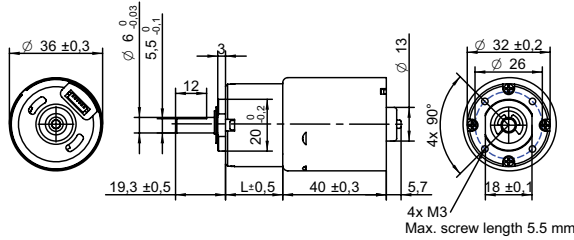


PBT13640-24 | Ø 36 mm | BRUSHLESS DC PLANETARY GEAR MOTOR



DRAWING (mm) INTERNAL DRIVER



PHOTO

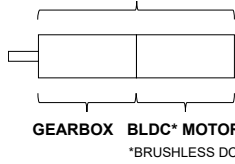


MODEL NO. DESIGNATION

PBT13640 - VOLTAGE - GEAR RATIO

Example: PBT13640-24-4

GEAR MOTOR



OPTIONS 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	6.7	8.4	20	28	39	51	64	78^	98^	98^	120^	120^	120^	120^	120^
Nominal speed	rpm	1300	1000	360	260	190	140	99	71	50	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	8.8	8.8	7.7	7.7	7.7	7.7	6.6	6.6	6.6	6.6	5.5	5.5	5.5	5.5	5.5
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	250	250	270	270	270	270	290	290	290	290	320	320	320	320	320

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 DIR 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	°	≤ 3.0							
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 BT3640-24-I					Number of pole pairs		2			Nominal voltage	V	12 24	See separate data sheet
Driver type		Internal			Number of phases		3			Nominal power	W	1.5 - 41	See separate data sheet
Nominal voltage	V	24			Max. winding temperature	°C	150			Diameter	mm	28 - 42	See separate data sheet
No load speed	rpm	6000			Motor insulation class		A			BRUSHLESS DC MOTOR DATA DIAGRAM			
No load current	mA	120			Slot pole pairs		6S4P						
Nominal speed	rpm	5000		●	Rotor magnet		BNM-8						
Nominal torque	mNm	21			Control and power harness length	mm	205 ± 10		●				
Nominal current	A	0.7			Control and power harness end connector		A1501H00-6P		●				
Start/Stall torque	mNm	150			Control and power harness		UL1007 26AWG 300V 80°C		●				
Start/Stall current	A	3.8			Housing material		SECD-0 1.0T		●				
Max. efficiency	%	72			Magnet material		Bonding NdFeB						
Nominal power	W	11			Rotor balancing grade		G6.3						
Terminal resistance	Ω	4.2											
Terminal inductance	mH	2.7											
Torque constant	mNm/A	40											
Speed constant	rpm/V	250											
Speed/ torque gradient	rpm/mNm	240											
Rotor inertia	gcm ²	36-39											

ACCESSORIES

Power supplies LRS V 3.3 - 48 See separate data sheet

CABLE AND PIN CONFIGURATION INTERNAL DRIVER

Color	Signal	Description
Red	Vcc	Supply voltage 12 V 24 V
Black	GND	0 V
Yellow	DIR	Motor direction. Open DIR: CW DIR connect to GND: CCW
Blue	PWM	Speed control. PWM 20 kHz 5V. Full speed, connects to GND, PWM, HI/LO, 0/100
White	Enable	Enable control. Open: motor runs Connect to GND: motor stops