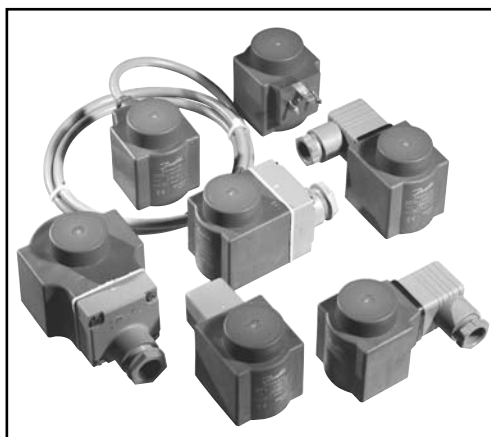


Coils for solenoid valves

Features



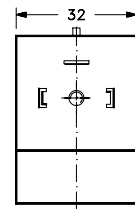
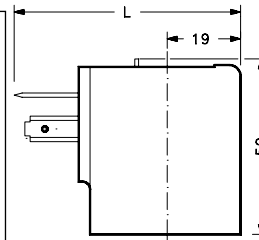
B and A coils

- Encapsulated coils with long operating life, even under extreme conditions
- Standard coils for a.c. or d.c.
- Standard coils from 12 V to 400V, 50, 60 or 50/60 Hz
- Standard coils available with 3 core cable, Danfoss terminal box or for DIN plugs
- Coils can be fitted without use of tools
- Coils can only be removed with use of tools

Contents

Coil type	Enclosure	Power consumption		Page
		ac	dc	
B-series, 13.5 mm system				
BA	IP00-IP65	9 W	15 W	2
BD	IP00-IP65	15 W	-	2
BB	IP00-IP65	10 W	18 W	3
BE/BF	IP67	10 W	18 W	4
BG	IP67	12 W	20 W	5
BN (hum-free)	IP67	20 W	-	6
BO (EEx mII T4)	IP67	10 W	10 W	7
BP (Ex mbII T4)	IP 67	12 W	10.5 W	8
A-series, 9 mm system				
AB	IP00-IP65	4.5 W	5 W	9
AC	IP00-IP65	7 W	10 W	9
AK	IP00-IP65	-	3 W	10
AL	IP00-IP65	4 W	-	10
AM	IP00-IP65	7.5 W	9.5 W	10
Power Connector for coil type AB and AC	IP65			11
Power connector for coil type AK, AL, AM, BA, BD, BB	IP65			12
Power (LED + Varistor) Indicator Connector for coil type AK, AL, AM, BA, BD, BB	IP65			13
Power (LED + Varistor) Indicator Connector for coil type AB and AC	IP65			14
Universal electronic multi-timer Type ET 20 M	IP00-IP65			15

BA/BD Coils



DANFOSS
442/79.10

Weight 0.16 kg	L[mm]
Without cable plug	54
With protective cap	71
With cable plug	79

Technical data

Design	In accordance with VDE 0580	
Voltage tolerance	220/380V ac coils: +10%, -15%. 230/400V ac coils: +6%, -10%. Other ac coils with NC valve: +10%, -15% Other ac coils with NO valve and all dc coils: ± 10%	
Power consumption, cut in	BA	39 VA ac coils only
	BD	54 VA
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 connec. IP 20 with protective cap, IP 65 with cable plug	
Ambient temperature	BA	Max. +40°C
	BD	Max. +50°C
Duty rating	Continuous	

Ordering BA/BD Coils

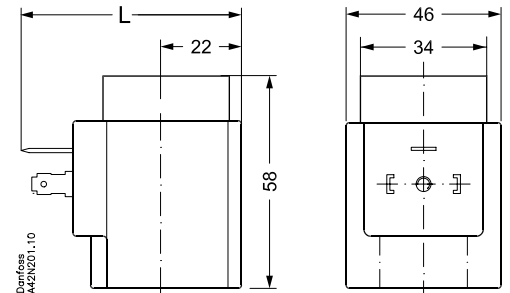
Compatibility for Valve type	Coil type	Power consumption holding	Coil type	Supply voltage	Frequency Hz	Code no.
See data sheets for valves	BA	9 W 19VA	BA024A	24 ac	50	042N7508
			BA048A	48 ac		042N7510
			BA115A	115 ac		042N7512
			BA230A	220-230 ac		042N7501
			BA240A	240 ac		042N7502
			BA380A	380-400 ac		042N7504
	BD	15 W 29 VA	BA024B	24 ac	60	042N7520
			BA115B	115 ac		042N7522
			BA220B	220 ac		042N7523
			BA012D	12 dc	dc	042N7550
			BA024D	24 dc		042N7551
			BD024A	24 ac		50
BD110A	110 ac	042N7599				
BD230A	230 ac	042N7591				

Contact Danfoss for delivery of coils for other voltages

Symbol	Description	Enclosure	Code no.
	Protective cap (pack of 100 pcs.)	IP 20	018Z0282
	Cable plug according to DIN 43650-A PG 11	IP65	042N0156¹⁾

