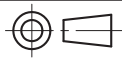
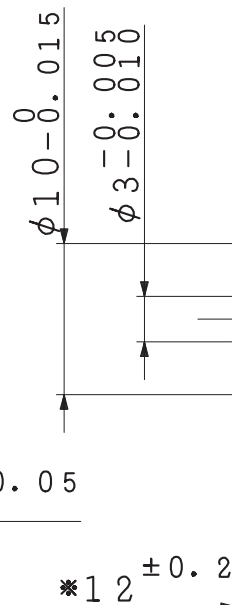
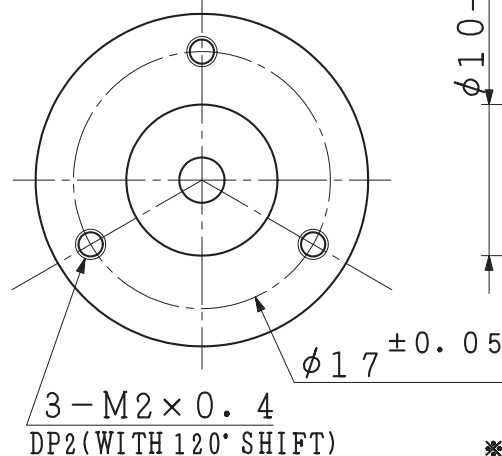


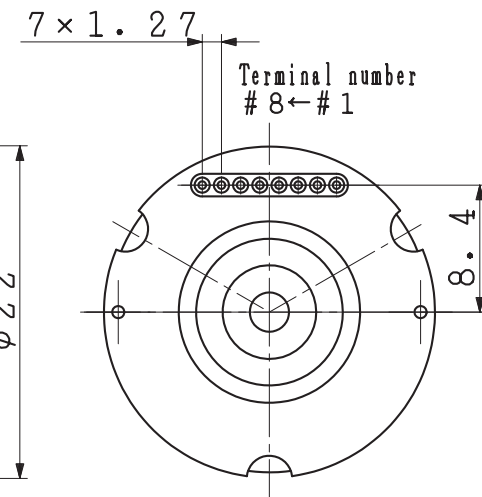
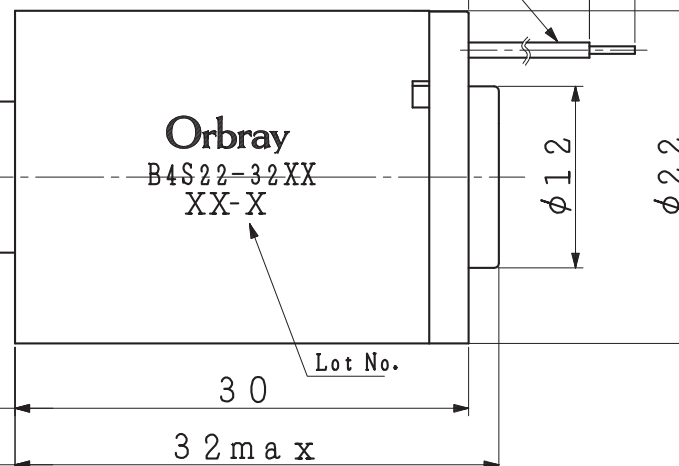
Orbray



No	Sym	Color
1	Coil W	Yellow
2	Coil V	Brown
3	Coil U	Gray
4	Hall GND	Blue
5	Hall Vcc	Orange
6	Hall w	Red
7	Hall v	Black
8	Hall u	White



8×Single Leads AWG26
UL3302



NOTE 1) MARKED (*) IS SHAFT LENGTH MEASURED WHEN IT IS PUSHED TO MOTOR SIDE.

*印寸法は出力軸をモータ側に押しつけた時の値を示す。

2) LOT NO.

EXAMPLE) JANUARY, 2018 例) 2018年1月

「18-A」

JANUARY:A, FEBRUARY:B・・・DECEMBER:L

1月:A、2月:B・・・12月:L

「-」 : MADE IN THAILAND

「-」有り : 海外工場生産

「-」NONE : MADE IN JAPAN

「-」無し : 国内工場生産

THE END TWO DIGIT OF CHRISTIAN YEAR.

