

Data sheet

# Solenoid coil for control in potentially explosive areas

## Type BZ



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

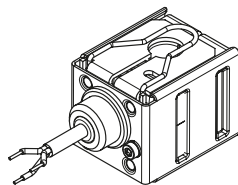
- Embedded coils with long lifetime
  - even under extreme conditions
- High reliability and long lifetime
- Easy mounting and dismounting
- Covering voltage and frequency:
  - 110 V 50 Hz, 120 V 60 Hz
  - 230 V 50 Hz, 240 V 60 Hz

### Approval

- EN 60730-1
- EMC 2014/30/EU
- ROHs 2011/65/EU
- ATEX 2014/34/EU
  - Ex mb IIC T4 Gb
  - DEMKO 14 ATEX 1314X
  - IECEx ULD 14.0001X

## Data sheet | Solenoid coil for solenoid valves, Type BZ

### Technical data



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

### Classification EN 60079

<b>Media</b>	Gas, vapours and mists
<b>Explosion proof area</b>	Zone 2 and Zone 1
<b>Product group</b>	II
<b>Product category</b>	2G
<b>Product niveau EPL</b>	Gb
<b>Explosion group</b>	IIC
<b>Temperature class</b>	T4
<b>Type of protection</b>	mb
<b>Exposed to SUN/UV light</b>	No
<b>Impact height</b>	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.**

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.

Note, please follow specific selection criteria stated in the datasheet for these particular refrigerants.

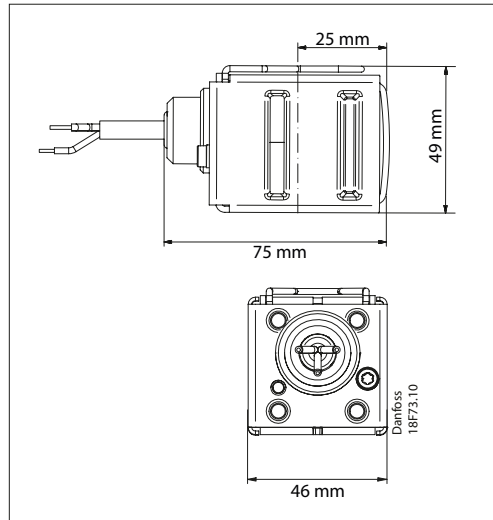
**Installation, operation and maintenance**

- 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.

**Data sheet | Solenoid coil for solenoid valves, Type BZ**
**Ordering**

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

**Dimensions and weights**



Weight 1.0 kg