

112 Models Electromagnetic Micro Brakes

Specifications

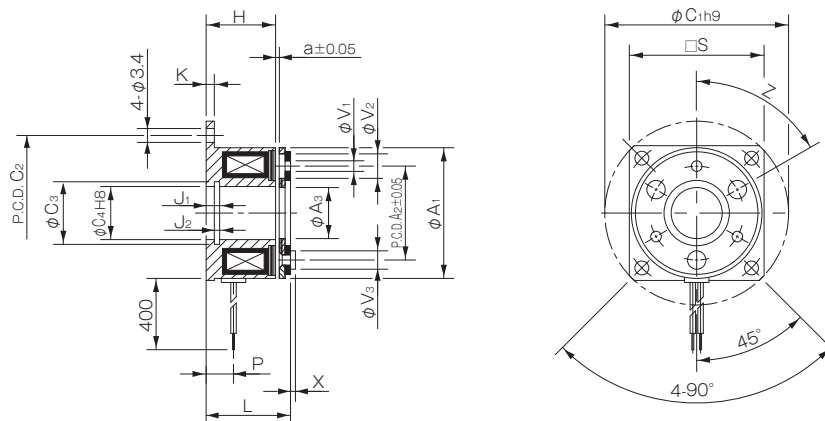
Model	Size	Dynamic friction torque T_d [N·m]	Coil (at 20°C)				Heat resistance class	Lead wire		Max. rotation speed [min ⁻¹]	Armature moment of inertia J [kg·m ²]	Allowable braking energy E_{ba} [J]	Total work performed until Readjustment of the air gap E_r [J]	Armature pull-in time t_a [s]	Torque build-up time t_p [s]	Torque decaying time t_d [s]	Mass [kg]
			Voltage [V]	Wattage [W]	Current [A]	Resistance [Ω]		UL style	Size								
112-02-13										6.75×10^{-7}							0.053
112-02-12	02	0.4	DC24	6	0.25	96	B	UL3398	AWG26	10000	1.00×10^{-6}	1500	2×10^6	0.004	0.010	0.010	0.057
112-02-11											1.00×10^{-6}						0.057
112-03-13											1.30×10^{-6}						0.072
112-03-12	03	0.6	DC24	6	0.25	96	B	UL3398	AWG26	10000	1.95×10^{-6}	2300	3×10^6	0.005	0.012	0.008	0.079
112-03-11											1.95×10^{-6}						0.079
112-04-13											4.38×10^{-6}						0.118
112-04-12	04	1.2	DC24	8	0.33	72	B	UL3398	AWG26	10000	6.15×10^{-6}	4500	6×10^6	0.007	0.016	0.010	0.131
112-04-11											6.15×10^{-6}						0.131
112-05-13											9.08×10^{-6}						0.200
112-05-12	05	2.4	DC24	10	0.42	58	B	UL3398	AWG22	10000	1.38×10^{-5}	9000	9×10^6	0.010	0.023	0.012	0.215
112-05-11											1.38×10^{-5}						0.215

* The dynamic friction torque, T_d , is measured at a relative speed of 100 min⁻¹. Depending on the initial torque characteristics, break-in to condition the engaging surfaces may also be required.

* Keep supply voltage fluctuation to within 10% of coil voltage. Do not allow the energization rate to exceed 80%.

* The rotating part moment of inertia and mass are measured for the maximum bore diameter.

Dimensions (112-□-13)



Unit [mm]

Size	Radial direction dimensions													Axial direction dimensions							
	A ₁	A ₂	A ₃	C ₁	C ₂	C ₃	C ₄	S	V ₁	V ₂	V ₃	Z	H	K	J ₁	J ₂	L	P	X	a	
02	28	19.5	10.5	39	33.5	11.4	11	—	2-2.1	2-5.3	2-3.7	4-90°	13.7	1.5	2.6	1.3	16.1	5	0.8	0.1	
03	32	23	12.5	45	38	13.6	13	33	3-2.6	3-6	3-4.5	6-60°	17	2	3.3	1.3	19.3	6.7	1.2	0.15	
04	40	30	18.5	54	47	20	19	41	3-3.1	3-6	3-5	6-60°	20	2	3.3	1.3	22.7	7.2	1.6	0.15	
05	50	38	25.5	65	58	27.2	26	51	3-3.1	3-6.5	3-6	6-60°	22	2	3.5	1.5	25.2	8.2	1.5	0.2	

* Size 02 is a rounded flange.

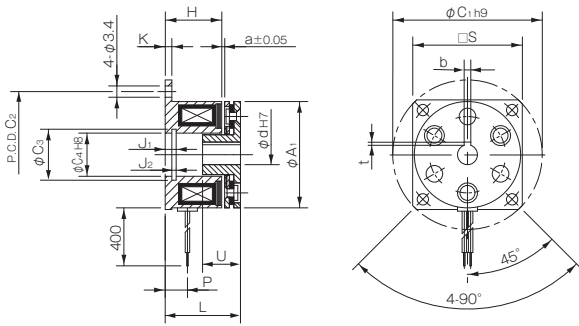
* For details on mounting method, see "Items Checked for Design Purposes".

