

CMS16-2305/CMS16-2309/CMS16-2337

DC Coreless Motors CMS Series

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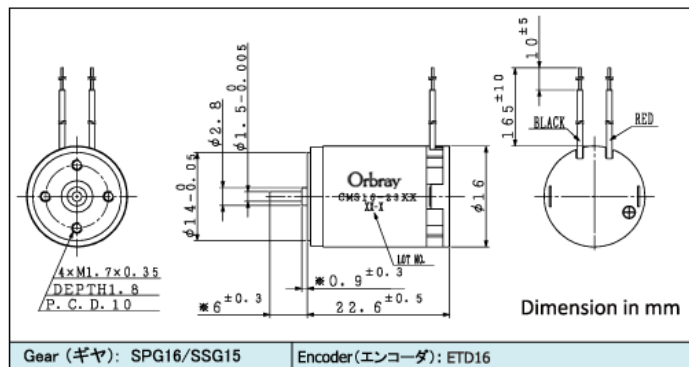
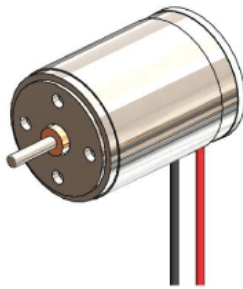
[Small Motors](#)

[DC Coreless Motors](#)

[Brushed Motor](#)

[Brushed Motor CMS16-23](#)

Precious metal commutation, Sleeve bearing Brushed Motor.



CMS16-23 Specifications

		Brushed Motor CMS16-2305	Brushed Motor CMS16-2309	Brushed Motor CMS16-2337	
1	Nomal voltage	7.4	12.0	24.0	V
2	No load speed	14500	15500	16600	rpm
3	No load current	24	16	8	mA

		Brushed Motor CMS16-2305	Brushed Motor CMS16-2309	Brushed Motor CMS16-2337	
4	Stall torque	8.78	9.67	8.66	mNm
5	Stall current	1849	1340	643	mA
6	Output power	3.3	3.9	3.8	W
7	Max efficiency	79	80	79	%
8	Terminal resistance	4.00	8.96	37.34	Ω
9	Rated torque	0.893	0.942	0.886	mNm
10	Rated speed	13000	14000	14900	rpm
11	Rated current	209	145	73	mA
12	Friction torque	0.11	0.11	0.11	mNm
13	Back-EMF constant	0.503	0.765	1.430	mV/rpm
14	Torque constant	1.81	7.31	13.65	mNm/A
15	Slope of N-T curve	1653	1602	1913	rpm/mNm
16	Mechanical time constant	9.3	9.3	9.5	ms
17	Rotor inertia	0.54	0.55	0.47	gcm ²
18	Max torque	2.93	3.22	2.89	mNm

*CMS16-23 is a [Brushed Motor](#) with a diameter of 16 mm and length of 23 mm.

* How to read the model number (motor only) 「 CMS xx - yy zz 」

CMS…Coreless [Brushed Motor](#) standard series、xx…Diameter(mm)、yy…Length(mm)、zz…Terminal resistance (Ω, approximate value)

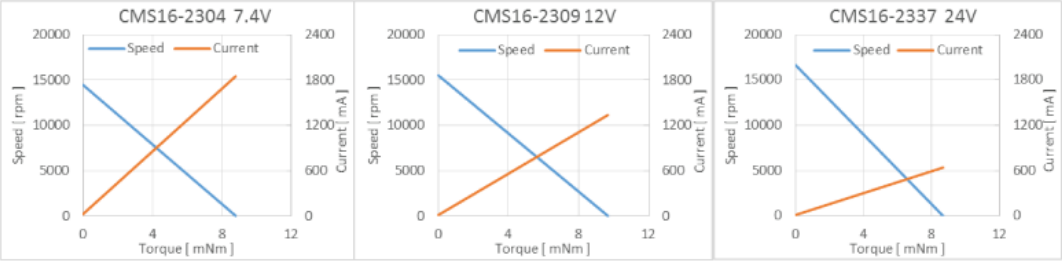
Mechanical data

19	Shaft raddial play	0.05	mm
20	Shaft axial play	0.03~0.2	mm
21	Max shaft radial load	1.2 (5mm*)	N
22	Max shaft axial load	0.2	N
23	Max shaft axial load at standstill	9.87	N

