



BRUSHLESS DC MOTORS | Ø 28 - 42 mm 3 - 35 W

WITH INTERNAL DRIVER

We offer a broad range of high quality brushless DC 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.

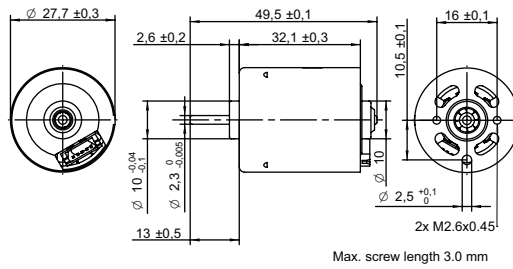
Customizations include:

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

TABLE OF CONTENTS

MODEL	DIAMETER	LENGTH	VOLTAGE	SPEED	TORQUE	POWER	PAGE
BT2832-I	28 mm	32 mm	12 24 V	5200 5100 rpm	5.9 5.8 mNm	3 W	1
BT2838-I	28 mm	38 mm	12 24 V	5300 5100 rpm	8.3 9.4 mNm	4 W	2
BT3229-I	32 mm	29 mm	12 24 V	4900 4800 rpm	7.1 8.5 mNm	3.5 W	3
BT3640-I	36 mm	40 mm	12 24 V	4900 5000 rpm	19 21 mNm	7 10 W	4
BT3649-I	36 mm	49 mm	12 24 V	5200 5100 rpm	24 37 mNm	13 18 W	5
BT3657-I	36 mm	57 mm	12 24 V	5200 5400 rpm	29 32 mNm	14 18 W	6
BT4259-I	42 mm	59 mm	12 24 V	4900 5300 rpm	52 77 mNm	20 30 W	7
BT4266-I	42 mm	66 mm	12 24 V	5000 5200 rpm	67 94 mNm	30 35 W	8

DRAWING (mm)



PHOTO



MODEL NAME DESIGNATION

BT2832 - VOLTAGE - INTEGRATED DRIVER

Example: BT2832-12-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 open loop speed control driver.

MOTOR DATA		12V	24V	C
Nominal voltage	V	12	24	
No load speed	rpm	6000		
No load current	mA	49	34	
Nominal speed	rpm	5200	5100	●
Nominal torque	mNm	5.9	5.8	
Nominal current	A	0.4	0.2	
Start/Stall torque	mNm	39	38	
Start/Stall current	A	2.2	1.0	
Max. efficiency	%	74	70	
Nominal mechanical power	W	3		
Terminal resistance	Ω	4.1	19	
Terminal inductance	mH	1.7	7	
Torque constant	mNm/A	190	390	
Speed constant	rpm/V	500	250	
Speed/ torque gradient	rpm/mNm	880	880	
Rotor inertia	gcm ²	14~17	13~16	

MECHANICAL DATA

			C
Bearing type		Ball bearing	●
Axial play	mm	0	
Bearing radial clearance	µm	10	
Max. axial load (dynamic)	N	3.2	
Max. force for press fits (static)	N	4.9	

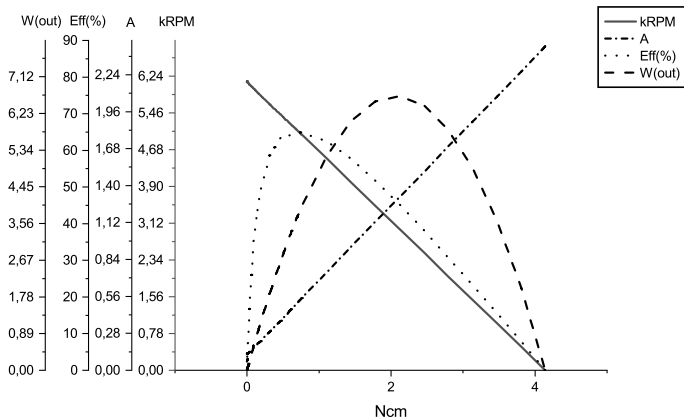
OTHER SPECIFICATIONS

		12V	24V	C
Number of pole pairs		2		
Number of phases		3		
Weight of motor	g	71	70	
Typical noise level	dBA	33	33	
Ambient 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		●
Connector on motor body		JST:B6B-ZR		
Shaft length from flange	mm	13		●
Shaft diameter Ø	mm	2.3		
Housing material		SECD-0 0.7T		
Shaft material		SUS420 J2		
Magnet material		Bonding NdFeB		
Rotor balancing grade		G6.3		
Service life	hrs	5000		
Manufacturing standard		ISO9001 TS16949		

