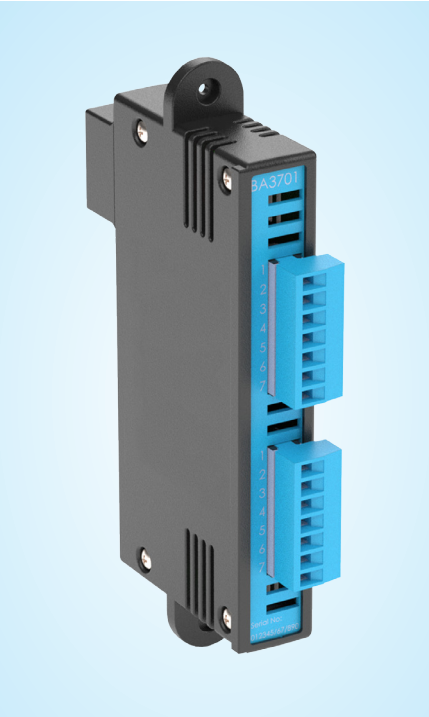


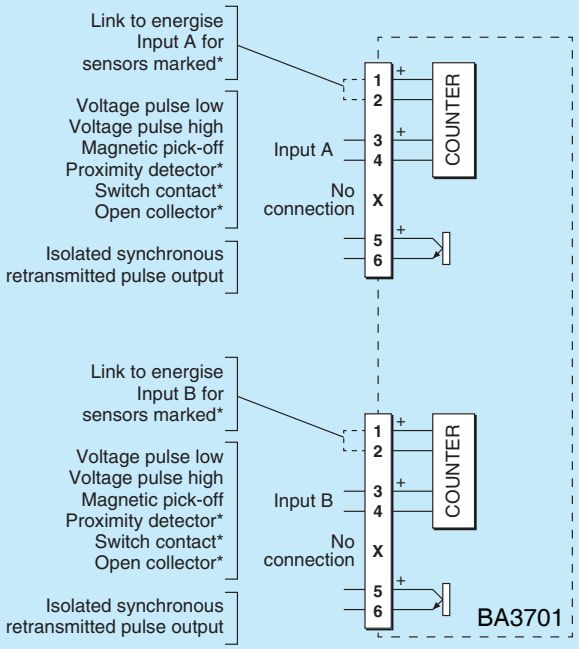
The Pageant BA3701 module is a counter with two identical channels each of which can be separately configured to accept pulses from a 2-wire proximity detector, or a sensor with an open collector, switch contact or a voltage pulse output. Each channel is certified as a separate intrinsically safe circuit and is intended for use with isolated sensors. Separate apparatus certification for the module allows it to be safely plugged into any one of the seven slots on a Pageant BA3101 Operator Display without the need for additional certification or approval.

Each input has a separate hardware counter which is interrogated up to ten times per second by the operator panel's CODESYS® PLC. This can calculate the total pulse count and pulse rate and apply scaling to convert the input pulses into meaningful engineering units for display, use within the PLC or for retransmission.

Outputs from flowmeters and pumps located in Zone 0, 1, 2, 20, 21 or 22 are one of the main applications for this module. Each of the two module inputs may be individually configured to function with almost any type of certified pulse output sensor, and the low intrinsic safety output parameters of each input allow simple direct connection to sensors. Although each input is a separate intrinsically safe circuit, each input is not individually isolated and therefore the pulse sensor and associated wiring should have 500V isolation from other circuits and from earth.

An isolated open collector pulse output from each channel can synchronously duplicate input pulses received at either input for retransmission applications. Alternatively, pulses representing either input in engineering units after scaling by the PLC, or the sum of both inputs can be retransmitted. The output pulse width can be defined and an additional divisor applied. The intrinsic safety output parameters of both the retransmitted outputs are zero allowing simple connection to other hazardous area instruments and to safe area instruments via a certified isolator.

Zone 0, 1, 2, 20, 21 or 22



Safe area

BA3701

Pageant Digital Input Module 2 x Totaliser or Counter

Each intrinsically safe input can accept a proximity detector, switch contact, open collector or voltage pulse input.