1) Ordering see page 12

Coils type BB-Clip on version



Weight 0.24 kg	L[mm]
Without cable plug	62
With protective cap	77
With cable plug	85

Technical data

Design	In accordance with VDE 0580
Voltage tolerance	220/380V ac coils: +10%, -15%. 230/400V ac coils: +6%, -10%. Other ac coils with NC valve: +10%, -15% Other ac coils with NO valve and all dc coils: ± 10%
Power consumption, cut in	44 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 connec. IP 20 with protective cap, IP 65 with cable plug
Ambient temperature	Max. +50°C /+80°C - see table below for details
Duty rating	Continuous

Ordering BB Coils

Compatibility for Valve type	Power consumption holding	Coil type	Supply voltage	Frequency Hz	Ambient temperature [°C]	Code no.
All 2/2-way valves	10 W 21VA	BB024AS	24 ac	50	80	018F7358
		BB115AS	115 ac			018F7361
		BB230AS	220-230 ac			018F7351
		BB240AS	240 ac			018F7352
		BB380AS	380-400 ac			018F7353
		BB024BS	24 ac			60
	18 W	BB110CS	110 ac	50/60	50	018F7360
		BB230CS	220-230 ac			018F7363
		BB012DS	12 dc	dc		018F7396
		BB024DS	24 dc			018F7397

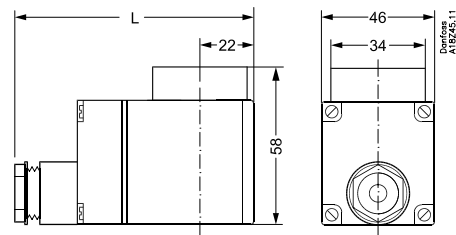
Contact Danfoss for delivery of coils for other voltages

Symbol	Description	Enclosure	Code no.
	Protective cap (pack of 100 pcs.)	IP 20	018Z0282
	Cable plug according to DIN 43650-A PG 11	IP65	042N0156¹⁾

1) Ordering see page 12

Description	Application	Code no.
O-ring (pack of 10 pcs.)	Sealing of clip-on coil	018F0094

Coils type BE/BF-Clip on version



Weight 0.30 kg	L[mm]
With terminal box	94
With 1 m cable	65

Technical data

Design	In accordance with VDE 0580
Voltage tolerance	220/380V ac coils: +10%, -15%. 230/400V ac coils: +6%, -10%. Other ac coils with NC valve: +10%, -15% Other ac coils with NO valve and all dc coils: ± 10%
Power consumption, cut in	44 VA ac coils only
Insulation of coil windings	Class H according to IEC 85
Connection	BE - coils : Terminal box, Pg 13.5; BF - coils : 1 m 3-core flying lead
Enclosure, IEC 529	IP 67
Ambient temperature	Max. +50°C /+80°C - see table below for details
Duty rating	Continuous

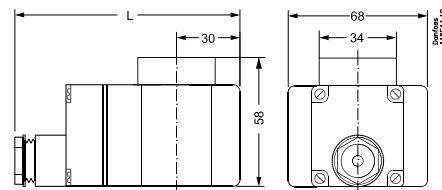
Ordering BE/BF Coils

Compatibility for Valve type	Power consumption holding	Coil type	Supply voltage	Frequency Hz	Ambient temperature [°C]	Code no.		
						BE - coils With terminal box	BF - coils With cable	
All B - 2/2-way valves.	10 W 21VA	BE024AS	24 ac	50	80	018F6707	018F6257	
		BE048AS	48 ac			018F6709	018F6259	
		BE115AS	115 ac			018F6711	018F6261	
		BE230AS	220-230 ac			018F6701	018F6251	
		BE240AS	240 ac			018F6702	018F6252	
		BE380AS	380-400 ac			018F6703	018F6253	
	18 W		BE024BS	24 ac	60	50	018F6715	018F6265
			BE115BS	115 ac			018F6710	018F6260
			BE220BS	220 ac			018F6714	018F6264
			BE110CS	110 ac	50/60		018F6730	018F6280
			BE230CS	230 ac			018F6732	018F6282
			BE012DS	12 dc	dc		018F6756	
BE024DS	24 dc	018F6757						

Contact Danfoss for delivery of coils for other voltages

	Application	Code no.
O-ring (pack of 10 pcs.)	Sealing of clip-on coil	018F0094
Danfoss terminal box for type BN, BE and BG coils	IP 67 Enclosure	018Z0081
Danfoss terminal box with LED indication for type BN, BE and BG coils	48-220 V dc 24-250 V ac, 50/60 Hz	018Z0089

