



BRUSHLESS DC PLANETARY GEAR MOTORS | Ø 28 - 42 mm 1.5 - 41 W

WITH INTERNAL DRIVER

We offer a broad range of high quality motors in standard and customized configurations. Our customer-centric approach makes us the ideal supplier for your project, especially to instrument and apparatus builders. In addition, we offer immediate delivery, thanks to always having a high number of motors in stock.

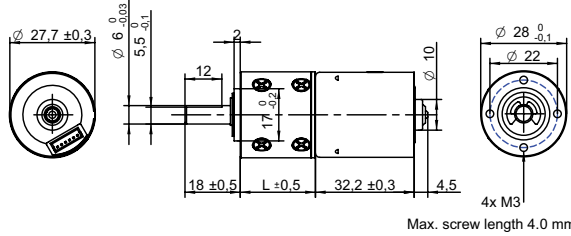
Customizations include:

- ✓ Customized harness
- ✓ Winding configuration
- ✓ Shaft configuration
- ✓ And more...

TABLE OF CONTENTS

MODEL	DIAMETER mm	LENGTH mm	VOLTAGE V	SPEED rpm	TORQUE Ncm	POWER W	PAGE
PBTI2832-12	28	24.5 - 43.7	12	1300 - 6	1.9 - 98	2.6 - 1.6	1
PBTI2832-24	28	24.5 - 43.7	24	1300 - 5	1.8 - 98	2.5 - 1.5	2
PBTI2838-12	28	24.5 - 43.7	12	1300 - 6	2.7 - 98	3.7 - 2.3	3
PBTI2838-24	28	24.5 - 43.7	24	1300 - 5	3 - 98	4.0 - 2.5	4
PBTI3229-12	32	20.6 - 39.8	12	1200 - 5	2.3 - 120	2.9 - 1.8	5
PBTI3229-24	32	20.6 - 39.8	24	1200 - 5	2.7 - 120	3.4 - 2.2	6
PBTI3640-12	32	20.6 - 39.8	12	1200 - 5	6.1 - 290	7.8 - 4.9	7
PBTI3640-24	32	20.6 - 39.8	24	1300 - 5	6.7 - 290	8.8 - 5.5	8
PBTI3649-12	32	20.6 - 39.8	12	1300 - 6	7.7 - 290	11 - 6.5	9
PBTI3649-24	32	20.6 - 39.8	24	1300 - 5	12 - 290	16 - 9.8	10
PBTI3657-12	32	20.6 - 39.8	12	1300 - 6	9.2 - 290	13 - 7.8	11
PBTI3657-24	32	20.6 - 39.8	24	1400 - 6	10 - 290	15 - 9	12
PBTI4259-12	42	32.5 - 59.6	12	1200 - 1	17 - 290	21 - 11	13
PBTI4259-24	42	32.5 - 59.6	24	1300 - 1	25 - 290	34 - 17	14
PBTI4266-12	42	32.5 - 59.6	12	1300 - 1	22 - 290	28 - 14	15
PBTI4266-24	42	32.5 - 59.6	24	1300 - 1	30 - 290	41 - 20	16

DRAWING (mm)
INTERNAL DRIVER



PHOTO

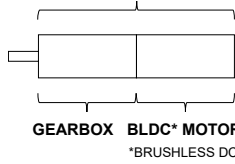


MODEL NO. DESIGNATION



Example: PBTI2832-12-4

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	1.9	2.4	5.8	7.8	11	14	18	25	35	49	56	78	98 ^A	98 ^A	98 ^A
Nominal speed	rpm	1300	1000	370	270	190	150	100	73	52	37	27	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	2.6	2.6	2.2	2.2	2.2	2.2	1.9	1.9	1.9	1.9	1.6	1.6	1.6	1.6	1.6
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

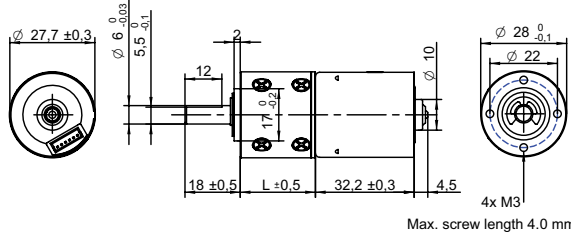
GEAR MOTOR COMBINED DATA			C	GEARBOX SHAFT DATA			C	GEARBOX-SPECIFIC DATA			C
Service life	hrs	5000		Radial play thrust play	mm	≤ 0.05 ≤ 0.3		Material gear stage	Ratio 5:1 sintered steel		●
Performance tolerances	%	± 15		Shaft axial load	N	25		Material > 5:1 ratio / stage	POM first + sintered steel		●
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 BT2832-12-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		BRUSHLESS DC MOTOR DATA DIAGRAM			
No load current	mA	90		Slot pole pairs		6S4P					
Nominal speed	rpm	5200	●	Rotor magnet		BNM-8					
Nominal torque	mNm	5.9		Control and power harness length	mm	205 ± 10	●				
Nominal current	A	0.4		Control and power harness end connector		A1501H00-6P	●				
Start/Stall torque	mNm	39		Control and power harness		UL1007 26AWG 300V 80°C	●				
Start/Stall current	A	2.5		Connector on motor body		JST:B6B-ZR					
Max. efficiency	%	74		Housing material		SECD-0 0.7T					
Nominal power	W	3.2		Magnet material		Bonding NdFeB					
Terminal resistance	Ω	4.1		Rotor balancing grade		G6.3					
Terminal inductance	mH	1.7									
Torque constant	mNm/A	19									
Speed constant	rpm/V	500									
Speed/ torque gradient	rpm/mNm	880									
Rotor inertia	gcm ²	14~17									