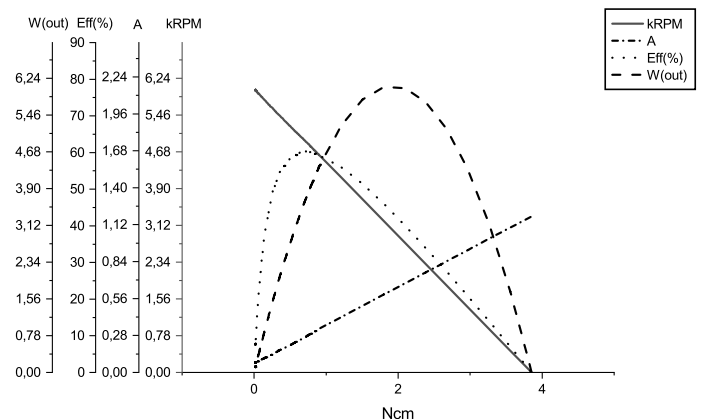
CABLE AND PIN CONFIGURATION

		C
1	Red	Supply voltage Vcc 12 V 24 V
2	Black	GND
3	Yellow	Direction of rotation CW open CCW connect to GND
4	Blue	Speed control full speed open control PWM 20 kHz 5 V
5	White	Enable control enable open unable to connect to GND

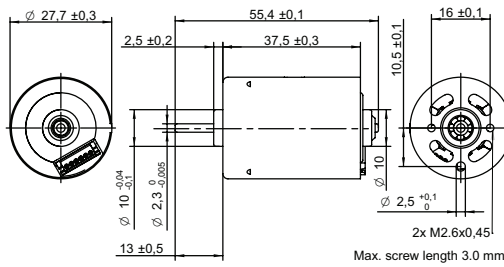
MOTOR DATA DIAGRAM 12V



MOTOR DATA DIAGRAM 24V



DRAWING (mm)



PHOTO



MODEL NAME DESIGNATION

BT2838 - VOLTAGE - INTEGRATED DRIVER

Example: BT2838-12-I

OPTIONS POWER SUPPLIES



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MOTOR TYPE

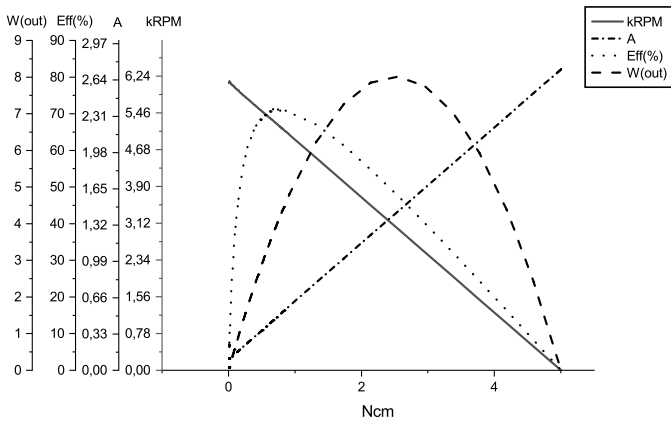
Brushless DC motor with integrated open loop speed control driver.

MOTOR DATA		12V	24V	C
Nominal voltage	V	12	24	
No load speed	rpm	6000		
No load current	mA	58	73	
Nominal speed	rpm	5300	5100	●
Nominal torque	mNm	8.3	9.4	
Nominal current	A	0.6	0.3	
Start/Stall torque	mNm	52	37	
Start/Stall current	A	2.9	1.6	
Max. efficiency	%	69	65	
Nominal mechanical power	W	4		
Terminal resistance	Ω	3.1	13	
Terminal inductance	mH	1.2	4.9	
Torque constant	mNm/A	190	370	
Speed constant	rpm/V	500	250	
Speed/ torque gradient	rpm/mNm	630	540	
Rotor inertia	gcm ²	50~54	48~54	

MECHANICAL DATA

			C
Bearing type		Ball bearing	●
Axial play	mm	0	
Bearing radial clearance	μm	10	
Max. axial load (dynamic)	N	3.2	
Max. force for press fits (static)	N	4.9	

