

The BA201 communications isolator is a dedicated interface for connecting intrinsically safe BEKA Serial Text Displays to a safe area computer system. The isolator provides intrinsically safe galvanic isolation between the safe and hazardous areas, plus conversion of the RS232 or RS485 safe area serial data to the dedicated communications signalling required by BEKA Serial Text Displays.

The isolator also powers the Serial Text Displays and depending upon the wiring configuration, up to four displays may be connected to each BA201. To prevent earth loops both communications ports are functionally isolated from the BA201 power supply terminals allowing an earthed or floating supply to be used.

No configuration is required it is only necessary to connect to the required RS232 or RS485 safe area port, the isolator will automatically function at any of the serial text display communication rates between 300 and 19.2k baud. The RS485 driver turn-around is automatic and optimised for the baud rate in use. Four green LEDs on the top of the isolator indicate status. One LED shows that the device is powered; the others indicate when the RS232 port is being used and when the isolator is transmitting to,

or receiving from the serial text display.

The enclosure, which is moulded in ABS and polycarbonate, is DIN rail mounting and only 22.6mm wide making it compatible with many proprietary galvanic isolators and Zener barriers. To simplify installation and commissioning the terminals are colour coded and removable.

ATEX associated apparatus certification permits the BA201 isolator, when mounted in a safe area, to power and communicate with up to four BEKA intrinsically safe serial text displays mounted in a hazardous area. Either BA484D field mounting or BA488C panel mounting models text displays may be used, or a mixture of both models may be connected to one BA201 communications isolator.

FM, cFM and IECEx approvals allow the BA201 communication isolator to be installed in the USA and Canada. International IECEx approval is already accepted in Australia, New Zealand and Singapore without the need for local certification. In countries that still require local intrinsic safety certification, this can often be quickly obtained based on the international IECEx test report and approval.

BA201

Communications isolator

Interface for BEKA intrinsically safe Serial Text Displays

- ◆ Powers and communicates with BA484D & BA488C serial text displays
- ◆ RS232 and RS485 safe area port
- ◆ ATEX, FM, cFM and IECEx certification
- ◆ DIN rail mounting
- ◆ 3 year guarantee



BEKA associates

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SPECIFICATION

Power supply

Voltage	20 – 35V dc
Current	100mA typical at 24V powering two Text Displays in a three wire system.

Safe area communication

Port	RS232 or RS485
	Unused port should not be connected.

Intrinsic safety

Type	Associated apparatus
Location	Safe area

Europe ATEX

Standard	EN60079-11:2007
Code	Group II Category (1) G [Ex ia] IIC
Cert. No.	ITS07ATEX25602

intrinsic safety parameters

Terminal 1 wrt Terminal 3	
Uo =	21.2V
Io =	96mA
Po =	0.51W
Terminal 2 wrt Terminal 3	
Uo =	13.7V
Io =	84mA
Po =	0.45W

USA FM

Standard	3610 Entity
Code	IS Circuit CLI, II, III; Div 1; GP A, B, C, D, E, & G.
File	3029711

Canada cFM

Standard	CSA 22.2 No 157
Code	IS Circuit CLI, II, III; Div 1; GP A, B, C, D, E, & G.
File	3029711C

International IECEx

Standard	IEC60079-11:2006
Code	[Ex ia] IIC
Cert. No.	IECEx ITS 07.0014

Environmental

Operating temp	-20 to +60°C (ATEX & IECEx Certified for use between -40 and +70°C)
Storage temp	-40 to +85°C
Humidity	To 95% @ 40°C noncondensing
Enclosure	Polycarbonate and ABS moulding IP20
EMC Immunity	In accordance with EU Directive 89/336/EEC BS EN 61326:1998 Operates normally with conducted 3Vrms interference between 0.15kHz and 80MHz, or Radiated 10V/m interference between 80MHz and 1GHz.
Emissions	CISPR 16-1/2 Class A

Mechanical

Terminals	Screw clamp for 0.5 to 1.5mm ² cable. Removable terminal blocks.
Colour	Hazardous area wiring blue
Mounting	35mm 'top hat' DIN rail
Weight	0.15kg

Accessories

Tag number	Thermally printed strip on top of instrument.
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NUMBER OF TEXT DISPLAYS

The BA201 can power and communicate with multiple BA484D or BA488C Serial Text Displays, the maximum number depends upon the wiring configuration.

