Coils for Solenoid Valves

external diameter D2.2“ (56 mm) / internal diameter D.875“ (22.2 mm)
Series D2.2“/.875“…

- All DC voltages
- AC application can only be used on DIN Connector with external rectifier
- Facilitates compact assemblies
- Power consumptions 27 W or 30 W
- With optional protection Bi-directional diode
- Protection class IP 65 / IP 67 / IP 69K
- For core tube ∅ .875" (22.2 mm)
- Metal housing of coil is zinc plated
- UL 429 and CAN/CSA 22.2 approved

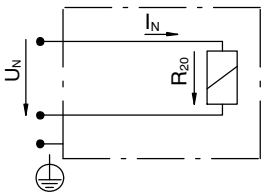
1 Description

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

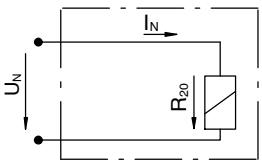
Connector type to DIN EN (DC) – >48V

Ground connection required

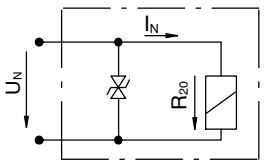


All connector types except DIN EN (DC) – ≤48V

Without protection diode



With bipolar protection diode



3 Technical data

General characteristics	Description, value, unit
Designation	coil, D2.2" (56 mm) / .875" (22.2 mm)
Design	slip-on, rotatable 360°
Mounting method	core tube, knurled nut
Ambient temperature range	-22 °F … +140 °F (-30 °C … +60 °C) Note: O-Ring temperature may restrict further
Coil weight	1.95 … 2.20 lb (885 … 998 g) (dependent on type of connection)

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Electrical characteristics	Description, value, unit
Electrical connection:	- Deutsch plug connection DT04-2P (IP 67/69K) [1] - 1/4" Spade terminals connection, 2-pole - flying leads, 2-pole – 18 inch (450 mm) - ISO 4400 / DIN 43 650 connection, 2-pole (IP 65)
Insulation class to VDE 0580	N – 392 °F (200 °C)
Protection class to ISO 20 653 / EN 60 529	see “Ordering code” (with appropriate mating connector and proper fitting and sealing)
Relative duty cycle	100 %
Supply voltage tolerance	± 10 %
Standard - supply voltages / power ratings: 12 V DC, 24 V DC 115 V AC [2), 3)], 230 V AC [2), 3)]	Nominal power consumption: 27 W 30 W [2), 3)]
More - supply voltages / power ratings:	see Coil resistance R
Coil Polarity:	The coil polarity doesn`t matter, but it must be powered with DC.
Electrical compliance:	UL 429 and CAN/CSA 22.2 approved

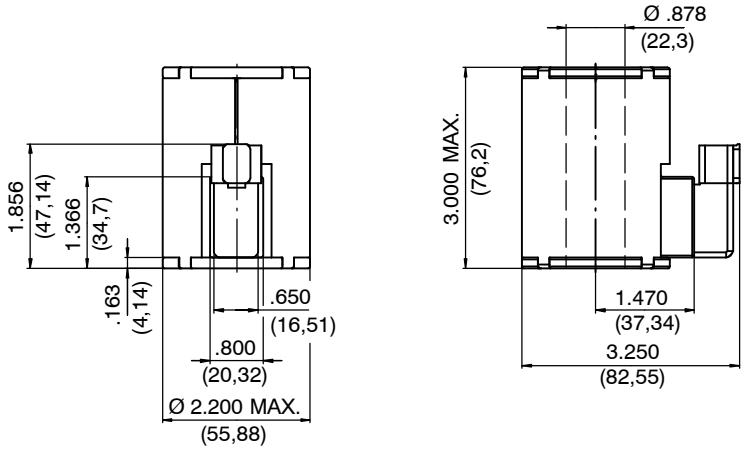
Coil resistance R:	Description, value, unit		
Supply voltages / power ratings:	Cold value at +77 °F (+25 °C)	Cold value at -22 °F (-30 °C)	Max. warm value +140 °F (+60 °C)
12 V DC / 27 W	5.3 Ω	4.2 Ω	8.2 Ω
24 V DC / 27 W	20.9 Ω	16.4 Ω	32.3 Ω
28 V DC / 27 W	28.8 Ω	22.6 Ω	44.5 Ω
36 V DC / 27 W	47.0 Ω	38.6 Ω	72.7 Ω
[2), 3), 4)] 115 V AC / 30 VA	357.0 Ω	280.0 Ω	552.0 Ω
[2), 3), 5)] 230 V AC / 30 VA	1436.0 Ω	1126.0 Ω	2220.0 Ω

Note:
1) only up to 48 V
2) for AC applications an external rectifier circuit is required, for DC application of 103 VDC or 206 VDC coils – please consult BUCHER
3) above 48 V a ground connection to the metal housing of the coil is required
4) 103 V DC with external rectifier for 115 V AC / 30 VA
5) 206 V DC with external rectifier für 230 V AC / 30 VA