Coils type BG-Clip on version



Weight 0.50 kg	L[mm]
With terminal box	112

Technical data

Design	In accordance with VDE 0580
Voltage tolerance	220/380V ac coils: +10%, -15%. 230/400V ac coils: +6%, -10%. Other ac coils with NC valve: +10%, -15% Other ac coils with NO valve and all dc coils: ± 10%
Power consumption, cut in	55VA ac coils only
Insulation of coil windings	Class H according to IEC 85
Connection	Terminal box; Pg 13.5
Enclosure, IEC 529	IP 67
Ambient temperature	Max. +80°C
Duty rating	Continuous

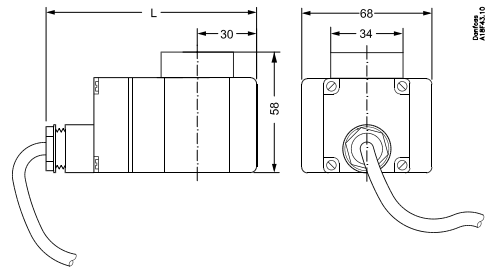
Ordering BG Coils

Compatibility for Valve type	Power consumption holding	Coil type	Supply voltage	Frequency Hz	Code no.
All 2/2-way valves.	12 W 26VA	BG024AS	24 ac	50	018F6807
		BG110AS	110 ac		018F6811
		BG230AS	220-230 ac		018F6801
		BG240AS	240 ac		018F6802
		BG380AS	380-400 ac		018F6803
		BG024BS	24 ac		60
	BG110BS	110 ac	018F6813		
	BG220BS	220 ac	018F6814		
	20 W	BG012DS	12 dc	dc	018F6856
BG024DS		24 dc	018F6857		

Contact Danfoss for delivery of coils for other voltages

Description	Application	Code no.
O-ring (pack of 10 pcs.)	Sealing of clip-on coil	018F0094
Danfoss terminal box for type BN and BG coils	IP67 Enclosure	018Z0081
Danfoss terminal box with LED indication	48-220 V dc 24-250 V ac, 50/60 Hz	018Z0089

**Coils type BN-Clip on version
Hum-free coil**



Weight 0.60 kg	L[mm]
With 1 m cable	112

Technical data

Design	In accordance with VDE 0580
Voltage tolerance	220/380V ac coils: +10%, -15%. 230/400V ac coils: +6%, -10%. Other ac coils with NC valve: +10%, -15% Other ac coils with NO valve and all dc coils: $\pm 10\%$
Power consumption, cut in	24VA
Insulation of coil windings	Class H according to IEC 85
Connection	1 m 3-core flying lead ; Pg 13.5
Enclosure, IEC 529	IP 67
Ambient temperature	Max. +50°C
Duty rating	Continuous

Ordering BN Coils

Compatibility for Valve type	Power consumption holding	Coil type	Supply voltage	Frequency Hz	Code no.
All 2/2-way valves.	20 W 26VA	BN230CS	220-230 ac	50/60	018F7301
O-rings (pack of 10 pcs.)		Sealing of clip-on coil			018F0094

**Coils type BO
Eex m II T4**



- For explosion-risk environments, such as where flammable liquids and gases are produced, transported or tapped
- Approvals for use in Zone 1 according to Directive 94/9/EC (ATEX 100A) EN50014 and EN50028
- Medium temperature: Up to +90°C
- Ambient temperature: Up to +40°C
- IP 67 version with 5 m 3-core flying lead
- Seal kit as accessory for extremely wet and aggressive environments (please contact Danfoss)


Technical data

Voltage tolerance	± 10%
Insulation of coil windings	Class H according to IEC 85
Connection	5 m 3-core flying lead
Enclosure, IEC 529	IP 67
Ambient temperature	Max. +40°C
Duty rating	Continuous
Media temperature	Max. +90°C

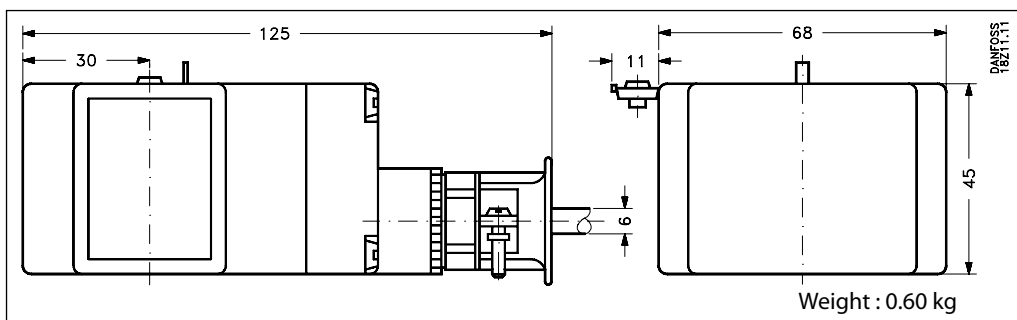
Ordering BO Coils

Conformity certification EX DEMKO 99ATEX 128981X

Compatibility for Valve type	Power consumption holding	Coil type	Supply voltage	Frequency Hz	Code no.
All B-series valves	10 W 21VA	BO024C	24 ac	50/60	018Z6595
		BO048C	48 ac		018Z6594
		BO110C	110 ac		018Z6593
		BO230C	230 ac		018Z6592
		BO240C	240 ac		018Z6591
	10 W	BO024D	24 dc	dc	018Z6596

