

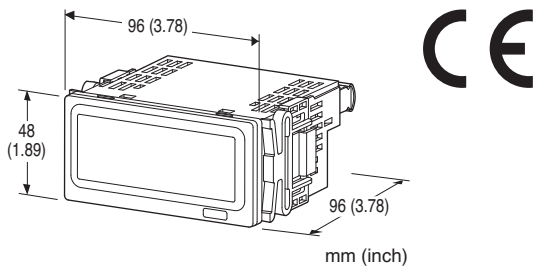
Digital Panel Meters 40 Series

LOOP POWERED DIGITAL PANEL METER

(4 digits, process meter)

Functions & Features

- 4 digit (± 9999) loop powered panel meter
- No external power source needed
- Scaling function
- High visible, 0.8" (20.3 mm) high and bright LED



MODEL: 40DN[1]

ORDERING INFORMATION

- Code number: 40DN[1]
- Specify a code from below for [1].
(e.g. 40DN/Q)
- Specify the specification for option code /Q
(e.g. /C01/SET)

INPUT

Current

4 - 20 mA DC

[1] OPTIONS

blank: none

/Q: With options (specify the specification)

SPECIFICATIONS OF OPTION: Q (multiple selections)

COATING (For the detail, refer to M-System's web site.)

Moving parts and indicators are not coated.

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating

EX-FACTORY SETTING

/SET: Preset according to the Ordering Information Sheet
(No. ESU-9534)

GENERAL SPECIFICATIONS

Construction: Panel flush mounting

Connection: M3 screw terminals (torque 0.6 N·m)

Solderless terminal: Refer to the drawing at the end of the section.

Recommended manufacturer: Japan Solderless Terminal MFG.Co.Ltd, Nichifu Co.,Ltd

Applicable wire size: 0.25 to 1.65 mm² (AWG 22 to 16)

Screw terminal: Nickel-plated steel

Housing material: Flame-resistant resin (gray)

A/D conversion: $\Sigma - \Delta$

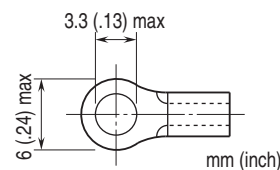
Sampling rate: 10 times/sec. (100 msec.)

Averaging: None or moving average

Setting: (Front button)

- Scaled range
- Moving average
- Brightness

Recommended solderless terminal



DISPLAY

Display: 4 digits of 20.3 mm (0.8 inch) height, 7-segment, red LED

Display range: -9999 to 9999

Scaling range for measurement range (4 - 20 mA): -9999 to 9999 counts

Decimal point position: 10⁻¹, 10⁻², 10⁻³ or none

Zero indication: Higher-digit zeros are suppressed.

Over-range indication: '-9999' or '9999' blinking for display values out of the display range. 'S.ERR' blinks surpassing the permissible range.

Engineering unit indication: Sticker label attached

DC, AC, mV, V, kV, μ A, mA, A, kA, mW, W, kW, var, kvar, Mvar, VA, Hz, Ω , k Ω , M Ω , cm, mm, m, m/sec, mm/min, cm/min, m/min, m/h, m/s², inch, l, l/s, l/min, l/h, m³, m³/sec, m³/min, m³/h, Nm³/h, N·m, N/m², g, kg, kg/h, N, kN, Pa, kPa, MPa, t, t/h, °C, °F, %RH, J, kJ, MJ, rpm, sec, min, pH, %, ppm, etc.

INPUT SPECIFICATIONS

DC Current

Current range: Approx. 3.7 to 23 mA DC

Voltage drop: Approx. 5 V with 4 mA; approx. 5.2 V with 20 mA (Equivalent input impedance: Approx. 260 Ω)

(There is voltage drop generated by using the unit. For the two-wire transmitter power supply, make sure that the operable voltage for the two-wire transmitter is ensured including the voltage drop by other devices and wiring resistance.)

INSTALLATION

Operating temperature: -10 to +55°C (14 to 131°F)

Operating humidity: 30 to 90 %RH (non-condensing)

Mounting: Panel flush mounting

Weight: 160 g (0.35 lb)

PERFORMANCE

Accuracy: $\pm 0.1\%$ rdg ± 1 digit ("1 digit" is multiplied by scaling-multiple. Even in case the scaling-multiple is less than 1, multiply by 1.)

Temp. coefficient: $\pm(0.01\%$ rdg $+0.3$ digits)/°C ("0.3 digits" is multiplied by scaling-multiple. Even in case the scaling-multiple is less than 1, multiply by 1.)

