

DC-Micromotors

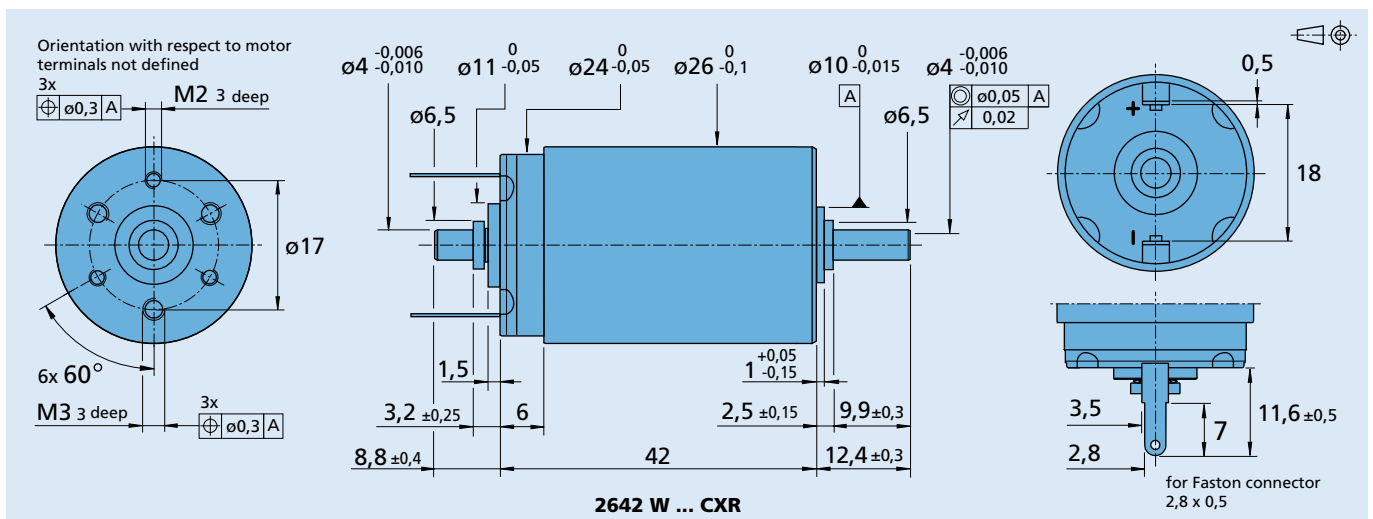
Graphite Commutation

23 mNm

For combination with
 Gearheads:
 26/1, 26/1 S, 26A, 30/1, 30/1 S, 32A
 Encoders:
 IE3-1024, IE3-1024 L

Series 2642 ... CXR

	2642 W	012 CXR	024 CXR	048 CXR	
1 Nominal voltage	U_N	12	24	48	V
2 Terminal resistance	R	1,46	5,84	24,06	Ω
3 Output power	$P_{2 \text{ max.}}$	22,1	23,1	22,9	W
4 Efficiency, max.	$\eta_{\text{ max.}}$	76	78	79	%
5 No-load speed	n_0	5 800	5 900	5 900	rpm
6 No-load current (with shaft \varnothing 4 mm)	I_0	0,092	0,045	0,022	A
7 Stall torque	M_H	144,6	150,5	149	mNm
8 Friction torque	M_R	1,7	1,7	1,7	mNm
9 Speed constant	k_n	514	252	125	rpm/V
10 Back-EMF constant	k_E	1,945	3,962	7,994	mV/rpm
11 Torque constant	k_M	18,57	37,83	76,34	mNm/A
12 Current constant	k_i	0,054	0,026	0,013	A/mNm
13 Slope of n-M curve	$\Delta n / \Delta M$	40,4	39	39,4	rpm/mNm
14 Rotor inductance	L	135	560	2 280	μH
15 Mechanical time constant	τ_m	5,1	4,9	5	ms
16 Rotor inertia	J	12	12	12	gcm ²
17 Angular acceleration	$\alpha_{\text{ max.}}$	121	125	124	$\cdot 10^3 \text{ rad/s}^2$
18 Thermal resistance	$R_{\text{th} 1} / R_{\text{th} 2}$	4,7 / 15,2			K/W
19 Thermal time constant	τ_{w1} / τ_{w2}	20 / 720			s
20 Operating temperature range:					
– motor		-30 ... +100			°C
– rotor, max. permissible		+125			°C
21 Shaft bearings		sintered bearings	ball bearings, preloaded		
22 Shaft load max.:		(standard)	(optional version)		
– with shaft diameter		4	4		mm
– radial at 3 000 rpm (3 mm from bearing)		10	20		N
– axial at 3 000 rpm		2	2		N
– axial at standstill		50	20		N
23 Shaft play					
– radial	\leq	0,03	0,015		mm
– axial	\leq	0,2	0		mm
24 Housing material		steel, zinc galvanized and passivated			
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	$n_{e \text{ max.}}$	6 000	6 000	6 000	rpm
28 Torque up to	$M_{e \text{ max.}}$	21	22	23	mNm
29 Current up to (thermal limits)	$I_{e \text{ max.}}$	1,34	0,7	0,35	A



Note:

The left portion of the diagram indicates the recommended area of motor operation for continuous duty in a thermally insulated condition (not mounted) at room temperature 22°C.

The right portion of the diagram indicates the possible area of operation if the motor is cooled (ex. $R_{th2} -55\%$) by mounting or ambient air flow conditions.

The diagram indicates the area of continuous operation for maximum lifetime performance of the motor. The motor can be driven intermittently outside of the recommended area of operation. Please consult your local product representative for more information.

The nominal voltage curve (U_n) shows the operating points at nominal voltage. Any points of operation above the curve will require a higher operating voltage, points below will require less voltage.

