

Digital Panel Meters 43 Series

3 1/2 DIGIT 2-WIRE DC METER
(explosion-proof; outdoor enclosure)

MODEL **43AL-B**

MODEL & SUFFIX CODE SELECTION

43AL-B-□□□□

MODEL _____

SAFETY APPROVAL *1 _____

0 : None
3 : FM explosion-proof
4 : CENELEC flameproof (ATEX)
8 : TIIS flameproof *2

TERMINAL BLOCK _____

0 : None *3
T : Incorporated

WIRING CONDUIT *1 _____

0 : G 1/2
1 : 1/2 NPT
2 : M20 × 1.5
3 : PG 13.5

MOUNTING BRACKET _____

0 : Without
1 : With

OPTIONS _____

/S : Stainless steel enclosure *3

*1 : Confirm selectable combinations of approval and wiring conduit types in the table below.

*2 : CE not available

*3 : TIIS approval not selectable

■SELECTABLE WIRING CONDUITS SPECIFIC TO EACH APPROVAL
'N' marked combinations are not selectable.

APPROVAL \ WIRING CONDUIT	0	3	4	8
0	Y	N	N	Y
1	Y	Y	Y	N
2	Y	N	Y	N
3	Y	N	N	N

ORDERING INFORMATION

Specify code number and variables. If the display scale is not specified at the time of ordering, the unit will be shipped with the default range 0 – 1999.

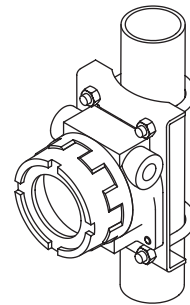
For the safety approval code 4, specify the product's destination country using Ordering Information Sheet (No. ESU-9424).

- **Code number** (e.g. 43AL-B-0001)
- **Display scale** (e.g. 0 – 100.0)

Three lower-digit zeros are displayed for the zero display. For example, the display shows '00.0' with 0 – 100.0 range.

RELATED PRODUCTS

- Cable gland (model: BX-E-SXY)
- Stopping plug (model: BX-E-SBP)



Functions & Features

- Small size, 3 1/2 digit DC meter
- No external power source needed
- Optional stainless steel enclosure
- CE marking (conforms to ATEX and EMC)

GENERAL SPECIFICATIONS

Environmental protection: NEMA 4X, IP65

Wiring conduit: See 'Model & Suffix Code.'

Cable gland: Two provided for TIIS flameproof type

Model No.: BX-E-SXY

Cable entries: Elastmeric sealing rings

Wiring conduit size: G 1/2

Material: Chrome-plated brass (entry)
CR (sealing ring)

Applicable wire size: 8 – 12 dia.

Stopping plug: One provided for TIIS flameproof type

Model No.: BX-E-SBP

Wiring conduit size: G 1/2

Material: Diecast aluminum (plug)
NBR (O-ring)

Electrical connection: Euro terminal block

Materials

Meter housing: Flame-resistant resin (black)

Enclosure: Diecast aluminium standard; stainless steel casting optional (equivalent to type 316); silver color, epoxy resin coated

Mounting bracket assembly: Stainless steel 304

Applicable pipe: 1 1/2" min.; 2" max.

Isolation: Input to earthing [E] to outdoor enclosure

Input configuration: Dual-slope integration

Scaling: Analog scaling; potentiometer on the top

Engineering unit indication: Sticker label attached

DISPLAY

LED: 10.16 mm (.4") 7-segment, red
Number of display digits: 3 1/2
Maximum display range: 1999
Scaling factor for process meter
Zero: ±200 counts
Span: 100 to 1999 counts
Decimal point position: 3 positions selectable with internal DIP SW behind the cover
Polarity sign: Minus (–) sign added automatically according to the computation result
Read rate: Approx. 2.5/s
Over-range warning: The MSD shows '1' with all other digits OFF with 1999 or greater input

INPUT

■ **DC CURRENT:** 4 – 20mA DC
Maximum applicable current: 50mA DC*
Voltage drop:** Approx. 5.0V with 4mA; approx. 5.3V with 20mA; ≤6V with 50mA
 *The current limit is relevant only to the safety approval requirements, thus does not assure the unit's accuracy.
 **The minimum required supply voltage to the 2-wire transmitter added with the indicator's voltage drop at the maximum input current must be within the output voltage range of the 2-wire transmitter's excitation supply.

INSTALLATION

Operating temperature
No safety approval: -40 to +70°C (-40 to +158°F)
CENELEC (ATEX) & FM approval: -40 to +70°C (T5)
 -40 to +60°C (T6)
TIIS approval: -20 to +60°C (T6)
Dimensions: See External Dimensions.
Weight: Approx. 1.3 kg (2.9 lbs), aluminum
 Approx. 4.0 kg (8.8 lbs), stainless steel
 Approx. 2.0 kg (4.4 lbs), TIIS flameproof

PERFORMANCE in percentage of reading

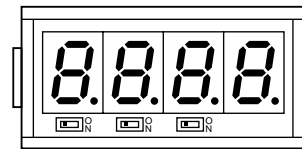
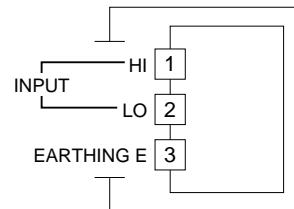
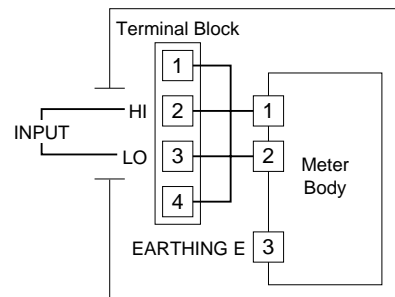
Accuracy: ±(0.1% of FS + 1 digit)
Temp. coefficient: ±0.3 digits/°C at 0 – 50°C
 (±0.17 digits/°F at 32 – 122°F)
Dielectric strength: 1500V AC @1 minute (input to enclosure; when the earthing terminal [E] is not connected to the enclosure.)
 500V AC @1 minute
 (input [LO] to earthing [E] terminal)

