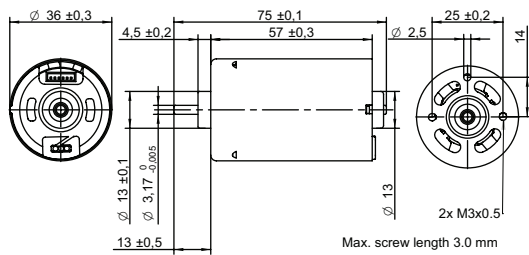


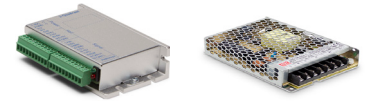
DRAWING (mm)



PHOTO



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

3-Phase, 120-degree, brushless DC Motor with integrated hall sensors.

MOTOR DATA	BT3657-12	BT3657-24	C
Nominal voltage	V	12	24
Commutator (hall) voltage	V	3.3~5	3.3~5
No load speed	rpm	6000	
No load current	mA	280	160
Nominal speed	rpm	5400	5400
Nominal torque	mNm	30	35
Nominal current	A	1.9	1.1
Start/Stall torque	mNm	260	310
Start/Stall current	A	14	8.4
Max. efficiency	%	78	80
Nominal power	W	17	20
Terminal resistance	Ω	0.6	1.8
Terminal inductance	mH	0.4	1.4
Torque constant	mNm/A	19	38
Speed constant	rpm/V	500	250
Speed/ torque gradient	rpm/mNm	180	160
Rotor inertia	gcm <sup>2</sup>	48~51	52~61

MECHANICAL DATA

Mechanical Data	BT3657-12	BT3657-24	C
Bearing type	Ball bearing		●
Axial play	mm	0.64	0.71
Bearing radial clearance	μm	12	
Max. axial load (dynamic)	N	4.9	
Max. force for press fits (static)	N	13	

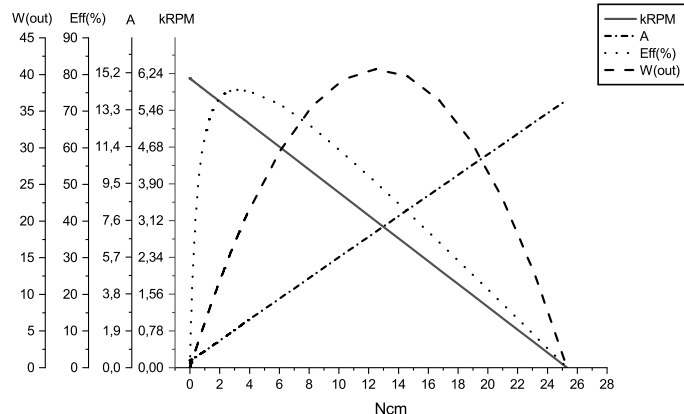
OTHER SPECIFICATIONS

Other Specifications	BT3657-12	BT3657-24	C
Number of pole pairs	2		
Number of phases	3		
Weight	g	230	240
Typical noise level	dBA	37	38
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		
Hall sensors and power harness length	mm	160 ± 10	●
Power harness end connector	XHP-3		●
Power harness	UL3132 20AWG 300V 150°C		●
Hall sensors harness end connector	ZHR-5		●
Hall sensors harness	UL10368 26AWG 300V 105°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 EXTERNAL DRIVER

Power		Hall		C
Phase	Cable color	Phase	Cable color	
U	White	HU	Green	
V	Brown	HV	Blue	
W	Grey	HW	Yellow	
		+5V	Red	
		GND	Black	

MOTOR DATA DIAGRAM 12V



MOTOR DATA DIAGRAM 24V