Scaling-multiple = | (Display Scaling Value B - Display Scaling Value A) ÷ (default Display Scaling Value B - default Display Scaling Value A) |

STANDARDS & APPROVALS

EU conformity:

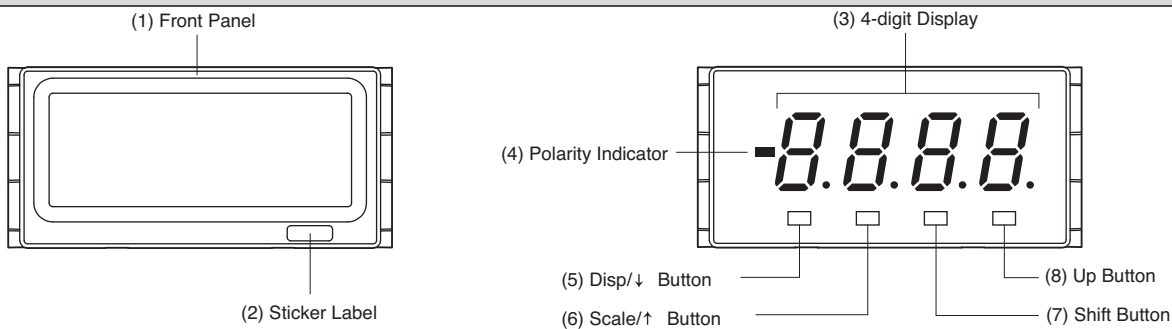
EMC Directive

EMI EN 61000-6-4

EMS EN 61000-6-2

RoHS Directive

EXTERNAL VIEW



COMPONENT IDENTIFICATION

No.	COMPONENT	FUNCTIONS
(1)	Front panel	Removed at configuration.
(2)	Sticker label	Engineering unit label position
(3)	4-digit display	4-digit LED display. Range: 0 to 9999 (not including decimal point)
(4)	Polarity indicator	Turns on when negative value is displayed
(5)	Disp/↓ button	Used to move on to the display setting modes; or to shift through setting items in each setting mode.
(6)	Scale/↑ button	Used to move on to the scaling setting modes; or to shift through setting items in each setting mode.
(7)	Shift button	Used to move on to the setting standby status and shift through display digits in each setting item.
(8)	Up button	Used to select setting value.

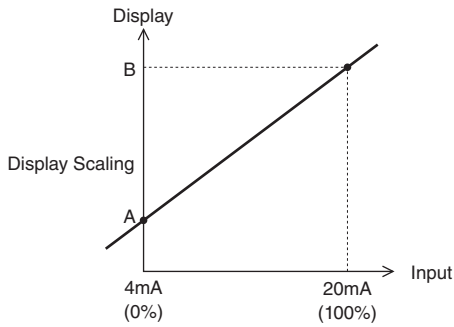
PARAMETER LIST

■ SCALING SETTING MODE

PARAMETER	DISPLAY	FUNCTION	DEFAULT VALUE
Display Scaling Value A	-9999 ... 9999	Display value for 4 mA input To distinguish from B, the first decimal point is blinking.	04.00
Display Scaling Value B	-9999 ... 9999	Display value for 20 mA input	20.00
Decimal Point Position	3 positions or none	Decimal point position	8888

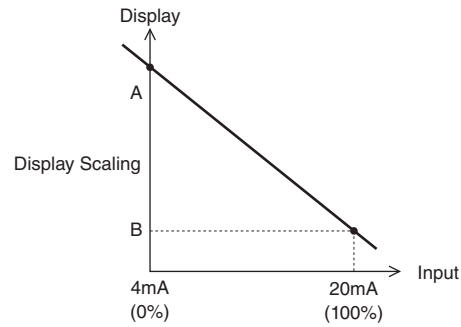
• **Normal Scaling**

The display value increases when the input signal increases.



• **Inverted Scaling**

The display value decreases when the input signal increases.



The decimal point position can be set to any digit. Set it according to the 100% value.

■ DISPLAY SETTING MODE

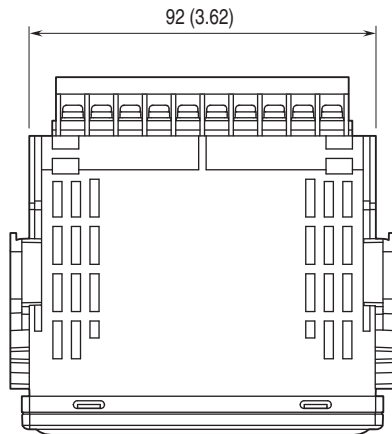
PARAMETER	DISPLAY	FUNCTION	DEFAULT VALUE
Moving Average	RoFF	No moving averaging	RoFF
	R 2	Moving average with 2 samples	
	R 4	Moving average with 4 samples	
	R 8	Moving average with 8 samples	
Brightness	[1	Brightness level 1 (dark)	[3
	[2	Brightness level 2	
	[3	Brightness level 3 (bright)	
Initialization	rOFF	Non-initialization	rOFF
	rESL	Initialize settings (change to factory settings) *1	
Version Indication	-	Version number, indication only	-

*1. While "rESL" is shown, pressing Disp/↓ button or Scale/↑ button initializes settings.

