

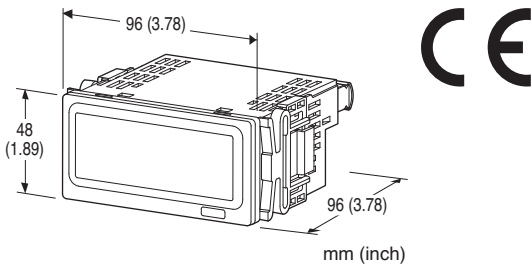
Digital Panel Meters 40 Series

DC INPUT DIGITAL PANEL METER

(3½ digit, without scaling)

Functions & Features

- High visible 0.8" (20.3 mm) LED
- Easy to use



MODEL: 40LV-[1]-R[2]

ORDERING INFORMATION

- Code number: 40LV-[1]-R[2]

Specify a code from below for each of [1] and [2].

- (e.g. 40LV-V1-R/Q)
- Specify the specification for option code /Q (e.g. /C01)

[1] INPUT

Current

- A1:** ±199.9 µA DC (Input resistance 1 kΩ)
- A2:** ±1.999 mA DC (Input resistance 100 Ω)
- A3:** ±19.99 mA DC (Input resistance 10 Ω)
- A4:** ±199.9 mA DC (Input resistance 1 Ω)
- A5:** ±1.999 A DC (Input resistance 0.1 Ω)

Voltage

- V1:** ±199.9 mV DC (Input resistance 100 MΩ)
 - V2:** ±1.999 V DC (Input resistance 100 MΩ)
 - V3:** ±19.99 V DC (Input resistance 10 MΩ)
 - V4:** ±199.9 V DC (Input resistance 10 MΩ)
- (CE not available)

POWER INPUT

DC Power

- R:** 24 V DC
- (Operational voltage range 24 V ±20 %, ripple 10 %p-p max.)

[2] OPTIONS

- blank:** none
- /Q:** With options (specify the specification)

SPECIFICATIONS OF OPTION: Q

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

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

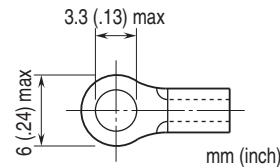
Housing material: Flame-resistant resin (gray)

Isolation: Input to power

A/D conversion: Dual-slope integration

Sampling rate: 2.5 times/sec. (400 msec.)

Recommended solderless terminal



DISPLAY

Display: 3 ½ digits of 20.3 mm height, red LED

Display range: -1999 to 1999

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

(3 positions selectable by short circuit between terminals 5, 6 or 7 to 3)

Polarity: Minus (-) sign added automatically according to the input signal.

Over-range indication: 1 for positive; -1 for negative

Engineering unit indication: Sticker label attached

DC, AC, mV, V, kV, µA, mA, A, kA, mW, W, kW, var, kvar, Mvar, VA, Hz, Ω, kΩ, MΩ, 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

Hold Input: Dry contact input

Detecting level: ≤ 4.3 V

Sensing: Approx. 5V, 0.7 mA DC

INSTALLATION

Power consumption

•DC: Approx. 0.5 W

Operating temperature: 0 to 55°C (32 to 131°F)

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

Mounting: Panel flush mounting

Weight: 150 g (0.33 lb)

PERFORMANCE in percentage of reading

Accuracy: See the table next.

Temp. coefficient: $\pm (0.01 \% \text{ of } |\text{rdg}| + 0.1 \text{ digits}) / ^\circ\text{C}$

Line voltage effect: ± 1 digit over voltage range

Insulation resistance: $\geq 100 \text{ M}\Omega$ with 500 V DC

Dielectric strength: 1500 V AC @1 minute (input to power to ground)

Accuracy

INPUT CODE	MEASURING RANGE	MEASUREMENT ACCURACY	MAX. INPUT	MAX. RESOLUTION
A1	$\pm 199.9 \mu\text{A}$	$\pm 0.1\% \text{ rdg} \pm 1 \text{ digit}$	$\pm 10 \text{ mA}$	100 nA
A2	$\pm 1.999 \text{ mA}$		$\pm 50 \text{ mA}$	1 μA
A3	$\pm 19.99 \text{ mA}$		$\pm 150 \text{ mA}$	10 μA
A4	$\pm 199.9 \text{ mA}$		$\pm 500 \text{ mA}$	100 μA
A5	$\pm 1.999 \text{ A}$	$\pm 0.3\% \text{ rdg} \pm 1 \text{ digit}$	$\pm 3 \text{ A}$	1 mA
V1	$\pm 199.9 \text{ mV}$	$\pm 0.1\% \text{ rdg} \pm 1 \text{ digit}$	$\pm 250 \text{ V}$	100 μV
V2	$\pm 1.999 \text{ V}$		$\pm 250 \text{ V}$	1 mV
V3	$\pm 19.99 \text{ V}$		$\pm 250 \text{ V}$	10 mV
V4	$\pm 199.9 \text{ V}$		$\pm 350 \text{ V}$	100 mV

STANDARDS & APPROVALS

EU conformity:

EMC Directive

EMI EN 61000-6-4

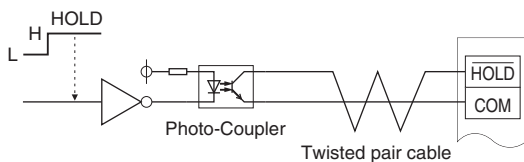
EMS EN 61000-6-2

RoHS Directive

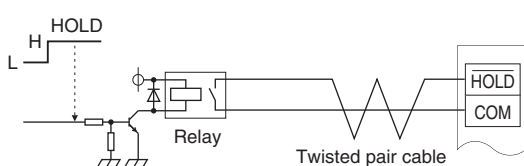
DISPLAY HOLD COMMAND

To hold the display, close between HOLD and COM as shown below.

