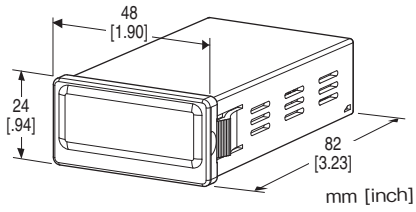
Digital Panel Meters 43E Series

DC INPUT DIGITAL PANEL METER

(alarm output)

Functions & Features

- -1999 to +9999 digital panel meter
- Screwless spring terminal
- DC current / DC voltage input type
- 2 points alarm



CE

MODEL: 43EV–[1][2]-[3][4]

ORDERING INFORMATION

- Code number: 43EV-[1][2]-[3][4]

Specify a code from below for each of [1] to [4].
(e.g. 43EV-11-R/Q)

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

[1] INPUT

1: DC current
2: DC voltage

[2] ALARM OUTPUT

1: N.O. relay contact, 2 points
2: Photo MOSFET relay, N.O., 2 points

[3] POWER INPUT

DC Power
T: 5 V DC
(Operational voltage range 5 V ± 5 %, ripple 10 %p-p max.)
R: 24 V DC
(Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)

[4] OPTIONS

blank: none
/Q: Options other than the above (specify the specification)

SPECIFICATIONS OF OPTION: Q

EX-FACTORY SETTING
/SET: Preset according to the Ordering Information Sheet (No. ESU-9428)

GENERAL SPECIFICATIONS

Construction: Panel flush mounting
Connection: Screwless spring terminal
Applicable wire size: 1.0 to 1.3 mm^2, stripped length 8 mm
Housing material: Flame-resistant resin (gray)
Isolation: Input to alarm output to power
A/D conversion: Σ – Δ
Sampling rate: 5 times/sec. (200 msec.)
Averaging: None or moving average
Setting: (Front button)

- Scaled range
- Moving average
- Brightness
- Others

DISPLAY

Display: 4 digits of 7.6 mm (.3") height, 7-segment, red LED
Display range: -1999 to 9999
Scaling range for measurement range (conformance range): -1999 to 9999
Decimal point position: 10^{-1}, 10^{-2}, 10^{-3} or none
Zero indication: Higher-digit zeros are suppressed.
Over-range indication: '-1999' or '9999' blinking for display values out of the display range. 'S.ERR' blinks surpassing the permissible range.
Alarm status indication
L1 indicator: Green turns on when the L1 alarm is tripped.
L2 indicator: Red turns on when the L2 alarm is tripped.
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

■Input code: 1 (DC current)
Switch 3 ranges by button
· ±20 mA DC (conformance range)
Input range: -24 to +24 mA
Input resistance: approx. 10 Ω
· 4 to 20 mA DC (conformance range)
Input range: 2.4 to 21.6 mA
Input resistance: approx. 10 Ω

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· ±5 mA DC (conformance range)
Input range: -6 to +6 mA
Input resistance: approx. 10 Ω

■Input code: 2 (DC voltage)
Switch 4 ranges by button
· ±10 V DC (conformance range)
Input range: -12 to +12 V
Input resistance: ≥ 1 MΩ
· ±5 V DC (conformance range)
Input range: -6 to +6 V
Input resistance: ≥ 1 MΩ
· 1 to 5 V DC (conformance range)
Input range: 0.6 to 5.4 V
Input resistance: ≥ 1 MΩ
· ±1 V DC (conformance range)
Input range: -1.2 to +1.2 V
Input resistance: ≥ 1 MΩ

OUTPUT SPECIFICATIONS

■Alarm Output
· Relay contact
Rated load: 30 V AC 0.5 A (cosφ = 1)
30 V DC1A (resistive load)
Minimum load: 10 mV DC 10 μA
Mechanical life: ≥ 5×10^7 cycles
For maximum relay life with inductive loads, external protection is recommended.
■Alarm output
· Photo MOSFET relay
Rating: 30 V DC 100 mA (resistive load)
ON resistance: ≤ 0.25 Ω
Permissible: 250 mW

INSTALLATION

Power consumption: 2 W max.
Power supply T: ≤ 380mA @ 5 V DC
R: ≤ 80 mA @ 24 V DC
Operating temperature: 0 to 55°C (32 to 131°F)
Operating humidity: 20 to 90 % RH (non-condensing)
Mounting: Panel flush mounting
Weight: 60 g (2.12 oz)

PERFORMANCE

Accuracy: ±0.1 % rdg ±1 digit× scaling-multiple
Temp. coefficient: ±(0.01%rdg + 0.3 digits) × scaling-multiple/℃
(When the scaling-multiple is less than 1, rounded up to 1.)
Scaling-multiple = | (Display Scaling Value B - Display Scaling Value A) ÷ (default Display Scaling Value B - default Display Scaling Value A) |
Response time: ≤ 500 msec.
Line voltage effect: ±1 digit over voltage range
Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength: 1000 V AC @ 1 minute (input to alarm output to power to ground)

STANDARDS & APPROVALS

EU conformity:
EMC Directive
EN 61326-1
RoHS Directive

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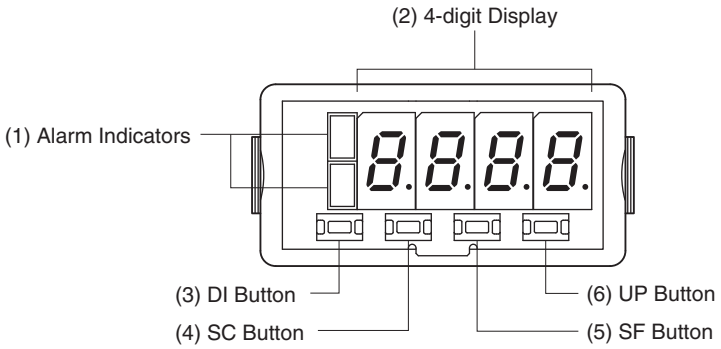
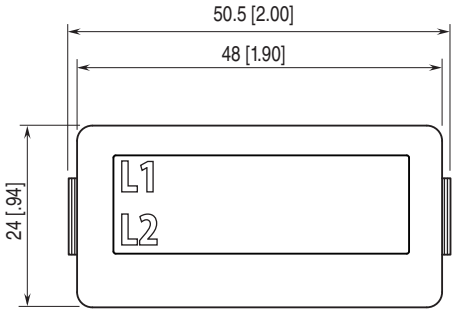
EXTERNAL VIEW