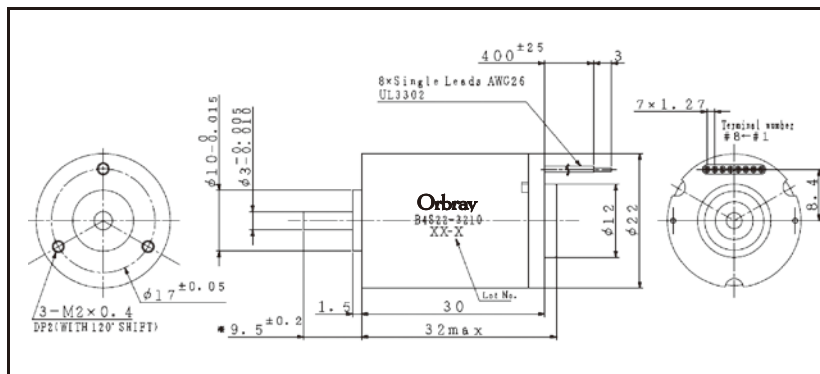
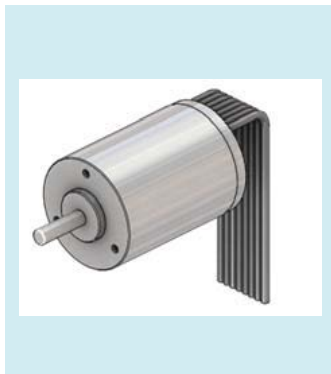
西暦年数末尾数字2桁

3) OUTSIDE DIAMETER IS NOT APPLIED TO THE CAULKING PART AND THE BOTTOM OF OVERHANG PART.
外径寸法公差はカシメ部、及びチリ切り部を除く。

TOLERANCE					△×							
DIMENSION(±)				ANGLE	△×							
	0	1	2	3		△×						
L≤6	0.05	0.1	0.1	0.2	±1°	△×						
6<L≤30	0.1	0.1	0.2	0.5		△×						
30<L≤120	0.15	0.2	0.3	0.8		△×						
120<L	0.2	0.3	0.5	1.2		△×						
MATERIAL	FINISH				QTY.	SYM.	DATE	NOTE		DRW.	CHK.	APPD.
					SCALE	2 / 1	TYPE	B 4 S 2 2 - 3 2				
					UNIT	1 / 1 mm	TITLE	Outline Drawing				
APPD.	CHK.	DSGN.	DRW.		DWG.NO.	D 0 * * * * - 0 0						
					REF.NO.							
					CHK.NO.			REMARK				
.	.	02-May'18	02-May'18									

B4S22-3210

With Hall sensors, Ball bearing センサー内蔵、ボールベアリング



For combination with gearhead: Please contact Namiki sales team

Gear (ギヤ): R&D (開発中) Encoder (エンコーダ): TBD Driver (ドライバー): SHSD24-01A

Some additional work required for attaching gear/encoder.
ギヤ、エンコーダ取付は追加加工が必要です。お問合せください。

Specifications	特性データ	B4S22-3210	
1 Nominal voltage	定格電圧	24.0	V
2 No load speed	無負荷回転数	7000	rpm
3 No load current	無負荷電流	53	mA
4 Stall torque	起動トルク	75.5	mNm
5 Stall current	起動電流	2.41	A
6 Output power	最大出力	13.9	W
7 Max efficiency	最大効率	73	%
8 Terminal resistance	端子間抵抗	9.95	Ω
9 Rated torque	定格トルク	10	mNm
10 Rated speed	定格回転数	6073	rpm
11 Rated current	定格電流	365	mA
12 Friction torque	摩擦トルク	1.70	mNm
13 Back-EMF constant	逆起電圧定数	3.35	mV/rpm
14 Torque constant	トルク定数	32.02	mNm/A
15 Slope of N-T curve	回転数/トルク勾配	92.67	rpm/mNm
16 Mechanical time constant	機械の時定数	3.9	ms
17 Rotor inertia	ロータ慣性モーメント	3.77	gcm ²
18 Max torque	最大許容トルク	22.0	mNm

