

DPM100

Field Indicator and Controller

Digital process monitor analog input with two contact outputs

K-TEK Products



Introduction

The DPM100 is a programmable microprocessor-based process monitor with digital display. The device may be used to provide a digital indication of an analog process signal and two configurable contact outputs for actuating alarms and/or logic control functions. The DPM100 requires 110 VAC, 220 VAC, or 12 to 24 VDC power for operation.

Features

- Bright 5 Digit Digital Display
- Displays Process Variable In Engineering Units
- 2 Alarm Set Points with Programmable Hysteresis
- Accepts 0-5V, 0-10V, 1-5V, 4-20mA Or, 0-20mA Analog Signal Input
- NEMA 4X / IP 65 Front Panel Standard
- NEMA 4X and Explosion Proof Enclosure Option
- Available With Several Input Power Options
- + 24V Output Available For Loop Power
- Optional RS-422 or RS-232 Serial Communications

The DPM100 integrates many advanced functions into a single compact package. Its microprocessor-based electronics allows a high degree of application flexibility. The device also offers a low 0.1% full scale error with 14.5 bit resolution to satisfy even the most demanding applications. The DPM100 also performs all internal calibrations such that periodic maintenance is not required. A 5 digit LED display allows the DPM100 to be configured to virtually any range of engineering units. Two programmable 10 amp contact outputs allow for alarm and/or

control functions. Two digital communication options (RS-232 or RS-422) allow the DPM100 to directly interface with process or data logging computers. The NEMA 4X and Explosion Proof enclosure options allow the DPM100 to be located in corrosive or hazardous locations.

Applications

The DPM100 may be used in virtually any application that requires a visual indication of an analog process signal and/or provide digital contact outputs for alarm and control functions. An example application involves connection of the DPM100 to a AccuTrak™ Model AT100 or AT200 level transmitter (see figure 1). As illustrated, the DPM100 is powered by an external 120 VAC power source and subsequently supplies loop power to the AccuTrak™ Transmitter. Two contact outputs are routed from the DPM100 to an alarm panel at a remote location. The DPM100 is then programmed to provide a contact closure at 10% (low level alarm) and 90% (high level alarm). Hysteresis of 1% is programmed so as to eliminate multiple (nuisance) alarms when the level is near 10% or 90%. The RS-422 communication interface is connected to a remote PLC for data logging and pump control. Note that the analog process signal (4-20 mA) can also be routed to a DCS or other analog device, since the DPM100 input impedance is 100 ohms (current sensing mode) and produces only a 2 volt drop in the instrument loop. Many other unique applications are also possible using the DPM100.

DPM100 SPECIFICATIONS

INPUT POWER: 110, 220 VAC +/- 15% @ 8 VA, or 12 to 24VDC @ 300 mADC.

LOOP POWER: Auxilliary =24 VDC @ 50 mADC (available only when AC power is used)

INPUT: Accepts 0-5V, 0-10V, 1-5V, 4-20mA or. 0-20mA analog signal input. Impedance is 100 ohm for current and 115 kohm for voltage signals

DISPLAY: 5 digit, .55: high, 7 segment, red LED

INTERNAL RESOLUTION: 14.5 Bits

ACCURACY: 0.1% FS worst case, 0.05% FS typical

CALIBRATION: All calibrations are automatically performed internally.

PROGRAMMABLE RELAYS: Operating: +41°F (5°C) to +130°F (+54°C) Storage: -40°F (-40°C) to +200°F (93°C)

SET POINTS: Two control set points are provided. The unit comes standard with two 10 amp, Form C relays. Each output features programmable hysteresis (alarm range).

MEMORY: EEPROM stores data for ten years if power is lost.

PROGRAMMING: Decimal points, Scaling from 0 to 59999, setpoints, input type, security lock code, and output setpoints are all programmable from the front panel.

HOUSING: Standard 1/8DIN, high impact ABS plastic case

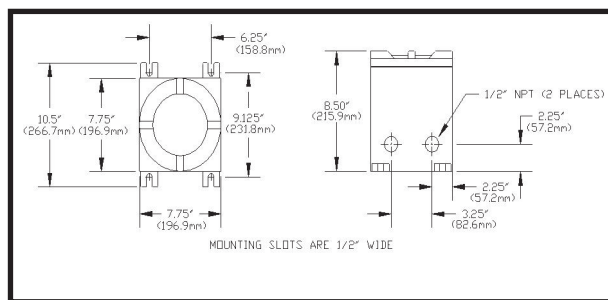
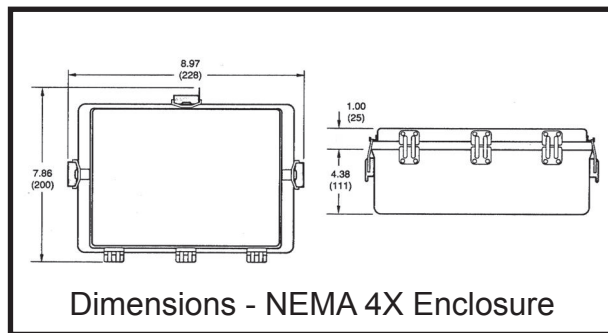
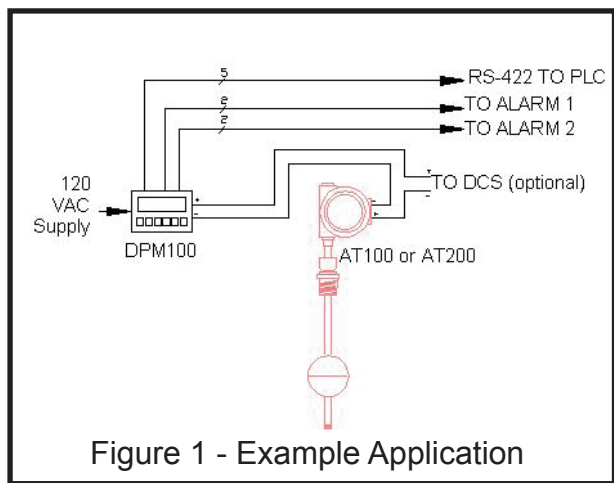
APPROVALS: Display Unit - EC mark for EMC directive,
Explosion Proof Housing - FM and UL
to Class I, Division 1, Groups C & D.



Explosion Proof Housing - FM and UL
to Class I, Division 1, Groups C & D.

DIMENSIONS: Requires 3.622" X 1.772" (92mm X 45mm) panel cutout. DPM-100 overall dimensions are 2.625"H X 4.437"W X 4.832"D (66.68mm H X 112.7mm W X 122.74 mm D)

ADDITIONAL INFORMATION: Reference Users Manual OI/DPM100-EN



ORDERING INFORMATION

DPM100	DIGITAL PROCESS MONITOR		
	/A	OPERATING POWER	
		110 = 110 VAC OR 12-24	VDC 220 = 220 VAC OR 12-24 VDC
	/B	DIGITAL COMMUNICATIONS	
		RS232 = RS-232 Serial	RS422 = RS - 422 Serial Blank = None
	/C	ENCLOSURE	
		4X = NEMA 4X / IP 66 EX=Explosion Proof (FM Only:Class I, Div 1, Groups C,D, NEMA 4)	
		Blank = Standard Panel Mount	

DPM100/110/RS232/4X
(EXAMPLE MODEL NUMBER)

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