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	

DRAWING (mm)
INTERNAL DRIVER



PHOTO

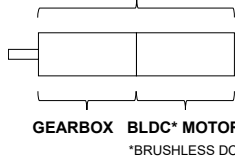


MODEL NO. DESIGNATION



Example: PBTI2832-24-4

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	1.8	2.3	5.7	7.7	11	14	18	25	35	48	55	76	98 ^A	98 ^A	98 ^A
Nominal speed	rpm	1300	1000	360	270	190	150	100	71	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	2.5	2.5	2.1	2.1	2.1	2.1	1.8	1.8	1.8	1.8	1.5	1.5	1.5	1.5	1.5
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

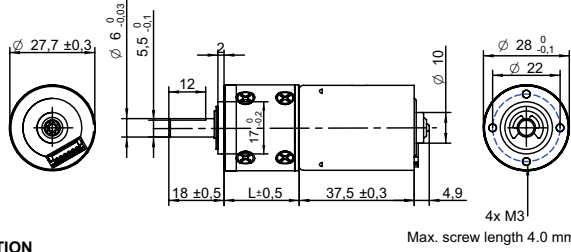
GEAR MOTOR COMBINED DATA			C	GEARBOX SHAFT DATA			C	GEARBOX-SPECIFIC DATA			C
Service life	hrs	5000		Radial play thrust play	mm	≤ 0.05 ≤ 0.3		Material gear stage	Ratio 5:1 sintered steel		●
Performance tolerances	%	± 15		Shaft axial load	N	25		Material > 5:1 ratio / stage	POM first + sintered steel		●
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 BT2832-24-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		BRUSHLESS DC MOTOR DATA DIAGRAM			
No load current	mA	34		Slot pole pairs		6S4P					
Nominal speed	rpm	5100	●	Rotor magnet		BNM-8					
Nominal torque	mNm	5.8		Control and power harness length	mm	205 ± 10	●				
Nominal current	A	0.2		Control and power harness end connector		A1501H00-6P	●				
Start/Stall torque	mNm	38		Control and power harness		UL1007 26AWG 300V 80°C	●				
Start/Stall current	A	1.0		Connector on motor body		JST:B6B-ZR	●				
Max. efficiency	%	70		Housing material		SECD-0 0.7T					
Nominal power	W	3.1		Magnet material		Bonding NdFeB					
Terminal resistance	Ω	19		Rotor balancing grade		G6.3					
Terminal inductance	mH	7									

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

DRAWING (mm)
INTERNAL DRIVER



PHOTO

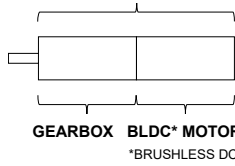


MODEL NO. DESIGNATION

PBTI2838 - VOLTAGE - GEAR RATIO

Example: PBTI2838-12-4

GEAR MOTOR



OPTIONS POWER SUPPLIES

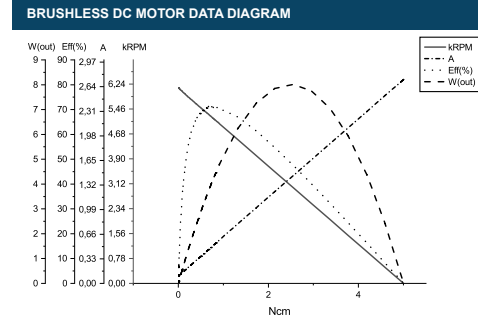


● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

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	●						

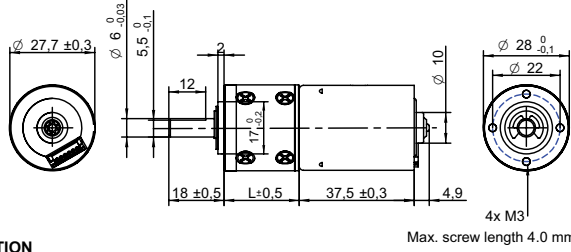
BRUSHLESS DC MOTOR DATA				C	BRUSHLESS DC MOTOR OTHER DATA				C	GEAR MOTOR RANGE STANDARD AVAILABILITY							
Brushless DC motor model: Transmotec BT2838-12-I					Number of pole pairs				2	Nominal voltage				V	12 24	See separate data sheet	
Driver type		Internal			Number of phases				3	Nominal power				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															



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		

DRAWING (mm)
INTERNAL DRIVER



PHOTO



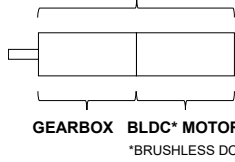
MODEL NO. DESIGNATION

PBTI2838 - VOLTAGE - GEAR RATIO

Example: PBTI2838-24-4

Max. screw length 4.0 mm

GEAR MOTOR



OPTIONS POWER SUPPLIES

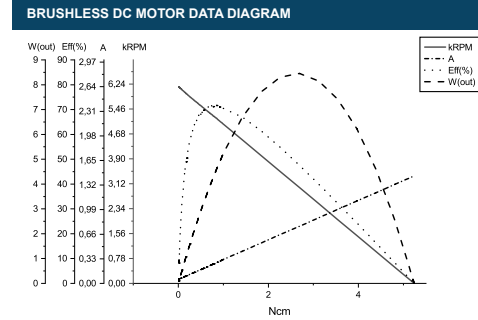


● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

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															



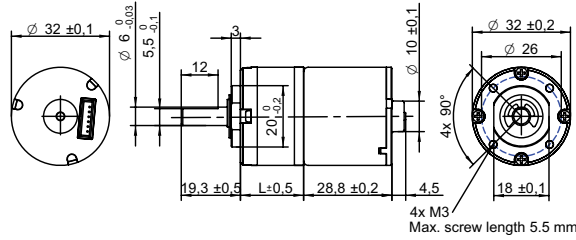
ACCESSORIES			
Power supplies LRS	V	3.3 - 48	See separate data sheet

