Data sheet

Solenoid coil

BA, BD, BB, BE, BF, BG, BH, BN, BJ, BX, BY, BQ, AM, AZ, AS and AP

Solenoid coils for A and B system

Description

Danfoss solenoid valves and coils are usually ordered separately to allow maximum flexibility, enabling you to select a valve and coil combination to best suit your needs.
The Danfoss coil program consists of both the easy-to-handle clip-on system and traditional coils with threaded fastener.
Danfoss offer a wide range of application specific coils for e.g. steam or hazardous areas. The coils are available with approvals such as EN60730-1 and UL.

Features & benefits

- Encapsulated coils with long operating life, even under extreme conditions
- Standard coils for AC or DC
- Standard coils from 12 V – 400 V, 50, 60, 50 / 60 Hz or DC
- Standard coils available with:
  - Cable plugs
  - Industrial plugs
  - Terminal box
  - 3 core cable
  - Junction box
  - Conduit hub

Ordering

Product code numbers

Table: BA, High performance coils

Type	$T_{ambient}$ [°C]	Supply voltage [V]	Voltage variation	Frequency [Hz]	Power consumption		Code no.
					[W]	[VA]	
BA024A	-40 – 40	24	-15%, 10%	50	8.5	17	042N7508
BA048A	-40 – 40	48	-15%, 10%	50	9.5	18	042N7510
BA115A	-40 – 40	115	-15%, 10%	50	9	18	042N7512
BA230A	-40 – 40	220 – 230	-15%, 6%	50	12	22	042N7501
BA240A	-40 – 40	240	-15%, 10%	50	10	20	042N7502
BA400A	-40 – 40	380 – 400	-15%, 6%	50	12	22	042N7504
BA024B	-40 – 40	24	-15%, 10%	60	9.5	19	042N7520
BA115B	-40 – 40	115	-15%, 10%	60	12	23	042N7522
BA220B	-40 – 40	220	-15%, 10%	60	11	21	042N7523
BA012D	-40 – 40	12	±10%	DC	14	–	042N7550
BA024D	-40 – 40	24	±10%	DC	14	–	042N7551

Table: BD, High performance coils

Type	$T_{ambient}$ [°C]	Supply voltage [V]	Voltage variation	Frequency [Hz]	Power consumption		Code no.
					[W]	[VA]	
BD024A	-40 – 40	24	-15%, 10%	50	15	29	042N7597
BD230A	-40 – 40	230	-10%, 6%	50	14	28	042N7591

Table: BB, High performance coils

Type	$T_{ambient}$ [°C]	Supply voltage [V]	Voltage variation	Frequency [Hz]	Power consumption		Code no.
					[W]	[VA]	
BB024AS	-40 – 80	24	-15%, 10%	50	11	19	018F7358
BB115AS	-40 – 80	115	-15%, 10%	50	11	19	018F7361
BB230AS	-40 – 80	220 – 230	-15%, 10%	50	11	19	018F7351
BB240AS	-40 – 80	240	-15%, 10%	50	11	19	018F7352
BB440CS	-40 – 50	380 – 400	-15%, 10%	50	14	24	018F7353
		440	-15%, 10%	60	15	24	
BB024BS	-40 – 80	24	-15%, 10%	60	14	23	018F7365
BB110CS	-40 – 50	110	±10%	50	15	28	018F7360
		110	±10%	60	13	22	
BB230CS	-40 – 50	220 – 230	±10%	50	16	31	018F7363
		220 – 230	±10%	60	13	24	
BB012DS	-40 – 50	12	±10%	DC	14	–	018F7396
BB024DS	-40 – 50	24	±10%	DC	16	–	018F7397

Table: BE, High performance coils

Type	$T_{ambient}$ [°C]	Supply voltage [V]	Voltage variation	Frequency [Hz]	Power consumption		Code no.
					[W]	[VA]	
BE024AS	-40 – 80	24	-15%, 10%	50	12	21	018F6707
BE048AS	-40 – 80	48	-15%, 10%	50	11	20	018F6709
BE115AS	-40 – 80	115	-15%, 10%	50	11	19	018F6711
BE230AS	-40 – 80	220 – 230	-15%, 10%	50	12	22	018F6701
BE240AS	-40 – 80	240	-15%, 10%	50	11	19	018F6702
BE440CS	-40 – 80	380 – 400	-15%, 10%	50	13	23	018F6703
		440	-15%, 10%	60	14	24	
BE024BS	-40 – 80	24	-15%, 10%	60	14	25	018F6715
BE115CS	-40 – 80	100	-15%, 10%	50	11	19	018F6710
		115	-15%, 10%	60	13	22	
BE220BS	-40 – 80	220	-15%, 10%	60	13	23	018F6714
BE110CS	-40 – 50	110	±10%	50	15	28	018F6730
	-40 – 50	110	±10%	60	13	22	
BE230CS	-40 – 50	220 – 230	±10%	50	17	31	018F6732
		220 – 230	±10%	60	14	24	
BE012DS	-40 – 50	12	±10%	DC	15	–	018F6756
BE024DS	-40 – 50	24	±10%	DC	16	–	018F6757

Table: BF, High performance coils

Type	$T_{ambient}$ [°C]	Supply voltage [V]	Voltage variation	Frequency [Hz]	Power consumption		Code no.
					[W]	[VA]	
BF230AS	-40 – 80	220 – 230	-15%, 10%	50	12	22	018F6251
BF240AS	-40 – 80	240	-15%, 10%	50	11	19	018F6252
BF440CS	-40 – 80	380 – 400	-15%, 10%	50	14	24	018F6253
		440	-15%, 10%	60	15	24	
BF024AS	-40 – 80	24	-15%, 10%	50	12	20	018F6257
BF115CS	-40 – 80	100	-15%, 10%	50	11	19	018F6260
		115	-15%, 10%	60	13	22	
BF220BS	-40 – 80	220	-15%, 10%	60	14	23	018F6264
BF024BS	-40 – 80	24	-15%, 10%	60	14	25	018F6265
BF110CS	-40 – 50	110	±10%	50	15	29	018F6280
		110	±10%	60	13	23	
BF230CS	-40 – 50	220 – 230	±10%	50	16	31	018F6282
		220 – 230	±10%	60	14	24	

Table: BG, High performance coils

Type	$T_{ambient}$ [°C]	Supply voltage [V]	Voltage variation	Frequency [Hz]	Power consumption		Code no.
					[W]	[VA]	
BG024AS	-40 – 80	24	-15%, 10%	50	11	21	018F6807
BG110AS	-40 – 80	110	-15%, 10%	50	13	25	018F6811
BG230AS	-40 – 80	220 – 230	-15%, 10%	50	15	28	018F6801
BG240AS	-40 – 80	240	-15%, 10%	50	13	25	018F6802
BG400AS	-40 – 80	380 – 400	-15%, 10%	50	15	29	018F6803
BG024BS	-40 – 80	24	-15%, 10%	60	15	29	018F6815
BG110BS	-40 – 80	110	-15%, 10%	60	16	29	018F6813
BG220BS	-40 – 80	220	-15%, 10%	60	16	29	018F6814
BG012DS	-40 – 50	12	±10%	DC	20	–	018F6856
BG024DS	-40 – 50	24	±10%	DC	20	–	018F6857

Table: BH, High performance coils Hum-free

Type	$T_{ambient}$ [°C]	Supply voltage [V]	Voltage variation	Frequency [Hz]	Power consumption		Code no.
					[W]	[VA]	
BH230CS	-40 – 50	220 – 230	±10%	50	22	24	018F7301
		220 – 230	±10%	60	22	24	

Table: BN, High performance coils Center boss

Type	$T_{ambient}$ [°C]	Supply voltage [V]	Voltage variation	Frequency [Hz]	Power consumption		Approval	Code no.
					[W]	[VA]		
BN024DS	-40 – 50	24	±10%	DC	20	–	c UL us	018F6968

Table: BJ, High performance coils

Valve type	Coil type	Voltage tolerance	Supply voltage [V]	Frequency [Hz]	Power consumption [W]	Wire length		Code no.
						[in.]	[cm]	
EV220B 6 – 50	BJ024CS	±10%	24	50 / 60	14	7	18	018F4100
EV210B EV215B	BJ120CS	±10%	110	50 / 60	16	7	18	018F4110
			120	60	15			
EV225B EV250B	BJ240CS	±10%	208 – 240	60	14	7	18	018F4120
			230	50	17			

