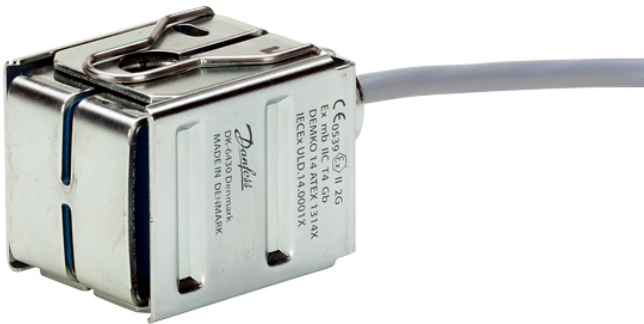


Data Sheet

# Solenoid coil

## Type BZ

For control in potentially explosive areas



BZ is a solenoid coil with ATEX / IECEx approval, applicable for zone 1 and 2 Ex environments. The coils are designed to be used with Danfoss solenoid valves.

**Features**

- Embedded coils with long lifetime, even under extreme conditions
- High reliability and long lifetime
- Easy mounting and dismantling
- Covering voltage and frequency:
  - 110 V 50 Hz, 120 V 60 Hz
  - 230 V 50 Hz, 240 V 60 Hz

## 1 Product specification

### 1.1 Technical data

Table 1: Technical data

Features	Description																																	
Mode of operation	Type 1 action (EN60730-1)																																	
Protection against electrical shock	Class I (EN60730-1)																																	
Humidity	0 - 100% RH																																	
Enclosure	IP65																																	
Pollution degree	1+2+3 (EN 60730-1)																																	
Max. altitude above sea level	2000 m																																	
Permissible voltage variation	110 / 120 V AC: -10%, +6% 230 / 240 V AC: -10%, +6%																																	
Rated impulse voltage	4 kV																																	
Over voltage category	III (EN60730-1)																																	
Nominal current	<table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Power consumption holding</th> <th colspan="2">Inrush current</th> </tr> <tr> <th>[W]</th> <th>[VA]</th> <th>[A]</th> <th>[ms]</th> </tr> </thead> <tbody> <tr> <td>110 V AC 50 Hz</td> <td>8.6</td> <td>16</td> <td>0.46</td> <td>0.034</td> </tr> <tr> <td>120 V AC 60 Hz</td> <td>9.0</td> <td>16</td> <td>0.43</td> <td>0.028</td> </tr> <tr> <td>230 V AC 50 Hz</td> <td>9.5</td> <td>18</td> <td>0.26</td> <td>0.034</td> </tr> <tr> <td>240 V AC 60 Hz</td> <td>9.0</td> <td>16</td> <td>0.26</td> <td>0.034</td> </tr> </tbody> </table>		Power consumption holding		Inrush current		[W]	[VA]	[A]	[ms]	110 V AC 50 Hz	8.6	16	0.46	0.034	120 V AC 60 Hz	9.0	16	0.43	0.028	230 V AC 50 Hz	9.5	18	0.26	0.034	240 V AC 60 Hz	9.0	16	0.26	0.034				
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Duty rating	100%																																	
Ambient temperature	-40 °C – 45 °C																																	
Media temperature	-40 °C – 70 °C																																	
Insulation of coil windings	CA 200-1																																	
Connection	9 m 3-core flexible cable 3 x 0.75 mm <sup>2</sup> (cable length maximum 15 m)																																	
Outside diameter sheet	Ø 6.6 mm																																	
Size of fuse in front of the coil	Thermal fuse 130 °C 110 / 120 V AC: 250 mA 230 / 240 V AC: 150 mA																																	
External earth core	Minimum area > 4 mm <sup>2</sup>																																	

### Classification EN 60079

Table 2: Classification EN 60079

Features	Description
Media	Gas, vapours and mists
Explosion proof area	Zone 2 and Zone 1
Product group	II
Product category	2G
Product niveau EPL	Gb
Explosion group	IIC
Temperature class	T4
Type of protection	mb
Exposed to SUN/UV light	No
Impact height	Max 0.4 m

**NOTE:**

Always install a fuse in front of the coil.

- Medium Time Lag
- Size see product label.

Must be protected against ultraviolet sources.

Moist-Clean only. The cable must be protected according to IEC 60079-14.