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		

PBT13229-12 | Ø 32 mm | BRUSHLESS DC PLANETARY GEAR MOTOR



DRAWING (mm) INTERNAL DRIVER



PHOTO

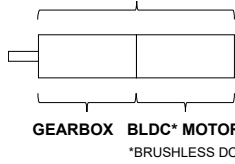


MODEL NO. DESIGNATION

PBT13229 - VOLTAGE - GEAR RATIO

Example: PBT13229-12-4

GEAR MOTOR



OPTIONS POWER SUPPLIES

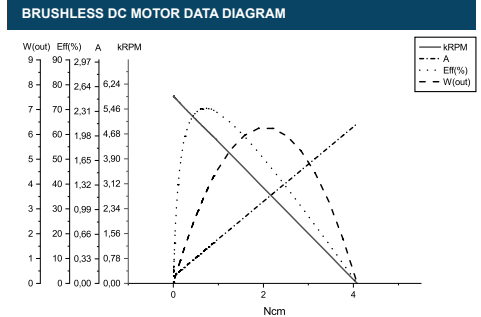


● C = customizations are offered on demand even for smaller quantities. Typical customizations are indicated with a green dot at column end. Please contact us for any customization request.

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	2.3	2.8	6.9	9.4	13	17	22	30	42	59	67	93	120^	120^	120^
Nominal speed	rpm	1200	970	350	260	180	140	95	68	49	35	26	18	9	7	5
Peak torque	Ncm	59	59	120	120	180	180	240	240	290	290	350	350	350	350	350
Nominal power	W	2.9	2.9	2.5	2.5	2.5	2.5	2.2	2.2	2.2	2.2	1.8	1.8	1.8	1.8	1.8
Gearbox efficiency	%	80	80	70	70	70	70	60	60	60	60	50	50	50	50	50
Gearbox length L	mm	20.6	20.6	27	27	27	27	33.4	33.4	33.4	33.4	39.8	39.8	39.8	39.8	39.8
Weight	g	180	180	200	200	200	200	220	220	220	220	250	250	250	250	250

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 5.5	
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	●				

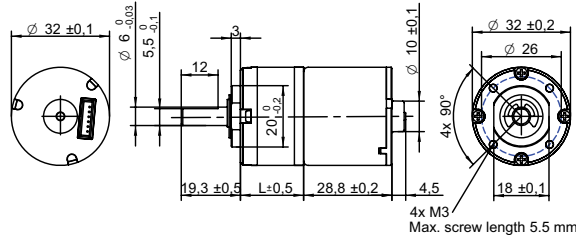
BRUSHLESS DC MOTOR DATA			C	BRUSHLESS DC MOTOR OTHER DATA			C	GEAR MOTOR RANGE STANDARD AVAILABILITY			
Brushless DC motor model: Transmotec BT3229-12-I				Number of pole pairs		3		Nominal voltage	V	12 24	See separate data sheet
Driver type		Internal		Number of phases		3		Nominal power	W	1.5 - 41	See 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	72		Slot pole pairs		9S6P					
Nominal speed	rpm	4900	●	Rotor magnet		BNM-6					
Nominal torque	mNm	7.1		Control and power harness length	mm	120 ± 10	●				
Nominal current	A	0.4		Control and power harness end connector		A1501H00-6P	●				
Start/Stall torque	mNm	43		Control and power harness		UL1007 26AWG 300V 80°C	●				
Start/Stall current	A	2.2		Connector on motor body		JST:B6B-ZR					
Max. efficiency	%	71		Housing material		SECD-0 1.0T					
Nominal power	W	3.6		Magnet material		Bonding NdFeB					
Terminal resistance	Ω	4.2		Rotor balancing grade		G6.3					
Terminal inductance	mH	1.2									
Torque constant	mNm/A	20									
Speed constant	rpm/V	500									
Speed/ torque gradient	rpm/mNm	690									
Rotor inertia	gcm ²	19-24									



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:CCW DIR connect to GND: CW	
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	

DRAWING (mm)
INTERNAL DRIVER



PHOTO

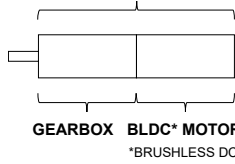


MODEL NO. DESIGNATION



Example: PBT13229-24-4

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	2.7	3.4	8.4	11	16	21	26	36	51	71	81	110	120^	120^	120^
Nominal speed	rpm	1200	960	340	250	180	140	94	68	48	35	25	18	9	7	5
Peak torque	Ncm	59	59	120	120	180	180	240	240	290	290	350	350	350	350	350
Nominal power	W	3.4	3.4	3.0	3.0	3.0	3.0	2.6	2.6	2.6	2.6	2.2	2.2	2.2	2.2	2.2
Gearbox efficiency	%	80	80	70	70	70	70	60	60	60	60	50	50	50	50	50
Gearbox length L	mm	20.6	20.6	27	27	27	27	33.4	33.4	33.4	33.4	39.8	39.8	39.8	39.8	39.8
Weight	g	180	180	200	200	200	200	220	220	220	220	250	250	250	250	250

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 5.5	
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 BT3229-24-I				Number of pole pairs		3		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		BRUSHLESS DC MOTOR DATA DIAGRAM			
No load current	mA	40		Slot pole pairs		9S6P					
Nominal speed	rpm	4800	●	Rotor magnet		BNM-8					
Nominal torque	mNm	8.5		Control and power harness length	mm	120 ± 10	●				
Nominal current	A	0.3		Control and power harness end connector		A1501H00-6P	●				
Start/Stall torque	mNm	46		Control and power harness		UL1007 26AWG 300V 80°C	●				
Start/Stall current	A	1.2		Connector on motor body		JST:B6B-ZR					
Max. efficiency	%	70		Housing material		SECD-0 1.0T					
Nominal power	W	4.3		Magnet material		Bonding NdFeB					
Terminal resistance	Ω	17		Rotor balancing grade		G6.3					
Terminal inductance	mH	3.7									
Torque constant	mNm/A	40									
Speed constant	rpm/V	250									
Speed/ torque gradient	rpm/mNm	560									
Rotor inertia	gcm ²	20-23									

