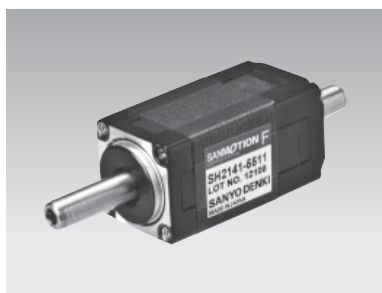


Stepping Motors

Allowable loads... ▶ p. 69
 Internal wiring and rotational directions... ▶ p. 70
 General specifications... ▶ p. 71



14 mm sq.

1.8°/step **Ultra-compact** **RoHS**

Bipolar, lead type



Custom options

Hollow shaft **Custom shaft**

Note: Customization feasibility depends on the model number and quantity. Contact us for details.

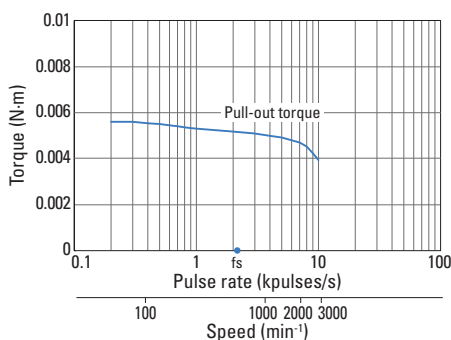
Bipolar, lead type

Model no.		Holding torque at 2-phase excitation	Rated current	Winding resistance	Winding inductance	Rotor inertia	Mass	Motor length (L)
Single shaft	Dual shaft	N·m or more	A/phase	Ω/phase	mH/phase	×10 ⁻⁴ kg·m ²	kg	mm
SH2141-5541	SH2141-5511	0.0065	0.3	21	4.2	0.00058	0.03	30
SH2145-5641	SH2145-5611	0.01	0.4	19	4	0.0011	0.042	43.8

Characteristics

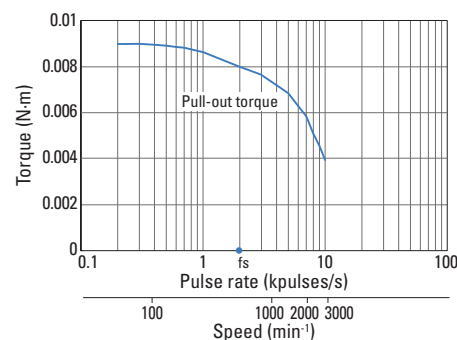
SH2141-5541 SH2141-5511

Constant current circuit
 Input voltage: 24 VDC
 Winding current:
 0.3 A/phase
 2-phase (full step)
 Pull-out torque:
 $J_L = 0.01 \times 10^{-4} \text{kg}\cdot\text{m}^2$
 (Pulley balancer method)
 fs: Maximum starting pulse rate with no load

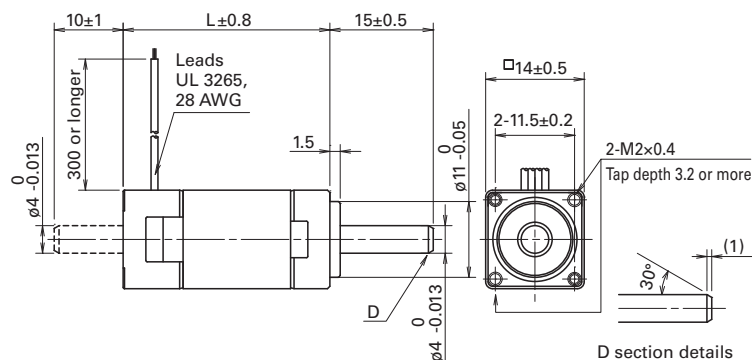


SH2145-5641 SH2145-5611

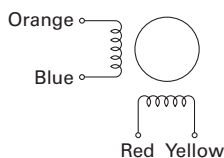
Constant current circuit
 Input voltage: 24 VDC
 Winding current:
 0.4 A/phase
 At 2-phase excitation (full step)
 Pull-out torque:
 $J_L = 0.01 \times 10^{-4} \text{kg}\cdot\text{m}^2$
 (Pulley balancer method)
 fs: Maximum starting pulse rate with no load



Dimensions (Unit: mm)



Internal wiring



Compatible drivers

A driver is to be provided by the customer.



