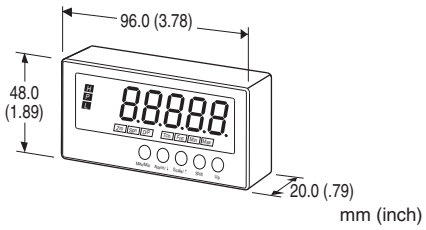
Digital Panel Meters 47NL Series

DC INPUT DIGITAL PANEL METER

(4 1/2 digit, LED display type)

Functions & Features

- 4 ½ digit DC input digital panel meter
- Moving average function to suppress the display flickering
- Scaling, forced zero, low-end cutout
- Max. and Min. value display
- Photo MOSFET relay alarm output



MODEL: 47NLV-[1][2]-R[3]

ORDERING INFORMATION

- Code number: 47NLV-[1][2]-R[3]

Specify a code from below for each of [1] through [3].
(e.g. 47NLV-4WB-R/Q)

- Specify the specification for option code /Q
(e.g. /SET)

[1] INPUT

Current

A: 4 – 20 mA DC (Input resistance 10 Ω)
D: 0 – 20 mA DC (Input resistance 10 Ω)

Voltage

4: 0 – 10 V DC (Input resistance 1 MΩ min.)
5: 0 – 5 V DC (Input resistance 1 MΩ min.)
6: 1 – 5 V DC (Input resistance 1 MΩ min.)
4W: -10 – +10 V DC (Input resistance 1 MΩ min.)
5W: -5 – +5 V DC (Input resistance 1 MΩ min.)

[2] DISPLAY COLOR

R: Red
YR: Orange
G: Green
B: Blue
W: White

POWER INPUT

DC Power

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

[3] OPTIONS

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

SPECIFICATIONS OF OPTION: Q

EX-FACTORY SETTING

/SET: Preset according to the Ordering Information Sheet (No. ESU-9561)

GENERAL SPECIFICATIONS

Construction: Panel mount type
Degree of protection: IP66; Applicable to the front of the panel meter mounted according to the specified panel cutout. Only screw mounting conforms.
Connection: Screwless spring terminal
Applicable wire size: 0.2 to 0.5 mm^2, stripped length 6 mm
Housing material: Flame-resistant resin (gray)
Isolation: Input to alarm output to power
Setting: (Front button)

- Scaled range
- Moving average
- Others

(Refer to the instruction manual for details)
Averaging: None or moving average
Lockout setting: Prohibiting certain operations; protecting settings

DISPLAY

Display: 16 mm (.63) high, 4 ½ digits, 7-segment LED
Display range: -19999 to 19999
Decimal point position: 10^{-1}, 10^{-2}, 10^{-3}, 10^{-4} or none
Zero indication: Higher-digit zeros are suppressed.
Over-range indication: '-19999' or '19999' blinking for display values out of the display range.
'S.ERR' and 'Min' or 'Max' blinking when the input signal is out of the usable range.
Alarm status indication
L indicator: Green turns on when the L alarm is tripped.
H indicator: Red turns on when the H alarm is tripped.
P indicator: Amber turns on when none of the other alarms is tripped.
Only 'P' turns on when no-alarm is selected with alarm setpoint.
Function indicators:
Zro, Spn, D/P, Tch, Fnc, Min, Max
Display mode status and operation status, amber ON or blink
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/s^2, inch, ℓ, ℓ/s, ℓ/min, ℓ/h, m^3, m^3/sec,
m^3/min, m^3/h, Nm^3/h, N·m, N/m^2, g, kg, kg/h,
N, kN, Pa, kPa, MPa, t, t/h, ℃, °F, %RH, J,
kJ, MJ, rpm, sec, min, pH, %, ppm, etc.

INPUT SPECIFICATIONS

A: Conformance range 4.00 - 20.00 mA DC
(Usable Range: 2.40 - 21.60 mA DC)
D: Conformance range 0.00 - 20.00 mA DC
(Usable Range: -2.00 - +22.00 mA DC)
4: Conformance range 0.000 - 10.000 V DC
(Usable Range: -1.000 - +11.000 V DC)
5: Conformance range 0.000 - 5.000 V DC
(Usable Range: -0.500 - +5.500 V DC)
6: Conformance range 1.000 - 5.000 V DC
(Usable Range: 0.600 - 5.400 V DC)
4W: Conformance range -10.000 - +10.000 V DC
(Usable Range: -12.000 - +12.000 V DC)
5W: Conformance range -5.000 - +5.000 V DC
(Usable Range: -6.000 - +6.000 V DC)