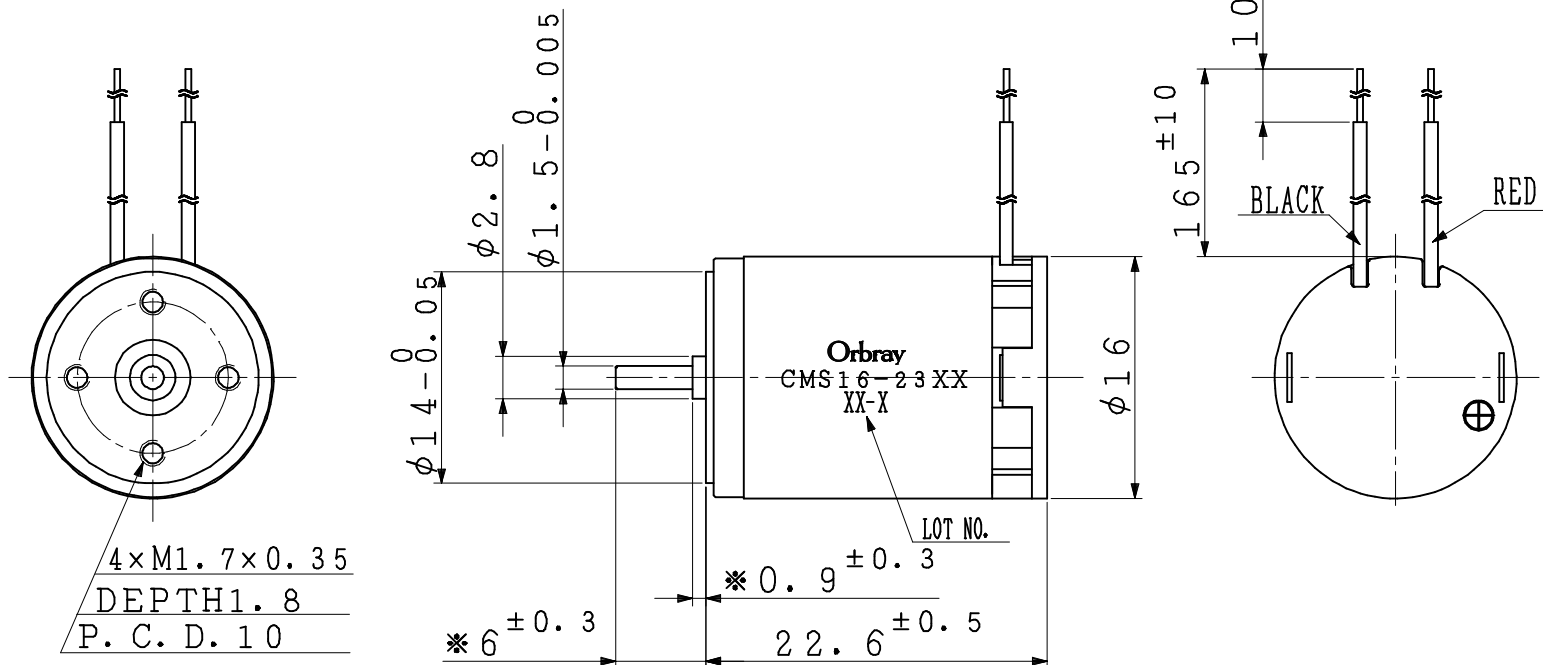
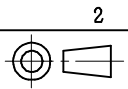
*measured at () mm from flange

Environmental data

24	Operating temperature	-20~60	°C
25	Max coil temperature	80	°C
26	Weight	22.4	g
27	Number of segments	7	
28	Bearing type	Sintered sleeve	



Orbray



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

*印寸法はシャフトをモータ側に押しつけた時の値を示す。

2) LOT NO.

EXAMPLE) JANUARY, 2018

「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) THE LEAD WIRE IS AWG28 UL3302.

リード線はAWG28 UL3302を使用する。

4) OUTSIDE DIAMETER IS NOT APPLIED TO THE CAULKING.

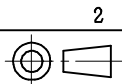
外径寸法公差はカシメ部を除く。

5) 4xM1.7 AND LEAD WIRE DRAWING POSITIONS ARE OUT OF DIMENSIONAL CONTROL.