28 mm sq.

1.8°/step **RoHS**

Bipolar, lead type

Unipolar, lead type ▶ p. 37



Custom options

- Hollow shaft Custom shaft
- Gear Encoder

Note: Customization feasibility depends on the model number and quantity. Contact us for details.

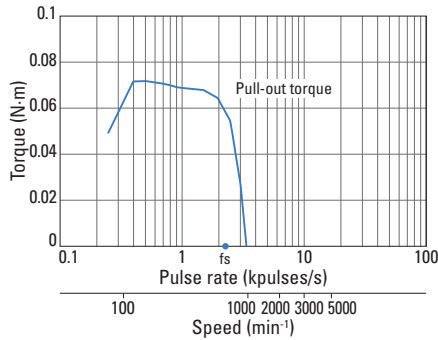
Bipolar, lead type

Model no.		Holding torque at 2-phase excitation	Rated current	Winding resistance	Winding inductance	Rotor inertia	Mass	Motor length (L)
Single shaft	Dual shaft	N·m or more	A/phase	Ω/phase	mH/phase	$\times 10^{-4}$ kg·m ²	kg	mm
SH2281-5671	SH2281-5631	0.07	0.5	10.5	7.2	0.01	0.11	32
SH2281-5771	SH2281-5731	0.07	1	2.6	1.85	0.01	0.11	32
SH2285-5671	SH2285-5631	0.145	0.5	15	13.5	0.022	0.2	51.5
SH2285-5771	SH2285-5731	0.145	1	3.75	3.4	0.022	0.2	51.5

Characteristics

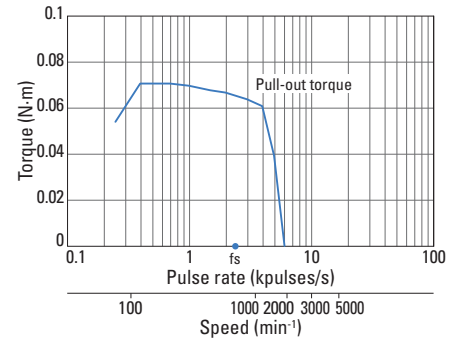
SH2281-5671 SH2281-5631

Constant current circuit
Input voltage: 24 VDC
Winding current: 0.5 A/phase
At 2-phase excitation (full step)
Pull-out torque:
 $J_L = 0.01 \times 10^{-4}$ kg·m²
(Pulley balancer method)
fs: Maximum starting pulse rate with no load



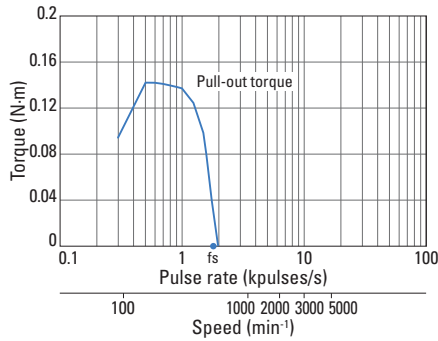
SH2281-5771 SH2281-5731

Constant current circuit
Input voltage: 24 VDC
Winding current: 1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
 $J_L = 0.01 \times 10^{-4}$ kg·m²
(Pulley balancer method)
fs: Maximum starting pulse rate with no load



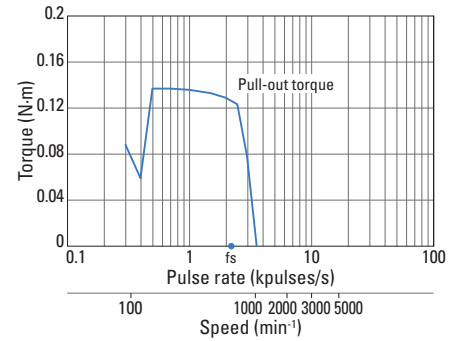
SH2285-5671 SH2285-5631

Constant current circuit
Input voltage: 24 VDC
Winding current: 0.5 A/phase
At 2-phase excitation (full step)
Pull-out torque:
 $J_L = 0.01 \times 10^{-4}$ kg·m²
(Pulley balancer method)
fs: Maximum starting pulse rate with no load

