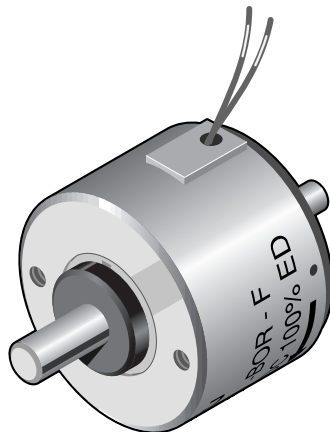


## D3 Series Rotary Solenoid

| Voltage rating     | V DC   | 24   |      |      |       |       | 205   |       |       |       |      | V DC | Voltage rating     |
|--------------------|--------|------|------|------|-------|-------|-------|-------|-------|-------|------|------|--------------------|
| ED* LK             | %      | 100  | 38   | 24   | 15    | 4,4   | 100   | 39    | 22    | 14    | 5    | %    | ED* LK             |
| Current rating     | mA     | 250  | 580  | 870  | 1.360 | 4.280 | 27    | 67    | 110   | 175   | 407  | mA   | Current rating     |
| Nominal resistance | Ω      | 97,2 | 41,6 | 27,6 | 17,6  | 5,6   | 7.580 | 3.065 | 1.848 | 1.172 | 504  | Ω    | Nominal resistance |
| D 32, 25°          | MA Ncm | 1,15 | 2,45 | 3,30 | 4,25  | 6,90  | 1,00  | 2,10  | 3,20  | 4,10  | 5,90 | Ncm  | MA D 32, 25°       |
|                    | ME Ncm | 2,10 | 3,50 | 4,10 | 4,80  | 6,30  | 2,00  | 3,20  | 4,00  | 4,70  | 5,90 | Ncm  | ME                 |
| D 33, 35°          | MA Ncm | 0,95 | 2,20 | 3,00 | 3,75  | 6,40  | 0,80  | 2,00  | 2,65  | 3,60  | 5,30 | Ncm  | MA D 33, 35°       |
|                    | ME Ncm | 1,85 | 3,35 | 3,80 | 4,30  | 4,90  | 1,70  | 2,80  | 3,60  | 4,15  | 4,80 | Ncm  | ME                 |
| D 34, 45°          | MA Ncm | 0,65 | 1,80 | 2,60 | 3,40  | 5,60  | 0,54  | 1,50  | 2,30  | 3,10  | 4,70 | Ncm  | MA D 34, 45°       |
|                    | ME Ncm | 1,60 | 2,95 | 3,40 | 3,80  | 4,30  | 1,40  | 2,60  | 3,20  | 3,80  | 4,25 | Ncm  | ME                 |
| D 36, 65°          | MA Ncm | 0,43 | 1,10 | 1,50 | 2,20  | 4,40  | 0,35  | 0,88  | 1,40  | 2,05  | 3,50 | Ncm  | MA D 36, 65°       |
|                    | ME Ncm | 1,35 | 2,40 | 2,85 | 3,30  | 3,70  | 1,20  | 2,20  | 2,70  | 3,20  | 3,60 | Ncm  | ME                 |
| D 39, 95°          | MA Ncm | 0,18 | 0,57 | 0,90 | 1,35  | 2,50  | 0,14  | 0,45  | 0,80  | 1,20  | 2,10 | Ncm  | MA D 39, 95°       |
|                    | ME Ncm | 1,20 | 2,10 | 2,40 | 2,50  | 2,50  | 1,05  | 1,95  | 2,30  | 2,40  | 2,50 | Ncm  | ME                 |

\* By using a cooling surface  $\geq 150 \text{ cm}^2$ , the permissible duty cycle can be extended up to 1.7x normal rating

MA = Initial torque  
ME = End torque (5° before end of rotary angle)

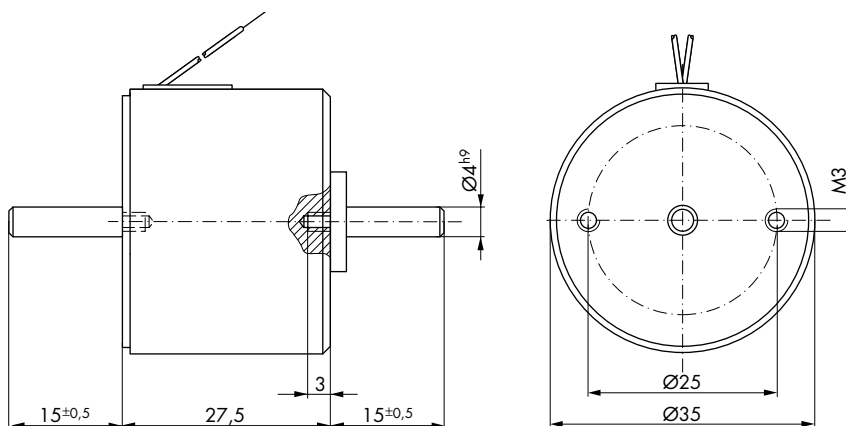


Coil terminals: - Flying leads  
- Solder terminal box (A 2.8 x 0.5 DIN 46247)

Weight: appr. 150 g  
Dyn. moment of inertia (rotational mass): appr.  $0.35 \cdot 10^{-6} \text{ kg m}^2$   
Time constant: appr. 2.5–12 ms

All solenoids with MA > 0.6 Ncm are available with spring return, with a rating of MR = 0.5 Ncm approximately.