4xM1.7とリード線引き出し角度は寸法管理外とする。

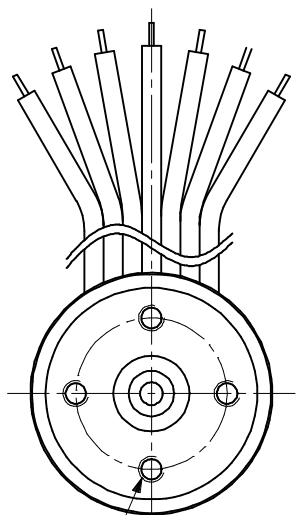
TOLERANCE				△×					
DIMENSION (±)				△×					
	0	1	2	3	ANGLE				
L ≤ 6	0.05	0.1	0.1	0.2	±1°	△×			
6 < L ≤ 30	0.1	0.1	0.2	0.5		△×			
30 < L ≤ 120	0.15	0.2	0.3	0.8		△×			
120 < L	0.2	0.3	0.5	1.2		△×			
MATERIAL	FINISH			QTY.	SCALE	DATE	NOTE		DRW. CHK. APPD.
					UNIT	2/1	TYPE	CMS16-23	
					UNIT	1/1mm	TITLE	OUTLINE DRAWING	
APPD.	CHK.	DSGN.	DRW.	DWG.NO.					
				REF.NO.					
				CHK.NO.		REMARK	Rev. 00		
.	.	30-Jan-18	30-Jan-18						

Orbray

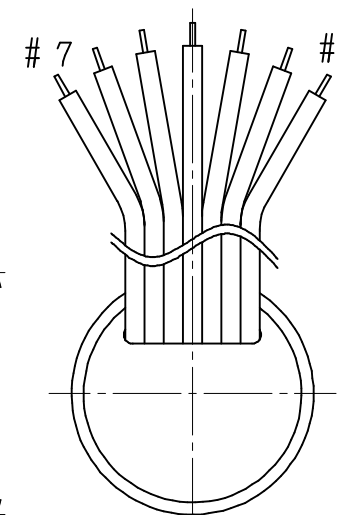
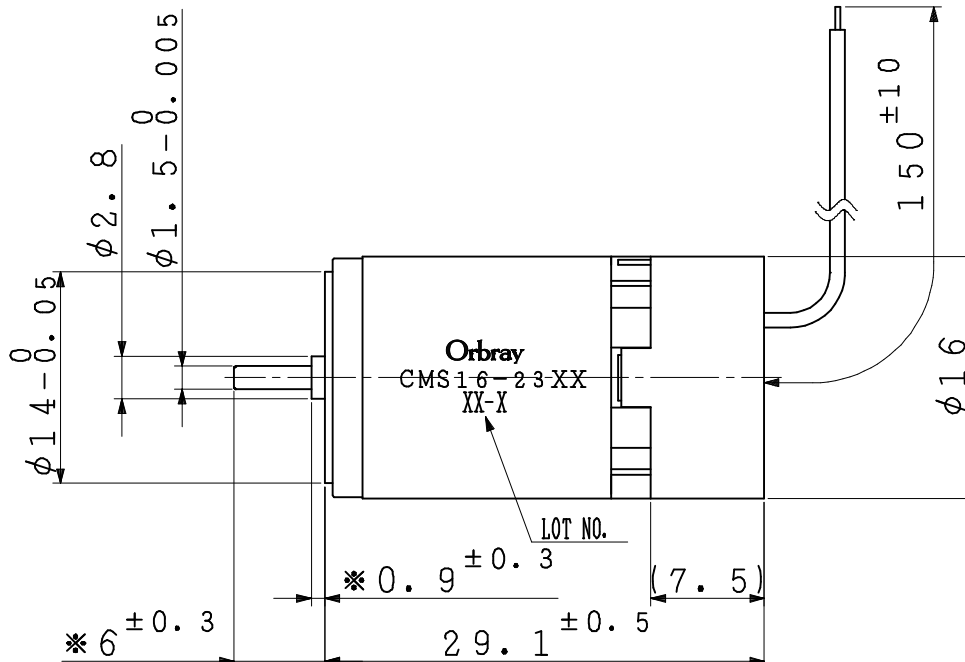


OPTICAL ENCODER
ELECTRICAL CONNECTIONS
PULSE/REV

# 1	(MOTOR+)
# 2	V _{cc} (DC5V±10%)
# 3	Ch. A
# 4	Ch. B
# 5	Ch. Z
# 6	GND
# 7	(MOTOR-)



4×M1.7×0.35
DEPTH1.8
P. C. D. 10



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DIMENSION(±)				ANGLE	△×							
	0	1	2	3	±1°	△×						
L≤6	0.05	0.1	0.1	0.2		△×						
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120<L	0.2	0.3	0.5	1.2		SYM.	DATE	NOTE		DRW.	CHK.	APPD.
MATERIAL	FINISH			QTY.	SCALE	2/1	TYPE	CMS16-23 0				
					UNIT	1/1mm	TITLE	OUTLINE DRAWING				
APPD.	CHK.	DSGN.		DRW.	DWG.NO.							
					REF.NO.							
.	.	30-Jan-18		30-Jan-18	CHK.NO.		REMARK	Rev. 00				