Mechanical data	機械的特性	Electrical connections		リード線配列
19 Shaft radial play 出力軸遊び(軸方向)	0.015 mm	#1	Lw	Motor winding W モーター巻線 W
20 Shaft axial play 出力軸遊び(径方向)	0.23 mm	#2	Lv	Motor winding V モーター巻線 V
21 Max shaft radial load 出力軸最大荷重(径方向)	6 (9 mm*) N	#3	Lu	Motor winding U モーター巻線 U
22 Max shaft axial load 出力軸最大荷重(軸方向)	1 N	#4	Gnd	GND グラウンド
23 Max shaft axial load at standstill 出力軸最大静荷重(軸方向)	10 N	#5	Vcc	Input voltage 3~26V 入力電圧 3 - 26V
24 Operating temperature 運転温度範囲	-20 ~ 80 °C	#6	Hw	Hall sensor output (w) ホールセンサー (w)
25 Max coil temperature 最大コイル温度	90 °C	#7	Hv	Hall sensor output (v) ホールセンサー (v)
26 Weight 重量	72 g	#8	Hu	Hall sensor output (u) ホールセンサー (u)

*9mm point from motor flange.

モーターフランジから9mm地点から付加

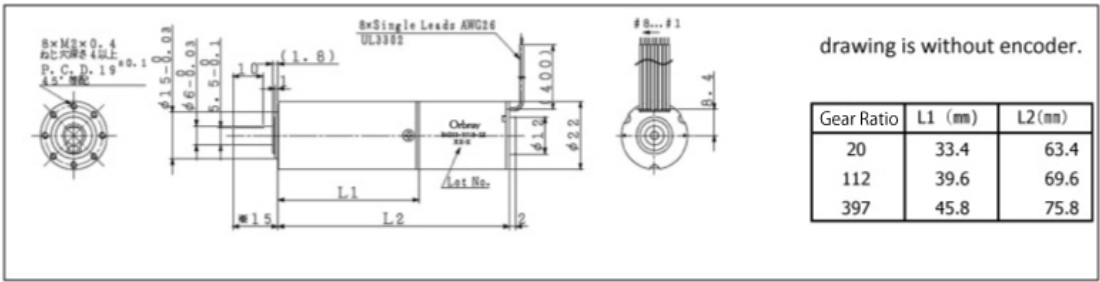
Available only with hall sensor (センサー付のみとなります)

Specifications are subject to change without notice. 仕様はやむなく変更する場合があります。

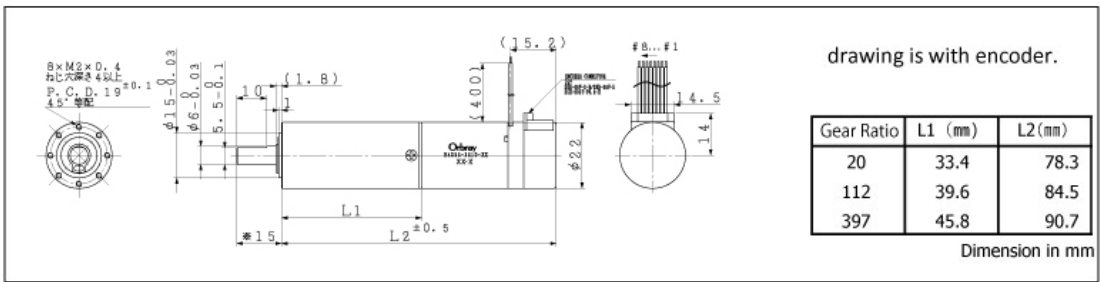
Orbray Co., Ltd.
3-8-22 Shinden, Adachi-ku, Tokyo 123-8511 Japan
TEL: +81-3-5390-7620
URL: <https://orbray.com/en/> E-mail: motor-sales@orbray.com

Orbray株式会社
〒123-8511 東京都足立区新田3-8-22
TEL : 03-5390-7620
URL : <https://orbray.com/> E-mail: motor-salesjp@orbray.com

Gear head SPG22, Brushless motorB4S22-3210



Encoder ETD22



General specifications

		Gear Ratio			
		20	112	397	
1	Reduction ratio(absolute value)	19.91:1	111.50:1	396.45:1	
2	Number of stage	2	3	4	
3	Efficiency	(72)	(61)	(52)	%
4	Direction of rotation	両方向	両方向	両方向	
5	Length (Gear)	33.4	39.6	45.8	mm
	Length (Motor + Gear + Encoder)	78.3	84.5	90.7	mm
	Length (Motor + Encoder)	45	45	45	mm
6	Max allowable torque (Continuous)	190	930	3010	mNm
7	Max allowable torque (Intermittent)	280	1390	4510	mNm
8	Average backlash (No load)	1.0	1.2	1.4	deg
9	Range of use temperature	-20℃~60℃			

