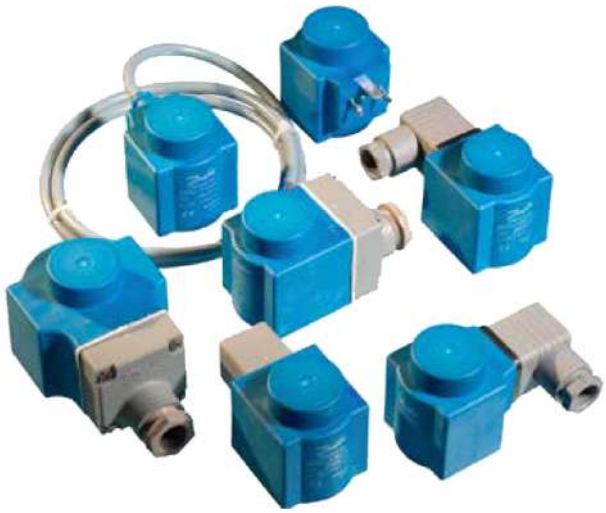
ENGINEERING TOMORROW

Data Sheet

Solenoid coil
Type **BB, BE, BF, BG** and **BN**

The Clip-on coils are available for the entire range of Danfoss solenoid valves



The coils are specially designed to operate in the aggressive environment of high humidity and temperature fluctuations that you find in most refrigeration systems.

The Clip-on fastening system ensures a faultless installation and makes the coils easy to mount and dismount. A Danfoss Clip-on coil can be mounted without any tools at all, and it is simple to dismount the coil by means of a screwdriver.

The Clip-on coils are available for the entire range of Danfoss solenoid valves for refrigeration, freezing and air conditioning purposes.

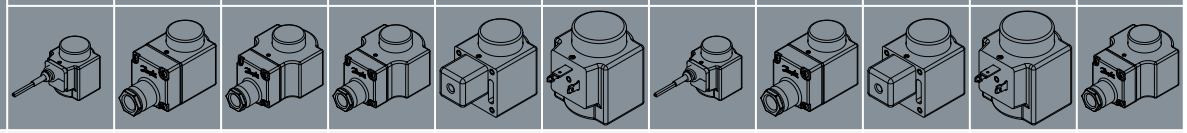
Features

- Encapsulated coils with long operating life, even under extreme conditions.
- Standard coils for AC or DC.
- Standard coils available with 3-core cable, terminal box or DIN plugs.
- Standard coils from 12 V to 420 V, 50, 60 or 50/60 Hz.
- Standard coils dimensioned for max. opening differential pressure (MOPD) of up to 38 bar.
- Coils can be fitted without the use of tools.

Product specification

Technical data

Table 1: Solenoid coil type

Data	Solenoid coil type										
	1m 3-core cable	Terminal box			DIN spade and protection cap	DIN spade	1m 3-core cable	Terminal box	DIN spade and protection cap	DIN spade	Terminal box IP67
	BF	BE	BG	BG	BE	BB	BF	BE	BE	BB	BN
											
Enclosure	IP67	IP67	IP67	IP67	IP20	IP00	IP67	IP67	IP20	IP00	IP67
Polution degree	4	4	4	4	3	3	4	4	3	3	3
Conductor area [mm²]	0.75	0.75 - 1.5	0.75 - 1.5	0.75 - 1.5	0.75 - 1.5	0.75 - 1.5	0.75	0.75 - 1.5	0.75 - 1.5	0.75 - 1.5	0.75 - 1.5
Cable size [mm]	Ø6.6	Ø6.0 - Ø11	Ø6.0 - Ø11	Ø6.0 - Ø11	Ø6.0 - Ø11	Ø6.0 - Ø11	Ø6.6	Ø6.0 - Ø11	Ø6.0 - Ø11	Ø6.0 - Ø11	Ø6.0 - Ø11
Rated impulse voltage [kV], if altitude < 4000 m	4	4	4	4	4	4	4	4	4	4	4
Humidity [R.H.]	0 – 100%	0 – 100%	0 – 100%	0 – 100%	0 – 97% non-condensation condition	0 – 97% non-condensation condition	0 – 100%	0 – 100%	0 – 97% non-condensation condition	0 – 97% non-condensation condition	0 – 100%
Type of control	1	1	1	1	1	1	1	1	1	1	1
Safety classification	Class I	Class I	Class I	Class I	Class I	Class I	Class I	Class I	Class I	Class I	Class I
Max. altitude above sea level [m]	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000

NOTE:
For DIN plug, impulse withstand voltage is 3.1 kV for 2000 m < Altitude < 4000 m

Connection

3-core cable
The external thread in the screwed cable entry suits flexible steel hose or corresponding cable protection (3 x 0.75 mm²).

