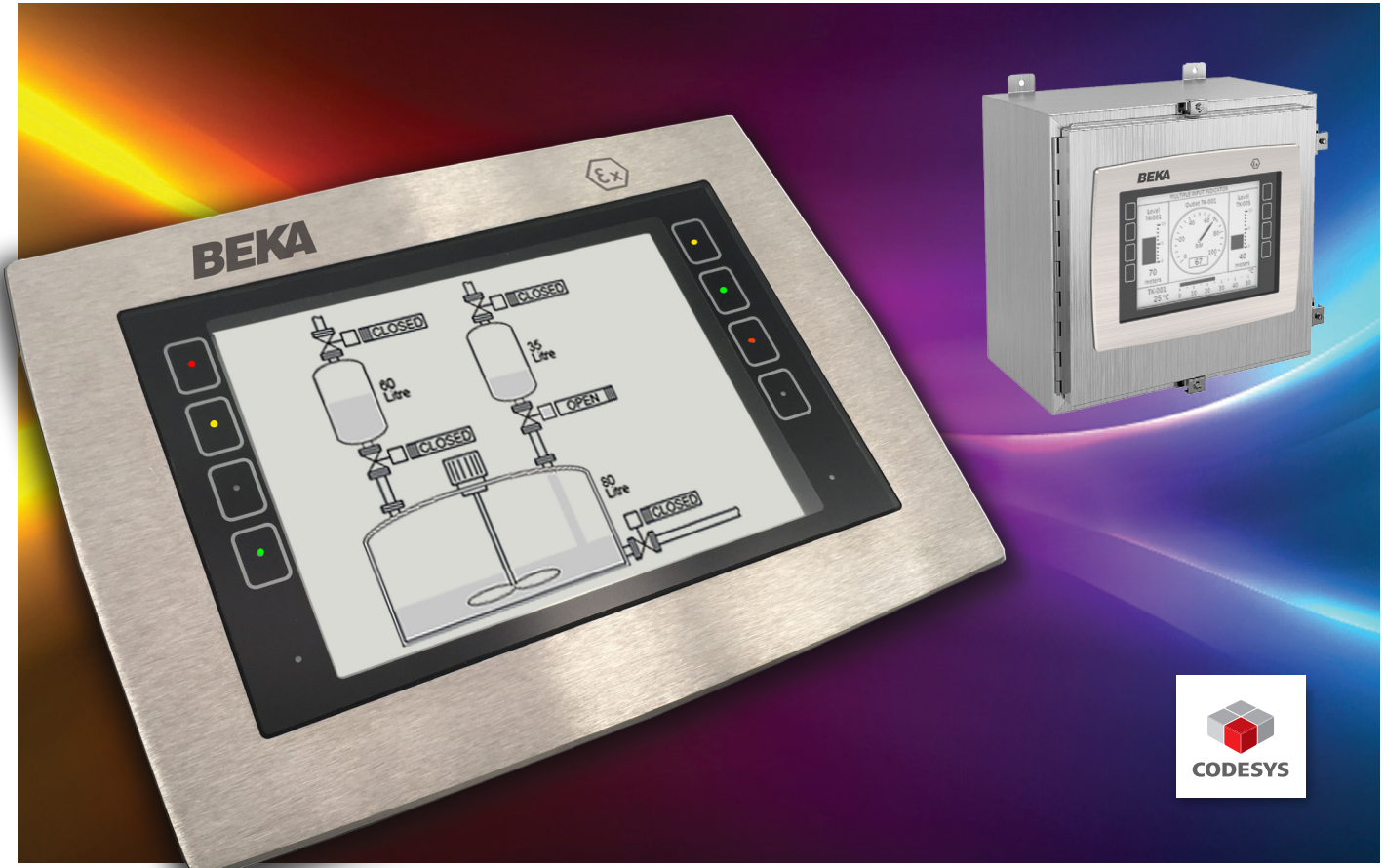


PAGEANT

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



- Ex ia intrinsic safety allows installation in Zones 1, 2, 21 or 22
- Two alternative Operator Displays, both with IP66 stainless steel front panels
 - BA3101** Toughened glass window
 - BA3102** Certified impact resistant front panel allows installation in Ex e and Ex t enclosures.
- 7 Inch backlit operator screen
- IEC 61131 compliant PLC
- Up to 7 plug-in input or output modules
- 8 touch buttons with tricolour annunciators
- 3 year guarantee

