



Ex d control units

Features

- Standard components
- Cost-effective; also applies to spare parts
- Easy-to-service
- Expandible

Description

The BARTEC ATEX certified Ex d control panels are constructed according to protection type Ex d, flameproof encapsulation. Standard components such as switches, contactors and relays are mounted in an explosionproof enclosure constructed in such a way as to keep internal explosions from igniting the surrounding atmosphere.

Ex d control panels are usually custom-built in close cooperation with the customer himself for his special application.

Version

Flameproof control panels are available either with direct cable-entries through Ex d cable-glands or with indirect cable-entries through a junction box with protection type increased safety Ex e.

The electrical wiring between Ex d and Ex e enclosure will be done through Ex d line bushings.

Fields of application

- Zone 1 + 2 and zone 21 + 22
- Gas groups IIA and IIB
- Temperature class T4/T5 or T6

Explosion protection

Explosive atmospheres can occur wherever flammable gases, liquids or materials are processed, transported and stored. It is therefore necessary to take appropriate measures to prevent possible explosions. BARTEC protects people and the environment by the safety of components, systems and plant safe.

When the 94/9/EC (ATEX 95) guideline comes into force on 01/07/2003, explosion protected operating equipment must be properly installed in accordance with EN 60079-14. Our safety standards comply to the national directives for commissioning, maintenance and repair of electrical devices; construction and manufacturing according to the CENELEC standards EN 60079-0/EN 60079-11/EN 60079-18/EN 60079-25.

Three Ex groups of flammable gases can be introduced following safety gaps and/or minimum ignition currents determined in experiments.

- IIA** e. g. ethane, methane, petrol
- IIB** e. g. ethylene, dimethylether, towngas
- IIC** e. g. hydrogen, acetylene, sulphur carbonate

Further selection criteria is the categorizing into temperature classes. The device temperature is added to a supposed ambient temperature of +40 °C and divided in the following six temperature classes:

- T1** +450 °C
- T2** +300 °C
- T3** +200 °C
- T4** +135 °C
- T5** +100 °C
- T6** +85 °C



Explosive areas have three different zones:

Zone 0

(Category 1G-devices necessary)

A place in which an explosive atmosphere consisting of a mixture with air of flammable substances in the form of gas, vapour or mist is present continuously, for long periods or frequently.

Zone 1

(Category 1G- or 2G-devices necessary)

A place in which an explosive atmosphere consisting of a mixture with air or flammable substances in the form of gas, vapour or mist is likely to occur in normal operation occasionally.

Zone 2

(Category 1G-, 2G- or 3G-devices necessary)

A place in which an explosive atmosphere consisting of a mixture with air of flammable substances in the form of gas, vapour or mist is not likely to occur in normal operation but, if it does occur, will persist for a short period only.

Electrical control panels contain switches, relays, pushbutton etc. which may produce a spark when they switch. In order to keep such sparks or other hot spots from causing an explosion, the components are housed within flameproof enclosures.

Explosion protection

Ex protection type

- Ex II 2G Ex d...IIB, IIB+H2
T6 or T4
- Ex II 2(1, 2 or 3)G Ex d...IIB, IIB+H2
T6 or T5
- Ex II 2D Ex td...A21 IP6X
T80 °C to T130 °C
- Ex II 2(1, 2 or 3)D Ex tD...A21 IP6X
T80 °C to T130 °C

Certification

KEMA 08 ATEX 0123

Technical data

Nominal voltage

AC 1000 V
DC 1500 V

Operating voltage

25 kV

Rated current

1000 A

Protection class

IP 65/IP 66/IP 67

Material

Aluminium alloy < (Cu 0.05%)
Stainless steel 1.4404

Selection chart

Name	Dimensions (mm) outside			Dimensions (mm) inside			empty weight kg
	width	height	depth	width	height	depth	
EJB 1	198	298	197	140	240	145	8.5
EJB 2	218	418	208	160	360	150	14.2
EJB 3	278	358	268	220	300	210	17.8
EJB 3B	278	358	208	220	300	150	16.4
EJB 4	332	432	288	260	360	230	24.1
EJB 4B	332	432	223	260	360	165	23.2
EJB 45	380	560	295	490	305	210	35.0
EJB 45B	360	560	245	490	305	160	27.0
EJB 5	432	632	341	360	560	275	56.5
EJB 5B	432	632	271	360	560	205	49.9
EJB 503	432	632	397	360	560	330	61.6
EJB 55	510	710	455	430	630	380	98.6
EJB 55B	510	710	350	430	630	280	77.4
EJB 6	640	860	470	540	760	315	170.0
EJB 6B	640	860	370	540	760	215	150.0
EJB 7	700	1000	500	590	890	340	235
EJB 7B	700	1000	400	590	890	240	210

It is possible to combine the various enclosures.