4 Dimensions

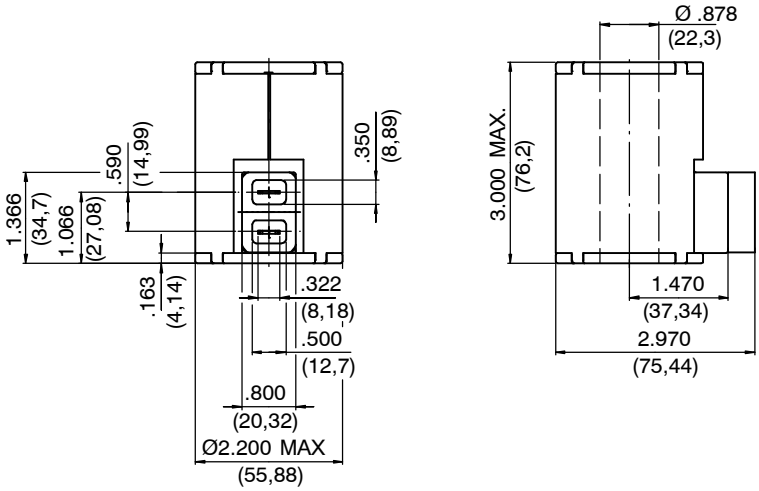
Coil with Deutsch DT04-2P axial plug connection, 2-pole [1]

- **Type T** without protection diode
  Type TR with protection diode (see ordering code)



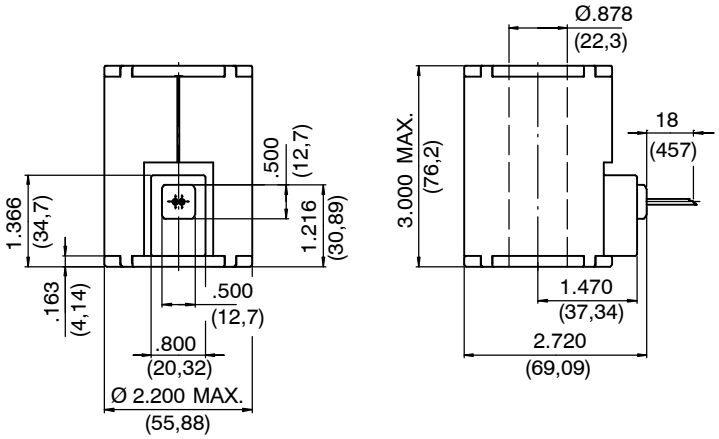
Coil with 1/4" Spade terminals connection, 2-pole

- Type S (see ordering code)



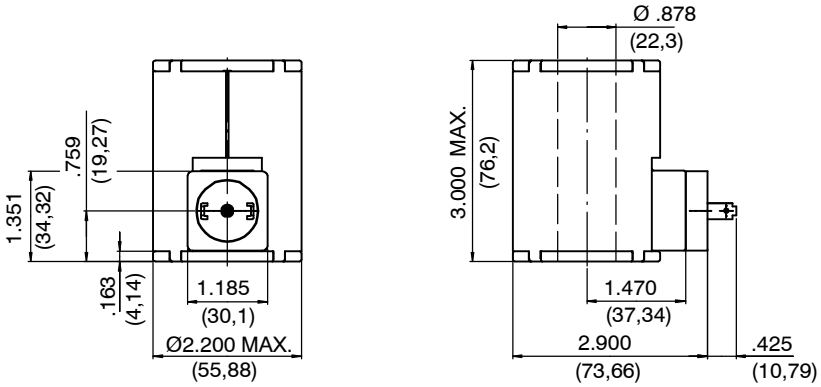
Coil with flying leads, 2-pole

- Type F (see ordering code)



Coil with ISO 4400 / DIN 43 650 connection, 2-pole

- Type H (see ordering code)



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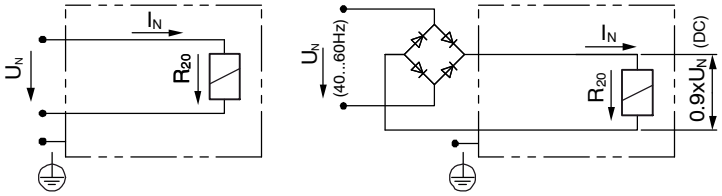
5 Installation information

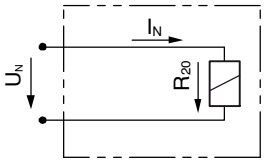
Attention.
Because of the danger of overheating, the coil must only be operated when it is properly fitted on a valve.

Attention.
Delivery is done without mating connector.

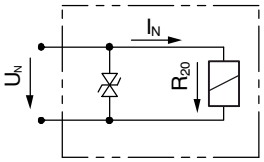
6 Application examples



Alternating current AC-DIN connector
* External rectifier is require for AC application



All connector type (DC)
* without protection diode



All connector type (DC)
* Only 12 V DC and 24 V DC have the option of a bipolar protection diode.

7 Ordering code

Ex. | COIL | D2.2/.875“ | 24 | D | _ | 27W

COIL	=	coil
D2.2/.875	=	∅ 2.2" (56 mm outside ∅) / ∅ 8" (22.3 mm inside ∅)
...	=	voltage e.g. **24** (24 V), see “Electrical characteristics” - supply voltage
D	=	current DC
		mating plug not supplied:
T	=	Deutsch axial plug connection DT04-2P (IP 67/69K) [1)]
TR	=	Deutsch axial plug connection DT04-2P (with protection diode, IP 67/69K) on request [1)]
S	=	1/4" Spade terminals connection
F	=	flying leads – 18 inch (450 mm)
H	=	ISO / DIN plug connection, 2-pole (IP 65)
…	=	Nominal power consumption, see “Electrical characteristics“

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Classification: 430.395.…