Terminal box
Leads are connected to terminal screws in the terminal box. The box is fitted with a Pg 13.5 screwed entry for 6 - 14 mm cable. Max. lead cross section: 2.5 mm².

DIN plugs
The three pins on the coil can be fitted with spade tabs, 6.3 mm wide (to EN175301-803A). The two current carrying pins can also be fitted with spade tabs, 4.8 mm wide. Max. lead cross section: 1.5 mm². Use of the protective cap supplied will prevent inadvertent contact with live parts.

DIN socket
(to EN175301-803A) Leads are connected in the socket. The socket is fitted with a Pg 11 screwed entry for 6 - 12 mm.

Dimension and weight

Figure 1: Terminal box 10 W , Weight 0.29 Kg

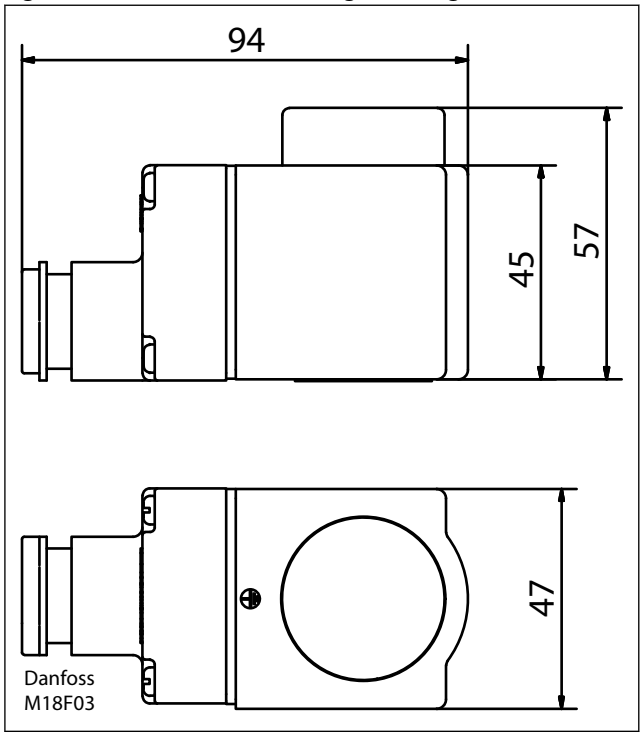


Figure 2: Cable 10 W , Weight 0.29 Kg

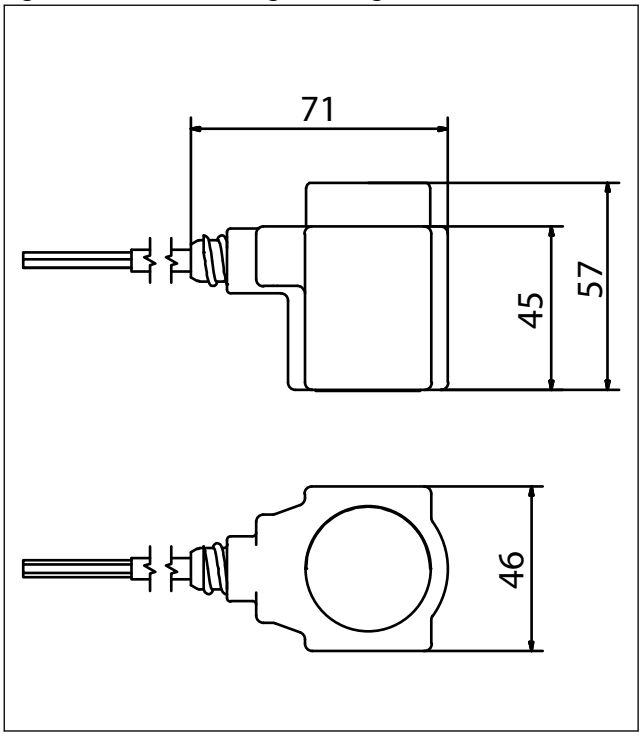


Figure 3: DIN socket 10 W , Weight 0.24 Kg

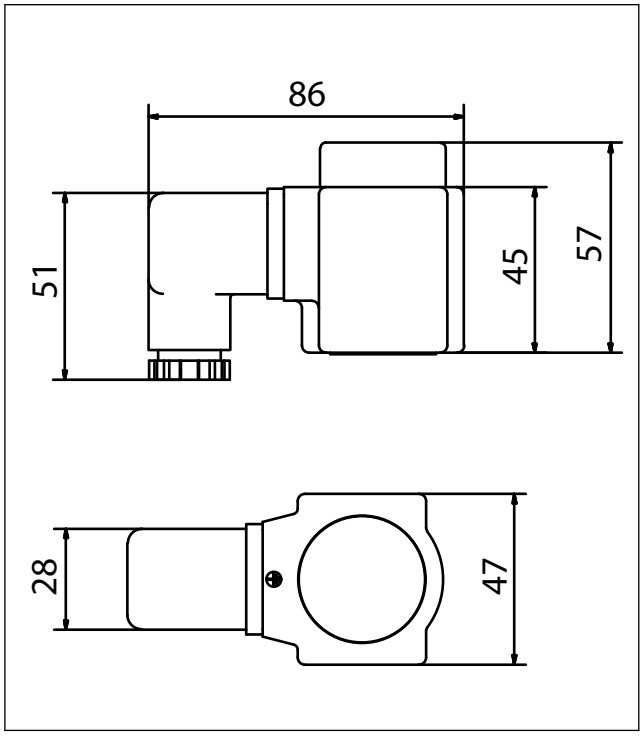
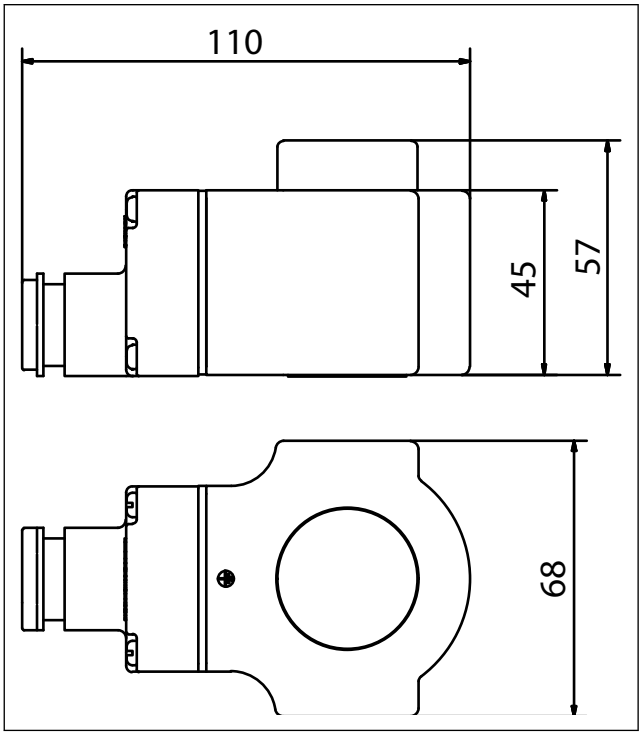


