Nidec

Measuring Quality

PM-DC Process Meters: DC Input

The Series PM-DC 1/8 DIN Process Meters, with Jumper-Selectable DC Signal Input Ranges are designed for process automation applications. The PM-DC Series is a versatile family of controls with a multitude of input and output selections. The PM's are fully scalable for customizing to the exact application requirements allowing the display to read in desired engineering units coinciding to common process signal inputs. Current input models can be set to one of 4 input ranges from ±2.0000 mA with 0.1 μA resolution to ±5.000 A with 1 mA resolution. The voltage input models may be set to one of 6 input ranges from ±200.00 mV with 10 μV resolution to ±600.0 V with 0.1 V resolution. Universal AC or DC power options enable flexibility with usage in various power situations. The PM-DC's offer optional 8 A contact or 120 mA solid state relay outputs, plus an analog process signal output with 4 user-selectable current or voltage ranges. To provide a higher level of communication and integration into a system's network, several communication protocols such as RS-232, RS-485 and even USB options are available. Units come standard with an isolated excitation output to power transducers, eliminating need for additional power supply. These process meters possess exceptionally quick read rates to 60 conversions per second, while integrating the signal over a full power cycle. This fast read rate feature is ideal for peak or valley capture, on/off setpoint alarm or control applications.

The PM-DC Process Meters with DC signal inputs are ideal for indicating current or voltage signals from process sensors, transmitters and transducers in applications involving temperature, pressure, level, flow rate, speed, humidity, level, distance and a myriad more. The PM-DC's are also commonly used to detect DC power output from solar cells, power supplies, batteries as well as current consumption of DC powered motors and similar devices.

Features

- *Bright, red 5 digit LED display scalable to ±99,999 with adjustable decimal point*
- *Universal power range of 85-264 V ac / 90-300 V dc or 10-48 V dc / 12-32 V ac power eliminates need to purchase country specific models*
- *Programmable scaling provides flexibility to set up and monitor virtually any process in the desired engineering units*
- *Variety of output and communication options:*
  - *Choice of 2 relays or 2 solid state relays*
  - *Analog signal option provides: 4-20 mA, 0-20 mA, 0-10 V or -10 V to +10 V outputs*
  - *Serial data communication of either USB, RS485 or RS232*
- *Accuracy of ±0.01% of full scale ±2 counts (LSD)*
- *Isolated transducer power output of 5, 10 or 24 V dc, eliminates need for an additional power supply reducing installation costs*
- *Digital filtering is menu-selectable for electrically noisy environments*
- *Peak and valley values are automatically captured and may be displayed via a pushbutton, control signal input, or be transmitted as serial data if a communication option was ordered*
- *High read rates at up to 60 or 50 conversions per second*
- *When panel mounted, NEMA 4X (IP65) front cover protection keeps fluids out; enables installation in environments exposed to wash-downs*

NIDEC-SHIMPO CORPORATION

INSTRUMENTS DIVISION

PM-DC Specifications

Input Signal Ranges (Jumper Selectable)	DCA: ±2.0000 mA, ±20.000 mA, ±200.00 mA, ±5.000 A; DCV:±200.00 mV, ±2.0000 V, ± 20.000 V, ± 200.00 V, ±300.0 V, ±600.0 V
Display Range	-99999 to 99999
Scaling Function	5 digits with decimal point adjustment
Accuracy @ 77°F (25°C)	±0.01% of FS ±2 Counts; 5A Range ±10 mA; 300 V & 600 V = ±0.4 V
Display Update Time	3.5/s at 60 Hz, 3/s at 50 Hz
Relay Output (Optional)	Mechanical Relays: 8 A @ 250 V ac or 24 V dc; SSR: 120 mA @ 140 V ac or 180 V dc
Analog Signal Output (Optional)	Jumper Selectable: 4-20 mA, 0-20 mA, 0-10 V, -10 V to 10 V
Communication: (Optional)	RS-232, RS-485, USB
Power Requirement	85-264 V ac / 95-300 V dc; Optional 10-48 V dc / 12-34 V ac
Sensor Excitation (Isolated)	5 Vdc ±5%, 100 mA; 10 V dc ±5%, 120 mA; or 24 V dc ±5%, 50 mA
Ambient Temperature	32-131°F (0-55°C)
Dimensions	1.89 x 3.78 x 4 in. (48 x 96 x 102 mm) 1/8 DIN. Panel Cutout: 1.77 x 3.62 in. (45 x 92 mm); Max. Panel Thickness: 0.18" (4.5 mm)
Product Weight	7.4 oz (210 g)
Package Weight	15.9 oz (450 g)
Approvals	CE & RoHS
Warranty	1 year

DC Current Input

DC Current Range	Resolution	Input Resistance
±2.0000 mA	0.1 μA	100 Ω
±20.000 mA	1.0 μA	10 Ω
±200.00 mA	10 μA	1 Ω
±5.000 A	1 mA	0.01 Ω

DC Volt Input

DC Current Range	Resolution	Input Resistance
±200.00 mV	10 μV	1 GΩ
±2.0000 V	100 μV	1 GΩ
±20.000 V	1 mV	10 MΩ
±200.00 V	10 mV	10 MΩ
±300.0 V	0.1 V	10 MΩ
±600.0 V	0.1 V	10 MΩ

Ordering Details

Series	Signal Input (Jumper Select)	Input Power	Relay Output	Analog Output	Comm.
PM	**-DCX**	**-X**	**X**	**X**	**CX**
	-DCA: ±2.0000 mA ±20.000 mA ±200.00 mA ±5.000 A **-DCV:** ±200.00 mV ±2.0000 V ±20.000 V ±200.00 V ±300.0 V ±600.0 V	**0** = 85 - 264 V ac or 95 - 300 V dc **1** = 12 - 34 V ac or 10 - 48 V dc	**R** = Relay Output Two 8A Form C contact relays **S** = SSR Output Two 120 mA solid state relays **0** = No Output	**A** = 4-20 mA, 0-20 mA 0-10 V, -10 to +10 V **0** = No Output	**C1** = RS-232 **C2** = RS-485 **C5** = USB **C0** = No Comm. Output

Ex: PM-DCA-0RAC1: DC Amp input with jumper selectable range, standard high voltage power, relay contact outputs, analog output and RS-232 communication.