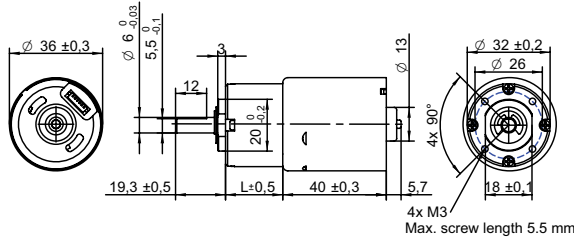
ACCESSORIES		
Power supplies LRS	V	3.3 - 48 See separate data sheet

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:CCW DIR connect to GND: CW	
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	

PBTI3640-12 | Ø 36 mm | BRUSHLESS DC PLANETARY GEAR MOTOR



DRAWING (mm) INTERNAL DRIVER



PHOTO

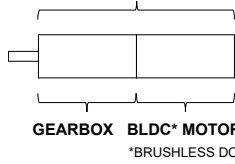


MODEL NO. DESIGNATION

PBTI3640 - VOLTAGE - GEAR RATIO

Example: PBTI3640-12-4

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	6.1	7.6	19	25	36	46	58	78^	98^	98^	120^	120^	120^	120^	120^
Nominal speed	rpm	1200	980	350	260	180	140	96	69	49	35	26	19	10	7	5
Peak torque	Ncm	59	59	120	120	180	180	240	240	290	290	350	350	350	350	350
Nominal power	W	7.8	7.8	6.8	6.8	6.8	6.8	5.9	5.9	5.9	5.9	4.9	4.9	4.9	4.9	4.9
Gearbox efficiency	%	80	80	70	70	70	70	60	60	60	60	50	50	50	50	50
Gearbox length L	mm	20.6	20.6	27	27	27	27	33.4	33.4	33.4	33.4	39.8	39.8	39.8	39.8	39.8
Weight	g	250	250	270	270	270	270	290	290	290	290	320	320	320	320	320

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	29		Material > 5:1 ratio / stage	POM first + sintered steel	●	
Operating temperature	°C	-10 to 60	●	Radial load	N	79		Direction of rotation	CCW or CW by reversed DIR polarity		
IP rating		IP30		Press fit force max.	N	150		Assembly front bell	mm	Maximum screw depth 5.5	
Manufacturing standard		ISO9001 ISO 14001 IATF 16949		Backlash no load	°	≤ 3.0					
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			
Brushless DC motor model: Transmotec BT3640-12-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		BRUSHLESS DC MOTOR DATA DIAGRAM			
No load current	mA	200		Slot pole pairs		6S4P					
Nominal speed	rpm	4900	●	Rotor magnet		BNM-8					
Nominal torque	mNm	19		Control and power harness length	mm	205 ± 10	●				
Nominal current	A	1.1		Control and power harness end connector		A1501H00-6P	●				
Start/Stall torque	mNm	130		Control and power harness		UL1007 26AWG 300V 80°C	●				
Start/Stall current	A	6.6		Housing material		SECD-0 1.0T					
Max. efficiency	%	77		Magnet material		Bonding NdFeB					
Nominal power	W	10		Rotor balancing grade		G6.3					
Terminal resistance	Ω	1.1									
Terminal inductance	mH	0.7									
Torque constant	mNm/A	20									
Speed constant	rpm/V	500									
Speed/ torque gradient	rpm/mNm	260									
Rotor inertia	gcm ²	30-33									

ACCESSORIES

Power supplies LRS V 3.3 - 48 See separate data sheet

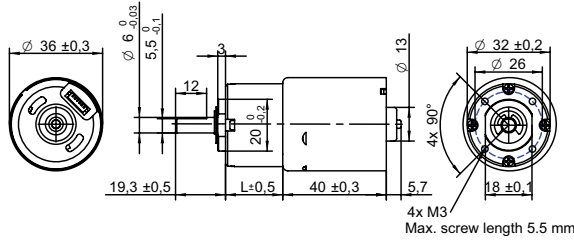
CABLE AND PIN CONFIGURATION INTERNAL DRIVER

Color	Signal	Description
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

PBT13640-24 | Ø 36 mm | BRUSHLESS DC PLANETARY GEAR MOTOR



DRAWING (mm) INTERNAL DRIVER



PHOTO

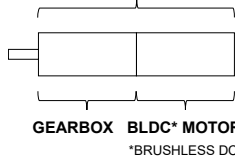


MODEL NO. DESIGNATION

PBT13640 - VOLTAGE - GEAR RATIO

Example: PBT13640-24-4

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	6.7	8.4	20	28	39	51	64	78^	98^	98^	120^	120^	120^	120^	120^
Nominal speed	rpm	1300	1000	360	260	190	140	99	71	50	36	27	19	10	7	5
Peak torque	Ncm	59	59	120	120	180	180	240	240	290	290	350	350	350	350	350
Nominal power	W	8.8	8.8	7.7	7.7	7.7	7.7	6.6	6.6	6.6	6.6	5.5	5.5	5.5	5.5	5.5
Gearbox efficiency	%	80	80	70	70	70	70	60	60	60	60	50	50	50	50	50
Gearbox length L	mm	20.6	20.6	27	27	27	27	33.4	33.4	33.4	33.4	39.8	39.8	39.8	39.8	39.8
Weight	g	250	250	270	270	270	270	290	290	290	290	320	320	320	320	320