MOTOR DATA DIAGRAM 12V



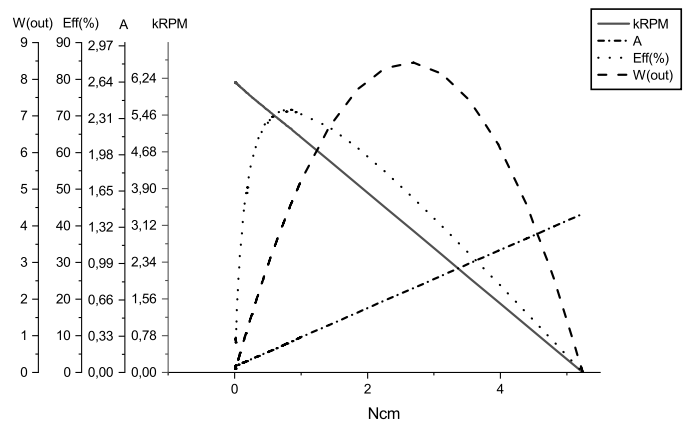
OTHER SPECIFICATIONS

		12V	24V	C
Number of pole pairs		2		
Number of phases		3		
Weight of motor	g	71	70	
Typical noise level	dBA	41	35	
Ambient 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		●
Connector on motor body		JST:B6B-ZR		
Shaft length from flange	mm	13		●
Shaft diameter ø	mm	2.3		
Housing material		SECD-0 0.7T		
Shaft material		SUS420 J2		
Magnet material		Bonding NdFeB		
Rotor balancing grade		G6.3		
Service life	hrs	5000		
Manufacturing standard		ISO9001 TS16949		

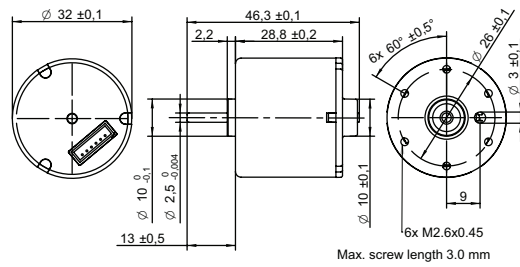
CABLE AND PIN CONFIGURATION

		C
1	Red	Supply voltage Vcc 12 V 24 V
2	Black	GND
3	Yellow	Direction of rotation CW open CCW connect to GND
4	Blue	Speed control full speed open control PWM 20 kHz 5 V
5	White	Enable control enable open unable to connect to GND

MOTOR DATA DIAGRAM 24V



DRAWING (mm)



PHOTO



MODEL NAME DESIGNATION

BT3229 - VOLTAGE - INTEGRATED DRIVER

Example: BT3229-12-I

OPTIONS POWER SUPPLIES



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MOTOR TYPE

Brushless DC motor with open loop integrated speed control driver.

MOTOR DATA		12V	24V	C
Nominal voltage	V	12	24	
No load speed	rpm	6000		
No load current	mA	72	40	
Nominal speed	rpm	4900	4800	●
Nominal torque	mNm	7.1	8.5	
Nominal current	A	0.4	0.3	
Start/Stall torque	mNm	43	46	
Start/Stall current	A	2.2	1.2	
Max. efficiency	%	71	70	
Nominal mechanical power	W	3.5		
Terminal resistance	Ω	4.2	17	
Terminal inductance	mH	1.2	3.7	
Torque constant	mNm/A	210	410	
Speed constant	rpm/V	500	250	
Speed/ torque gradient	rpm/mNm	690	560	
Rotor inertia	gcm ²	19~24	20~23	

MECHANICAL DATA

			C
Bearing type	Sleeve bearing		●
Axial play	mm	0.27	0.3
Max. axial load (dynamic)	N	2.7	

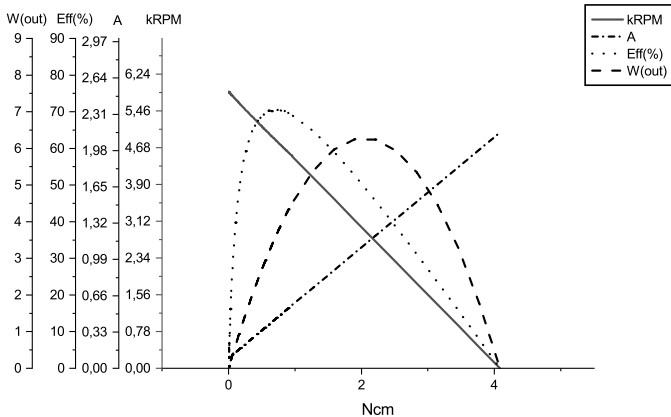
OTHER SPECIFICATIONS

		12V	24V	C
Number of pole pairs		3		
Number of phases		3		
Weight of motor	g	76		
Typical noise level	dB(A)	30	32	
Ambient temperature	°C	-40 to +80		
Max. winding temperature	°C	150		
Motor insulation class		A		
IP rating		IP40		
Slot pole pairs		9S6P		
Rotor magnet		BNM-6	BNM-8	
Control and power harness length	mm	120 ± 10		●
Control and power harness end connector		A1501H00-6P		●
Control and power harness		UL1007 26AWG 300V 80°C		●
Connector on motor body		JST:B6B-ZR		
Shaft length from flange	mm	13		●
Shaft diameter Ø	mm	2.5		
Housing material		SECD-0 1.0T		
Shaft material		SUS420 J2		
Magnet material		Bonding NdFeB		
Rotor balancing grade		G6.3		
Service life	hrs	5000		
Manufacturing standard		ISO9001 TS16949		

