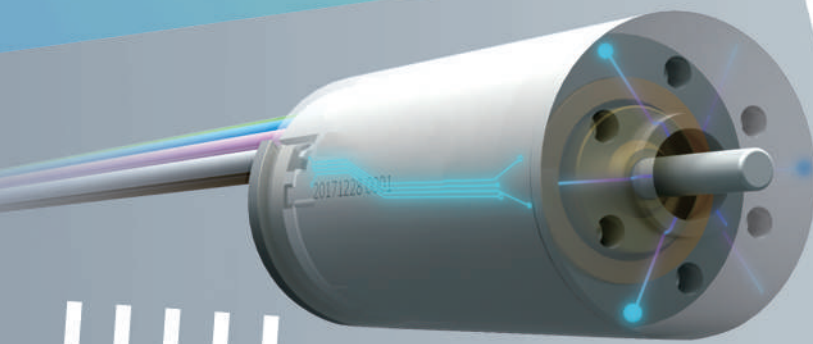
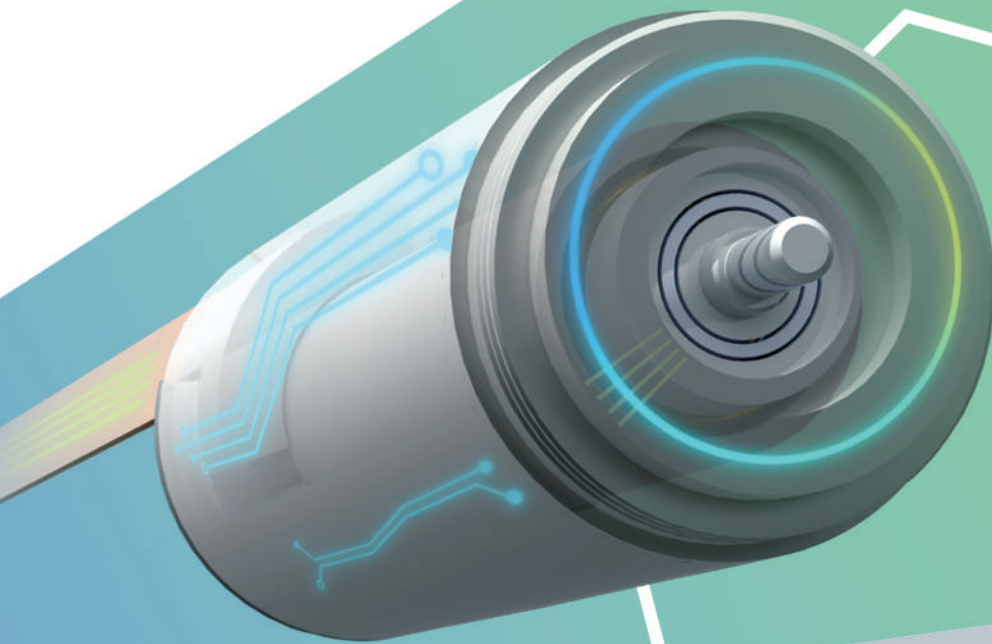


Micro Motion Systems

| with ironless winding



TECHNOSOFT
MOTION TECHNOLOGY

CONTENTS

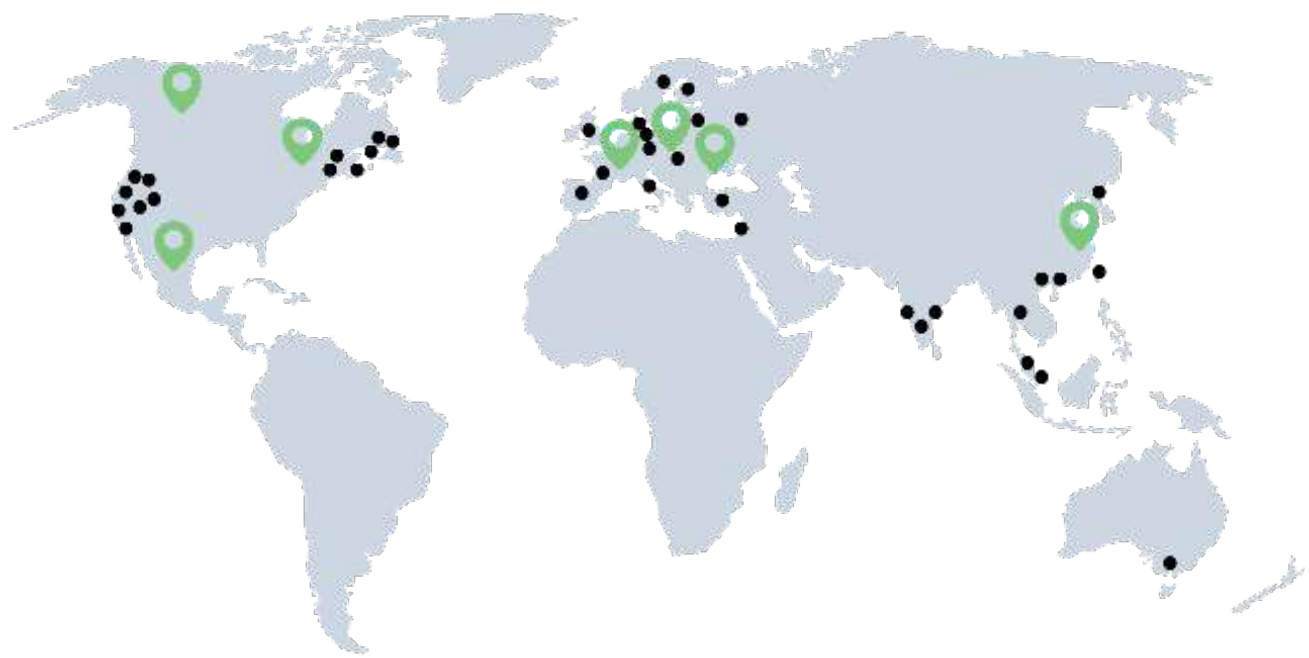
Product Overview	Company Profile	01
	Feature	02
	Structure.....	03
Slotless Brushless DC Motor	TSU13026	05
	TSU13038	07
	TSU16036	09
	TSU22048	11
	TSH16056	13
	TSH22045	15
	TSH22060	17
Coreless Brushed DC Motor	TCU08017	21
	TCU10017	23
	TCU10025	25
	TCU13020	27
	TCU13028	29
	TCU16025	31
	TCU17025	33
	TCU17035	35
	TCU24032	37
Planetary Gearbox	PG08C	41
	PG10C	42
	PG13C	43
	PG16C	44
	PG22C	45
Encoder	RS10	47
	R13	48
	R16	49
	K16	50
	U22	51
Drive	iPOS2401MX CAN/CAT	54
	iPOS3602VX/MX CAN	55
	iPOS3602 BX/HX CAN.....	56
	iPOS3604VX/MX CAN	57
	iPOS3604BX/HX CAN	58
	iPOS4808VX/MY CAN	59
	iPOS4808MY CAN/CAT STO& BX CAN/CAT.....	60
Technical	Customized	61
	Application	62

Company Profile

TECHNOSOFT is a leading motion control technology company specialized in the development, design and manufacture of motion control products and custom motion systems.

For over 25 years, TECHNOSOFT has been helping customers enjoy commercial success in various field of industry. This experience has matured into the continuous improvement of the performance and robustness of our products.

TECHNOSOFT has pioneered the intelligent drive as a cost-effective solution in many motion control applications. Embedding a motion controller and a drive into a single unit, an intelligent drive can perform many of the tasks that are traditionally assigned to a central unit.



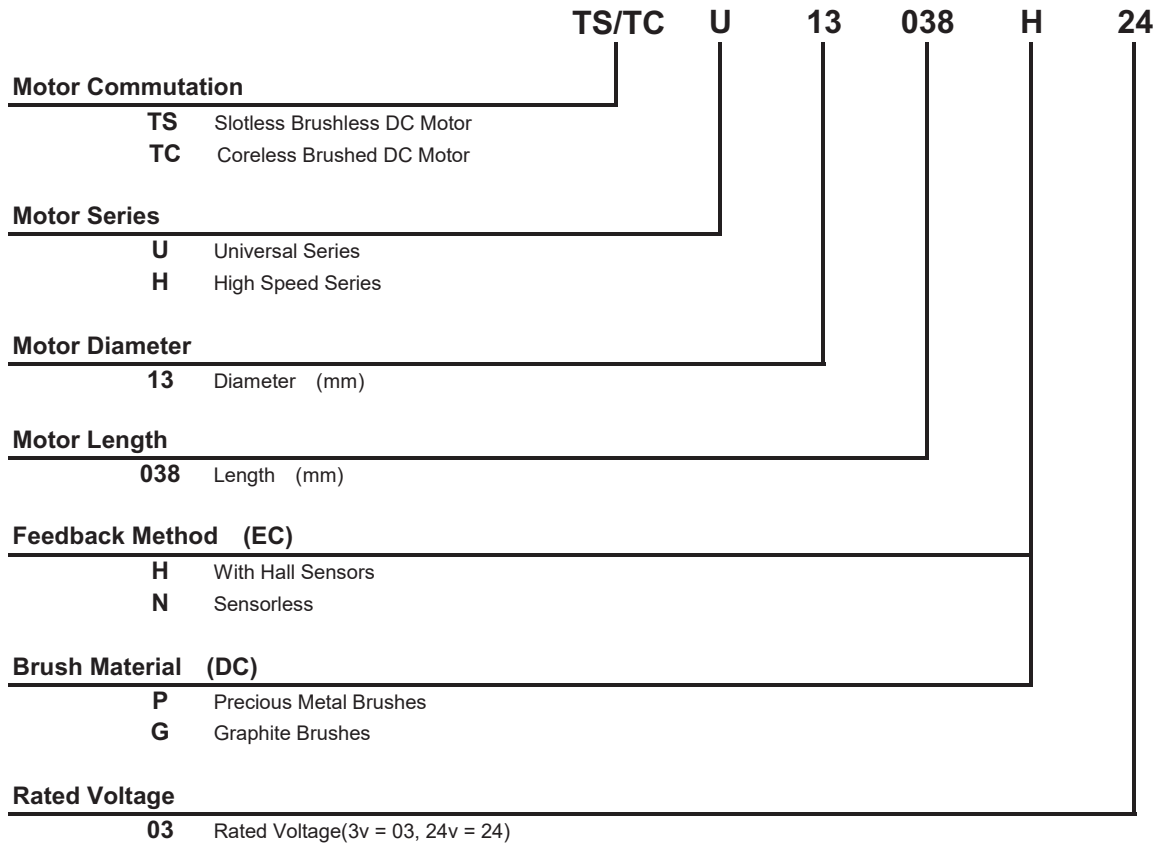
T E C H N O S O F T

Product Feature

TECHNOSOFT TS motor and TC motor use independent patented ironless winding. this special design can bring high speed, high torque and low noise. Because of no cogging and compact structure, we can get smoother running at high or low speed, more accurate control, higher efficiency and higher power density.

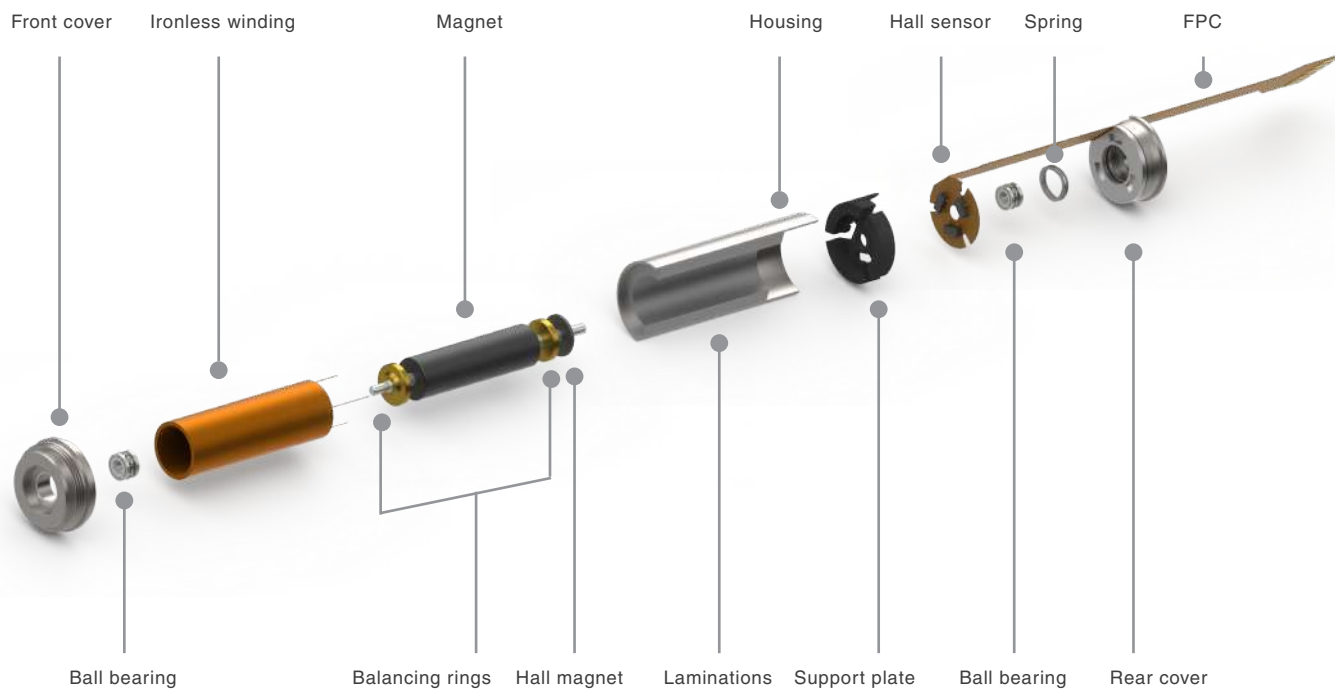
- Ironless Winding
- Small Size
- High Torque
- High Speed

Product Code

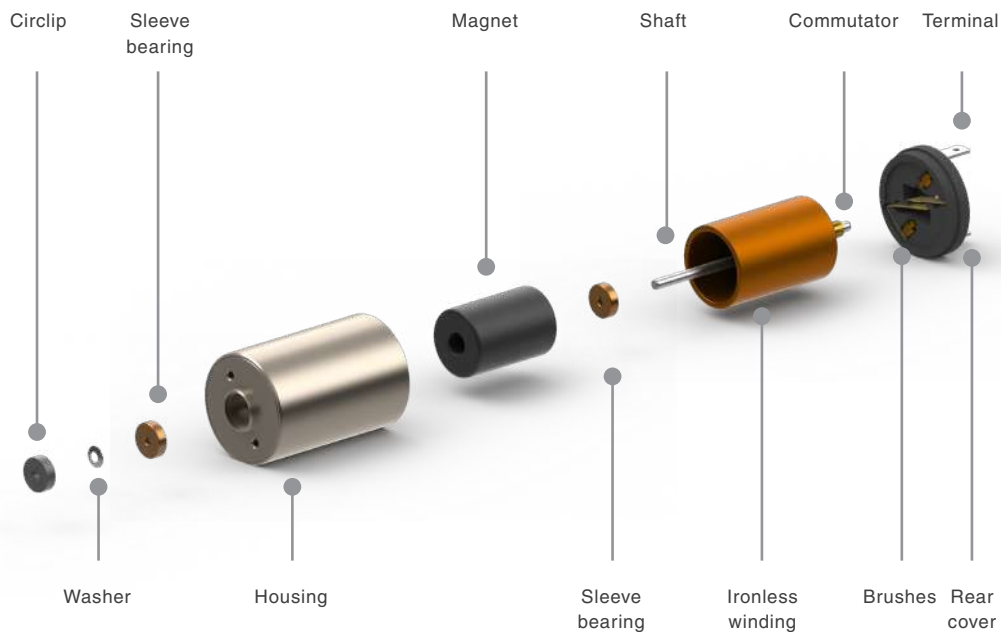


Structure

TS Series Motor Structure



TC Series Motor Structure



Slotless

BLDC Motor

TSU13026

TSU13038

TSU16036

TSU22048

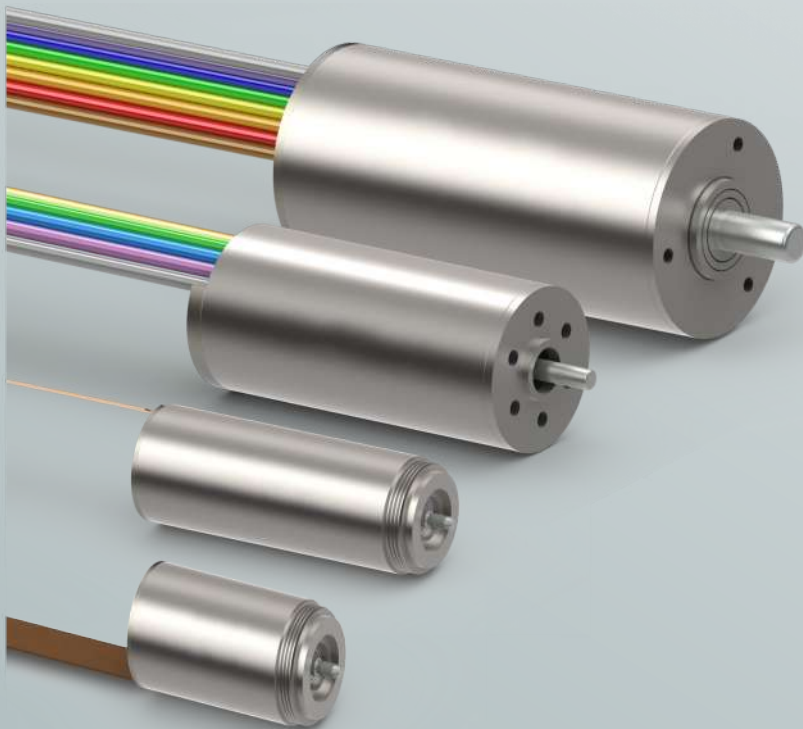
TSH16056 High speed



TSH22045 High speed



TSH22060 High speed



TSU13026 Ø13mm 5/7.5W

Motor Data	Part Numbers					
		TSU13026H06	TSU13026H09	TSU13026H12	TSU13026H18	TSU13026H24
Nominal voltage	V	6	9	12	18	24
No load speed	rpm	24900	27600	24600	25100	26100
No load current	mA	130	115	76	54	49
Nominal speed	rpm	17000	20100	16900	17200	18600
Max. continuous torque	mNm	2.58	2.81	2.69	2.62	2.53
Max. continuous current	A	1.27	1.02	0.65	0.44	0.34
Stall torque	mNm	8.9	11.8	9.7	9.6	9.9
Stall current	A	3.92	3.78	2.09	1.41	1.14
Max efficiency	%	65	69	66	66	67
Resistance (phase-phase)	Ohm	1.53	2.38	5.74	12.8	21.0
Inductance (phase-phase)	mH	0.019	0.036	0.081	0.174	0.285
Torque constant	mNm / A	2.27	3.13	4.66	6.85	8.64
Speed constant	rpm / V	4200	3055	2050	1395	1105
Speed/torque gradient	rpm / mNm	2826	2326	2526	2608	2685
Mechanical time constant	ms	5.74	4.73	5.13	5.30	5.46
Rotor inertia	gcm ²	0.194	0.194	0.194	0.194	0.194