STANDARDS & APPROVALS

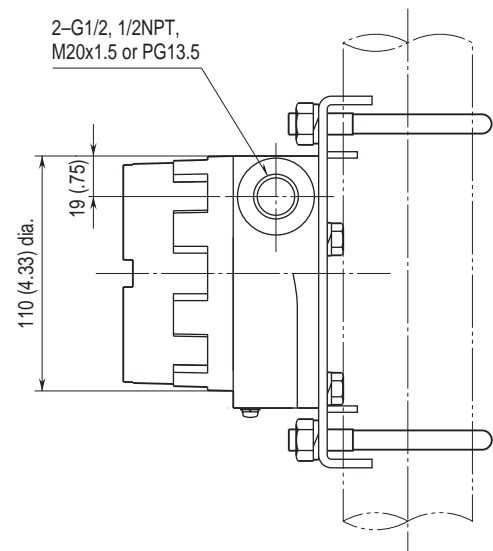
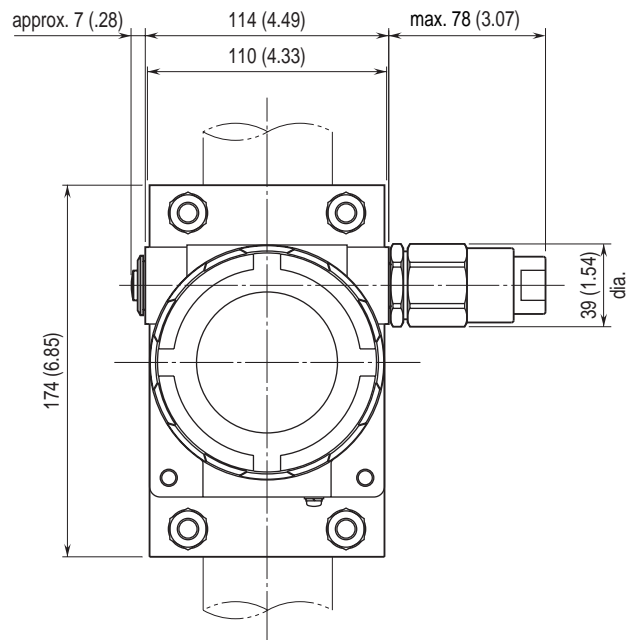
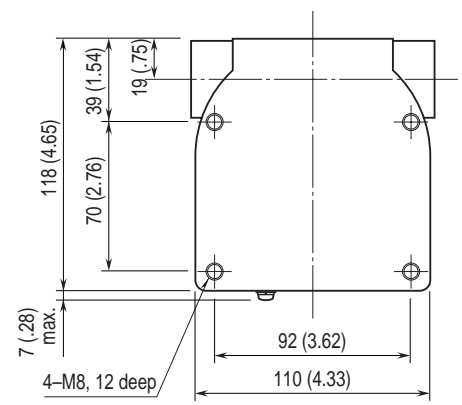
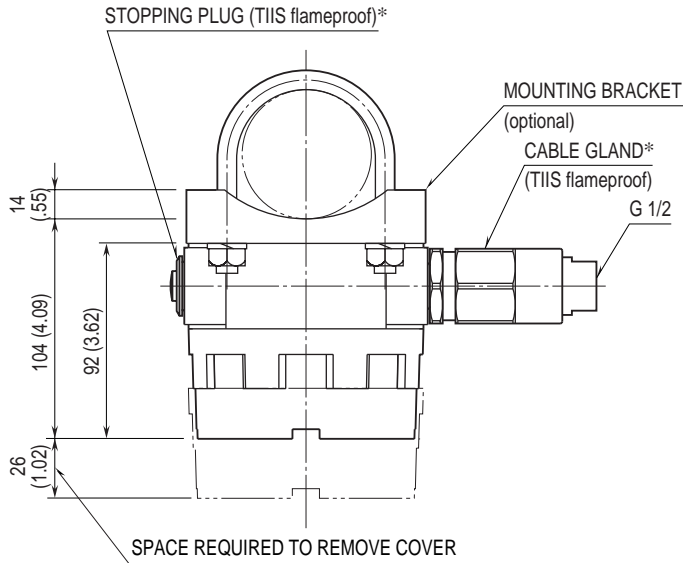
CE conformity: ATEX Directive (94/9/EC)
 EEx d EN50018
 EMC Directive (89/336/EEC)
 EMI EN61000-6-4
 EMS EN61000-6-2
Approval: FM explosion-proof and dust-ignition proof
 Class I, Div. 1, Groups B, C and D
 Class II, Div. 1, Groups E, F and G
 Class III, Div. 1
 T5 and T6
 (Class 3615)
 CENELEC flameproof (ATEX)
 Ⓢ II 2G, EEx d IIC; T5 and T6
 (EN50018 - 2000)
 TIIS flameproof
 Ex d IIC T6

DECIMAL POINT POSITION

Remove the front acrylic cover and set the DIP SW located below each digit.

**CONNECTION DIAGRAM**■ **WITHOUT TERMINAL BLOCK**■ **TERMINAL BLOCK INCORPORATED**

EXTERNAL DIMENSIONS & MOUNTING REQUIREMENTS mm (inch)



*Two cable glands and one plug are provided with TIIS flameproof type. Use them according to the field wiring requirements.