

The **BA243 Pageant power isolator** is a four channel galvanically isolated power supply with associated apparatus intrinsic safety certification. It is primarily intended for powering BEKA Pageant intrinsically safe display equipment in a IIC flammable gas atmosphere. For powering Pageant display equipment in a IIB or IIA gas group, the single channel BEKA BA212 power isolator should be used.

The BA243 power isolator may also be used to power other intrinsically safe hazardous area apparatus having compatible intrinsic safety input parameters. Each channel is totally isolated and can be used for a separate application, or under some circumstances the outputs can be combined. See BEKA Application Guide AG210

**IECEX, ATEX and UKEX intrinsic safety** associated apparatus certification permits worldwide installation. To achieve a high output each channel employs multiple active voltage and current limits providing an isolated Ex ia IIC intrinsically safe output.

**Output cable parameters** for a 12V power isolator delivering 4.4W into a group IIC (hydrogen) flammable atmosphere are very restrictive. The BA243 Power Isolator therefore has four identical totally isolated 1.1W output channels, each with usable cable parameters. These outputs may be safely combined by a redundant diode network at the hazardous area load, such as a certified BA3901 Power Combiner to typically provide a 4W supply. See BEKA Application Guide AG210.

**Cables** with L/R ratios compatible with the IIC safety parameters of each BA243 Power Isolator output are widely available. Each of the four outputs may be connected to a separate field cable, or all four outputs may be connected to a common multicore cable that complies with the Type A or B requirements specified by installation standard IEC 60079-14. This allows the BA243 and the hazardous area load to be separated by typically more than 200 metres in a IIC flammable atmosphere. Maximum cable length is usually determined by the acceptable voltage drop resulting from the cable resistance, please see Application Guide AG210.

**The isolator enclosure**, which is moulded in ABS and polycarbonate, is DIN rail mounting making it compatible with many proprietary galvanic isolators and Zener barriers. The BA243 may be installed in a safe area or with additional mechanical protection in Zone 2. To simplify installation and inspection, the terminals are colour coded and each of the hazardous area terminal blocks is individually removable. The status of each channel is indicated by two green LEDs adjacent to the input and the output terminals.

**For Zone 2 mounting** the BA243 has IECEX, ATEX and UKEX Ex ec increased safety component certification. These certificates specify that for installation in Zone 2 the BA243 Power Isolator should be mounted in an enclosure providing IP54 protection and complying with the enclosure requirements specified in the increased safety standard IEC 60079-7.

# BA243

## Pageant Power Isolator IIC Applications

*Intrinsically safe supply for BEKA Pageant Display Products*

- ◆ For powering equipment in a IIC gas group.
- ◆ IECEX, ATEX and UKEX Ex ia certification.
- ◆ Combined output typically 4W.
- ◆ Safe area or Zone 2 mounting.
- ◆ DIN rail mounting
- ◆ 3 year guarantee

[www.beka.co.uk/ba243](http://www.beka.co.uk/ba243)



# BEKA

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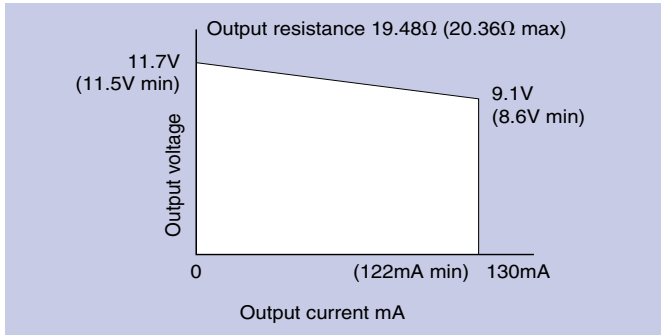
## SPECIFICATION

### Power supply - each channel

Voltage	20 to 30V dc
Current	90mA typical at 24V with maximum output load.

### Output - each channel

Voltage	
No load	11.7V dc typical
Full load	9.1V typical 8.6V min
Current limited at	130mA typical 122mA min



Typical output of each channel

### Certification

#### Intrinsic safety associated apparatus

##### International IECEx

Standards	IEC 60079-0 and IEC 60079-11
Code	[Ex ia Ga] IIC
Temperature	-40°C ≤ Ta ≤ +70°C
Cert. No.	<a href="#">IECEx CML 20.0080X</a>

##### Safety parameters – for each channel

Input	
Um	30V max dc from a SELV, PELV or supply providing double or reinforced insulation.