Figure 4: Terminal box 12 - 20 W , Weight 0.55 Kg



Ordering

Figure 5: BF solenoid coil with 1m 3-core cable IP67

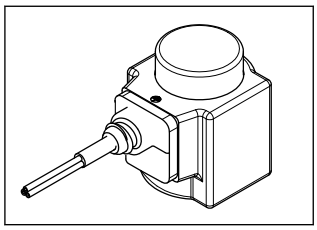


Table 2: Ordering for BF solenoid coil with 1m 3-core cable IP67

Type	Valve type	Tambient [°C]	Supply voltage [V]	Voltage variation	Frequency [Hz]	Power consumption		Code no.
						[W]	[VA]	
BF024AS	EVR 2 – EVR 40 (NC) EVR 6 – EVR 22 (NO) EVRH 10 – EVR 40 EVRC EVRA EVRAT EVRS / EVRST EVM (NC)	-40T80	24	-15%, +10%	50	12	20	018F6257
BF230AS		-40T80	230	-15%, +10%	50	12	22	018F6251
		-40T80	220	-15%, +10%	50	11	20	
BF240AS		-40T80	240	-15%, +10%	50	11	19	018F6252
BF400AS		-40T80	380 / 400	±10%	50	10	21	018F6253
BF024BS		-40T80	24	-15%, +10%	60	14	25	018F6265
BF115CS		-40T80	115	-15%, +10%	60	13	22	018F6260
		-40T80	100	-15%, +10%	50	11	19	
BF220BS		-40T80	220	-15%, +10%	60	14	23	018F6264
BF110CS		-40T50	110	±10%	50	15	29	018F6280
			110	±10%	60	13	23	
BF230CS		-40T50	220 – 230	±10%	50	16	31	018F6282
			220 - 230	±10%	60	14	24	

Figure 6: BE solenoid coil with terminal box IP67

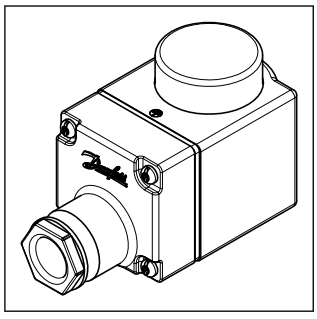


Table 3: Ordering for BE solenoid coil with terminal box IP67

Type	Valve type	Tambient [°C]	Supply voltage [V]	Voltage variation	Frequency [Hz]	Power consumption		Code no.
						[W]	[VA]	
BE012AS	EVR 2 – EVR 40 (NC) EVR 6 – EVR 22 (NO) EVRH 10 – EVRH 40 EVRC EVRA EVRAT EVRS / EVRST EVM (NC)	-40T80	12	-15%, +10%	50	10	18	018F6706
BE024AS		-40T80	24	-15%, +10%	50	12	21	018F6707
BE042AS		-40T80	42	-15%, +10%	50	10	21	018F6708
BE048AS		-40T80	48	-15%, +10%	50	10	21	018F6709
BE115AS		-40T80	115	-15%, +10%	50	11	19	018F6711
BE230AS		-40T80	230	-15%, +10%	50	12	22	018F6701
		-40T80	220	-15%, +10%	50	11	19	
BE240AS		-40T80	240	-15%, +10%	50	11	19	018F6702
BE440CS		-40T80	380 – 400	-15%, +10%	50	13	23	018F6703
			440	-15%, +10%	60	14	24	
BE440AS		-40T80	420	-15%, +10%	50	11	21	018F6704
BE024BS		-40T80	24	-15%, +10%	60	14	25	018F6715
BE115CS		-40T80	100	-15%, +10%	50	11	19	018F6710
			115	-15%, +10%	60	13	22	
BE220BS		-40T80	220	-15%, +10%	60	13	23	018F6714
BE240CS		-40T80	200	-15%, +10%	50	11	20	018F6713
		-40T80	240	-15%, +10%	60	15	25	
BE110CS		-40T50	110	±10%	50	15	28	018F6730
		-40T50	110	±10%	60	13	22	
BE230CS		-40T50	220 - 230	±10%	50	17	31	018F6732
			220 - 230	±10%	60	14	24	

NOTE:

See „Opening differential pressure“ under „Technical data“ for the valve concerned. When replacing a coil with terminal box, it is sufficient to change the coil unit itself. Therefore, order coil with DIN plugs and protective cap.

