

● Characteristics (Round Carrier)

12 - DIGITALINDICATOR - ATEX - INTRINSICALLY SAFE -



- Input: 4...20 mA (current loop)
- Voltage drop: approx. 3,2 V
- Indication range: -999...9999, programmable (keys or interface)
- Minimum/maximum memory
- Unit: 4th digit is programmable as unit (°C/°F)
- Option: II 2G Ex ia IIC T6 / II 3G Ex nR T6
- Protection class: Front IP67, electronics completely potted
- Accessories: Casing for mounting the display (page 3)

● Characteristics (Angular Carrier)



- Input: 4...20 mA (current loop)
- Voltage drop: approx. 3,2 V
- Indication range: -999...9999, programmable (keys or interface)
- Minimum/maximum memory
- Unit: 4th digit is programmable as unit (°C/°F)
- Option: II 2G Ex ia IIC T6
- Protection class: Front IP67, electronics completely potted
- Accessories: Casing for mounting the display (page 3)

● Technical Data

Input

Current loop: 4...20 mA
Input resistance: $R_i < 160 \Omega$ ($U = < 3,2 V$)

Accuracy

Resolution: -999...9999 Digit
Error in measurement: $\pm 0,2\%$ of measurement range, ± 1 digit
Temperature drift: 100 ppm/K

Indication

Display: 7 segments, 8 mm, red, 4 digits
Overflow/Underflow: to HI / to LO
Display time: 0,1 s - 1 s - 10 s (adjustable)

Environmental Conditions

Operating temperature: Standard: 0...+80°C / Ex-type: 0...+60°C
Storage temperature: -20...+80°C

Programmable Features

Indicating range / Display time / Decimal point / Unit (°C/°F) / Zero-point smoothing / Program lock / Anchor points / TAG-number

Approval

EU type examination certificate: ZELM 05 ATEX 0252 X
Declaration of conformity: ZELM 05 ATEX 3175 X

● Applications

The current loop display CULO-L is particularly applicable in places where a 4...20 mA standard signal is available. With its casing variants it is suitable as an on-site display for the entire industrial sector.



● Technical Data (Continued)

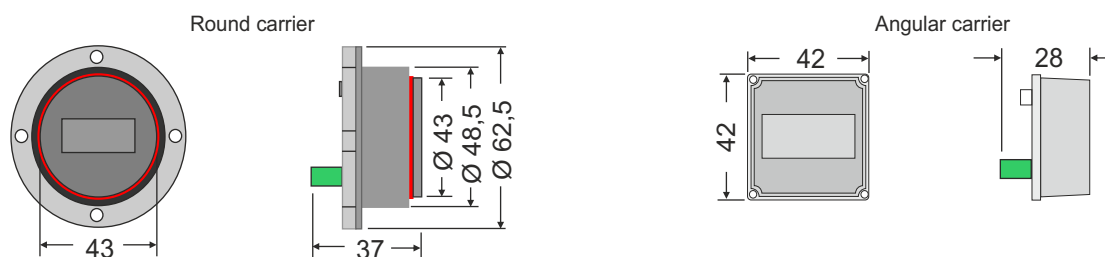
Mechanics

Casing material:	Macrodon	Connection:	IP20
Protection class:	Front: IP67	Plug-in terminal strip up to 1,5 mm ²	
Connection:	Open cable ends:	Ø 43/48,5/62,5 mm x 37mm	
Carrier, round:	Dimensions:	4 mounting holes for M4	
	Mounting:	approx. 55 g	
	Weight:	42 x 42 x 28 mm	
Carrier, angular:	Dimensions:	4 mounting holes for 2 mm screws	
	Mounting:	approx. 45 g	
	Weight:		

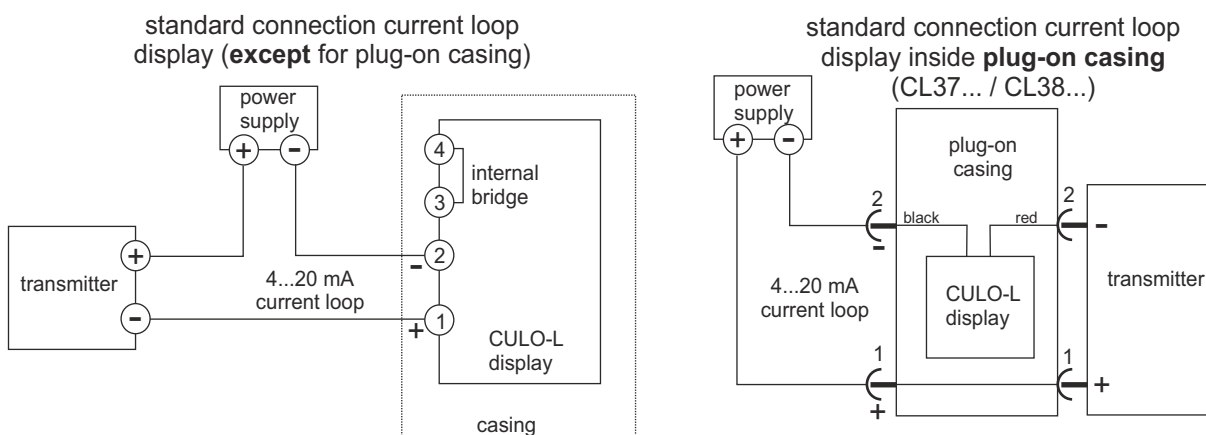
Accessories (Casing for display mounting)

