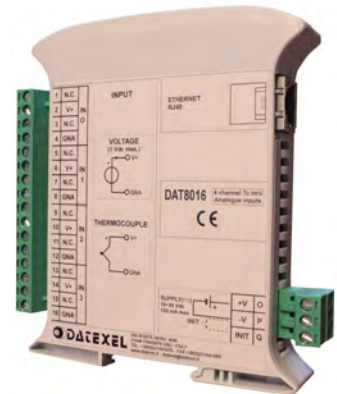


FEATURES

- Interface Ethernet 10/100 Base-T, Modbus TCP Server
- 8 isolated input channels in pairs
- Input configurable for mV e TC
- Integrated web server for acquiring the status of the analog inputs via browser
- Remotely programmable
- Connection by removable screw-terminals
- LED signalling for Link/Act Ethernet, power supply
- Galvanic isolation on all the ways
- EMC compliant – CE mark
- In compliance to EN-50022 DIN rail mounting



GENERAL DESCRIPTION

The DAT8018 module is a Modbus TCP server unit that can convert up to 8 analog signals applied to the input in engineering units in digital format. The inputs can be connected to sensors with mV output or thermocouple.

The input channels are electrically isolated in pairs.

The device guarantees high accuracy and a stable measure versus time and temperature.

In order to ensure the safety plant, the device is provided with a Watch-Dog Timer system.

The Ethernet interface allows reading and writing in real time the values of the internal registers of the device.

The LEDs of signalling of Ethernet activity and power supply allow a direct monitoring of the system functionality.

The built-in Web Server of DAT8018 allows the remote visualization, acquisition of the analog inputs and the access to the main Ethernet programming parameters. The device is also configurable by the software *Dev9K*, a free IDE developed by DATEXEL.

The connection is made by removable screw-terminals (inputs and power supply) and RJ45 plug (Ethernet).

The device DAT8018 realizes a full electrical isolation between the lines, introducing a valid protection against the effects of all ground loops eventually existing in industrial applications.

The device is housed in a rough self-extinguishing plastic enclosure which, thanks to its thin profile of 22.5 mm only, allows a high density mounting on EN-50022 standard DIN rail.

TECHNICAL SPECIFICATIONS (Typical @ 25 °C and in the nominal conditions)

In compliance with Ethernet IEEE 802.3			Input Accuracy (1) The greater than ± 0.05% f.s. and ± 5uV		POWER SUPPLY	
Network interface	Ethernet 10/100Base-T		Linearity (1)		Power supply voltage	14 .. 30 Vdc
Protocol	Modbus TCP		mV	± 0,1 % f.s.	Reverse polarity protection	60 Vdc max
Max. cable length	100 meters		TC	± 0,2 % f.s.	Consumption (standby)	60 mA tip@ 24Vdc
Number of socket	16		Cold junction compensation error (CJC) ± 1°C		Consumption (operative)	75 mA max@24Vdc
INPUT			Input impedance mV, Tc ≥ 1 MΩ		Consumption (operative)	115 mA max@14Vdc
Input Type	Min	Max	Lead wire resistance influence (1) mV, Tc < 0,8 uV/Ohm		ISOLATION	
Voltage			Thermal drift (1)		Power Supply / Ethernet	1500 Vac, 50 Hz, 1 min
250 mV	-250 mV	+250 mV	Full Scale ± 0,005 %/°C		Inputs / Power supply	1500 Vac, 50 Hz, 1 min
Thermocouple			Thermal drift CJC		Inputs / Ethernet	1500 Vac, 50 Hz, 1 min
J	-210 °C	+1200 °C	Full Scale ± 0,02 %/°C		Input / Input	1500 Vac, 50 Hz, 1 min
K	-210 °C	+1372 °C	Sampling time (8 channels)		ENVIRONMENTAL CONDITIONS	
R	-50 °C	+1767 °C	150 ms		Operative Temperature	-10°C .. +60°C
S	-50 °C	+1767 °C	Warm-up time		Storage Temperature	-40°C .. +85°C
B	+400 °C	+1825 °C	3 min.		Humidity (not condensed)	0 .. 90 %
E	-210 °C	+1000 °C			Maximum Altitude	2000 m
T	-210 °C	+400 °C			Installation	Indoor
N	-210 °C	+1300 °C			Category of installation	II
					Pollution Degree	2
					CONNENCTIONS	
					Ethernet	RJ-45 (on terminals side)
					Inputs	Removable screw-terminals
					Power Supply	Removable screw-terminals
					MECHANICAL SPECIFICATIONS	
					Material	Self-extinguish plastic
					IP Code	IP20
					Wiring	wires with diameter 0.8÷2.1 mm2 /AWG 14-18
					Tightening Torque	0.8 N m
					Mounting	in compliance to DIN rail standard EN-50022 and EN-50035
					Weight	about 160g
					EMC (for industrial environments)	
					Immunity	EN 61000-6-2
					Emission	EN 61000-6-4

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

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

INSTALLATION INSTRUCTIONS

The device is suitable for fitting to DIN rails in vertical position.
For optimum operation and long life follow these instructions:

When the devices are installed side by side it is necessary to separate them by at least 5 mm in the following case:

- If panel temperature exceeds 45°C and power supply value < 20 Vdc.

Make sure that sufficient air flow is provided for the device avoiding to place raceways or other objects which could obstruct the ventilation slits. Moreover it is suggested to avoid that devices are mounted above appliances generating heat; their ideal place should be in the lower part of the panel. Install the device in a place without vibrations.

Moreover it is suggested to avoid routing conductors near power signal cables (motors, induction ovens, inverters, etc...) and to use shielded cable for connecting signals.