Table: BX, High performance coils

Valve type	Coil type	Voltage tolerance	Supply voltage [V]	Frequency [Hz]	Power consumption [W]	Wire length		Code no.
						[in.]	[cm]	
EV220B 6 – 50 EV210B EV215B EV225B EV250B	BX024CS	±10%	24	50 / 60	14	18	46	018F4102
	BX024CS	±10%	24	50 / 60	14	71	180	018F4103
	BX024CS	±10%	24	50 / 60	14	98	250	018F4104
	BX120CS	±10%	110 120	50 / 60 60	16 15	18	46	018F4112
	BX120CS	±10%				36	91	018F4113
	BX120CS	±10%				71	180	018F4114
	BX120CS	±10%				98	250	018F4115
	BX240CS	±10%	208 – 240	60	14	18	46	018F4122
	BX240CS	±10%	230	50	17	98	250	018F4123

Table: BY, High performance coils

Type	$T_{ambient}$ [°C]	Supply voltage [V]	Voltage variation	Frequency [Hz]	Power consumption		Approval	Code no.
					[W]	[VA]		
BY024CS	-40 – 50	24	±10%	50	14	26	c UL us	018F7655
		24	±10%	60	12	21		
BY240CS	-40 – 50	230	±10%	50	16	32	c UL us	018F7658
		208 – 240	±10%	60	14	28		
BY120BS	-40 – 50	110	±10%	50	14	27	c UL us	018F7663
		110 – 120	±10%	60	14	27		

Table: BQ, High performance coils

Type	$T_{ambient}$ [°C]	Supply voltage [V]	Voltage variation	Frequency [Hz]	Power consumption		Approval	Code no.
					[W]	[VA]		
BQ024CS	-40 – 40	24	-15%, 10%	50	10	17	c UL us	018F4517
		24	-15%, 10%	60	9	16		
BQ120BS	-40 – 40	110 / 120	-15%, 6%	60	13.5	19	c UL us	018F4519
BQ240CS	-40 – 40	230	-15%, 6%	50	10	17	c UL us	018F4511
		208 / 240	-6%, 6%	60	9.5	16		
BQ220BS	-40 – 40	220	-15%, 6%	60	12	19		018F4520

Table: AM coil

Type	$T_{ambient}$ [°C]	Supply voltage [V]	Voltage variation	Frequency [Hz]	Power consumption		Code no.
					[W]	[VA]	
AM024C	-40 – 50	24	±10%	60	5.5	11	042N0842
		24	±10%	50	7.5	14	
AM110C	-40 – 50	110	±10%	60	5.5	11	042N0845
		110	±10%	50	7.5	14	
AM230C	-40 – 50	230	±10%	60	6.5	13	042N0840
		230	±10%	50	9.5	18	
AM240C	-40 – 50	240	±10%	60	5.5	11	042N0841
		240	±10%	50	7.5	15	
AM012D	-40 – 50	12	±10%	DC	8.5	–	042N0848
AM024D	-40 – 50	24	±10%	DC	9	–	042N0843

Table: AP, Compact UL recognized coils

Type	$T_{ambient}$ [°C / °F]	Supply voltage [V]	Voltage variation	Frequency [Hz]	Power consumption		Approval	Code no.
					[W]	[VA]		
AP240C	-40 – 50 / -40 – 122	208 – 240	±10%	60	5.5	11	c UL us	042N4291
		230		50	7.5	15		
AP120B	-40 – 50 / -40 – 122	110 – 120	±10%	60	5	11	c UL us	042N4292
AP024B	-40 – 50 / -40 – 122	24	±10%	60	5	11	c UL us	042N4293

Table: AS/AZ, Compact UL recognized clip-on coils

Type	$T_{ambient}$ [°C / °F]	Supply voltage [V]	Voltage variation	Frequency [Hz]	Power consumption		Approval	Code no.
					[W]	[VA]		
AS024CS	-40 – 50 / -40 – 122	24	-10%, +6%	50	9.5	18	c UL us	042N7608
		24		60	7.0	14		
AS230CS	-40 – 50 / -40 – 122	230	-10%, +6%	50	8.0	16	c UL us	042N7601
		208 – 240	±6%	60	7.0	14		
AZ012DS	-40 – 50 / -40 – 122	12	-10%, +6%	DC	6.0	-	c UL us	042N7616
AZ024DS	-40 – 50 / -40 – 122	24	-10%, +6%	DC	6.5	-	c UL us	042N7617

Spare parts code numbers

Table: DIN 18

Cable plug size	Description	Code no.
DIN 18	Cable plug IP67	042N1256

Table: DIN 18

Cable plug size	Description	Code no.
DIN 18	Cable plug IP65	042N1278

Table: DIN 11

Industrial plug size	Description	Suitable for coil types	Code no.
DIN 11	Cable plug for 6.3 x 0.8 mm spade connectors	AB, AC	042N0139

Table: DIN 18

Industrial plug size	Voltage		Voltage variation	Suitable for coil types	LED color	Built-in VDR (1) resistor	Code no.
	[V AC]	[V DC]					
DIN 18	24	24	±10%	AM, AL, AS, AZ, BA, BB, BD, BY	Red	Yes	042N0263
DIN 18	230	–	±10%	AM, AL, AS, AZ, BA, BB, BD, BY	Red	Yes	042N0265

(1) Protects against voltage peaks

Table: DIN 11

Industrial plug size	Voltage		Suitable for coil types	LED color	Built-in VDR (1) resistor	Code no.
	[V AC]	[V DC]				
DIN 11	24	24	AB, AC	Red	Yes	042N0267

Table: BA024A

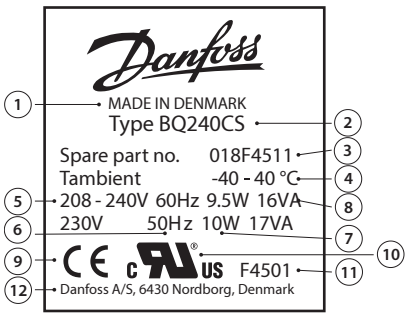
Type	Voltage [V]	Suitable for coil types	Code no.
BA024A	24 – 240	AL, AM, AS, AZ, BA, BD, BB	042N0185

Overview

Product portfolio

Coil identification

Technical data is printed directly on the coil:
Figure: Identification label



1	Country of origin
2	Coil type
3	Spare part no. (code no.)
4	Ambient temperature: (-40 – 40 °C = Ambient temperature range: -40 °C – 40 °C)
5	Supply voltage [V]
6	Frequency [Hz]
7	Power consumption [W]
8	Power consumption [VA]
9	CE marking
10	UL recognized coil
11	Raw coil number (F4501 = Raw coil number 018F4501)
12	Point of contact

BA, High performance coils

Figure: BA, High performance coils

Features

- Cable plug enclosure:
  - IP00 version with DIN 43650 A spade connectors
  - IP20 version with protective cap
  - IP65/IP67 version with cable plug
- Nut and snap fastener included
- In accordance with:
  - RoHS Directive 2011/65/EU
  - Low Voltage Directive 2014/35/EU: EN60730–1, EN60730–2–8

Table: Technical data

Design	In accordance with VDE 0580
Insulation of coil windings	Class H according to IEC 85
Connection	Spade connector in accordance with DIN 43650 form A
Enclosure, IEC 529	IP00 with spade connector, IP20 with protective cap, IP65 with cable plug
Duty rating	Continuous
Plug type	Cable plug (042N1256)

BD, High performance coils

Figure: BD, High performance coils

Features

Cable plug enclosure:

- IP00 version with DIN 43650 A spade connectors
- IP20 version with protective cap
- IP65/IP67 version with cable plug
- Nut and snap fastener included

In accordance with:

- RoHS Directive 2011/65/EU
- Low Voltage Directive 2014/35/EU

- EN60730–1
- EN60730–2–8

Table: Technical data

Design	In accordance with VDE 0580
Insulation of coil windings	Class H according to IEC 85
Connection	Spade connector in accordance with DIN 43650 form A
Enclosure, IEC 529	IP00 with spade connector, IP20 with protective cap, IP65 with cable plug
Duty rating	Continuous
Plug type	Cable plug (042N1256)