Specification		
Bearing		Ball bearing
Max speed	rpm	40000
Axial play	mm	0..0.05
Radial play		Preloaded
Max axial load (dynamic)	N	1
Max. force for press fits (static)	N	10
Max radial load (5mm from flange)	N	4
Ambient temperature	° C	-40~+100
Max winding temperature	° C	155
Thermal resistance		
Housing - Ambient	° C/ W	32.0
Winding - Housing	° C/ W	3.69
Thermal time constant		
Motor	s	250
Winding	s	0.58
Number of pole pairs		1
Number of phases		3
Weight	g	19

Combination
Gearbox PG13C Ø13mm 0.3Nm 16:1-425:1 Page 43
Encoder Please contact local sales.
Option FPC / Cable With hall sensor / Sensorless

Product Overview

Slotless Brushless DC Motor

Coreless Brushed DC Motor

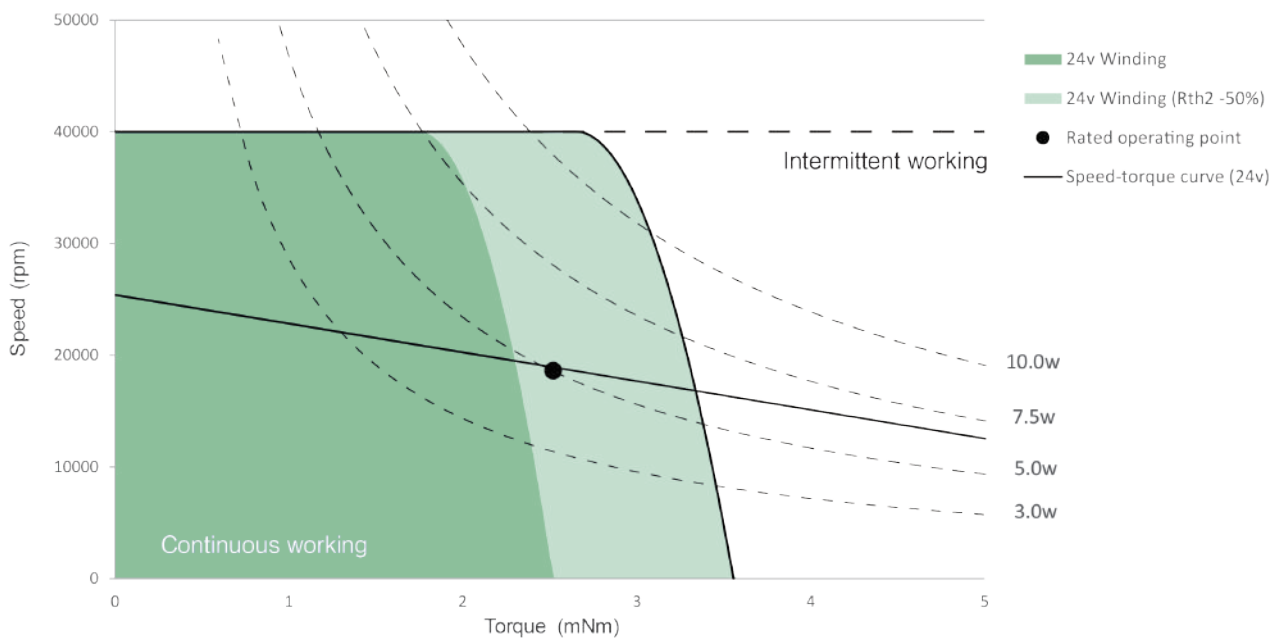
Planetary Gearbox

Encoder

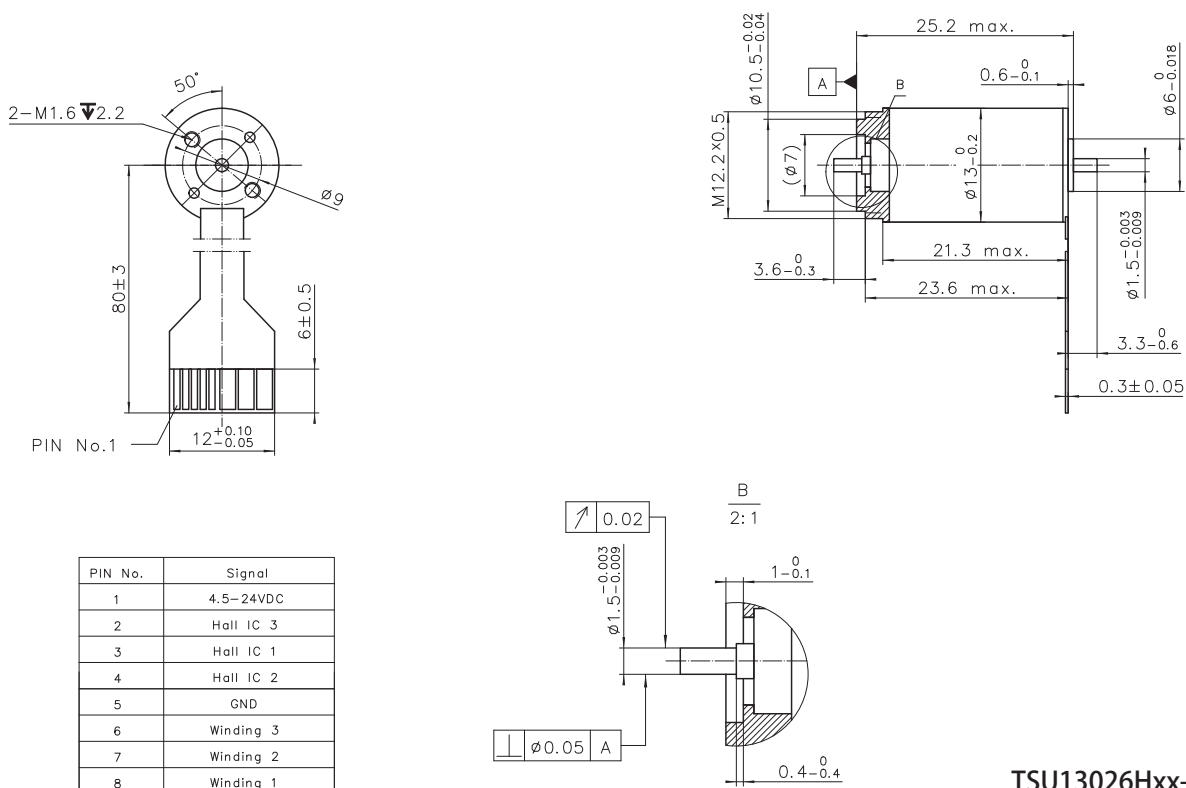
Drive

Technical

Operating Range



Dimension



TSU13026Hxx-S001

TSU13038 Ø13mm 10/15W

Motor Data		Part Numbers					
		TSU13038H06	TSU13038H09	TSU13038H12	TSU13038H18	TSU13038H24	TSU13038H36
Nominal voltage	V	6	9	12	18	24	36
No load speed	rpm	23700	23400	23000	23400	24500	25600
No load current	mA	215	185	140	121	90	84
Nominal speed	rpm	17900	18000	17400	19000	18600	20200
Max. continuous torque	mNm	5.05	5.56	5.51	5.57	5.13	5.55
Max. continuous current	A	2.33	1.70	1.23	0.91	0.63	0.49
Stall torque	mNm	22.1	27.1	26.2	29.9	25.8	33.6
Stall current	A	9.23	7.38	5.19	4.23	2.73	2.46
Max efficiency	%	71	73	73	74	74	74
Resistance (phase-phase)	Ohm	0.65	1.22	2.31	4.26	8.80	14.6
Inductance (phase-phase)	mH	0.008	0.020	0.037	0.097	0.130	0.267
Torque constant	mNm / A	2.39	3.67	5.04	7.07	9.45	13.64
Speed constant	rpm / V	3990	2600	1895	1350	1010	700
Speed/torque gradient	rpm / mNm	1084	864	869	813	940	750
Mechanical time constant ms		3.69	2.94	2.96	2.77	3.20	2.55
Rotor inertia	gcm ²	0.325	0.325	0.325	0.325	0.325	0.325

Specification		
Bearing		Ball bearing
Max speed	rpm	40000
Axial play	mm	0..0.05
Radial play		Preloaded
Max axial load (dynamic)	N	1
Max. force for press fits (static)	N	10
Max radial load (5mm from flange)	N	4
Ambient temperature	° C	-40~+100
Max winding temperature	° C	155
Thermal resistance		
Housing - Ambient	° C / W	23.0
Winding - Housing	° C / W	1.89
Thermal time constant		
Motor	s	350
Winding	s	0.48
Number of pole pairs		1
Number of phases		3
Weight	g	29

Combination
Gearbox PG13C Ø13mm 0.3Nm 16:1-425:1 Page 43
Encoder Please contact local sales.
Option FPC / Cable With hall sensor / Sensorless

Product Overview

Slotless Brushless DC Motor

Coreless Brushed DC Motor

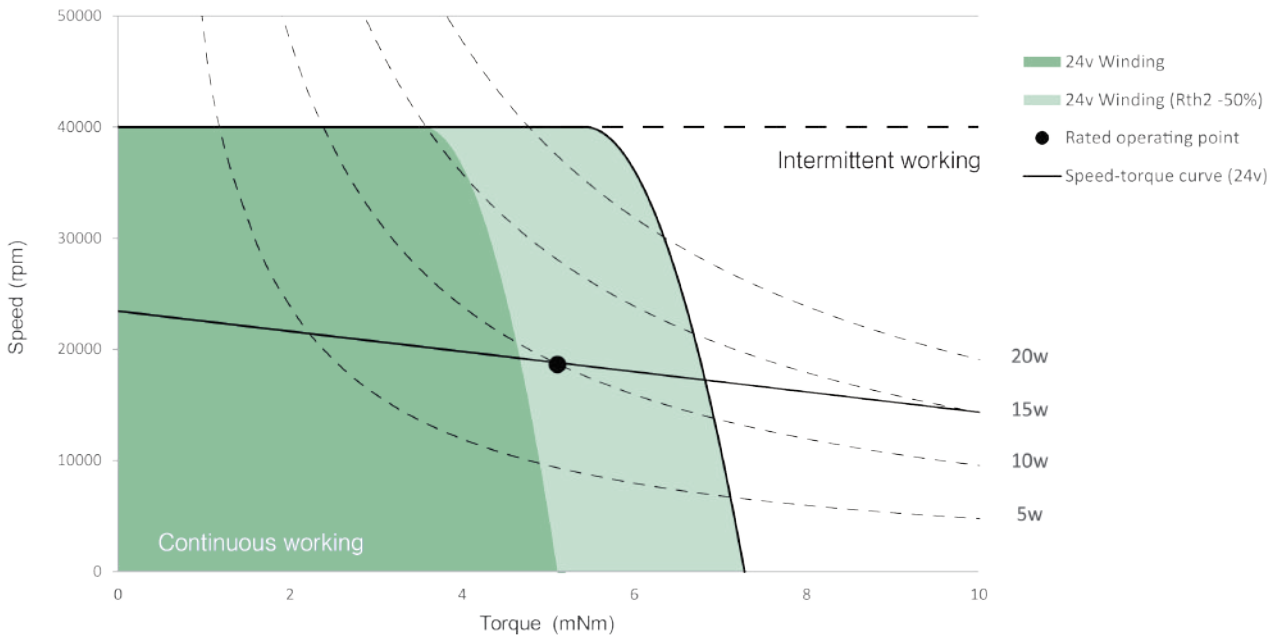
Planetary Gearbox

Encoder

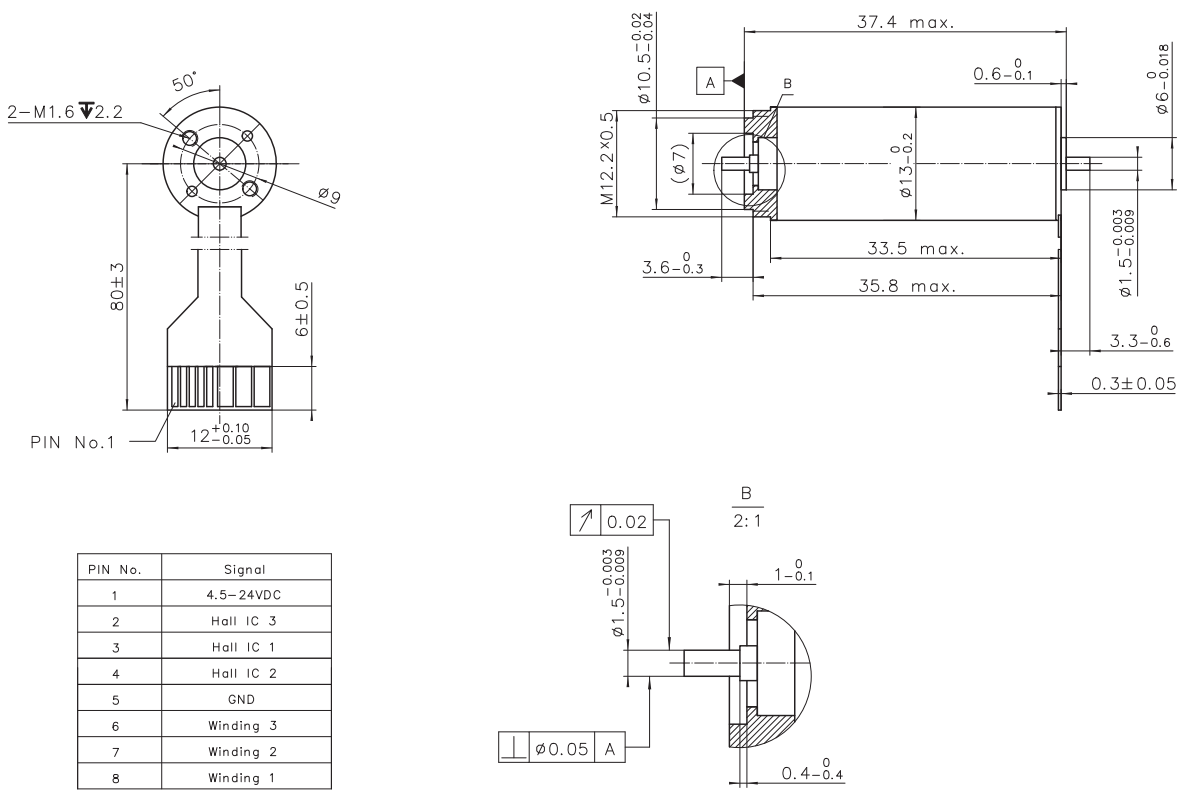
Drive

Technical

Operating Range



Dimension



TSU13038Hxx-S001

TSU16036 Ø16mm 14/23W

Motor Data	Part Numbers				
		TSU16036H12	TSU16036H18	TSU16036H24	TSU16036H36
Nominal voltage	V	12	18	24	36
No load speed	rpm	14800	17100	15000	17200
No load current	mA	165	160	115	100
Nominal speed	rpm	11800	13800	11900	14000
Max. continuous torque	mNm	10.2	9.7	9.9	9.4
Max. continuous current	A	1.49	1.11	0.76	0.57
Stall torque	mNm	56.0	61.5	57.8	63.5
Stall current	A	7.27	6.02	3.75	3.16
Max efficiency	%	81	81	80	80
Resistance (phase-phase)	Ohm	1.65	2.99	6.40	11.4
Inductance (phase-phase)	mH	0.102	0.180	0.409	0.707
Torque constant	mNm / A	7.70	10.21	15.40	20.10
Speed constant	rpm / V	1240	935	620	475
Speed/torque gradient	rpm / mNm	266	274	258	269
Mechanical time constant	ms	1.67	1.72	1.62	1.69
Rotor inertia	gcm ²	0.6	0.6	0.6	0.6

Specification		
Bearing		Ball bearing
Max speed	rpm	30000
Axial play	mm	0..0.14
Radial play		Preloaded
Max axial load (dynamic)	N	1
Max. force for press fits (static)	N	18
Max radial load (5mm from flange)	N	6
Ambient temperature	° C	-40~+100
Max winding temperature	° C	155
Thermal resistance		
Housing - Ambient	° C/ W	20.5
Winding - Housing	° C/ W	3.30
Thermal time constant		
Motor	s	525
Winding	s	0.72
Number of pole pairs		1
Number of phases		3
Weight	g	44

Combination
Gearbox PG16C Ø16mm 0.5Nm 4:1-850:1 Page 44
Encoder Please contact local sales.
Option With hall sensor / Sensorless

Product Overview

Slotless Brushless DC Motor

Coreless Brushed DC Motor

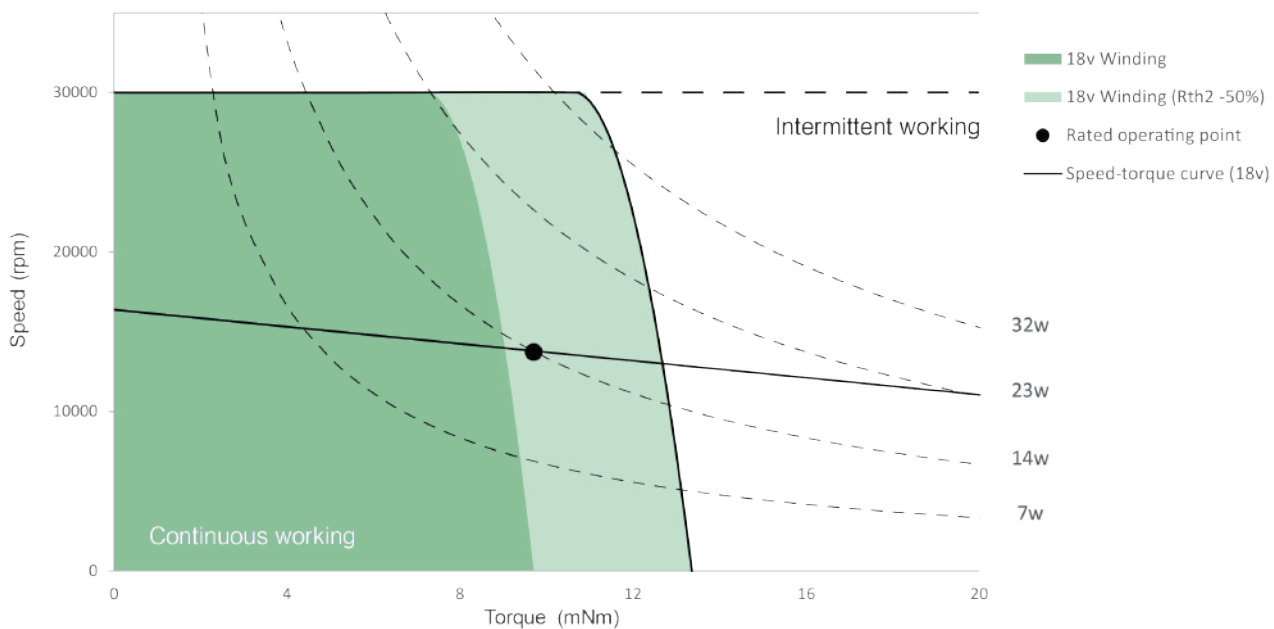
Planetary Gearbox

Encoder

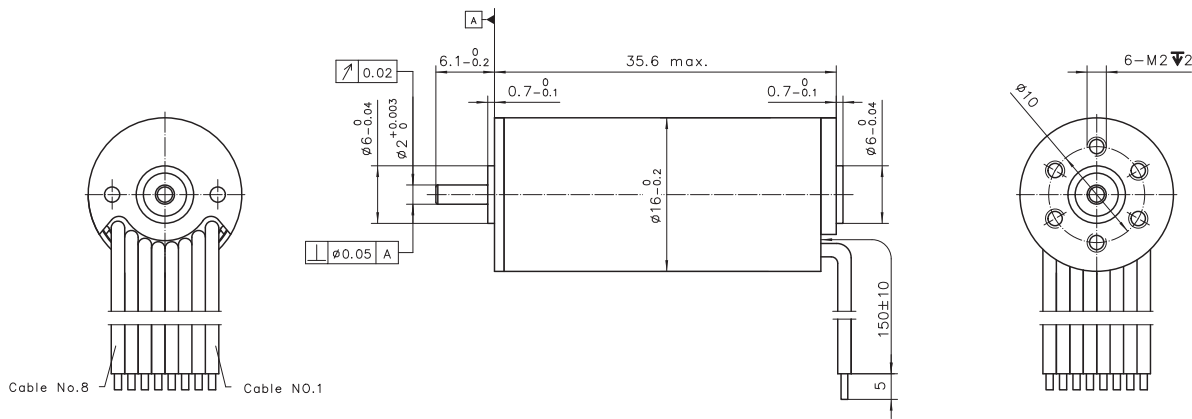
Drive

Technical

Operating Range



Dimension



Connection (Cable AWG 24)