## Solenoid coil, Type BZ

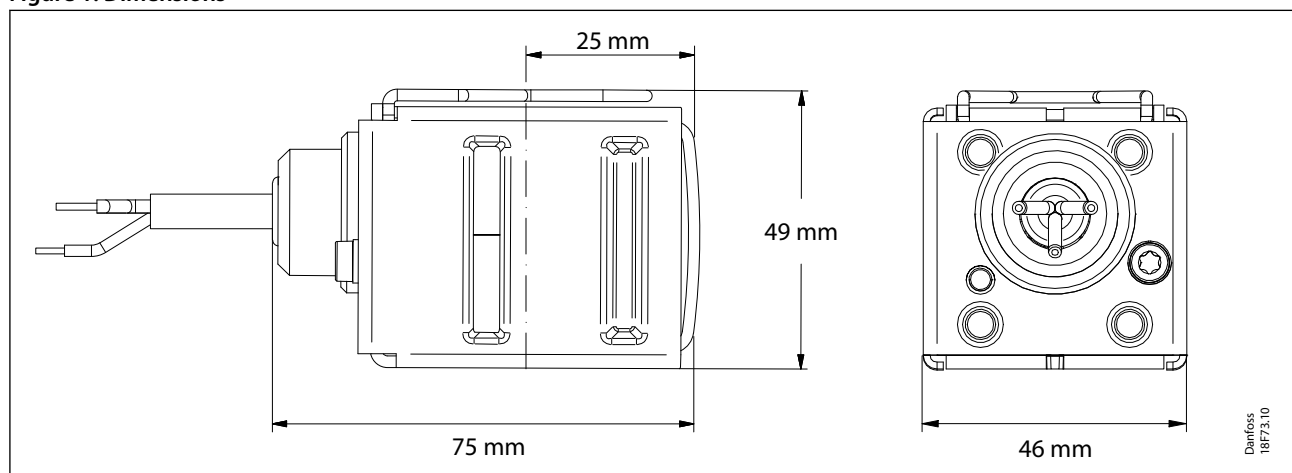
- Use only for system in compliance with ATEX. Ignition risk is evaluated in accordance to ATEX.
- Coil type BZ can be applied on systems with R290, R600, R600a and R1270 as the working fluid.
- For countries where safety standards are not an indispensable part of the safety system Danfoss recommend the installer to get a third party approval of the system containing flammable refrigerant.
- Please follow specific selection criteria stated in the datasheet for these particular refrigerants.

### 1.2 Installation, operation and maintenance

- Protect the coil against external impact.
- Protect the coil against direct sunlight and other ultraviolet sources.
- Disconnect the power before dismantling the coil.
- Always install a fuse in front of the coil.
  - DIN 41571-2
  - Rated breaking capacity 1500 A
  - Medium Time lag
  - Minimum voltage 250 V for AC and 24 V for DC.
- Install the coil and cable according to EN60079-14.
- The cable supplied with the solenoids must not be handled or flexed, and shall be protected against impact if the ambient temperature is below 0 °C .
- Installation and handling of the cable shall be done at temperature above 0 °C.
- The cable is only for fixed installation and the minimum bending diameter for fixed installation:  $r \geq 55$  mm
- The cable jacket material is PVC.
- The cable operating temperature range is -40 - 90 °C.
- The product is provided with a yellow / green PE wire as well as an external earth terminal. These shall not be used simultaneously. If the external earth connection is connected to earth or bonding system, the Y / G earth wire must be cut off, isolated and not connected. If the Y / G wire is connected to earth, the external earth terminal must be left without any connection. For the external earth terminal the size of the earth core shall be minimum 4 mm<sup>2</sup> and the installer shall use a suitable method e.g. crimp terminal to ensure secureness of the external earth connection. The screw for external PE shall be mounted with 1.2 Nm  $\pm$ 0.2. The external earth conductors shall be physically secured close to the coil connection to ensure that the conductors cannot be readily loosened or twisted.
- The end user must ensure the earthing of the coil is maintained.
- Non-detachable cords method Z repairing not allowed. If the coil failed, it must be replaced by a new coil.

### 1.3 Dimensions and weights

Figure 1: Dimensions



Weight 1.0 kg

## 2 Ordering

### 2.1 Part program

Table 3: Ordering

Valve type	Coil type	Max. differential pressure (MOPD)	Supply voltage	Frequency	Code no.
		[bar]	[V]	[Hz]	
EVR 2-25 NC	BZ120C	21	110 120	50 60	018F4703
	BZ240C		230 208-240	50 60	018F4704
EVRA(T) 3-25	BZ120C	21	110 120	50 60	018F4703
	BZ240C		230 208-240	50 60	018F4704
EVR5(T) 3-20	BZ120C	21	110 120	50 60	018F4703
	BZ240C		230 208-240	50 60	018F4704
EVM NC and EVM NO	BZ120C	21	110 120	50 60	018F4703
	BZ240C		230 208-240	50 60	018F4704
EV220B 6-10 NC	BZ120C	20	110 120	50 60	018F4703
	BZ240C		230 208-240	50 60	018F4704
EV220B 12-22 NC	BZ120C	10	110 120	50 60	018F4703
	BZ240C		230 208-240	50 60	018F4704
EV220B 6-10 NO	BZ120C	10	110 120	50 60	018F4703
	BZ240C		230 208-240	50 60	018F4704
EV220B 15-50 NC	BZ120C	16	110 120	50 60	018F4703
	BZ240C		230 208-240	50 60	018F4704
EV250B	BZ120C	10	110 120	50 60	018F4703
	BZ240C		230 208-240	50 60	018F4704
EV224B	BZ120C	25	110 120	50 60	018F4703
	BZ240C		230 208-240	50 60	018F4704
EV227B	BZ120C	5	110 120	50 60	018F4703
	BZ240C		230 208-240	50 60	018F4704

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