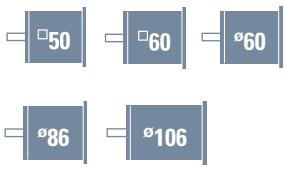
The 5-Phase Stepping Driver

PMM-MA-50064-10
AC 100 V to 230 V
Micro-step (500 x 1 to 250 divisions)

CE

● Applicable motors



Characteristics

● **Conformity to CE Marking**
This driver conforms to CE Marking.

● **Wide-range input power specifications**
Input source power can be used in wide range from AC 100 to 230 V.

● **Micro-step function available**
Smooth operation without vibration at low speeds can be realized.

Built-in function

● **Micro-step function**
Resolutions set by using the rotary switch enable the micro-step drive. However, this function and the automatic micro function cannot be used simultaneously.

● **Resolution setting function**
16 resolutions ranging from 1- to 250-division can be set for the basic step angle of stepping motor by using the rotary switch.

● **Pulse input system selection function**
Either "Pulse and direction mode" or "2-input mode" can be selected, using a dipswitch. Resolution setting function.

● **2 types of stepping motor**
The PM driver "PMM-MA-50064-10" lineup as the standard combination consists of two types the "STEPSYN H" series that conform to CE Marking and the standard "STEPSYN H" series. Combining with the "STEPSYN H" series that conform to CE Marking provides the conformity to the EMC Directive.

PM driver specifications

Item			PMM-MA-50064-10
		Input source	Single phaseAC100~230V+10,-15% 50/60Hz
		Source current	8A (at AC 100 V) 4 A (at AC 200 V)
Standard specifications	Environment	Protection class	Class Ⅰ
		Operating environment	Installation category (overvoltage category): Ⅱ, Pollution degree:2
		Operating ambient temperature	0 to +50 ˚C
		Conservation temperature	- 20 to + 70 ˚C
		Operating ambient humidity	35 to 85 % RH (no condensation)
		Conservation humidity	10 to 90 % RH (no condensation)
		Operating altitude	Maximum 1000 m above sea level
		Vibration resistance	Tested under the following conditions: Frequency range: 10 to 55 Hz, 0.5 G along the X, Y, and Z axes for 2 hours
		Impact resistance	No abnormality for the NDS-C-0110 Standard, Section 3.2.2, Division "C".
		Withstand voltage	No abnormality against an AC 1500 V application between the power input terminal and the cabinet for one minute.
		Insulation resistance	Minimum 10 MΩ when applying the DC 500 V Megger between the power input terminal and the cabinet.
		Mass(Weight)	1.3kg(2.87 lbs)
Function		Protection function	Against PM driver overheat
		Selection function	Automatic current reduction, excitation mode, pulse input system, step angle, and operation current
		LED indicator	Power supply monitor, phase origin monitor, pulse monitor, and alarm monitor.
I/O signals		Command pulse input signal	Photocoupler input system, input resistance 330 Ω Input signal voltage: "H" level: 4.0 to 5.5 V, "L" level: 0 to 0.5 V Maximum input frequency micro-step mode: 100 kpulses/s
		Power down input signal	Photocoupler input system, input resistance 330 Ω Input signal voltage: "H" level: 4.0 to 5.5 V, "L" level: 0 to 0.5 V
		Phase origin monitor output signal	Open collector output by photocoupler Output signal standard Vceo: Maximum 30 V, Ic: Maximum 5 mA
		Alarm output signal	Open collector output by photocoupler Output signal standard Vceo: Maximum 30 V, Ic: Maximum 5 mA
		Ready output signal	Open collector output by photocoupler Output signal standard Vceo: Maximum 30 V, Ic: Maximum 5 mA

CE Marking

Product	Applied standard		
	Low Voltage Directive	EMC Directive	
		Emission	Immunity
PM driver	EN50178	EN50081-2 (Class A)	EN50082-2 (Class A)

- The stepping motor CE Marking is applied for the "STEPSYN H" series that conforms to CE Marking.
- The conformity to the EMC Directive is checked under the installation environment shown in Figure 1.
  However, the conformity to the EMC Directive cannot be checked in the installation environment used for the user's equipment that varies depending on the user's control panel configuration in which PM drivers and stepping motor are built and the relation to other devices, locations, and wiring. Therefore, the user is required to finally check the entire machine and equipment conformity to the EMC Directive

Standard combined stepping motor

"STEPSYN H" series that conform to CE Marking

Stepping motor dimensions	Stepping motor model number		Holding torque N·m(oz·in)	Rotor inertia $\times10^{-4}$kg·m^2(oz·in)^2	Mass(Weight) kg(lbs)	Page
	Single shaft	Double shaft				
ø60mm	103H7521-6250 103H7522-6250 103H7523-6250	103H7521-6220 103H7522-6220 103H7523-6220	0.461(65.3) 0.735(104.1) 1.586(222.0)	0.148(0.81) 0.18(0.98) 0.423(2.31)	0.51(1.12) 0.6(1.32) 1.1(2.43)	Page 313
ø86mm	103H8581-6250 103H8582-6250 103H8583-6250	103H8581-6220 103H8582-6220 103H8583-6220	2.06(291.7) 4.02(569.3) 6.17(873.7)	1.45(7.93) 2.9(15.86) 4.4(24.06)	1.5(3.31) 2.5(5.51) 3.5(7.72)	Page 315
ø106mm	103H89582-6250 103H89583-6250	103H89582-6220 103H89583-6220	10.8(1529.4) 16(2265.7)	14.6(79.83) 22(120.28)	7(15.43) 10.4(22.93)	Page 317

- For the general specifications and dimensions of each stepping motor, refer to the reference pages.

