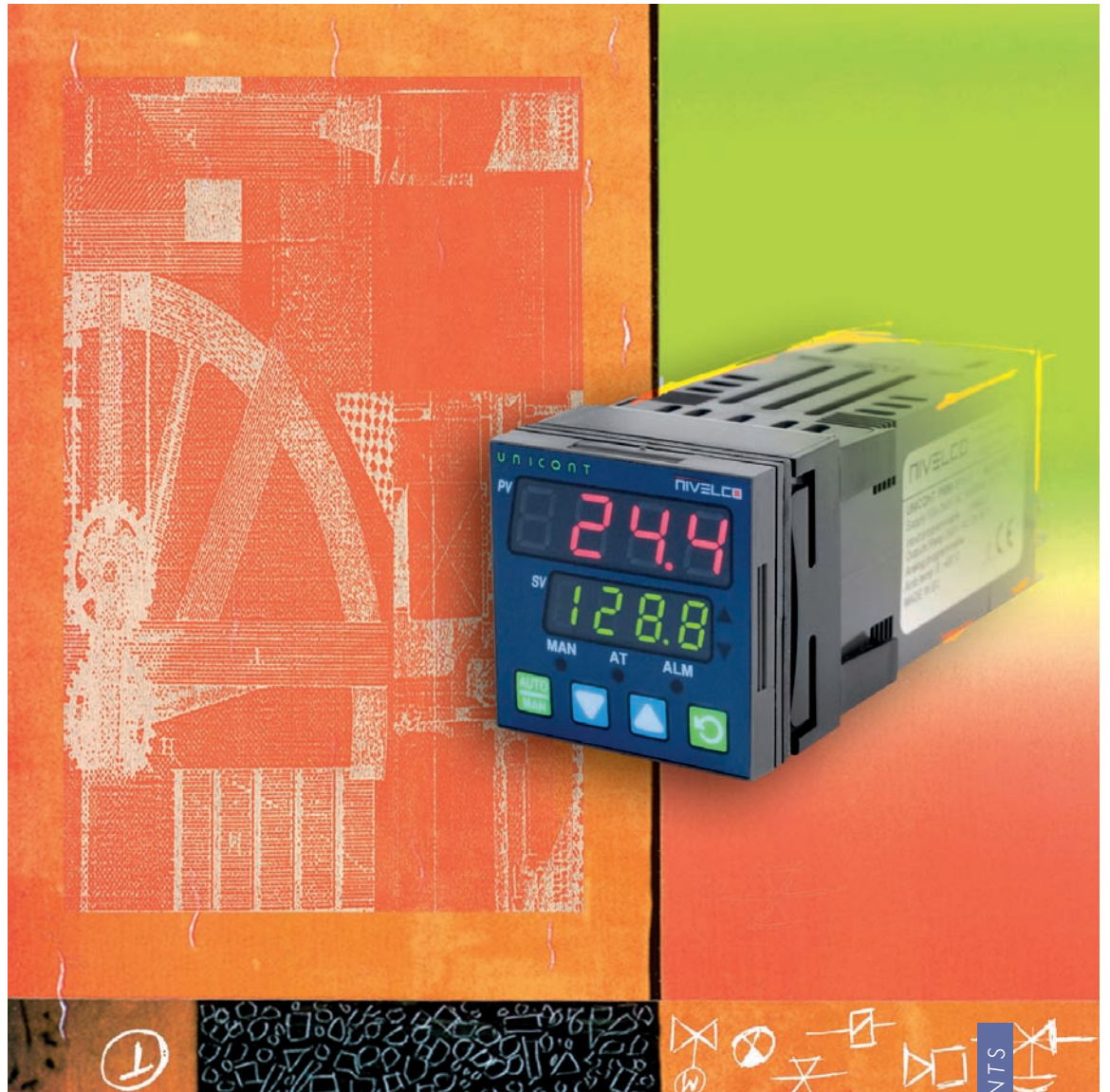




Instrumentação  
e Controle

# UNICONT

UNIVERSAL CONTROLLERS



SYSTEM COMPONENTS

## MAIN FEATURES

- Universal input
  - RTDs / Thermocouples,
  - Voltage / Current
- Multiple output variations
  - 4-20 mA output
  - Relay outputs
  - SSR driver output
  - Power supply for transmitters
  - RS485 communication
- ON-OFF and PID control
- Auto tuning (AT) feature
- DIN 48x48 mm front panel