Cable No.	Signal	Color
1	Motor winding 1	brown
2	Motor winding 2	red
3	Motor winding 3	orange
4	V _{Hall} 3...24VDC	yellow
5	GND	green
6	Hall IC 1	blue
7	Hall IC 2	violet
8	Hall IC 3	grey

TSU16036Hxx-S101

TSU22048 Ø22mm 55/75W

Motor Data		Part Numbers			
		TSU22048H18	TSU22048H24	TSU22048H36	TSU22048H48
Nominal voltage	V	18	24	36	48
No load speed	rpm	19500	19200	19400	19900
No load current	mA	342	326	295	253
Nominal speed	rpm	17000	16400	16600	17100
Max. continuous torque	mNm	33.1	32.5	31.6	31.1
Max. continuous current	A	4.04	2.94	2.01	1.56
Stall torque	mNm	322.8	316.6	328.9	341.0
Stall current	A	36.00	25.53	17.91	14.29
Max efficiency	%	86	86	86	85
Resistance (phase-phase)	Ohm	0.50	0.94	2.01	3.36
Inductance (phase-phase)	mH	0.052	0.104	0.230	0.391
Torque constant	mNm / A	8.97	12.40	18.36	23.87
Speed constant	rpm / V	1065	770	520	400
Speed/torque gradient	rpm / mNm	59	58	57	56
Mechanical time constant	ms	2.40	2.36	2.30	2.28
Rotor inertia	gcm ²	3.86	3.86	3.86	3.86

Specification		
Bearing		Ball bearing
Max speed	rpm	30000
Axial play	mm	0..0.14
Radial play		Preloaded
Max axial load (dynamic)	N	3.5
Max. force for press fits (static)	N	60
Max radial load (5mm from flange)	N	15
Ambient temperature	° C	-40~+100
Max winding temperature	° C	155
Thermal resistance		
Housing - Ambient	° C/ W	9.0
Winding - Housing	° C/ W	1.75
Thermal time constant		
Motor	s	510
Winding	s	1.59
Number of pole pairs		1
Number of phases		3
Weight	g	110

Combination
Gearbox PG22C Ø22mm 0.8Nm 4:1-509:1 Page 45
Encoder U22 Ø22mm 256 Lines 2 Channels Page 51
Option With hall sensor / Sensorless

Product Overview

Slotless Brushless DC Motor

Coreless Brushed DC Motor

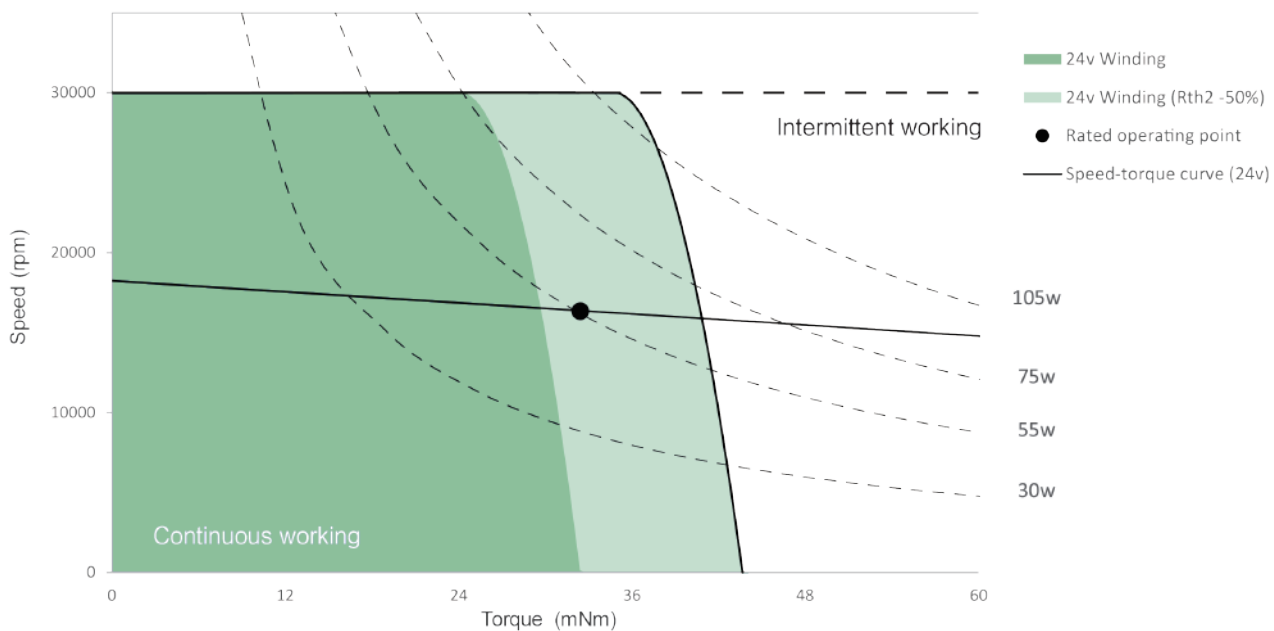
Planetary Gearbox

Encoder

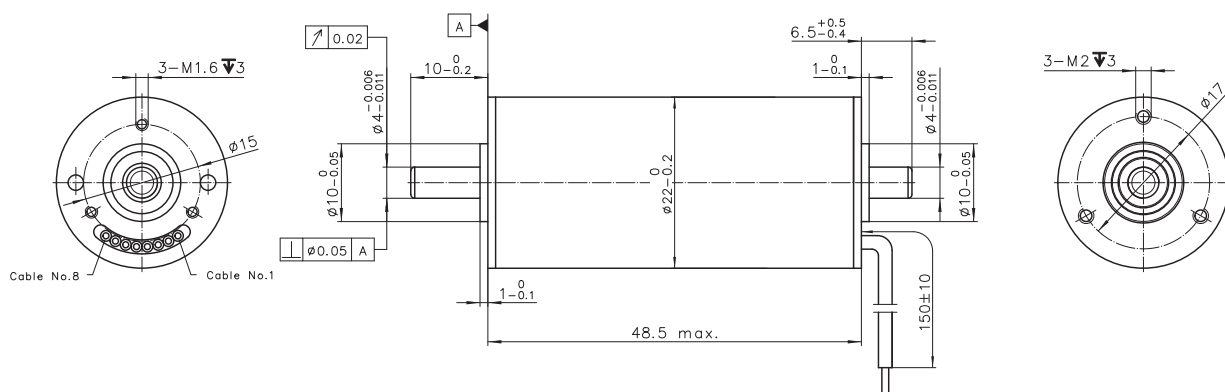
Drive

Technical

Operating Range



Dimension



Connection (Cable AWG 24)

Cable No.	Signal	Color
1	Motor winding 1	brown
2	Motor winding 2	red
3	Motor winding 3	orange
4	V _{Hall} 3...24VDC	yellow
5	GND	green
6	Hall IC 1	blue
7	Hall IC 2	violet
8	Hall IC 3	grey

TSU22048Hxx-S101

TSH16056 Ø16mm 75/90W

Motor Data	Part Numbers				
		TSH16056H18	TSH16056H24	TSH16056H36	TSH16056H48
Nominal voltage	V	18	24	36	48
No load speed	rpm	47600	40800	49600	44800
No load current	mA	560	510	680	530
Nominal speed	rpm	44700	38200	46600	42200
Max. continuous torque	mNm	15.8	16.3	13.2	13.1
Max. continuous current	A	4.93	3.41	2.57	1.82
Stall torque	mNm	302.8	299.6	317.6	310.3
Stall current	A	83.72	53.33	45.57	30.38
Max efficiency	%	90	89	89	87
Resistance (phase-phase)	Ohm	0.22	0.45	0.79	1.58
Inductance (phase-phase)	mH	0.019	0.045	0.081	0.151
Torque constant	mNm / A	3.62	5.62	6.97	10.21
Speed constant	rpm / V	2640	1700	1370	935
Speed/torque gradient	rpm / mNm	157	136	155	145
Mechanical time constant	ms	1.17	1.01	1.15	1.08
Rotor inertia	gcm ²	0.71	0.71	0.71	0.71

Specification		
Bearing		Ball bearing
Max speed	rpm	60000
Axial play	mm	0..0.29
Radial play		Preloaded
Max axial load (dynamic)	N	1.5
Max. force for press fits (static)	N	60
Max radial load (5mm from flange)	N	10
Ambient temperature	° C	-40~+100
Max winding temperature	° C	155
Thermal resistance		
Housing - Ambient	° C/ W	9.0
Winding - Housing	° C/ W	1.75
Thermal time constant		
Motor	s	588
Winding	s	1.10
Number of pole pairs		1
Number of phases		3
Weight	g	73

Combination

Gearbox
Encoder
Please contact local sales.

Option
With hall sensor / Sensorless

Product Overview

Slotless Brushless DC Motor

Coreless Brushed DC Motor

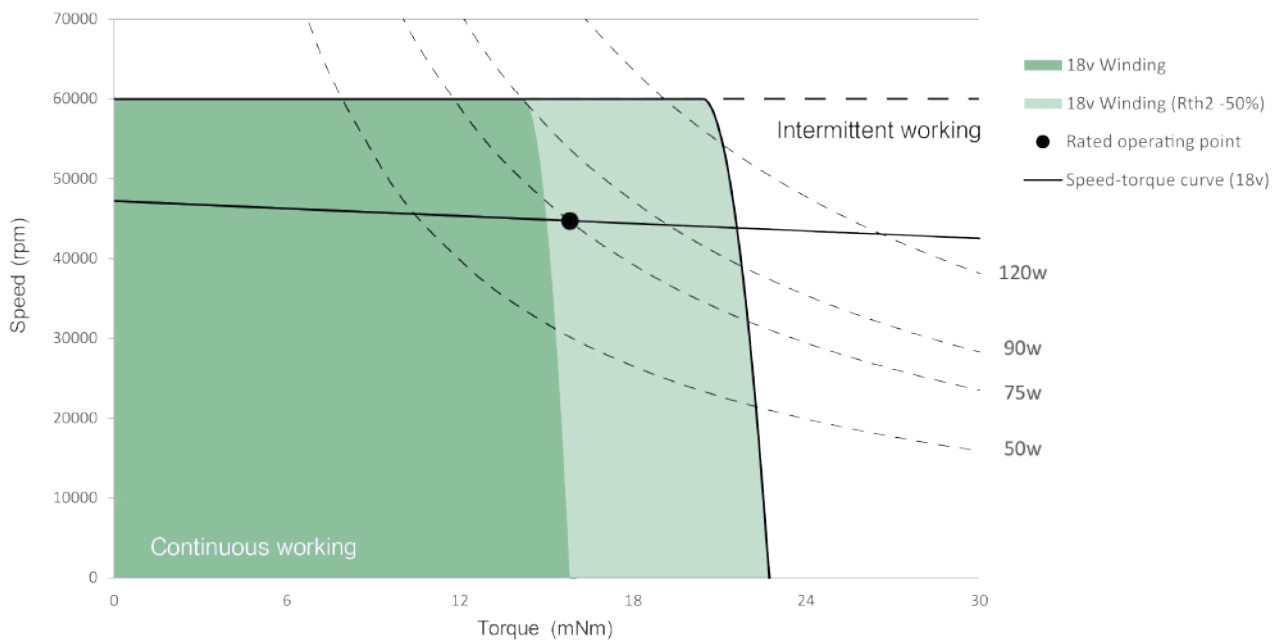
Planetary Gearbox

Encoder

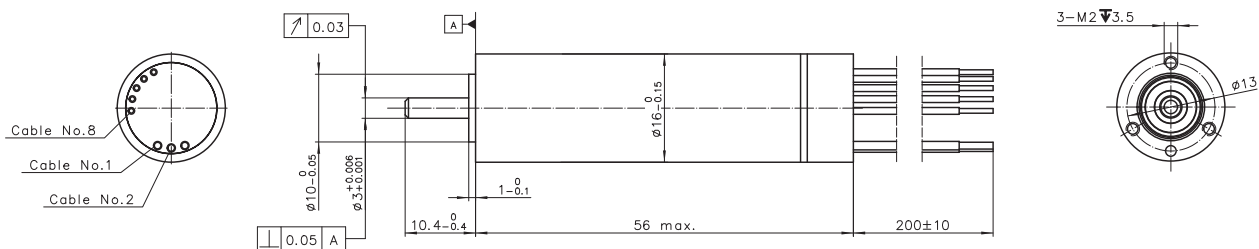
Drive

Technical

Operating Range



Dimension



Connection

Cable No.	Signal	Color	Wire gage
1	Motor winding 1	red	AWG 22
2	Motor winding 2	black	
3	Motor winding 3	white	
4	V _{Hall} 3...24VDC	orange	AWG 26
5	GND	blue	
6	Hall IC 1	yellow	
7	Hall IC 2	brown	
8	Hall IC 3	grey	

TSH16056Hxx-S001

TSH22045 Ø22mm 80/100W

Motor Data		Part Numbers			
		TSH22045H18	TSH22045H24	TSH22045H36	TSH22045H48
Nominal voltage	V	18	24	36	48
No load speed	rpm	38900	40500	39000	39700
No load current	mA	450	540	520	480
Nominal speed	rpm	35400	37200	35100	36300
Max. continuous torque	mNm	19.0	21.2	18.5	19.4
Max. continuous current	A	4.65	4.19	2.54	2.10
Stall torque	mNm	314.1	436.7	379.9	451.1
Stall current	A	69.23	75.00	41.38	37.80
Max efficiency	%	89	90	89	89
Resistance (phase-phase)	Ohm	0.26	0.32	0.87	1.27
Inductance (phase-phase)	mH	0.024	0.038	0.097	0.162
Torque constant	mNm / A	4.54	5.82	9.18	11.94
Speed constant	rpm / V	2105	1640	1040	800
Speed/torque gradient	rpm / mNm	121	90	99	85
Mechanical time constant	ms	2.38	1.77	1.94	1.68
Rotor inertia	gcm ²	1.88	1.88	1.88	1.88

Specification		
Bearing		Ball bearing
Max speed	rpm	50000
Axial play	mm	0..0.24
Radial play		Preloaded
Max axial load (dynamic)	N	4
Max. force for press fits (static)	N	110
Max radial load (5mm from flange)	N	16
Ambient temperature	° C	-40~+100
Max winding temperature	° C	155
Thermal resistance		
Housing - Ambient	° C/ W	15.0
Winding - Housing	° C/ W	0.60
Thermal time constant		
Motor	s	450
Winding	s	0.98
Number of pole pairs		1
Number of phases		3
Weight	g	98

Combination

Gearbox
Encoder
Please contact local sales.

