# DC-Micromotors

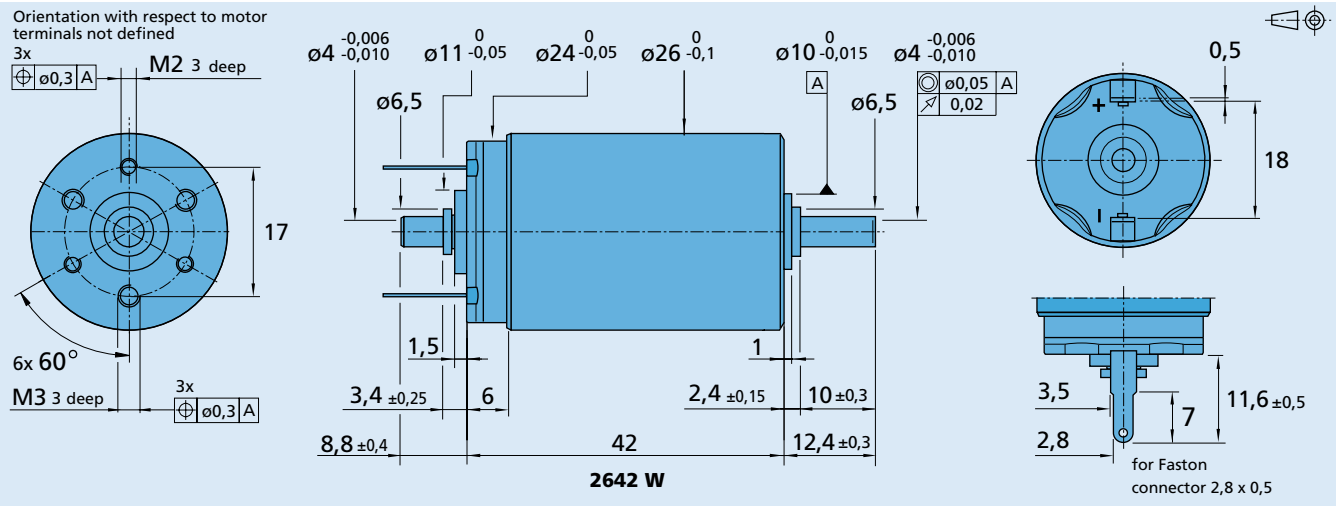
## Graphite Commutation

# 28 mNm

**For combination with**
Gearheads:
26A, 26/1, 30/1, 32A
Encoders:
IE2 – 16 ... 512, IE3 – 256, IE3 – 256 L, 5500, 5540

## Series 2642 ... CR

| | | 2642 W | | 012 CR | 024 CR | 048 CR | |
|---|---|---|---|---|---|---|---|
| 1 | Nominal voltage | $U_N$ | | 12 | 24 | 48 | Volt |
| 2 | Terminal resistance | R | | 1,45 | 5,78 | 23,80 | Ω |
| 3 | Output power | $P_{2\ max.}$ | | 22,1 | 23,2 | 23,0 | W |
| 4 | Efficiency | $\eta_{max.}$ | | 78 | 79 | 79 | % |
| 5 | No-load speed | $n_o$ | | 6 400 | 6 400 | 6 400 | rpm |
| 6 | No-load current (with shaft ø 4,0 mm) | $I_o$ | | 0,118 | 0,058 | 0,029 | A |
| 7 | Stall torque | $M_H$ | | 132 | 139 | 137 | mNm |
| 8 | Friction torque | $M_R$ | | 2 | 2 | 2 | mNm |
| 9 | Speed constant | $k_n$ | | 565 | 276 | 137 | rpm/V |
| 10 | Back-EMF constant | $k_E$ | | 1,77 | 3,62 | 7,31 | mV/rpm |
| 11 | Torque constant | $k_M$ | | 16,9 | 34,6 | 69,8 | mNm/A |
| 12 | Current constant | $k_I$ | | 0,059 | 0,029 | 0,014 | A/mNm |
| 13 | Slope of n-M curve | Δn/ΔM | | 48,5 | 46,0 | 46,7 | rpm/mNm |
| 14 | Rotor inductance | L | | 130 | 550 | 2 200 | µH |
| 15 | Mechanical time constant | $\tau_{m}$ | | 5,4 | 5,4 | 5,4 | ms |
| 16 | Rotor inertia | J | | 11 | 11 | 11 | gcm² |
| 17 | Angular acceleration | $\alpha_{max.}$ | | 120 | 120 | 120 | $\cdot 10^3$rad/s² |
| 18 | Thermal resistance | $R_{th\,1}$ / $R_{th\,2}$ | 2,1 / 11 | | | | K/W |
| 19 | Thermal time constant | $\tau_{w1}$ / $\tau_{w2}$ | 10 / 510 | | | | s |
| 20 | Operating temperature range: | | | | | | |
| | – motor | | – 30 ... +125 | | | | °C |
| | – rotor, max. permissible | | +155 | | | | °C |
| 21 | Shaft bearings | | ball bearings, preloaded | | | | |
| 22 | Shaft load max.: | | | | | | |
| | – with shaft diameter | | 4,0 | | | | mm |
| | – radial at 3 000 rpm (3 mm from bearing) | | 20 | | | | N |
| | – axial at 3 000 rpm | | 2 | | | | N |
| | – axial at standstill | | 20 | | | | N |
| 23 | Shaft play: | | | | | | |
| | – radial | ≤ | 0,015 | | | | mm |
| | – axial | = | 0 | | | | mm |
| 24 | Housing material | | steel, black coated | | | | |
| 25 | Weight | | 114 | | | | g |
| 26 | Direction of rotation | | clockwise, viewed from the front face | | | | |
| **Recommended values** - mathematically independent of each other | | | | | | | |
| 27 | Speed up to | $n_{e\ max.}$ | | 6 000 | 6 000 | 6 000 | rpm |
| 28 | Torque up to | $M_{e\ max.}$ | | 28 | 28 | 28 | mNm |
| 29 | Current up to (thermal limits) | $I_{e\ max.}$ | | 1,97 | 0,98 | 0,48 | A |




For notes on technical data and lifetime performance refer to "Technical Information".

Specifications subject to change without notice