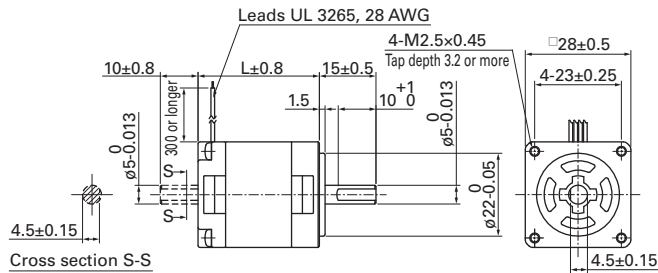


SH2285-5771 SH2285-5731

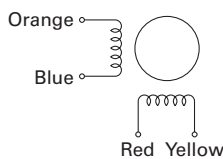
Constant current circuit
Input voltage: 24 VDC
Winding current: 1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
 $J_L = 0.01 \times 10^{-4}$ kg·m²
(Pulley balancer method)
fs: Maximum starting pulse rate with no load



Dimensions (Unit: mm)



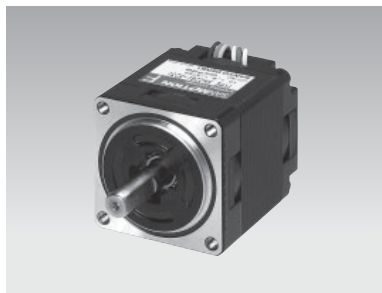
Internal winding



Compatible drivers

- For motors SH228 □ -57 □ 1 (1 A/phase)...
Model no.: BS1D200P10 (DC input)
Operating current selection switch setting: A
- For motors other than above...
A driver is to be provided by the customer.

Note: The characteristics shown above are calculated using our experimental circuit.



28 mm sq.

1.8°/step **RoHS**

Unipolar, lead type
Bipolar, lead type ▶ p. 38



Custom options

- Hollow shaft | Custom shaft
- Gear | Encoder

Note: Customization feasibility depends on the model number and quantity. Contact us for details.

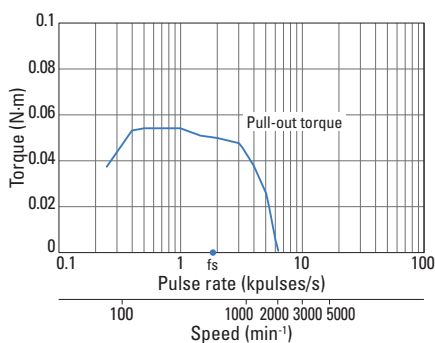
Unipolar, lead type

Model no.		Holding torque at 2-phase excitation	Rated current	Winding resistance	Winding inductance	Rotor inertia	Mass	Motor length (L)
Single shaft	Dual shaft	N·m or more	A/phase	Ω/phase	mH/phase	×10 ⁻⁴ kg·m ²	kg	mm
SH2281-5171	SH2281-5131	0.055	0.5	10.5	3.7	0.01	0.11	32
SH2281-5271	SH2281-5231	0.055	1	2.85	1	0.01	0.11	32
SH2285-5171	SH2285-5131	0.115	0.5	17	7	0.022	0.2	51.5
SH2285-5271	SH2285-5231	0.115	1	4.1	1.9	0.022	0.2	51.5

Characteristics

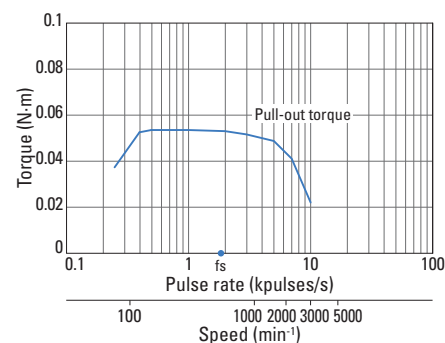
**SH2281-5171
SH2281-5131**

Constant current circuit
Input voltage: 24 VDC
Winding current: 0.5 A/phase
At 2-phase excitation (full step)
Pull-out torque:
 $J_L = 0.01 \times 10^{-4} \text{kg}\cdot\text{m}^2$
(Pulley balancer method)
fs: Maximum starting pulse rate with no load



