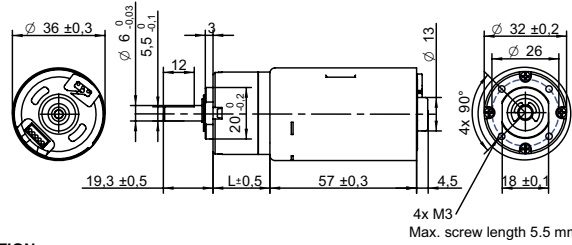


DRAWING (mm)
EXTERNAL DRIVER



PHOTO

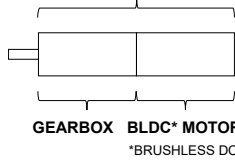


MODEL NO. DESIGNATION

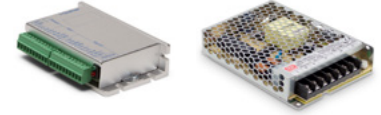


Example: PBT3657-24-4

GEAR MOTOR



OPTIONS DRIVERS AND POWER SUPPLIES

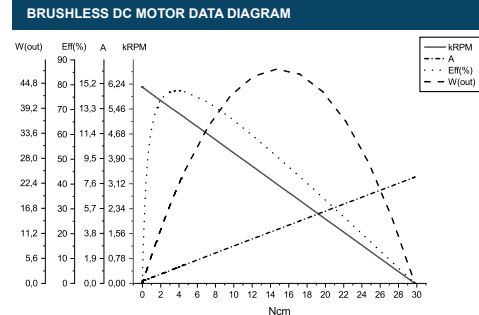


● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

GEAR MOTOR DATA																	C
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	11	14	34	39 ^A	59 ^A	59 ^A	78 ^A	78 ^A	98 ^A	98 ^A	120 ^A	120 ^A	120 ^A	120 ^A	120 ^A	
Nominal speed	rpm	1400	1100	390	290	200	160	110	77	54	39	29	21	11	8	6	
Peak torque	Ncm	59	59	120	120	180	180	240	240	290	290	350	350	350	350	350	
Nominal power	W	16	16	14	14	14	14	12	12	12	12	10	10	10	10	10	
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	340	340	360	360	360	360	380	380	380	380	410	410	410	410	410	

GEAR MOTOR COMBINED DATA				C	GEARBOX SHAFT DATA				C	GEARBOX-SPECIFIC DATA				C
Service life	hrs	5000			Radial play thrust play	mm	≤ 0.05 ≤ 0.3			Material gear stage	Ratio 5:1 sintered steel		●	
Performance tolerances	%	± 15			Shaft axial load	N	29			Material > 5:1 ratio / stage	POM first + sintered steel		●	
Operating temperature	°C	-10 to 60	●		Radial load	N	79			Direction of rotation	CCW or CW by reversed V polarity			
IP rating		IP30			Press fit force max.	N	150			Assembly front bell	mm	Maximum screw depth 5.5		
Manufacturing standard		ISO9001 ISO 14001 IATF 16949			Backlash no load	°	≤ 3							
Compliance		RoHS and REACH			Bearing type shaft material		Ball bearing SCM435							
Label CE UL		CE no UL no			Motor pinion material shape		Steel straight	●						

BRUSHLESS DC MOTOR DATA				C	BRUSHLESS DC MOTOR OTHER DATA				C	GEAR MOTOR RANGE STANDARD AVAILABILITY			
Brushless DC motor model: Transmotec BT3657-24					Number of pole pairs			2		Nominal voltage	V	12 24	See separate data sheet
Driver type		External			Number of phases			3		Nominal power	W	1.6 - 39	See separate data sheet
Nominal voltage	V	24			Max. winding temperature	°C		150		Diameter	mm	28 - 42	See separate data sheet
Commutator (hall) voltage	V	3.3-5			Motor insulation class			A					
No load speed	rpm	6000			Slot pole pairs			6S4P					
No load current	mA	160			Rotor magnet			BNM-8					
Nominal speed	rpm	5400	●		Hall sensors and power harness length	mm		160 ± 10	●				
Nominal torque	mNm	35			Power harness end connector			XHP-3	●				
Nominal current	A	1.1			Power harness			UL3132 20AWG 300V 150°C	●				
Start/Stall torque	mNm	310			Hall sensors harness end connector			ZHR-5	●				
Start/Stall current	A	8.4			Hall sensors harness			UL10368 26AWG 300V 105°C	●				
Max. efficiency	%	80			Housing material			SECD-0 1.0T					
Nominal power	W	20			Magnet material			Bonding NdFeB					
Terminal resistance	Ω	1.8			Rotor balancing grade			G6.3					
Terminal inductance	mH	1.4											
Torque constant	mNm/A	38											
Speed constant	rpm/V	250											
Speed/ torque gradient	rpm/mNm	160											
Rotor inertia	gcm ²	52-61											



CABLE AND PIN CONFIGURATION EXTERNAL DRIVER						C
Power			Hall			
Phase	Cable color		Phase	Cable color		
U	White		HU	Green		
V	Brown		HV	Blue		
W	Grey		HW	Yellow		
			+5V	Red		
			GND	Black		

ACCESSORIES
Power supplies LRS V 3.3 - 48 See separate data sheet