B4S22-3210P Rated voltage : 24 V

		Gear Ratio			
		20	112	397	
10	No load speed	339	61	17	rpm
11	No load current	130	130	160	mA
12	Stall torque	1040	4950	14710	mNm
13	Stall current	2400	2400	2400	mA

HOW TO ORDER

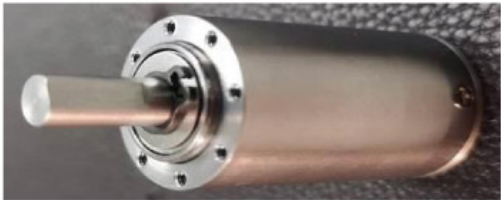
B4S22-3210 MOTOR + SPG22(20:1) → **B4S22-3210P20**

B4S22-3210 MOTOR + SPG22(20:1) +Encoder (Optical 1024ppr) → **B4S22-3210P200F**

Planetary gear

< Features >

Ball bearing applied in gear for high load and high torque.
Internal teeth and flange are designed in one body for high durability, suited for industrial robot, etc.

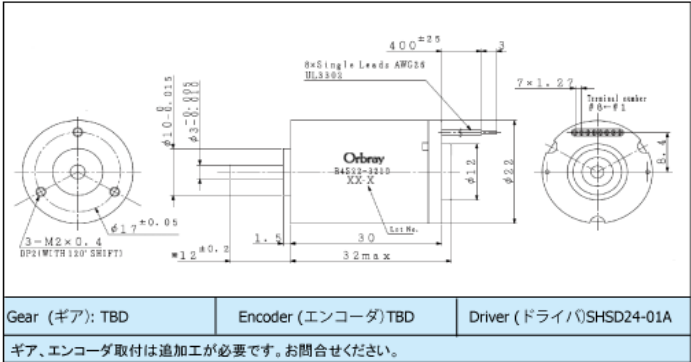
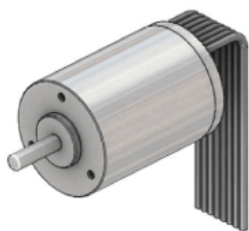


B4S22-3210

DC Brushless Motor B4S Series

[HOME](#) [Products](#) [Small Motors](#) [DC Coreless Motors](#) [Brushless Motor](#) [Brushless Motor B4S22-3210](#)

4 pole high torque brushless motor equipped with
a built-in sensor and ball bearings.



Combination with Planetary gear

B4S22-3210 Specifications

Brushless Motor B4S22-3210			
1	Nomal voltage	24.0	V
2	No load speed	7000	rpm
3	No load current	53	mA
4	Stall torque	75.5	mNm
5	Stall current	2.41	mA

Brushless Motor B4S22-3210

6	Output power	13.9	W
7	Max efficiency	73	%
8	Terminal resistance	9.95	Ω
9	Rated torque	10	mNm
10	Rated speed	6.73	rpm
11	Rated current	365	mA
12	Friction torque	1.70	mNm
13	Back-EMF constant	3.35	mV/rpm
14	Torque constant	32.02	mNm/A
15	Slope of N-T curve	92.67	rpm/mNm
16	Mechanical time constant	3.9	ms
17	Rotor inertia	3.77	gcm ²
18	Max torque	22.0	mNm

Mechanical data

19	Shaft raddial play	0.015	mm
20	Shaft axial play	0.23	mm
21	Max shaft radial load	6 (9mm*)	N
22	Max shaft axial load	1	N
23	Max shaft axial load at standstill	10	N
24	Operating temperature	-20~80	°C
25	Max coil temperature	90	°C
26	Weight	72	g

*9mm point from motor flange.

Electrical connections

#1	Coil W	Motor winding W
#2	Coil V	Motor winding V
#3	Coil U	Motor winding U
#4	Hall GND	GND
#5	Hall Vcc	Input voltage 3~26V
#6	Hall w	Hall sensor output W
#7	Hall v	Hall sensor output V
#8	Hall u	Hall sensor output U

