

# NEW PAGEANT



ZONE 1 INTRINSICALLY SAFE OPERATOR PANEL  
**HMI, PLC, Modular I/O & Comms**



- Intrinsic safety Ex ia certification allows installation in Zones 1, 2, 21 or 22
- 7 Inch backlit operator screen
- IEC 61131 compliant PLC
- Up to 7 plug-in input or output modules
- 8 touch buttons with tricolour annunciators
- IP66 toughened glass and stainless steel front panel
- 3 year guarantee

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

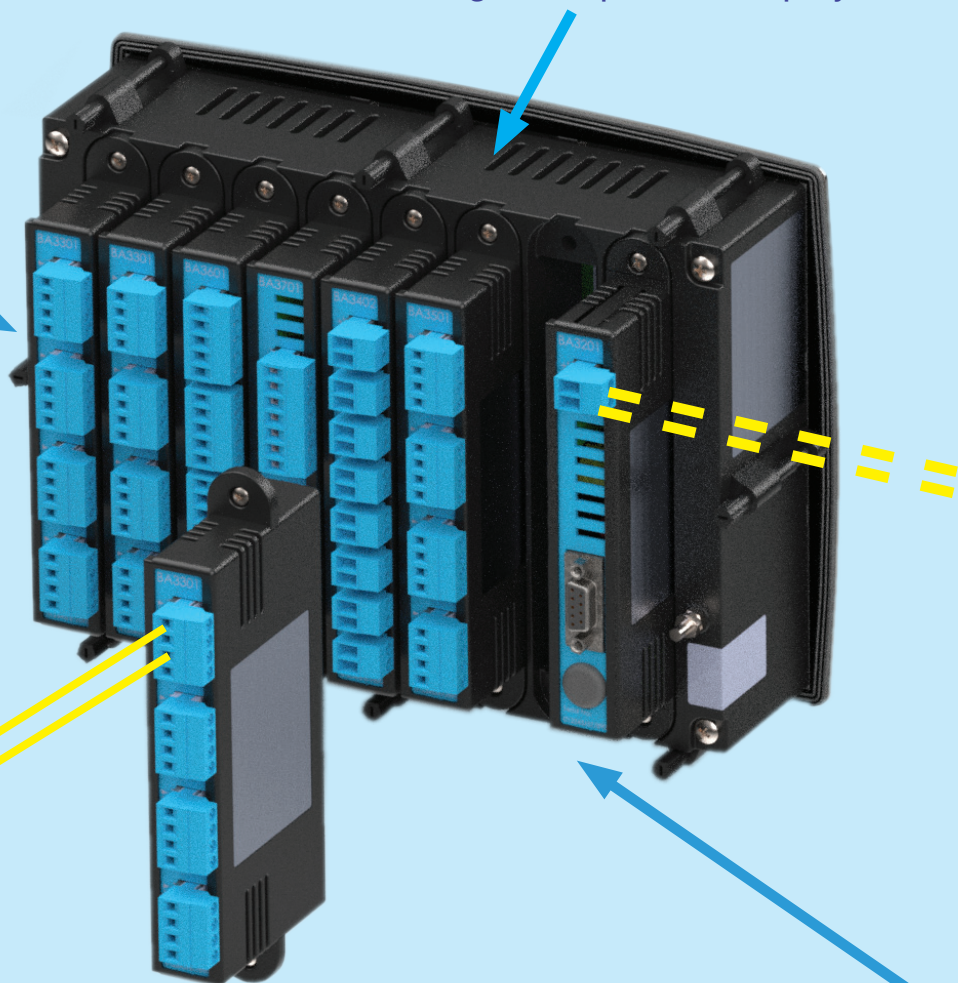
Zone 1, 2, 21 or 22



Up to seven input and output modules can be plugged into a Pageant Operator Panel System.

Module inputs are Ex ia certified allowing connection to sensors located in Zones 0, 1, 2, 20, 21 & 22

BA3101 Pageant Operator Display

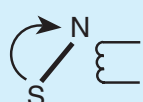


#### INPUTS

4/20mA



V



#### OUTPUTS

4/20mA



#### Plug-in input and output modules

**BA3301** Analogue Input, 4 x 4/20mA, individually isolated

**BA3401** Digital Input, 8 x Contact or Open Collector

**BA3402** Digital Input, 8 x Proximity Detector, NAMUR

**BA3501** Analogue Output, 4 x 4/20mA, individually isolated

**BA3601** Digital Output, 4 x Solid State Contact Outputs, individually isolated

**BA3701** Digital Input, 2 x Totaliser or Counter, NAMUR input, 2 x isolated synchronous outputs

## Safe area, Zone 2 or 22

### Pageant is powered by a BEKA Power Isolator

**BA212** for IIA & IIB applications

**BA243** for IIC applications



### Plug-in CPU and communications module

**BA3201** without external communication

**BA3202** Modbus RTU communication RS485-IS

### Accessories

**BA3901** Power Combiner, IIC applications

**BA3902** USB Programming Cable

**BA3903** RS485-IS SUB D9 Connector

**Pageant** is an intrinsically safe combined operator panel, HMI and PLC which can be installed in Zones 1, 2, 21 or 22. It can accommodate up to seven plug-in intrinsically safe input and output modules which allow direct connection to most types of analogue and digital hazardous area sensors. Pageant can operate alone, or as part of an integrated system to provide economical monitoring, control and communications for a wide range of hazardous area equipment such as mud pumps, pharmaceutical coating machines and flammable liquid stills.