Option
With hall sensor / Sensorless

Product Overview

Slotless Brushless DC Motor

Coreless Brushed DC Motor

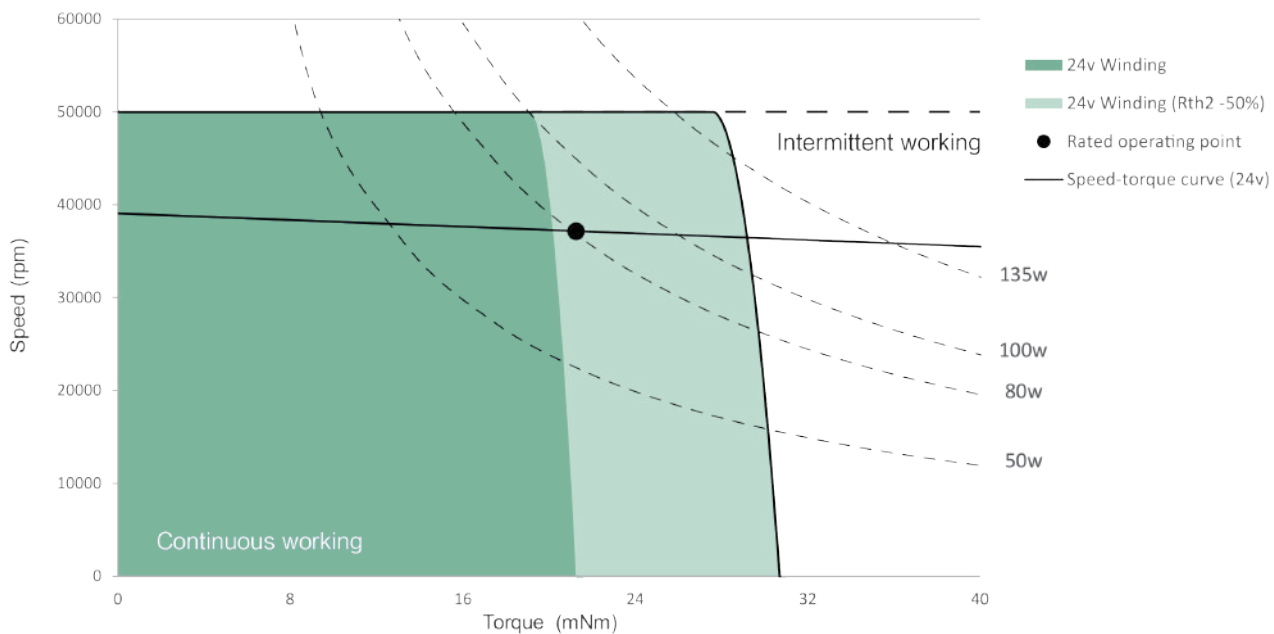
Planetary Gearbox

Encoder

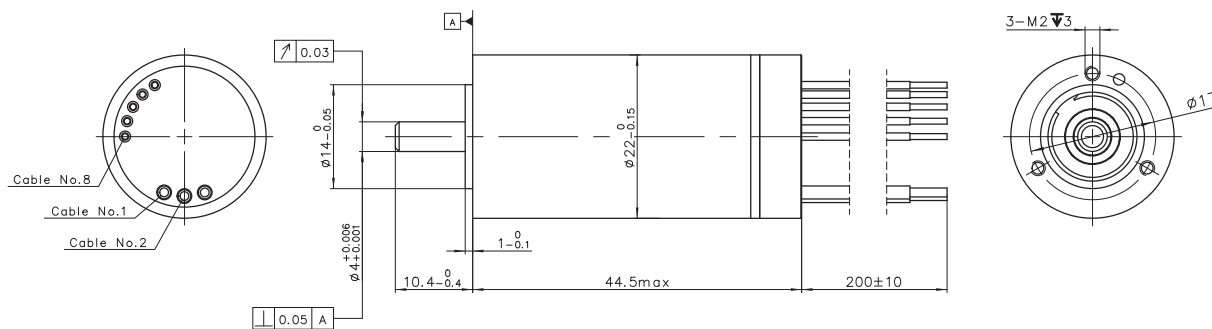
Drive

Technical

Operating Range



Dimension



Connection

Cable No.	Signal	Color	Wire gage
1	Motor winding 1	red	AWG 22
2	Motor winding 2	black	
3	Motor winding 3	white	
4	V _{motor} 3...24VDC	orange	AWG 26
5	GND	blue	
6	Hall IC 1	yellow	
7	Hall IC 2	brown	
8	Hall IC 3	grey	

TSH22045Hxx-S001

TSH22060 Ø22mm 120/150W

Motor Data

		TSH22060H24	TSH22060H36	TSH22060H48
Nominal voltage	V	24	36	48
No load speed	rpm	37000	38200	38200
No load current	mA	650	590	520
Nominal speed	rpm	35300	36600	36500
Max. continuous torque	mNm	32.8	33.8	30.6
Max. continuous current	A	5.93	4.34	3.07
Stall torque	mNm	795.8	926.6	823.7
Stall current	A	128.34	102.86	68.57
Max efficiency	%	91	91	91
Resistance (phase-phase)	Ohm	0.19	0.35	0.70
Inductance (phase-phase)	mH	0.024	0.053	0.097
Torque constant	mNm / A	6.20	9.01	12.01
Speed constant	rpm / V	1540	1060	795
Speed/torque gradient	rpm / mNm	46	41	46
Mechanical time constant	ms	1.57	1.39	1.57
Rotor inertia	gcm ²	3.23	3.23	3.23

Specification

Bearing		Ball bearing
Max speed	rpm	50000
Axial play	mm	0..0.24
Radial play		Preloaded
Max axial load (dynamic)	N	4
Max. force for press fits (static)	N	110
Max radial load (5mm from flange)	N	16
Ambient temperature	° C	-40~+100
Max winding temperature	° C	155
Thermal resistance		
Housing - Ambient	° C/ W	12.7
Winding - Housing	° C/ W	0.60
Thermal time constant		
Motor	s	400
Winding	s	1.56
Number of pole pairs		1
Number of phases		3
Weight	g	140

Combination

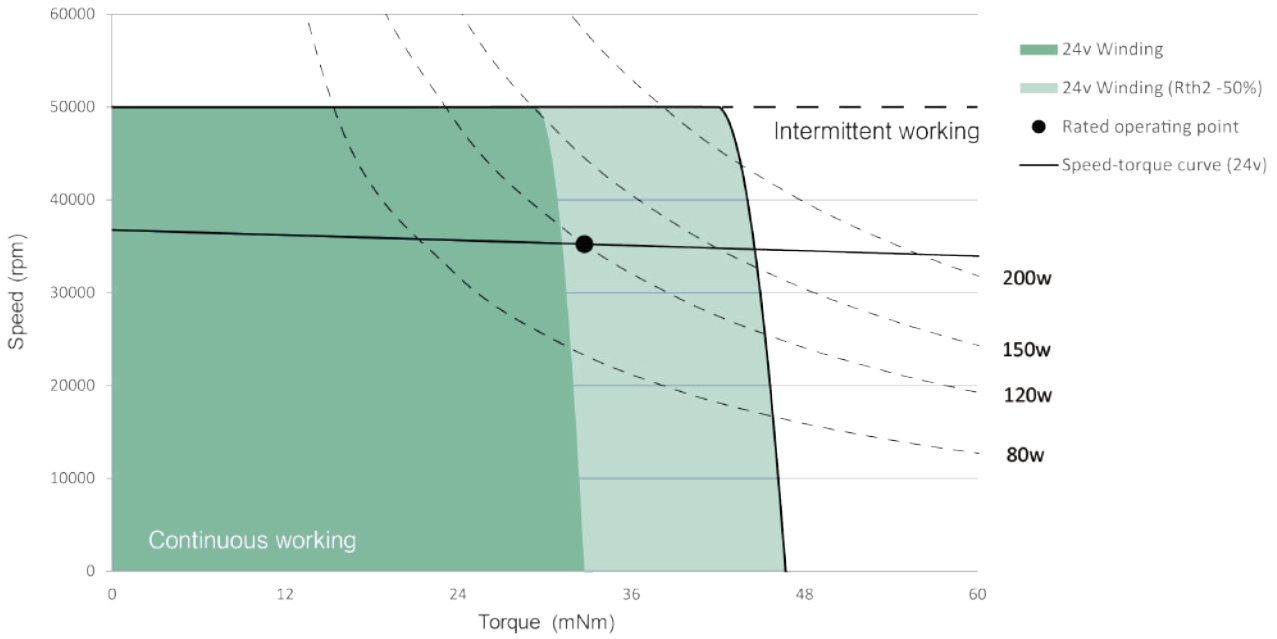
Gearbox Encoder

Please contact local sales.

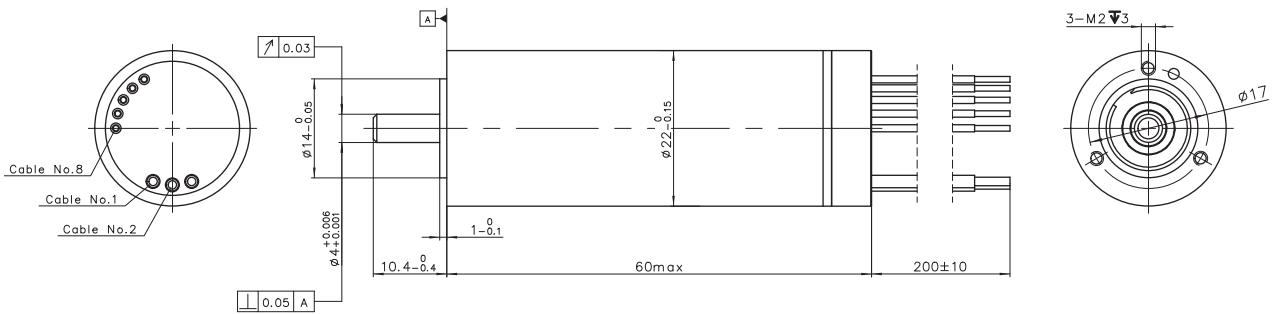
Option

With hall sensor / Sensorless

Operating Range



Dimension



Connection

Cable No.	Signal	Color	Wire gage
1	Motor winding 1	red	AWG 18
2	Motor winding 2	black	
3	Motor winding 3	white	
4	V _{bat} 3...32VDC	orange	AWG 26
5	GND	blue	
6	Hall IC 1	yellow	
7	Hall IC 2	brown	
8	Hall IC 3	grey	

TSH22060Hxx-S001

Coreless Brushed

TC Motor

TCU08017

TCU10017

TCU10025

TCU13020

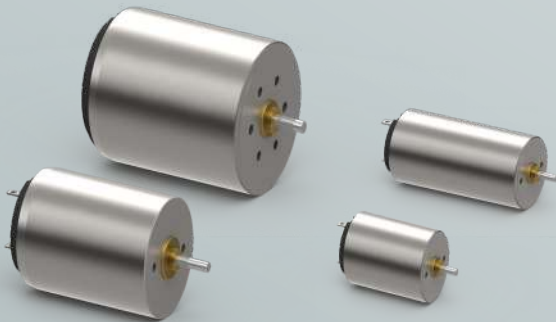
TCU13028

TCU16025

TCU17025

TCU17035

TCU24032



TCU08017 Ø8mm Precious Metal Brushes 0.3/1W

Motor Data		Part Numbers	
		TCU08017P06	TCU08017P12
Nominal voltage	V	6	12
No load speed	rpm	13500	16000
No load current	mA	14	6
Nominal speed	rpm	3360	5460
Max. continuous torque	mNm	0.60	0.60
Max. continuous current	A	0.164	0.093
Stall torque	mNm	0.85	0.95
Stall current	A	0.21	0.14
Max efficiency	%	55	63
Terminal Resistance	Ohm	28.0	87.0
Terminal Inductance	mH	0.206	0.606
Torque constant	mNm / A	3.96	6.87
Speed constant	rpm / V	2410	1390
Speed/torque gradient	rpm / mNm	17030	17603
Mechanical time constant	ms	6.60	6.82
Rotor inertia	gcm ²	0.037	0.037

Specification		
Bearing	Sleeve bearing	
Max speed	rpm	18000
Axial play	mm	≤0.3
Number of commutator segments	5	
Ambient temperature	° C	-20~+65
Max winding temperature	° C	100
Thermal resistance		
Housing - Ambient	° C / W	52.8
Winding - Housing	° C / W	26.4
Thermal time constant		
Motor	s	21
Winding	s	2.37
Number of pole pairs	1	
Weight	g	4.5

Combination		
Gearbox		
PG08C		
Ø8mm	0.1 Nm	16:1-1024:1
Page 41		

Product Overview

Slotless Brushless DC Motor

Coreless Brushed DC Motor

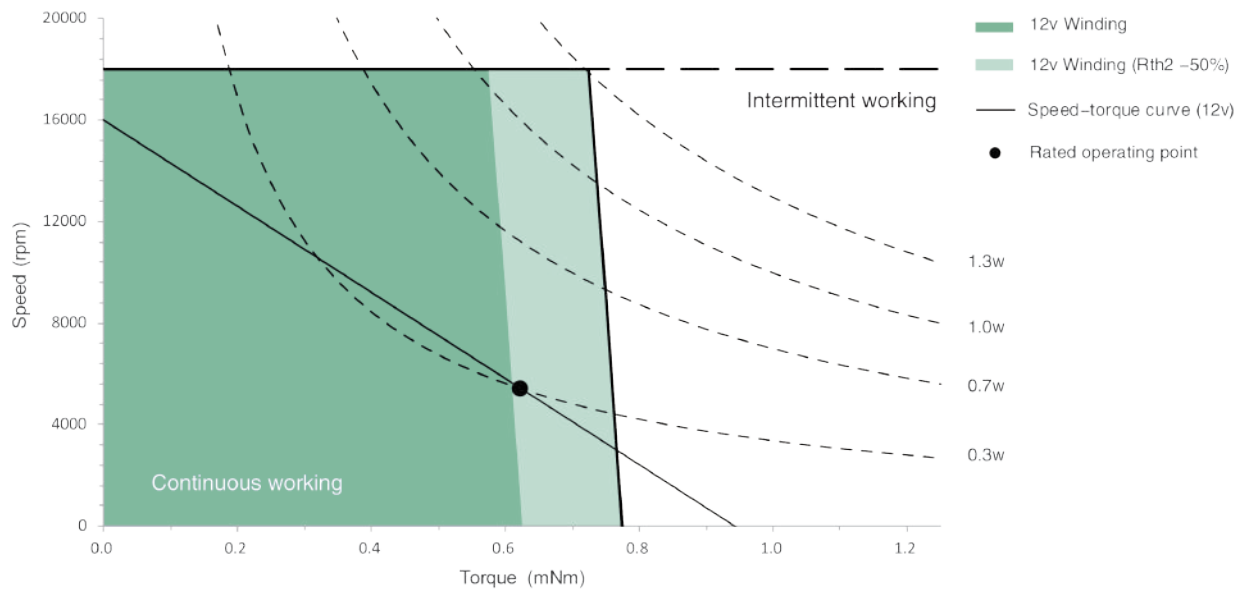
Planetary Gearbox

Encoder

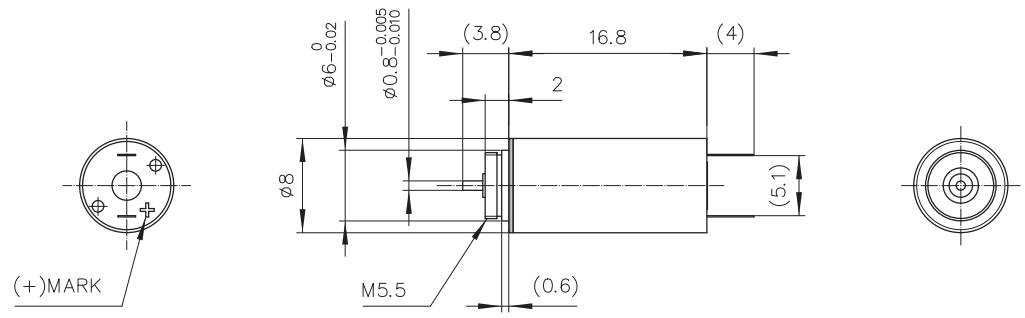
Drive

Technical

Operating Range



Dimension



TCU08017Pxx-S001

TCU10017 \varnothing 10mm Precious Metal Brushes 0.4/1.1W

Motor Data		Part Numbers	
		TCU10017P03	TCU10017P06
Nominal voltage	V	3	6
No load speed	rpm	13300	13800
No load current	mA	18.6	11.2
Nominal speed	rpm	4990	5010
Max. continuous torque	mNm	0.80	0.71
Max. continuous current	A	0.403	0.197
Stall torque	mNm	1.33	1.21
Stall current	A	0.63	0.30
Max efficiency	%	69	65
Terminal Resistance	Ohm	4.7	19.8
Terminal Inductance	mH	0.042	0.197
Torque constant	mNm / A	2.09	4.00
Speed constant	rpm / V	4570	2390
Speed/torque gradient	rpm / mNm	10345	11844
Mechanical time constant	ms	7.37	7.57
Rotor inertia	gcm ²	0.068	0.061

Specification		
Bearing	Sleeve bearing	
Max speed	rpm	15000
Axial play	mm	≤0.3
Number of commutator segments	5	
Ambient temperature	° C	-20~+65
Max winding temperature	° C	100
Thermal resistance		
Housing - Ambient	° C / W	54.5
Winding - Housing	° C / W	23.4
Thermal time constant		
Motor	s	108
Winding	s	2.53
Number of pole pairs	1	
Weight	g	7.4

Combination	
Gearbox	
PG10C	
Ø10mm	0.15 Nm 16:1-1024:1
Page 42	
Encoder	
RS10	
Ø10mm	12 Lines 2 Channels
Page 47	

Product Overview

Slotless Brushless DC Motor

Coreless Brushed DC Motor

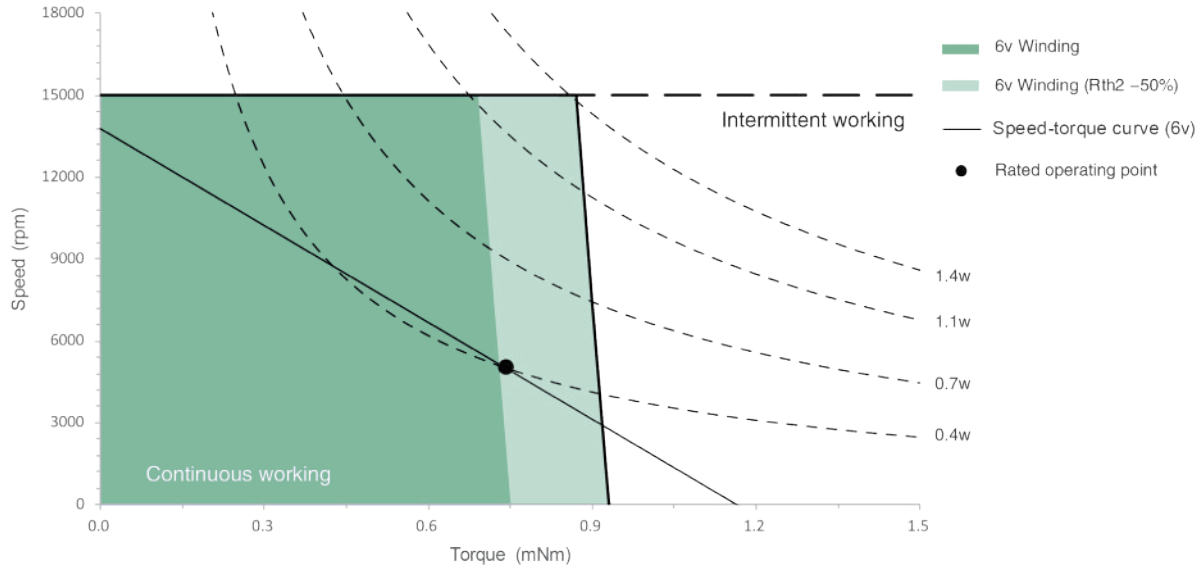
Planetary Gearbox

Encoder

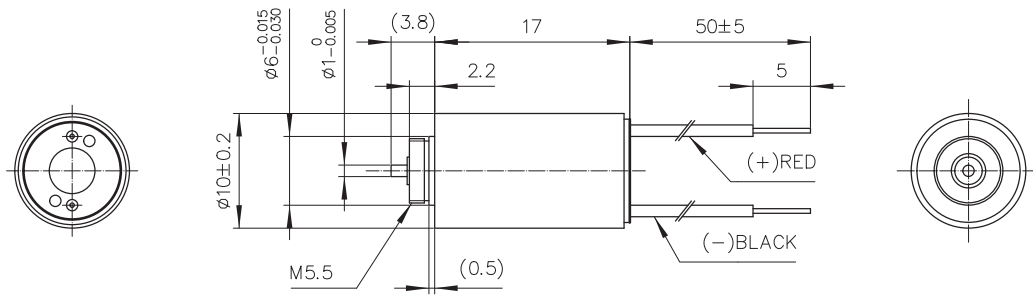
Drive

Technical

Operating Range



Dimension



TCU10017Pxx-S001

TCU10025 Ø10mm Precious Metal Brushes 1.1/2.5W

Motor Data		Part Numbers		
		TCU10025P03	TCU10025P06	TCU10025P12
Nominal voltage	V	3	6	12
No load speed	rpm	13200	11900	13100
No load current	mA	19.2	10.4	4.6
Nominal speed	rpm	6790	5900	6500
Max. continuous torque	mNm	1.63	1.73	1.58
Max. continuous current	A	0.777	0.374	0.188
Stall torque	mNm	3.39	3.48	3.19
Stall current	A	1.58	0.73	0.37
Max efficiency	%	79	78	79
Terminal Resistance	Ohm	1.9	8.2	32.4
Terminal Inductance	mH	0.026	0.128	0.432
Torque constant	mNm / A	2.15	4.75	8.60
Speed constant	rpm / V	4450	2010	1110
Speed/torque gradient	rpm / mNm	3940	3469	4180
Mechanical time constant	ms	4.46	4.07	4.25
Rotor inertia	gcm ²	0.108	0.112	0.097