Figure 7: BG solenoid coil with terminal box IP67

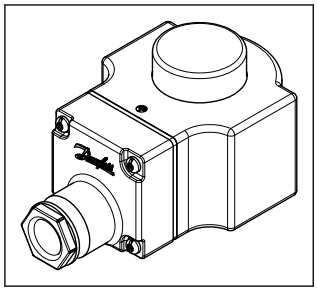


Table 4: Ordering for BG solenoid coil with terminal box IP67

Type	Valve type	Tambient [°C]	Supply voltage [V]	Voltage variation	Frequency [Hz]	Power consumption		Code no.
						[W]	[VA]	
BG024AS	EVR 3 – EVR 40 EVRC EVRA EVRAT EVRS/EVRST EVM (NC/NO)	-40T80	24	-15%, +10%	50	11	21	018F6807
BG048AS		-40T80	48	-15%, +10%	50	12	26	018F6809
BG110AS		-40T80	110	-15%, +10%	50	13	25	018F6811
BG230AS		-40T80	230	-15%, +10%	50	15	28	018F6801
		-40T80	220	-15%, +10%	50	13	25	
BG240AS		-40T80	240	-15%, +10%	50	13	25	018F6802
BG400AS		-40T80	380 / 400	-15%, +10%	50	12	26	018F6803
BG024BS		-40T80	24	-15%, +10%	60	12	26	018F6815
BG110BS		-40T80	110	-15%, +10%	60	16	29	018F6813
BG220BS		-40T80	220	-15%, +10%	60	16	29	018F6814

Type	Valve type	Tambient [°C]	Supply voltage [V]	Voltage variation	Frequency [Hz]	Power consumption		Code no.
						[W]	[VA]	
BG012DS	EVR 2 – 8 EVR 25 – 40 EVRA 3 – EVRA 15 (NC) EVRA 25 – EVRA 40 (NC) EVRAT 10 – EVRAT 15 (NC) EVRS/EVRST 3 – EVRS/EVRST 15 EVM (NC/NO)	-40T50	12	±10%	DC	20	–	018F6856
BG024DS		-40T50	24	±10%	DC	20	–	018F6857
BG048DS		-40T50	48	±10%	DC	20	–	018F6859
BG110DS		-40T50	110	±10%	DC	16	–	018F6860
BG115DS		-40T50	115	±10%	DC	19	–	018F6861
BG220DS		-40T50	220	±10%	DC	20	–	018F6851
BG012DS	EVR 10 – 22 EVRC 15 – 20 EVRC 20 EVRA 20 EVRAT 20 EVRST 20	-40T50	12	±10%	DC	20	–	018F6886
BG024DS		-40T50	24	±10%	DC	20	–	018F6887
BG048DS		-40T50	48	±10%	DC	20	–	018F6889
BG110DS		-40T50	110	±10%	DC	20	–	018F6890
BG220DS		-40T50	220	±10%	DC	20	–	018F6881

NOTE:
See „Opening differential pressure“ under „Technical data“ for the valve concerned. When replacing a coil with terminal box, it is sufficient to change the coil unit itself. Therefore, order coil with DIN plugs and protective cap.

Figure 8: BE solenoid coil with DIN spade and protection cap IP20

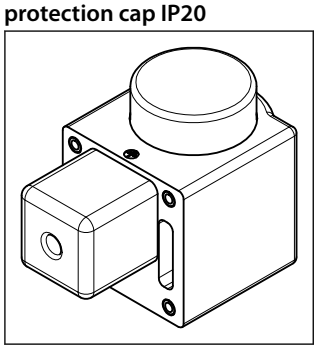


Table 5: Ordering for BE solenoid coil with DIN spade and protection cap IP20

Type	Valve type	Tambient [°C]	Supply voltage [V]	Voltage variation	Frequency [Hz]	Power consumption		Code no.
						[W]	[VA]	
BE024AS	EVR 2 – EVR 40 (NC) EVR 6 – EVR 22 (NO) EVRH 10 – EVRH 40 EVRC EVRA EVRAT EVRS/EVRST EVM (NC)	-40T80	24	-15%, +10%	50	12	21	018F6182
BE230AS		-40T80	230	-15%, +10%	50	12	22	018F6176
		-40T80	220	-15%, +10%	50	11	19	
BE240AS		-40T80	240	-15%, +10%	50	11	19	018F6177
BE420AS		-40T80	420	-15%, +10%	50	10	21	018F6179
BE115CS		-40T80	100	-15%, +10%	50	11	19	018F6185
		-40T80	115	-15%, +10%	60	13	22	
BE220BS		-40T80	220	-15%, +10%	50	13	23	018F6189
BE110CS		-40T50	110	±10%	50	15	28	018F6192
		-40T50	110	±10%	60	13	22	
BE230CS		-40T50	220-230	±10%	50	17	31	018F6193
		-40T50	220-230	±10%	60	14	24	

