BA212
Pageant Power Isolator IIA & IIB Applications

Intrinsically safe supply for BEKA Pageant Display Products

- **For powering equipment in a IIB or IIA gas group.**
- **IECEx, ATEX and UKCA Ex ia certification.**
- **4.4W typical output**
- **Safe area or Zone 2 mounting.**
- **DIN rail mounting**
- **3 year guarantee**

www.beka.co.uk/ba212

The BA212 Pageant power isolator is a single 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 group IIB or IIA flammable gas or combustible dust atmosphere. For powering Pageant display equipment in a IIC gas, the BEKA BA243 power isolator should be used.

The BA212 power isolator may also be used to power other intrinsically safe hazardous area apparatus having compatible intrinsic safety input parameters.

IECEx, ATEX and UKEX intrinsic safety associated apparatus certification permits worldwide installation. To achieve a 4.4W output the isolator employs multiple active voltage and current limitation resulting in an Ex ia IIC intrinsically safe output.

The primary application of the BA212 isolator is powering equipment in groups IIB (ethylene) or IIA (propane), flammable gas, or in a combustible dust atmosphere. Although the isolator has IIC (hydrogen) certification, because of the high output power, the IIC output cable parameters are restrictive and only allow the isolator to be separated from the hazardous area load by a few metres.

For similar applications in a group IIC gas, the BEKA BA243 Power Isolator should be used. This remotely combines four isolated channels to typically provide 4.4W output and permit long cables between the isolator and the hazardous area load.

Twisted pair cables with L/R ratios compatible with the BA212 Power Isolator's IIB and IIA output safety parameters are widely available. These allow the BA212 and the hazardous area load to be separated by typically 100 metres for IIB applications and greater distances for applications in a IIA gas atmosphere. Maximum cable length is usually determined by the acceptable voltage drop resulting from the cable resistance.

The isolator enclosure, which is moulded in ABS and polycarbonate, is DIN rail mounting and only 22.5mm wide making it compatible with many proprietary galvanic isolators and Zener barriers. The BA212 may be installed in a safe area or with additional mechanical protection in Zone 2 or 22. To simplify installation and inspection the terminals are colour coded and the hazardous area output terminals are removable. The isolator's status is indicated by two green LEDs adjacent to the input and the output terminals.

For Zone 2 mounting the BA212 has IECEx, ATEX and UKEX Ex ec increased safety component certification. These certificates specify that for installation in Zone 2 the BA212 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.

Application Guide AG210 contains additional information about the BA212 and 243 Power isolators

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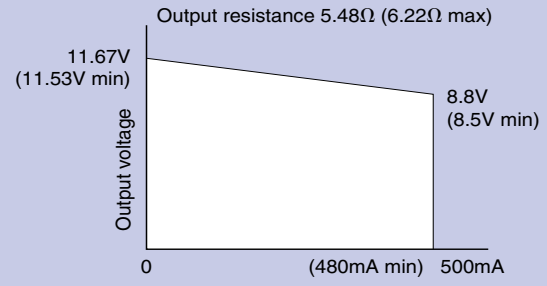
SPECIFICATION

Power supply

Voltage	20 to 30V dc
Current	320mA typical at 24V with maximum load.

Output

Voltage	
No load	11.7V dc typical
Full load	8.8V typical 8.5V min
Current limited at	500mA typical 480mA min



Typical output characteristic

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.	IECEx CML 20.0080X

Safety parameters

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	2.66A	2.66A	2.66A
Po	5.2W	5.2W	5.2W
Co	1.24µF	7.9µF	30.0µF
Lo	5µH	20µH	40µH
Lo/Ro	4.3µH/Ω	17µH/Ω	34µH/Ω

For recommended cables and maximum permitted lengths see Application Guide AG210

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	CML 20ATEX2122X and CML 21UKEX2278X
Safety parameters	As IECEx

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

Increased safety

International IECEx

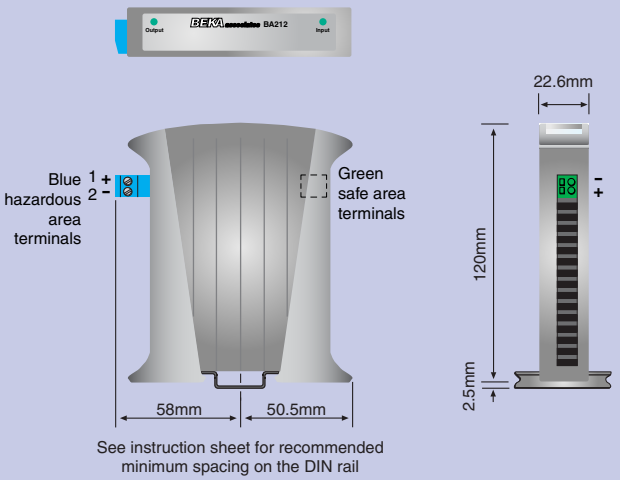
Standard	IEC 60079-7
Code	Ex ec [ia Ga] IIC Gc
Temperature	-40°C ≤ Ta ≤ +70°C
Cert. No.	IECEx CML 20.0081U

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	CML 20ATEX3123U and CML 21UKEX3279U

Note: *These Ex ec 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
Protection	IP20
EMC	Complies with EU and UK EMC Directives

Mechanical

Terminals	
Safe area	Spring loaded for 0.5 to 1.5mm² single wire.
Colour	Green
Hazardous area	Removable terminal block Screw clamp for 0.5 to 1.5mm² wire
Colour	Blue
Weight	0.12kg

Accessories

Tag number	Thermally printed strip on top of the isolator.

HOW TO ORDER

	Please specify
Model number	BA212
Accessories	**Please specify if required**
Tag strip	Legend