

CS Models Electromagnetic Clutches - Bearing-mounted Type

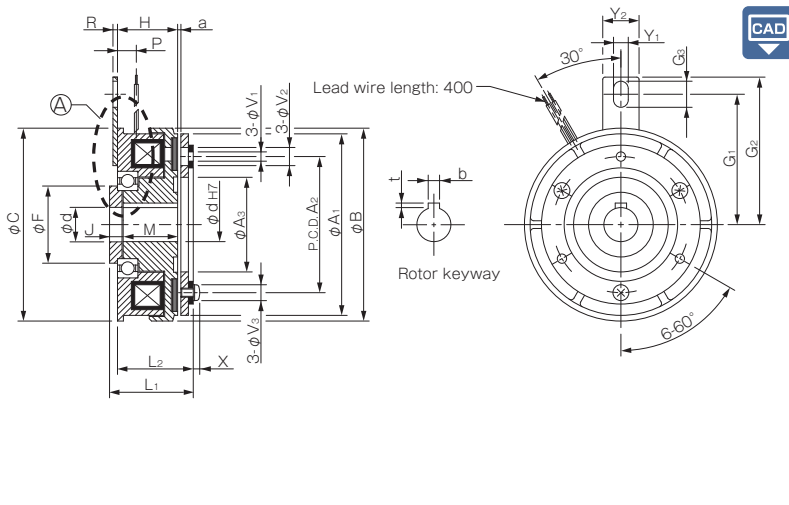
Specifications

| 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 decaying 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 | | | | | | | | | | | | 4.23 × 10 ⁻⁵ | | | | | | 0.50 |
| CS-06-35G | 06 | 5 | 5.5 | DC24 | 11 | 0.46 | 52 | B | UL3398 | AWG22 | 3000 | 7.35 × 10 ⁻⁵ | 1.05 × 10 ⁻⁴ | 36 × 10 ⁶ | 0.020 | 0.041 | 0.020 | 0.70 |
| CS-06-31G | | | | | | | | | | | | 6.03 × 10 ⁻⁵ | | | | | | 0.54 |
| CS-08-33G | | | | | | | | | | | | | 1.18 × 10 ⁻⁴ | | | | | 0.87 |
| CS-08-35G | 08 | 10 | 11 | DC24 | 15 | 0.63 | 38 | B | UL3398 | AWG18 | 3000 | 2.24 × 10 ⁻⁴ | 3.00 × 10 ⁻⁴ | 60 × 10 ⁶ | 0.023 | 0.051 | 0.030 | 1.23 |
| CS-08-31G | | | | | | | | | | | | 1.71 × 10 ⁻⁴ | | | | | | 0.95 |
| CS-10-33G | | | | | | | | | | | | 4.78 × 10 ⁻⁴ | | | | | | 1.57 |
| CS-10-35G | 10 | 20 | 22 | DC24 | 20 | 0.83 | 29 | B | UL3398 | AWG18 | 3000 | 6.78 × 10 ⁻⁴ | 9.45 × 10 ⁻⁴ | 130 × 10 ⁶ | 0.025 | 0.063 | 0.050 | 2.18 |
| CS-10-31G | | | | | | | | | | | | 6.63 × 10 ⁻⁴ | | | | | | 1.73 |
| CS-12-33G | | | | | | | | | | | | 1.31 × 10 ⁻³ | | | | | | 2.89 |
| CS-12-35G | 12 | 40 | 45 | DC24 | 25 | 1.04 | 23 | B | UL3398 | AWG18 | 2000 | 2.14 × 10 ⁻³ | 2.75 × 10 ⁻³ | 250 × 10 ⁶ | 0.040 | 0.115 | 0.065 | 3.93 |
| CS-12-31G | | | | | | | | | | | | 1.81 × 10 ⁻³ | | | | | | 3.18 |
| CS-16-33G | | | | | | | | | | | | 4.80 × 10 ⁻³ | | | | | | 5.3 |
| CS-16-35G | 16 | 80 | 90 | DC24 | 35 | 1.46 | 16 | B | UL3398 | AWG18 | 2000 | 6.30 × 10 ⁻³ | 9.05 × 10 ⁻³ | 470 × 10 ⁶ | 0.050 | 0.160 | 0.085 | 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 | 0.115 | 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 measured for the maximum bore diameter.

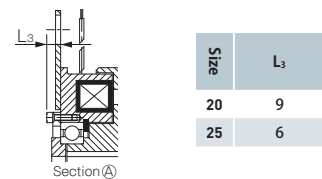
Dimensions (CS-□-33G)

(For direct mounting)



Unit [mm]

| Size | Shaft bore dimensions | | | | | |
|------|-----------------------|---|----------------------------------|--|---|--|
| | 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.