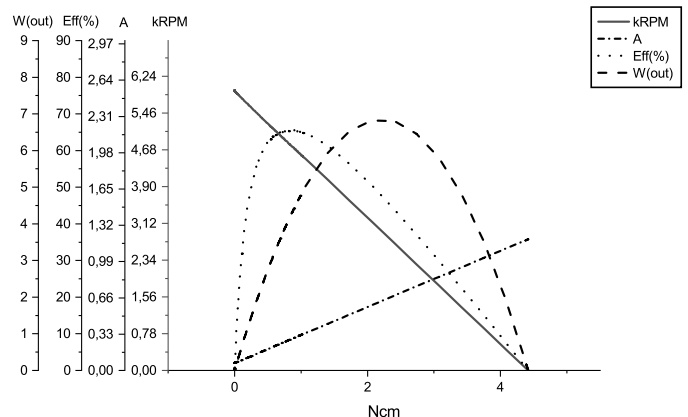
CABLE AND PIN CONFIGURATION

		C
1 Red	Supply voltage Vcc 12 V 24 V	
2 Black	GND	
3 Yellow	Direction of rotation CW open CCW connect to GND	
4 Blue	Speed control full speed open control PWM 20 kHz 5 V	
5 White	Enable control enable open unable to connect to GND	

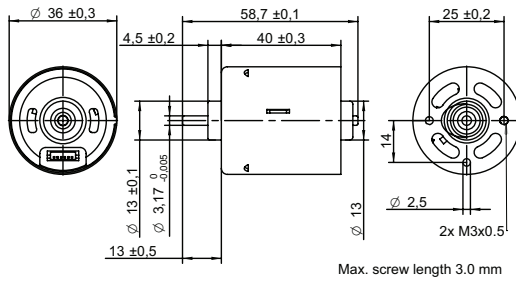
MOTOR DATA DIAGRAM 12V



MOTOR DATA DIAGRAM 24V



DRAWING (mm)



PHOTO



MODEL NAME DESIGNATION

BT3640 - VOLTAGE - INTEGRATED DRIVER

Example: BT3640-12-I

OPTIONS POWER SUPPLIES



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MOTOR TYPE

Brushless DC motor with integrated open loop speed control driver.

MOTOR DATA		12V	24V	C
Nominal voltage	V	12	24	
No load speed	rpm	6000		
No load current	mA	200	120	
Nominal speed	rpm	4900	5000	●
Nominal torque	mNm	19	21	
Nominal current	A	1.1	0.7	
Start/Stall torque	mNm	130	150	
Start/Stall current	A	6.6	3.8	
Max. efficiency	%	77	72	
Nominal mechanical power	W	7	10	
Terminal resistance	Ω	1.1	4.2	
Terminal inductance	mH	0.7	2.7	
Torque constant	mNm/A	210	400	
Speed constant	rpm/V	500	250	
Speed/ torque gradient	rpm/mNm	260	240	
Rotor inertia	gcm ²	30~33	36~39	

MECHANICAL DATA

			C
Bearing type		Ball bearing	●
Axial play	mm	0.65	0.68
Bearing radial clearance	μm	12	
Max. axial load (dynamic)	N	4.9	
Max. force for press fits (static)	N	13	

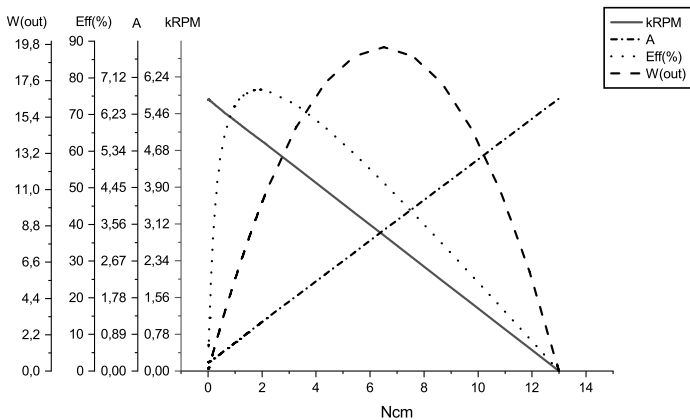
OTHER SPECIFICATIONS

		12V	24V	C
Number of pole pairs		2		
Number of phases		3		
Weight of motor	g	150		
Typical noise level	dBA	38	37	
Ambient 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	hrs	5000		
Manufacturing standard		ISO9001 TS16949		