**Designed with the help of users** Pageant comprises an industry standard CODESYS® IEC 61131 compliant PLC, plus a seven inch back-lit operator display which is readable in all lighting conditions. An increasing range of plug-in analogue and digital input and output interface modules, plus a CPU module with optional external communications enable systems to be constructed with just the required functions. Operator inputs are made via eight touch buttons which incorporate programmable tricolour annunciators.

**Intrinsic safety** provides users with the safest hazardous area protection. This new BEKA low power technology eliminates the need for a heavy protective enclosure, reduces cost and allows the back-lit display and modules to be powered from a single BEKA Power Isolator. The BA3101 display and each of the plug-in interface modules have individual international apparatus certification with common interface safety parameters allowing users to only purchase the modules required for their application. If circumstances change, additional modules can be fitted and configured on-site.

**Communication** with Pageant is via an isolated RS485-IS port which can be connected to other equipment in the hazardous area, or to the safe area via a proprietary Isolator. Modules for Modbus are already available with others being developed.

**Panel mounting** Pageant has a toughened glass display window surrounded by a 316 stainless steel bezel providing IP66 ingress protection and a flat easy to wipe clean surface.





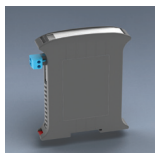
**BA3101**  
**Intrinsically Safe Operator Display**  
 FSTN Liquid Crystal  
 178mm (7 inch) diagonal, 320 x 240 pixels  
 White Backlight, brilliance adjustable  
 8 Touch buttons & 2 Tri-colour annunciators



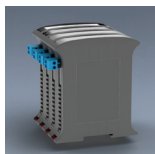
**BA3201**  
**CPU without external communication**  
 Operating system, memory and power distribution  
 CODESYS PLC IEC 61131 compliant



**BA3202**  
**CPU with Modbus RTU communication**  
 Operating system, memory and power distribution  
 CODESYS PLC IEC 61131 compliant  
 Modbus Master or Slave  
 Isolated RS485-IS



**BA212**  
**Power Isolator IIA or IIB applications**  
 4.4W Typical output  
 Safe area or zone 2 mounting  
 DIN rail mounting, 22.5mm Wide



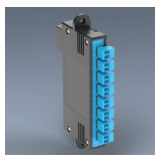
**BA243**  
**Power Isolator IIC applications**  
 4-Channel, combined output 4.4W  
 Safe area or zone 2 mounting  
 DIN rail mounting, 97mm Wide



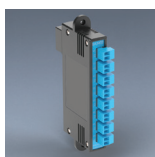
**BA3901**  
**Power Combiner**  
 Required for BA243  
 Extends cable length for IIC applications  
 Mounts onto CPU Module



**BA3301**  
**Analogue input module**  
 4 x 4/20mA inputs  
 Individually isolated unpowered inputs  
 Consumes 4% of power available for modules



**BA3401**  
**Digital input module**  
 8 x Contact or open collector  
 Quadrature decoder using 2 inputs  
 Consumes 4% of power available for modules



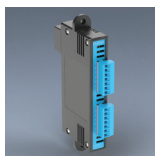
**BA3402**  
**Digital input module**  
 8 x NAMUR 2 wire proximity detector inputs  
 Quadrature decoder using 2 inputs  
 Consumes 40% of power available for modules



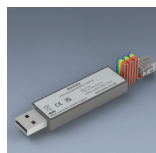
**BA3501**  
**Analogue output module**  
 4 x 4/20mA outputs  
 Individually isolated unpowered outputs  
 Consumes 4% of power available for modules



**BA3601**  
**Digital output module**  
 4 solid state contact outputs  
 Individually isolated  
 Consumes 4% of power available for modules



**BA3701**  
**Totaliser/counter module**  
 2 Non-isolated 2-wire NAMUR inputs  
 2 Isolated synchronous pulse outputs  
 Consumes 24% of power available for modules



**BA3902**  
**USB Programming Cable**  
 Dedicated to Pageant  
 Required to protect IS circuits



**BA3903**  
**RS485-IS Connector**  
 Sub D9 connector  
 Required for connecting CPU to RS485-IS comms

## SPECIFICATION

### Power supply

Voltage	20 to 30Vdc via Power Isolator
Current	Depends on modules fitted 320mA typ.

### Certification (typical, see specific data sheet)

IECEX	Ex ia IIC T4 Ga Ex ia IIIC T135°C Da
ATEX & UKCA	II 1G Ex ia IIC T4 Ga II 1D Ex ia IIIC T135°C Da

\* Dust certification requires IP54 enclosure

### Environmental

Operating Temp	-40 to 65°C (Display -20 to 65°C)
Storage Temp	-40 to 85°C
Humidity	to 95% at 40°C non-condensing
EMC	Complies with EMC directive 2014/30/EU

### Materials

Display front	316 Stainless steel 4mm Toughened glass Flat, easy to clean & bevelled outside edges
Display rear	Flame retardant Noryl
Power Isolator	Flame retardant ABS & Polycarbonate
Modules	Flame retardant Noryl

### Ingress Protection

Display	IP66 (front) IP20 (rear)
Modules	IP20

### Weights

See individual data sheets

## DIMENSIONS for BA3101 Operator Display