BB, High performance coils

Figure 6: BB, High performance coils

Features

Enclosure:
- IP00 version with DIN 43650 A spade connectors
- IP20 version with protective cap
- IP65/IP67 version with mounted cable plug

In accordance with:
- RoHS Directive 2011/65/EU
- Low Voltage Directive 2014/35/EU
- EN60730-1
- EN60730-2-8

Table: Technical data

Design	In accordance with VDE 0580
Insulation of coil windings	Class H according to IEC 85
Connection	Spade connector in accordance with DIN 43650 form A
Enclosure, IEC 529	IP00 with spade connector, IP20 with protective cap, IP65 with cable plug
Duty rating	Continuous
Plug type	Cable plug (042N1256)

BE, High performance coils

Figure: BE, High performance coils

Features

- Enclosure: IP67 for moist environments with terminal box

In accordance with:
- RoHS Directive 2011/65/EU
- Low Voltage Directive 2014/35/EU
- EN60730–1
- EN60730–2–8

Table: Technical data

Design	In accordance with VDE 0580
Insulation of coil windings	Class H according to IEC 85
Connection	1 m 3–core flying lead
Enclosure, IEC 529	IP67
Duty rating	Continuous

BF, High performance coils

Figure: BF, High performance coils

Features

Enclosure:

- IP67 for moist environments with molded-in cable
- In accordance with:

RoHS Directive 2011/65/EU

- Low Voltage Directive 2014/35/EU

- EN60730–1
- EN60730–2–8

Table: Technical data

Design	In accordance with VDE 0580
Insulation of coil windings	Class H according to IEC 85
Connection	1 m 3-core flying lead
Enclosure, IEC 529	IP67
Duty rating	Continuous

BG, High performance coils

Figure: BG, High performance coils

Features

Enclosure:

- IP67 for moist environments with terminal box

In accordance with:

- RoHS Directive 2011/65/EU
- Low Voltage Directive 2014/35/EU

- EN60730–1
- EN60730–2–8

Table: Technical data

Design	In accordance with VDE 0580
Insulation of coil windings	Class H according to IEC 85
Connection	Terminal box
Enclosure, IEC 529	IP67
Duty rating	Continuous
Plug type	Terminal box

BH, High performance coils Hum-free

Figure: BH, High performance coils

Features

• Hum-free
• Enclosure: IP67 for moist environments with flying lead

In accordance with:

• RoHS Directive 2011/65/EU
• Low Voltage Directive 2014/35/EU
- EN60730–1
- EN60730–2–8

Table: Technical data

Design	In accordance with VDE 0580
Insulation of coil windings	Class H according to IEC 85
Connection	1 m 3–core flying lead
Enclosure, IEC 529	IP67
Duty rating	Continuous

BN, High performance coils Center boss

Figure: BN, High performance coils

Features

Enclosure:

• Center boss for mounting IP65/IP67 cable plug in accordance with DIN43650 form A
• IP65/IP67 for moist environments with terminal box
• Used with EV215B, EV225B, and EV245B up to 160 °C low pressure steam and max. ambient temperature 40 °C (see additional information in the respective
solenoid valve data sheets)

In accordance with:

• RoHS Directive 2011/65/EU
• Low Voltage Directive 2014/35/EU
- EN60730–1
- EN60730–2–8
• Mounted with the solenoid valves EV210B, EV220B, EV215B and EV225B, the assembly is UL recognized

Table: Technical data

Design	In accordance with VDE 0580
Insulation of coil windings	Class H according to IEC 85
Connection	Cable plug in accordance with DIN43650 form A or terminal box
Enclosure, IEC 529	IP65, IP67
Duty rating	Continuous

BJ, High performance coils Junction box

Figure: BJ, High performance coils

Features
- Enclosure: IP30 / NEMA 2
- For UL listed valves (UL 429 and CSA)
- Ambient temperature: Up to 50 °C / 122 °F
- Media temperature: Up to 185 °C / 364 °F steam

Table 30: Technical data

Design	In accordance with UL 429
Power Consumption (Cut-in)	49 VA
Insulation of Coil Windings	Class H according to IEC 85
Connection	Junction box
Enclosure, IEC 529	Junction box NEMA 2 ~ IP12 – 30
Ambient Temperature	-40 – 50 °C / -40 – 122 °F

BX, High performance coils Conduit hub

Figure: BX, High performance coils

Features
- Enclosure: IP54 / NEMA 4
- For UL listed valves (UL 429 and CSA)
- Ambient temperature: Up to 50 °C / 122 °F
- Media temperature: Up to 185 °C / 364 °F steam

Table: Technical data

Design	In accordance with UL 429
Power consumption, cut in	49 VA
Insulation of coil windings	Class H according to IEC 85
Connection	Conduit hub
Enclosure, IEC 529	Conduit hub NEMA 4 ~ IP54
Ambient temperature	-40 – 50 °C / -40 – 122 °F

BY, High performance coils

Figure: BY, High performance coils

Features

Enclosure:
- IP00 version with DIN 43650 A spade connectors
- IP20 version with protective cap
- IP65/IP67 version with mounted cable plug

For UL recognized valves

In accordance with:
- RoHS Directive 2011/65/EU
- Low Voltage Directive 2014/35/EU

- EN60730–1
- EN60730–2–8

Table: Technical data

Design	In accordance with VDE 0580
Insulation of coil windings	Class H according to IEC 85
Connection	Spade connector in accordance with DIN 43650 form A
Enclosure, IEC 529	Up to IP65 / NEMA 4
Plug type	Cable plug (042N1256)

BQ, High performance coils

Figure: BQ, High performance coils

Features

Enclosure:

- IP00 version with DIN 43650 A spade connectors
- IP20 version with protective cap
- IP65/IP67 version with mounted cable plug
- Max. media temperature: 185 °C steam
- For UL recognized valves

In accordance with:

- RoHS Directive 2011/65/EU
- Low Voltage Directive 2014/35/EU

- EN60730–1
- EN60730–2–8

Table: Technical data

Design	In accordance with VDE 0580
Insulation of coil windings	Class H according to IEC 85
Connection	Spade connector in accordance with DIN 43650 form A
Enclosure, IEC 529	Up to IP65 / NEMA 4
Plug type	Cable plug (042N1256)

AM coil

Figure: AM coil

Features

Cable plug enclosure:
- IP00 version with DIN 43650 A spade connectors
- IP20 version with protective cap
- IP65/IP67 version with cable plug

In accordance with:
- RoHS Directive 2011/65/EU
- Low Voltage Directive 2014/35/EU

- EN60730–1
- EN60730–2–8

Table: Technical data

Design	In accordance with VDE 0580
Power consumption, cut in	22.5 VA AC coils only
Insulation of coil windings	Class H according to IEC 85
Connection	Spade connector in accordance with DIN 43650 form A
Enclosure, IEC 529	IP00 with spade connector, IP65 with cable plug
Duty rating	Continuous
Plug type	Cable plug (042N1256)

AP, Compact UL recognized coils

Figure: AP Coil

Features

Cable plug enclosure:

- IP00 version with DIN 43650 A spade connectors
- IP20 version with protective cap
- IP65/IP67 version with cable plug
- For UL recognized valves
- Ambient temperature: Up to 50 °C / 122 °F

In accordance with:

- RoHS Directive 2011/65/EU
- Low Voltage Directive 2014/35/EU

- EN60730–1
- EN60730–2–8

Table: Technical data

Design	In accordance with VDE 0580
Insulation of coil windings	Class H according to IEC 85
Connection	Spade connector in accordance with DIN 43650 form A
Enclosure, IEC 529	IP00 with spade connector, IP65 / NEMA 2 with cable plug
Duty rating	Continuous
Plug type	Cable plug (042N1256)

AS/AZ, Compact UL recognized clip–on coils

Figure: AS/AZ Coil

Features

Cable plug enclosure:

- IP00 version with DIN 43650 A spade connectors
- IP20 version with protective cap
- IP65/IP67 version with cable plug
- Ambient temperature: Up to 50 °C / 122 °F

In accordance with:

- RoHS Directive 2011/65/EU
- Low Voltage Directive 2014/35/EU

- EN60730–1
- EN60730–2–8

Table: **Technical data**

Design	In accordance with UL 429
Insulation of coil windings	Class H according to IEC 85
Connection	Spade connector in accordance with DIN 43650 form A
Enclosure, IEC 529	IP00 with spade connector, IP65 / IP67 with cable plug
Duty rating	Continuous
Plug type	Cable plug (042N1256)

Cable plug

Figure: Cable plug

Features

Enclosure: IP67 / NEMA 4X
- For use with Danfoss coils type AL, AM, AS, AZ, BA, BB, BD, BN (Center boss), BQ, and BY
- AC / DC all voltages up to 250 V

In accordance with:
- RoHS 2011/65/EU
- LVD 2014/35/EU

Design according to:
- Flammability
  - UL94 V0
  - IEC 60695–11–5

Figure: Pin

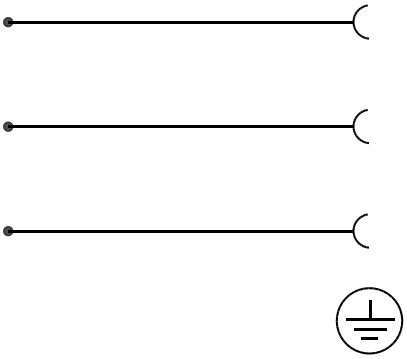


Table: Technical data

Type	Cable plug with Danfoss logo	
Design	EN 175301–803 Form A	
Cable gland	Ext. thread diameter range 4 – 9 mm	
Poles	2+1 (Earth)	
Max. voltage	250 V AC / DC	
Enclosure	IP67 (IEC 60529)	
Max. operating current	16 A	
Contact resistance	≤ 15 mΩ	
Cable diameter	Ø 4 – 9 mm	
Wire cross section	Max. 1.5 mm^2	
Ambient temperature	-40 – 125 °C / -40 – 257 °F	
Materials	Housing	PA66 GF (Polymide)
	Terminal block	PA66 GF (Polymide)
	Profiled gasket	Silicone

Cable plug

Figure: Cable plug

Features

Enclosure: IP65 / NEMA 4
- For use with Danfoss coils type AL, AM, AS, AZ, BA, BB, BD, BN (Center boss), BQ, and BY
- AC / DC all voltages up to 250 V

In accordance with:
- RoHS 2011/65/EU
- LVD 2014/35/EU

Design according to:
- Flammability
- UL94 V0
- IEC 60695–11–5

Figure: Pin

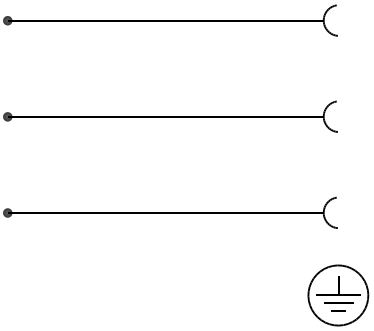


Table: Technical data

Type	Cable plug with Danfoss logo	
Design	EN 175301–803 Form A	
Cable gland	PG 9	
Poles	2+1 (Earth)	
Max. voltage	250 V AC / DC	
Enclosure	IP65 (IEC 60529)	
Max. operating current	16 A	
Contact resistance	≤ 15 mΩ	
Cable diameter	Ø 6 – 8 mm	
Wire cross section	Max. 1.5 mm^2	
Ambient temperature	-40 – 90 °C / -40 – 194 °F	
Materials	Housing	PA66 GF (Polymide)
	Terminal block	PA66 GF (Polymide)
	Profiled gasket	NBR

Industrial plug

Figure: Industrial plug

Features

- Enclosure: Up to IP65
- For use with Danfoss coils type AB and AC
- AC / DC all voltages up to 250 V
- Approved in accordance with:
- CSA

Figure: Pin

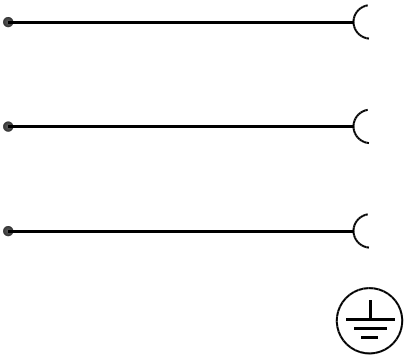


Table: Technical data

Type	GM 209 J (Black)	
Design	DIN 43650–B	
Cable gland	PG 9	
Poles	2 + PE	
Max. voltage	250 V AC / DC	
Enclosure	IP65 (IEC 60529)	
Max. operating current	16 A	
Contact resistance	< 10m Ω	
Cable diameter	Ø4.5 – 7 mm	
Wire cross section	Max. 1.5 mm^2	
Ambient temperature	-30 – 90 °C / -22 – 194 °F	
Materials	Contacts:	CuSn (Tin plated)
	Terminal block:	PA 6 GF
	Flat gasket:	NBR
	Housing:	PA 6 GF

Cable plug (LED + Varistor)

Figure: Cable plug

Features

- Enclosure: Up to IP65
- For use with Danfoss coils type AM, AK, AL, AS, AZ, BA, BD, BB, and BY
- 24 V AC / DC and 230 V AC version
- DIN 18

In accordance with:

- RoHS 2011/65/EU
- LVD 2014/35/EU

Figure:

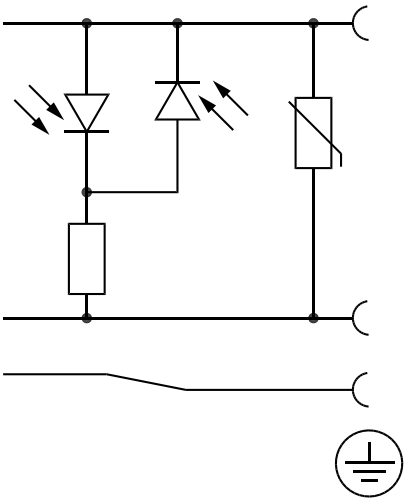


Table 60: Technical data

Design	EN 175301–803 A	
Power consumption	Max. 5 mA	
Approval	CSA	
Enclosure	IP65 (IEC 60529)	
Max. operating current	1.5 A clamping contact	
Contact resistance	≤ 4m Ω	
Protection against wrong polarity	Yes	
Cable diameter	6 – 8 mm and 8 – 10 mm	
Wire cross section	Max. 1.5 mm^2	
Ambient temperature	-25 – 60 °C / -13 – 140 °F	
Materials	Contacts:	CuZn, Cu/Sn-plated
	Terminal block:	PA6 + 30% FG, black
	Flat gasket:	NBR LABS-fre
	Housing:	PA6
	Wire holder:	PA6.6 + 50% FG P7,5 black

Industrial plug (LED + Varistor)

Figure: Industrial plug

Features

Enclosure: Up to IP65
- For use with Danfoss coils type AB and AC
- 24 V AC

Approved in accordance with:
- CSA

In accordance with:
- RoHS 2011/65/EU
- LVD 2014/35/EU

Figure:

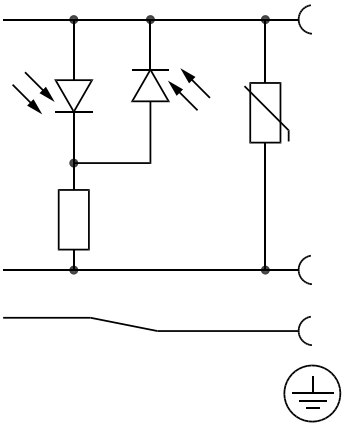


Table: Technical data

Design	Industrial form	
Supply voltage variation	±10%	
Power consumption	Max. 5 mA	
Approval	CSA	
Enclosure	IP65 (IEC 60529)	
Max. operating current	1.5 A clamping contact	
Contact resistance	≤ 4m Ω	
Protection against wrong polarity	Yes	
Cable diameter	5 – 6 mm and 6 – 9 mm	
Wire cross section	Max. 1 mm^2	
Ambient temperature	-25 – 60 °C / -13 – 140 °F	
Materials	Contacts:	CuZn, Cu/Sn–plated
	Terminal block:	PA6 + 30% FG, black
	Flat gasket:	NBR LABS–fre
	Housing:	PA6
	Wire holder:	PA6.6 + 50% FG P7, 5 black

Universal electronic multi-timer Type ET 20 M

Figure: ET 20 M

Features

· Outside adjustments
· Light weight and small size
· External adjustable timing from 1 minute to 45 minutes with 1 to 15 seconds drain open
· One solid state timer fits all coil voltages from 24 – 240 V AC
· Light diodes for indication
· All in one unit
· Manual override (test button)

Table 66: Technical data

Type	ET 20 M
Voltage	24 – 240 V AC / 50 – 60 Hz
Power rating	Max. 20 W
Enclosure	IP00, IP65 with cable plug
Electrical connection	DIN connector (DIN 43650–A)
Ambient operating temperature range	-10 – 50 °C
Function	Start with pulse
Interval timer	0 – 45 min.
"On" timer	0 – 15 sec.