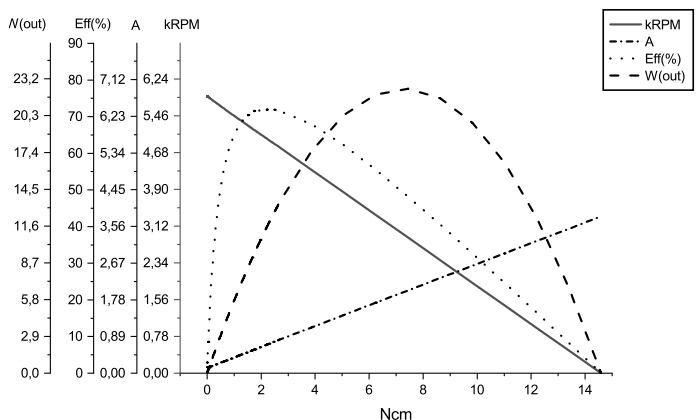
CABLE AND PIN CONFIGURATION

		C
1 Red	Supply voltage Vcc 12 V 24 V	
2 Black	GND	
3 Yellow	Direction of rotation CW open CCW connect to GND	
4 Blue	Speed control full speed open control PWM 20 kHz 5 V	
5 White	Enable control enable open unable to connect to GND	

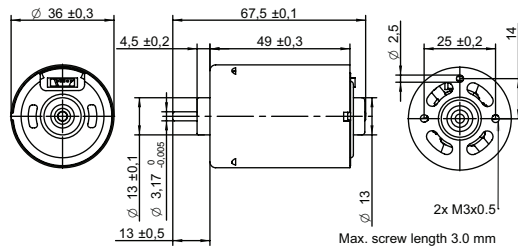
MOTOR DATA DIAGRAM 12V



MOTOR DATA DIAGRAM 24V



DRAWING (mm)



PHOTO



MODEL NAME DESIGNATION

BT3649 - VOLTAGE - INTEGRATED DRIVER

Example: BT3649-12-I

OPTIONS POWER SUPPLIES



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MOTOR TYPE

Brushless DC motor with integrated open loop speed control driver.

MOTOR DATA		12V	24V	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 mechanical power	W	13	18	
Terminal resistance	Ω	0.6	2.0	
Terminal inductance	mH	0.4	1.8	
Torque constant	mNm/A	200	400	
Speed constant	rpm/V	500	250	
Speed/ torque gradient	rpm/mNm	220	140	
Rotor inertia	gcm ²	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	

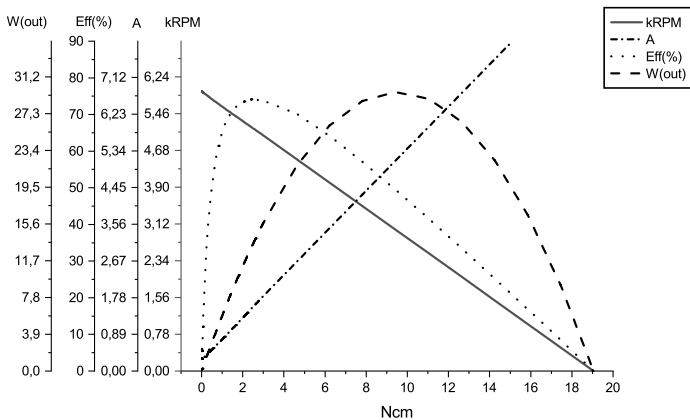
OTHER SPECIFICATIONS

		12V	24V	C
Number of pole pairs		2		
Number of phases		3		
Weight of motor	g	200		
Typical noise level	dBA	36	37	
Ambient 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	hrs	5000		
Manufacturing standard		ISO9001 TS16949		

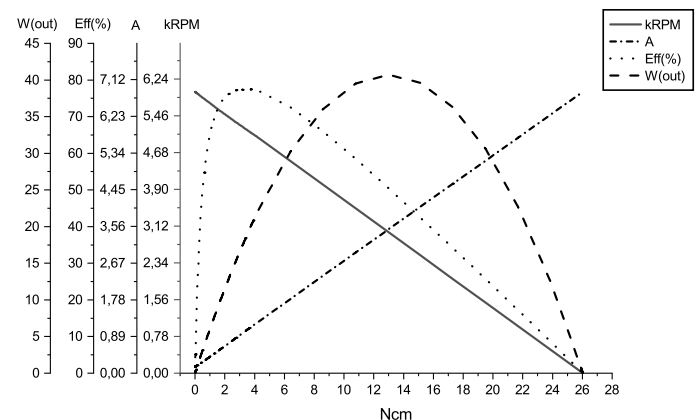
CABLE AND PIN CONFIGURATION

		C
1 Red	Supply voltage Vcc 12 V 24 V	
2 Black	GND	
3 Yellow	Direction of rotation CW open CCW connect to GND	
4 Blue	Speed control full speed open control PWM 20 kHz 5 V	
5 White	Enable control enable open unable to connect to GND	

