

Digital display unit



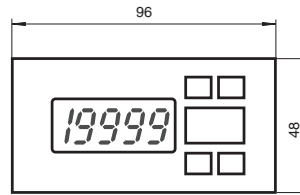
DA4/Ex-40



Features

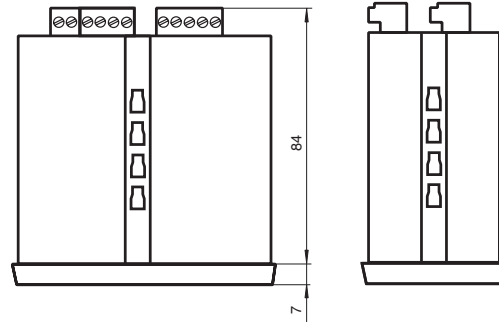
- 2 input terminals 4 mA ... 20 mA
- 4½-digit LC-display, 10 mm
- Loop powered, only 1 V drop
- Intrinsically safe
- Protection degree IP65 (front)
- DIN housing 96 mm x 48 mm

Dimensions



Recommended panel cut-out acc. to DIN 43700:
92 mm + 0.8 mm x 43.5 mm + 0.6 mm
(3.6 inches x 1.7 inches)

To achieve an IP65 seal between the
instrument and the panel:
90 mm + 0.5 mm x 43.5 mm + 0.5 mm
(3.5 inches x 1.7 inches)



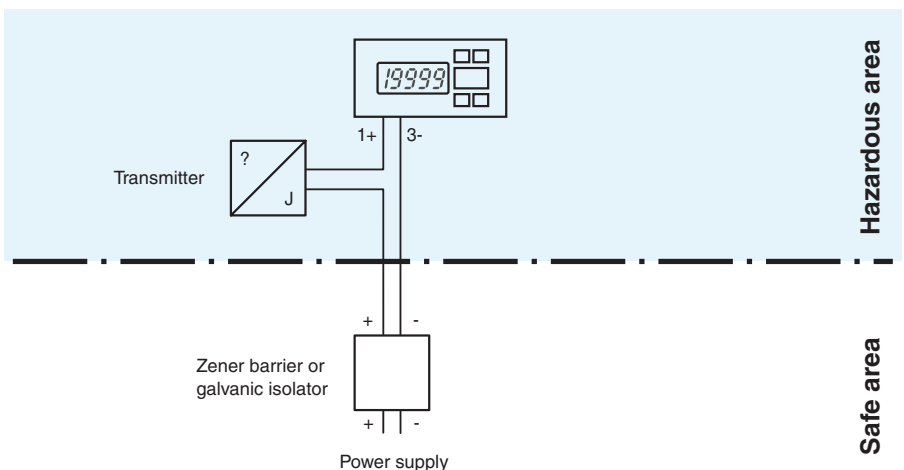
Function

The DA4/Ex40 has a 4½ digit display and is loop powered, but only introduces a 1 V drop allowing it to be installed in series with almost any 4 mA ... 20 mA loop. The indicator is protected from reverse connection, overrange input current and complies with the EMC Directive.

Control and calibration of the indicator is performed via the front panel tactile push-buttons. Using the push-buttons the operator can temporarily select the measured variable as a percentage of span, the input current in mA and the calibration at 4 mA and 20 mA. The front panel is a robust, easy to clean Noryl moulding sealed with a non-reflective, scratch resistant polyester membrane.

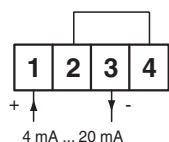
The two 4 mA ... 20 mA input terminals comply with the requirements for simple apparatus which enable the DA4/Ex40 to be connected in series with most certified intrinsically safe circuits without the need for an additional system certificate.

Electrical connection



Supply	
Rated voltage	loop powered
Indicators/operating means	
Type	4½ digit LC-display
Number of decades	5
Display value	digit height 10 mm
Operating elements	push buttons, function in operating mode: - button for display with 4 mA input - button for display with 20 mA input - P button for display the input current in mA, or as a percentage of span, when tare or alarms are fitted has a modified function
Display interval	span: adjustable between 0 ... ±19999 with 4 ... 20 mA input zero: adjustable between -19999 ... +19999 with 4 mA input polarity: automatic minus sign
Decimal point	freely adjustable
Reading rate	2 Hz
Accuracy	linear: ± 0.02 % ± 1 digit temperature effect on: span < 50 ppm/°C, zero: < 25 ppm/°C
Temperature coefficient	< 0.05 % of measuring range/K ± 1 unit (determined over the permissible temperature range)
Input	
Connection	terminals 1+, 3-
Voltage drop U _d	< 1 V at 20 °C (293 K) < 1.1 V at -20 °C (253 K)
Measurement overrange	200 mA (will not cause damage)
Current	4 ... 20 mA
Ambient conditions	
Ambient temperature	-20 ... 60 °C (253 ... 333 K)
Storage temperature	-30 ... 80 °C (243 ... 353 K)
Relative humidity	≤ 95 % at 40 °C (313 K) (non-condensing), front
Mechanical specifications	
Protection degree	IP65 (front), IP20 (rear)
Connection	screw terminal for 0.5 mm ² to 1.5 mm ² , blue removable terminal block
Mass	approx. 300 g
Dimensions	96 x 48 x 91 mm (3.8 x 1.9 x 3.6 in)
Certificates and approvals	
Ex approval	ITS 02 ATEX 2028 (firm BEKA)
Type of protection	Ⓔ II 1G EEx ia IIC T5
General information	
Directive conformity	
Directive 89/336/EC (EMC)	emitted interference to EN 61326, class B equipment interference immunity to EN 61326, annex A (industrial sector) < 1 % of span error for 10 V/m field strength between 80 MHz and 1 GHz
Directive 94/9 EC (ATEX)	EN 50014, EN 50020
Conformity	
Electromagnetic compatibility	NE 21
Protection degree	EN 60529
Supplementary information	EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity and instructions have to be observed. For information see www.pepperl-fuchs.com .

Terminal connections



Terminals 2 and 4 are internally linked for joining return 4 mA ... 20 mA wire

Application

Main application of the DA4/Ex40 is to display a measured variable or control signal in a hazardous process area. The zero and span of the display are independently adjustable so that the indicator can easily be calibrated on site to display any linear or square signal such as temperature, flow or pressure. An optional 16-point linearisation allows the DA4/Ex40 also display non linear coherences in simple linear units.