DPM-200 Digital Panel Meter
Instruction Manual

LISTED

- 4-20 mA, ± 10 V, TC & RTD Inputs
- 4-Digit Display, 0.56" (14.2 mm) or 1.20" (30.5 mm)
- Type 4X, NEMA 4X, IP65 Front
- 1/8 DIN Shallow Depth Case 3.6" Behind Panel
- Operating Temperature Range of -40°C to 65°C
- Free MeterView® Software - Configuration & Data Acquisition
- Sunlight Readable Display
- Universal Power Supply 85-265 VAC
- 12-36 VDC/12-24 VAC Power Option
- 24 VDC @ 200 mA Transmitter Power Supply Options
- 2 Relays + 4-20 mA Output Options
- Pump Alternation Capability
- USB, RS-232, & RS-485 Serial Communication Options
- Free Modbus® RTU with Serial Adapter Option
- Copy Meter Settings to Other Meters
- Max/Min Display
- High & Low Alarms with Multiple Reset Actions

BINMASTER

Division of Garner Industries
7201 North 98th Street
Lincoln, NE 68507-9741
(402) 434-9102

925-0358

Disclaimer

The information contained in this document is subject to change without notice. BinMaster makes no representations or warranties with respect to the contents hereof, and specifically disclaims any implied warranties of merchantability or fitness for a particular purpose.

Registered Trademarks

Modbus® is a registered trademark of Schneider Automation Inc. All other trademarks mentioned in this document are the property of their respective owners.

INTRODUCTION

The DPM-200 is a multipurpose, easy-to-use digital panel meter. It accepts current, voltage, thermocouple, and RTD signals. The four front panel buttons make the setup and programming easy.

The isolated 24 VDC transmitter power (optional) can be used to power the input transmitter, the 4-20 mA output, or other devices.

The two relays (optional) can be used for alarm indication or process control applications, such as pump alternation control.

Two relays and a 4-20 mA output are available together in the same meter.

The 4-20 mA isolated output and Modbus® RTU serial communication options make the DPM-200 an excellent addition to any system.

SPECIFICATIONS

Except where noted all specifications apply to operation at +25°C.

General

DISPLAY	Model *R: 0.56" (14 mm), Model *X: 1.20" (31 mm), Four digits (-1999 to 9999), automatic lead zero blanking.
DISPLAY INTENSITY	Eight intensity levels
DISPLAY UPDATE RATE	Process/RTD: 3.7-5/second Thermocouple: 1.8-2.5/second
OVERRANGE	Display flashes 9999
UNDERRANGE	Display flashes -1999
PROGRAMMING METHODS	Four front panel buttons, PC and MeterView® software, or cloning using Copy function
NOISE FILTER	Programmable from 2 to 199 (0 will disable filter)
RECALIBRATION	All ranges are calibrated at the factory. Recalibration is recommended at least every 12 months.
MAX/MIN DISPLAY	Max/min readings reached by the process are stored until reset by the user or until power to the meter is turned off.
PASSWORD	Programmable password restricts modification of settings.
NON-VOLATILE MEMORY	All programmed settings are stored in non-volatile memory for a minimum of ten years if power is lost.
POWER OPTIONS	85-265 VAC, 50/60 Hz 90-265 VDC, 20 W max or 12-36 VDC, 12-24 VAC, 6 W max See table for power consumption (*X: number depends on option)

Model	Watts
PD765-6XX-00	8
PD765-6XX-10,20	20
PD765-7XX-00	6

FUSE	Required fuse: UL Recognized, 5 A max, slow blow Up to 6 meters may share one 5 A fuse
ISOLATED TRANSMITTER POWER SUPPLY	One or two transmitter power supplies (Optional) P or P1: 24 VDC ± 10% @ 200 mA max. (-1 option) P1 & P2: 24 VDC ± 10% @ 200 mA & 40 mA max. (-2 option)
NORMAL MODE REJECTION	64 dB at 50/60 Hz
ISOLATION	4 kV input/output-to-power line 500 V input-to-output or output-to-P1/P2 supplies -6R5 & -6X5 models only: 100 V output-to-24 VDC supply
OVERVOLTAGE CATEGORY	Installation Overvoltage Category II: Local level with smaller transient overvoltages than Installation Overvoltage Category III.

