

Coils for Solenoid Valves

Diverse connector types, power ratings and voltages
Series D45/207...



- Facilitates compact assemblies
- All common AC and DC voltages
- Nominal power up 32 W / 31 VA
- Diverse connector types
- With optional protection diode
- Protection class IP 65 / IP 67 / IP 69K
- For core tube \varnothing 20.6 mm

1 Description

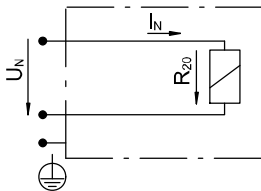
The slip-on coils can be replaced without opening the hydraulic envelope and can be positioned at any angle through 360°. When combined with the appropriate core tube, the coils produce an on/off solenoid function or a proportional solenoid function. Thanks to the wide variety of connector types and voltages, these coils are suitable for

widespread use in mobile and industrial applications. These coils are very adaptable in use, a benefit that is enhanced by various power ratings and an optional protection diode. The coil encapsulation and the plug base are glass-fibre reinforced thermoplastic.

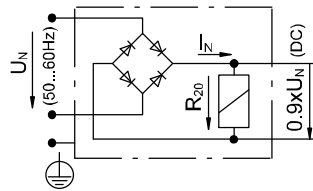
2 Symbol

Connector type to DIN EN 175301-803

Direct current DC

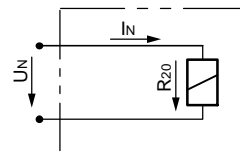


Alternating current AC

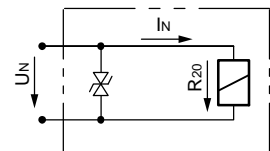


All connector types except DIN EN 175301-803 (DC)

Without protection diode



With bipolar protection diode



ATTENTION!

Protection of AC solenoid coils.
The rectifier built into the coil can be damaged by high voltage spikes.
To prevent AC coils from being destroyed, a mating connector with integral power varistor is recommended.



ATTENTION!

Coils with a bipolar protection diode:
To protect the diode in the coil against overvoltage and overcurrent the related data for this diodes must be observed!



IMPORTANT!

For solenoid coils with integrated rectifier as well as for solenoid coils without protection diode and for solenoid coils with bipolar protection diode the two supply connections (U_N) can be interchanged. The earth connection is marked with ...



3 Technical data

General characteristics		Description, value, unit
Designation		coil, D45/207
Design		slip-on, rotatable 360°
Mounting method		core tube, knurled nut
Ambient temperature range		-30 °C ... +50 °C
Coil weight		340 ... 370 g (dependent on type of connection)
Electrical characteristics		Description, value, unit
Electrical connection:	standard on request on request on request	- DIN EN 175301-803, 3-pole 2 P+E - Deutsch plug connection DT04-2P - Junior Timer radial plug connection, 2-pole - flying leads, 2-pole
Insulation class to VDE 0580		H (180 °C)
Protection class to ISO 20 653 / EN 60 529		IP 65 / IP 67 / IP 69K, see "Ordering code" (with appropriate mating connector and proper fitting and sealing)
Relative duty cycle		100 %
Supply voltage tolerance		± 10 %
Supply voltages / power ratings:	standard standard standard standard	12 V DC / 30 W 24 V DC / 31 W 115 V AC (50...60 Hz) ¹⁾ / 32 VA 230 V AC (50...60 Hz) ¹⁾ / 31 VA
More on request		see Coil resistance R
Bipolar protection diode		12 V DC: P6KE33CA 24, 26, 28 V DC: P6KE56CA
Nominal breakdown voltage of the bipolar protection diode		12 V DC: 33 V 24, 26, 28 V DC: 56 V
Max. allowed voltage peaks for 1 second and relative duty cycle ED = 0.4 %		12 V DC: 25 V 24, 26, 28 V DC: 43 V



IMPORTANT!:

¹⁾ supply voltages > 75 VDC or 50 VAC only possible with DIN EN 175301-803 connect.