OUTPUT SPECIFICATIONS

■ **Alarm Output**: Photo MOSFET Relay
Rating: 26.4 V DC @ 100 mA (resistive load)
ON resistance: ≤ 5 Ω

INSTALLATION

Power consumption
•**DC**: 0.7 W max.
Operating temperature: -10 to +55°C (14 to 131°F)
Operating humidity: 10 to 90 %RH (non-condensing)
Mounting: Magnet or screw mounting
Weight: 85 g (3.0 oz)

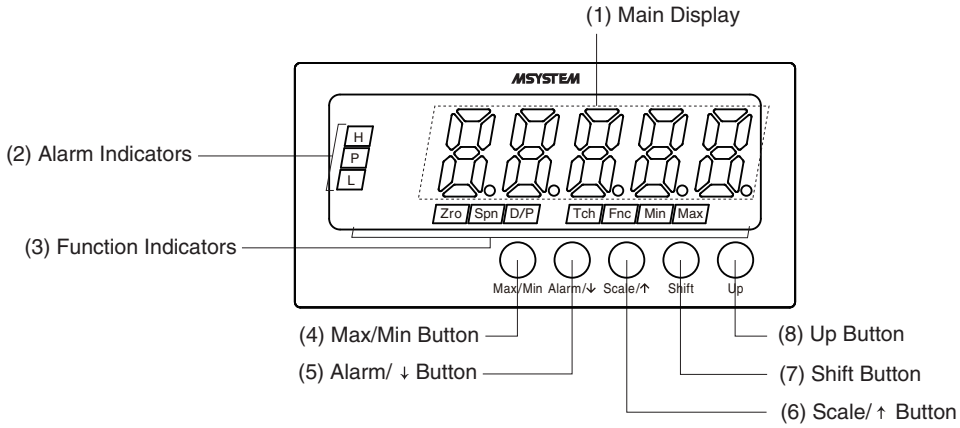
PERFORMANCE

Accuracy
Display: ±0.1 % ± 1 digit
Temp. coefficient: ±0.015 %/°C (±0.008 %/°F)
Response time: ≤ 0.5 sec.
(alarm output: 0 – 100 % at 90 % setpoint)
Line voltage effect: ±0.1 % over voltage range
Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength: 1500 V AC @ 1 minute (input to alarm output to power to ground)

STANDARDS & APPROVALS

EU conformity:
EMC Directive
EMI EN 61000-6-4
EMS EN 61000-6-2
RoHS Directive

EXTERNAL VIEW



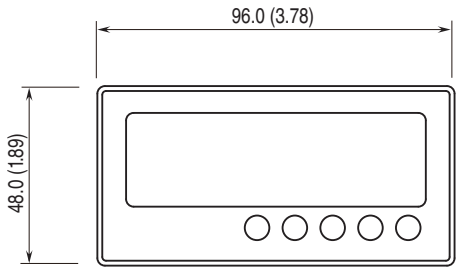
■ COMPONENT IDENTIFICATION

No.	COMPONENT	FUNCTION
(1)	Main display	Indicates present values, setting values and status of the unit.
(2)	Alarm indicators	Indicates the comparison result between alarm setting values and present values.
(3)	Function indicators	Indicates the status in each setting mode.
(4)	Max/Min button	Used to switch the main display to show the present values, maximum values or minimum values.
(5)	Alarm/↓ button	Used to check the alarm setpoints, to move on to the alarm and other setting modes; or to shift through setting items in each setting mode.
(6)	Scale/↑ button	Used to move on to the scaling and other setting modes; or to shift through setting items in each setting mode.
(7)	Shift button	Used to move on to the setting standby status of each setting mode or to shift through display digits in each setting item.
(8)	Up button	Used to change setting values, to execute/cancel Forced Zero or to select setting values.

Note: Refer to the operating manual for details on each function.