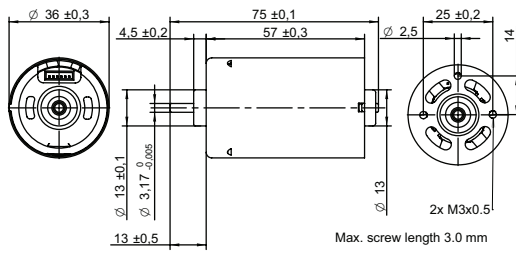
MOTOR DATA DIAGRAM 12V



MOTOR DATA DIAGRAM 24V



DRAWING (mm)



PHOTO



MODEL NAME DESIGNATION

BT3657 - VOLTAGE - INTEGRATED DRIVER

Example: BT3657-12-I

OPTIONS POWER SUPPLIES



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MOTOR TYPE

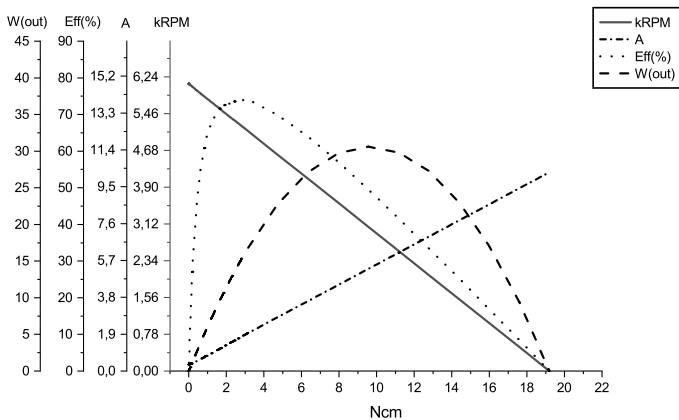
Brushless DC motor with integrated open loop speed control driver.

MOTOR DATA		12V	24V	C
Nominal voltage	V	12	24	
No load speed	rpm	6000		
No load current	mA	270	140	
Nominal speed	rpm	5200	5400	●
Nominal torque	mNm	29	32	
Nominal current	A	1.8	1.0	
Start/Stall torque	mNm	190	280	
Start/Stall current	A	10	7.4	
Max. efficiency	%	74	79	
Nominal mechanical power	W	14	18	
Terminal resistance	Ω	0.6	1.8	
Terminal inductance	mH	0.4	1.4	
Torque constant	mNm/A	200	390	
Speed constant	rpm/V	500	250	
Speed/ torque gradient	rpm/mNm	180	170	
Rotor inertia	gcm ²	52-61	50-52	

MECHANICAL DATA

			C
Bearing type		Ball bearing	●
Axial play	mm	0.72	0.58
Bearing radial clearance	μm	12	
Max. axial load (dynamic)	N	4.9	
Max. force for press fits (static)	N	13	

MOTOR DATA DIAGRAM 12V



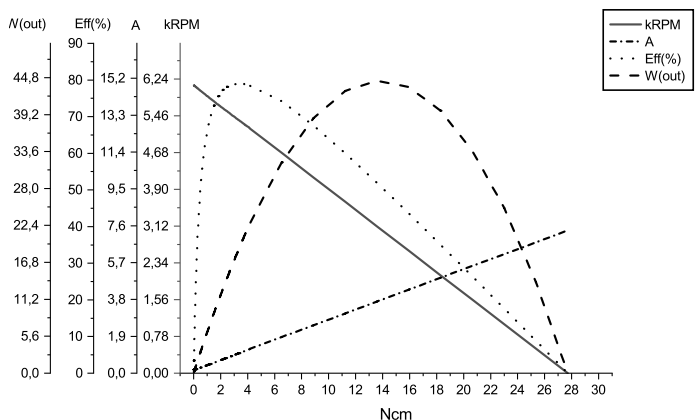
OTHER SPECIFICATIONS

		12V	24V	C
Number of pole pairs		2		
Number of phases		3		
Weight of motor	g	230	230	
Typical noise level	dBA	36	36	
Ambient 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	hrs	5000		
Manufacturing standard		ISO9001 TS16949		

