

Shown with optional loop powered backlight

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.

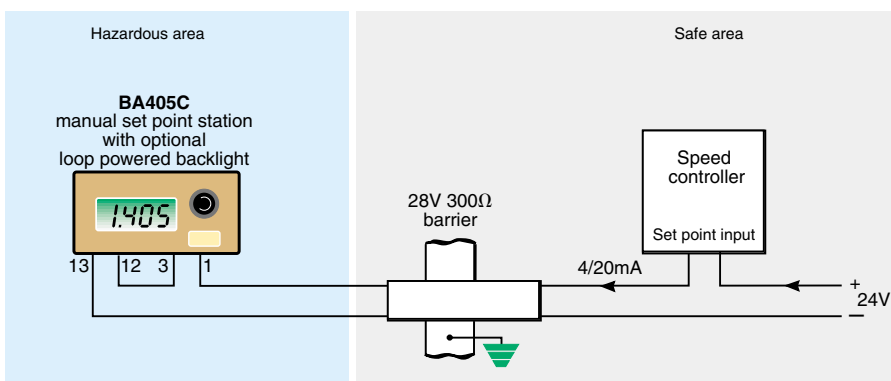
**Main application** of the BA405C is the adjustment of plant parameters from within a hazardous process area. Speed controller set points such as a vessel mixer, actuator positions or any parameter represented by a 4/20mA signal can be adjusted from within the hazardous area. The BA405C incorporates 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
- ◆ IP65 front
- ◆ 96 x 48 DIN enclosure
- ◆ 3 year guarantee



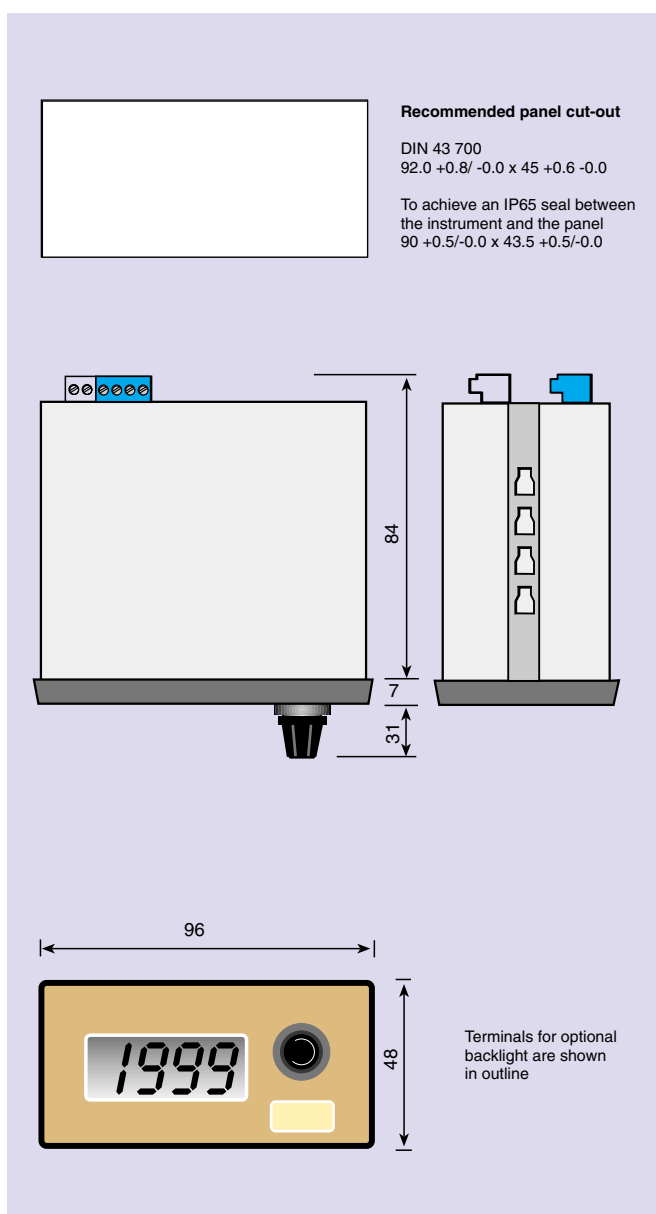
# BEKA associates

BEKA associates Ltd. Old Charlton Rd. Hitchin, Hertfordshire, SG5 2DA, U.K. Tel. (01462) 438301 Fax (01462) 453971 e-mail sales@beka.co.uk www.beka.co.uk

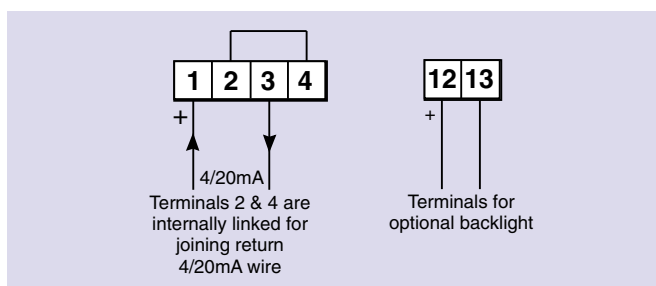
## SPECIFICATION

<b>Output</b>	
Current	Typ 3.5 to 21mA
Resistance	Greater than 1M
<b>Power Supply</b>	
Voltage	6.1 to 30V 10 to 30V with optional loop powered backlight
<b>Accuracy</b>	
Control resolution	0.05% of maximum output
Temperature effect	Less than 2 $\mu$ A/°C
<b>Display</b>	
Type	3½ 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.
<b>Intrinsic safety</b>	
<b>Europe ATEX</b>	
Code	Group II, Category 1G Ex ia IIC T5
Cert No	ITS03ATEX21103
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 <sub>o</sub> = 30V
	I <sub>o</sub> = 200mA
	P <sub>o</sub> = 0.85W
<b>USA FM</b>	
Standard	3610 Entity
Code	CL I: Div 1; GP. A, B, C, D T4 at 60°C
File No	3026081
Standard	3611 Nonincendive
Code	CL I: Div 2; GP. A, B, C, D T4 at 60°C
File No	3026081
<b>Environmental</b>	
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
<b>Mechanical</b>	
Terminals	Screw clamp for 0.5 to 1.5mm <sup>2</sup> cables in blue removable terminal block.
Weight	0.4kg
<b>Accessories</b>	
Separately powered backlight	Orange, powered from 28V 300 $\Omega$ 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)



## TERMINAL CONNECTIONS



## HOW TO ORDER

Model number	<b>Please specify</b> BA405C Display at 4mA XXXX Display at 20mA XXXX	] Include position of decimal point and sign if negative
<b>Accessories</b> Display backlight	<b>Please specify if required</b> Loop powered backlight or Separately powered backlight	
Scale card	Legend	
Tag strip	Legend	