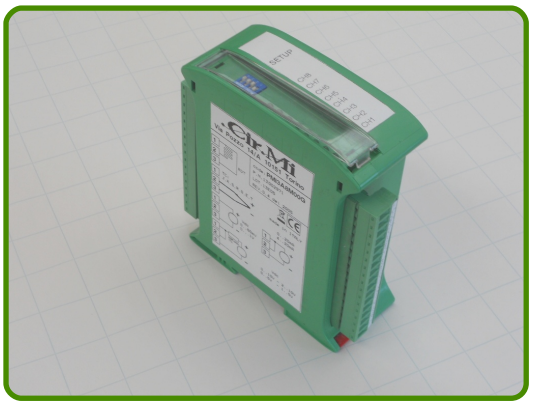
analog unit PMI3A8M0

- 8 multipurpose analog inputs
- settings of each input as thermocouple, thermoresistance, dc volts, dc ampere
- two ModBus RTU connections for network (PLC master) and local (HMI master)
- cabinet mounting by DIN - Ω rail



Description of unit

The analog unit type PMI3A8M0 consists of a module for cabinet mounting on DIN - Ω rail. It has 8 analog inputs, defined as multipurpose, as they're be configured one-by-one for temperature (thermocouple or thermoresistance) or for voltage or for current measuring.
Each input can be preprocessed in hardware limits, as well as software manipulated in order to read a real world data.
User can program the number of inputs are working (up to 8) and all parameters.
Four working modes are available: run, normal working of the unit; program, a special mode giving access to all parameters in write mode, so that it is possible to program the interface by PC; sleep, useful in a network of same system, so the PC can program one unit a time, just putting the other in sleep mode; test, an auto test mode, just to check if the unit is working good.
In program mode, the unit take the communication parameters by default (address, baudrate....) and that's why, in a network, during one unit programming, needs to put the others in sleep mode.

General features

Dimensions	45 (L) x 100 (W) x 120 (H) mm
IP rating	IP20
Working temperature	-10 ÷ 50 °C | 273 ÷ 323 °K | 14 ÷ 122 °F
Supply presence indication	at least 1 of 8 green led ON
Scanner state indication	reading input led ON
Working mode selection	by dip-switches on the top - 4 way
Communication protocols	2 ModBus RTU, driver RS485-2W

Electrical features

Power supply	24 o 115 o 230 Vca 24 Vcc non isolata 24Vcc isolata
Max power consumption	3,3 VA
Power supply frequency	50/60 Hz
Ripple (DC version)	10%
Scanning time for active input	700 ms
Programming of thermocouple input	S, R, B, E, J, K T
Programming of thermoresistance input	PT100
Programming of DC voltage input	60 mV; 1 V; 10 V; 2 ÷ 10 V; 5 V; 1 ÷ 5 V;
Programming of DC current input	4 ÷ 20 mA; 0 ÷ 20 mA;

Compliance

CE	EN61000-6-2 (EMC) EN61000-6-4 (EMI)

MADE IN ITALY

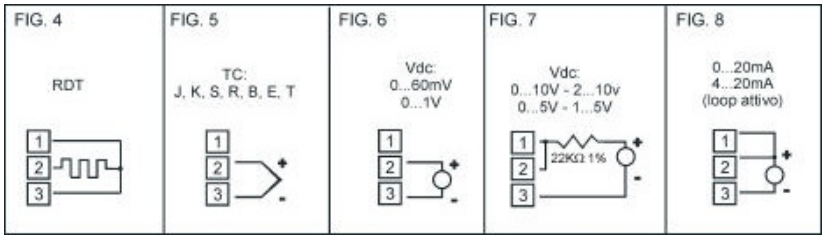
Come ordinare

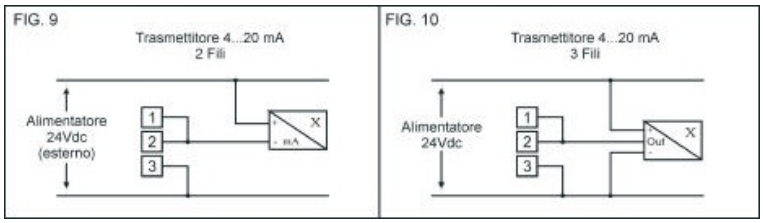
PMI3A 8 M 0 0 C

8	8 inputs
M	multipurpose inputs
0	no output
0	no output

A	power supply 115 Vca
B	power supply 230 Vca
C	power supply 24 Vca
D	power supply 24 Vcc insulated
F	power supply 24 Vcc non insulated