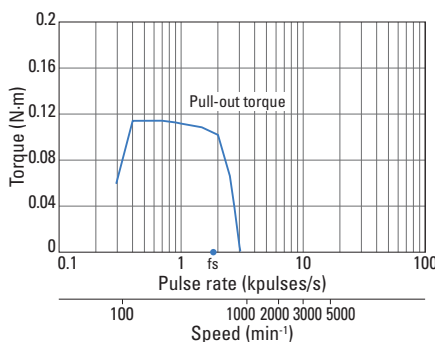
**SH2281-5271
SH2281-5231**

Constant current circuit
Input voltage: 24 VDC
Winding current: 1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
 $J_L = 0.01 \times 10^{-4} \text{kg}\cdot\text{m}^2$
(Pulley balancer method)
fs: Maximum starting pulse rate with no load



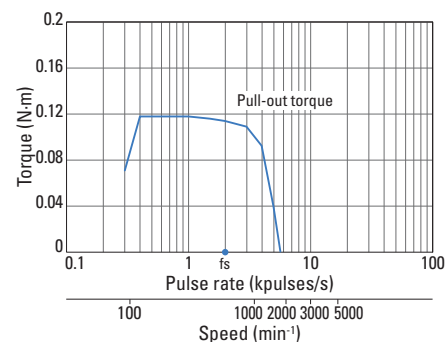
**SH2285-5171
SH2285-5131**

Constant current circuit
Input voltage: 24 VDC
Winding current: 0.5 A/phase
At 2-phase excitation (full step)
Pull-out torque:
 $J_L = 0.01 \times 10^{-4} \text{kg}\cdot\text{m}^2$
(Pulley balancer method)
fs: Maximum starting pulse rate with no load

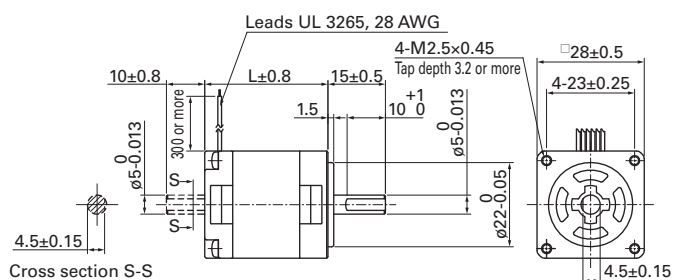


**SH2285-5271
SH2285-5231**

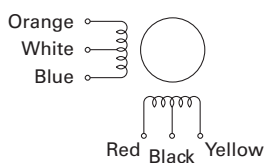
Constant current circuit
Input voltage: 24 VDC
Winding current: 1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
 $J_L = 0.01 \times 10^{-4} \text{kg}\cdot\text{m}^2$
(Pulley balancer method)
fs: Maximum starting pulse rate with no load



Dimensions (Unit: mm)



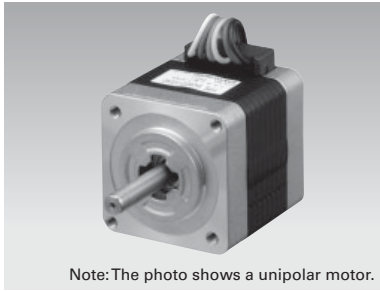
Internal winding



Compatible drivers

- For motors SH228 □ -52 □ 1 (1 A/phase)...
Model no.: US1D200P10 (DC input)
Operating current selection switch setting: A
- For motors other than above...
A driver is to be provided by the customer.

Note: The characteristics shown above are calculated using our experimental circuit.



Note: The photo shows a unipolar motor.

35 mm sq.

1.8°/step **RoHS**
Bipolar, lead type

Custom options

Hollow shaft **Custom shaft**

Note: Customization feasibility depends on the model number and quantity. Contact us for details.