(a) Photo-Coupler

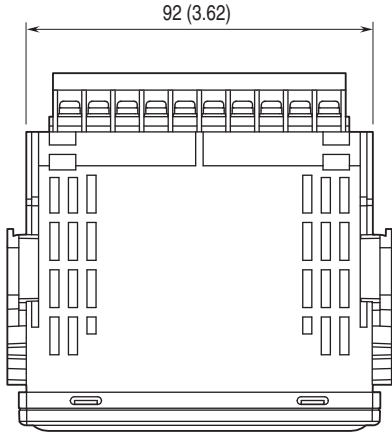


(b) Relay

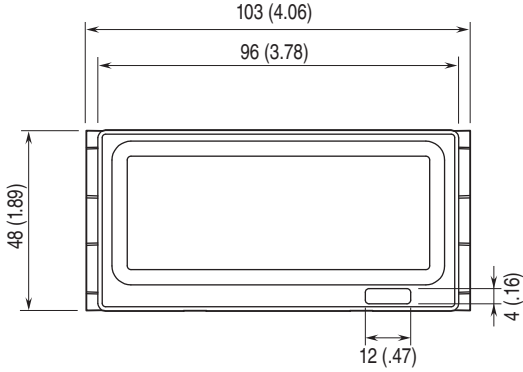


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)

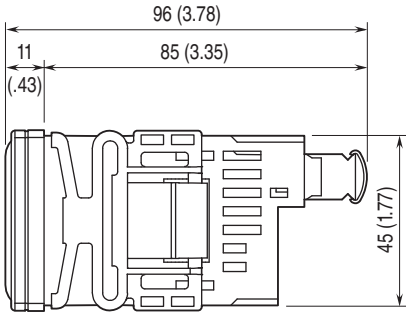
■ TOP VIEW



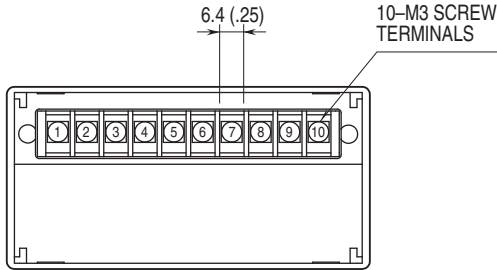
■ FRONT VIEW



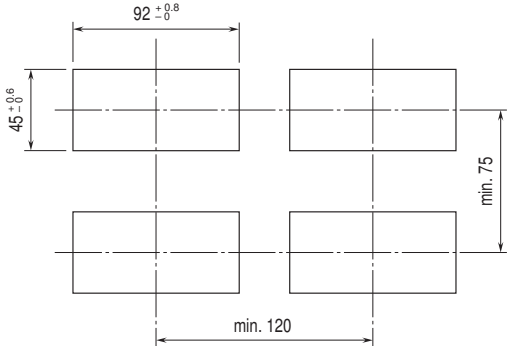
■ SIDE VIEW



■ REAR VIEW

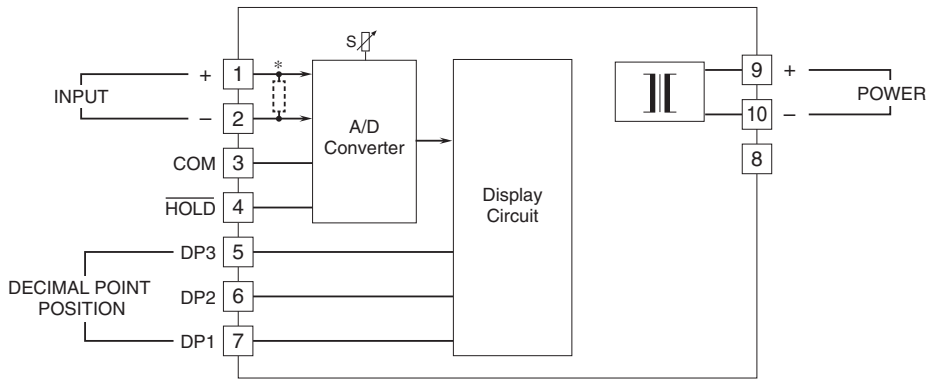


MOUNTING REQUIREMENTS unit: mm



Panel thickness: 1.6 to 8.0 mm

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*Input shunt resistor incorporated for current input.



Specifications are subject to change without notice.