Input types and ranges





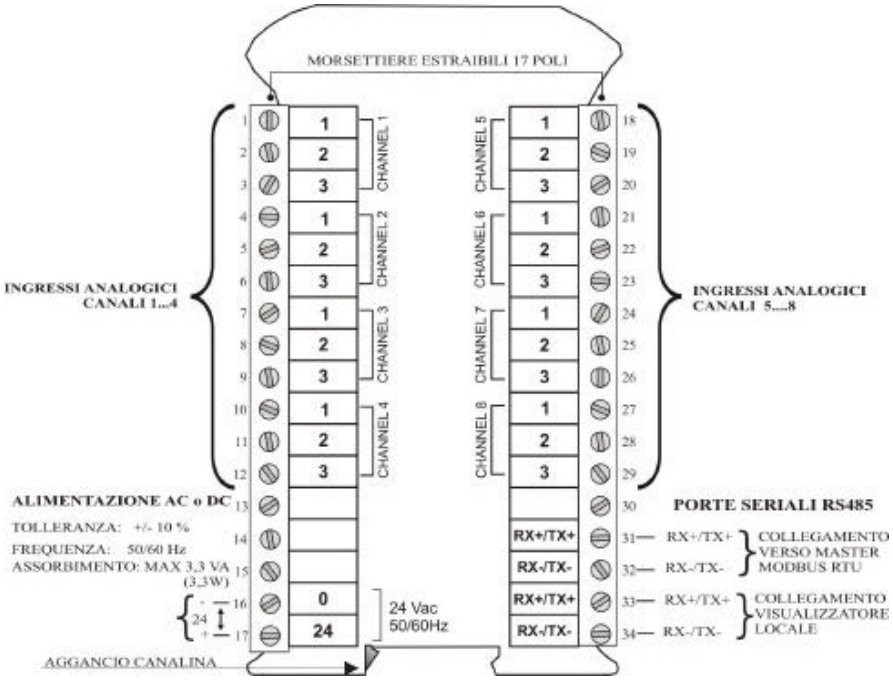
input	signal	range
thermocouple	**S**	-50÷1760 °C
	R	-50÷1760 °C
	B	100÷1820 °C
	E	-270÷800 °C
	J	-210÷1050 °C
	K	-270÷1370 °C
	T	-200÷400 °C
thermoresistance	**PT100**	-200÷800 °C -200,0÷800,0 °C
DC voltage	**0÷60 mVcc**	±100; ±1000; ±10000
	0÷1 Vcc	±100; ±1000; ±10000
	0÷10 Vcc	±100; ±1000; ±10000
	2÷10 Vcc	±100; ±1000; ±10000
	0÷5 Vcc	±100; ±1000; ±10000
	1÷5 Vcc	±100; ±1000; ±10000
DC current	**4÷20 mA**	±100; ±1000; ±10000
	0÷20 mA	±100; ±1000; ±10000

Note: where in the range boxes there are several scales, any of them is available simultaneosly, but in differents Modbus registers

Working principle

This unit gives 8 independents inputs which can be programmed with any of the input types shown in the table. The programming is made by selecting appropriate dip-switches position (dip-switches placed on the top), called *program*; all Modbus communication parameters are set to a default value that is always the same, so that connecting a PC and launching PC program Talking, allow easy setup. In a network of modules, unit by unit needs to program and change in *sleep* condition. When all modules have been programmed, needs to set them in *run* mode.
In this phase, no other module in the network (same or HMI or PLC) must have the default configuration parameter, else network conflict can be caused. Please refer to manual.
The module, works well with **µUno** family of PLC, but also with any other PLC or master module provided with serial 485-2W Modbus RTU connection.
To connect it to a PC, you can use *eolo* converter, a serial converter easy to use. Any commercial converter, RS232-to-RS485 or USB-to-RS485 can be used if CE marked.
The scanner time is of 700 ms for each analog input. Any input has some dedicated setup register for zero (IS) and full-scale (FS), that is for input variable as well as for display data, so that the programmer can associate a function to variables, obtaining an already processed value. In this way, the PLC can just read the end value, without the needs to process it, saving resources that mostly are very important to dedicate at cycle activity.

Connections



Cir.Mi. srl
Via Andrea Pozzo 14/A - 10151 Torino - Italia
Tel: +39 0114537870 - Fax: +39 0114537871 - e-mail: cirmi.srl@tin.it
www.cir-mi.it