Specification		
Bearing	Sleeve bearing	
Max speed	rpm	15000
Axial play	mm	≤0.3
Number of commutator segments	5	
Ambient temperature	° C	-20~+65
Max winding temperature	° C	100
Thermal resistance		
Housing - Ambient	° C / W	41.3
Winding - Housing	° C / W	10.8
Thermal time constant		
Motor	s	135
Winding	s	1.78
Number of pole pairs	1	
Weight	g	10.7

Combination	
Gearbox	
PG10C	
Ø10mm 0.15 Nm 16:1-1024:1	
Page 42	
Encoder	
RS10	
Ø10mm 12 Lines 2 Channels	
Page 47	

Product Overview

Slotless Brushless DC Motor

Coreless Brushed DC Motor

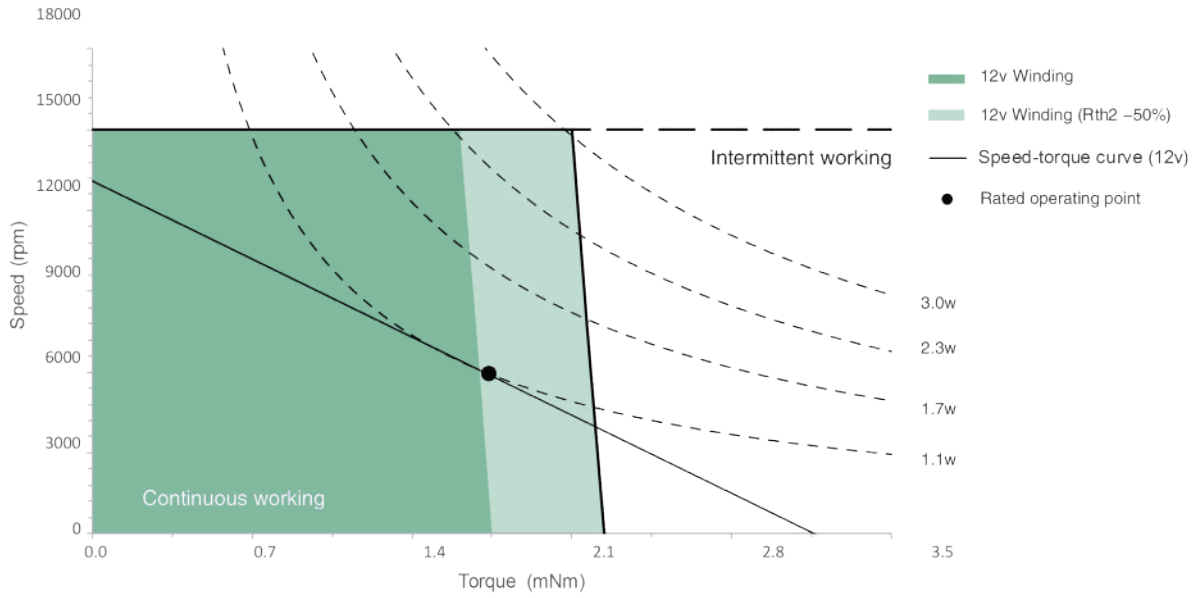
Planetary Gearbox

Encoder

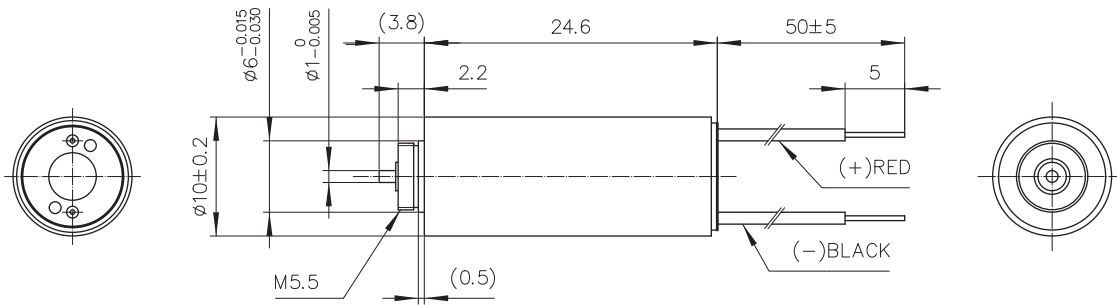
Drive

Technical

Operating Range



Dimension



TCU10025Pxx-S001

TCU13020 Ø13mm Precious Metal Brushes 1.7/2.3W

Motor Data		Part Numbers				
		TCU13020P03	TCU13020P06	TCU13020P09	TCU13020P12	TCU13020P15
Nominal voltage	V	3	6	9	12	15
No load speed	rpm	9800	12100	12400	12900	12400
No load current	mA	23.3	23.0	11.7	8.0	7.1
Nominal speed	rpm	5030	8100	7940	8630	8110
Max. continuous torque	mNm	1.64	1.74	1.85	1.83	1.81
Max. continuous current	A	0.596	0.409	0.275	0.218	0.167
Stall torque	mNm	3.44	5.12	5.36	5.62	5.33
Stall current	A	1.20	1.13	0.77	0.65	0.47
Max efficiency	%	74	73	79	78	77
Terminal Resistance	Ohm	2.5	5.3	11.7	18.6	32.0
Terminal Inductance	mH	0.041	0.099	0.246	0.402	0.688
Torque constant	mNm / A	2.87	4.53	6.97	8.76	11.37
Speed constant	rpm / V	3330	2110	1370	1090	840
Speed/torque gradient	rpm / mNm	2903	2471	2300	2327	2364
Mechanical time constant	ms	8.33	9.19	7.68	7.77	7.82
Rotor inertia	gcm ²	0.274	0.355	0.319	0.319	0.316

Specification		
Bearing	Sleeve bearing	
Max speed	rpm	13000
Axial play	mm	≤0.3
Number of commutator segments	5	
Ambient temperature	° C	-20~+65
Max winding temperature	° C	100
Thermal resistance		
Housing - Ambient	° C / W	50.6
Winding - Housing	° C / W	16.8
Thermal time constant		
Motor	s	76
Winding	s	4.14
Number of pole pairs	1	
Weight	g	13.6

Combination	
Gearbox	
PG13C	
Ø13mm 0.3 Nm 16:1-425:1	
Page 43	
Encoder	
R13	
Ø13mm 256 Lines 3 Channels	
Page 48	
Option	
Precious Metal Brushes / Graphite Brushes	

Product Overview

Slotless Brushless DC Motor

Coreless Brushed DC Motor

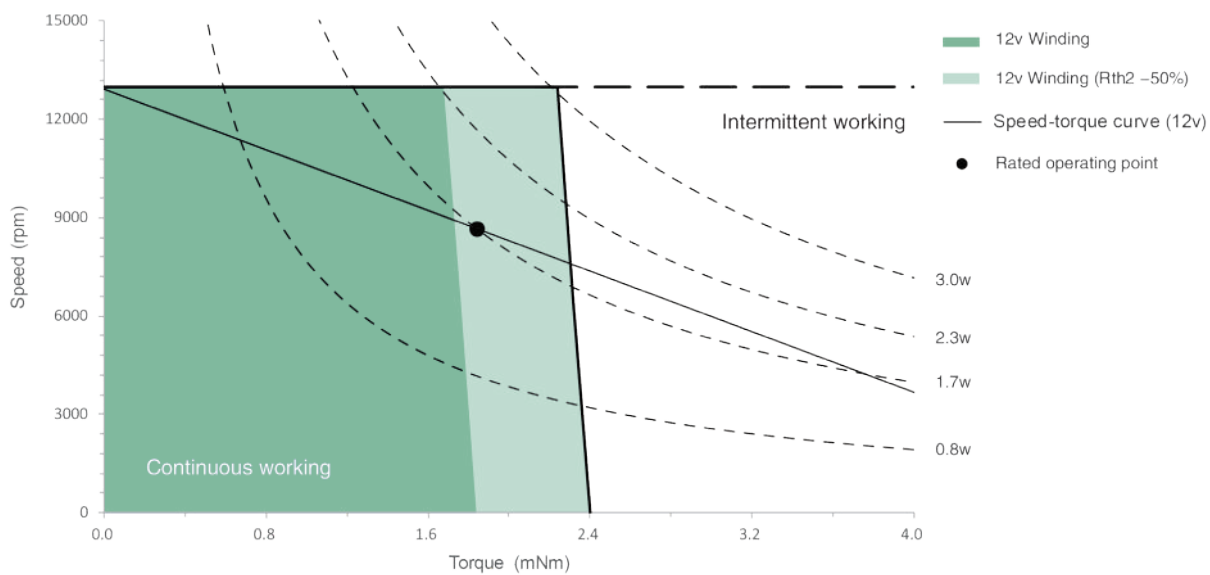
Planetary Gearbox

Encoder

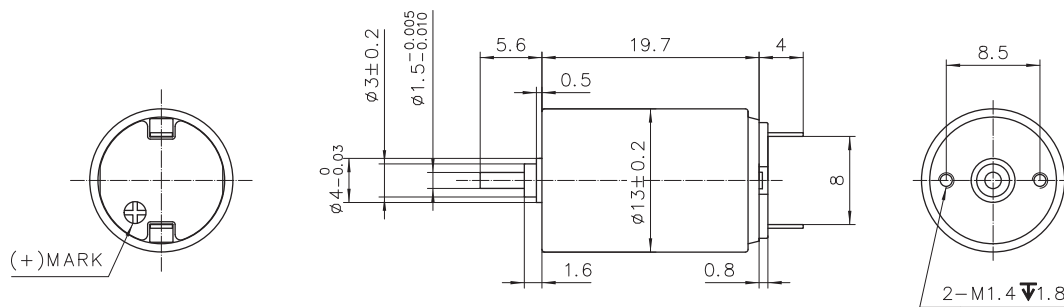
Drive

Technical

Operating Range



Dimension



TCU13020Pxx-S001

TCU13028 Ø13mm Precious Metal Brushes 2.8/4.2W

Motor Data		Part Numbers				
		TCU13028P06	TCU13028P12	TCU13028P15	TCU13028P18	TCU13028P24
Nominal voltage	V	6	12	15	18	24
No load speed	rpm	9700	11800	12000	11400	11700
No load current	mA	16.7	16.8	10.0	10.5	7.5
Nominal speed	rpm	6110	7980	8430	7730	7980
Max. continuous torque	mNm	3.36	3.43	3.33	3.44	3.48
Max. continuous current	A	0.591	0.359	0.293	0.231	0.179
Stall torque	mNm	9.18	11.36	11.34	10.91	11.40
Stall current	A	1.57	1.15	0.96	0.72	0.57
Max efficiency	%	80	82	81	85	84
Terminal Resistance	Ohm	3.8	10.4	15.6	25.0	41.9
Terminal Inductance	mH	0.090	0.244	0.372	0.574	0.977
Torque constant	mNm / A	5.86	9.84	11.79	15.16	19.89
Speed constant	rpm / V	1630	970	810	630	480
Speed/torque gradient	rpm / mNm	1066	1025	1072	1039	1011
Mechanical time constant	ms	4.72	4.5	4.73	4.58	4.44
Rotor inertia	gcm ²	0.423	0.419	0.421	0.421	0.419

Specification		
Bearing	Sleeve bearing	
Max speed	rpm	13000
Axial play	mm	≤0.3
Number of commutator segments	5	
Ambient temperature	° C	-20~+65
Max winding temperature	° C	100
Thermal resistance		
Housing - Ambient	° C / W	36.3
Winding - Housing	° C / W	8.4
Thermal time constant		
Motor	s	229
Winding	s	3.90
Number of pole pairs	1	
Weight	g	20.4

Combination	
Gearbox	
PG13C	
Ø13mm 0.3 Nm 16:1-425:1	
Page 43	
Encoder	
R13	
Ø13mm 256 Lines 3 Channels	
Page 48	
Option	
Precious Metal Brushes / Graphite Brushes	

Product Overview

Slotless Brushless DC Motor

Coreless Brushed DC Motor

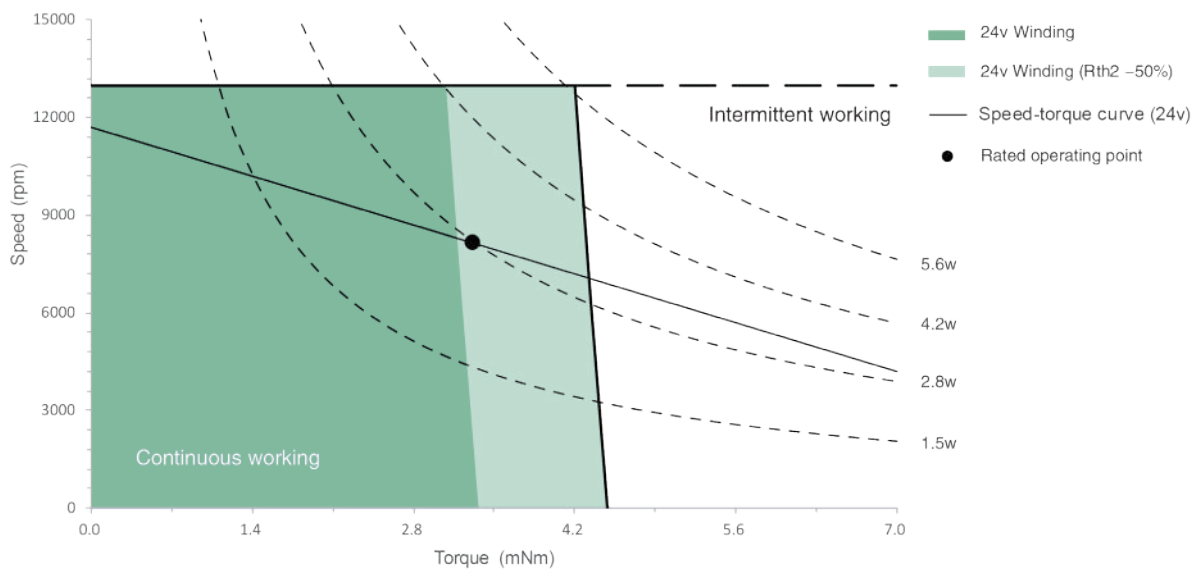
Planetary Gearbox

Encoder

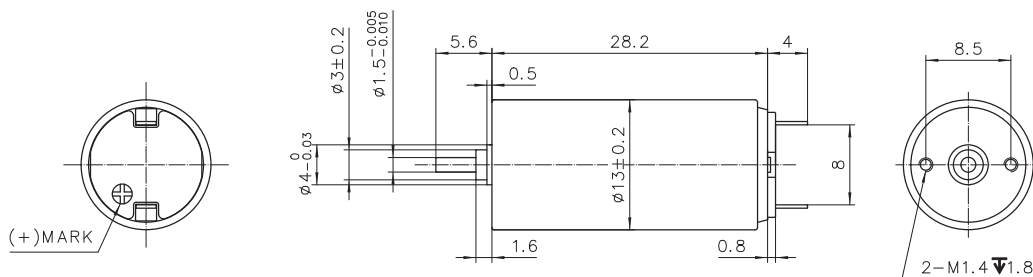
Drive

Technical

Operating Range



Dimension



TCU13028Pxx-S001

TCU16025 Ø16mm Precious Metal Brushes 2/3W

Motor Data		Part Numbers		
		TCU16025P06	TCU16025P12	TCU16025P24
Nominal voltage	V	6	12	24
No load speed	rpm	10800	10600	12700
No load current	mA	22.3	7.7	6.8
Nominal speed	rpm	5490	5680	8180
Max. continuous torque	mNm	1.87	2.11	2.23
Max. continuous current	A	0.384	0.206	0.133
Stall torque	mNm	3.90	4.63	6.39
Stall current	A	0.76	0.44	0.36
Max efficiency	%	69	75	74
Terminal Resistance	Ohm	7.9	27.5	66.4
Terminal Inductance	mH	0.027	0.144	0.419
Torque constant	mNm / A	5.16	10.61	17.68
Speed constant	rpm / V	1850	900	540
Speed/torque gradient	rpm / mNm	2846	2333	2028
Mechanical time constant	ms	6.65	6.06	5.71
Rotor inertia	gcm ²	0.223	0.248	0.269

Specification		
Bearing	Sleeve bearing	
Max speed	rpm	13000
Axial play	mm	≤0.3
Number of commutator segments	5	
Ambient temperature	° C	-20~+65
Max winding temperature	° C	100
Thermal resistance		
Housing - Ambient	° C / W	40.6
Winding - Housing	° C / W	10.5
Thermal time constant		
Motor	s	281
Winding	s	4.26
Number of pole pairs	1	
Weight	g	24.3

Combination	
Gearbox	
PG16C	
Ø16mm	0.5 Nm 19:1-850:1
Page 44	
Encoder	
R16	
Ø16mm	512 Lines 3 Channels
Page 49	
K16	
Ø16mm	200 Lines 2 Channels
Page 50	
Option	
Precious Metal Brushes / Graphite Brushes	
Sleeve Bearing / Ball Bearing	

