

Four Digit, Current/Voltage Displays

PMX420 Display PMX420Plus Display with Alarms and Analogue Output



- Bright four digit LED display in engineering units
- Process current and voltage inputs
- Bipolar Inputs
- Inbuilt square root function
- Maximum and minimum recall
- Integral power supply for active input devices
- Universal AC/DC power supply
- Fully Isolated
- Available with 4 alarm channels and analogue current/voltage output
- LED alarm status indication
- 1/8 DIN standard front with IP65 rating
- Indicate and change setpoints in engineering units



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Four digit Current/Voltage Displays



General Technical Data

Display

Type	Full 4 digit, red 14.2 mm LED
Scaling	To display in % or engineering units
Display range	–9999 to 9999
Status indicators	Alarm ch 1–4 and key status

Inputs

Type	Analogue current or voltage (programmable)
Input Range	Any range inside the limits $\pm 22\text{mA}$ or $\pm 11\text{V}$
Input Impedance	25Ω (current)/ $1.5\text{M}\Omega$ (voltage)
Resolution	$4\mu\text{A}/2\text{mV}$
Default input range	4 – 20mA
Power output	$24\text{Vdc} \pm 1.5\text{Vdc}$ (to 25mA)
Transfer function	Linear/square root

Power supply

Type	Universal AC/DC voltage		
Low voltage terminals	18–50Vdc or 18–35Vac		
High Voltage terminals*	90–275Vac / 90–300Vdc		
Power usage (maximum)	Terminals used	Model	Power Usage
	High Voltage	PMX420Plus	17VA/7W
		PMX420	13VA/7W
	Low Voltage	PMX420Plus	12VA/8W
		PMX420	11VA/7W

*Note: LV version does not have high voltage connection.

Input filtering

Type	Digital filter (programmable)
Damping factor	1 to 99 (default = 2)

General

Accuracy	Typically $\pm 0.1\%$ of span
Linearity	Better than 0.05%
Repeatability	$\pm 0.02\%$ of span
Temperature drift	Less than 0.02% span/ $^{\circ}\text{C}$
Long term drift	0.1% per 10,000 hours
Frequency response	–3dB point = 5Hz
Response time	300 msec for 10–90% output change (digital filtering = 1)

Insulation Co-ordination

Ports	Input circuit / Relay One / Relay Two / Relay Three / Relay Four / Analogue Output / Case
Rated Insulation Voltage	300Veff
Overvoltage Category	III
Impulse Withstand	4kV (1.2 / 50)
Isolation	2 kV (between ports)

Environmental Conditions

Operating temperature	0 to 60 $^{\circ}\text{C}$
Storage temperature	–25 to +70 $^{\circ}\text{C}$
Pollution Degree	2
Relative humidity	10–90% (non-condensing)

Housing

Type	Double Insulated Panel mount
Front bezel	IP65 rated 1/8 DIN format
Dimensions	See mechanical drawing

Approvals	Mark	
7940010525 PMX420 7940011323 PMX420Plus		E256486
7940018956 PMX420 (LV) 7940018957 PMX420Plus (LV)		LV Directive EMC

