

DC-Micromotors

Graphite Commutation

26 mNm

For combination with

Gearheads:
26/1, 26/1 S, 26A, 30/1, 30/1 S, 32A

Encoders:
HEDL 5540, HEDM 5500, HEDS 5500, HEDS 5540,
IE3-1024, IE3-1024 L

Series 2642 ... CXR

Values at 22°C and nominal voltage		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	$P_{2nom.}$	22,1	23,1	22,9	W
4	Efficiency, max.	$\eta_{max.}$	76	78	79	%
5	No-load speed	n_0	5 800	5 900	5 900	rpm
6	No-load current, typ. (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	$\alpha_{max.}$	121	125	124	$\cdot 10^3 \text{rad/s}^2$
18	Thermal resistance	R_{th1} / R_{th2}	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
	– winding, max. permissible		+125			°C
21	Shaft bearings		sintered bearings (standard) / ball bearings, preloaded (optional version)			
22	Shaft load max.:					
	– 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	Mass		114			g
26	Direction of rotation		clockwise, viewed from the front face			
27	Speed up to	$n_{max.}$	7 000			rpm
28	Number of pole pairs		1			
29	Magnet material		NdFeB			
Rated values for continuous operation						
30	Rated torque	M_N	25	26	26	mNm
31	Rated current (thermal limit)	I_N	1,6	0,82	0,41	A
32	Rated speed	n_N	4 770	4 770	4 750	rpm

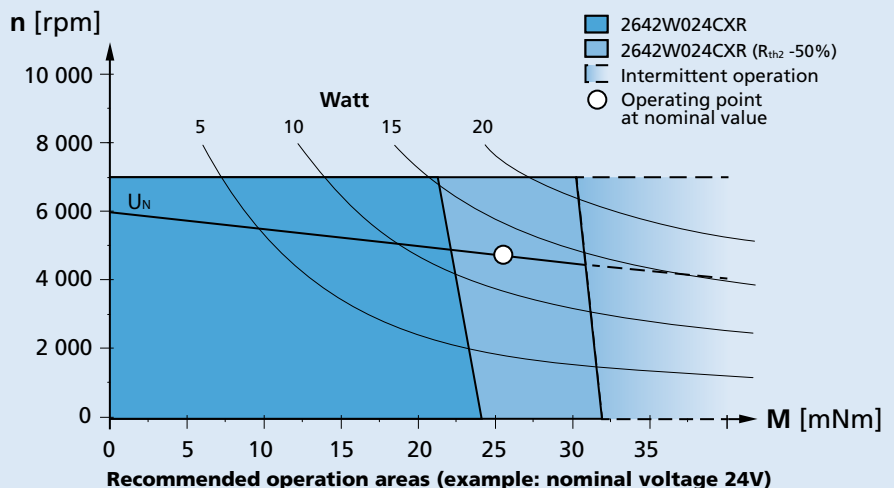
Note: Rated values are calculated with nominal voltage and at a 22°C ambient temperature. The R_{th2} value has been reduced by 25%.

Note:

The diagram indicates the recommended speed in relation to the available torque at the output shaft for a given ambient temperature of 22°C.

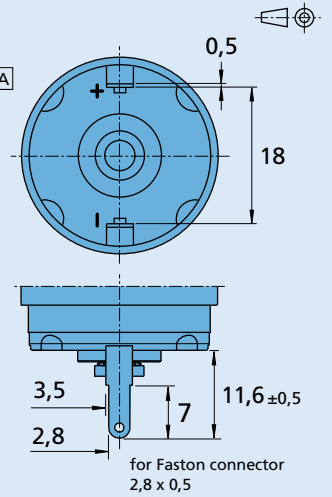
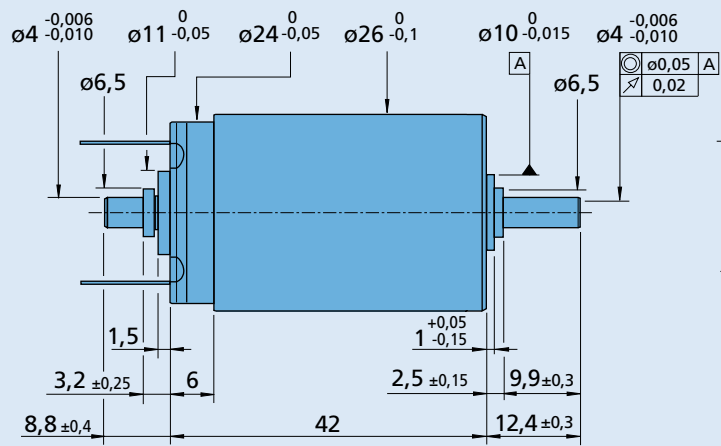
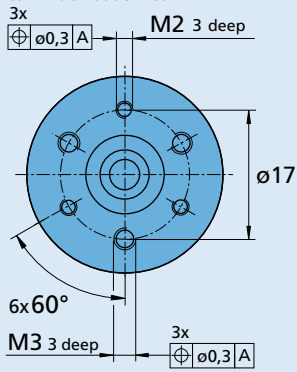
The diagram shows the motor in a completely insulated as well as thermally coupled condition (R_{th2} 50% reduced).

The nominal voltage (U_N) curve shows the operating point at nominal voltage in the insulated and thermally coupled condition. Any points of operation above the curve at nominal voltage will require a higher operating voltage. Any points below the nominal voltage curve will require less voltage.



Dimensional drawing

Orientation with respect to motor terminals not defined



2642 W ... CXR