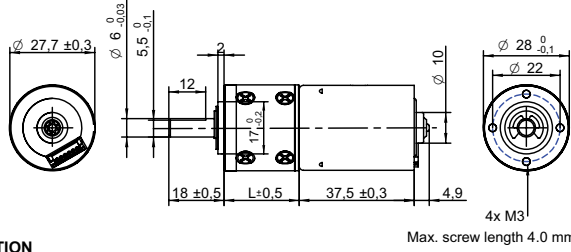


DRAWING (mm)
INTERNAL DRIVER



PHOTO

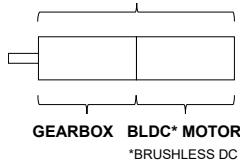


MODEL NO. DESIGNATION

PBT12838 - VOLTAGE - GEAR RATIO

Example: PBT12838-12-4

GEAR MOTOR



OPTIONS POWER SUPPLIES

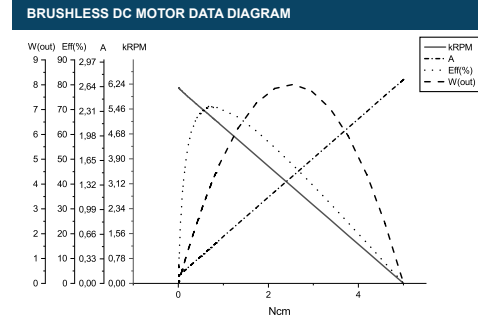


● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

GEAR MOTOR DATA																	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	2.7	3.3	8.2	11	16	20	26	36	50	70	79	98^	98^	98^	98^	
Nominal speed	rpm	1300	1000	380	280	200	150	100	74	53	38	28	20	10	7	6	
Peak torque	Ncm	59	59	88	88	120	120	180	180	240	240	290	290	290	290	290	
Nominal power	W	3.7	3.7	3.2	3.2	3.2	3.2	2.8	2.8	2.8	2.8	2.3	2.3	2.3	2.3	2.3	
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 BT2838-12-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	12			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	58			Slot pole pairs				6S4P									
Nominal speed	rpm	5300		●	Rotor magnet				BNM-8									
Nominal torque	mNm	8.3			Control and power harness length				mm	205 ± 10								
Nominal current	A	0.6			Control and power harness end connector				A1501H00-6P									
Start/Stall torque	mNm	52			Control and power harness				UL1007 26AWG 300V 80°C									
Start/Stall current	A	2.9			Connector on motor body				JST:B6B-ZR									
Max. efficiency	%	69			Housing material				SECD-0 0.7T									
Nominal power	W	4.6			Magnet material				Bonding NdFeB									
Terminal resistance	Ω	3.1			Rotor balancing grade				G6.3									
Terminal inductance	mH	1.2																
Torque constant	mNm/A	18																
Speed constant	rpm/V	500																
Speed/ torque gradient	rpm/mNm	630																
Rotor inertia	gcm ²	50-54																



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		

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