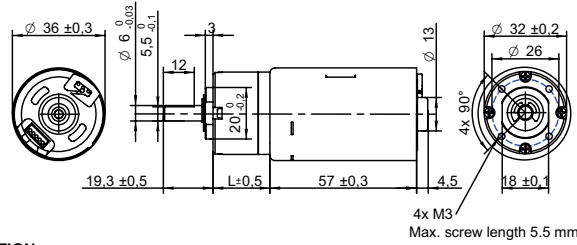


DRAWING (mm)
EXTERNAL DRIVER



PHOTO

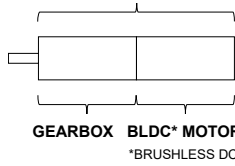


MODEL NO. DESIGNATION

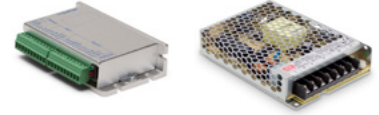


Example: PBT3657-12-4

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

		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	9.5	12	29	39 ^A	56	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	14	14	12	12	12	12	10	10	10	10	8.5	8.5	8.5	8.5	8.5
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

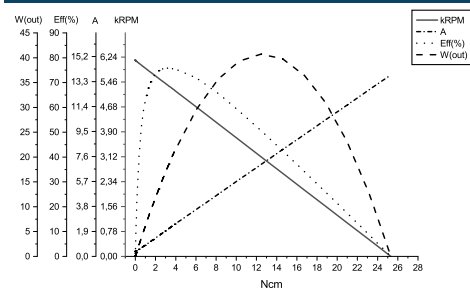
GEAR MOTOR COMBINED DATA C **GEARBOX SHAFT DATA** C **GEARBOX-SPECIFIC DATA** C

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 BT3657-12			Number of pole pairs			2		
Driver type	External		Number of phases			3		
Nominal voltage	V	12	Max. winding temperature	°C		150		
Commutator (hall) voltage	V	3.3-5	Motor insulation class			A		
No load speed	rpm	6000	Slot pole pairs			6S4P		
No load current	mA	280	Rotor magnet			BNM-8		
Nominal speed	rpm	5400 ●	Hall sensors and power harness length	mm		160 ± 10 ●		
Nominal torque	mNm	30	Power harness end connector			XHP-3 ●		
Nominal current	A	1.9	Power harness			UL3132 20AWG 300V 150°C ●		
Start/Stall torque	mNm	260	Hall sensors harness end connector			ZHR-5 ●		
Start/Stall current	A	14	Hall sensors harness			UL10368 26AWG 300V 105°C ●		
Max. efficiency	%	78	Housing material			SECD-0 1.0T		
Nominal power	W	17	Magnet material			Bonding NdFeB		
Terminal resistance	Ω	0.6	Rotor balancing grade			G6.3		
Terminal inductance	mH	0.4						
Torque constant	mNm/A	19						
Speed constant	rpm/V	500						
Speed/ torque gradient	rpm/mNm	180						
Rotor inertia	gcm ²	48-51						

BRUSHLESS DC MOTOR DATA DIAGRAM



ACCESSORIES

Power supplies LRS V 3.3 - 48 See separate data sheet

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