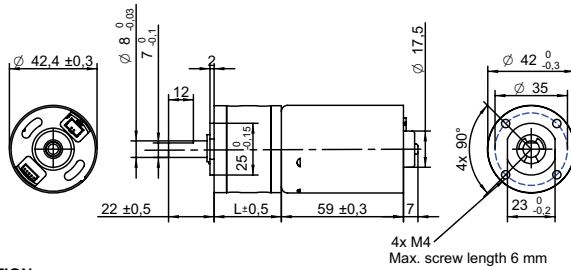


PBTI4259-12 | Ø 42 mm | BRUSHLESS DC PLANETARY GEAR MOTOR



DRAWING (mm) INTERNAL DRIVER



PHOTO

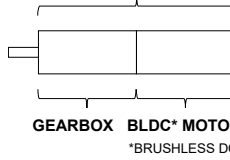


MODEL NO. DESIGNATION

PBTI4259 - VOLTAGE - GEAR RATIO

Example: PBTI4259-12-4

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

		4:1	14:1	17:1	24:1	49:1	61:1	84:1	104:1	144:1	212:1	294:1	504:1	624:1	720:1	864:1	1062:1	1470:1	2500:1	3000:1	3600:1	
Nominal torque ^ gearbox limit	Ncm	17	51	61	78 ^A	150	180 ^A	180 ^A	200 ^A	200 ^A	250 ^A	250 ^A	290 ^A	290 ^A	290 ^A	290 ^A	290 ^A	290 ^A	290 ^A	290 ^A	290 ^A	290 ^A
Nominal speed	rpm	1200	350	290	200	100	81	59	47	34	23	17	10	8	7	6	5	3	2	2	2	1
Peak torque	Ncm	88	240	240	240	530	530	530	590	590	740	740	880	880	880	880	880	880	880	880	880	880
Nominal power	W	21	19	19	19	16	16	16	16	16	13	13	13	13	13	13	11	11	11	11	11	11
Gearbox efficiency	%	80	70	70	70	60	60	60	60	60	50	50	50	50	50	50	40	40	40	40	40	40
Gearbox length L	mm	32.5	39.2	39.2	39.2	45.9	45.9	45.9	45.9	45.9	52.6	52.6	52.6	52.6	52.6	52.6	59.6	59.6	59.6	59.6	59.6	59.6
Weight	g	480	530	530	530	570	570	570	570	570	620	620	620	620	620	620	660	660	660	660	660	660

GEAR MOTOR COMBINED DATA

Service life	hrs	5000	C
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	C
Shaft axial load	N	29	
Radial load	N	79	
Press fit force max.	N	147	
Backlash no load	°	≤ 3.0	
Bearing type shaft material		Ball bearing SCM435	
Motor pinion material shape		Steel straight	●

GEARBOX-SPECIFIC DATA

Material gear stage	Ratio 4:1 sintered steel	●
Material 14:1-24:1 ratio / stage	POM first + steel	●
Material > 24:1 ratio / stage	POM first + sintered steel + steel last	
Direction of rotation	CCW or CW by reversed DIR polarity	
Assembly front bell	mm	Maximum screw depth 6.0

BRUSHLESS DC MOTOR DATA

Brushless DC motor model: Transmotec BT4259-12-I		C	
Driver type	Internal		
Nominal voltage	V	12	
No load speed	rpm	6000	
No load current	mA	510	
Nominal speed	rpm	4900	●
Nominal torque	mNm	52	
Nominal current	A	3.3	
Start/Stall torque	mNm	360	
Start/Stall current	A	18	
Max. efficiency	%	70	
Nominal power	W	27	
Terminal resistance	Ω	0.4	
Terminal inductance	mH	0.2	
Torque constant	mNm/A	21	
Speed constant	rpm/V	500	
Speed/ torque gradient	rpm/mNm	95	
Rotor inertia	gcm ²	120-146	

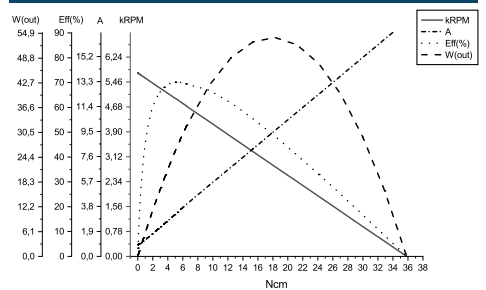
BRUSHLESS DC MOTOR OTHER DATA

Number of pole pairs		3	C
Number of phases		3	
Max. winding temperature	°C	150	
Motor insulation class		A	
Slot pole pairs		9S6P	
Rotor magnet		BNM-8	
Control and power harness length	mm	220 ± 10	●
Control harness connector		JST:ZHR-5	
Control harness		UL10368 26AWG 300V 105°C	
Power harness		UL3266 20AWG 300V 125°C	
Power harness end connector		XH-2P	●
Housing material		SECD-0 1.4T	
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	1.5 - 41	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 INTERNAL DRIVER

Yellow	DIR	Motor direction. Open DIR: CW DIR connect to GND: CCW	C
Brown	PWM	375 Hz 5V. HI/LO: 100/0, max RPM 0/100, no RPM	
Green	+5V	May connect to PWM for max RPM	
Blue	FG	Presents the internal RPM signal	
White	Enable	Enable control. Open: motor runs Connect to GND: motor stops	
Black	GND	0 V	
Red	Vcc	Supply voltage 12 V 24 V	