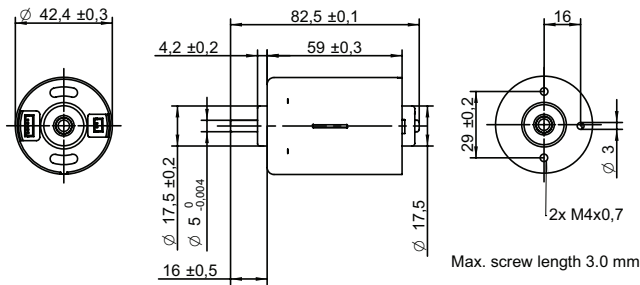
CABLE AND PIN CONFIGURATION

		C
1 Red	Supply voltage Vcc 12 V 24 V	
2 Black	GND	
3 Yellow	Direction of rotation CW open CCW connect to GND	
4 Blue	Speed control full speed open control PWM 20 kHz 5 V	
5 White	Enable control enable open unable to connect to GND	

MOTOR DATA DIAGRAM 24V



DRAWING (mm)



PHOTO



MODEL NAME DESIGNATION

BT4259 - VOLTAGE - INTEGRATED DRIVER

Example: BT4259-12-I

OPTIONS POWER SUPPLIES



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MOTOR TYPE

Brushless DC motor with integrated open loop speed control driver.

MOTOR DATA		12V	24V	C
Nominal voltage	V	12	24	
No load speed	rpm	6000		
No load current	mA	510	290	
Nominal speed	rpm	4900	5300	●
Nominal torque	mNm	52	77	
Nominal current	A	3.3	2.5	
Start/Stall torque	mNm	360	580	
Start/Stall current	A	18	16	
Max. efficiency	%	70	75	
Nominal mechanical power	W	20	30	
Terminal resistance	Ω	0.4	0.9	
Terminal inductance	mH	0.2	0.6	
Torque constant	mNm/A	210	40	
Speed constant	rpm/V	500	250	
Speed/ torque gradient	rpm/mNm	95	69	
Rotor inertia	gcm ²	120~146	130~148	

MECHANICAL DATA

			C
Bearing type		Ball bearing	●
Axial play	mm	0.61	0.58
Bearing radial clearance	μm	13	
Max. axial load (dynamic)	N	7.1	

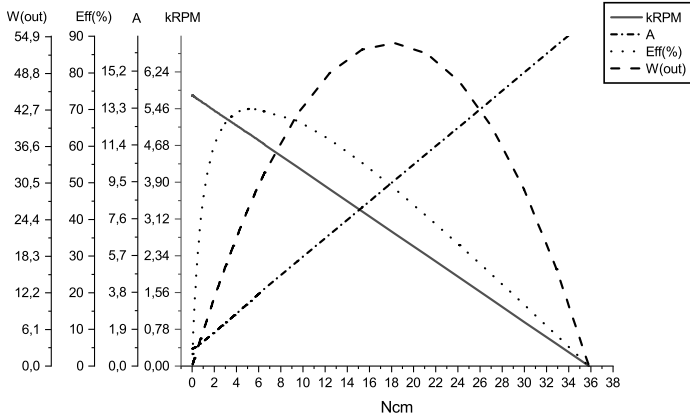
OTHER SPECIFICATIONS

		12V	24V	C
Number of pole pairs		3		
Number of phases		3		
Weight of motor	g	340	350	
Typical noise level	dBA	43	42	
Ambient temperature	°C	-40 to +80		
Max winding temperature	°C	150		
Motor insulation class		A		
IP rating		IP40		
Slot pole pairs		9S6P		
Rotor magnet		BNM-8		
Control and power harness length	mm	220 ± 10	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		●
Shaft length from flange	mm	16		●
Shaft diameter Ø	mm	5		
Housing material		SECD-0 1.4T		
Shaft material		SUS420 J2		
Magnet material		Bonding NdFeB		
Rotor balancing grade		G6.3		
Service life	hrs	5000		
Manufacturing standard		ISO9001 TS16949		

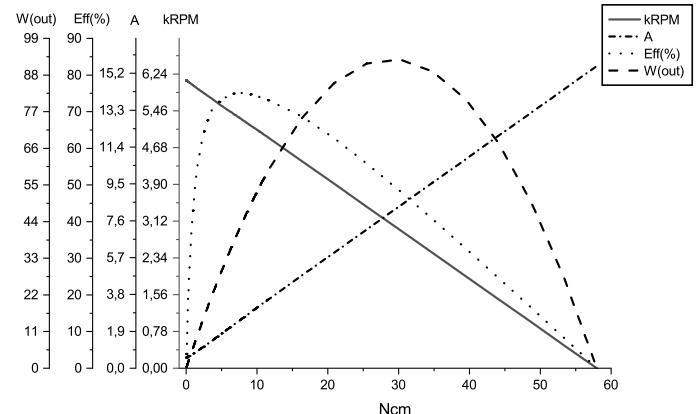
CABLE AND PIN CONFIGURATION

		C
1	Red	Supply voltage Vcc 12 V 24 V
2	Black	GND
3	Yellow	Direction of rotation CW open CCW connect to GND
4	Blue	Speed control full speed open control PWM 20 kHz 5 V
5	White	Enable control enable open unable to connect to GND