ENVIRONMENTAL	Operating temperature range: -40 to 65°C Storage temperature range: -40 to 85°C Relative humidity: 0 to 90% non-condensing
CONNECTIONS	Removable screw terminal blocks accept 12 to 22 AWG wire, RJ11 for serial communication adapters
ENCLOSURE	1/8 DIN, high impact plastic, UL 94V-0, color: gray
MOUNTING	1/8 DIN panel cutout required. Two panel mounting bracket assemblies provided
TIGHTENING TORQUE	Screw terminal connectors: 5 lb-in (0.56 Nm)
OVERALL DIMENSIONS	2.45" x 4.68" x 4.19" (62 mm x 119 mm x 106 mm) (H x W x D)
WEIGHT	9.5 oz. (269 g) (including options)
WARRANTY	3 years parts & labor

Process Input

INPUTS	Field selectable: ±20 mADC (0-20, 4-20 mA) and ±10 VDC (0-5, 1-5, 0-10 V)	
ACCURACY	±0.05% of span ±1 count, square root: 10-100% FS	
FUNCTION	Linear or square root	
LOW-FLOW CUTOFF	0-9999 (0 disables cutoff function)	
TEMPERATURE DRIFT	**0 to 65°C ambient**	**-40 to 0°C ambient**
	Current: ±0.20% FS (50 PPM/°C) **Voltage:** ±0.02% FS (1.7 PPM/°C)	**Current:** ±0.80% FS **Voltage:** ±0.06% FS
DECIMAL POINT	Up to three decimal places for process inputs: *d.ddd*, *dd.dd*, *ddd.d*, or *dddd*	
CALIBRATION RANGE	An *Error* message will appear if input 1 and input 2 signals are too close together.	
	Input Range	**Minimum Span Input 1 & Input 2**
	4-20 mA	0.40 mA
	±10 V	0.20 V
INPUT IMPEDANCE	Voltage ranges: greater than 1 MΩ Current ranges: 50 - 100 Ω (depending on resettable fuse impedance)	
INPUT OVERLOAD	Current input protected by resettable fuse. Fuse resets automatically after fault is removed.	

Temperature Inputs

INPUTS	Field selectable: type J, K, T, or E thermocouples; 100 Ω platinum RTD (0.00385 or 0.00392 curve)
RESOLUTION	1° or 0.1° for all RTD inputs. 1° for all thermocouples. 1° or 0.1° for Type T thermocouple

ACCURACY

Input Type	Range	Accuracy (0 - 65 C)	Accuracy (-40 - 0 C)
Type J	-58° to 1382° F -50° to 750°C	±2°F ±1°C	±5°F ±3°C
Type K	-58° to 2300° F -50° to 1260°C	±2°F ±1°C	±4°F ±2°C
Type T	-292° to 700° F -180° to 371°C	±2°F ±1°C	±13°F ±7°C
Type T 0.1° Res	-199.9° to 700.0° F -180.0° to 371.0°C	±1.8°F ±1.0°C	±13°F ±7.2°C
Type E	-58° to 1578° F -50° to 870°C	±2°F ±1°C	±11°F ±6°C
100 Ω RTD	-328° to 1382°F -200° to 750°C	±1°F ±1°C	±5°F ±3°C

COLD JUNCTION REFERENCE	Automatic, fixed, no user calibration needed
OFFSET ADJUSTMENT	Programmable to ±19.9°. This parameter allows the user to apply an offset value to the temperature being displayed.
INPUT IMPEDANCE	Greater than 100 kΩ
SENSOR BREAK DETECTION	Open TC or RTD sensor indicated by display flashing **oPEn**. All relays and alarm status LEDs go to alarm or non-alarm state, programmable for each relay individually. Analog output goes to the programmed sensor break value.