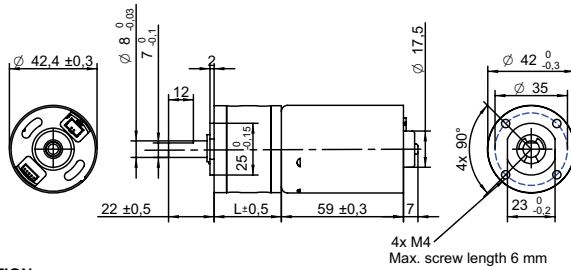


# PBT14259-24 | Ø 42 mm | BRUSHLESS DC PLANETARY GEAR MOTOR



## DRAWING (mm) INTERNAL DRIVER



## PHOTO

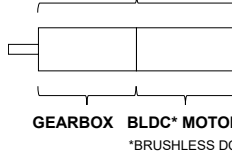


## MODEL NO. DESIGNATION

PBT14259 - VOLTAGE - GEAR RATIO

Example: PBT14259-24-4

## 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

		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	25	76	78 <sup>A</sup>	78 <sup>A</sup>	180 <sup>A</sup>	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	1300	380	310	220	110	87	63	51	37	25	18	11	8	7	6	5	4	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	34	30	30	30	26	26	26	26	26	21	21	21	21	21	21	17	17	17	17	17
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	480	540	540	540	580	580	580	580	580	630	630	630	630	630	630	670	670	670	670	670

## 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 BT4259-24-I		C	
Driver type	Internal		
Nominal voltage	V	24	
No load speed	rpm	6000	
No load current	mA	290	
Nominal speed	rpm	5300	●
Nominal torque	mNm	77	
Nominal current	A	2.5	
Start/Stall torque	mNm	580	
Start/Stall current	A	16	
Max. efficiency	%	75	
Nominal power	W	43	
Terminal resistance	Ω	0.9	
Terminal inductance	mH	0.6	
Torque constant	mNm/A	38	
Speed constant	rpm/V	250	
Speed/ torque gradient	rpm/mNm	69	
Rotor inertia	gcm <sup>2</sup>	130-148	

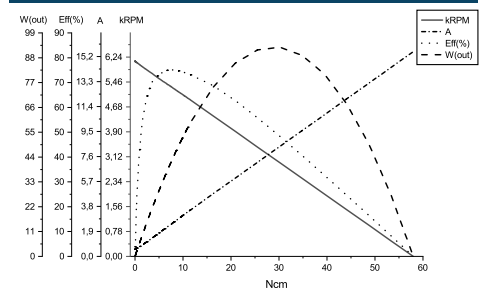
## BRUSHLESS DC MOTOR OTHER DATA

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	221 ± 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. FHI/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	