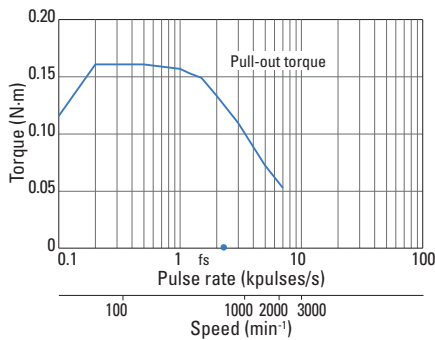
Bipolar, lead type

Model no.		Holding torque at 2-phase excitation	Rated current	Winding resistance	Winding inductance	Rotor inertia	Mass	Motor length (L)
Single shaft	Dual shaft	N·m or more	A/phase	Ω/phase	mH/phase	×10 ⁻⁴ kg·m ²	kg	mm
SH3533-10B40	SH3533-10B10	0.155	1	3.3	3.9	0.02	0.17	33
SH3537-10B40	SH3537-10B10	0.195	1	3.9	5.5	0.025	0.2	37
SH3552-10B40	SH3552-10B10	0.32	1	4.45	7	0.043	0.3	52

Characteristics

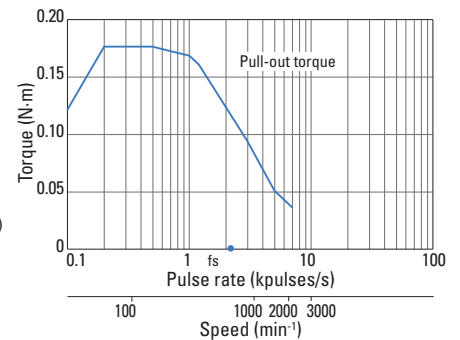
SH3533-10B40 SH3533-10B10

Constant current circuit
Input voltage: 24 VDC
Winding current:
1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
 $J_L = 0.33 \times 10^{-4} \text{kg}\cdot\text{m}^2$
(with rubber coupling used)
 f_s : Maximum starting pulse rate with no load



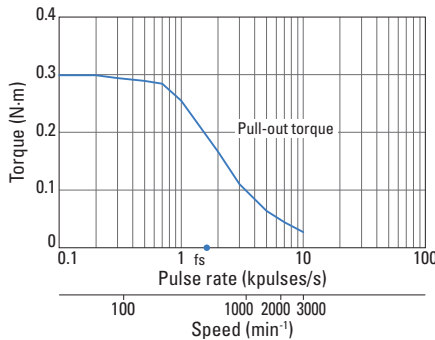
SH3537-10B40 SH3537-10B10

Constant current circuit
Input voltage: 24 VDC
Winding current:
1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
 $J_L = 0.33 \times 10^{-4} \text{kg}\cdot\text{m}^2$
(with rubber coupling used)
 f_s : Maximum starting pulse rate with no load

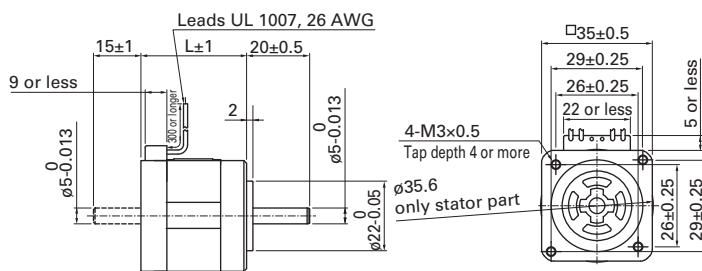


SH3552-10B40 SH3552-10B10

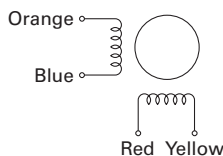
Constant current circuit
Input voltage: 24 VDC
Winding current:
1 A/phase
At 2-phase excitation (full step)
Pull-out torque:
 $J_L = 0.94 \times 10^{-4} \text{kg}\cdot\text{m}^2$
(with rubber coupling used)
 f_s : Maximum starting pulse rate with no load



Dimensions (Unit: mm)



Internal winding

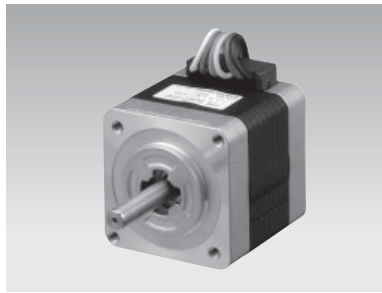


Compatible drivers

Model no.: BS1D200P10 (DC input)

Operating current selection switch setting: A

Note: The characteristics shown above are calculated using our experimental circuit.



35 mm sq.

1.8°/step **RoHS**
Unipolar, lead type

Custom options

Hollow shaft Custom shaft

Note: Customization feasibility depends on the model number and quantity. Contact us for details.