Type variants: Special casing for wall or pipe mounting
(for more details see page 3)

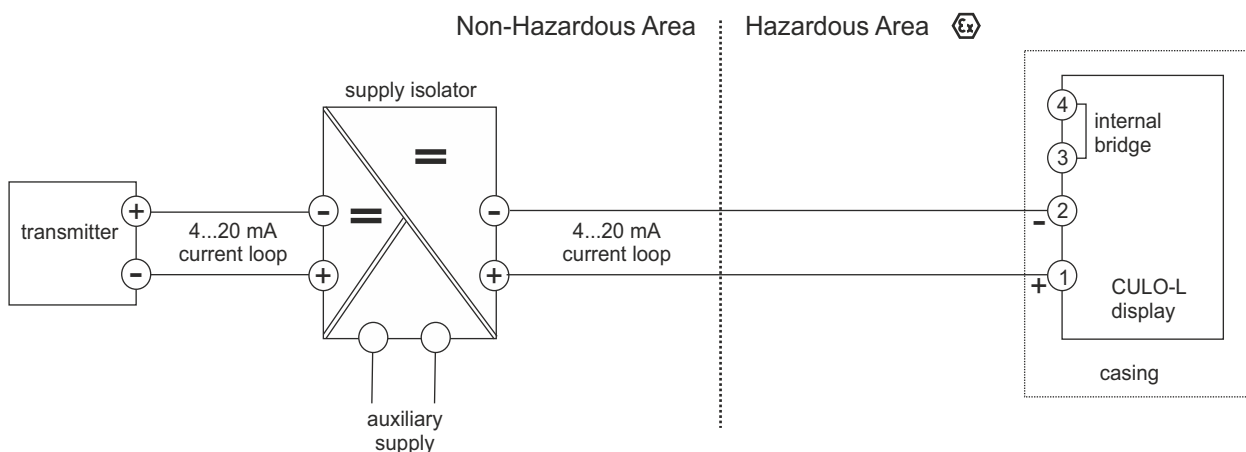
● Carrier Dimensions



● Standard Connection (Example)

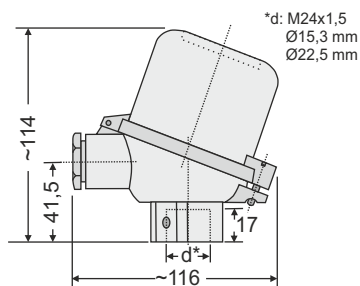


● Standard Connection Ex (Example, Except for Plug-On Casing)



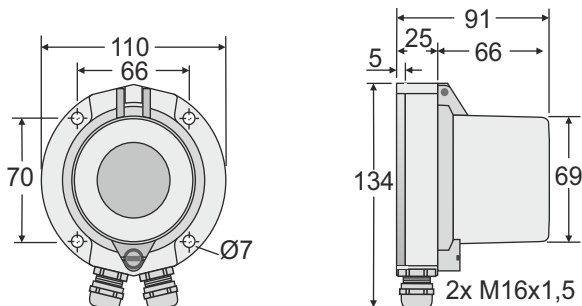
For mounting, start-up and operation of the display, please comply with the operating manual. When using a type with explosion protection, please too comply with the associated EU type examination certificate or declaration of conformity. See also *Safety Parameters* and *Type Table*, page 4.

● Special Casing DIN BUZ-H



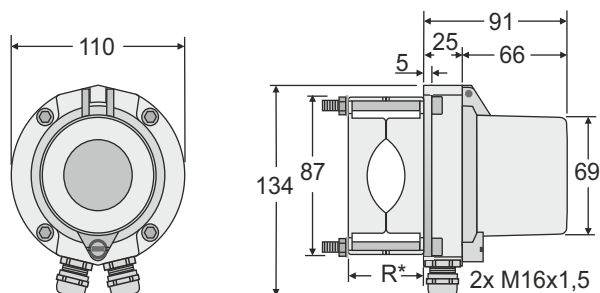
Special model
Process connection: M24x1,5
Ø15,3 mm
Ø22,5 mm
Material: Powder-coated diecast aluminum
Cable gland: 1x M20x1,5
Protection class: IP67
Weight: approx. 350 g
Approvals: II 2G Ex ia IIC T6
II 3G Ex nR T6

● Wall-Mounted Casing with Magnetic Support



BUZ-H top special model
Material: Powder-coated diecast aluminum
Lower part: Powder-coated aluminum
Magnetic support: embedded foil
Cable gland: 2x M16x1,5
Protection class: IP67
Weight: approx. 500 g
Approvals: II 2G Ex ia IIC T6
II 3G Ex nR T6