Product details

Dimensions

Figure: BA, High performance coils

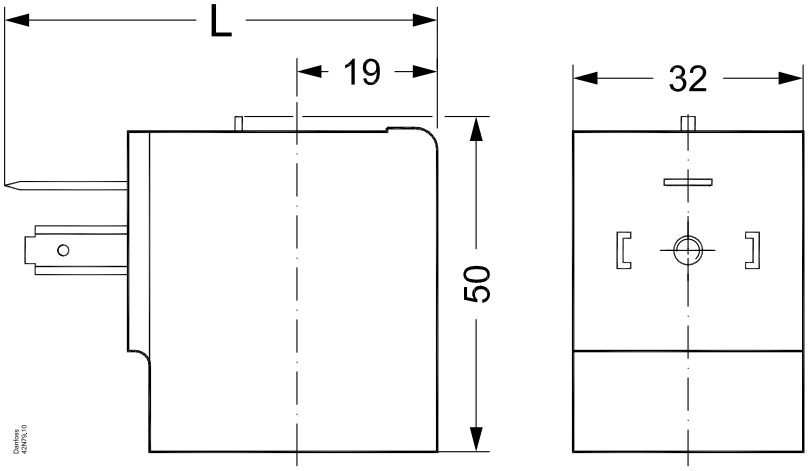


Table: BA, High performance coils

Type	L without cable plug [mm]	L with protective cap [mm]	L with cable plug [mm]	Weight [kg]
BA	54	71	79	0.16

Figure: BD, High performance coils

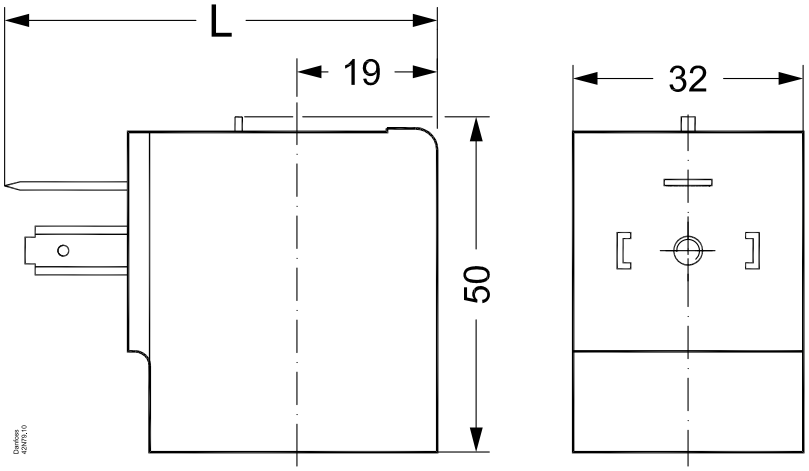


Table: BD, High performance coils

Type	L without cable plug [mm]	L with protective cap [mm]	L with cable plug [mm]	Weight [kg]
BD	54	71	79	0.16

Figure: BB, High performance coils

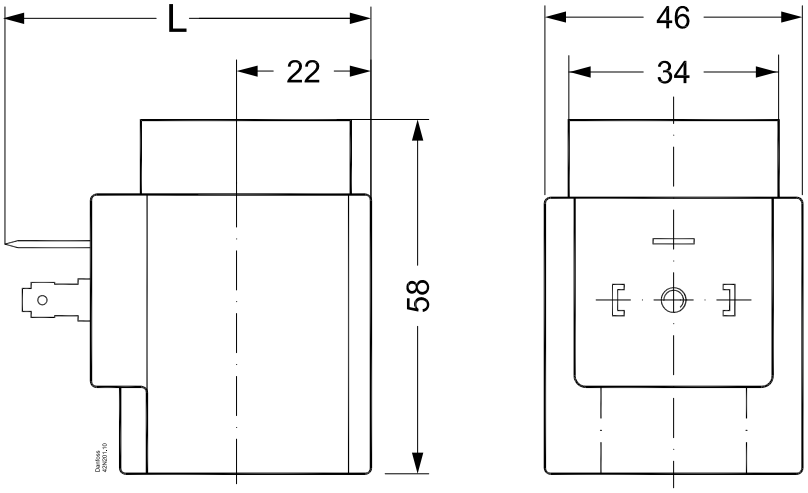


Table: BB, High performance coils

Type	L without cable plug [mm]	L with protective cap [mm]	L with cable plug [mm]	Weight [kg]
BB	62	77	85	0.24

