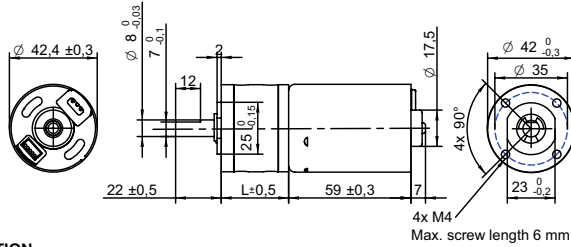


**DRAWING (mm)**  
**EXTERNAL DRIVER**



**PHOTO**

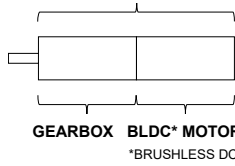


**MODEL NO. DESIGNATION**

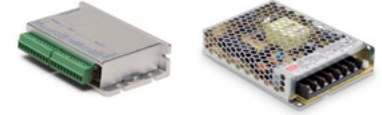


Example: PBT4259-12-4

**GEAR MOTOR**



**OPTIONS DRIVERS AND POWER SUPPLIES**

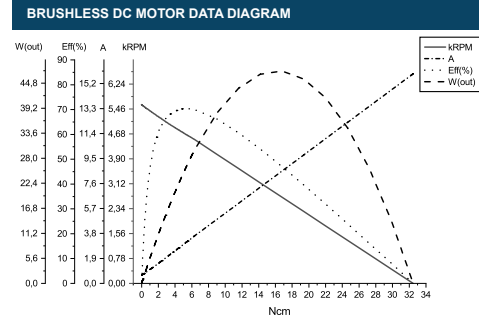


● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

GEAR MOTOR DATA																				C		
Gear ratio		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	53	65	78 <sup>A</sup>	160	180 <sup>A</sup>	180 <sup>A</sup>	200 <sup>A</sup>	200 <sup>A</sup>	250 <sup>A</sup>	250 <sup>A</sup>	290 <sup>A</sup>	290 <sup>A</sup>	290 <sup>A</sup>	290 <sup>A</sup>	290 <sup>A</sup>	290 <sup>A</sup>	290 <sup>A</sup>	290 <sup>A</sup>	290 <sup>A</sup>	
Nominal speed	rpm	1200	330	270	190	95	76	55	45	32	22	16	9	7	6	5	4	3	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	
Nominal power	W	21	19	19	19	16	16	16	16	16	13	13	13	13	13	13	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	
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	
Weight	g	470	530	530	530	570	570	570	570	570	620	620	620	620	620	620	660	660	660	660	660	

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 4:1 sintered steel	●
Performance tolerances	%	± 15	Shaft axial load	N	29	Material 14:1-24:1 ratio / stage	POM first + steel	●
Operating temperature	°C	-10 to 60	Radial load	N	79	Material > 24:1 ratio / stage	POM first + sintered steel + steel last	
IP rating		IP30	Press fit force max.	N	150	Direction of rotation	CCW or CW by reversed V polarity	
Manufacturing standard		ISO9001   ISO 14001   IATF 16949	Backlash no load	°	≤ 3	Assembly front bell	mm	Maximum screw depth 6.0
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	
<b>Brushless DC motor model: Transmotec BT4259-12</b>			Number of pole pairs		3	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	12	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	5700	Slot pole pairs		9S6P		
No load current	mA	470	Rotor magnet		BNM-8		
Nominal speed	rpm	4600 ●	Hall sensors and power harness length	mm	155 ± 10 ●		
Nominal torque	mNm	54	Power harness end connector		A2502X-03P ●		
Nominal current	A	3.2	Power harness		UL3132 20AWG 300V 150°C ●		
Start/Stall torque	mNm	330	Hall sensors harness end connector		KR1500 MX1.5mm ●		
Start/Stall current	A	16	Hall sensors harness		UL10368 26AWG 300V 105°C ●		
Max. efficiency	%	70	Housing material		SECD-0 1.4T		
Nominal power	W	26	Magnet material		Bonding NdFeB		
Terminal resistance	Ω	0.4	Rotor balancing grade		G6.3		
Terminal inductance	mH	0.2					
Torque constant	mNm/A	21					
Speed constant	rpm/V	500					
Speed/ torque gradient	rpm/mNm	86					
Rotor inertia	gcm <sup>2</sup>	130-148					



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

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