● Pipe Support Casing

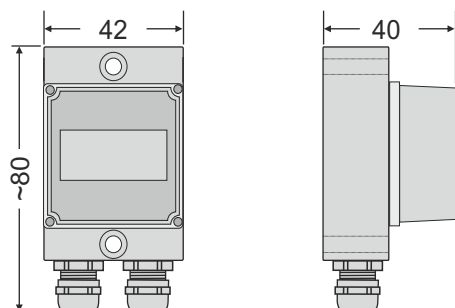


*R = pipe diameter outside = 42...60 mm



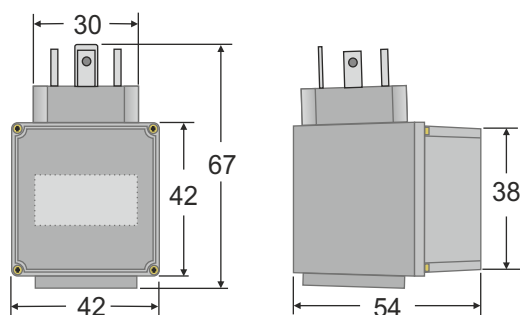
BUZ-H top special model
Material: Powder-coated diecast aluminum
Lower part: Powder-coated aluminum
Pipe support: Tin-coated sheet steel with mirror finish
Pipe diameter: 42...60 mm
Cable gland: 2x M16x1,5
Protection class: IP67
Weight: approx. 950 g
Approvals: II 2G Ex ia IIC T6
II 3G Ex nR T6

● Surface Mounted Casing



Dimensions: 80x42x40 mm
Material: Anodized aluminum (natural)
Mounting: 2 mounting holes for M4
Cable gland: 2x M12x1,5
Protection class: IP63
Weight: approx. 120 g
Approvals: II 2G Ex ia IIC T6

● Plug-On Casing



Dimensions: 43x46x54 mm (without plug-in components)
Casing pluggable with:
DIN 43650 (valve)
M12x1
Material: Macrolon
Protection class: IP62
Weight: approx. 110 g
Approvals: II 2G Ex ia IIC T6

● Order Code

C	L	X	X	X	X	X	X	-	X	X	X
---	---	---	---	---	---	---	---	---	---	---	---

Type:	Standard, round carrier	0									
	II 2G Ex ia IIC T6 (round carrier)	1									
	II 3G Ex nR T6	2									
	Standard, angular carrier	3									
	II 2G Ex ia IIC T6 (angular carrier)	6									
Casing:	no casing	0									
	Special casing - DIN BUZ-H - M24x1,5	1									
	Wall-mounted	2									
	for pipe mounting up to 2"	3									
	with magnetic support	4									
	Special casing - DIN BUZ-H - Ø 15,3 mm	5									
	Special casing - DIN BUZ-H - Ø 22,5 mm	6									
	Plug-on casing valve plug	7									
	Plug-on casing M12x1	8									
	Surface-mounted casing aluminum	A									
Connection:	Terminal strip	0									
	open cable ends	1									
Indicating range:	Factory setting*	0									
	programmed (please specify)	1									
Special model:	Yes (please specify)										0

*Factory setting: Display: 0...250°C / Display time: 1 s / Decimal point: None / Unit: °C /
Zero-point smoothing: 2 / Program lock: None / Anchor points: None / TAG-Number: 0

● Safety Parameters



For mounting, start-up and operation of the display, please comply with the operating manual. When using a type with explosion protection, please too comply with the associated EU type examination certificate or declaration of conformity. See also *Type Table* below for allowed combinations.

Safety Parameters: $U_o = 30 \text{ V}$
 $I_o = 30 \text{ mA}$
 $P_o = 1 \text{ W}$

The maximum effective capacitance and inductance are negligibly small.

● Type Table (Allocation Carrier - Casing - Connection)

	Standard round carrier	II 2G Ex ia IIC T6	II 3G Ex nR T6	Standard angular carrier
no casing	K + O	K + O	K + O	K + O
round carrier with BUZ-H top				
BUZ-H - M24x1,5	K + O	K + O	K	-
Wandaufbaugehäuse	K + O	K + O	K	-
Für Rohrmontage bis 2"	K + O	K + O	K	-
mit Magnethalterung	K + O	K + O	-	-
BUZ-H - Ø15,3	K + O	K + O	-	-
BUZ-H - Ø22,5	K + O	K + O	-	-
angular carrier with Aufsteckgehäuse				
Ventil (DIN43650)	-	S	-	S
M12x1	-	S	-	S
angular carrier with Kleingehäuse				
Aufbau Aluminium	-	K + O	-	K + O
Verschraubung	Standard	blau	schwarz	Standard
Anschluss: K = Klemmsteckleiste O = offene Kabelenden S = steckbar				

Notes:

- Please comply with specifications as per the operating manual, type examination certificate and declaration of conformity.
- Ex-types with ignition protection type ia require mounting inside a casing with a protection class of min. IP20.
- Ex-types with ignition protection type nR require mounting in a casing with a protection class of min. IP54.

In case of non-compliance, explosion protection will no longer be provided!