Figure: BE, High performance coils

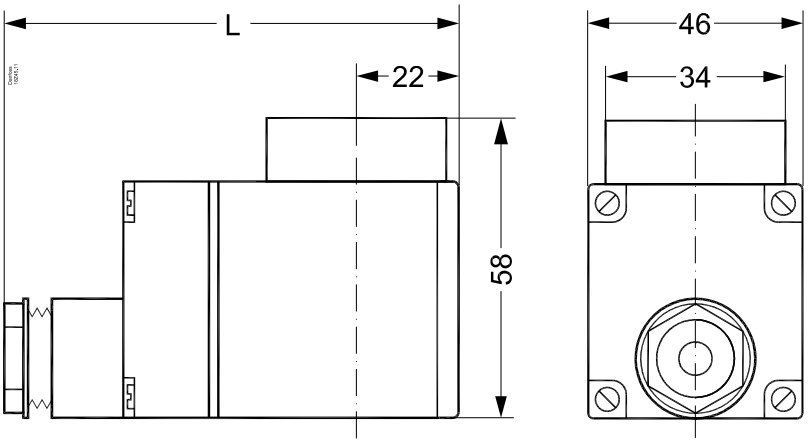


Table: BE, High performance coils

Type	L with terminal box [mm]	L with 1m cable [mm]	Weight [kg]
BE	94	65	0.30

Figure: BF, High performance coils

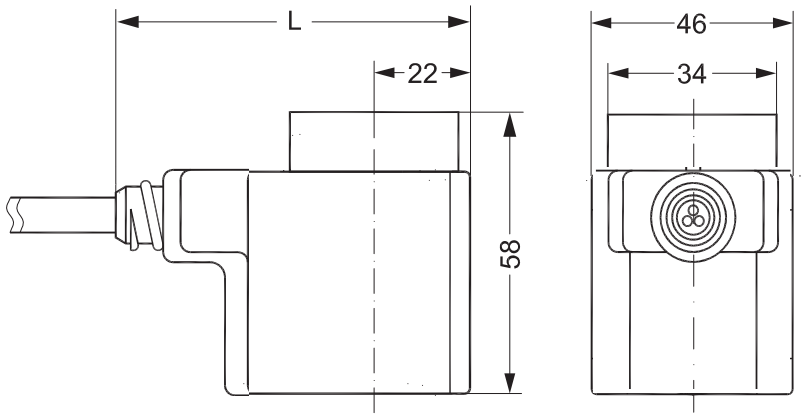


Table: BF, High performance coils

Type	L with 1m cable [mm]	Weight [kg]
BF	67	0.30

Figure: BG, High performance coils

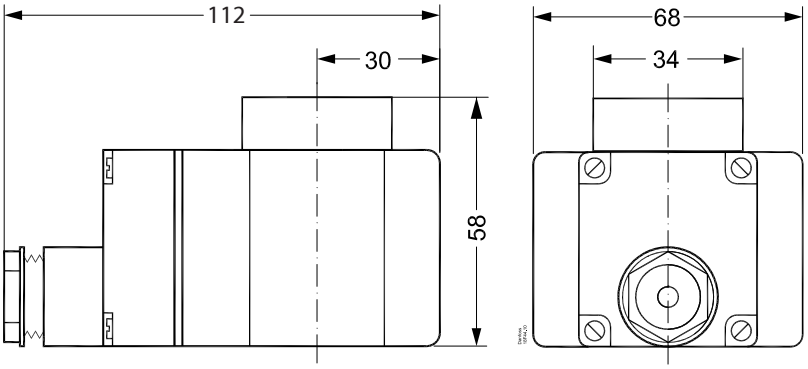


Table: BG, High performance coils

Type	L with 1m cable [mm]	Weight [kg]
BG	112	0.50

Figure: BH, High performance coils Hum–free

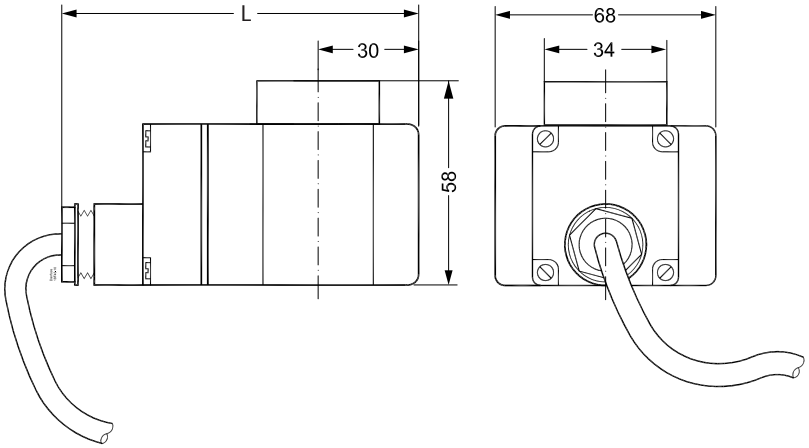


Table: BH, High performance coils Hum–free

Type	L with 1m cable [mm]	Weight [kg]
BH	112	0.60

Figure: BN, High performance coils Center boss

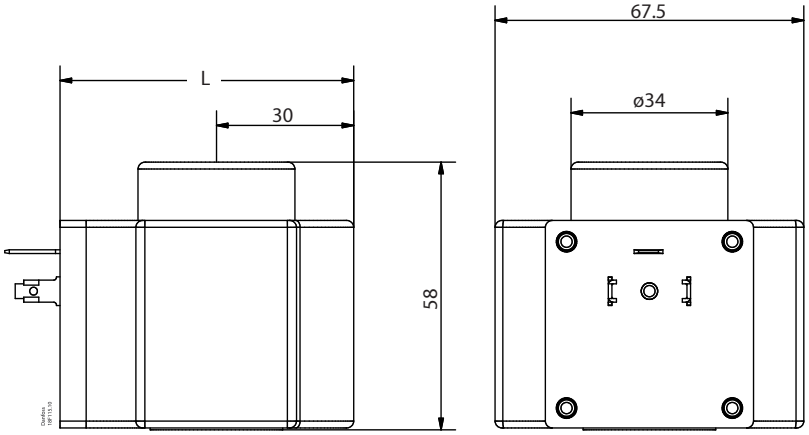


Table: BN, High performance coils Center boss

Type	L [mm]	Weight [kg]
BN	64	0.47

Figure: BJ, High performance coils Junction box

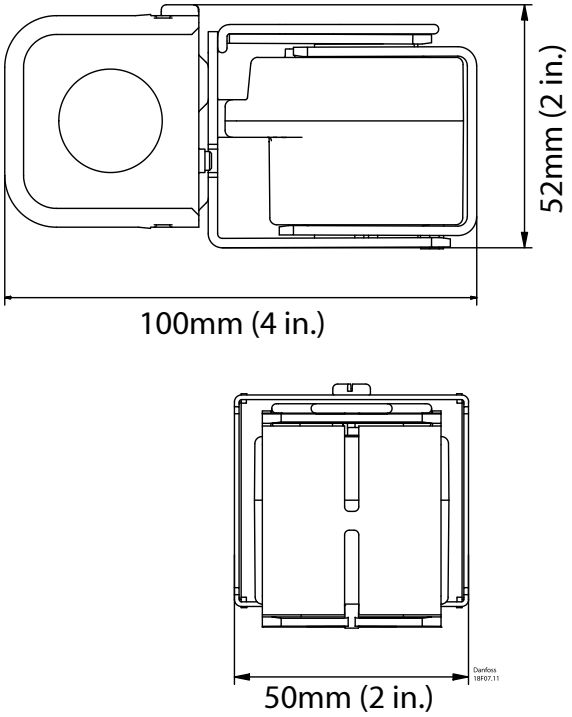


Table: BJ, High performance coils

Type	L [mm]	Weight [kg]
BJ	100	0.39

Figure: BX, High performance coils Conduit hub

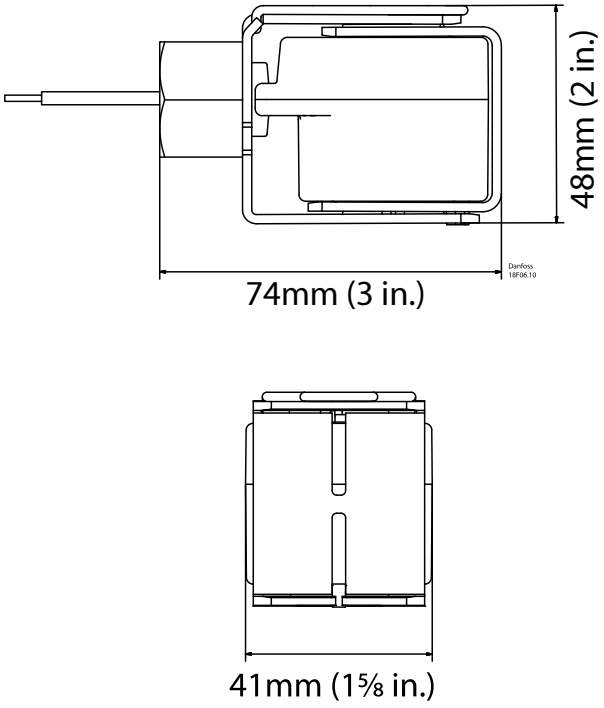


Table: BX, High performance coils Conduit hub

Type	L [mm]	Weight [kg]
BX	74	0.33

Figure: BY, High performance coils

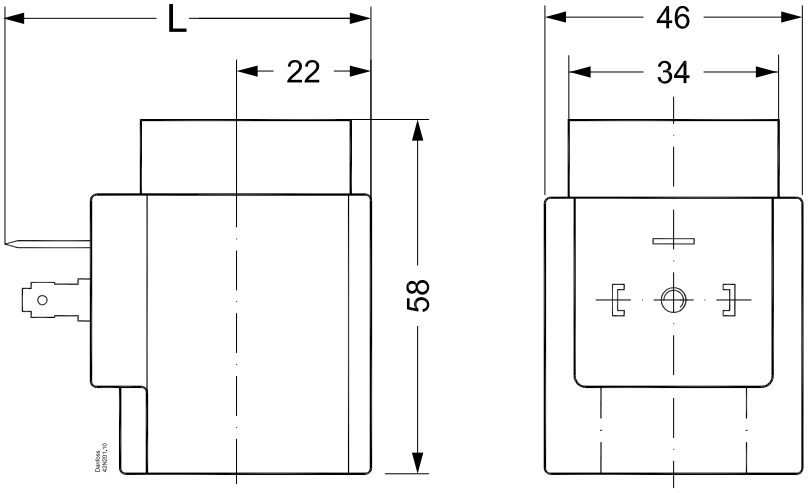


Table: BY, High performance coils

Type	L without cable plug [mm]	L with protective cap [mm]	L with cable plug [mm]	Weight [kg]
BY	62	77	85	0.24

