

CS(33G/35G/31G) - Datasheet

BEARING-MOUNTED TYPE

Specifications

Model	Size	Dynamic friction torque T_d [N·m]	Static friction torque T_s [N·m]	Coil [at 20 °C]				Heat resistance class	Lead wire		Max. rotation speed [min ⁻¹]	Rotating part moment of inertia J		Total work performed until readjustment of the air gap E_r [J]	Armature pull-in time t_a [s]	Torque build-up time t_p [s]	Torque decrease time t_d [s]	Mass [kg]
				Voltage [V]	Wattage [W]	Current [A]	Resistance [Ω]		UL style	Size		Rotor [kg·m ²]	Armature [kg·m ²]					
CS-06-33G	06	5	5.5	DC24	11	0.46	52	B	UL3398	AWG22	3000	7.35×10^{-5}	4.23×10^{-5}	36×10^6	0.020	0.041	0.020	0.50
CS-06-35G													1.05×10^{-4}					0.70
CS-06-31G													6.03×10^{-5}					0.54
CS-08-33G	08	10	11	DC24	15	0.63	38	B	UL3398	AWG18	3000	2.24×10^{-4}	1.18×10^{-4}	60×10^6	0.023	0.051	0.030	0.87
CS-08-35G													3.00×10^{-4}					1.23
CS-08-31G													1.71×10^{-4}					0.95
CS-10-33G	10	20	22	DC24	20	0.83	29	B	UL3398	AWG18	3000	6.78×10^{-4}	4.78×10^{-4}	130×10^6	0.025	0.063	0.050	1.57
CS-10-35G													9.45×10^{-4}					2.18
CS-10-31G													6.63×10^{-4}					1.73
CS-12-33G	12	40	45	DC24	25	1.04	23	B	UL3398	AWG18	2000	2.14×10^{-3}	1.31×10^{-3}	250×10^6	0.040	0.115	0.065	2.89
CS-12-35G													2.75×10^{-3}					3.93
CS-12-31G													1.81×10^{-3}					3.18
CS-16-33G	16	80	90	DC24	35	1.46	16	B	UL3398	AWG18	2000	6.30×10^{-3}	4.80×10^{-3}	470×10^6	0.050	0.160	0.085	5.3
CS-16-35G													9.05×10^{-3}					7.1
CS-16-31G													6.35×10^{-3}					5.6
CS-20-33G	20	160	175	DC24	45	1.88	13	B	UL3398	AWG16	1500	1.93×10^{-2}	1.37×10^{-2}	10×10^8	0.090	0.250	0.130	9.8
CS-25-33G	25	320	350	DC24	72	3.00	8	B	UL3398	AWG16	1500	4.48×10^{-2}	3.58×10^{-2}	20×10^8	0.155	0.335	0.210	17.5

• The dynamic friction torque, T_d , is measured at a relative speed of 100 min⁻¹.
 • The moment of inertia of a rotating body and mass are specified for the maximum bore diameter.

Dimensions (CS-□-33G)

For direct mounting

Size	d H7	Models compliant with the new JIS standards				Models compliant with the old JIS standards	
		b P9	t	b E9	t		
06	12	4 ^{-0.012} _{-0.042}	1.5 ^{+0.5} ₀	4 ^{+0.050} _{+0.020}	1.5 ^{+0.5} ₀		
08	15	5 ^{-0.012} _{-0.042}	2 ^{+0.5} ₀	5 ^{+0.050} _{+0.020}	2 ^{+0.5} ₀		
10	20	6 ^{-0.012} _{-0.042}	2.5 ^{+0.5} ₀	5 ^{+0.050} _{+0.020}	2 ^{+0.5} ₀		
12	25	8 ^{-0.015} _{-0.051}	3 ^{+0.5} ₀	7 ^{+0.061} _{+0.025}	3 ^{+0.5} ₀		
16	30	8 ^{-0.015} _{-0.051}	3 ^{+0.5} ₀	7 ^{+0.061} _{+0.025}	3 ^{+0.5} ₀		
20	40	12 ^{-0.018} _{-0.061}	3 ^{+0.5} ₀	10 ^{+0.061} _{+0.025}	3.5 ^{+0.5} ₀		
25	50	14 ^{-0.018} _{-0.061}	3.5 ^{+0.5} ₀	12 ^{+0.075} _{+0.032}	3.5 ^{+0.5} ₀		

• On sizes 20 and 25, the head of the bolt for pressing down the bearing will stick out. See the above dimensions.

