

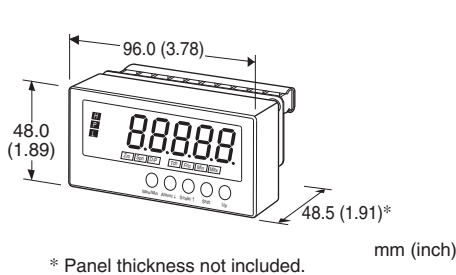
Digital Panel Meters 47NL Series

CURRENT LOOP SUPPLY DIGITAL PANEL METER

(4½ digit, LED display type, with terminal block)

Functions & Features

- 4 ½ digit current loop supply digital panel meter
- Moving average function to suppress the display flickering
- Scaling, forced zero, low-end cutout
- Switchable between linear and square root extraction
- Max. and Min. value display
- Photo MOSFET relay alarm output
- Dedicated terminal block I/O



MODEL: 47NLDYT-[1]-R[2]

ORDERING INFORMATION

- Code number: 47NLDYT-[1]-R[2]
- Specify a code from below for each of [1] and [2].
(e.g. 47NLDYT-B-R/Q)
- Specify the specification for option code /Q
(e.g. /SET)

INPUT

Current

4 – 20 mA DC (Input resistance 250 Ω)

[1] 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.)

[2] 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-9568)

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.

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 alarm output to power

Setting: (Front button)

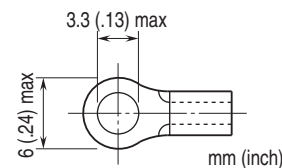
- Scaled range
- Linear, square root extraction
- Moving average
- Low-end cutout
- Others

(Refer to the operating manual for details)

Averaging: None or moving average

Lockout setting: Prohibiting certain operations; protecting settings

Recommended solderless terminal



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.

Overload indication: 'O.L.' and 'Max' blinking when input

overload.

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, 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.

SUPPLY OUTPUT

(across the terminals 1 - 2)

Output voltage:

24 - 28 V DC max. with no load

18 V DC min. at 20 mA no load

Current rating: ≤ 22 mA DC

• Shortcircuit Protection

Current limited: 35 mA max.

Protected time duration: No limit

INPUT SPECIFICATIONS

■ **DC Current:** Input resistor incorporated

Usable range: 4.00 - 20.00 mA DC

(Conformance range: -20 - +120 % of usable range)

OUTPUT SPECIFICATIONS

■ **Alarm Output:** Photo MOSFET Relay

Rating: 26.4 V DC @ 100 mA (resistive load)

ON resistance: $\leq 5 \Omega$

INSTALLATION

Power consumption

• DC: 2.2 W max.

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

Operating humidity: 10 to 90 %RH (non-condensing)

Mounting: Screw mounting

Weight: 120 g (0.26 lb)

PERFORMANCE

Accuracy

Display: $\pm 0.1 \% \pm 1$ digit

(Input within 1 - 100 % for square root extraction)

Temp. coefficient: $\pm 0.015 \%/^{\circ}\text{C}$ ($\pm 0.008 \%/^{\circ}\text{F}$)

Response time: ≤ 0.5 sec.

(alarm output: 0 - 100 % at 90 % setpoint)

Line voltage effect: $\pm 0.1 \%$ over voltage range

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

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

STANDARDS & APPROVALS

EU conformity:

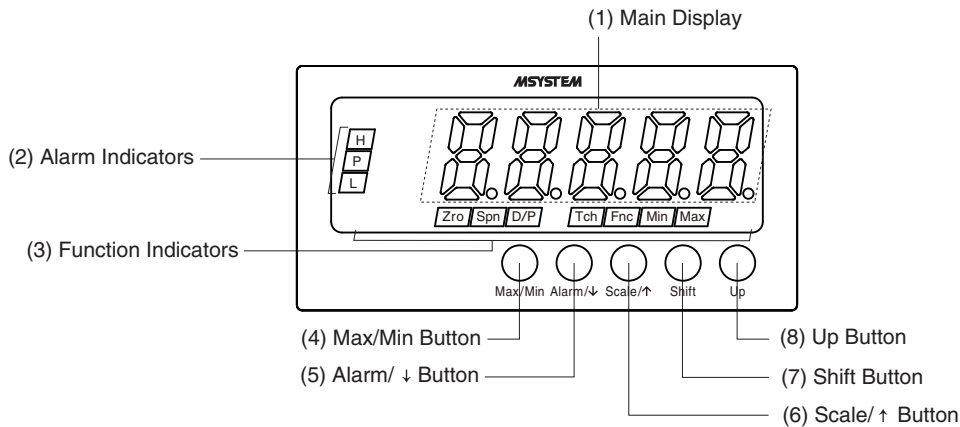
EMC Directive

EMI EN 61000-6-4

EMS EN 61000-6-2

RoHS Directive

EXTERNAL VIEW



COMPONENT IDENTIFICATION

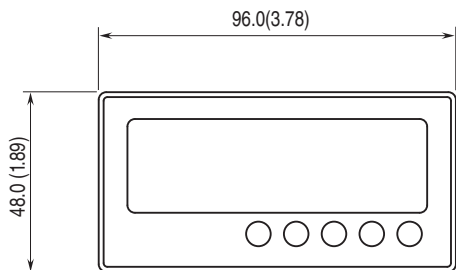
No.	COMPONENT	FUNCTION
(1)	Main display	Indicates present values, setting values and status of the unit.
(2)	Alarm indicators	Indicates the comparison result between alarm setting values and present values.
(3)	Function indicators	Indicates the status in each setting mode.
(4)	Max/Min button	Used to 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.

