

The **BA304G-SS-PM** loop powered 4/20mA indicator is an intrinsically safe panel mounting instrument with a large 4 digit display. It has a rugged, impact resistant IP66 stainless steel front allowing it to be safely mounted in an Ex e, Ex p or Ex t panel enclosure.

International intrinsic safety gas and dust certification permit world wide installation. The 4/20mA input terminals comply with the requirements for *simple apparatus* which, together with the low voltage drop, allow the indicator to be connected in series with most intrinsically safe 4/20mA loops.

Main application of the BA304G-SS-PM is to display a measured variable in engineering units when mounted in an Ex e, Ex p or Ex t panel enclosure or cubicle. The front of the indicator has IECEx, ATEX and UKEX impact and ingress certification allowing it to be installed in a certified panel enclosure without invalidating the enclosure's certification. The rugged front and IP66 protection also make the indicator ideal for intrinsically safe applications in marine environments or where the front of the instrument is likely to be impacted.

The large 34mm high 4 digit display provides maximum contrast and has a very wide viewing angle, thus the BA304G-SS-PM indicator is easily read in most lighting conditions. An optional backlight is available for installations in poorly illuminated areas. The four digits, with three decimal points and a negative sign, may be configured to display any variable between -9999 and 9999.

Display backlighting which may be loop or separately powered is available as a factory fitted option. It provides green background illumination allowing the display to be read at night or in poorly illuminated areas. When powered from the 4/20mA loop, no additional intrinsically safe interface or wiring is required and the indicator input remains compliant with the requirements for *simple apparatus*. Powering from a separate supply produces a slightly brighter backlight but requires an additional intrinsically safe interface.

Optional dual alarm outputs which can switch hazardous or safe area loads, such as sounders, beacons or solenoid valves, are available as a factory fitted option. The two galvanically isolated solid state outputs may be independently conditioned as high or low alarms with normally open or closed outputs. Annunciators on the display show the status of both alarms.

The scale card which shows units of measurement and tag information slides into an internal slot and can easily be changed on-site. New instruments can be supplied with the scale card printed to show customer specified information for no additional charge, if this is not requested a blank card is fitted which can easily be marked on-site.

A Zener barrier or galvanic isolator is not required when the indicator is installed in an Ex pxb, Ex pzc or Ex t panel enclosure. See Application Guide AG300 for details.

BA304G-SS-PM 2-wire 4/20mA 4 digit indicator

Intrinsically safe for use in Ex e, Ex p or Ex t panel enclosures and in harsh environments.

- ◆ IP66 stainless steel indicator front maintains Ex e, Ex p or Ex t panel enclosure certification.
- ◆ Intrinsically safe
- ◆ Loop powered only 1.2V drop.
- ◆ 4 digit 34mm high display
- ◆ Optional backlight & alarms.
- ◆ Root extractor, lineariser and tare function.
- ◆ Easy scale card installation on-site.
- ◆ 3 year guarantee

beka.co.uk/ba304g-ss-pm



BEKA associates

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

SPECIFICATION

Input

Current	4 to 20mA HART® transparent
Voltage	Less than 1.2V at 20°C Less than 1.3V at -40°C
Ovrange	Less than 5V with optional loop powered backlight ±200mA or ±30V will not damage the indicator

Display

Type	Liquid crystal, 4 digits 34mm high non-multiplexed
Span	Adjustable between 0 & ±9999 for a 4/20mA input
Zero	Adjustable between 0 & ±9999 with 4mA input
Decimal point	1 of 3 positions or absent
Polarity	Automatic minus sign
Zero blanking	Blanked apart from 0 in front of decimal point
Direction	Display may increase or decrease with increasing 4/20mA input.
Reading rate	2 per second
Ovrange	9999 or -9999 with all decimal points flashing

Push buttons

(Function in display mode)	
▼	Shows display with 4mA input
▲	Shows display with 20mA input
P	Displays input in mA or as a % of span, has a modified function when alarms are fitted.
E	Used for tare function

Accuracy at 20°C

Linear	±0.02% of span ±1digit
Root extracting	±16µA at input ±1 digit
Temperature effect on:	
Zero	Less than 25ppm of span/°C
Span	Less than 50ppm of span/°C
Series mode rejection	Less than 0.05% of span error for 1mA pk to pk 50 or 60Hz interference.