	Description	Application	Code no.
	Seal kit	Wet environment	018Z0090

Dimensions and weight



**Coils type BP
Ex mb II T4**



- The coils are suitable for use in installations where flammable liquids and gases are produced, transported or tapped
- Approved for use in Zone 1 according to Directive 94/9/EC (ATEX 100A)
EN60079 - 0 : 2006
EN60079 - 18 : 2004
EN50281 - 1 - 1 : 1998
- Grade of enclosure IP 67
- Supplied with 3 m moulded-in 3-core cable

Technical data

Voltage tolerance	± 10%
Insulation of coil windings	Class H according to IEC 85
Connection	3 m 3-core cable
Enclosure, IEC 529	IP 67
Ambient temperature	Max. -40°C → +60°C
Duty rating	Continuous
Media temperature	Max. +90°C

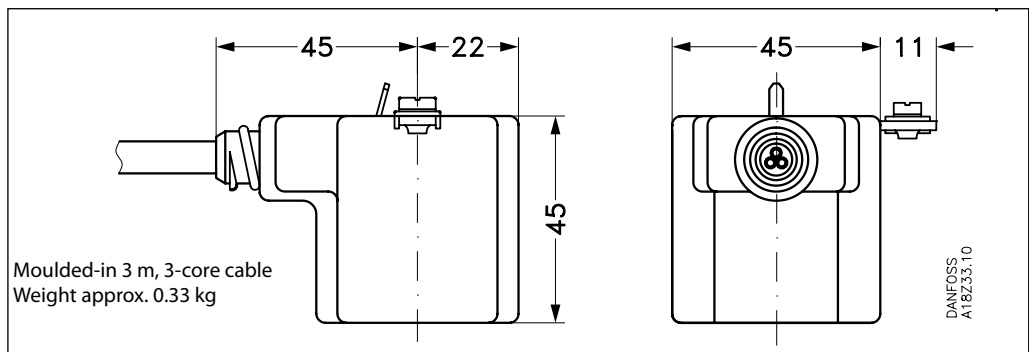
Ordering BP Coils

Conformity certification EX DEMKO 99ATEX 125688X

Compatibility for Valve type	Power consumption holding	Coil type	Supply voltage	Connection	Code no.
All B-series valves	12 W 12 W 10.5 W	BP024A BP230A BP024D	24 V 50Hz 220V 50Hz 24 V dc	3 m	018Z6643 018Z6653 018Z6623

	Description	Application	Code no.
	Seal kit	Wet environment	018Z0090

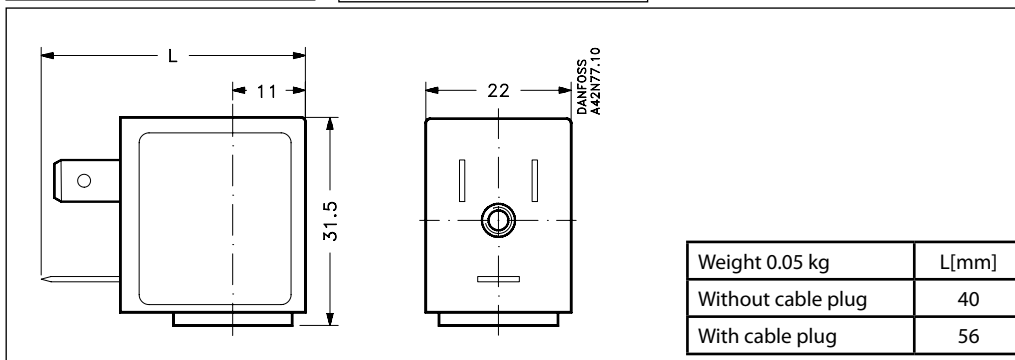
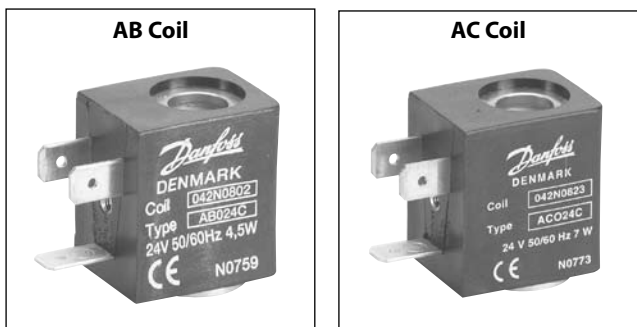
Dimensions



Special requirements:

The supply must be secured against a too high power consumption in case of a short circuit.