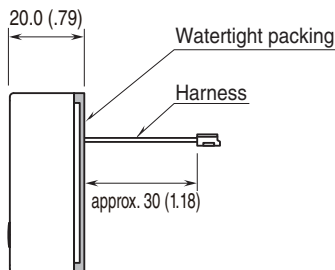
EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)

BODY

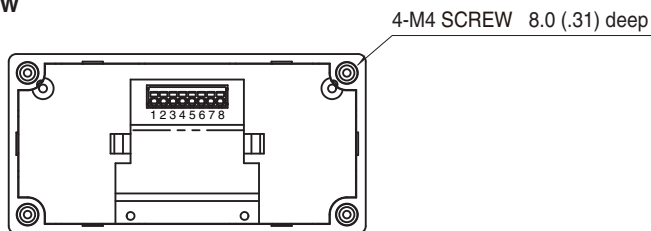
FRONT VIEW



SIDE VIEW

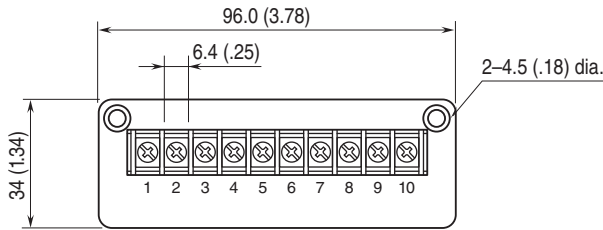


REAR VIEW

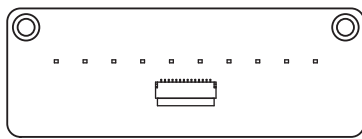


■ TERMINAL BLOCK

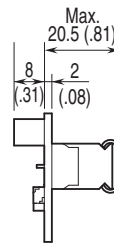
• FRONT VIEW



• REAR VIEW

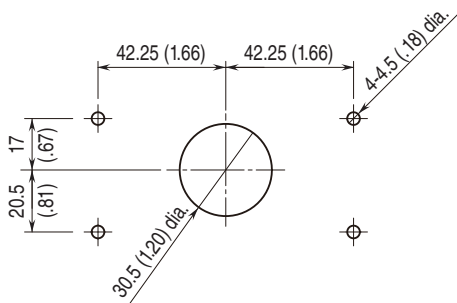


• SIDE VIEW



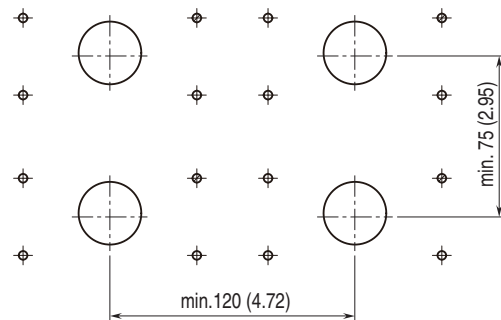
MOUNTING REQUIREMENTS unit: mm (inch)

• Single Mounting



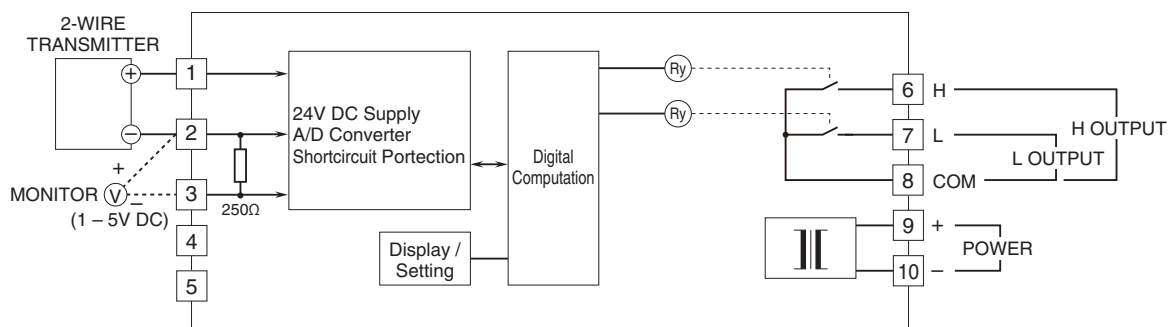
Panel thickness: 1.0 to 3.2 mm

• Clustered Mounting



Panel thickness: 1.0 to 3.2 mm

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM





Specifications are subject to change without notice.