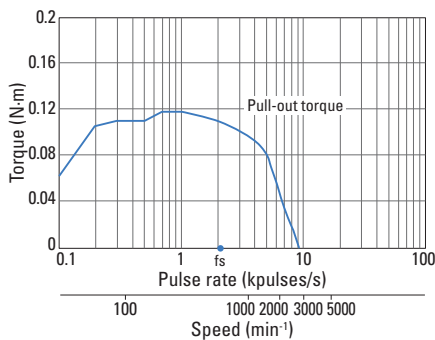
Unipolar, lead type

Model no.		Holding torque at 2-phase excitation	Rated current	Winding resistance	Winding inductance	Rotor inertia	Mass	Motor length (L)
Single shaft	Dual shaft	N·m or more	A/phase	Ω/phase	mH/phase	×10 ⁻⁴ kg·m ²	kg	mm
SH3533-12U40	SH3533-12U10	0.12	1.2	2.4	1.3	0.02	0.17	33
SH3537-12U40	SH3537-12U10	0.15	1.2	2.7	2	0.025	0.2	37
SH3552-12U40	SH3552-12U10	0.23	1.2	3.4	2.8	0.043	0.3	52

Characteristics

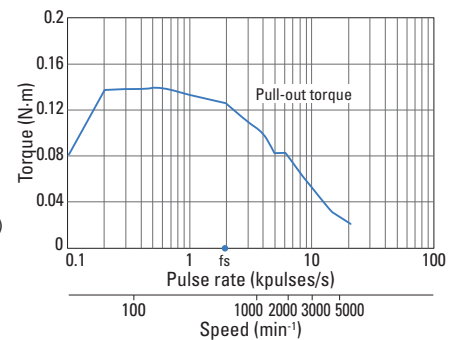
SH3533-12U40 SH3533-12U10

Constant current circuit
Input voltage: 24 VDC
Winding current: 1.2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
 $J_r = 0.33 \times 10^{-4} \text{kg}\cdot\text{m}^2$
(with rubber coupling used)
 f_s : Maximum starting pulse rate with no load



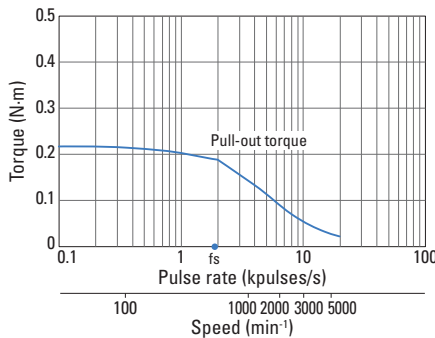
SH3537-12U40 SH3537-12U10

Constant current circuit
Input voltage: 24 VDC
Winding current: 1.2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
 $J_r = 0.33 \times 10^{-4} \text{kg}\cdot\text{m}^2$
(with rubber coupling used)
 f_s : Maximum starting pulse rate with no load

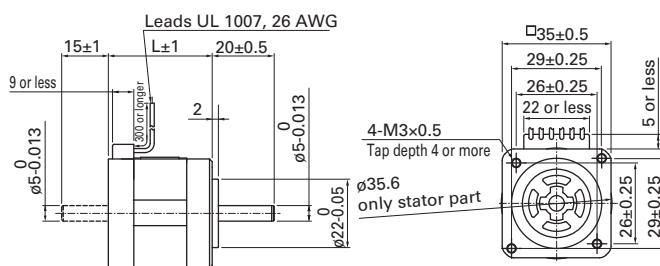


SH3552-12U40 SH3552-12U10

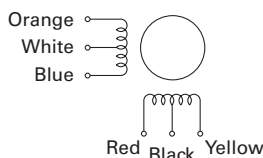
Constant current circuit
Input voltage: 24 VDC
Winding current: 1.2 A/phase
At 2-phase excitation (full step)
Pull-out torque:
 $J_r = 0.94 \times 10^{-4} \text{kg}\cdot\text{m}^2$
(with rubber coupling used)
 f_s : Maximum starting pulse rate with no load



Dimensions (Unit: mm)



Internal winding



Compatible drivers

Model no.: US1D200P10 (DC input)

Operating current selection switch setting: 8

Note: The characteristics shown above are calculated using our experimental circuit.