Standard
CAN/CSA C22.2 No. 1010.1:92 UL61010-1: 2004

EN50178:1998 BS EN 61326:1998 + A2

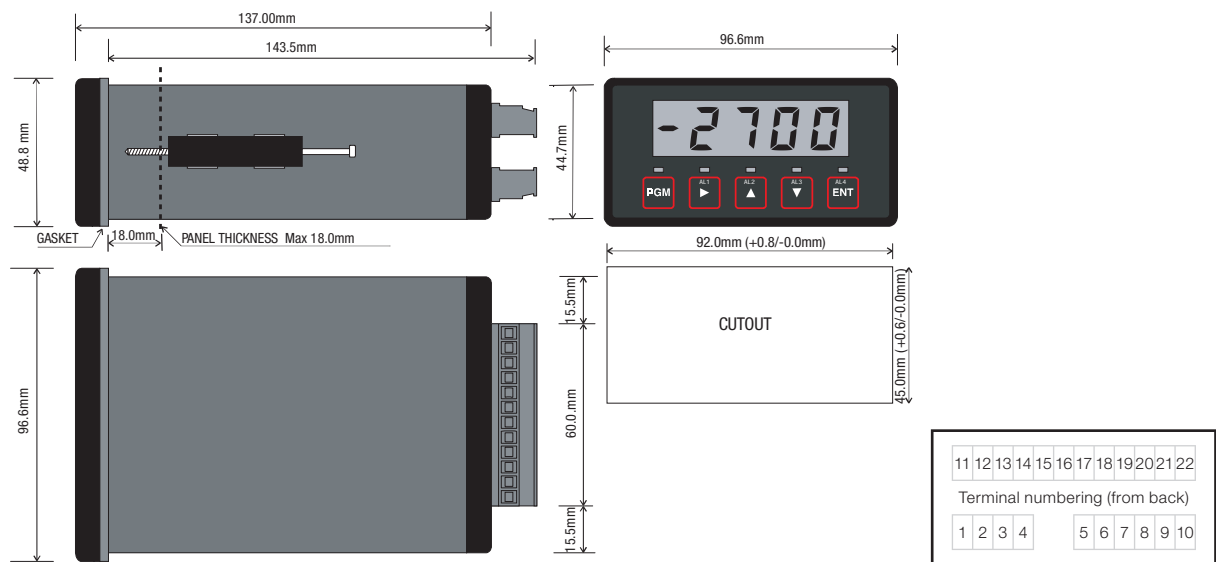
Connections

Terminal	Signal	
1	Neutral / –	High voltage power supply
2	Live / +	
3	Live / +	Low voltage power supply
4	Neutral / –	
5	+ Sensor supply / Security Link	Inputs
6	Security Link	
7	Voltage Input +	
8	Current Input +	
9	Input – / 0V	Alarm Channel One (PMX420Plus only)
10	Not connected	
11	Normally Open	
12	Common	Alarm Channel Two (PMX420Plus only)
13	Normally Closed	
14	Normally Open	
15	Common	Alarm Channel Three (PMX420Plus only)
16	Normally Closed	
17	Normally Open	
18	Common	Alarm Channel Four (PMX420Plus only)
19	Normally Open	
20	Common	
21	Output +	Analogue output (PMX420Plus only)
22	Output –	

General set-up menu options

Display		
H 18 r	Display brightness	High or Low
d P =	Display Decimal Point	0.000 to 0000
d L 0 =	Display low	[Value]
d H 1 =	Display high	[Value]
Inputs		
i P = 1	Input type	Current/Voltage
i P L =	Input range low	[Value]
i P H =	Input range high	[Value]
d F = 2	Input filtering	1 to 99
Analogue output		
a O P y	Analogue Output	Enable/disable
O P L =	Output low	[Value]
O P H =	Output high	[Value]
O P = d	Output sense	Direct or reversed
Alarms 1–4 (general options)		
A 1 2 y	Alarms 1 & 2	Enable/disable
A 3 4 y	Alarms 3 & 4	Enable/disable
S E C y	Setpoint security	On–the–fly–changes or locked
n O r	Alarm reset mode	Manual or Automatic
Alarm options (set for each channel)		
A 1 n E	Output Coil energisation	Normally Energised or De–energised
A 1 = H	Alarm Type	High/Low (and Siren/Group for channel four only)
S P 1 = 50.00	Setpoint e.g., 50.00 units	According to display range
d b 1 = 10.00	Introduces deadband e.g., 10.00 units	From 1 count to display range
d L 1 = 20	Alarm Timer Delay e.g., 20 seconds	0–4200s (default = 0s)

Universal Current/Voltage Indicator



PMX420

- Basic display unit

PMX420Plus

- Analogue output
- Four alarm channels

Technical Data

Analogue output		
Type	Not Fitted	Analogue current/voltage
Scaling		To represent any portion of the input range
Range		Any range inside the limits 0–22 mA or 0–11 V
Current drive		Up to 850Ω load (at 20mA)
Voltage drive		True voltage source (up to 20mA)
Output ripple		Less than 20mV P/P
Output action		Direct/reverse
Alarm outputs (channels one and two)		
Type	Not Fitted	SPDT relay contacts
Rating		5A at 240Vac (resistive) 10A at 24Vdc (resistive)
Isolation		1kV between channels
Suppression capacitors		Internal (fitted between normally open contacts)
Alarm outputs (channels three and four)		
Type	Not Fitted	Normally open relay contacts
Rating		5A at 240Vac (resistive) 5A at 24Vdc (resistive)
Isolation		1kV between channels
Suppression capacitors		Internal (Fitted between contacts)

Ordering Information

Type	Cat. no.	Type	Cat. no.
PMX420	7940010525	PMX420Plus	7940011323