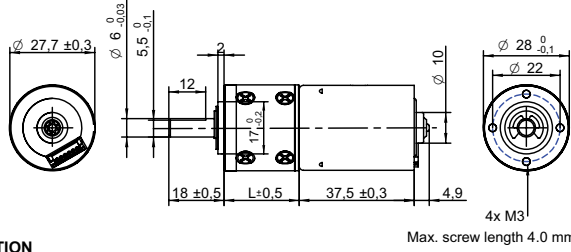


DRAWING (mm)
INTERNAL DRIVER



PHOTO

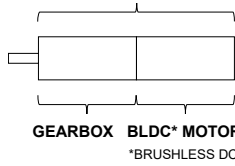


MODEL NO. DESIGNATION



Example: PBTI2838-24-4

GEAR MOTOR



OPTIONS POWER SUPPLIES

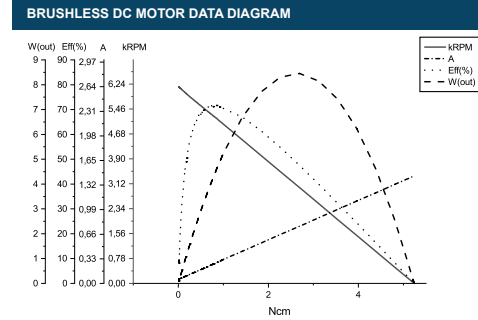


● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

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	3	3.8	9.2	13	18	23	29	40	56	78	89	98^	98^	98^	98^	
Nominal speed	rpm	1300	1000	360	270	190	150	100	72	51	37	27	19	10	7	5	
Peak torque	Ncm	59	59	88	88	120	120	180	180	240	240	290	290	290	290	290	
Nominal power	W	4.0	4.0	3.5	3.5	3.5	3.5	3.0	3.0	3.0	3.0	2.5	2.5	2.5	2.5	2.5	
Gearbox efficiency	%	80	80	70	70	70	70	60	60	60	60	50	50	50	50	50	
Gearbox length L	mm	24.5	24.5	30.9	30.9	30.9	30.9	37.3	37.3	37.3	37.3	43.7	43.7	43.7	43.7	43.7	
Weight	g	140	140	150	150	150	150	160	160	160	160	180	180	180	180	180	

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	25			Material > 5:1 ratio / stage	POM first + sintered steel		●	
Operating temperature	°C	-10 to 60	●		Radial load	N	34			Direction of rotation	CCW or CW by reversed DIR polarity			
IP rating		IP30			Press fit force max.	N	98			Assembly front bell	mm	Maximum screw depth 4.0		
Manufacturing standard		ISO9001 ISO 14001 IATF 16949			Backlash no load	°	≤ 2.5							
Compliance		RoHS and REACH			Bearing type shaft material		Ball bearing AISI 1144							
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 BT2838-24-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								
No load current	mA	73			Slot pole pairs				6S4P								
Nominal speed	rpm	5100	●		Rotor magnet				BNM-8								
Nominal torque	mNm	9.4			Control and power harness length				mm	205 ± 10							
Nominal current	A	0.3			Control and power harness end connector				A1501H00-6P								
Start/Stall torque	mNm	37			Control and power harness				UL1007 26AWG 300V 80°C								
Start/Stall current	A	1.6			Connector on motor body				JST:B6B-ZR								
Max. efficiency	%	65			Housing material				SECD-0.7T								
Nominal power	W	5			Magnet material				Bonding NdFeB								
Terminal resistance	Ω	13			Rotor balancing grade				G6.3								
Terminal inductance	mH	4.9															
Torque constant	mNm/A	25															
Speed constant	rpm/V	250															
Speed/ torque gradient	rpm/mNm	540															
Rotor inertia	gcm ²	48-54															



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

CABLE AND PIN CONFIGURATION INTERNAL DRIVER				C
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		