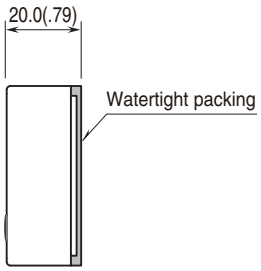
EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)

■ FRONT VIEW

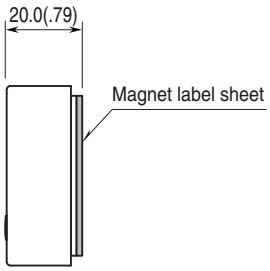


■ SIDE VIEW

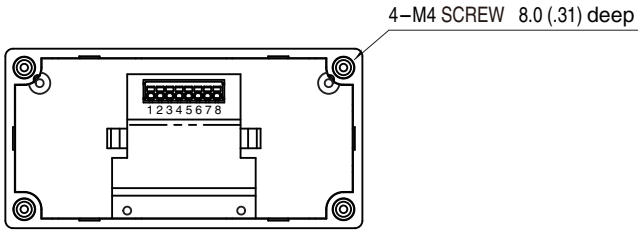
• SCREW MOUNTING



• MAGNET MOUNTING



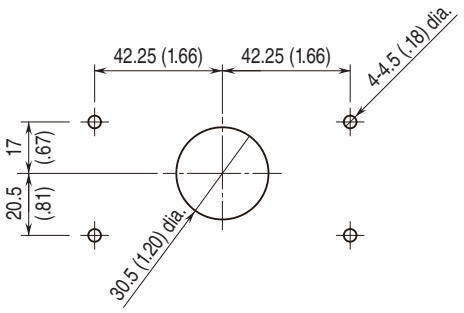
■ REAR VIEW



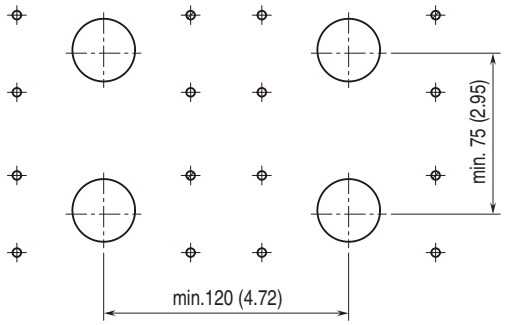
MOUNTING REQUIREMENTS unit: mm (inch)

■ **PANEL MOUNTING**
(Conform to degree of protection IP66)
Panel cutout must be such as M-System specified. Use watertight packing and unit fixing screws included in the product package.

• Single Mounting unit: mm (inch)



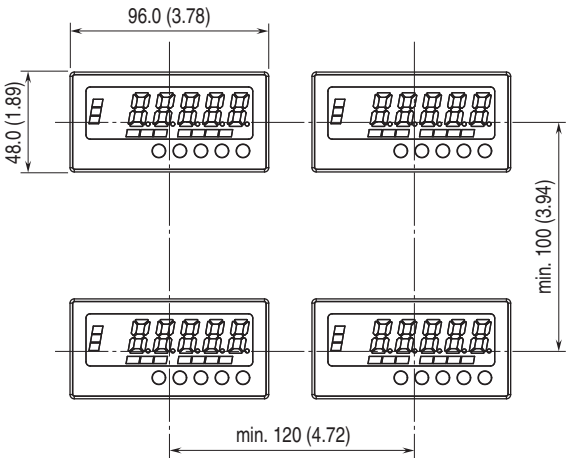
• Clustered Mounting unit: mm (inch)



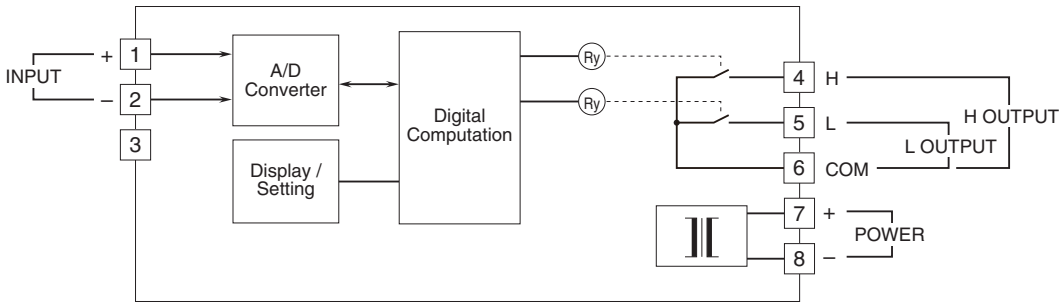
Panel thickness: 1.0 to 3.2 mm

■ **MAGNET MOUNTING**
(Not conform to degree of protection IP66)
Panel cutout is not required. Use magnet sheet and stopper included in the product package.

• Clustered Mounting unit: mm (inch)



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



⚠ Specifications are subject to change without notice.