



### EEx d control units

#### 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 50014 to 50020/50028/50039.

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.



## Features

- Standard components
- cost-effective; also applies to spare parts
- easy-to-service
- expandible

## Description

The BARTEC EEx d control panels are constructed according to protection type EEx 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.

EEx 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 EEx d cable-glands or with indirect cable-entries through a junction box with protection type increased safety EEx e. The electrical wiring between EEx d and EEx e enclosure will be done through EEx d linebushings.

## Fields of application

- Zone 1 and zone 2 (Categorie 2G)
- Gas groups IIA and IIB
- Temperature class T4, T5 or T6

## ➔ Explosion protection

### Ex protection type

Ex II 2G EEx d IIB T4, T5 or T6

### Certification

CESI 02 ATEX 097

## ➔ Technical data

### Nominal voltage

AC 690 V

### Protection class

IP 54/IP 65

### Basic material

Aluminium alloy, low copper contents (standard)  
 Stainless steel 1.4401 (V4A) (option)  
 Stainless steel 1.4404 (A44A) (on request)

## Selection chart

Name	Dimensions (mm) outside			Dimensions (mm) inside			empty weight kg
	width	height	depth	width	height	depth	
<b>EJB 1</b>	196	296	199	140	240	140	8.5
<b>EJB 2</b>	216	416	207	160	360	140	14.2
<b>EJB 3</b>	276	355	268	220	300	200	17.8
<b>EJB 3B</b>	276	356	208	220	300	140	16.4
<b>EJB 4</b>	332	432	290	260	360	215	24.1
<b>EJB 4B</b>	332	432	225	260	360	145	23.2
<b>EJB 45</b>	380	560	295	305	490	210	35.0
<b>EJB 45B</b>	380	560	245	305	490	160	27.0
<b>EJB 5</b>	432	632	343	360	550	250	56.5
<b>EJB 5B</b>	432	632	273	360	560	185	49.9
<b>EJB 503</b>	432	632	397	360	560	330	61.6
<b>EJB 6</b>	640	860	470	540	760	315	170.0
<b>EJB 6B</b>	640	860	370	540	760	215	150.0

It is possible to combine the various enclosures.