Output			
Gas group	IIC	IIB	IIA
Uo	12.4V	12.4V	12.4V
Io	0.67A	0.67A	0.67A
Po	1.36W	1.36W	1.36W
Co	1.24μF	7.9μF	30.0μF
Lo	79μH	317μH	634μH
Lo/Ro	17μH/Ω	68μH/Ω	137μH/Ω

##### Europe ATEX and UKEX

Standards	EN IEC 60079-0 and EN 60079-11
Code	Group II Category (1)G [Ex ia Ga] IIC
Cert. No.s	<a href="#">CML 20ATEX2122X</a> and <a href="#">CML 21UKEX2278X</a>

Safety parameters As IECEx

**Note:** X suffix on IECEx, ATEX and UKEX certificates relates to Um and supply requirements.

### Increased safety

##### International IECEx

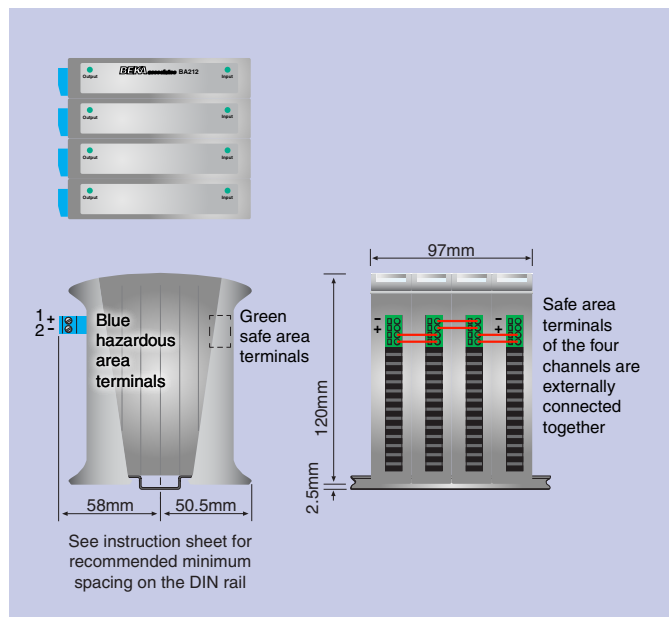
Standard	IEC 60079-7
Code	Ex ec [ia Ga] IIC Gc
Temperature	-40°C ≤ Ta ≤ +70°C
Cert. No.	<a href="#">IECEx CML 20.0081U</a>

##### Europe ATEX and UKEX

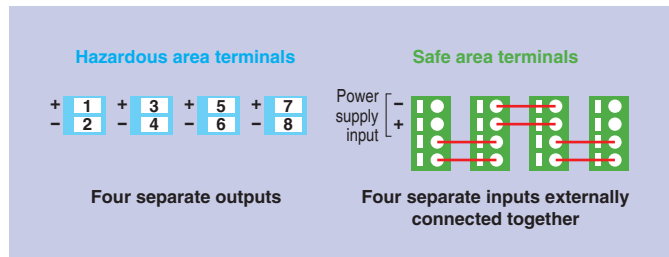
Standard	EN IEC 60079-7
Code	Group II Category 3(1)G Ex ec [ia Ga] IIC Gc
Temperature	-40°C ≤ Ta ≤ +70°C
Cert. No.s	<a href="#">CML 20ATEX3123U</a> and <a href="#">CML 21UKEX3279U</a>

**Note:** These Exec component certificates are intended to be used with an Ex e enclosure component certificate.

## DIMENSIONS (mm)



## TERMINAL CONNECTIONS



### Environmental

Operating temp	-40 to +70°C
Storage temp	-40 to +85°C
Humidity	To 95% @ 40°C non condensing.

Enclosure Material	Polycarbonate and ABS moulding UL94 V0 fire rating
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Protection	IP20
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EMC	Complies with EU and UK EMC Directives
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### Mechanical

Terminals	
Safe area	Spring loaded for 0.5 to 1.5mm <sup>2</sup> single wire. Green
Colour	
Hazardous area	Removable terminal block for each channel. Screw clamp for 0.5 to 1.5mm <sup>2</sup> wire. Blue
Colour	
Weight	0.5kg

### Accessories

Tag number	Thermally printed strip on top of each channel.
BA3901 Power supply combiner	When used to power a Pageant display in a IIC flammable gas, remotely combines the four BA243 isolated outputs which allows longer interconnecting cables to be used. IECEx, ATEX and UKEX certified.

## HOW TO ORDER

Model number	<b>Please specify</b> BA243
Accessories	<b>Please specify if required</b> Legend
Tag strip	
Power supply combiner	BA3901