Intrinsic safety

International IECEx

Code	Ex ia IIC T5 Ga Ex ia IIIC T80°C Db IP66 -40°C ≤ Ta ≤ 70°C
Input parameters	
Ui	30V dc
Ii	200mA
Pi	0.84W
Output parameters	Comply with requirements for <i>simple apparatus</i>
Cert. No.	IECEX ITS 11.0014X (Special conditions only apply for Zone 0)

Europe ATEX and UKEX

Code	Group II Category 1G and 2D Ex ia IIC T5 Ga Ex ia IIIC T80°C Db IP66 -40°C ≤ Ta ≤ 70°C
Safety parameters	As IECEx certification
Cert. Nos.	ITS11ATEX27253X & ITS21UKEX0087X (Special conditions only apply for Zone 0)

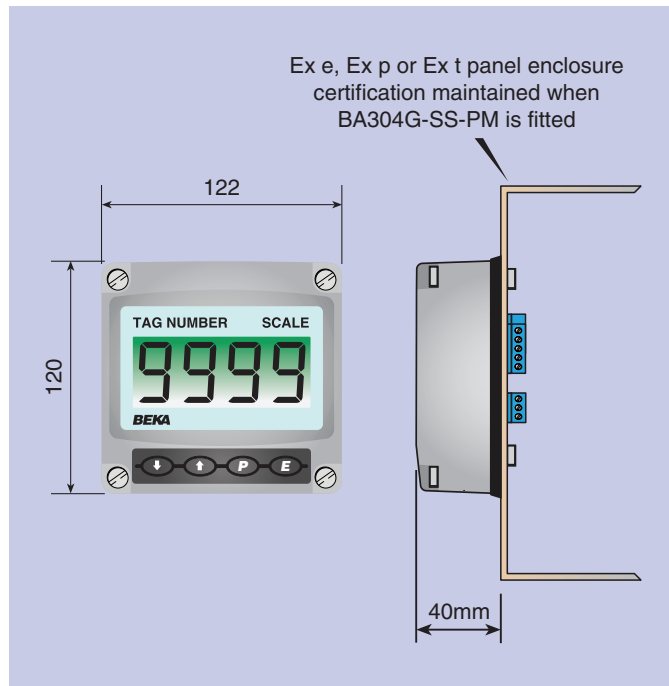
Environmental

Operating temp	-40 to +70°C
Storage temp	-40 to +85°C
Humidity (front)	to 95% at 40°C noncondensing
EMC	Complies with EU and UK Directives

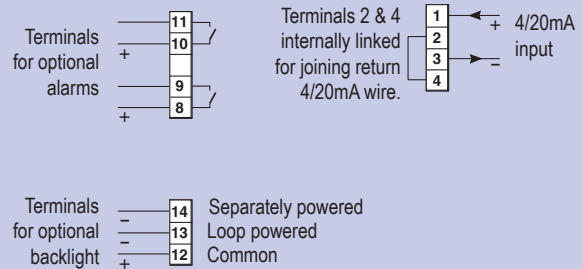
Mechanical

Front of indicator	
Material	316 stainless steel
Ingress protection	IECEX & ATEX certified IP66 ingress protection after thermal endurance, 7J (front) and 4J (window) impacting.
Rear of indicator	
Ingress protection	IP20
Terminals	Blue with screw clamp for 0.5 to 1.5mm ² cable
Weight	1.2kg
Scale card	Slide-in card showing units of measurement and tag information through display window.

DIMENSIONS (mm)



TERMINAL CONNECTIONS



Accessories

Backlight	Green, may be loop or separately powered
Loop powered	Indicator input voltage 5V
Separately powered 11V at 35mA from IS interface	
Alarms	Two alarm outputs each of which may be independently configured as a high or low alarm contact with a NO or NC output.
Output complying with	Isolated, voltage free solid state switch requirements for <i>simple apparatus</i> .
Ron	5Ω + 0.7V max
Roff	1MΩ min

HOW TO ORDER

Model number	BA304G-SS-PM
Display mode	Linear, root or lineariser*
Display at:	
4.000mA	XXXX]
20.000mA	XXXX]
	Include position of decimal point & sign if negative.*
Scale card marking	
Units	Legend required
Tag	Legend required

Accessories Please specify if required

Display backlight	Backlight
Dual alarms	Alarms

* Will be set to display 0.0 at 4mA and 100.0 at 20mA with a linear display if calibration information is not supplied. Can easily be recalibrated on-site.