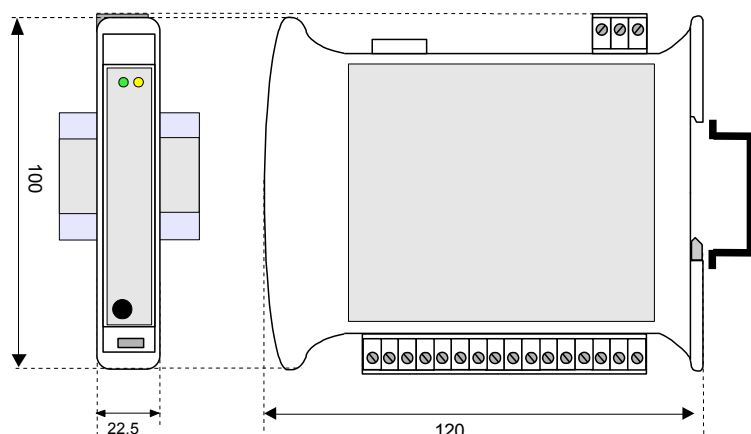
MAPPING MODBUS REGISTERS

Register Position	Description	Access
40002	Firmware [0]	RO
40003	Firmware [1]	RO
40004	Name [0]	R/W
40005	Name [1]	R/W
40007	Node ID	R/W
40011	System Flags	R/W
40013	Watchdog timer	R/W
40031	Input type Ch (1-0)	R/W
40032	Input type Ch (3-2)	R/W
40033	Input type Ch (5-4)	R/W
40034	Input type Ch (7-6)	R/W
40036	Break status	RO
40041	Analog Input (0) - Ch0	RO
40042	Analog Input (1) - Ch1	RO
40043	Analog Input (2) - Ch2	RO
40044	Analog Input (3) - Ch3	RO
40045	Analog Input (4) - Ch4	RO
40046	Analog Input (5) - Ch5	RO
40047	Analog Input (6) - Ch6	RO
40048	Analog Input (7) - Ch7	RO

LIGHT SIGNALLING

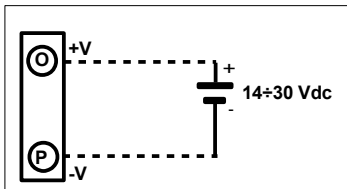
LED	COLOUR	STATE	DESCRIPTION
PWR	GREEN	ON	Device powered
		OFF	Device not powered
		BLINK	Watchdog alarm
STS	YELLOW	OFF	Device in RUN modality
		BLINK	Device in INIT modality

MECHANICAL DIMENSIONS (mm)

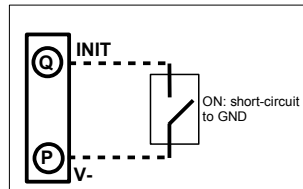


CONNECTIONS

POWER SUPPLY

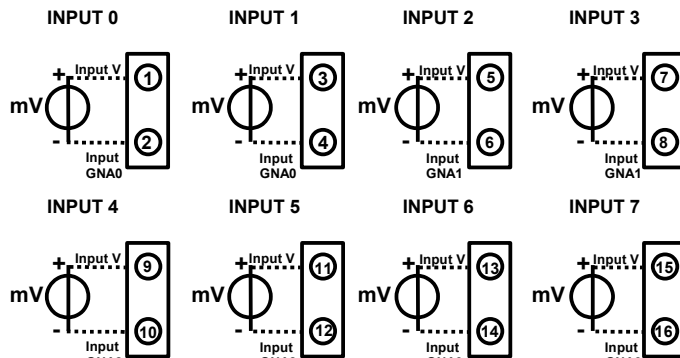


INIT

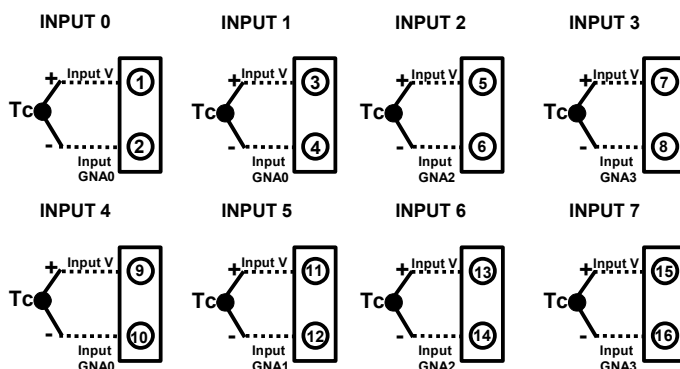


ANALOG INPUTS

VOLTAGE



THERMOCOUPLE

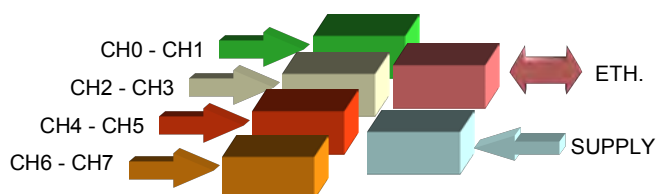


NOTES:

Terminals "2" and "4" connected internally between them (neg. reference "GNA0").
Terminals "6" and "8" connected internally between them (neg. reference "GNA1").
Terminals "10" and "12" connected internally between them (neg. reference "GNA2").
Terminals "14" and "16" connected internally between them (neg. reference "GNA3").

The references "GNA0", "GNA1", "GNA2" and "GNA3" are isolated from each other.

ISOLATIONS STRUCTURE



HOW TO ORDER

" DAT 8018 "

Note: the device is provided with default configuration as:
IP address : 192.168.1.100
Modbus address: 1