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	29				Material > 5:1 ratio / stage	POM first + sintered steel				
Operating temperature	°C	-10 to 60			●	Radial load	N	79				Direction of rotation	CCW or CW by reversed DIR polarity				
IP rating		IP30				Press fit force max.	N	150				Assembly front bell	mm	Maximum screw depth 5.5			
Manufacturing standard		ISO9001 ISO 14001 IATF 16949				Backlash no load	°	≤ 3.0									
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		
Brushless DC motor model: Transmotec BT3640-24-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	120				Slot pole pairs		6S4P						
Nominal speed	rpm	5000			●	Rotor magnet		BNM-8						
Nominal torque	mNm	21				Control and power harness length	mm	205 ± 10						
Nominal current	A	0.7				Control and power harness end connector		A1501H00-6P						
Start/Stall torque	mNm	150				Control and power harness		UL1007 26AWG 300V 80°C						
Start/Stall current	A	3.8				Housing material		SECD-0 1.0T						
Max. efficiency	%	72				Magnet material		Bonding NdFeB						
Nominal power	W	11				Rotor balancing grade		G6.3						
Terminal resistance	Ω	4.2										BRUSHLESS DC MOTOR DATA DIAGRAM		
Terminal inductance	mH	2.7												
Torque constant	mNm/A	40												
Speed constant	rpm/V	250												
Speed/ torque gradient	rpm/mNm	240												
Rotor inertia	gcm ²	36-39												

ACCESSORIES

Power supplies LRS V 3.3 - 48 See separate data sheet

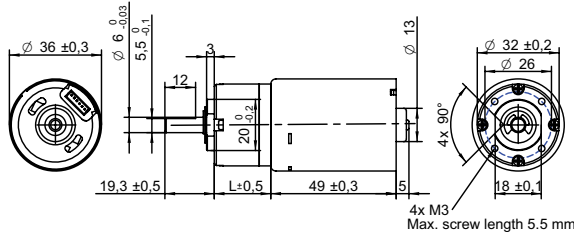
CABLE AND PIN CONFIGURATION INTERNAL DRIVER

Color	Signal	Description
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

PBT13649-12 | Ø 36 mm | BRUSHLESS DC PLANETARY GEAR MOTOR



DRAWING (mm) INTERNAL DRIVER



PHOTO

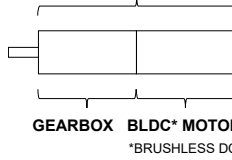


MODEL NO. DESIGNATION

PBT13649 - VOLTAGE - GEAR RATIO

Example: PBT13649-12-4

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	7.7	9.7	24	32	46	59 ^A	74	78 ^A	98 ^A	98 ^A	120 ^A	120 ^A	120 ^A	120 ^A	120 ^A
Nominal speed	rpm	1300	1000	370	270	190	150	100	73	52	37	27	20	10	7	6
Peak torque	Ncm	59	59	120	120	180	180	240	240	290	290	350	350	350	350	350
Nominal power	W	10	10	9.2	9.2	9.2	9.2	7.8	7.8	7.8	7.8	6.5	6.5	6.5	6.5	6.5
Gearbox efficiency	%	80	80	70	70	70	70	60	60	60	60	50	50	50	50	50
Gearbox length L	mm	20.6	20.6	27	27	27	27	33.4	33.4	33.4	33.4	39.8	39.8	39.8	39.8	39.8
Weight	g	300	300	320	320	320	320	340	340	340	340	370	370	370	370	370

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	29			Material > 5:1 ratio / stage	POM first + sintered steel			●
Operating temperature	°C	-10 to 60		●	Radial load	N	79			Direction of rotation	CCW or CW by reversed DIR polarity			
IP rating		IP30			Press fit force max.	N	150			Assembly front bell	mm	Maximum screw depth 5.5		
Manufacturing standard		ISO9001 ISO 14001 IATF 16949			Backlash no load	°	≤ 3.0							
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			
Brushless DC motor model: Transmotec BT3649-12-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			BRUSHLESS DC MOTOR DATA DIAGRAM			
No load current	mA	260			Slot pole pairs		6S4P						
Nominal speed	rpm	5200		●	Rotor magnet		BNM-8						
Nominal torque	mNm	24			Control and power harness length	mm	205 ± 10		●				
Nominal current	A	1.5			Control and power harness end connector		A1501H00-6P		●				
Start/Stall torque	mNm	190			Control and power harness		UL1007 26AWG 300V 80°C		●				
Start/Stall current	A	10			Housing material		SECD-0 1.0T		●				
Max. efficiency	%	74			Magnet material		Bonding NdFeB						
Nominal power	W	13			Rotor balancing grade		G6.3						
Terminal resistance	Ω	0.6											
Terminal inductance	mH	0.4											
Torque constant	mNm/A	20											
Speed constant	rpm/V	500											
Speed/ torque gradient	rpm/mNm	220											
Rotor inertia	gcm ²	45-48											

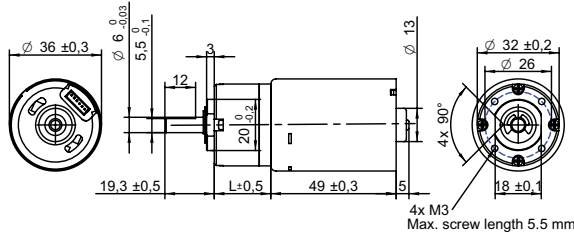
ACCESSORIES

Power supplies LRS V 3.3 - 48 See separate data sheet

CABLE AND PIN CONFIGURATION INTERNAL DRIVER

Color	Signal	Description
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

DRAWING (mm)
INTERNAL DRIVER



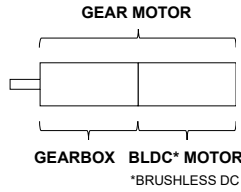
PHOTO



MODEL NO. DESIGNATION

PBT13649 - VOLTAGE - GEAR RATIO

Example: PBT13649-24-4



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	12	15	36	39 ^A	59 ^A	59 ^A	78 ^A	78 ^A	98 ^A	98 ^A	120 ^A	120 ^A	120 ^A	120 ^A	120 ^A
Nominal speed	rpm	1300	1000	370	270	190	150	100	72	51	37	27	19	10	7	5
Peak torque	Ncm	59	59	120	120	180	180	240	240	290	290	350	350	350	350	350
Nominal power	W	16	16	14	14	14	14	12	12	12	12	9.8	9.8	9.8	9.8	9.8
Gearbox efficiency	%	80	80	70	70	70	70	60	60	60	60	50	50	50	50	50
Gearbox length L	mm	20.6	20.6	27	27	27	27	33.4	33.4	33.4	33.4	39.8	39.8	39.8	39.8	39.8
Weight	g	300	300	320	320	320	320	340	340	340	340	370	370	370	370	370