Size	Radial direction dimensions												Axial direction dimensions											
	A1	A2	A3	B	C	F	G1	G2	G3	V1	V2	V3	Y1	Y2	H	L1	L2	M	J	P	R	X	a	
06	63	46	34.5	67.5	67.5	24	42.5	50	9.5	3-3.1	3-6.3	3-5.5	4.5	14	24	31	28	22	5	7.3	2	2.5	0.2	±0.05
08	80	60	41.7	85	85	34	57.5	65	11.5	3-4.1	3-8	3-7	6.5	16	26.5	34.5	31	24	6	8.3	2	2.85	0.2	±0.05
10	100	76	51.5	106	106	40	62.5	70	11.5	3-5.1	3-11	3-9	6.5	16	30	39.6	36.1	27	6.5	9	2	3.3	0.2	±0.05
12	125	95	61.5	133	133	45	77.5	85	11.5	3-6.1	3-12	3-11	6.5	16	33.5	44.5	40.5	30	7.5	9.3	2	3.3	0.3	^{+0.05} _{-0.1}
16	160	120	79.5	169	169	58	100	112	18.5	3-8.2	3-15	3-14	8.5	25	37.5	50.5	46.5	34	7.5	11.7	3.2	3.5	0.3	^{+0.05} _{-0.1}
20	200	158	99.5	212.5	212	75	125	138	18.5	3-10.2	3-18	3-16.2	8.5	25	44	60.4	55.4	40	9	13.4	3	4.9	0.5	⁰ _{-0.2}
25	250	210	124.5	264	250	100	155	173	24	4-12.2	4-22	4-20	12	30	51	68.9	65.9	47	9	16	6	5.5	0.5	⁰ _{-0.2}

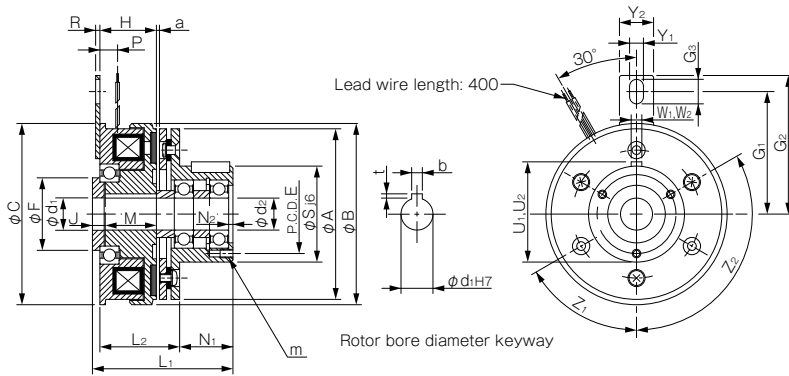
How to Place an Order

CS-06-33G 24V 12DIN

Size: Rotor bore diameter (dimensional symbol d)
 Keyway standards DIN: Compliant with the new JIS standards
 JIS: Compliant with the old JIS standards

■ Dimensions (CS-□-35G)

■ For through-shafts



Unit [mm]

Size	Shaft bore dimensions					
	d1 H7	d2	Models compliant with the new JIS standards		Models compliant with the old JIS standards	
			b P9	t	b E9	t
06	12	12	4 ^{-0.012} _{-0.042}	1.5 ^{+0.5} ₀	4 ^{+0.050} _{+0.020}	1.5 ^{+0.5} ₀
08	15	15	5 ^{-0.012} _{-0.042}	2 ^{+0.5} ₀	5 ^{+0.050} _{+0.020}	2 ^{+0.5} ₀
10	20	20	6 ^{-0.012} _{-0.042}	2.5 ^{+0.5} ₀	5 ^{+0.050} _{+0.020}	2 ^{+0.5} ₀
12	25	25	8 ^{-0.015} _{-0.051}	3 ^{+0.5} ₀	7 ^{+0.061} _{+0.025}	3 ^{+0.5} ₀
16	30	30	8 ^{-0.015} _{-0.051}	3 ^{+0.5} ₀	7 ^{+0.061} _{+0.025}	3 ^{+0.5} ₀

Size	Radial direction dimensions											Axial direction dimensions															
	A	B	C	E	F	G1	G2	G3	S	Y1	Y2	Z1	Z2	H	L1	L2	M	N1	N2	P	R	U1	W1	U2	W2	a	m
06	63	67.5	67.5	33	24	42.5	50	9.5	38	4.5	14	3-120°	0°	24	54.5	31.5	22	20	2	7.3	2	39.5	4	39.5	4	0.2 ^{±0.05}	3-M4 × 0.7, length:4
08	80	85	85	37	34	57.5	65	11.5	45	6.5	16	3-120°	0°	26.5	63.5	35	24	25	2	8.3	2	47	5	47	5	0.2 ^{±0.05}	3-M4 × 0.7, length:6
10	100	106	106	47	40	62.5	70	11.5	55	6.5	16	4-90°	45°	30	74.6	41.1	27	30	3	9	2	57	5	57.5	6	0.2 ^{±0.05}	4-M4 × 0.7, length:8
12	125	133	133	52	45	77.5	85	11.5	64	6.5	16	4-90°	45°	33.5	90.5	46.5	30	40	2.2	9.3	2	67	7	67	8	0.3 ^{+0.05} _{-0.1}	4-M4 × 0.7, length:8
16	160	169	169	62	58	100	112	18.5	75	8.5	25	6-60°	30°	37.5	107.5	53.5	34	50	3	11.7	3.2	78	7	78	8	0.3 ^{+0.05} _{-0.1}	6-M5 × 0.8, length:8