Product Overview

Slotless Brushless DC Motor

Coreless Brushed DC Motor

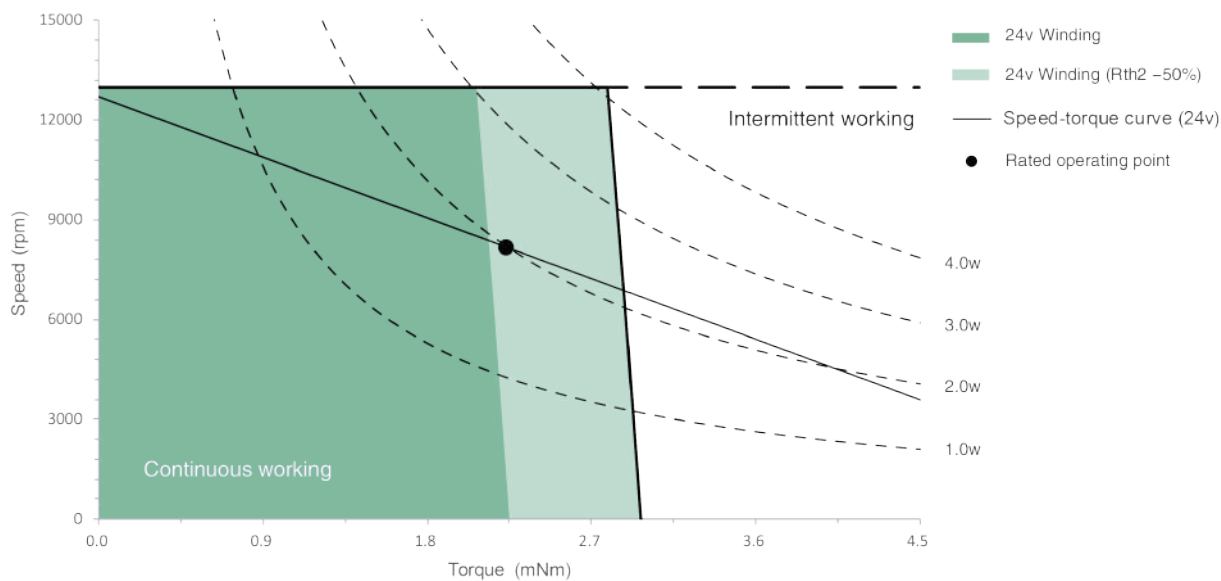
Planetary Gearbox

Encoder

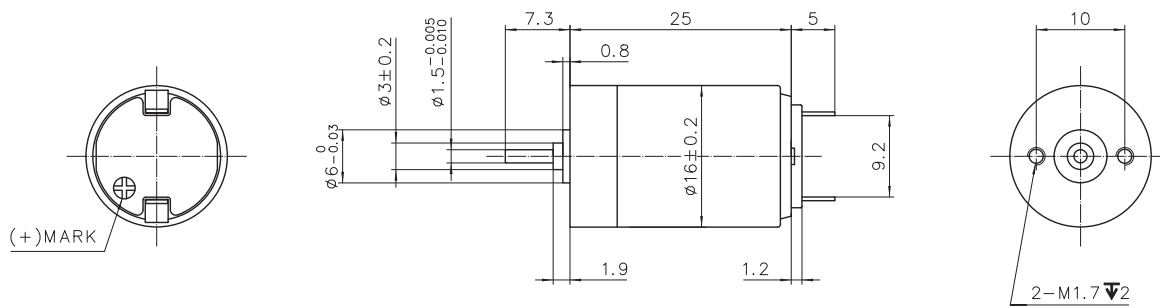
Drive

Technical

Operating Range



Dimension



TCU16025Pxx-S001

TCU17025 Ø17mm Precious Metal Brushes 3.5/4.5W

Motor Data		Part Numbers			
		TCU17025P06	TCU17025P12	TCU17025P18	TCU17025P24
Nominal voltage	V	6	12	18	24
No load speed	rpm	10400	10400	10700	11400
No load current	mA	12.3	8.2	6.3	3.5
Nominal speed	rpm	7310	7520	7800	8260
Max. continuous torque	mNm	3.69	3.90	3.88	3.89
Max. continuous current	A	0.686	0.365	0.250	0.195
Stall torque	mNm	12.47	14.16	14.47	14.91
Stall current	A	2.27	1.29	0.91	0.73
Max efficiency	%	86	83	84	87
Terminal Resistance	Ohm	2.6	9.3	19.8	32.7
Terminal Inductance	mH	0.068	0.272	0.600	0.900
Torque constant	mNm / A	5.49	10.98	15.92	20.32
Speed constant	rpm / V	1740	870	600	470
Speed/torque gradient	rpm / mNm	837	737	746	756
Mechanical time constant	ms	5.96	5.80	5.79	5.91
Rotor inertia	gcm ²	0.680	0.752	0.741	0.746

Specification		
Bearing	Sleeve bearing	
Max speed	rpm	12000
Axial play	mm	≤0.3
Number of commutator segments	5	
Ambient temperature	° C	-20~+65
Max winding temperature	° C	100
Thermal resistance		
Housing - Ambient	° C / W	35.0
Winding - Housing	° C / W	13.2
Thermal time constant		
Motor	s	360
Winding	s	6.20
Number of pole pairs	1	
Weight	g	30

Combination	
Gearbox	
PG16C	
Ø16mm 0.5 Nm	19:1-850:1
Page 44	
Encoder	
R16	
Ø16mm 512 Lines	3 Channels
Page 49	
K16	
Ø16mm 200 Lines	2 Channels
Page 50	
Option	
Precious Metal Brushes / Graphite Brushes	
Sleeve Bearing / Ball Bearing	

Product Overview

Slotless Brushless DC Motor

Coreless Brushed DC Motor

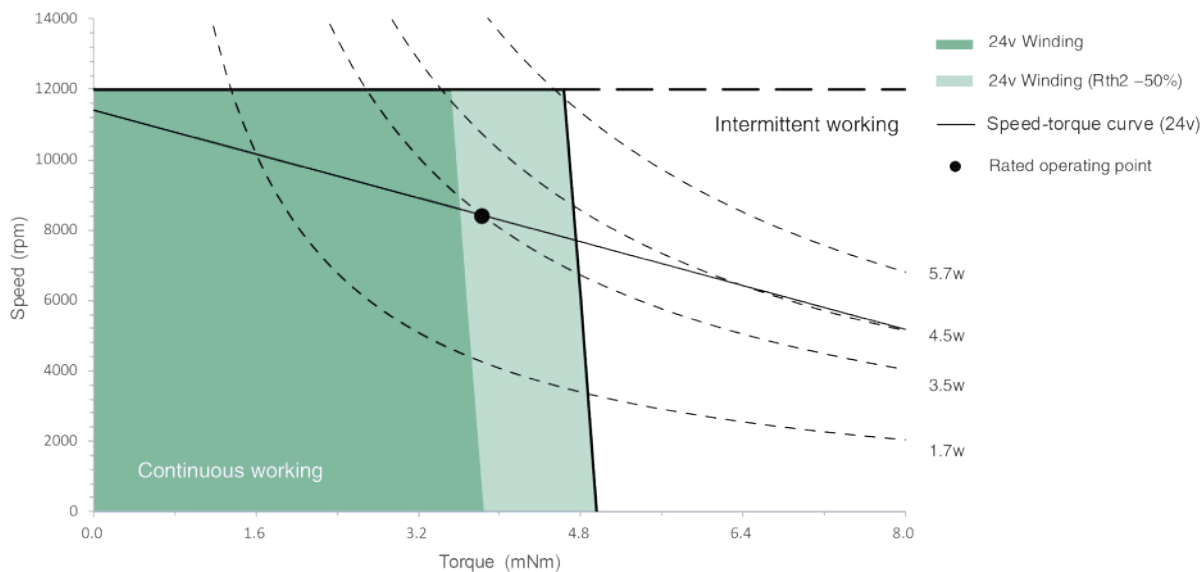
Planetary Gearbox

Encoder

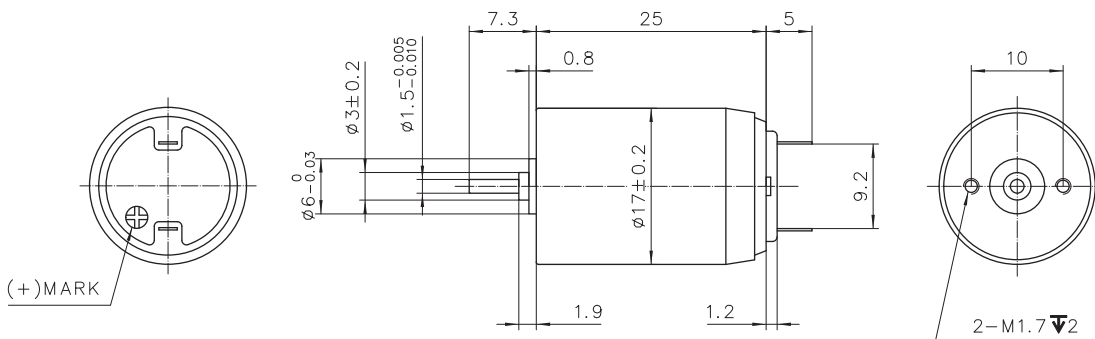
Drive

Technical

Operating Range



Dimension



TCU17025Pxx-S001

TCU17035 Ø17mm Graphite Brushes 7.5/9W

Motor Data		Part Numbers			
		TCU17035G12	TCU17035G18	TCU17035G24	TCU17035G36
Nominal voltage	V	12	18	24	36
No load speed	rpm	9900	11000	11500	10500
No load current	mA	19.7	24.6	24.7	12.8
Nominal speed	rpm	7130	8320	9050	7990
Max. continuous torque	mNm	7.25	7.18	7.72	7.66
Max. continuous current	A	0.650	0.491	0.421	0.253
Stall torque	mNm	26.10	29.91	37.12	32.93
Stall current	A	2.27	1.94	1.90	1.03
Max efficiency	%	83	79	79	79
Terminal Resistance	Ohm	5.3	9.3	12.6	34.8
Terminal Inductance	mH	0.166	0.285	0.453	1.340
Torque constant	mNm / A	11.51	15.40	19.49	31.83
Speed constant	rpm / V	830	620	490	300
Speed/torque gradient	rpm / mNm	382	373	317	328
Mechanical time constant	ms	4.36	4.34	3.78	3.92
Rotor inertia	gcm ²	1.09	1.11	1.14	1.14

Specification		
Bearing	Sleeve bearing	
Max speed	rpm	12000
Axial play	mm	≤0.3
Number of commutator segments	5	
Ambient temperature	° C	-20~+85
Max winding temperature	° C	125
Thermal resistance		
Housing - Ambient	° C / W	21.3
Winding - Housing	° C / W	11.6
Thermal time constant		
Motor	s	504
Winding	s	10.96
Number of pole pairs	1	
Weight	g	41.4

Combination	
Gearbox	
PG16C	
Ø16mm 0.5 Nm	4:1-850:1
Page 44	
Encoder	
R16	
Ø16mm 512 Lines	3 Channels
Page 49	
K16	
Ø16mm 200 Lines	2 Channels
Page 50	
Option	
Graphite Brushes / Precious Metal Brushes	
Sleeve Bearing / Ball Bearing	

Product Overview

Slotless Brushless DC Motor

Coreless Brushed DC Motor

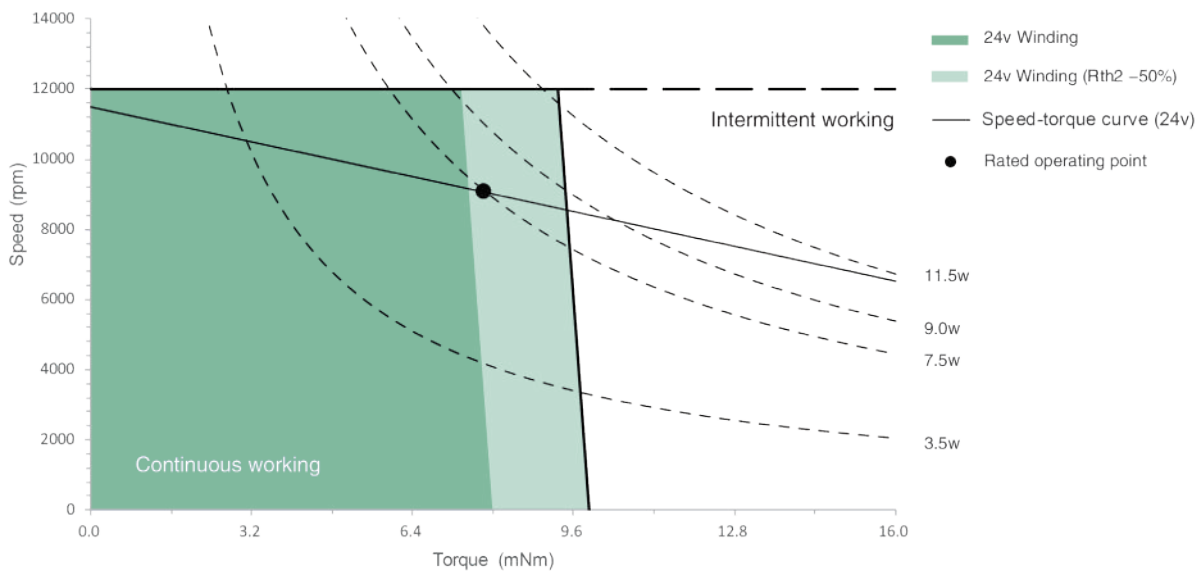
Planetary Gearbox

Encoder

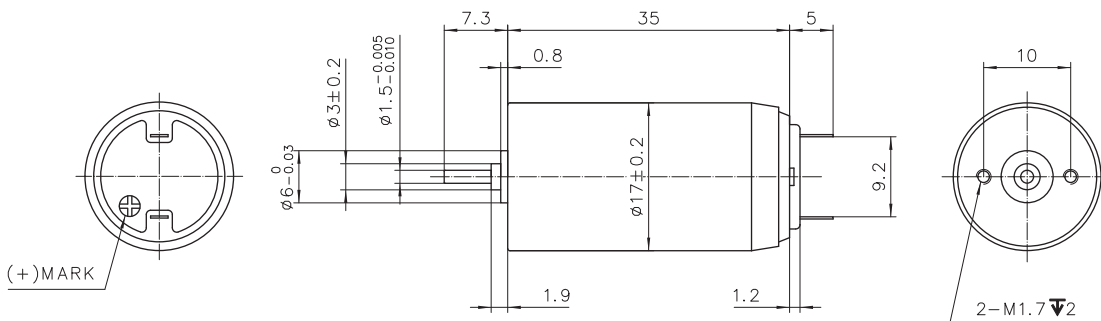
Drive

Technical

Operating Range



Dimension



TCU17035Gxx-S001

TCU24032 Ø24mm Graphite Brushes 9.5/13.5W

Motor Data		Part Numbers			
		TCU24032G09	TCU24032G12	TCU24032G18	TCU24032G24
Nominal voltage	V	9	12	18	24
No load speed	rpm	9700	9700	10100	9600
No load current	mA	40.0	25.6	18.3	21.0
Nominal speed	rpm	7450	7550	8050	7560
Max. continuous torque	mNm	9.83	10.65	10.92	11.89
Max. continuous current	A	1.162	0.942	0.659	0.506
Stall torque	mNm	42.85	50.53	53.66	60.58
Stall current	A	4.89	4.29	3.15	2.47
Max efficiency	%	83	82	85	83
Terminal Resistance	Ohm	1.8	2.8	5.7	9.7
Terminal Inductance	mH	0.386	0.068	0.143	0.284
Torque constant	mNm / A	8.76	11.79	17.05	24.49
Speed constant	rpm / V	1090	810	560	390
Speed/torque gradient	rpm / mNm	229	192	188	155
Mechanical time constant	ms	7.74	5.70	6.24	5.66
Rotor inertia	gcm ²	3.23	2.83	3.17	3.50

Specification		
Bearing	Sleeve bearing	
Max speed	rpm	11000
Axial play	mm	≤0.3
Number of commutator segments	5	
Ambient temperature	° C	-20~+85
Max winding temperature	° C	125
Thermal resistance		
Housing - Ambient	° C / W	24
Winding - Housing	° C / W	5.6
Thermal time constant		
Motor	s	669
Winding	s	6.66
Number of pole pairs	1	
Weight	g	78.8

Combination	
Gearbox	
PG22C	
Ø22mm	0.8 Nm 4:1-509:1
Page 45	
Encoder	
K16	
Ø16mm	200 Lines 2 Channels
Page 50	
Option	
Sleeve Bearing / Ball Bearing	

Product Overview

Slotless Brushless DC Motor

Coreless Brushed DC Motor

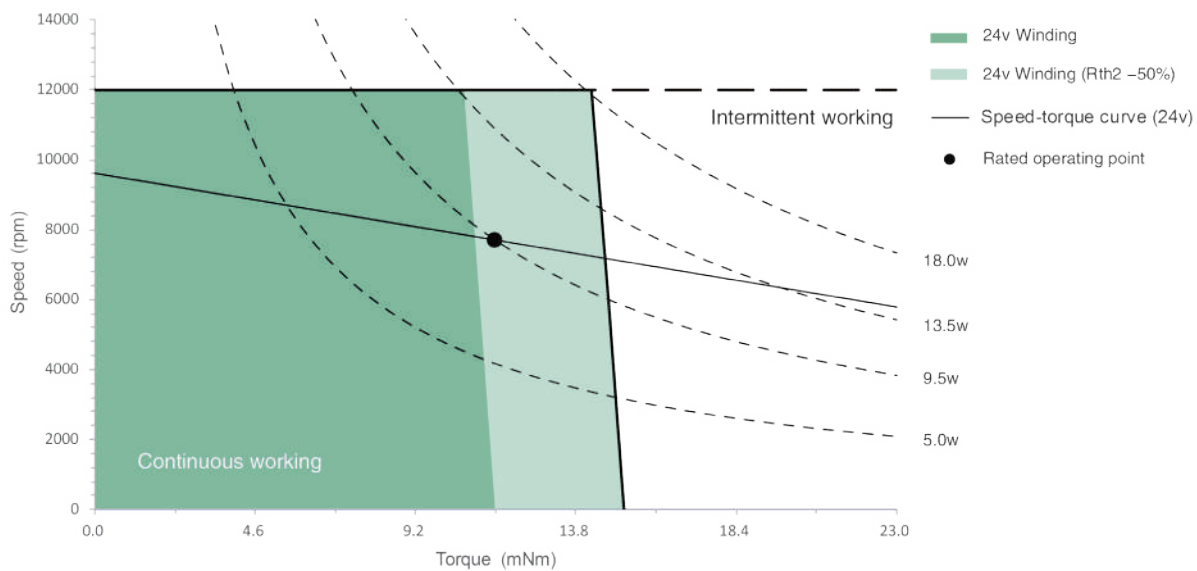
Planetary Gearbox

Encoder

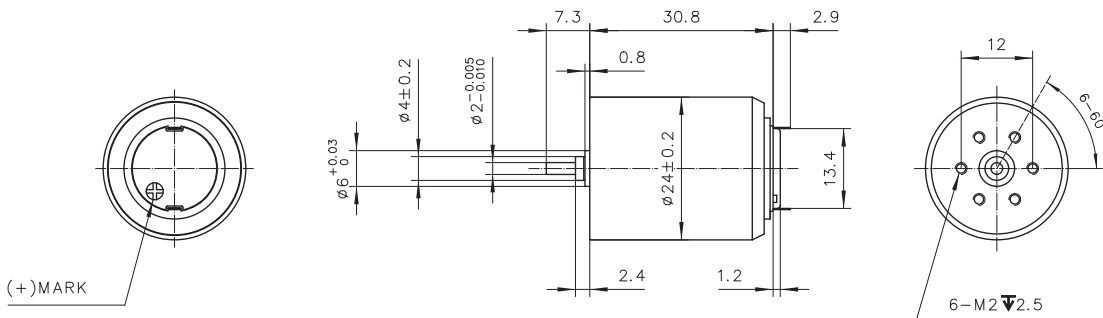
Drive

Technical

Operating Range



Dimension



TCU24032Gxx-S001

Planetary

Gearbox

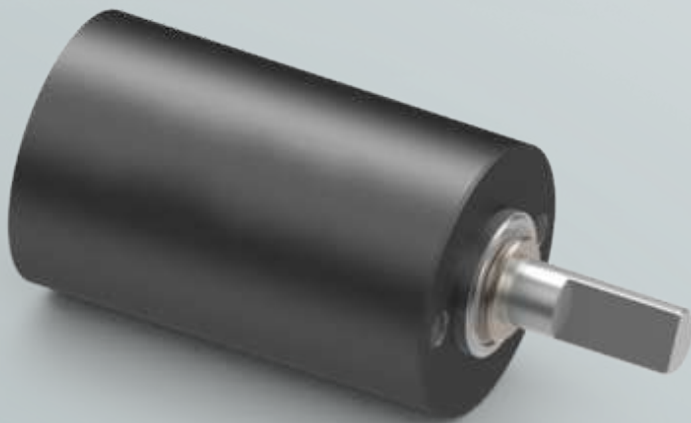
PG08C

PG10C

PG13C

PG16C

PG22C



PG08C Planetary Gearhead Ø8mm 0.1Nm

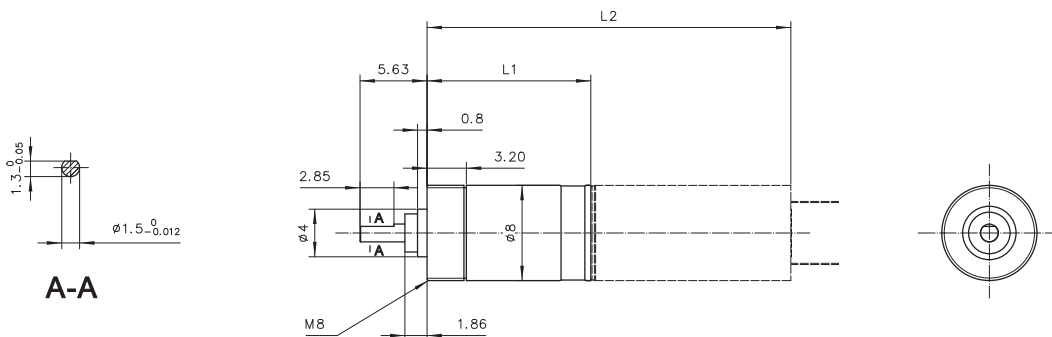
Gearhead Data

Reduction Ratio		4:1	16:1	64:1	256:1	1024:1
Number of stages		1	2	3	4	5
Max. continuous torque	Nm	0.01	0.02	0.06	0.08	0.10
Max. intermittent torque	Nm	0.02	0.03	0.09	0.12	0.15
Weight	g	2.6	3.2	3.9	4.6	5.3
Max. efficiency	%	90	81	66	58	42
Gearhead length L	mm	8.8	11.3	13.9	16.4	19.0
Gearmotor length L2						
└DCU08017	mm	25.6	28.1	30.7	33.2	35.8