Coils type AB and AC



Technical data

Design	In accordance with VDE 0580	
Voltage tolerance	± 10%	
Power consumption, cut in	AB	9.5 VA ac coils only
	AC	15.7 VA ac coils only
Insulation of coil windings	Class H according to IEC 85	
Connection	Spade connectors, 6.3 x 0.8 mm	
Enclosure, IEC 529	IP00 with spade connector, IP 65 with cable plug	
Ambient temperature	AB	Max. +50°C
	AC	Max. +50°C
Duty rating	Continuous	

Ordering AB/AC Coils

Compatibility for Valve type	Coil type	Power consumption holding	Coil type	Supply voltage	Frequency Hz	Code no.
See data sheets for valves	AB	4.5 W 6.3VA	AB024C	24 ac	50/60	042N0802
			AB110C	110 ac		042N0804
			AB230C	220-230 ac		042N0800
			AB240C	240 ac		042N0801
	AC	7 W 10 VA	AC024C	24 ac	50/60	042N0823
			AC110C	110 ac		042N0825
	AB	5 W	AB012D	12 dc	dc	042N0806
			AB024D	24 dc		042N0803
			AC230C	220-230 ac		042N0821
			AC240C	240 ac		042N0822
AC	10W	AC024D	24 dc	dc	042N0824	

Contact Danfoss for delivery of coils for other voltages

Symbol	Description	Enclosure	Code no.
	Cable plug for 6.3 x 0.8 mm spade connectors	IP65	042N0139¹⁾

1) Ordering see page 11

Coils type AK, AL and AM



Technical data

Design	In accordance with VDE 0580	
Voltage tolerance	± 10%	
Power consumption, cut in	AL	10 VA
	AM	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, IP 65 with cable plug	
Ambient temperature	AL	Max. +50°C
	AM	Max. +50°C
Duty rating	Continuous	

Ordering AK/AL/AM Coils

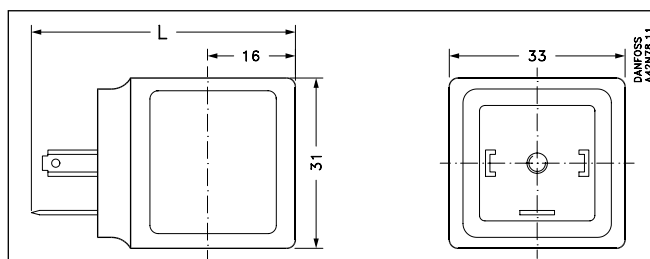
Compatibility for Valve type	Coil type	Power consumption holding	Coil type	Supply voltage	Frequency Hz	Code no.
See data sheets for valves	AM	7,5 W 15 VA	AM024C	24 ac	50/60	042N0842
			AM110C	110 ac		042N0845
			AM230C	220-230 ac		042N0840
			AM240C	240 ac		042N0841
	AL	4W	AM012D	12 dc	dc	042N0848
			AM024D	24 dc		042N0843
	AL	4W	AL230C	230 ac	50/60	042N0864
	AK	3 W	AK024D	24 dc	dc	042N0844

Contact Danfoss for delivery of coils for other voltages

Symbol	Description	Enclosure	Code no.
	Protective cap (pack of 100 pcs.)	IP 20	018Z0282
	Cable plug according to DIN 43650-A PG 11	IP65	042N0156¹⁾

1) Ordering see page 12

Dimensions and weight



Weight 0.10 kg	L[mm]
Without cable plug	48
With protective cap	64
With cable plug	72

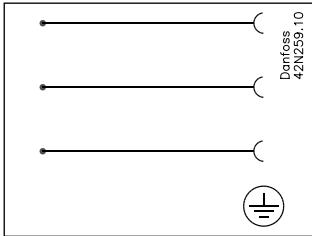
Features



Power Connector

- Industrial standard 11 mm
- For use with Danfoss coil type AB and AC
- ac/dc all voltages up to 250 V
- Enclosure: Up to IP65
- Ambient temperature: Up to +80°C