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	29		Material > 5:1 ratio / stage	POM first + sintered steel	●	
Operating temperature	°C	-10 to 60	●	Radial load	N	79		Direction of rotation	CCW or CW by reversed DIR polarity		
IP rating		IP30		Press fit force max.	N	150		Assembly front bell	mm	Maximum screw depth 5.5	
Manufacturing standard		ISO9001 ISO 14001 IATF 16949		Backlash no load	°	≤ 3.0					
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			
Brushless DC motor model: Transmotec BT3649-24-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		BRUSHLESS DC MOTOR DATA DIAGRAM			
No load current	mA	140		Slot pole pairs		6S4P					
Nominal speed	rpm	5100	●	Rotor magnet		BNM-8					
Nominal torque	mNm	37		Control and power harness length	mm	205 ± 10	●				
Nominal current	A	1.1		Control and power harness end connector		A1501H00-6P	●				
Start/Stall torque	mNm	260		Control and power harness		UL1007 26AWG 300V 80°C	●				
Start/Stall current	A	6.8		Housing material		SECD-0 1.0T	●				
Max. efficiency	%	77		Magnet material		Bonding NdFeB					
Nominal power	W	20		Rotor balancing grade		G6.3					
Terminal resistance	Ω	2.0									
Terminal inductance	mH	1.8									
Torque constant	mNm/A	39									
Speed constant	rpm/V	250									
Speed/ torque gradient	rpm/mNm	140									
Rotor inertia	gcm ²	45-49									

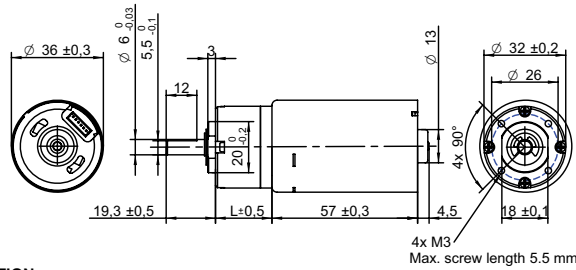
ACCESSORIES		
Power supplies LRS	V	3.3 - 48 See separate data sheet

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	

PBT13657-12 | Ø 36 mm | BRUSHLESS DC PLANETARY GEAR MOTOR



DRAWING (mm) INTERNAL DRIVER



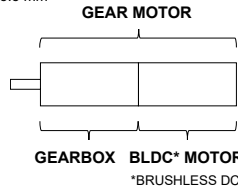
PHOTO



MODEL NO. DESIGNATION

PBT13657 - VOLTAGE - GEAR RATIO

Example: PBT13657-12-4



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	9.2	11	28	38	54	59^	78^	78^	98^	98^	120^	120^	120^	120^	120^
Nominal speed	rpm	1300	1000	370	270	190	150	100	73	52	37	27	20	10	7	6
Peak torque	Ncm	59	59	120	120	180	180	240	240	290	290	350	350	350	350	350
Nominal power	W	12	12	11	11	11	11	9.4	9.4	9.4	9.4	7.8	7.8	7.8	7.8	7.8
Gearbox efficiency	%	80	80	70	70	70	70	60	60	60	60	50	50	50	50	50
Gearbox length L	mm	20.6	20.6	27	27	27	27	33.4	33.4	33.4	33.4	39.8	39.8	39.8	39.8	39.8
Weight	g	330	330	350	350	350	350	380	380	380	380	400	400	400	400	400

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	29		Material > 5:1 ratio / stage	POM first + sintered steel	●	
Operating temperature	°C	-10 to 60	●	Radial load	N	79		Direction of rotation	CCW or CW by reversed DIR polarity		
IP rating		IP30		Press fit force max.	N	150		Assembly front bell	mm	Maximum screw depth 5.5	
Manufacturing standard		ISO9001 ISO 14001 IATF 16949		Backlash no load	°	≤ 3.0					
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			
Brushless DC motor model: Transmotec BT3657-12-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		BRUSHLESS DC MOTOR DATA DIAGRAM			
No load current	mA	270		Slot pole pairs		6S4P					
Nominal speed	rpm	5200	●	Rotor magnet		BNM-8					
Nominal torque	mNm	29		Control and power harness length	mm	205 ± 10	●				
Nominal current	A	1.8		Control and power harness end connector		A1501H00-6P	●				
Start/Stall torque	mNm	190		Control and power harness		UL1007 26AWG 300V 80°C	●				
Start/Stall current	A	10		Housing material		SECD-0 1.0T	●				
Max. efficiency	%	74		Magnet material		Bonding NdFeB					
Nominal power	W	16		Rotor balancing grade		G6.3					
Terminal resistance	Ω	0.6									
Terminal inductance	mH	0.4									
Torque constant	mNm/A	19									
Speed constant	rpm/V	500									
Speed/ torque gradient	rpm/mNm	180									
Rotor inertia	gcm ²	52-61									

ACCESSORIES

Power supplies LRS V 3.3 - 48 See separate data sheet

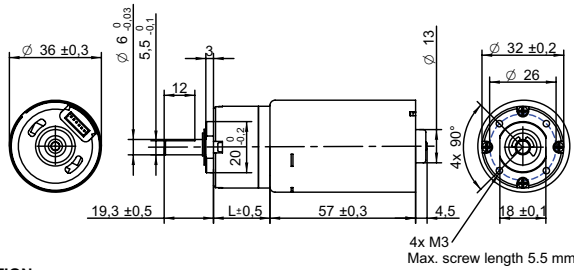
CABLE AND PIN CONFIGURATION INTERNAL DRIVER