Specification

Planetary gearhead	straight teeth	
Output shaft	stainless steel, hardened	
Bearing at output	sleeve bearing	
Radial play	mm	≤ 0.07
Axial play	mm	≤ 0.15
Direction of rotation (drive to output)	=	
Operating temperature	°C	-20~+65

Dimension



PG10C Planetary Gearhead Ø10mm 0.15Nm

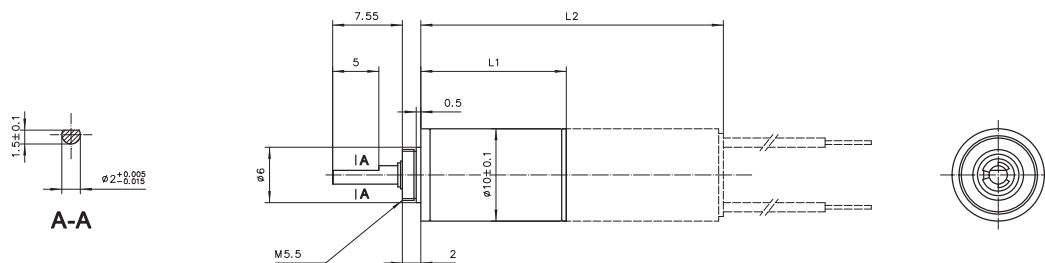
Gearhead Data

Reduction Ratio		16:1	64:1	256:1	1024:1
Number of stages		2	3	4	5
Max. continuous torque	Nm	0.03	0.10	0.15	0.15
Max. intermittent torque	Nm	0.05	0.15	0.23	0.23
Weight	g	6.9	8.3	9.7	11.1
Max. efficiency	%	81	73	66	59
Gearhead length L	mm	12.9	15.8	18.7	21.6
Gearmotor length L2	mm				
└ DCU10017		29.9	32.8	35.7	38.6
└ DCU10025		37.5	40.4	43.3	46.2

Specification

Planetary gearhead		straight teeth
Output shaft		stainless steel, hardened
Bearing at output		sleeve bearing
Radial play	mm	≤ 0.07
Axial play	mm	≤ 0.2
Direction of rotation (drive to output)		=
Operating temperature	°C	-20~+65

Dimension



PG13C Planetary Gearhead Ø13mm 0.3Nm

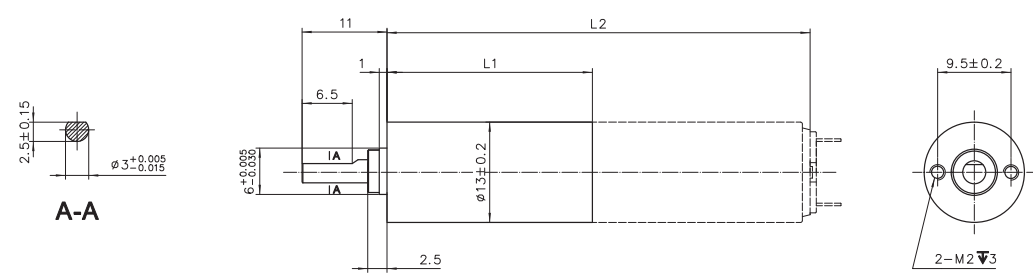
Gearhead Data

Reduction Ratio		16:1	66:1	271:1
			90:1	315:1
				425:1
Number of stages		2	3	4
Max. continuous torque	Nm	0.20	0.30	0.30
Max. intermittent torque	Nm	0.30	0.45	0.45
Weight	g	13.5	16.0	18.9
Max. efficiency	%	81	73	66
Gearhead length L1	mm	19.1	22.9	26.6
Gearmotor length L2				
└DCU13020	mm	39.0	42.8	46.5
└DCU13028	mm	47.5	51.3	55.0

Specification

Planetary gearhead		straight teeth
Output shaft		stainless steel, hardened
Bearing at output		sleeve bearing
Radial play	mm	≤ 0.1
Axial play	mm	≤ 0.25
Max. radial load	N	5 (5mm from flange)
Max. axial load	N	5
Max. force for press fits	N	15
Recommend input speed	rpm	≤ 10000
Direction of rotation (drive to output)		=
Ambient temperature	° C	-20~+65

Dimension



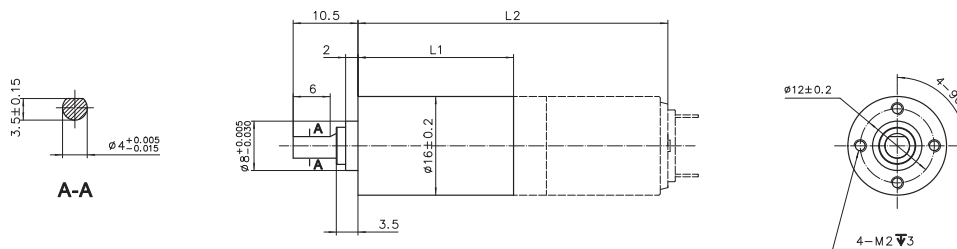
PG16C Planetary Gearhead Ø16mm 0.5Nm

Gearhead Data					
Reduction Ratio		4:1	19:1	84:1	369:1
			29:1	103:1	560:1
				157:1	850:1
Number of stages		1	2	3	4
Max. continuous torque	Nm	0.20	0.30	0.40	0.50
Max. intermittent torque	Nm	0.30	0.45	0.60	0.75
Weight	g	15.5	19.0	22.5	26.0
Max. efficiency	%	90	81	73	66
Gearhead length L1	mm	18.0	18.0	21.6	25.2
Gearmotor length L2					
└DCU16025	mm	43.2	43.2	46.8	50.4
└DCU16035	mm	53.2	53.2	56.8	60.4
└DCU17025	mm	43.2	43.2	46.8	50.4
└DCU17035	mm	53.2	53.2	56.8	60.4

Specification

Planetary gearhead	straight teeth	
Output shaft	stainless steel, hardened	
Bearing at output	sleeve bearing	
Radial play	mm	≤ 0.1
Axial play	mm	≤ 0.25
Max. radial load	N	8 (5mm from flange)
Max. axial load	N	10
Max. force for press fits	N	50
Recommend input speed	rpm	≤ 10000
Direction of rotation (drive to output)	=	
Ambient temperature	° C	-20~+65

Dimension

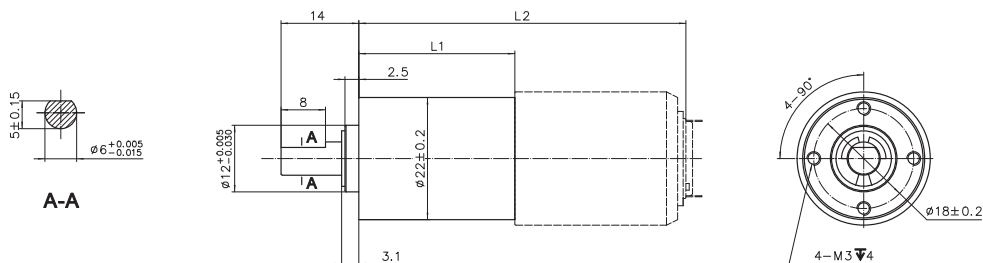


PG22C Planetary Gearhead Ø22mm 0.8Nm

Gearhead Data					
Reduction Ratio		4:1	16:1	64:1	256:1
			22:1	90:1	361:1
				107:1	509:1
Number of stages		1	2	3	4
Max. continuous torque	Nm	0.20	0.40	0.60	0.80
Max. intermittent torque	Nm	0.30	0.60	0.90	1.20
Weight	g	34.3	34.6	54.4	64.0
Max. efficiency	%	84	70	59	49
Gearhead length L1	mm	17.7	22.9	28.1	33.3
Gearmotor length L2					
L-DCU24032	mm	48.7	53.9	59.1	64.3

Specification		
Planetary gearhead		straight teeth
Output shaft		stainless steel, hardened
Bearing at output		sleeve bearing
Radial play	mm	≤ 0.1
Axial play	mm	≤ 0.35
Max. radial load	N	8 (5mm from flange)
Max. axial load	N	15
Max. force for press fits	N	100
Recommend input speed	rpm	≤ 10000
Direction of rotation (drive to output)		=
Ambient temperature	° C	-20~+65

Dimension



Encoder

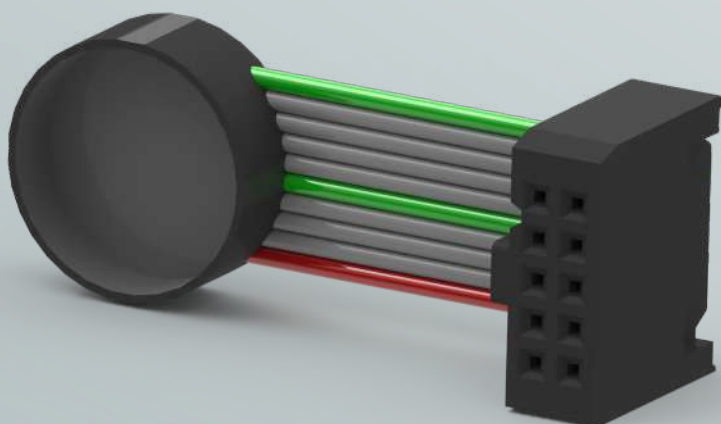
RS10

R13

R16

K16

U22



RS10 Magnetic Encoder Ø10mm 2 Channels

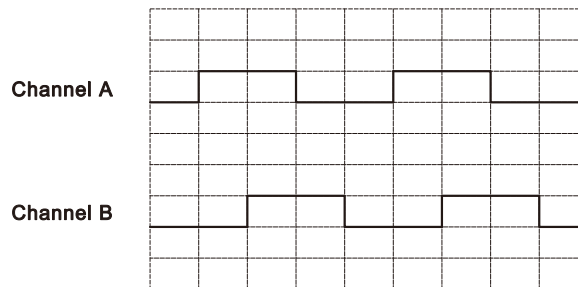
Encoder Data

Pulses per revolution		12
Number of channels		2 (A,B)
Supply voltage	V	3~24
Supply current	mA	≤10
Max. output current/chanel	mA	10
Max. frequency	kHz	20
Operating temperature	°C	-20~+65
Length L		
└ TCU10017	mm	23.5
└ TCU10025	mm	31.1

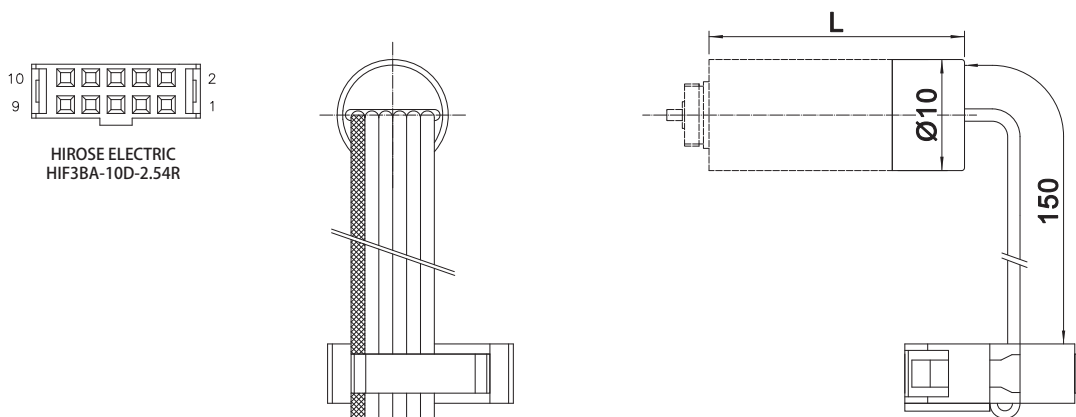
Connection

PIN No.	Function
1	Motor(+)
2	Vcc(5V)
3	Channel A
4	Channel B
5	GND
6	Motor (-)

Output Signal



Dimension



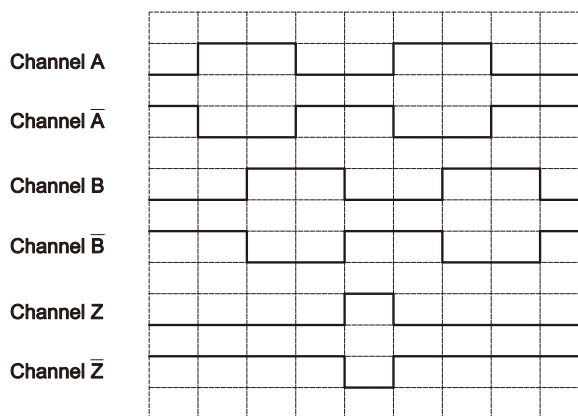
R13 Magnetic Encoder Ø13mm 3 Channels

Encoder Data		
Lines per revolution		256
Number of channels		3 (A,B,Z)
Supply voltage	V	5
Supply current	mA	≤40
Max. output current/chanel	mA	5
Max. frequency	kHz	80
Operating temperature	°C	-20~+65
Length L		
L-TCU13020	mm	25.4
L-TCU13028	mm	33.9

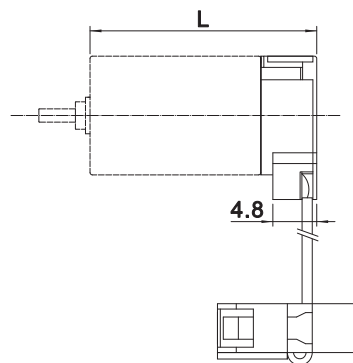
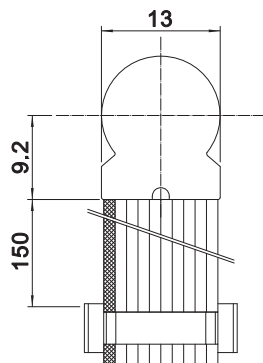
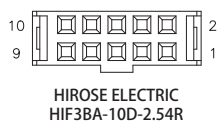
Connection

PIN No.	Function
1	Motor(+)
2	Vcc(5V)
3	GND
4	Motor(-)
5	Channel \bar{A}
6	Channel A
7	Channel \bar{B}
8	Channel B
9	Channel \bar{Z}
10	Channel Z

Output Signal



Dimension



R16 Magnetic Encoder Ø16mm 3 Channels

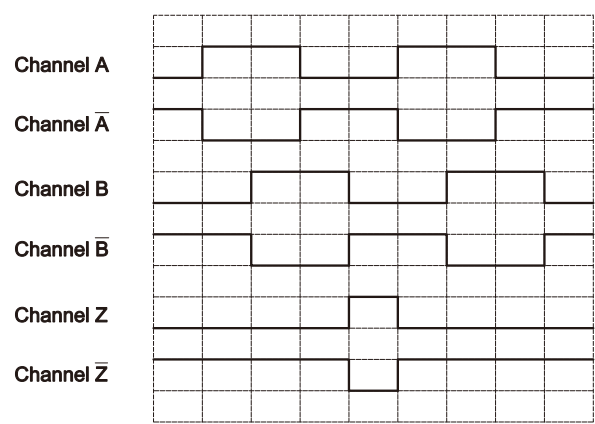
Encoder Data

Lines per revolution		512
Number of channels		3 (A,B,Z)
Supply voltage	V	5
Supply current	mA	≤40
Max. output current/chanel	mA	5
Max. frequency	kHz	160
Operating temperature	°C	-20~+65
Length L		
└TCU16025	mm	30.4
└TCU16035	mm	40.4
└TCU17025	mm	30.4
└TCU17035	mm	40.4

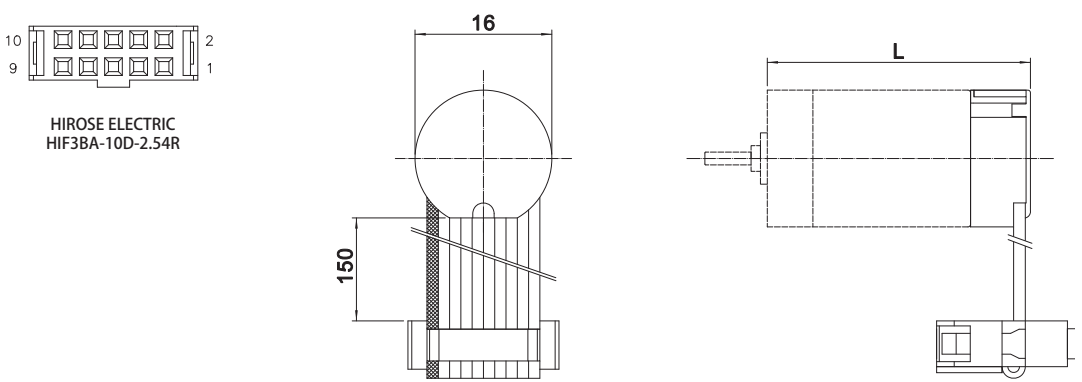
Connection

PIN No.	Function
1	Motor(+)
2	Vcc(5V)
3	GND
4	Motor(-)
5	Channel \bar{A}
6	Channel A
7	Channel \bar{B}
8	Channel B
9	Channel \bar{Z}
10	Channel Z