Figure: BQ, High performance coils

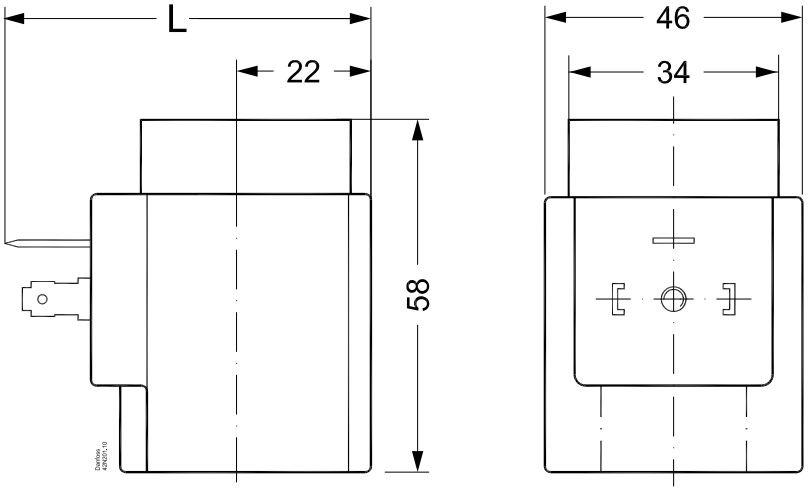


Table: BQ, High performance coils

Type	L without cable plug [mm]	L with protective cap [mm]	L with cable plug [mm]	Weight [kg]
BQ	62	77	85	0.24

Figure: AM coil

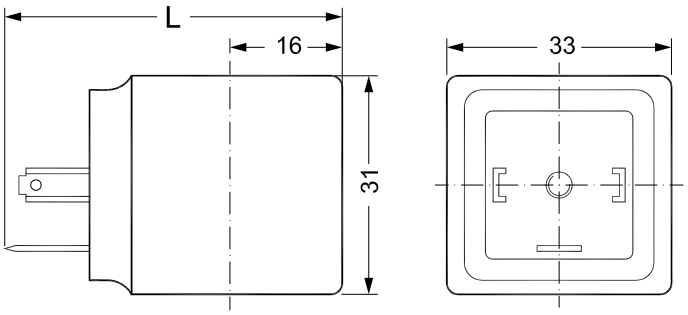


Table: AM coils

Type	L without cable plug [mm]	L with protective cap [mm]	L with cable plug [mm]	Weight [kg]
AM	48	72	64	0.10

Figure: AP, Compact UL recognized coils

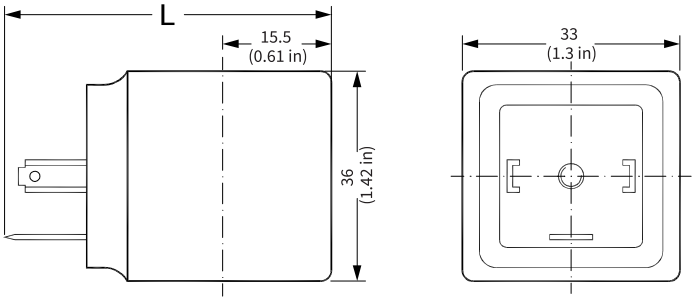


Table: AP, Compact UL recognized coils

Type	L without cable plug [mm]	L with protective cap [mm]	L with cable plug [mm]	Weight [kg]
AP	48	72	64	0.10

Figure: AS/AZ, Compact UL recognized clip-on coils

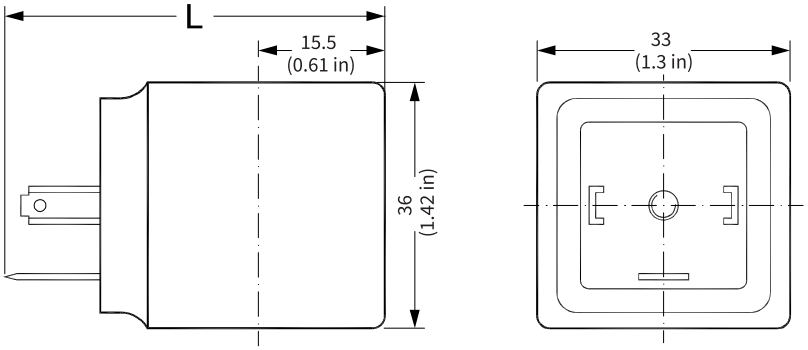


Table: BQ, Compact UL recognized clip–on coils

Type	L without cable plug [mm]	L with protective cap [mm]	L with cable plug [mm]	Weight [kg]
AS/AZ	48	72	64	0.10

Figure: Cable plug

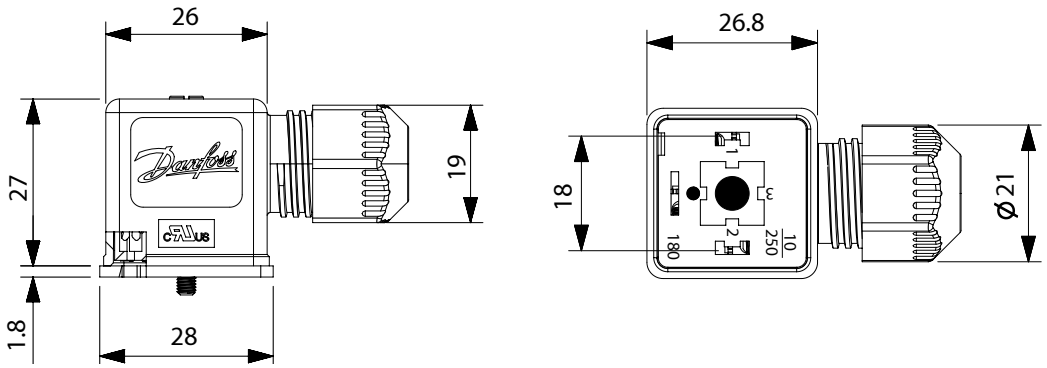


Table: Cable plug

Type	Weight [kg / lbs]
Cable plug	0.026 / 0.057

Figure: Cable plug

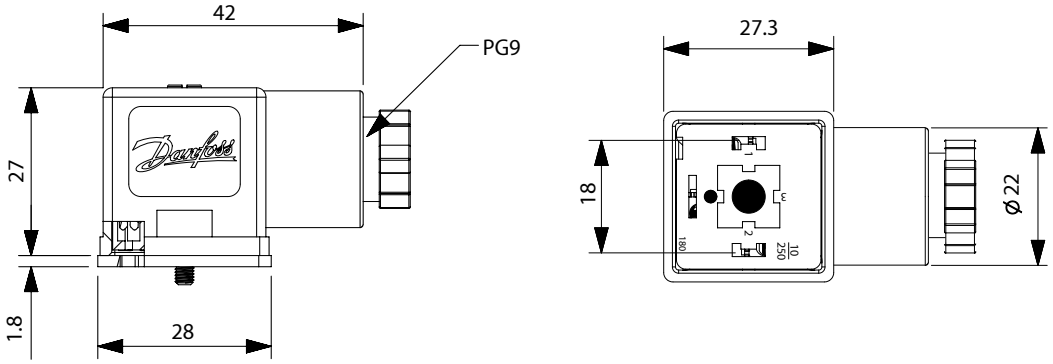


Table: Cable plug

Type	Weight [kg / lbs]
Cable plug	0.031 / 0.067

Figure: Industrial plug

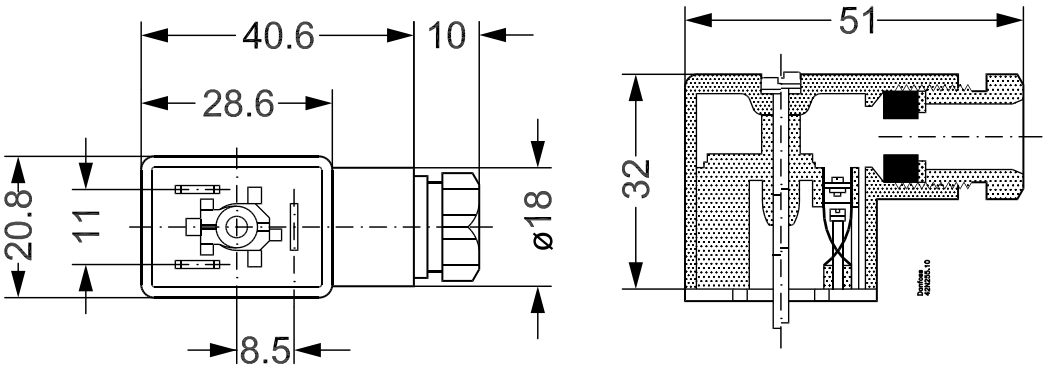


Table: Industrial plug

Type	Weight [kg / lbs]
Industrial plug	0.023 / 0.050

Figure: Cable plug (LED + Varistor)

