

Coils for Solenoid Valves

various connector types, power ratings and voltages
Series 36X48 / 16.1...



- Facilitates compact assemblies
- All common DC voltages
- Power consumption 19 W for switching valves
30 W for proportional valves
- Various connector types
- With optional protection diode
- Protection class IP 65 / IP 67 / IP 69K
- For core tube \varnothing 16 mm

1 Description

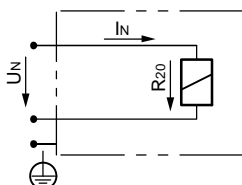
The slip-on coils can be replaced without opening the hydraulic envelope and can be positioned at any angle through 360°. When combined with the appropriate core tube, the coils produce an on/off solenoid function or a proportional solenoid function. Thanks to the wide variety of

connector types and voltages, these coils are suitable for widespread use in mobile and industrial applications. The coil encapsulation and the plug base are glass-fibre reinforced thermoplastic.

2 Symbol

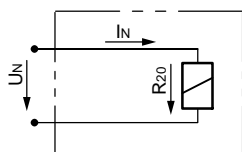
Connector type to DIN EN 175301-803

Direct current DC

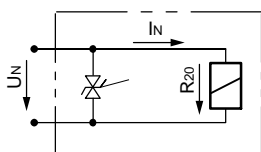


All connector types except DIN EN 175301-803 (DC)

Without protection diode



With bipolar protection diode



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 (UN) can be interchanged. The earth connection is marked with ...



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!

3 Technical data

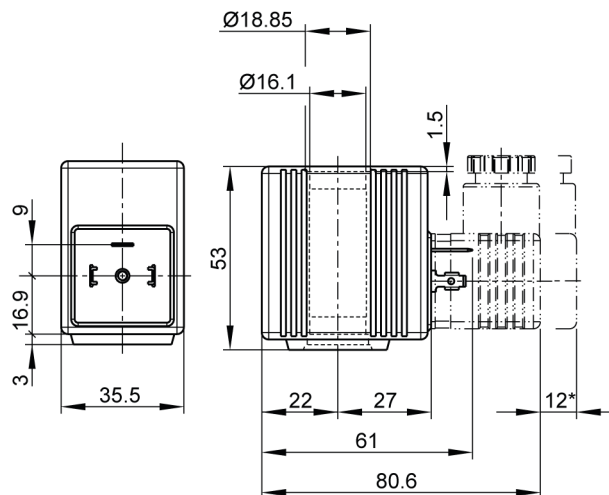
General characteristics	Description, value, unit
Designation	coil, 36 x 48
Design	slip-on, rotatable 360°
Mounting method	core tube, knurled nut
Ambient temperature range	-30 °C ... +60 °C
Coil weight	... 340 g (dependent on type of connection)

Electrical characteristics		Description, value, unit	
Electrical connection		- DIN EN 175301-803, 3-pole 2 P+E - Deutsch radial plug connection DT04-2P - Junior Timer radial plug connection, 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 %	
Control current		see valve data sheet (proportional function)	
Supply voltage tolerance		± 10 %	
Supply voltages / power ratings:			
	standard	12 V DC / 19 W, 30 W	
	standard	24 V DC / 19 W, 30 W	
More on request			
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
Supply voltage: 12 V DC		19 W	30 W
Coil resistance R	- cold value at + 20 °C	7.6 Ω	4.35 Ω
	- cold value at - 30 °C	6.1 Ω	3.5 Ω
	- max. warm value	11.9 Ω	6.8 Ω
Inductance	parallel 120 Hz	120 mH	64 mH
	serial 1000 Hz	36 mH	19 mH
Measured at the core tube, non-operated			
Supply voltage: 24 V DC		19 W	30 W
Coil resistance R	- cold value at + 20 °C	30.0 Ω	17.2 Ω
	- cold value at - 30 °C	24.1 Ω	13.8 Ω
	- max. warm value	47.0 Ω	26.9 Ω
Inductance	parallel 120 Hz	480 mH	255 mH
	serial 1000 Hz	146 mH	74 mH
Measured at the core tube, non-operated			