Technical data

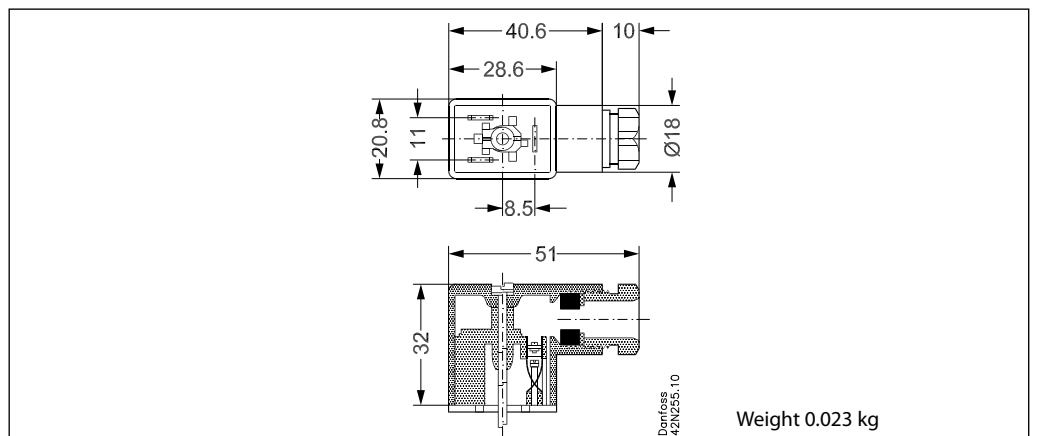


Type	GM 209 N (Black)
Design	DIN 43650-B
Cable gland	PG 9
Poles	2 + I
Max. voltage	250 V ac/dc
Approvals	CE US CSA
Protection class	IP65 (IEC 60529)
Max. operating current	16A
Contact resistance	≤ 4m Ω
Cable diameter	4,5 to 7 mm
Wire cross section	Max. 1,5mm ²
Ambient temperature	-25 to + 80°C
Materials	Contacts: CuZn (Tin plated) Terminal block: PA Flat gasket: NBR Housing: PA

Ordering

Symbol	Description	Code no.
	Cable plug for 6.3 x 0.8 mm spade connectors Suitable for coil types AB + AC	042N0139

Dimensions and weight



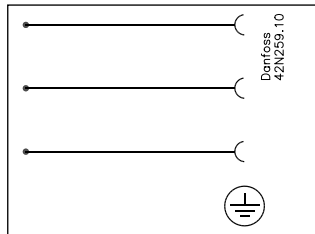
Features



Power Connector

- For use with Danfoss coils type AK, AL, AM, BA, BD and BB
- AC/DC all voltages up to 250 V
- Enclosure: Up to IP65
- Ambient temperature: Up to +125°C

Technical data

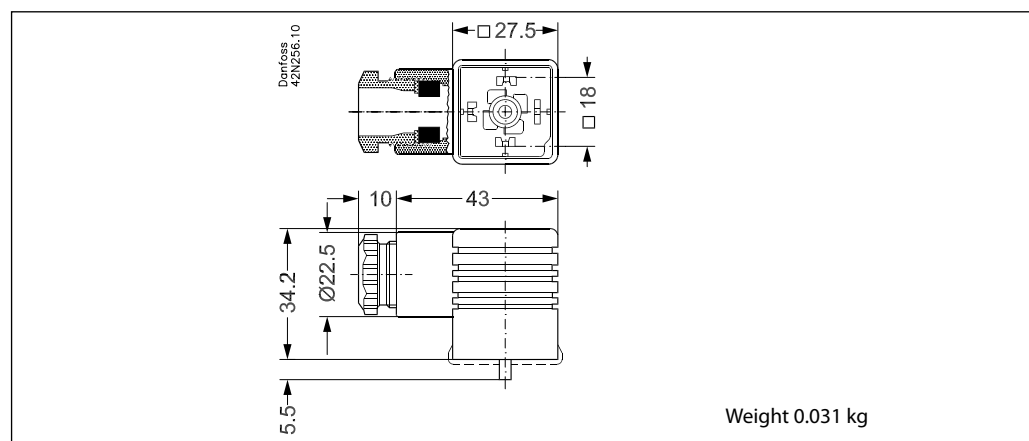


Type	GDM 2011 J (Grey)
Design	DIN 43650-A
Cable gland	PG 11
Poles	2,3 + PE
Max. voltage	250 V ac/dc
Approvals	CSA
Protection class	IP65 (IEC 60529)
Max. operating current	16A
Contact resistance	≤ 4m Ω
Cable diameter	6 to 9 mm
Wire cross section	Max. 1,5mm ²
Ambient temperature	-40 to + 125°C
Materials	Contacts: CuSn (Tin plated) Terminal block: PA Profiled gasket: NBR Housing: PA

Ordering

Symbol	Description	Code no.
	Cabel plug according to DIN 43650-A PG 11 Suitable for coil types AK, AL, AM, BA, BD, BB	042N0156

Dimensions and weight



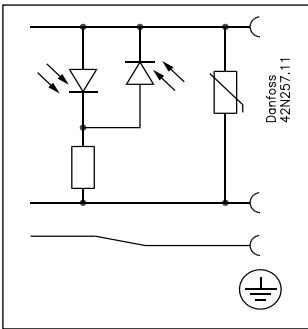
Features



Power (LED + Varistor) Indicator Connector

- For use with Danfoss coils type AK, AL, AM, BA, BD and BB
- 24 V ac/dc and 230 V ac versions
- Enclosure: Up to IP65
- Ambient temperature: Up to +60°C