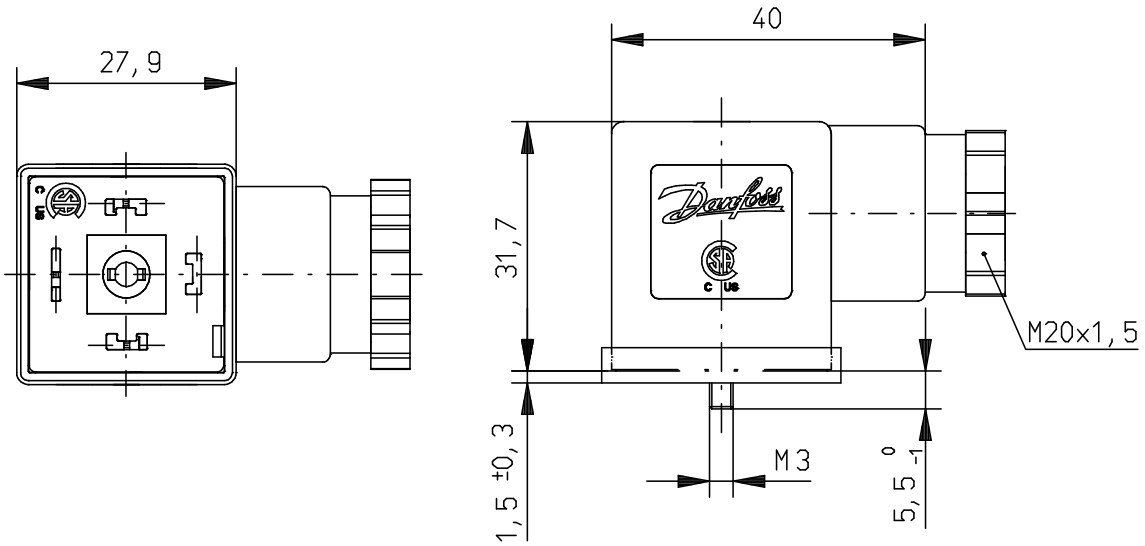


Table: Cable plug (LED + Varistor)

Type	Weight [kg / lbs]
Cable plug (LED + Varistor)	0.027 / 0.059

Figure: Industrial plug (LED + Varistor)

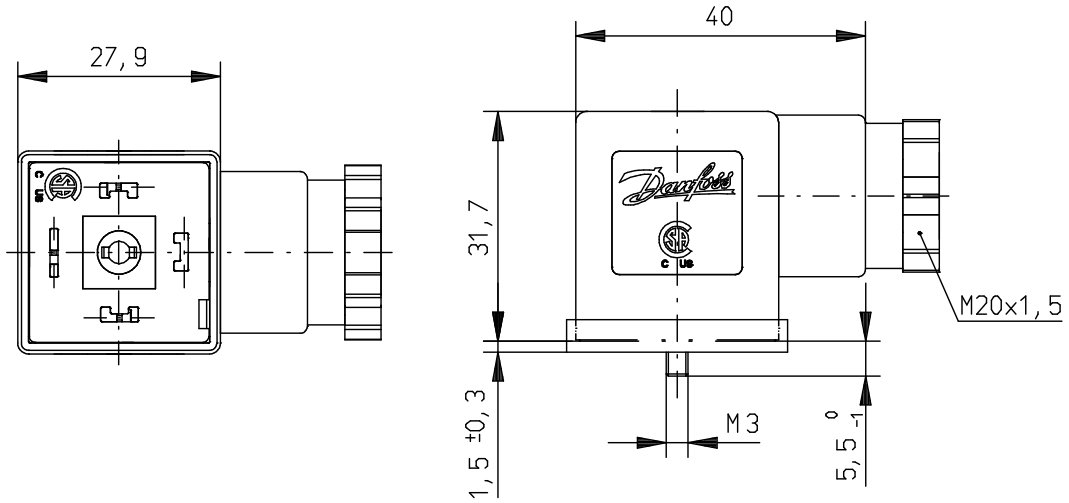
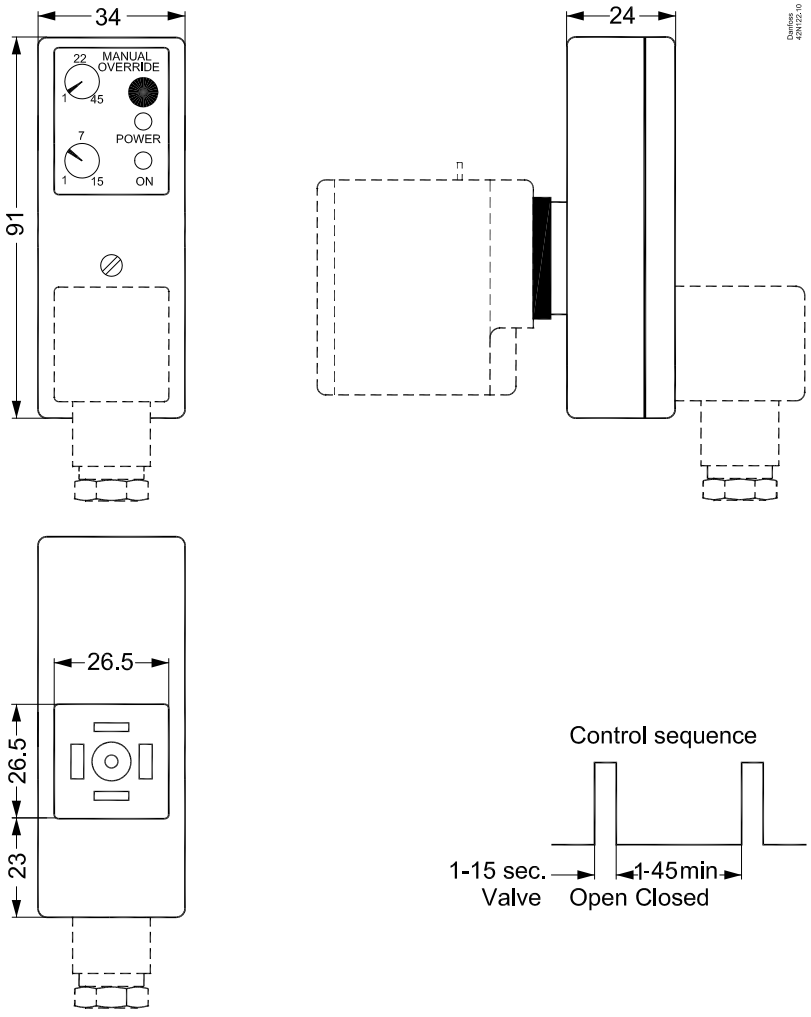


Table: Industrial plug (LED + Varistor)

Type	Weight [kg / lbs]
Industrial plug	0.027 / 0.059

Figure: Universal electronic multi-timer Type ET 20 M



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When you click on the link you will be directed to the latest version of the 'Declaration of Conformity'. Products developed and sold before this date of issue conform to the directives/standards in force at the time of their sale.

Approval type	Title	Certification body	Approval topic
Export Control Declaration	Solenoid Coils	Danfoss	
EU Declaration	Danfoss EU 033F0688.AK	Danfoss	EMC, LVD
UA Declaration	Danfoss UA 8505	Danfoss	UA RoHS
Explosive Safety Certificate	IECEx DK/ULD/QAR12.0002/11	UL Demko - UL International DEMKO A - S	Explosive
Mechanical Safety Certificate	UL MH29671	UL - Underwriters Laboratories inc.	
Electrical Safety Certificate	UL E348648	UL - Underwriters Laboratories inc.	
Manufacturer's Declaration	Danfoss Manufacturer's declaration Compressors Using A2L refrigerant - 8555040 AD	Danfoss	

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