Figure 9: BB solenoid coil with DIN spade*)

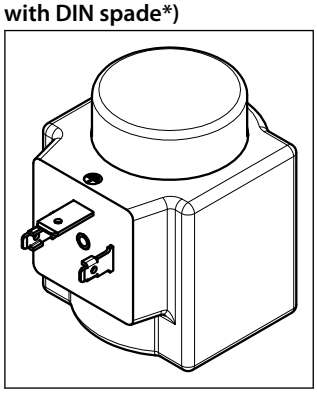


Table 6: Ordering for BB solenoid coil with DIN spade*)

Type	Valve type	Tambient [°C]	Supply voltage [V]	Voltage variation	Frequency [Hz]	Power consumption		Code no.
						[W]	[VA]	
BB024AS	EVR 2 – EVR 40 (NC) EVR 6 – EVR 22 (NO) EVRH 10 – EVRH 40 EVRC EVRA EVRAT EVRS/EVRST EVM (NC)	-40T80	24	-15%, +10%	50	11	19	018F7358
BB115AS		-40T80	115	-15%, +10%	50	11	19	018F7361
BB230AS		-40T80	220 - 230	-15%, +10%	50	11	19	018F7351
BB240AS		-40T80	240	-15%, +10%	50	11	19	018F7352
BB024BS		-40T80	24	-15%, +10%	60	14	23	018F7365
BB110CS		-40T50	110	±10%	50	15	28	018F7360
			110	±10%	60	13	22	
BB230CS		-40T50	220 - 230	±10%	50	16	31	018F7363
			220 - 230	±10%	60	13	24	

*) Can only be used with DIN plug

NOTE:
See „Opening differential pressure“ under „Technical data“ for the valve concerned. When replacing a coil with terminal box, it is sufficient to change the coil unit itself. Therefore, order coil with DIN plugs and protective cap.

Figure 10: BN special solenoid coil with terminal box IP67

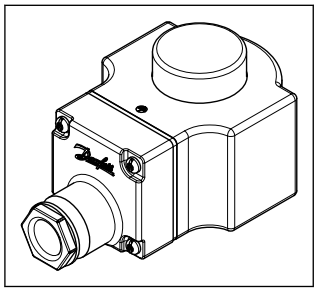


Table 7: Ordering for BN special solenoid coil with terminal box IP67

Type	Valve type	Tambient [°C]	Supply voltage [V]	Voltage variation	Frequency [Hz]	Power consumption		Code no. (1))
						[W]	[VA]	
BN024AS	EVR 2 – EVR 40 (NC) EVR 6 – EVR 22 (NO) EVRH 4 – EVRH 40 EVRC/EVRA/ EVRAT/ EVRS/ EVRST/EVM (NC)	-40T50	24	-15%, +10%	50	24	49	018F6904
BN024BS		-40T50	24	-15%, +10%	60	22	42	018F6906
BN230AS		-40T50	230	-15%, +10%	50	19	43	018F6905

[1] Recommended use for EVRH with high MOPD (38 bar).

Figure 11: Coil with DIN plug

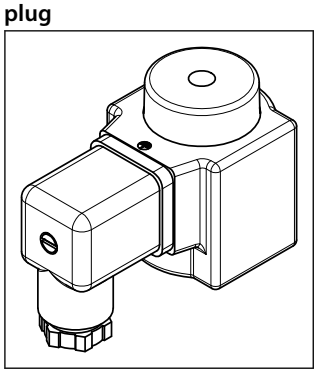


Table 8: Ordering for Coil with DIN plug

Type	Description	Code no.
Terminal box	With built-in light emitting indicator diode for solenoid valves	018Z0089
DIN plug	Enclosure IP65, EN 175301-803A	042N1256

Certificates and declaration

The list contains all certificates, declarations, and approvals for this product type. Individual code number may have some or all of these approvals, and certain local approvals may not appear on the list.

Some approvals may change over time. You can check the most current status at danfoss.com or contact your local Danfoss representative if you have any questions.

Table 9: Certificates, declarations, and approvals

Document name	Document type	Document topic	Approval authority
RMRS 19.10034.262	Marine - Safety Certificate	-	RMRS

ENGINEERING TOMORROW

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