The operational voltage of 205 V DC results from rectifying 230 V AC with a bridge rectifier.



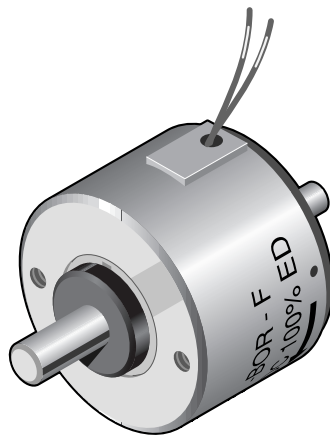
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## D3 Series Ordering Information

|   |   |   |       |       |         |          |                                                   |
|---|---|---|-------|-------|---------|----------|---------------------------------------------------|
| D | 3 | 3 | -ROR- | - F - | 24 V DC | 100 % ED | Order specifications                              |
| D |   |   |       |       |         |          | Rotary solenoids                                  |
|   | 3 |   |       |       |         |          |                                                   |
|   |   |   |       |       |         |          | Angular travel                                    |
|   |   | 2 |       |       |         |          | 25°                                               |
|   |   | 3 |       |       |         |          | 35°                                               |
|   |   | 4 |       |       |         |          | 45°                                               |
|   |   | 6 |       |       |         |          | 65°                                               |
|   |   | 9 |       |       |         |          | 95°                                               |
|   |   |   | -ROR- |       |         |          | Shaft and rotation options                        |
|   |   |   |       |       |         |          | Coil terminals                                    |
|   |   |   |       | F     |         |          | Flying leads (20 cm standard length)              |
|   |   |   |       | M     |         |          | Solder terminal box <sup>2)</sup>                 |
|   |   |   |       |       |         |          |                                                   |
|   |   |   |       |       |         |          | Nominal voltage                                   |
|   |   |   |       |       | 24      |          | Standard voltage                                  |
|   |   |   |       |       | 205     |          | (connected to 230 V AC with Si-bridge rectifier)  |
|   |   |   |       |       |         | 100 % ED | Perm. duty cycle under air cooled conditions (LK) |

<sup>2)</sup> Suits push-on connector A 2.8 x 1.5 DIN 46247.



Insulation class: B (max. permissible temperature = 130 °C)  
Test voltage: 2500 V (eff)  
(D 2: 1500 eff)

## D3 Series Shaft & Rotation Options

### Shaft designs

The following types of rotary solenoids are available.  
Resulting in the following abbreviations for ordering:

#### 1. letter

Direction of rotation (facing the output shaft)

- L** anti-clockwise rotation
- R** clockwise rotation
- B** shaft extensions both ends

#### 2. letter

Centering shoulder

- O** standard type without mounting ring
- R** optional
- L** optional

#### 3. letter

Return spring – the torque exerted by the spring is to be subtracted from the torque values given in the data sheets

- L** on the anti-clockwise shaft end
- R** on the clockwise shaft end
- O** no return spring fitted
- B** both sides

#### Example 1

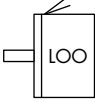
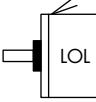
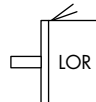
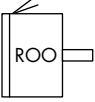
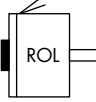
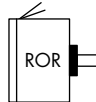
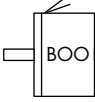
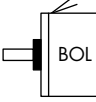
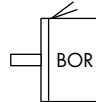
anti-clockwise rotation, no return spring, standard shaft length  
**LOO** -

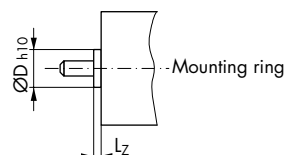
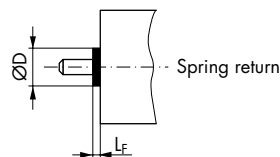
#### Example 2

shaft extensions on both ends, return spring on anti-clockwise rotation end  
**BOL** -

Spring return arrangement  
(with protection cap)

Mounting ring

| Normal                                                                              | Spring return                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|    |    |
|                                                                                     |    |
|    |    |
|                                                                                     |   |
|  |  |
|                                                                                     |  |



| Dimensions in mm   | Solenoid size |
|--------------------|---------------|
|                    | D3            |
| Ø D                | 15,0          |
| L <sub>F</sub>     | 6,0           |
| Ø D <sub>h10</sub> | 13,0          |
| L <sub>Z</sub>     | 1,8           |

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