BEKA
Intrinsically Safe since 1983

   
www.beka.co.uk

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

Zone 1, 2, 21 or 22

Safe area, Zone 2 or 22

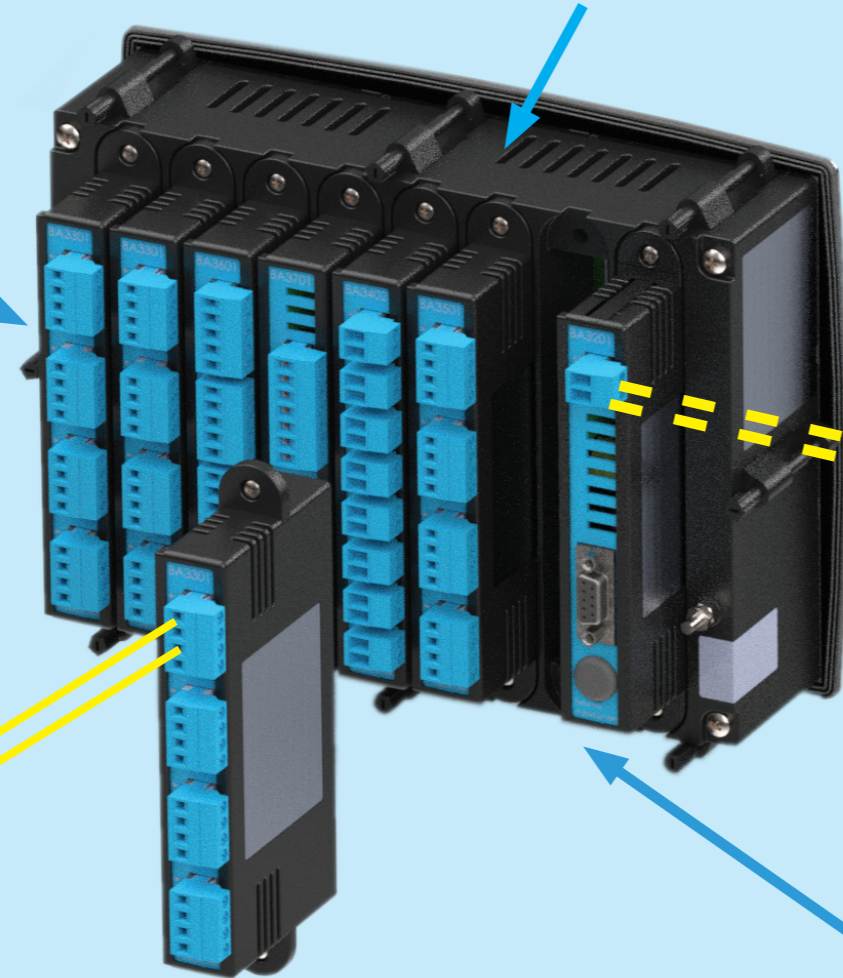


Pageant Operator Display

- BA3101** Toughened glass window
- BA3102** Impact resistant polycarbonate window, allowing installation in Ex e and Ex t enclosures.

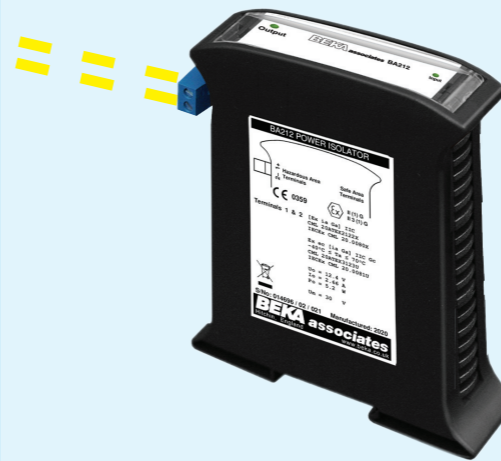
Up to seven input and output modules can be plugged into a Pageant Operator Panel System.

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



Pageant is powered by a BEKA Power Isolator

- BA212** for IIA & IIB applications
- BA243** for IIC applications



Plug-in input and output modules

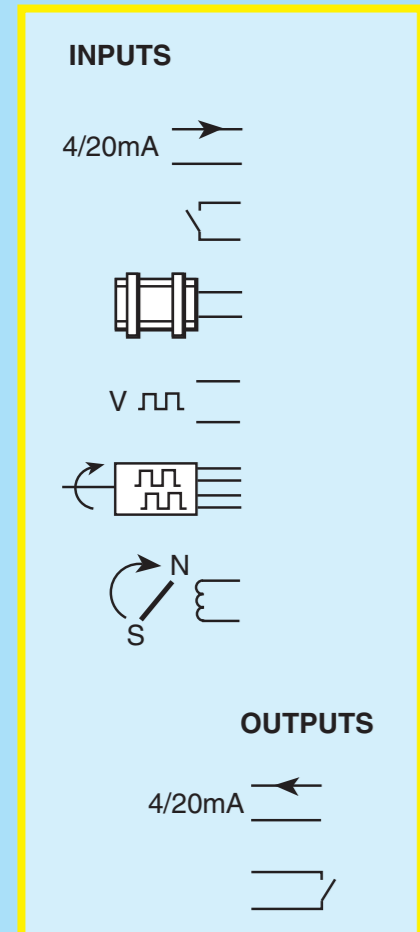
- BA3301** Analogue Input, 4 x 4/20mA, individually isolated
- BA3401** Digital Input, 8 x Contact or Open Collector
- BA3402** Digital Input, 8 x Proximity Detector, NAMUR
- BA3501** Analogue Output, 4 x 4/20mA, individually isolated
- BA3601** Digital Output, 4 x Solid State Contact Outputs, individually isolated
- BA3701** Digital Input, 2 x Totaliser or Counter, NAMUR input, 2 x isolated synchronous outputs