## GENERAL DESCRIPTION

The UNICONT PM-500 series universal controllers are 1/16 DIN (48x48 mm) process controllers with relay and analogue outputs and PID algorithm supporting versatile functions. The universal analogue PID-controllers can be used with a Pt-100 resistance thermometer and with different thermocouples for temperature measurement, control as well as processing the signals of transmitters with 4 – 20 mA and 0 – 5 V DC or 0 – 10 V DC output. The output signal of the controller can be a relay, continuous 4 – 20 mA process current signal or SSR-driver. Additional alarm relay provides for limit monitoring. The unit is microprocessor based, has an auto-tuning software, its PID controller is able to find the optimum of the P-I-D constants. PMM-500 series models are able to communicate on RS485 line and also able to provide power supply for transmitters. The large bi-coloured display provides easy reading even from far distance.

## APPLICATIONS

- Temperature display
- Switching, control tasks
- Cooling / heating control
- Alarm indication



## TECHNICAL DATA

Type	PMM-510	
Input	RTDs (3-wire., automatic wire-resistance compensation)	DIN Pt100 (-199 °C ... +800 °C)
	Thermocouples (automatic junction compensation)	J, T, K, L, N, B, R, S, C, PtRh thermocouples (-240 °C ... +2320 °C)
	Voltage	0 – 5 V DC; 0 – 10 V DC, 2 – 10 V DC /min. 500Ω
	Current	4 – 20 mA DC, 0 – 20 mA DC / max. 500Ω
Control	Proportional band (P)	0.5 – 100%
	Integral time (I)	1 – 6000 sec
	Derivate time (D)	0 – 6000 sec
	Cycle time (T)	0.5 – 512 sec
Output	Relay	240 V AC, 2 A, AC11, SPDT
	SSR driver	0 – 10 V DC, max 20 mA
	RS485	Modbus RTU, 1200 – 19200 bps
	Analogue	4 – 20 mA DC (max. load: 500 ohm)
	Supply for transmitters	24 V DC, 22 mA (19 V DC - 28 V DC)
Display	PV (primary value)	red, 4 digits, 7 segments, digit height: 10 mm
	SV (secondary value)	green, 4 digits, 7 segments, digit height: 8 mm
Power supply	20–48 V AC / 22–65 V DC, 100–240 V AC, max. 5 W / 7 VA	
Ingress protection	Front: IP 66, Back: IP 20	
Electrical protection	Class II.	
Ambient temperature	Operational: 0 °C ... +55 °C, Storage: -20 °C ... +80 °C	
Ambient humidity	20% ... 85% (relative) non condensing	
Dimensions	48 x 48 x 110 mm (front panel cut-out: 45 <sup>+0.5</sup> <sub>-0.2</sub> x 45 <sup>+0.5</sup> <sub>-0.2</sub> mm)	
Mass	0.25 kg	

## ORDER CODES

### UNICONT PMM-5 ■ ■ ■ ■

Input	Code	Code	Output*	Code	
Universal (sensor or analogue)	1	1	R1, R2, analogue OUT	R1, R2, analogue OUT, RS485	A
		2	R1, R2, U <sub>t</sub>	R1, R2, U <sub>t</sub> , RS485	B
		3	R1, analogue OUT, U <sub>t</sub>	R1, analogue OUT, U <sub>t</sub> , RS485	C
		4	R1, R2, R3	R1, R2, R3, RS485	D
		5	SSR1, SSR2, analogue OUT	SSR1, SSR2, analogue OUT, RS485	E
		6	SSR1, SSR2, U <sub>t</sub>	SSR1, SSR2, U <sub>t</sub> , RS485	F
		7	SSR1, analogue OUT, U <sub>t</sub>	SSR1, analogue OUT, U <sub>t</sub> , RS485	G
		8	SSR1, R1, analogue OUT	SSR1, R1, analogue OUT, RS485	H

\* Special output versions differing from the above code-variations are available to order.

Output	Description
R1, R2, R3	SPDT relay outputs
analogue OUT	Analogue current- or voltage outputs
SSR1, SSR2	Solid State Relay driver output
U <sub>t</sub>	Transmitter power supply 24 V DC/ 22 mA
RS485	Serial communication line

## ACCESSORIES

Name	Order Code
Mounting accessory	pmm5111m00001
Front plate sealing	pmm5111m00002
Front plate size adapter, from 96x48 mm cut-off size to 48x48 mm	PAM-500-0