Two-wire connection

No. of Text Displays	Backlight brilliance
1	Full
2	Reduced

Three-wire connection

No. of Text Displays	Backlight brilliance
1	Full
2	Full
3	Reduced
4	Reduced

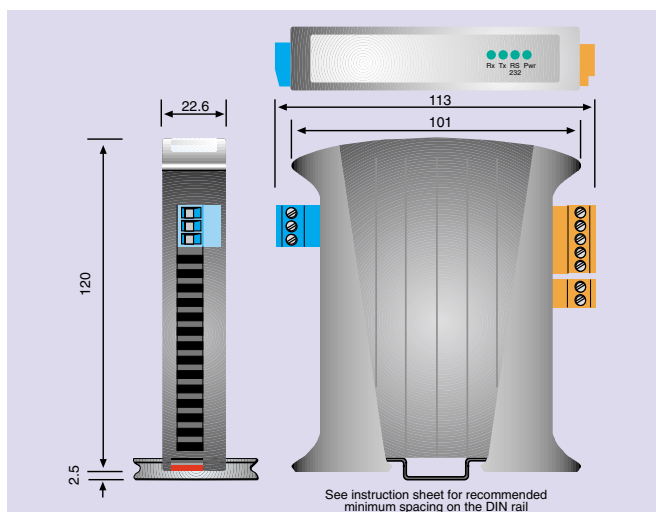
HOW TO ORDER

Model number	Please specify BA201
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Accessories	Please specify if required
Tag strip	Legend

TR Automatyka Sp. z o. o.
ul. Lechicka 14 ; 02-156 Warszawa

DIMENSIONS (mm)



TERMINAL CONNECTIONS

Hazardous area terminals

0V	3
Power + signal	2
Power	1

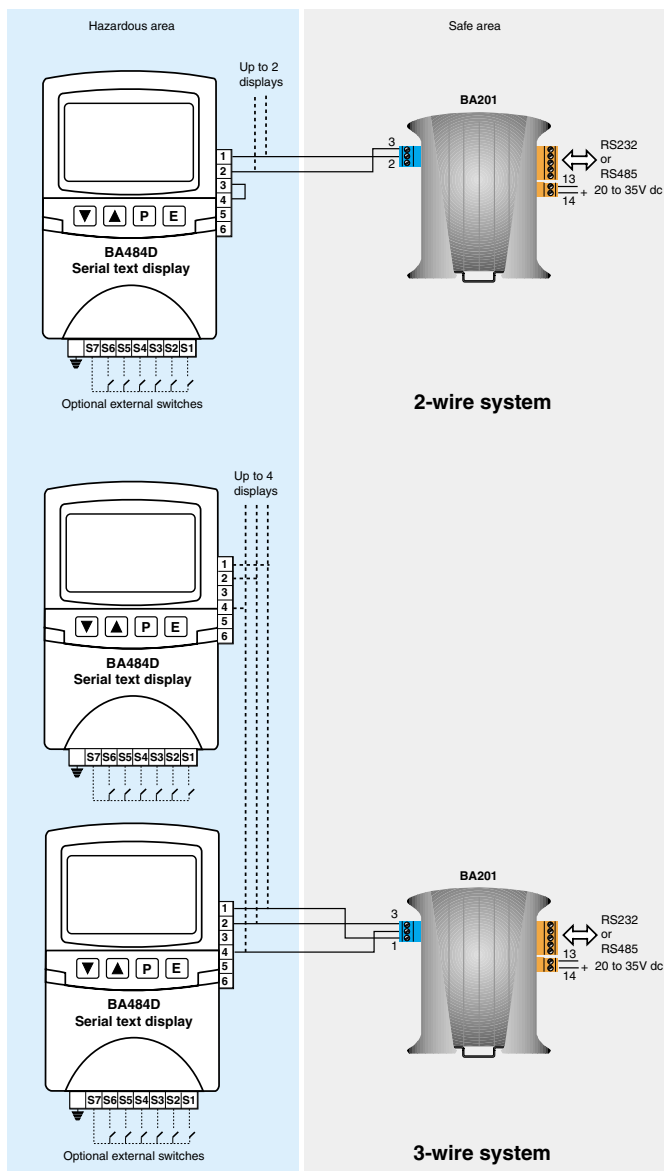
7	0V
8	RS232 Tx
9	RS232 Rx
10	RS485 B
11	RS485 A

Safe area terminals

13	0V
14	+

Terms Tx & Rx are relative to the BA201

SYSTEM CONNECTIONS



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