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.

For mounting in an Ex e enclosure the new BA3102 Operator Display has a certified impact resistant front panel with a polycarbonate window. This allows Pageant to be installed into an Ex e component certified enclosure without invalidating the enclosure's certification. For applications in a dust atmosphere, installation can be in an Ex t enclosure, again without invalidating the enclosure's certification. Both the BA3101 and the BA3102 display windows are surrounded by a 316 stainless steel bezel which provides IP66 front of panel ingress protection, and a flat easy to clean surface.

Designed with the help of users Pageant comprises an industry standard CODESYS® IEC 61131 compliant PLC, plus a 7 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 other protocols being developed.

**Intrinsic Safe Operator Display**

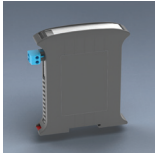
LCD with adjustable brilliance white backlight
178mm (7 inch) diagonal 320 x 240 pixels
8 Touch buttons with tri-colour annunciators.

BA3101 Toughened glass display window**BA3102** Certified impact resistance front panel
Allows installation in an Ex e or Ex t enclosure without invalidating the enclosure certification**BA3201****CPU without external communication**

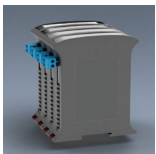
Operating system, memory and power distribution
CODESYS PLC IEC 61131 compliant

**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**

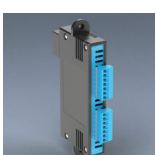
8 x NAMUR 2 wire proximity detector inputs
Quadrature decoder using 2 inputs
Consumes 40% of power available for modules

**BA3501****Analogue output module**

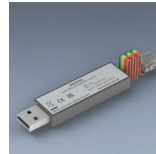
4 x 4/20mA outputs
Individually isolated unpowered outputs
Consumes 4% of power available for modules

**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

North America Contact sales@beka.co.uk

* 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

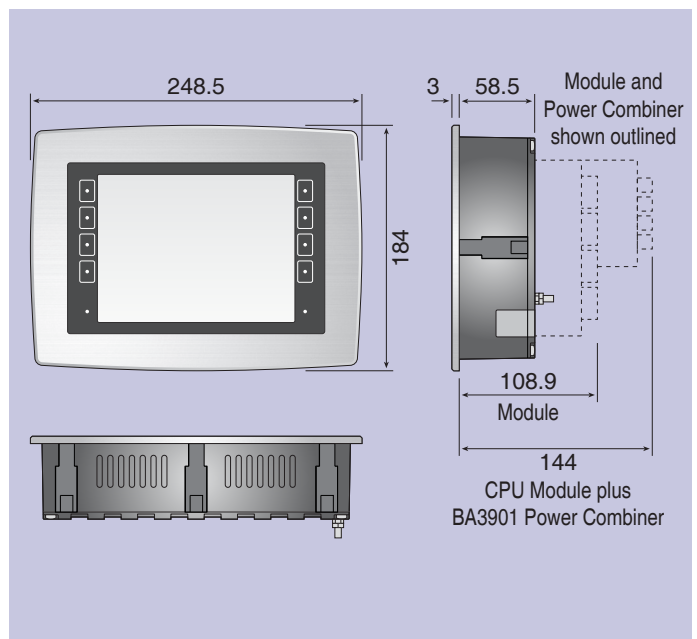
Display front Flat, easy to clean with bevelled outside edges.
BA3101 316 stainless steel; 4mm toughened glass
BA3102 316 stainless steel; 4mm polycarbonate with abrasion resistant outside coating.
Display rear Flame retardant Noryl
Power Isolator Flame retardant ABS & Polycarbonate
Modules Flame retardant Noryl

Ingress Protection

Display IP66 (front) IP20 (rear)
Modules IP20

Weights

See individual data sheets

DIMENSIONS for BA3101 & BA3102 Operator Display

Published September 2024

BEKA associates Ltd

Old Charlton Road, Hitchin, Hertfordshire SG5 2DA England
Telephone +44 (0) 1462 438301

www.beka.co.uk
e-mail: sales@beka.co.uk