- **Two counter channels each configurable for NAMUR proximity detector, open collector, switch contact or voltage pulse input.**
- **Isolated synchronous pulse output from each channel for retransmission.**
- **Module plugs into a Pageant BA3101 intrinsically safe Operator Display.**
- **IECEx, ATEX & UKEX Ex ia IIC certification.**
- **3 year guarantee**

www.beka.co.uk/ba3701

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Tel. (01462) 438301 e-mail sales@beka.co.uk
website: www.beka.co.uk

SPECIFICATION

Power supply From Pageant Operator Panel via CPU module

Module consumption 24% of available power

Input for each input channel

Switching threshold	**Lower**	**Upper**
Proximity detector 2-wire NAMUR.	1.2mA	2.1mA
Switch Contact	100Ω	1kΩ
Open collector	2kΩ	10kΩ
Voltage pulse low	1.0V	3.0V
Voltage pulse high	3.0V	10.0V
Magnetic pick-off	0mV	40mV peak

Frequency

Switch contact	150Hz max	Depends upon pulse width & debounce setting.
Other inputs	100kHz max	
All inputs	0.01Hz min	

Pulse output for each input channel

Source Duplicate Input A; duplicate input B; scaled input A or B, or scaled (input A + input B).

Additional divisor Scaled outputs can be further divided by 1, 10, 100, 1000 or 10000.

Pulse width 0.1; 0.5; 1; 2.5; 5; 10; 25; 50; 100; 250 or 500ms.

Electrical characteristic

Ron 51Ω + 3V max

Roff 1MΩ min

Imax 10mA

Isolated open collector output, certified as a separate intrinsically safe circuit with zero output safety parameters.

Intrinsic safety

International IECEx

Code Ex ia IIC T4 Ga
Ex ia IIIC T226°C Da
-40°C ≤ Ta ≤ +65°C

Safety parameters for each pulse input channel configured for voltage input.

Ui 28V dc
Ii 200mA
Pi 0.84W

Uo 1.1V
Io 0.5mA
Po 0.2mW
Ci 1.1nF
Li 4µH

Safety parameters for each pulse input channel configured for proximitor, switch or open collector input.

Ui 0

Uo 8.4V
Io 7.4mA
Po 16mW
Ci 1.1nF
Li 4µH

Cert. No. IECEx 21.0141X

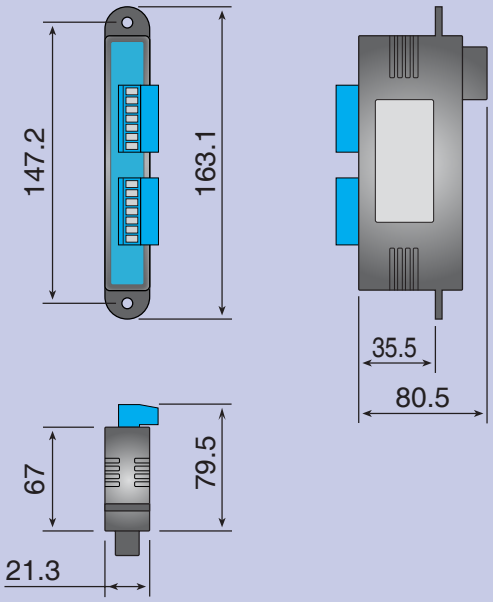
Europe ATEX and UKEX

Code Group II Category 1GD
Ex ia IIC T4 Ga
Ex ia IIIC T135°C Da
-40°C ≤ Ta ≤ +65°C

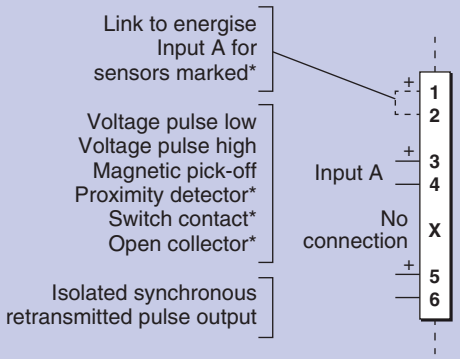
Safety parameters as IECEx

Cert. Nos. CML 21ATEX2141X
CML 21UKEX2142X

DIMENSIONS (mm)



TERMINAL CONNECTIONS



Both input channels have the same terminal connections

Environmental

Operating temp	-40 to +65°C
Storage temp	-40 to +85°C
Enclosure	IP20
Material	Noryl UL94V-1 flame class rating
Humidity	to 95% at 40°C non-condensing
EMC	Complies with UK & European Directives

Mechanical

Terminals Screw clamp for 0.5 to 1.5mm² cable with blue removable terminal block for each channel.

Weight 0.2kg

Reliability is ensured by component conformal coating, protection from incorrect connection and radio frequency interference. The module has been subjected to extensive vibration and thermal testing and is supported by a three year guarantee.

HOW TO ORDER

	Please specify
Model number	BA3701