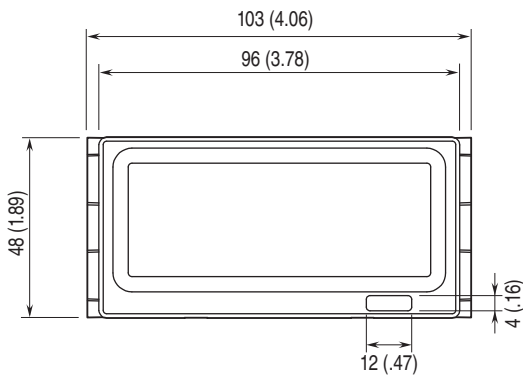
Activating "initialization", user's specified parameters will be deleted and overwritten with the factory default values. Notice that after this, Ex-factory settings will be irrecoverable.

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)

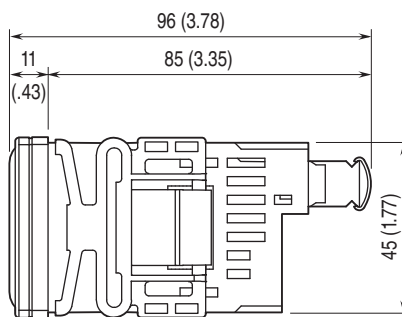
■ TOP VIEW



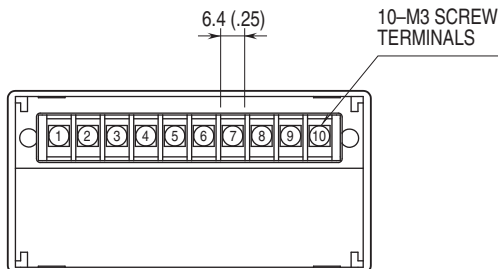
■ FRONT VIEW



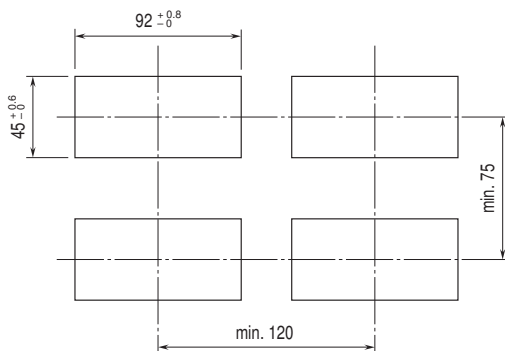
■ SIDE VIEW



■ REAR VIEW

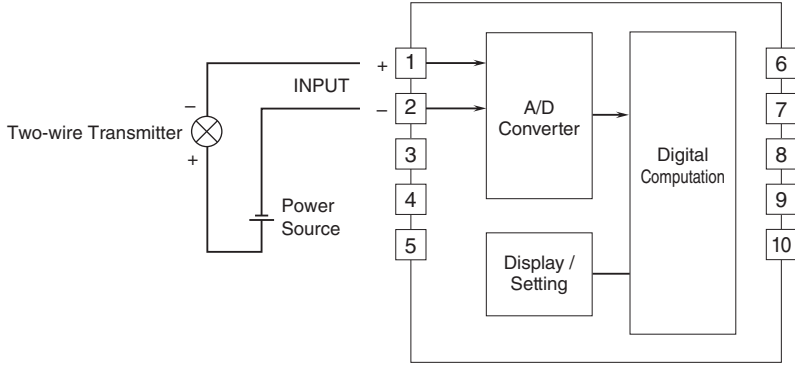


MOUNTING REQUIREMENTS unit: mm

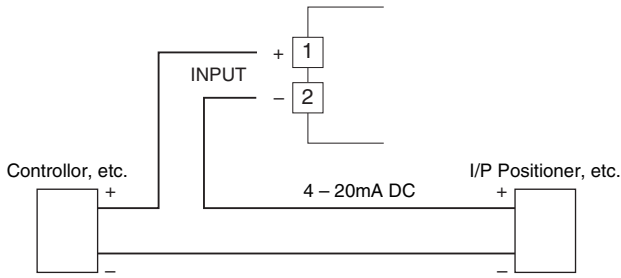


Panel thickness: 1.6 to 8.0 mm

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



■ 4-WIRE CONNECTION EXAMPLE



Specifications are subject to change without notice.