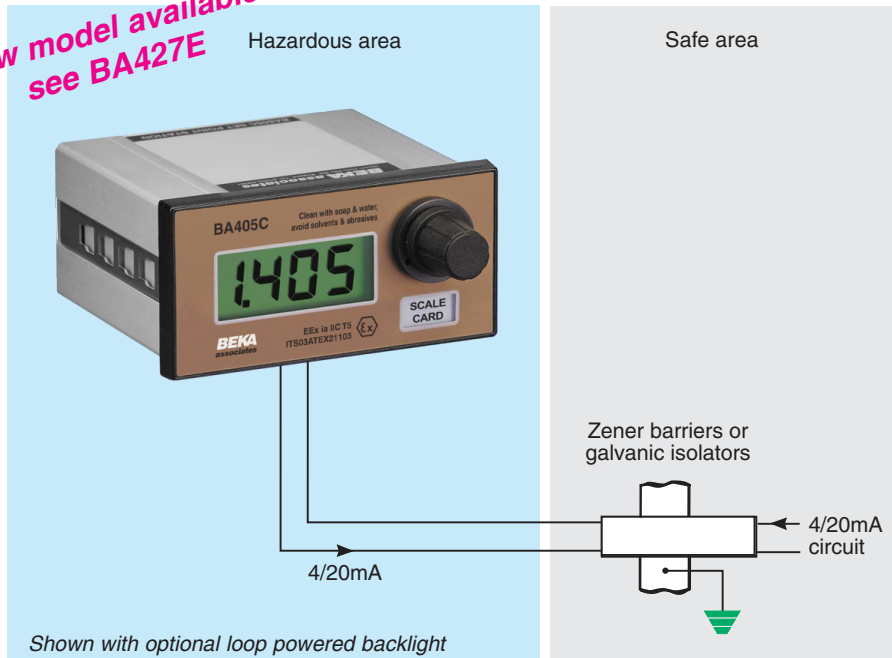


New model available
see BA427E



The BA405C is an intrinsically safe panel mounting manual set point station that enables the current flowing in a 4/20mA loop to be manually adjusted from within a hazardous area. The instrument is loop powered and contains a 3½ digit display which may be calibrated to show the 4/20mA current in engineering units.

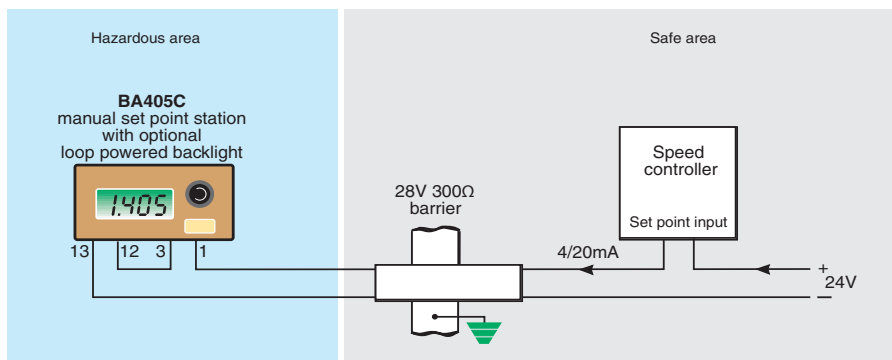
Main application of the BA405C is the adjustment of plant parameters from within a hazardous process area. Speed controller set points such as a vessel mixer, actuator positions or any parameter represented by a 4/20mA signal can be adjusted from within the hazardous area. The BA405C incorporates a ten turn high resolution potentiometer fitted with a friction damper to minimise the risk of accidental adjustment. The magnitude of the variable being adjusted is shown on a 3½ digit display which may be calibrated in engineering units. An operator can therefore accurately set the process parameter to the required value.

ATEX intrinsic safety certification confirms compliance with the requirements for Group II Category 1G equipment Ex ia IIC T5, allowing the BA405C to be installed in almost all gas hazardous areas throughout Europe. For use in the USA the BA405C has FM intrinsic safety and nonincendive approval.

Two display backlight options are available. The loop powered backlight produces green background illumination enabling the display to be read at night and in poor lighting conditions. No additional power supply, IS interface or field wiring are required, but the minimum operating voltage is increased. Alternatively, the separately powered backlight has a bright orange output which enhances daylight viewing, but an additional IS interface and field wiring are required.

The front panel is a robust Noryl moulding sealed with a scratch resistant polyester membrane. A neoprene gasket provides an IP65 seal between the enclosure and the panel. To simplify installation and maintenance, the BA405C has a removable blue rear terminal block which allows panel wiring to be completed before the set point station is installed. A blank scale card is fitted to all instruments, this can be typeset during manufacture or marked on site to show the units of adjustment.