Color	Signal	Description
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

PBT13657-24 | Ø 36 mm | BRUSHLESS DC PLANETARY GEAR MOTOR



DRAWING (mm) INTERNAL DRIVER



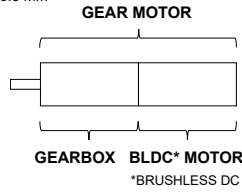
PHOTO



MODEL NO. DESIGNATION

PBT13657 - VOLTAGE - GEAR RATIO

Example: PBT13657-24-4



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	10	13	31	39 ^A	59 ^A	59 ^A	78 ^A	78 ^A	98 ^A	98 ^A	120 ^A	120 ^A	120 ^A	120 ^A	120 ^A
Nominal speed	rpm	1400	1100	390	280	200	150	110	76	54	39	29	20	10	7	6
Peak torque	Ncm	59	59	120	120	180	180	240	240	290	290	350	350	350	350	350
Nominal power	W	14	14	13	13	13	13	11	11	11	11	9	9	9	9	9
Gearbox efficiency	%	80	80	70	70	70	70	60	60	60	60	50	50	50	50	50
Gearbox length L	mm	20.6	20.6	27	27	27	27	33.4	33.4	33.4	33.4	39.8	39.8	39.8	39.8	39.8
Weight	g	340	340	360	360	360	360	380	380	380	380	410	410	410	410	410

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	29		Material > 5:1 ratio / stage	POM first + sintered steel	●	
Operating temperature	°C	-10 to 60	●	Radial load	N	79		Direction of rotation	CCW or CW by reversed DIR polarity		
IP rating		IP30		Press fit force max.	N	150		Assembly front bell	mm	Maximum screw depth 5.5	
Manufacturing standard		ISO9001 ISO 14001 IATF 16949		Backlash no load	°	≤ 3.0					
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			
Brushless DC motor model: Transmotec BT3657-12-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	24		Max. winding temperature	°C	150		Diameter	mm	28 - 42	See separate data sheet
No load speed	rpm	6000		Motor insulation class		A		BRUSHLESS DC MOTOR DATA DIAGRAM			
No load current	mA	140		Slot pole pairs		6S4P					
Nominal speed	rpm	5400	●	Rotor magnet		BNM-8					
Nominal torque	mNm	32		Control and power harness length	mm	205 ± 10	●				
Nominal current	A	1.0		Control and power harness end connector		A1501H00-6P	●				
Start/Stall torque	mNm	280		Control and power harness		UL1007 26AWG 300V 80°C	●				
Start/Stall current	A	7.4		Housing material		SECD-0 1.0T	●				
Max. efficiency	%	79		Magnet material		Bonding NdFeB					
Nominal power	W	18		Rotor balancing grade		G6.3					
Terminal resistance	Ω	1.8									
Terminal inductance	mH	1.4									
Torque constant	mNm/A	38									
Speed constant	rpm/V	250									
Speed/ torque gradient	rpm/mNm	170									
Rotor inertia	gcm ²	50-52									

ACCESSORIES

Power supplies LRS V 3.3 - 48 See separate data sheet

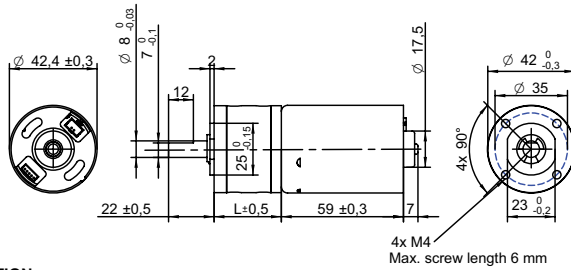
CABLE AND PIN CONFIGURATION INTERNAL DRIVER

Color	Signal	Description
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

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



DRAWING (mm) INTERNAL DRIVER



PHOTO

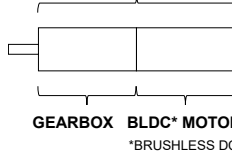


MODEL NO. DESIGNATION

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	

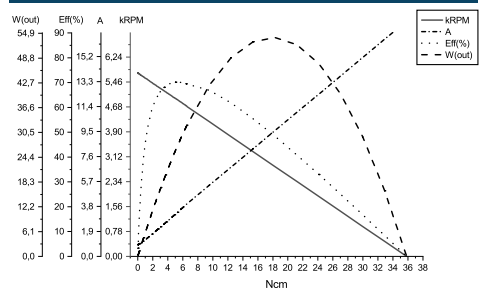
BRUSHLESS DC MOTOR OTHER DATA

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

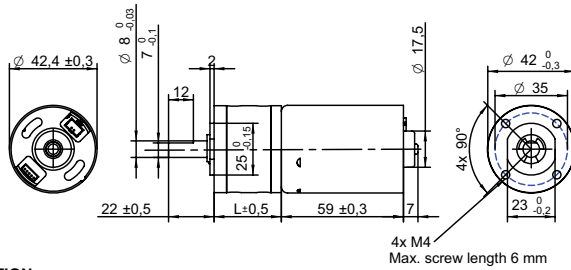
CABLE AND PIN CONFIGURATION INTERNAL DRIVER

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	

PBTI4259-24 | Ø 42 mm | BRUSHLESS DC PLANETARY GEAR MOTOR



DRAWING (mm) INTERNAL DRIVER



PHOTO

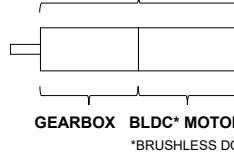


MODEL NO. DESIGNATION

PBTI4259 - VOLTAGE - GEAR RATIO

Example: PBTI4259-24-4

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 ^A	78 ^A	180 ^A	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	1300	380	310	220	110	87	63	51	37	25	18	11	8	7	6	5	4	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	34	30	30	30	26	26	26	26	26	21	21	21	21	21	21	17	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	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	540	540	540	580	580	580	580	580	630	630	630	630	630	630	670	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 ²	130-148	