■ **VIEW WITHOUT THE FRONT PANEL**

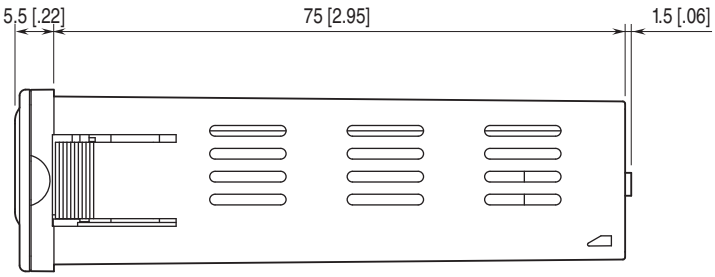


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]

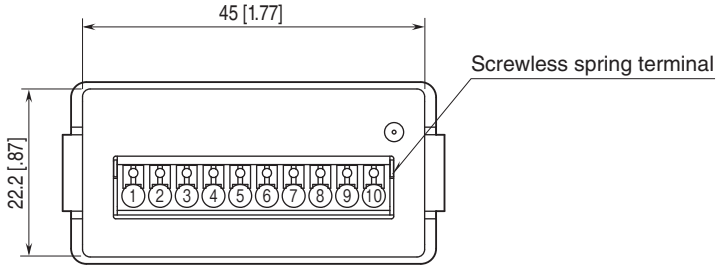
■ **FRONT VIEW**



■ **SIDE VIEW**



■ **REAR VIEW**



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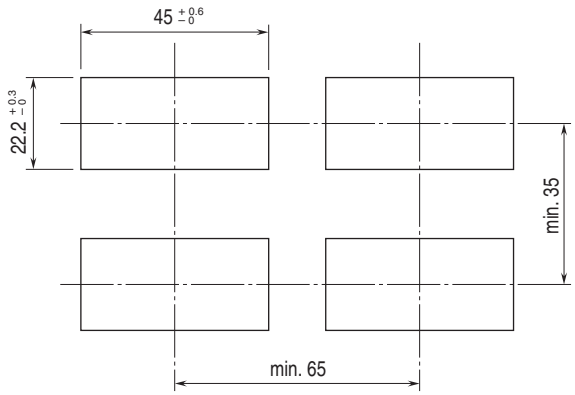
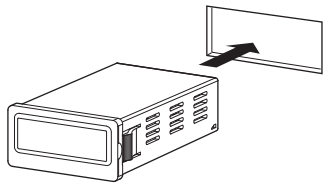
MOUNTING REQUIREMENTS unit: mm

■ **PANEL CUTOUT unit: mm**



Panel thickness: 0.8 to 3.5 mm

MOUNTING



Just insert the meter body (snap-in method)

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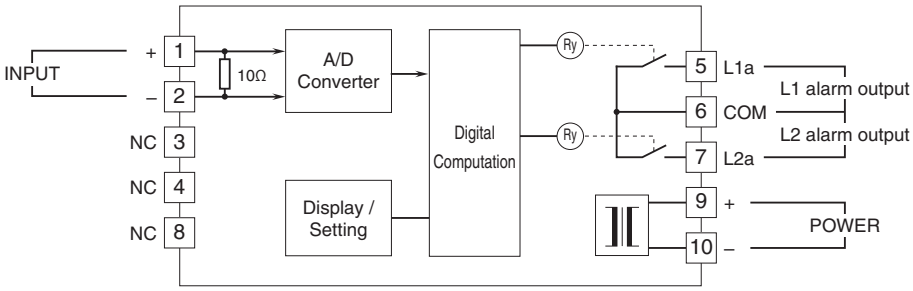
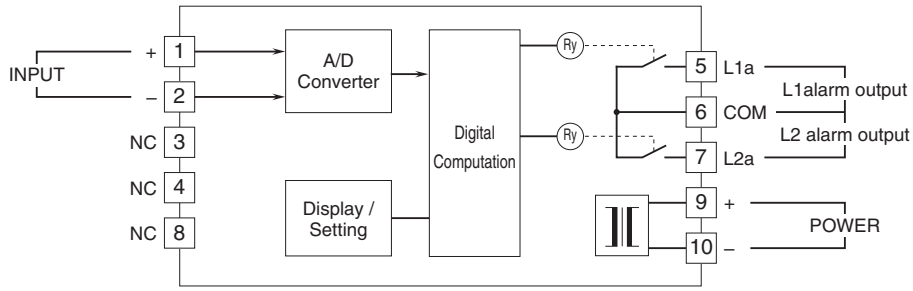
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

■ **DC CURRENT INPUT**

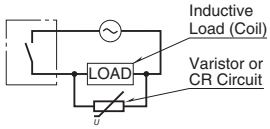


■ **DC VOLTAGE INPUT**

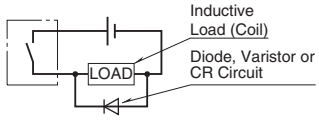


● **Relay Protection**

· AC powered



· DC powered



⚠ Specifications are subject to change without notice.

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