Unit [mm]

| Size | Radial direction dimensions | | | | | | | | | | | | | | Axial direction dimensions | | | | | | | | | |
|------|-----------------------------|----------------|----------------|-------|------|-----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------------------|----------------|----------------|----|-----|------|-----|------|-----|----------------------------------|
| | A ₁ | A ₂ | A ₃ | B | C | F | G ₁ | G ₂ | G ₃ | V ₁ | V ₂ | V ₃ | Y ₁ | Y ₂ | H | L ₁ | L ₂ | 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 | ^{-0.2} ₀ |
| 25 | 250 | 210 | 124.5 | 264 | 250 | 100 | 155 | 173 | 24 | 4-12.2 | 4-22 | 4-20 | 12 | 30 | 53 | 68.9 | 65.9 | 47 | 9 | 18 | 6 | 5.5 | 0.5 | ^{-0.2} ₀ |

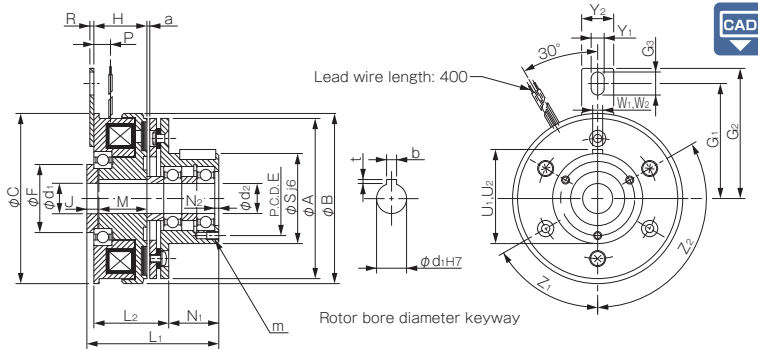
How to Place an Order

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 | | | | | | | |
|------|-----------------------|----------------|---|----------------------------------|---|----------------------------------|------|---|
| | d ₁ H7 | d ₂ | Models compliant with the new JIS standards | | Models compliant with the old JIS standards | | b E9 | t |
| | | | 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 | | |

Unit [mm]

| Size | Radial direction dimensions | | | | | | | | | | Axial direction dimensions | | | | | | | | | | | | | | | | | |
|------|-----------------------------|------|------|----|----|----------------|----------------|----------------|----|----------------|----------------------------|----------------|----------------|------|----------------|----------------|----|-----|----------------|----------------|------|-----|----------------|----------------|----------------|----------------|--------------------------------------|-----------------------|
| | A | B | C | E | F | G ₁ | G ₂ | G ₃ | S | Y ₁ | Y ₂ | Z ₁ | Z ₂ | H | L ₁ | L ₂ | M | J | N ₁ | N ₂ | P | R | U ₁ | W ₁ | U ₂ | W ₂ | 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 | 5 | 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 | 6 | 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 | 6.5 | 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 | 7.5 | 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 | 7.5 | 50 | 3 | 11.7 | 3.2 | 78 | 7 | 78 | 8 | 0.3 ^{±0.05} _{-0.1} | 6-M5 × 0.8, length: 8 |

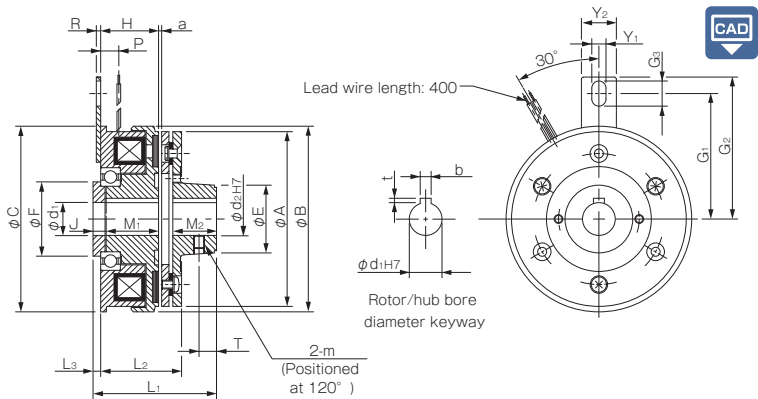
How to Place an Order

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 | | | | | | | |
|------|-----------------------|----------------------|---|----------------------------------|---|----------------------------------|------|---|
| | d ₁ H7 | d ₂ H7 | Models compliant with the new JIS standards | | Models compliant with the old JIS standards | | b E9 | t |
| | | | 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 | | |

Unit [mm]

| Size | Radial direction dimensions | | | | | | | | | | Axial direction dimensions | | | | | | | | | | | | | | | |
|------|-----------------------------|------|------|----|----|----------------|----------------|----------------|----------------|----------------|----------------------------|------|----------------|----------------|----------------|----------------|----------------|-----|------|-----|----|--------------------------------------|--|--|--|--|
| | A | B | C | E | F | G ₁ | G ₂ | G ₃ | Y ₁ | Y ₂ | m | H | L ₁ | L ₂ | L ₃ | M ₁ | M ₂ | 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} | | | | |

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