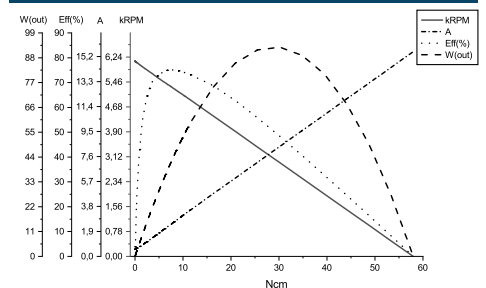
BRUSHLESS DC MOTOR OTHER DATA

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



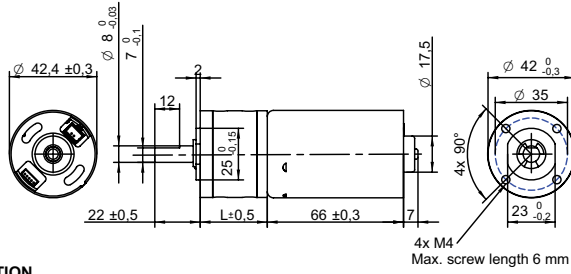
ACCESSORIES

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
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

DRAWING (mm)
INTERNAL DRIVER



PHOTO

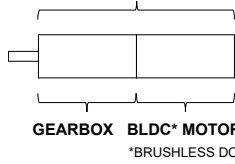


MODEL NO. DESIGNATION



Example: PBTI4266-12-4

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	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	22	66	78 ^A	78 ^A	180 ^A	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				
Nominal speed	rpm	1300	360	300	210	100	82	60	48	35	24	17	10	8	7	6	5	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	28	25	25	25	21	21	21	21	21	18	18	18	18	18	18	14	14	14	14	14				
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	520	580	580	580	620	620	620	620	620	670	670	670	670	670	670	710	710	710	710	710				

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	147				Direction of rotation	CCW or CW by reversed DIR polarity				
Manufacturing standard		ISO9001 ISO 14001 IATF 16949				Backlash no load	°	≤ 3.0				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		
Brushless DC motor model: Transmotec BT4266-12-I						Number of pole pairs		3			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			BRUSHLESS DC MOTOR DATA DIAGRAM			
No load current	mA	640				Slot pole pairs		9S6P						
Nominal speed	rpm	5000			●	Rotor magnet		BNM-8						
Nominal torque	mNm	67				Control and power harness length	mm	220 ± 10						
Nominal current	A	4.5				Control harness end connector		A1501H00-6P						
Start/Stall torque	mNm	410				Control harness		UL10368 26AWG 300V 105°C						
Start/Stall current	A	22				Power harness		UL3266 20AWG						
Max. efficiency	%	68				Power harness end connector		XH-2P						
Nominal power	W	35				Housing material		SECD-0 1.4T						
Terminal resistance	Ω	0.32				Magnet material		Bonding NdFeB						
Terminal inductance	mH	0.12				Rotor balancing grade		G6.3						

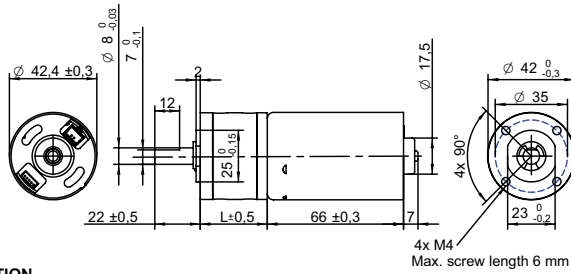
ACCESSORIES		
Power supplies LRS	V	3.3 - 48 See separate data sheet

CABLE AND PIN CONFIGURATION INTERNAL DRIVER			C		
Yellow	DIR	Motor direction. Open DIR: CCW DIR connect to GND: CW			
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			

PBTI4266-24 | Ø 42 mm | BRUSHLESS DC PLANETARY GEAR MOTOR



DRAWING (mm) INTERNAL DRIVER



PHOTO

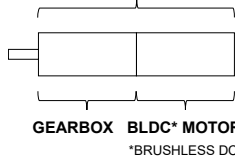


MODEL NO. DESIGNATION

PBTI4266 - VOLTAGE - GEAR RATIO

Example: PBTI4266-24-4

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	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	29^	78^	78^	78^	180^	180^	180^	200^	200^	250^	250^	290^	290^	290^	290^	290^	290^	290^	290^	290^	290^
Nominal speed	rpm	1300	370	310	220	110	85	62	50	36	25	18	10	8	7	6	5	4	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	41	36	36	36	31	31	31	31	31	26	26	26	26	26	26	20	20	20	20	20	20
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	530	590	590	590	630	630	630	630	630	680	680	680	680	680	680	720	720	720	720	720	720

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	147		Direction of rotation	CCW or CW by reversed DIR polarity		
Manufacturing standard		ISO9001 ISO 14001 IATF 16949		Backlash no load	°	≤ 3.0		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			
Brushless DC motor model: Transmotec BT4266-24-I				Number of pole pairs		3		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		BRUSHLESS DC MOTOR DATA DIAGRAM			
No load current	mA	330		Slot pole pairs		9S6P					
Nominal speed	rpm	5200	●	Rotor magnet		BNM-8					
Nominal torque	mNm	94		Control and power harness length	mm	220 ± 10	●				
Nominal current	A	3.0		Control harness end connector		A1501H00-6P					
Start/Stall torque	mNm	710		Control harness		UL10368 26AWG 300V 105°C					
Start/Stall current	A	19		Power harness		UL3266 20AWG					
Max. efficiency	%	76		Power harness end connector		XH-2P	●				
Nominal power	W	51		Housing material		SECD-0 1.4T					
Terminal resistance	Ω	0.74		Magnet material		Bonding NdFeB					
Terminal inductance	mH	0.48		Rotor balancing grade		G6.3					

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

CABLE AND PIN CONFIGURATION INTERNAL DRIVER			C
Yellow	DIR	Motor direction. Open DIR: CCW DIR connect to GND: CW	
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	