, 1 min.)	(on all the wa

	TEMPERATURE & HUMIDIT	Υ
:)	Operative temperature	-20°C +60°C
	Storage temperature	-40°C +85°C
	Relative humidity (not cond.)	0 90 %
	HOUSING	

	HOUSING	
	Material	Self-extinguishing plastic
	Mounting	DIN rail
	Dimensions (mm)	W x L x H : 120 x 100 x 22.5
)	Weight	About 190 g.

ANALO	ANALOGUE INPUTS					
Туре	Range	Calibration	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	-20 ÷ +20 mA	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C		
Pt100	-200 ÷ +850 ℃	±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 ÷ 50000 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	±0.1 % f.s.	±0.2 % f.s.	100 ppm/°C		
Tc S	-50 ÷ +1760 °C	±0.1 % f.s.	±0.2 % 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		
		Tc, mV >= 1	Tc, mV $>= 10 \text{ M}\Omega$			
Input in	nput impedance $Volt >= 1 M\Omega$					
		Current ~ 2	2 Ω			

100 1110	-100 ÷ +100 111V	10.00 /0 1.3.	_ ±0.1 /0 1.3.	100 ppi11/ C		
10 V	-10 ÷ +10 V	±0.05 % f.s.	±0.1 % f.s.	100 ppm/°C		
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	±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 ÷ 50000 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	±0.1 % f.s.	±0.2 % f.s.	100 ppm/°C		
Tc S	-50 ÷ +1760 °C	±0.1 % f.s.	±0.2 % 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		
		Tc, mV >= 1	Tc, mV $>= 10 \text{ M}\Omega$			
Input in	npedance	Volt >= 1 N	Volt >= 1 MΩ			
		Current ~ 2	Current ~ 22 Ω			
Auxiliary voltage		>14 V @ 20	>14 V @ 20 mA			
Line res	istance influence					
RTD 3 w	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 INPUTS		

DIGITAL INPUTS		
Channels	2	
Input voltage (bipolar)	OFF state : 0÷3 V	
	ON state : 10÷30 V	
Input impedance	4.7 KOhm	
N°2 Digital counter	32 bit (up to 300 Hz)	

ANALOGUE OUTPUTS (2 CHANNELS)				
Type Range Calibration Linearity Thermal Drift				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)		
	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.		
C ' I D ' DC ' OF ' A ' O C I			

Serial Ports RS-485 (Master & Slave)		
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)	

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











POWER SUPPLY		CONNECTIONS		TEMPERATURE & HUMIDITY	
Power supply Voltage	9 ÷ 30 Vdc	Ethernet	RJ-45 (on terminals side)	Operative temperatu	re
Current consumption @ 24 Vdc	60 mA (170 mA max)	RS-232D	RJ-45 (on front side)	Storage temperature	
Current consumption @ 10 Vdc	147 mA (300 mA max)	RS-485	Screw terminals pitch	Storage temperature	
Reverse polarity protection	60 Vdc max	Master / Slave Outputs Relay	5.08mm	Relative humidity (not	cond.)
		Supply/Inputs/	Screw terminals pitch	HOUSING	
DIRECTIVE 2004 / 108 / EC		Analogue	3.81mm	Material	Self-extin

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

mmamey	214 01000 0 2
Emission	EN 61000-6-4

RS-232D	RJ-45 (on front side)		Storage
RS-485 Master / Slave	Screw terminals pitch		3
Outputs Relay	5.08mr	n	Relative
Supply/Inputs/	Screw terminals pitch		HOUSIN
Analogue outputs	3.81mr		Material
ISOLATIONS		Mountin	
		1500 Vac	Dimensi
Isolations voltage (50 Hz, 1 min.)		(on all the ways)	Weight

e 1500 Vac (on all the ways)	

)	Operative temperature		-20°C +60°C
	Storage temperature		-40°C +60°C
	Relative humidity (not cond.)		0 90 %
	HOUSING		
	Material	Self-ex	ctinguishing plastic
	Mounting	DIN ra	il
	Dimensions (mm)	WxL	x H : 120 x 100 x 22.5

About 190 g.

DIGITAL INPUTS		
Channels	2	
Input voltage (bipolar)	OFF state : 0÷3 V	
	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 & Slave)			

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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)	

11, 10	1 0.0 a v/ O mm			
		Compatible SD card		
ensor excitation current			Type	microSD
TD, Res, Pot	~ 400 uA		Memory size	Up to 8 GB
JC comp.	±1°C		<u> </u>	-1
ample time	1 sec.	1 sec.	Format	FAT16 or FAT32
. 1	1		(1) - The maximum distance depends of	f number of devices some

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

ANALOGUE INPUTS				
Туре	Range	Calibration	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	-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	±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 ÷ 50000 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	±0.1 % f.s.	±0.2 % f.s.	100 ppm/°C
Tc S	-50 ÷ +1760 °C	±0.1 % f.s.	±0.2 % 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
		Tc, $mV > = 10 M\Omega$		
Input in	npedance	Volt $>= 1 M\Omega$		
		Current ~ 22 Ω		
Auxiliary voltage >14 V		>14 V @ 20) mA	
Line res	istance influence			
RTD 3 w	ires	0.05 %/Ω (50 Ω max)		
mV, Tc		< 0.8 uV/O	hm	

Sensor excitation current	
RTD, Res, Pot	~ 400 uA
CJC comp.	±1°C
Sample time	1 sec.
Warm-up time (TC,RTD)	3 min.