4 Dimensions

Coil with DIN EN plug connection

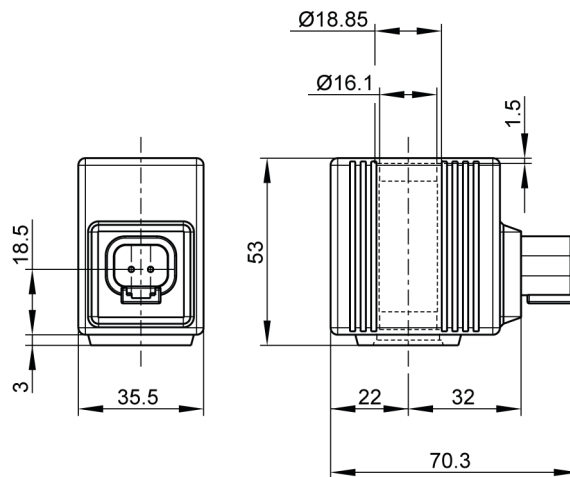
- Standard-Type G (see ordering code)



* free space for plug mounting

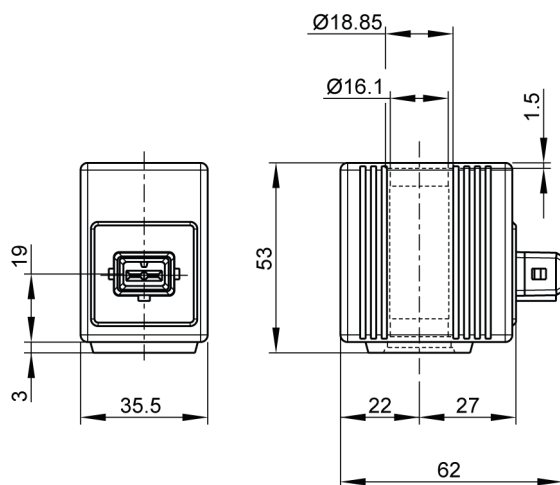
Coil with Deutsch DT04-2P radial plug connection

- Type U (without protection diode)
- Type UR (with protection diode)



Coil with Junior Timer radial plug connection

- Type J (without protection diode)
- Type JR (with protection diode)



5 Installation information



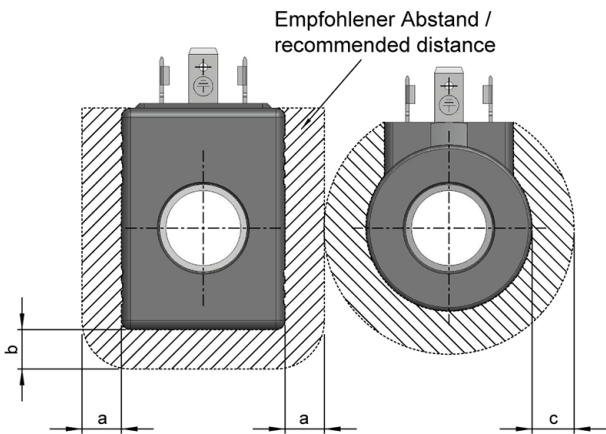
Attention.
Because of the danger of overheating, the coil must only be operated when it is properly fitted on a valve. To prevent the ingress of water, both ends of the coil on the core tube must be properly sealed with O-rings.



Attention.
To obtain the maximum performance, the position of the plug socket must be ensured when mounting the solenoid coil. The correct position can be found in the corresponding data sheet.

5.1 Minimum distance for solenoid coils

To ensure the specified performance data of the proportional valve is achieved, a minimum distance between the solenoid coils must be maintained when designing a sub-system (manifold block).
This information pertains to proportional valves that are equipped with these solenoid coils and are installed in the immediate proximity of a solenoid valve which is simultaneously energized.



Solenoid coil types:	36x48 zu 36x48		36x48 zu D36			D36 zu D36
	a	b	a	b	c	c
Aluminum block	7	4	2	4	8	8
Steel block	12	12	12	6	10	10

6 Ordering code

	Ex.	COIL	36X48	/	16.1	_	24	D	_	19W
COIL	=	coil								
36X48	=	outside dimension 36x48								
16.1	=	inside-Ø								
B	=	for switching valve (19 W)								
P	=	for proportional valve (30 W)								
...	=	voltage e.g. 24 (24 V), see "Electrical characteristics" - supply voltage								
D	=	current DC								
G	=	standard plug connection to DIN EN (3-pole, 2 P+E, IP65)								
J	=	Junior Timer radial plug connection (IP65)								
JR	=	Junior Timer radial plug connection (with protection diode, IP65)								
U	=	Deutsch radial plug connection DT04-2P (IP 67/69K)								
UR	=	Deutsch radial plug connection DT04-2P (with protection diode, IP 67/69K)								
...	=	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....