Unit [mm]

How to Place an Order

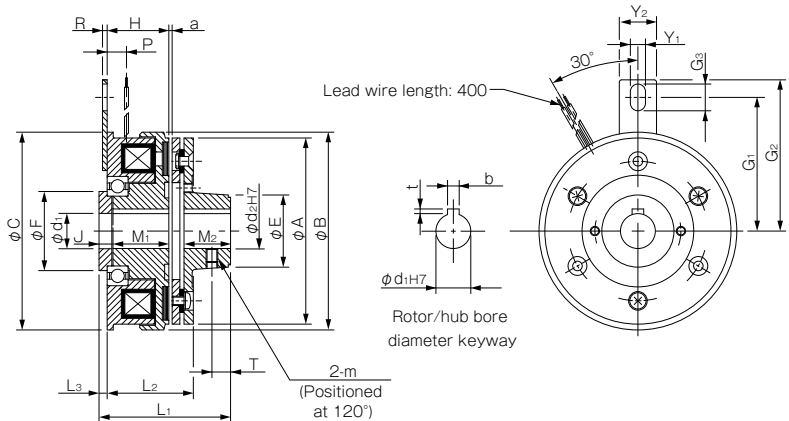
CS-06-35G 24V R12DIN A12JIS

Size
Rotor bore diameter (dimensional symbol)
Keyway standards DIN: Compliant with the new JIS standards
JIS: Compliant with the old JIS standards

Armature type-5 keyway standards
Dimensional symbol U₂, W₂: Compliant with the new JIS standards: DIN
Dimensional symbol U₁, W₁: Compliant with the old JIS standards: JIS
Armature bore diameter (dimensional symbol d2)

■ Dimensions (CS-□-31G)

■ For butt shafts



Unit [mm]

Size	Shaft bore dimensions					
	d1 H7	d2 H7	Models compliant with the new JIS standards		Models compliant with the old JIS standards	
			b P9	t	b E9	t
06	12	12	4 ^{-0.012} _{-0.042}	1.5 ^{+0.5} ₀	4 ^{+0.050} _{+0.020}	1.5 ^{+0.5} ₀
08	15	15	5 ^{-0.012} _{-0.042}	2 ^{+0.5} ₀	5 ^{+0.050} _{+0.020}	2 ^{+0.5} ₀
10	20	20	6 ^{-0.012} _{-0.042}	2.5 ^{+0.5} ₀	5 ^{+0.050} _{+0.020}	2 ^{+0.5} ₀
12	25	25	8 ^{-0.015} _{-0.051}	3 ^{+0.5} ₀	7 ^{+0.061} _{+0.025}	3 ^{+0.5} ₀
16	30	30	8 ^{-0.015} _{-0.051}	3 ^{+0.5} ₀	7 ^{+0.061} _{+0.025}	3 ^{+0.5} ₀

Size	Radial direction dimensions											Axial direction dimensions										
	A1	B	C	E	F	G1	G2	G3	Y1	Y2	m	H	L1	L2	L3	M1	M2	J	P	R	T	a
06	63	67.5	67.5	26	24	42.5	50	9.5	4.5	14	M4	24	46	31.5	3	22	15	5	7.3	2	6	0.2 ^{±0.05}
08	80	85	85	31	34	57.5	65	11.5	6.5	16	M5	26.5	54.5	35	3.5	24	20	6	8.3	2	8	0.2 ^{±0.05}
10	100	106	106	41	40	62.5	70	11.5	6.5	16	M5	30	64.6	41.1	3.5	27	25	6.5	9	2	10	0.2 ^{±0.05}
12	125	133	133	49	45	77.5	85	11.5	6.5	16	M6	33.5	74.5	46.5	4	30	30	7.5	9.3	2	12	0.3 ^{+0.05} _{-0.1}
16	160	169	169	65	58	100	112	18.5	8.5	25	M8	37.5	88.5	53.5	4	34	38	7.5	11.7	3.2	15	0.3 ^{+0.05} _{-0.1}

Unit [mm]

How to Place an Order

CS-06-31G 24V R12DIN A12DIN

Size
Rotor bore diameter (dimensional symbol d1)
Keyway standards DIN: Compliant with the new JIS standards
JIS: Compliant with the old JIS standards

Armature bore diameter (dimensional symbol d2)
Keyway standards DIN: Compliant with the new JIS standards
JIS: Compliant with the old JIS standards