Technical data



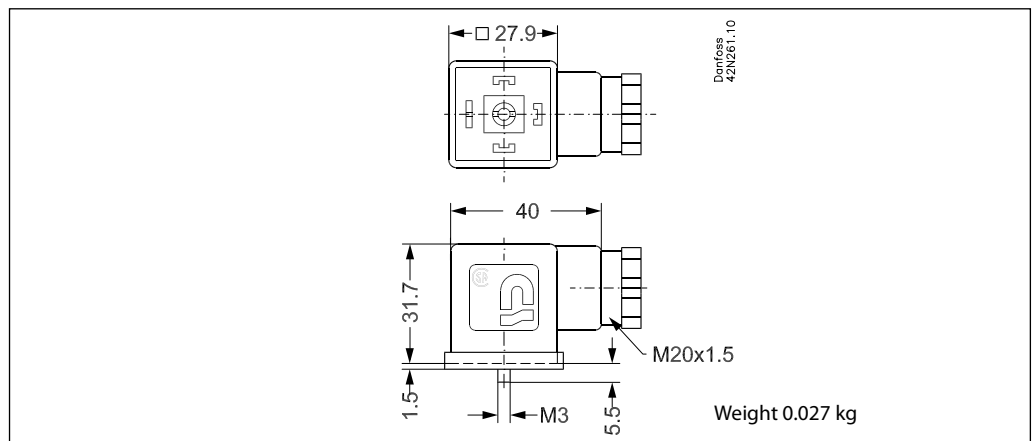
Design	EN 175301-803 A
Supply voltage tolerance	± 10%
Power consumption	Max. 5 mA
Protection class	IP65 (IEC 60 529)
Max. operating current	1,5A clamping contact
Contact resistance	≤ 4m Ω
Protection against wrong polarity	yes
Cable diameter	6 to 8 mm and 8 to 10 mm
Wire cross section	Max. 1,5mm ²
Ambient temperature	-25 to + 60°C
Materials	Contacts: CuZn, Cu/Sn-plated Terminal block: PA6 + 30% FG, black Flat gasket: NBR LABS-free Housing (translucent) : PA6 Wire holder: PA6.6 + 50% FG P7,5 black

Ordering

Voltage	LED colour	Build in VDR ¹⁾ resistor	Code no.	Suitable for coil types
24 V ac/dc	Red	Yes	042N0263	AK, AL, AM,BA, BD, BB
230 V ac	Red	Yes	042N0265	

¹⁾Protects against voltage peaks

Dimensions and weight



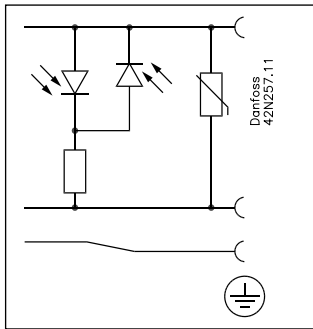
Features



Power (LED + Varistor) Indicator Connector

- For use with Danfoss coil type AB and AC
- 24 V ac/dc and 230 V ac versions
- Enclosure: Up to IP65
- Ambient temperature: Up to +60°C

Technical data



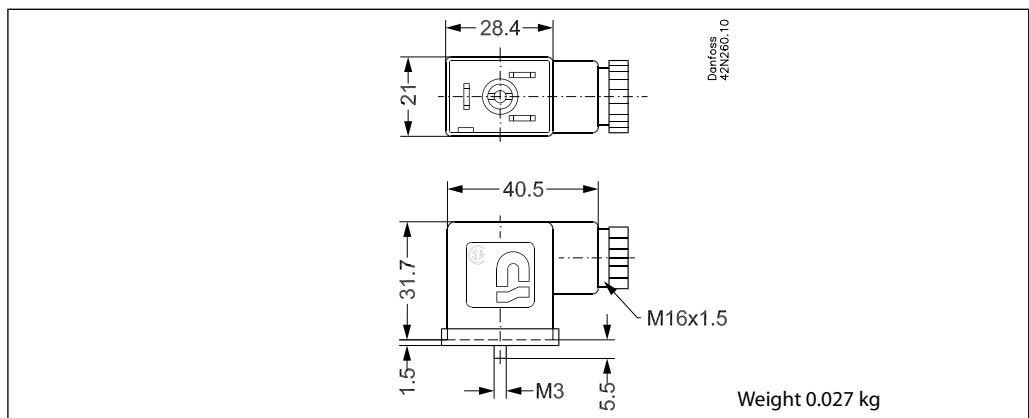
Design	Industrial form
Supply voltage tolerance	± 10%
Power consumption	Max. 5 mA
Protection class	IP65 (IEC 60 529)
Max. operating current	1,5A clamping contact
Contact resistance	≤ 4m Ω
Protection against wrong polarity	yes
Cable diameter	5 to 6 mm and 6 to 9 mm
Wire cross section	Max. 1mm ²
Ambient temperature	-25 to + 60°C
Materials	Contacts: CuZn, Cu/Sn plated Terminal block: PA6 + 30% FG, black Flat gasket: NBR LABS-free Housing (translucent): PA6 Wire holder: PA6.6 + 50% FG P7,5 black

Ordering

Voltage	LED colour	Build in VDR ¹⁾ resistor	Code no.	Suitable for coil types
24 V ac/dc	Red	Yes	042N0267	AB, AC
230 V ac	Red	Yes	042N0269	

¹⁾Protects against voltage peaks

Dimensions and weight



Features



Universal electronic multi-timer Type ET 20 M

- 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 24-240V a.c
- Light diodes for indication
- All in one unit
- Manual override (test button).