Reliability is ensured by an ISO9001 approved quality control system supported by a three year guarantee. Set point stations are protected from reverse connection and overrange input current, and incorporate radio frequency filtering to comply with the European EMC Directive.



BA405C

2-wire 4/20mA manual set point station

Intrinsically safe for use in all gas hazardous areas

- ◆ Loop powered
- ◆ Intrinsically safe ATEX and FM certification.
- ◆ 3½ digit display
- ◆ Optional
 - Loop powered backlight
 - Separately powered backlight
- ◆ IP66 front
- ◆ 96 x 48 DIN enclosure
- ◆ 3 year guarantee



BEKA associates

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SPECIFICATION

Output

Current Typ 3.5 to 21mA
Resistance Greater than 1M

Power Supply

Voltage 6.1 to 30V
10 to 30V with optional loop powered backlight

Accuracy

Control resolution 0.05% of maximum output
Temperature effect Less than $2\mu\text{A}/^\circ\text{C}$

Display

Type $3\frac{1}{2}$ digit LCD
Zero Adjustable between -1000 & 1000
Span Adjustable between 000 & 1999
Polarity Automatic minus sign
Decimal point 1 of 3 positions or absent selected by internal plug-in link.

Intrinsic safety

Europe ATEX

Code Group II, Category 1G
Ex ia IIC T5
ITS03ATEX21103
Cert No
Location Zone 0, 1 or 2

Installation
4/20mA output

May be connected to any EEx ia certified barrier or isolator with output parameters equal to, or less than:

$U_o = 30\text{V}$
 $I_o = 200\text{mA}$
 $P_o = 0.85\text{W}$

USA FM

Standard Code 3610 Entity
CL I: Div 1; GP. A, B, C, D
T4 at 60°C
File No 3026081
Standard Code 3611 Nonincendive
CL I: Div 2; GP. A, B, C, D
T4 at 60°C
File No 3026081

Environmental

Operating temperature -20 to 60°C
Storage temp -40 to 85°C
Humidity To 95% at 40°C non-condensing
Enclosure
Front IP65
Rear IP20
EMC In accordance with EU Directive 2004/108/EC, full report available.
Immunity Less than 1% of span error for 10V/m field strength between 27MHz & 1 GHz.
Emissions Electromagnetically benign

Mechanical

Terminals Screw clamp for 0.5 to 1.5mm² cables in blue removable terminal block.
Weight 0.4kg

Accessories

Separately powered backlight Orange, powered from 28V 300 Ω Zener barrier or galvanic isolator
Loop powered backlight Green; powered from 4/20mA current.
Typeset scale card Blank scale card fitted to each instrument can be supplied typeset with units of measurement.
Tag number Thermally printed tag number on rear of the instrument.

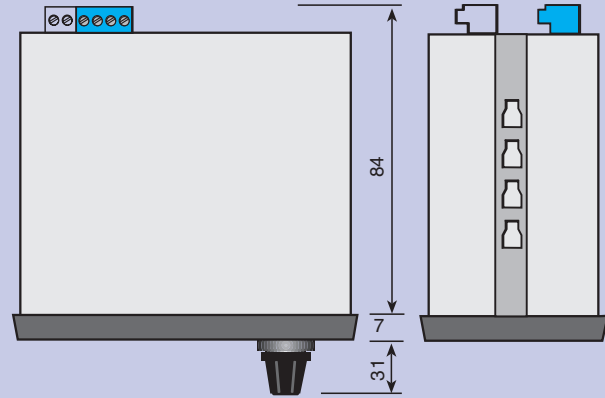
DIMENSIONS (mm)



Recommended panel cut-out

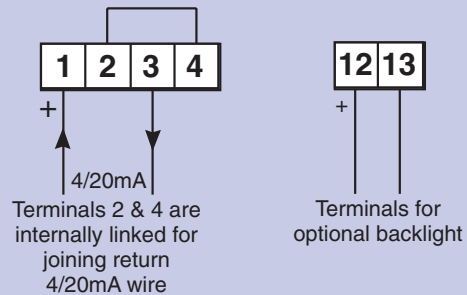
DIN 43 700
92.0 +0.8/-0.0 x 45 +0.6 -0.0

To achieve an IP65 seal between the instrument and the panel
90 +0.5/-0.0 x 43.5 +0.5/-0.0



Terminals for optional backlight are shown in outline

TERMINAL CONNECTIONS



HOW TO ORDER

Model number

Please specify

BA405C
Display at 4mA XXXX } Include position of decimal point and sign if negative
Display at 20mA XXXX

Accessories

Display backlight

Please specify if required

Loop powered backlight or Separately powered backlight
Legend
Legend

Scale card

Tag strip