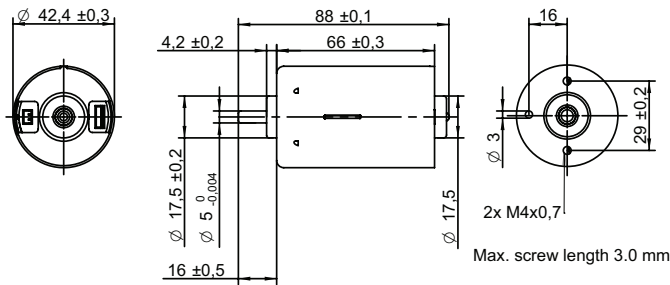
MOTOR DATA DIAGRAM 12V



MOTOR DATA DIAGRAM 24V



DRAWING (mm)



PHOTO

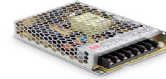


MODEL NAME DESIGNATION

BT4266 - VOLTAGE - INTEGRATED DRIVER

Example: BT4266-12-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 open loop speed control driver.

MOTOR DATA		12V	24V	C
Nominal voltage	V	12	24	
No load speed	rpm	6000		
No load current	mA	640	330	
Nominal speed	rpm	5000	5200	●
Nominal torque	mNm	67	94	
Nominal current	A	4.5	3.0	
Start/Stall torque	mNm	410	710	
Start/Stall current	A	22	19	
Max. efficiency	%	68	76	
Nominal mechanical power	W	30	35	
Terminal resistance	Ω	0.32	0.74	
Terminal inductance	mH	0.12	0.48	
Torque constant	mNm/A	200	400	
Speed constant	rpm/V	500	250	
Speed/ torque gradient	rpm/mNm	75	56	
Rotor inertia	gcm ²	154~156	155~158	

MECHANICAL DATA

			C
Bearing type		Ball bearing	●
Axial play	mm	0.55	0.48
Bearing radial clearance	μm	13	
Max. axial load (dynamic)	N	7.1	

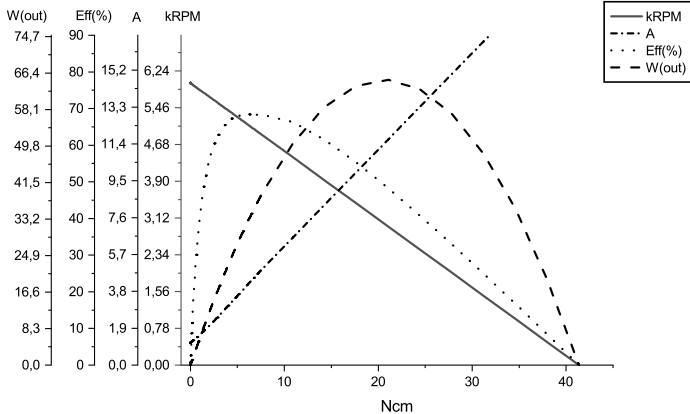
OTHER SPECIFICATIONS

		12V	24V	C
Number of pole pairs		3		
Number of phases		3		
Weight of motor	g	380	400	
Typical noise level	dBA	44	45	
Ambient temperature	°C	-40 to +80		
Max. winding temperature	°C	150		
Motor insulation class		A		
IP rating		IP40		
Slot pole pairs		9S6P		
Rotor magnet		BNM-8		
Control and power harness length	mm	220 ± 10		●
Control harness end connector		A1501H00-6P		●
Control harness		UL10368 26AWG 300V 105°C		●
Power harness		UL3266 20AWG		●
Power harness end connector		XH-2P		●
Shaft length from flange	mm	16		●
Shaft diameter Ø	mm	5		
Housing material		SECD-0 1.4T		
Shaft material		SUS420 J2		
Magnet material		Bonding NdFeB		
Rotor balancing grade		G6.3		
Service life	hrs	5000		
Manufacturing standard		ISO9001 TS16949		

CABLE AND PIN CONFIGURATION

		C
1	Red	Supply voltage Vcc 12 V 24 V
2	Black	GND
3	Yellow	Direction of rotation CW open CCW connect to GND
4	Blue	Speed control full speed open control PWM 20 kHz 5 V
5	White	Enable control enable open unable to connect to GND

MOTOR DATA DIAGRAM 12V



MOTOR DATA DIAGRAM 24V

