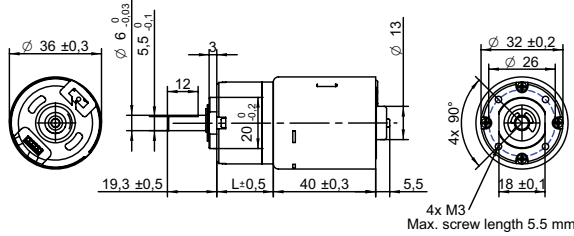


DRAWING (mm)
EXTERNAL DRIVER



PHOTO

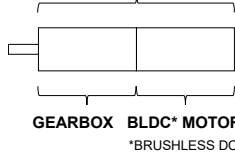


MODEL NO. DESIGNATION

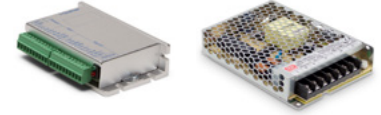


Example: PBT3640-24-4

GEAR MOTOR



OPTIONS DRIVERS AND POWER SUPPLIES



● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

GEAR MOTOR DATA

		4:1	5:1	14:1	19:1	27:1	35:1	51:1	71:1	100:1	139:1	189:1	264:1	516:1	721:1	939:1
Gear ratio		4:1	5:1	14:1	19:1	27:1	35:1	51:1	71:1	100:1	139:1	189:1	264:1	516:1	721:1	939:1
Nominal torque ^ gearbox limit	Ncm	6.9	8.6	21	29	41	53	66	78^	98^	98^	120^	120^	120^	120^	120^
Nominal speed	rpm	1300	1000	360	270	190	150	99	71	51	36	27	19	10	7	5
Peak torque	Ncm	59	59	120	120	180	180	240	240	290	290	350	350	350	350	350
Nominal power	W	9.1	9.1	8.0	8.0	8.0	8.0	6.8	6.8	6.8	6.8	5.7	5.7	5.7	5.7	5.7
Gearbox efficiency	%	80	80	70	70	70	70	60	60	60	60	50	50	50	50	50
Gearbox length L	mm	20.6	20.6	27	27	27	27	33.4	33.4	33.4	33.4	39.8	39.8	39.8	39.8	39.8
Weight	g	250	250	270	270	270	270	300	300	300	300	320	320	320	320	320

GEAR MOTOR COMBINED DATA

Service life	hrs	5000	
Performance tolerances	%	± 15	
Operating temperature	°C	-10 to 60	●
IP rating		IP30	
Manufacturing standard		ISO9001 ISO 14001 IATF 16949	
Compliance		RoHS and REACH	
Label CE UL		CE no UL no	

GEARBOX SHAFT DATA

Radial play thrust play	mm	≤ 0.05 ≤ 0.3	
Shaft axial load	N	29	
Radial load	N	79	
Press fit force max.	N	150	
Backlash no load	°	≤ 3	
Bearing type shaft material		Ball bearing SCM435	
Motor pinion material shape		Steel straight	●

GEARBOX-SPECIFIC DATA

Material gear stage		Ratio 5:1 sintered steel	●
Material > 5:1 ratio / stage		POM first + sintered steel	●
Assembly front bell	mm	Maximum screw depth 5.5	

BRUSHLESS DC MOTOR DATA

Brushless DC motor model: Transmotec BT3640-24			
Driver type	External		
Nominal voltage	V	24	
Commutator (hall) voltage	V	3.3-5	
No load speed	rpm	6000	
No load current	mA	120	
Nominal speed	rpm	5100	●
Nominal torque	mNm	21	
Nominal current	A	0.7	
Start/Stall torque	mNm	150	
Start/Stall current	A	3.9	
Max. efficiency	%	77	
Nominal power	W	11	
Terminal resistance	Ω	4.2	
Terminal inductance	mH	2.7	
Torque constant	mNm/A	39	
Speed constant	rpm/V	250	
Speed/ torque gradient	rpm/mNm	240	
Rotor inertia	gcm ²	27-28	

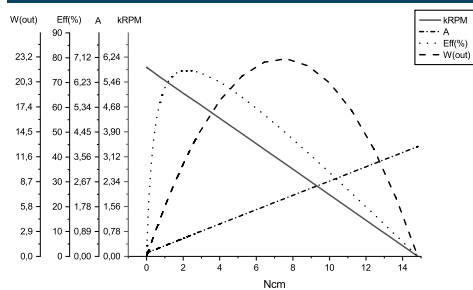
BRUSHLESS DC MOTOR OTHER DATA

Number of pole pairs		2	
Number of phases		3	
Max. winding temperature	°C	150	
Motor insulation class		A	
Slot pole pairs		6S4P	
Rotor magnet		BNM-8	
Hall sensors and power harness length	mm	155 ± 10	●
Power harness end connector		A2502X-03P	●
Power harness		UL3132 20AWG 300V 150°C	●
Hall sensors harness end connector		KR1500 MX1.5mm	●
Hall sensors harness		UL10368 26AWG 300V 105°C	●
Housing material		SECD-0 1.0T	
Magnet material		Bonding NdFeB	
Rotor balancing grade		G6.3	

GEAR MOTOR RANGE STANDARD AVAILABILITY

Nominal voltage	V	12 24	See separate data sheet
Nominal power	W	1.6 - 39	See separate data sheet
Diameter	mm	28 - 42	See separate data sheet

BRUSHLESS DC MOTOR DATA DIAGRAM



ACCESSORIES

Power supplies LRS V 3.3 - 48 See separate data sheet

CABLE AND PIN CONFIGURATION EXTERNAL DRIVER

Power		Hall	
Phase	Cable color	Phase	Cable color
U	White	HU	Green
V	Brown	HV	Blue
W	Grey	HW	Yellow
		+5V	Red
		GND	Black