Output Signal



Dimension



K16 Optical Encoder Ø16mm 2 Channels

Encoder Data

Lines per revolution		200
Number of channels		2 (A,B)
Supply voltage	V	5
Supply current	mA	≤20
Max. output current/chanel	mA	3
Max. frequency	kHz	20
Operating temperature	°C	-20~+65
Length L		
LTCU16025	mm	37.5
LTCU16035	mm	47.5
LTCU17025	mm	37.5
LTCU17035	mm	47.5
LTCU24032	mm	43.3

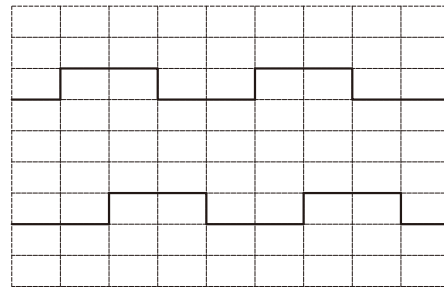
Connection

PIN No.	Function
1	Vcc
2	Channel B
3	GND
4	Channel A

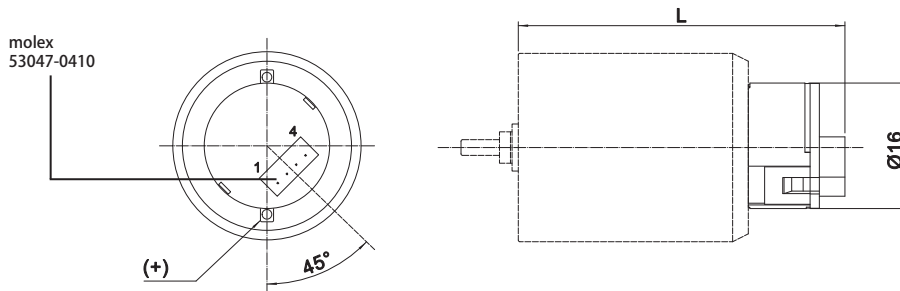
Output Signal

Channel A

Channel B



Dimension



U22 Optical Encoder Ø22mm 2 Channels

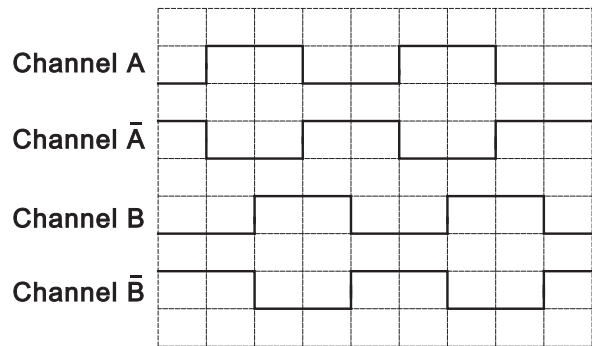
Encoder Data

Lines per revolution		256
Number of channels		2 (A,B)
Supply voltage	V	5
Supply current	mA	≤32
Max. frequency	kHz	100
Operating temperature	°C	-20~+100
Length L		
└TSU22048	mm	62.0

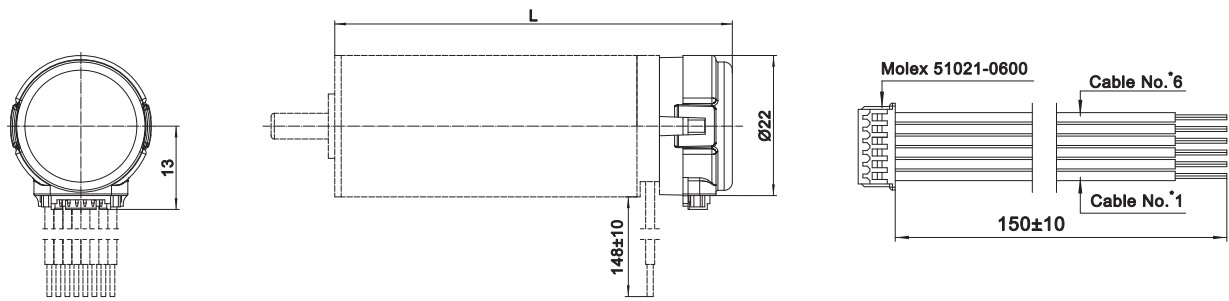
Connection

PIN No.	Function
1	GND
2	Channel A
3	Channel \bar{A}
4	Vcc(5V)
5	Channel B
6	Channel \bar{B}

Output Signal



Dimension



Drive

iPOS2401 MX CAN
iPOS2401 MX CAT
iPOS3602 VX CAN
iPOS3602 MX CAN
iPOS3602 BX CAN
iPOS3602 HX CAN
iPOS3604 VX CAN
iPOS3604 MX CAN
iPOS3604 BX CAN
iPOS3604 HX CAN
iPOS4808 VX CAN
iPOS4808 MY CAN
iPOS4808 MY-CAN/CAT-STO
iPOS4808 BX-CAN/CAT





		iPOS2401 MX-CAN	iPOS2401 MX-CAT
Supported motor type			
		Brushed DC (coreless)	Brushed DC (coreless)
		Brushless DC (slotless)	Brushless DC (slotless)
		Stepper	Stepper
		Linear motor	Linear motor
Sensors			
		Incremental encoder	Incremental encoder
		Digital Hall sensor	Digital Hall sensor
		Linear Hall sensor	Linear Hall sensor
		Analog input (Tacho)	Analog input (Tacho)
Control mode			
		Torque control	Torque control
		Speed control	Speed control
		Position control	Position control
Electrical Data			
Motor supply voltage	VDC	12 ~ 24	12 ~ 24
Logical supply voltage	VDC	12 ~ 24	12 ~ 24
Output current (continuous)	A	0.9	0.9
Output current (peak)	A	0.9	0.9
PWM switching frequency (maximum)	kHz	120	120
Operation ambient temperature	°C	0 ~ +40	0 ~ +40
Operation ambient humidity	%Rh	0 ~ 90	0 ~ 90
Storage ambient temperature	°C	-40 ~ +105	-40 ~ +105
Storage ambient humidity	%Rh	0 ~ 100	0 ~ 100
Dimensions (L x W x H)	mm	46.5 x 19.2 x 8.5	46.5 x 19.2 x 8.5
Weight	g	8	8
Mounting		plug-in module	plug-in module
Communication			
		CAN	CAT
		RS232	RS232



iPOS3602 VX-CAN

iPOS3602 MX-CAN

Supported motor type

Brushed DC (coreless)	Brushed DC (coreless)
Brushless DC (slotless)	Brushless DC (slotless)
Stepper	Stepper
Linear motor	Linear motor

Sensors

Incremental encoder	Incremental encoder
Digital Hall sensor	Digital Hall sensor
Linear Hall sensor	Linear Hall sensor
Analog input (Tacho)	Analog input (Tacho)
Analog SinCos encoder	Analog SinCos encoder

Control mode

Torque control	Torque control
Speed control	Speed control
Position control	Position control

Electrical Data

Motor supply voltage	VDC	9~ 36	9~ 36
Logical supply voltage	VDC	9~ 36	9~ 36
Output current (continuous)	A	2	2
Output current (peak)	A	3	3
PWM switching frequency (maximum)	kHz	100	100
Operation ambient temperature	°C	0 ~ +40	0 ~ +40
Operation ambient humidity	%Rh	0 ~ 90	0 ~ 90
Storage ambient temperature	°C	-40 ~ +105	-40 ~ +105
Storage ambient humidity	%Rh	0 ~ 100	0 ~ 100
Dimensions (L x W x H)	mm	56 x 28.8 x 7.6	55 x 26.4 x 13.1
Weight	g	10	8
Mounting		plug-in module	plug-in module

Communication

CAN	CAN
RS232	RS232



		POS3602 BX-CAN	iPOS3602 HX-CAN
Supported motor type			
		Brushed DC (coreless)	Brushed DC (coreless)
		Brushless DC (slotless)	Brushless DC (slotless)
		Stepper	Stepper
		Linear motor	Linear motor
Sensors			
		Incremental encoder + Digital Hall sensor	Incremental encoder + Digital Hall sensor
		Incremental encoder	Analog SinCos encoder
		Analog SinCos encoder	Analog input (Tacho)
		Analog input (Tacho)	
Control mode			
		Torque control	Torque control
		Speed control	Speed control
		Position control	Position control
Electrical Data			
Motor supply voltage	VDC	9~ 36	9~ 36
Logical supply voltage	VDC	9~ 36	9~ 36
Output current (continuous)	A	2	2
Output current (peak)	A	3	3
PWM switching frequency (maximum)	KHz	100	100
Operation ambient temperature	°C	0 ~ +40	0 ~ +40
Operation ambient humidity	%Rh	0 ~ 90	0 ~ 90
Storage ambient temperature	°C	-40 ~ +105	-40 ~ +105
Storage ambient humidity	%Rh	0 ~ 100	0 ~ 100
Dimensions (L x W x H)	mm	80 x 55 x 16.3	72.4 x 44.6 x 15.6
Weight	g	70	48
Mounting		closed-frame	closed-frame
Communication			
		CAN	CAN
		RS232	RS232

		iPOS3604 VX-CAN	iPOS3604 MX-CAN
Supported motor type			
		Brushed DC (coreless)	Brushed DC (coreless)
		Brushless DC (slotless)	Brushless DC (slotless)
		Stepper	Stepper
		Linear motor	Linear motor
Sensors			
		Incremental encoder	Incremental encoder
		Digital Hall sensor	Digital Hall sensor
		Linear Hall sensor	Linear Hall sensor
		Analog input (Tacho)	Analog input (Tacho)
		Analog SinCos encoder	Analog SinCos encoder
Control mode			
		Torque control	Torque control
		Speed control	Speed control
		Position control	Position control
Electrical Data			
Motor supply voltage	VDC	9~ 36	9~ 36
Logical supply voltage	VDC	9~ 36	9~ 36
Output current (continuous)	A	4	4
Output current (peak)	A	10	10
PWM switching frequency (maximum)	kHz	100	100
Operation ambient temperature	°C	0 ~ +40	0 ~ +40
Operation ambient humidity	%Rh	0 ~ 90	0 ~ 90
Storage ambient temperature	°C	-40 ~ +105	-40 ~ +105
Storage ambient humidity	%Rh	0 ~ 100	0 ~ 100
Dimensions (L x W x H)	mm	56 x 28.8 x 7.6	55 x 26.4 x 13.1
Weight	g	10	8
Mounting		plug-in module	plug-in module
Communication			
		CAN	CAN
		RS232	RS232



		iPOS3604 BX-CAN	iPOS3604 HX-CAN
Supported motor type			
		Brushed DC (coreless)	Brushed DC (coreless)
		Brushless DC (slotless)	Brushless DC (slotless)
		Stepper	Stepper
		Linear motor	Linear motor
Sensors			
		Incremental encoder + Digital Hall sensor	Incremental encoder + Digital Hall sensor
		Incremental encoder	Analog SinCos encoder
		Analog SinCos encoder	Analog input (Tacho)
		Analog input (Tacho)	
Control mode			
		Torque control	Torque control
		Speed control	Speed control
		Position control	Position control
Electrical Data			
Motor supply voltage	VDC	9~ 36	9~ 36
Logical supply voltage	VDC	9~ 36	9~ 36
Output current (continuous)	A	0.9	4
Output current (peak)	A	0.9	10
PWM switching frequency (maximum)	kHz	120	100
Operation ambient temperature	°C	0 ~ +40	0 ~ +40
Operation ambient humidity	%Rh	0 ~ 90	0 ~ 90
Storage ambient temperature	°C	-40 ~ +105	-40 ~ +105
Storage ambient humidity	%Rh	0 ~ 100	0 ~ 100
Dimensions (L x W x H)	mm	80 x 55 x 16.3	72.4 x 44.6 x 15.6
Weight	g	70	48
Mounting		closed-frame	closed-frame
Communication			
		CAN	CAN
		RS232	RS232

Product Overview

Slotless Brushless DC Motor

Coreless Brushed DC Motor

Planetary Gearbox

Encoder

Drive

Technical

		iPOS4808 VX-CAN	iPOS4808 MY-CAN
Supported motor type			
		Brushed DC (coreless)	Brushed DC (coreless)
		Brushless DC (slotless)	Brushless DC (slotless)
		Stepper	Stepper
		Linear motor	Linear motor
Sensors			
		Incremental encoder	Incremental encoder
		Digital Hall sensor	Digital Hall sensor
		Linear Hall sensor	Linear Hall sensor
		Analog input (Tacho)	Analog input (Tacho)
		Analog SinCos encoder	Analog SinCos encoder
Control mode			
		Torque control	Torque control
		Speed control	Speed control
		Position control	Position control
Electrical Data			
Motor supply voltage	VDC	11~ 50	11~ 50
Logical supply voltage	VDC	9~ 36	9~ 36
Output current (continuous)	A	8	8
Output current (peak)	A	20	20
PWM switching frequency (maximum)	kHz	120	100
Operation ambient temperature	°C	0 ~ +40	0 ~ +40
Operation ambient humidity	%Rh	0 ~ 90	0 ~ 90
Storage ambient temperature	°C	-40 ~ +100	-40 ~ +100
Storage ambient humidity	%Rh	0 ~ 100	0 ~ 100
Dimensions (L x W x H)	mm	46.5 x 19.2 x 8.5	72.4 x 44.6 x 15.6
Weight	g	8	48
Mounting		plug-in module	plug-in module
Communication			
		CAN	CAN
		RS232	RS232



iPOS4808 MY-CAN/CAT-STO

iPOS4808 BX-CAN/CAT

Supported motor type

Brushed DC (coreless)	Brushed DC (coreless)
Brushless DC (slotless)	Brushless DC (slotless)
Stepper	Stepper
Linear motor	Linear motor

Sensors

Incremental encoder	Incremental encoder
Digital Hall sensor	Digital Hall sensor
Linear Hall sensor	Linear Hall sensor
Analog input (Tacho)	Analog input (Tacho)
Analog SinCos encoder	Analog SinCos encoder

Control mode

Torque control	Torque control
Speed control	Speed control
Position control	Position control

Electrical Data

Motor supply voltage	VDC	11~ 50	11~ 50
Logical supply voltage	VDC	18~36	9~ 36
Output current (continuous)	A	8	8
Output current (peak)	A	20	20
PWM switching frequency (maximum)	kHz	120	100
Operation ambient temperature	°C	0 ~ +40	0 ~ +40
Operation ambient humidity	%Rh	0 ~ 90	0 ~ 90
Storage ambient temperature	°C	-40 ~ +100	-40 ~ +105
Storage ambient humidity	%Rh	0 ~ 100	0 ~ 100
Dimensions (L x W x H)	mm	60 x 43.6 x 12.4	88.5 x 77 x 16.4
Weight	g	22	48
Mounting		plug-in module	closed-frame

Communication

CAN/EtherCAT	CAN/EtherCAT
RS232	RS232

Technical

Customized Components



Pinion



Bearing



Flange



Winding



Shaft

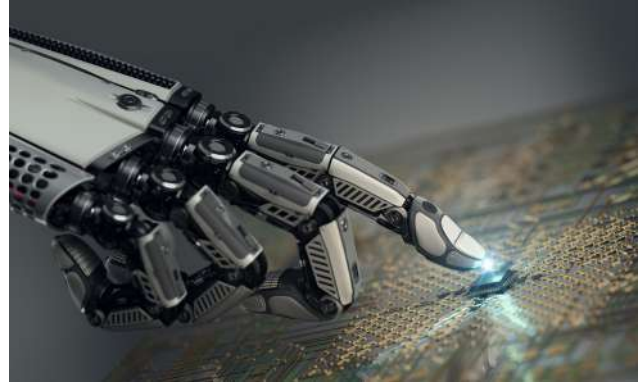


FPC & Cables

Application



Factory Automation



Robotics



Medical Technology



Laboratory Automation

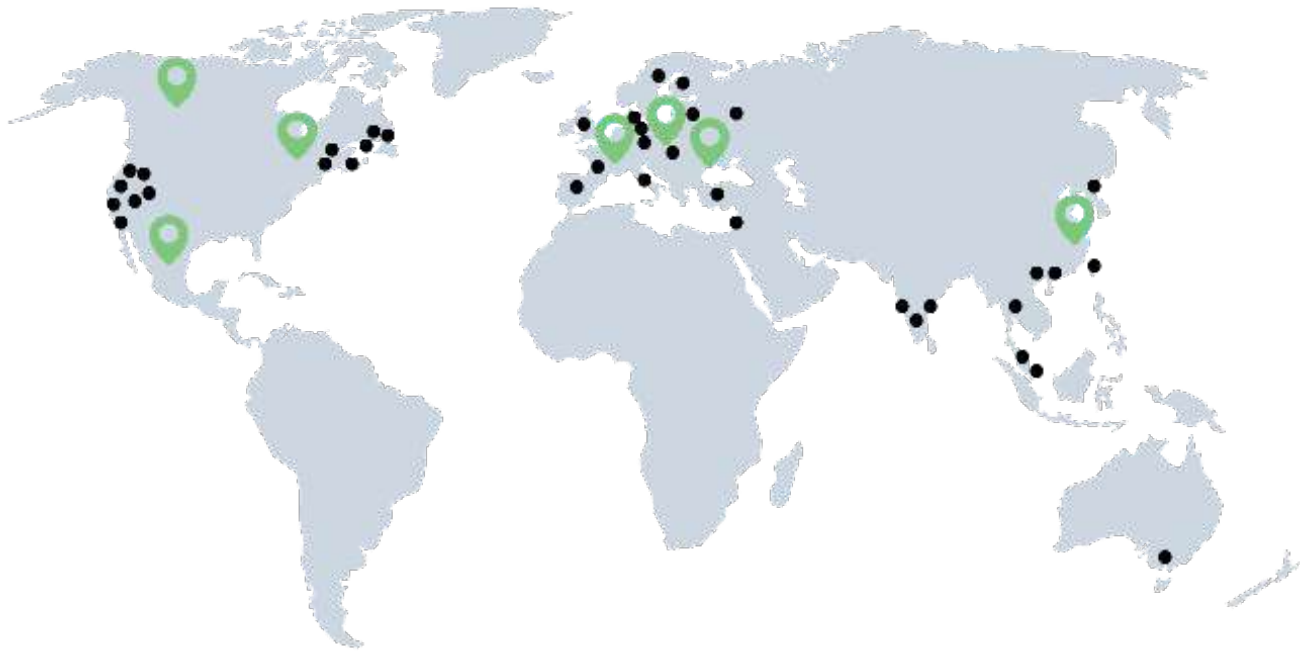


Aerospace



Measuring Technology

A Global Network



Technosoft Group Company

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