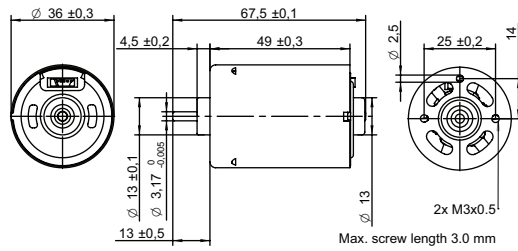


DRAWING (mm)



PHOTO



MODEL NAME DESIGNATION

BT3649 - VOLTAGE - INTEGRATED DRIVER

Example: BT3649-12-I

OPTIONS POWER SUPPLIES



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

MOTOR TYPE

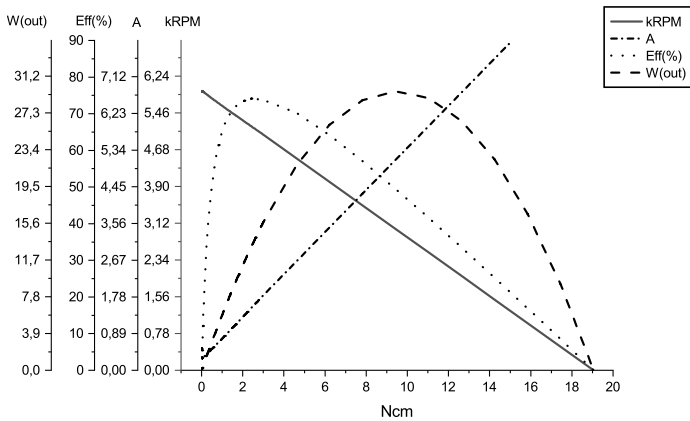
Brushless DC motor with integrated speed control driver.

MOTOR DATA		BT3649-12-I	BT3649-24-I	C
Nominal voltage	V	12	24	
No load speed	rpm	6000		
No load current	mA	260	140	
Nominal speed	rpm	5200	5100	●
Nominal torque	mNm	24	37	
Nominal current	A	1.5	1.1	
Start/Stall torque	mNm	190	260	
Start/Stall current	A	10	6.8	
Max. efficiency	%	74	77	
Nominal power	W	13	20	
Terminal resistance	Ω	0.6	2.0	
Terminal inductance	mH	0.4	1.8	
Torque constant	mNm/A	20	39	
Speed constant	rpm/V	500	250	
Speed/ torque gradient	rpm/mNm	220	140	
Rotor inertia	gcm <sup>2</sup>	45~48	45~49	

MECHANICAL DATA

			C
Bearing type		Ball bearing	●
Axial play	mm	0.47	0.51
Bearing radial clearance	μm	12	
Max. axial load (dynamic)	N	4.9	
Max. force for press fits (static)	N	13	

MOTOR DATA DIAGRAM 12V



OTHER SPECIFICATIONS

		BT3649-12-I	BT3649-24-I	C
Number of pole pairs		2		
Number of phases		3		
Weight	g	200		
Typical noise level	dBA	36	37	
Operating temperature	°C	-40 to +80		
Max. winding temperature	°C	150		
Motor insulation class		A		
IP rating		IP40		
Slot pole pairs		6S4P		
Rotor magnet		BNM-8		
Control and power harness length	mm	205 ± 10		●
Control and power harness end connector		A1501H00-6P		●
Control and power harness		UL1007 26AWG 300V 80°C		●
Shaft length from flange	mm	13		●
Shaft diameter ø	mm	3.17		
Housing material		SECD-0 1.0T		
Shaft material		S70C		
Magnet material		Bonding NdFeB		
Rotor balancing grade		G6.3		
Service life	h	5000		
Manufacturing standard		ISO9001   TS16949		

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	
Green	Speed	PWM toggle between 0 to 5 V 20 kHz or connect to Black GND for full speed	
Blue	Encoder	Output frequency related to speed	
White	Enable	Enable control. Open: motor runs   Connect to GND: motor stops	

MOTOR DATA DIAGRAM 24V