How to Place an Order

112-03-13 24V



Dimensions (112-□-12)



Unit [mm]

Size	Shaft bore dimensions				
	d _{H7}	Models compliant with JIS standards		Models compliant with the old JIS standards	
		b P9	t	b E9	t
02	5	—	—	—	—
03	6	2 ^{-0.006} _{-0.031}	0.8 ^{+0.3} ₀	—	—
	8	2 ^{-0.006} _{-0.031}	0.8 ^{+0.3} ₀	—	—
04	10	3 ^{-0.006} _{-0.031}	1.2 ^{+0.3} ₀	4 ^{+0.050} _{+0.020}	1.5 ^{+0.5} ₀
	15	5 ^{-0.012} _{-0.042}	2 ^{+0.5} ₀	5 ^{+0.050} _{+0.020}	2 ^{+0.5} ₀

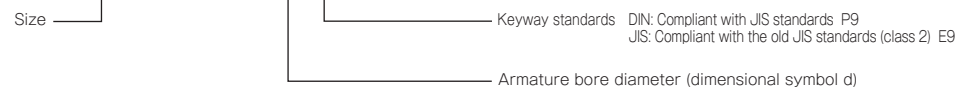
Unit [mm]

Size	Radial direction dimensions						Axial direction dimensions								
	A ₁	C ₁	C ₂	C ₃	C ₄	S	H	K	J ₁	J ₂	L	P	U	a	
02	28	39	33.5	11.4	11	—	13.7	1.5	2.6	1.3	18.1	5	7	0.1	
03	32	45	38	13.6	13	33	17	2	3.3	1.3	21.3	6.7	10	0.15	
04	40	54	47	20	19	41	20	2	3.3	1.3	25.4	7.2	12	0.15	
05	50	65	58	27.2	26	51	22	2	3.5	1.5	28.2	8.2	12	0.2	

* Size 02 is a rounded flange.
 * The armature hub of size 02 has no keyway. Lock it in place by press-fitting it onto the shaft or the like.
 * For details on mounting method, see "Items Checked for Design Purposes".

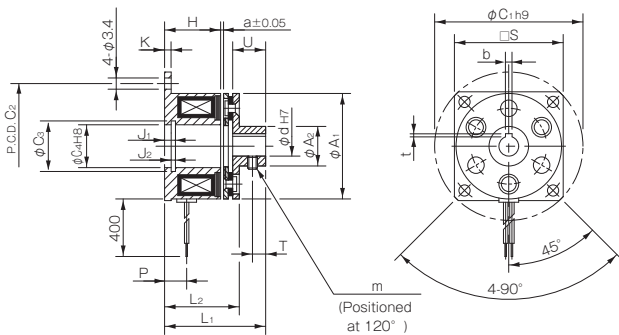
How to Place an Order

112-03-12 24V 6DIN



* Models for which there are no keyway standards (models marked by [-]) on the Shaft Bore Dimensions table need not be marked with a keyway standards designation. Products with standards marked by diagonal lines are not set as standard products.

Dimensions (112-□-11)



Unit [mm]

Size	Shaft bore dimensions				
	d _{H7}	Models compliant with JIS standards		Models compliant with the old JIS standards	
		b P9	t	b E9	t
02	5	—	—	—	—
03	6	2 ^{-0.006} _{-0.031}	0.8 ^{+0.3} ₀	—	—
	8	2 ^{-0.006} _{-0.031}	0.8 ^{+0.3} ₀	—	—
04	10	3 ^{-0.006} _{-0.031}	1.2 ^{+0.3} ₀	4 ^{+0.050} _{+0.020}	1.5 ^{+0.5} ₀
	15	5 ^{-0.012} _{-0.042}	2 ^{+0.5} ₀	5 ^{+0.050} _{+0.020}	2 ^{+0.5} ₀

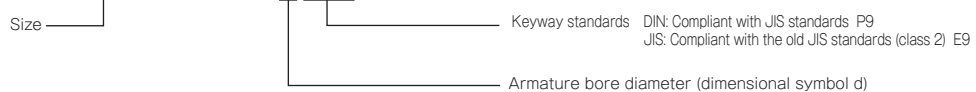
Unit [mm]

Size	Radial direction dimensions								Axial direction dimensions									
	A ₁	A ₂	C ₁	C ₂	C ₃	C ₄	S	m	H	K	J ₁	J ₂	L ₁	L ₂	P	U	T	a
02	28	9.5	39	33.5	11.4	11	—	M3	13.7	1.5	2.6	1.3	23.1	18.1	5	7	2.5	0.1
03	32	12	45	38	13.6	13	33	2-M3	17	2	3.3	1.3	29.3	21.3	6.7	10	4	0.15
04	40	17	54	47	20	19	41	2-M3	20	2	3.3	1.3	34.7	25.4	7.2	12	5	0.15
05	50	24	65	58	27.2	26	51	2-M4	22	2	3.5	1.5	37.2	28.2	8.2	12	5	0.2

* Size 02 is a rounded flange.
 * For details on mounting method, see "Items Checked for Design Purposes".

How to Place an Order

112-03-11 24V 6DIN



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