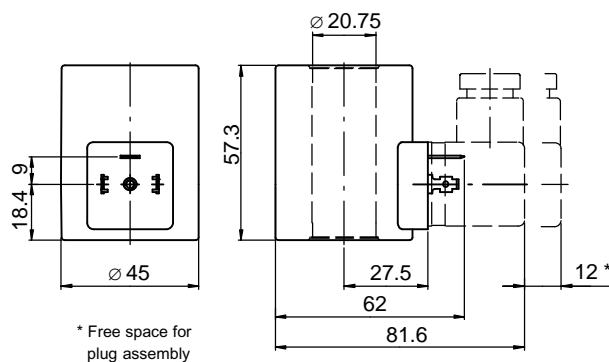
Coil resistance R:	Description, value, unit		
Supply voltages / power ratings:	cold value at + 20 °C	cold value at - 30 °C	max. warm value
12 V DC / 30 W	4.8 Ω	3.8 Ω	7.6 Ω
24 V DC / 31 W	18.6 Ω	15.0 Ω	29.1 Ω
28 V DC / 32 W	24.5 Ω	19.7 Ω	38.4 Ω
36 V DC / 32 W	40.5 Ω	32.6 Ω	63.5 Ω
48 V DC / 32 W	72.0 Ω	57.9 Ω	112.8 Ω
110 V DC / 32 W	378 Ω	304 Ω	592 Ω
127 V DC / 32 W	504 Ω	405 Ω	790 Ω
207 V DC / 31 W	1400 Ω	1126 Ω	2192 Ω
220 V DC / 32 W	1512 Ω	1216 Ω	2368 Ω
24V AC / 32 VA	14.6 Ω	11.7 Ω	22.9 Ω
115V AC / 32 VA	335 Ω	269 Ω	525 Ω
120V AC / 31 VA	378 Ω	304 Ω	592 Ω
230V AC / 31 VA	1400 Ω	1126 Ω	2192 Ω
240V AC / 31 VA	1512 Ω	1216 Ω	2368 Ω

Inductance	Description, value, unit	
Supply voltages / power ratings:	inductance measured at the core tube, non-operated, parallel 120 Hz	inductance measured at the core tube, non-operated, serial 1000 Hz
12 V DC / 30 W	103 mH	22 mH
24 V DC / 31 W	365 mH	80 mH
28 V DC / 32 W	510 mH	111 mH
36 V DC / 32 W	830 mH	180 mH
48 V DC / 32 W	1330 mH	285 mH
110 V DC / 32 W	7070 mH	1575 mH
127 V DC / 32 W	8340 mH	1870 mH
207 V DC / 31 W	22900 mH	5050 mH
220 V DC / 32 W	26900 mH	5960 mH

4 Dimensions

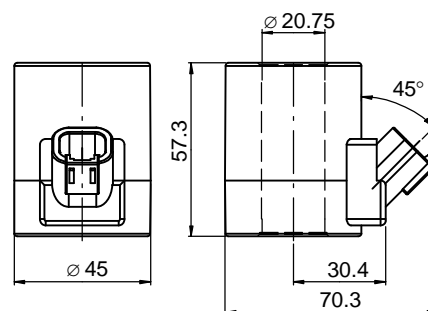
Coil with DIN EN plug connection

- Standard-Type (see Ordering code)



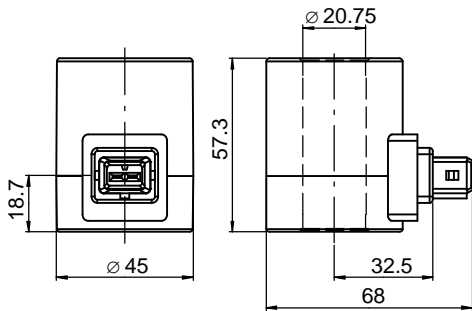
Coil with Deutsch DT04-2P plug connection

- Type DT with quenching diode (see Ordering code)



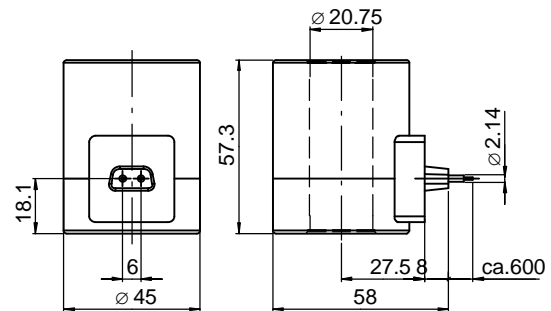
Coil with Junior Timer radial plug connection

- Type JT with quenching diode (see ordering code)



Coil with flying leads/ flexible wires 1mm²; insulation FEP (Teflon)

- Type F (see ordering code)



5 Installation information



Attention.

Because of the danger of overheating, the coil must only be operated when it is properly fitted on a valve. To prevent the ingress of water, both ends of the coil on the core tube must be properly sealed with O-rings.



Attention.

Delivery is done without mating connector.

6 Ordering code

Ex. MAG-SP D45/207 24 D _ 32W

MAG-SP = coil

D45/207 = $\varnothing 45$ mm (external \varnothing) / $\varnothing 20.75$ mm (inside \varnothing)

... = voltage e.g. 24 (24 V),
see "Electrical characteristics" - supply voltage

D = current DC

A = current AC (only possible with DIN EN 175301-803 connect)

(blank) = standard plug connection to DIN EN (3-pole, 2 P+E) (IP 65)
for the following plug-variants, please consult Bucher.

DT = Deutsch plug connection DT04-2P (with quenching diode, IP 67/69K)

JT = Junior Timer radial plug connection (with quenching diode, IP 65)

F = flying leads (600mm) (IP 65)

... = Nominal power consumption, see "Electrical characteristics"

} mating plug
not supplied

7 Related data sheets

Reference	Description
400-D-9010002	Technical hints and tips – solenoid coils

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Classification: 430.395...