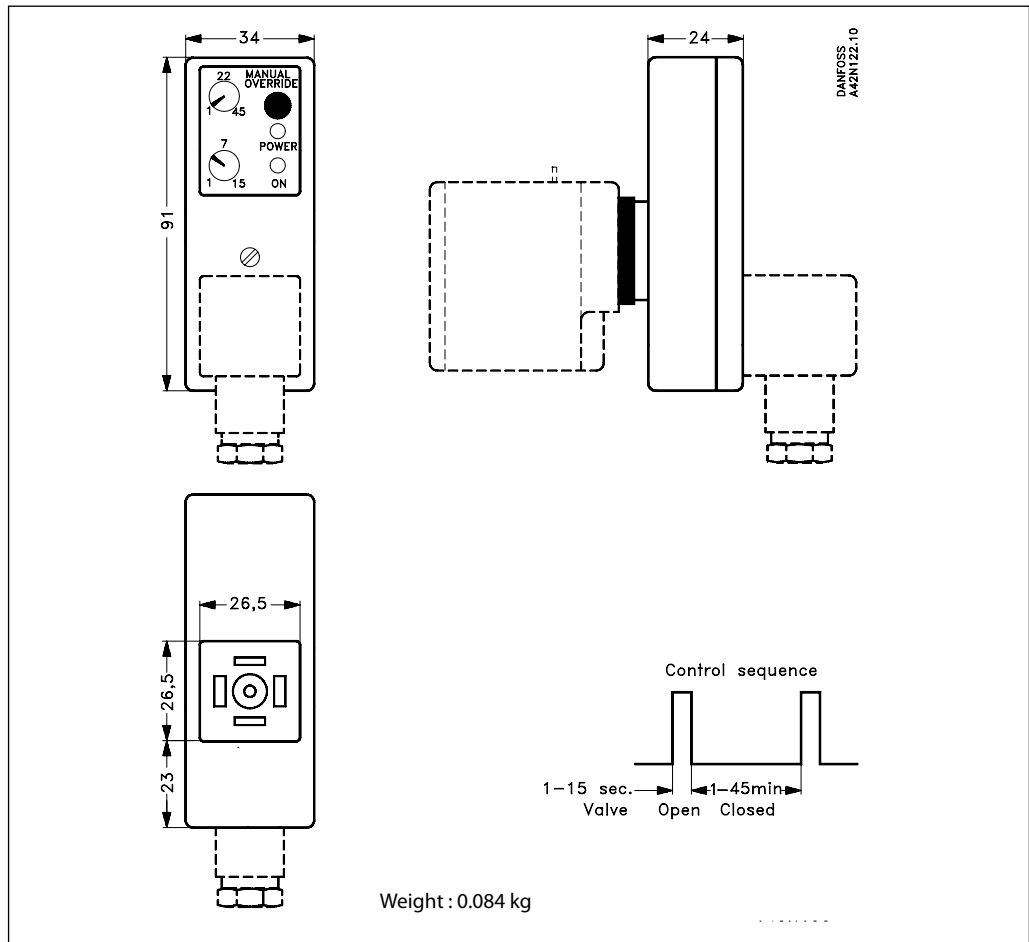
Technical data

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

Ordering

Voltage	Code no.	Suitable for coil types
24-240 Va.c.	042N0185	AK, AL, AM, BA, BD, BB

Dimensions and weight



Danfoss BR Coil Selection

Code No.	Type	Power consumption [W]	Supply voltage [V] a.c.	Supply voltage [V] d.c.	Frequency	Ambient temperature range [°C]	Coil conn.	Actuator system	
032K140902	BR024D	17,0 W	-	24,0 V	-	-10 - 40 °C	Cable for box	13.5 mm	<input type="checkbox"/>
032K143682	BR024A	10,0 W	24 V	-	50 Hz	-10 - 40 °C	Cable for box	13.5 mm	<input type="checkbox"/>
032K143683	BR110A	10,0 W	110 V	-	50 Hz	-10 - 40 °C	Cable for box	13.5 mm	<input type="checkbox"/>
032K143684	BR230A	10,0 W	230 V	-	50 Hz	-10 - 40 °C	Cable for box	13.5 mm	<input type="checkbox"/>
032K143685	BR240A	10,0 W	240 V	-	50 Hz	-10 - 40 °C	Cable for box	13.5 mm	<input type="checkbox"/>
032K143690	BR220B	10,0 W	220 V	-	60 Hz	-10 - 40 °C	Cable for box	13.5 mm	<input type="checkbox"/>