"Standard "STEPSYN H" series

Stepping motor dimensions	Stepping motor model number		Holding torque N·m(oz·in)	Rotor inertia $\times10^{-4}$kg·m^2(oz·in)^2	Mass(Weight) kg(lbs)	Page
	Single shaft	Double shaft				
□50mm	103H6500-8041 103H6501-8041	103H6500-8011 103H6501-8011	0.225(31.86) 0.39(55.23)	0.057(0.31) 0.105(0.57)	0.38(0.84) 0.44(0.97)	Page 303
□60mm	103H7851-8051 103H7852-8051 103H7853-8051	103H7851-8021 103H7852-8021 103H7853-8021	0.65(92.0) 0.98(138.8) 1.86(263.4)	0.275(1.50) 0.4(2.19) 0.84(4.59)	0.6(1.32) 0.78(1.72) 1.36(3.00)	Page 305
ø60mm	103H7521-8051 103H7522-8051 103H7523-8051	103H7521-8021 103H7522-8021 103H7523-8021	0.461(65.3) 0.735(104.1) 1.568(222.0)	0.148(0.81) 0.18(0.98) 0.423(2.31)	0.51(1.12) 0.6(1.32) 1.1(2.43)	Page 307
ø86mm	103H8581-8041 103H8582-8041 103H8583-8041	103H8581-8011 103H8582-8011 103H8583-8011	2.06(291.7) 4.02(569.3) 6.17(873.7)	1.45(7.93) 2.9(15.86) 4.4(24.06)	1.5(3.31) 2.5(5.51) 3.5(7.72)	Page 309
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- For the general specifications and dimensions of each stepping motor, refer to the reference pages.reference pages.

Recommended Parts for EMC Conformity

No.	Part name	Model	Specifications and size	Manufacturer
Note1	Noise filter	RF1015-DLC	Rated voltage: AC 250V, Rated current: 15A	RASMIELECTRONICS LTD.,
Note2	Toroidal core	T60×20×36	Outer core diameter: 60 mm, Inner core diameter: 36 mm	TDK
Note3	Toroidal core	TRCN-40-27-15	Outer core diameter: 40 mm, Inner core diameter: 27 mm	Kitagawa Industries Co., Ltd.
Note4	Toroidal core	TRCN-40-27-15	Outer core diameter: 40 mm, Inner core diameter: 27 mm	Kitagawa Industries Co., Ltd.

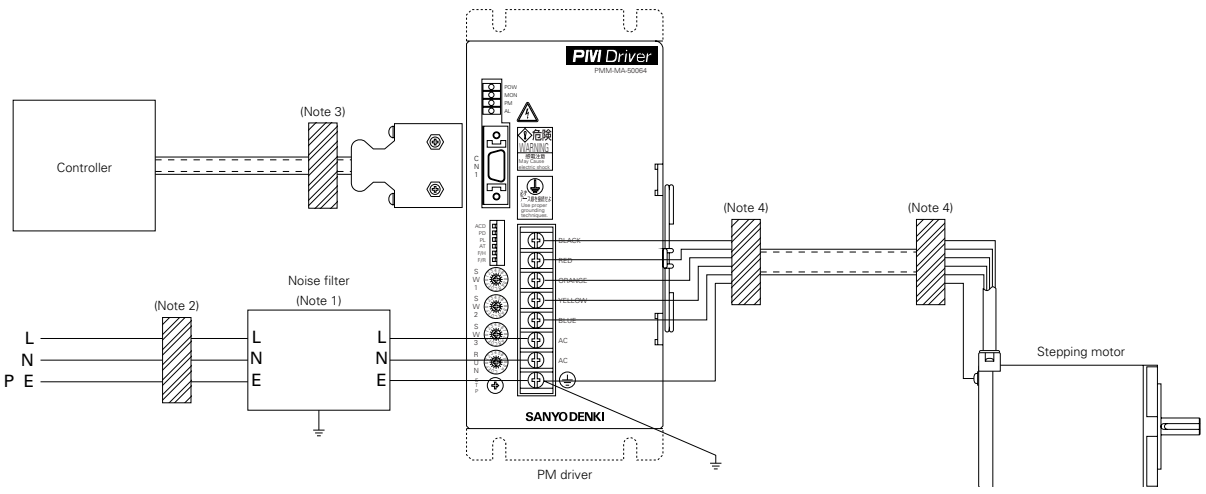
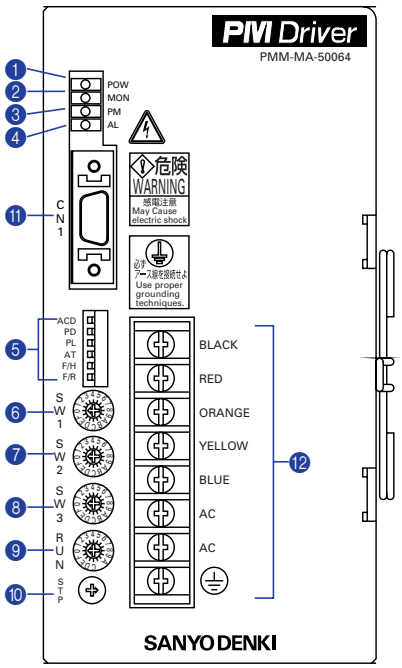


Fig1 Installation environment diagram

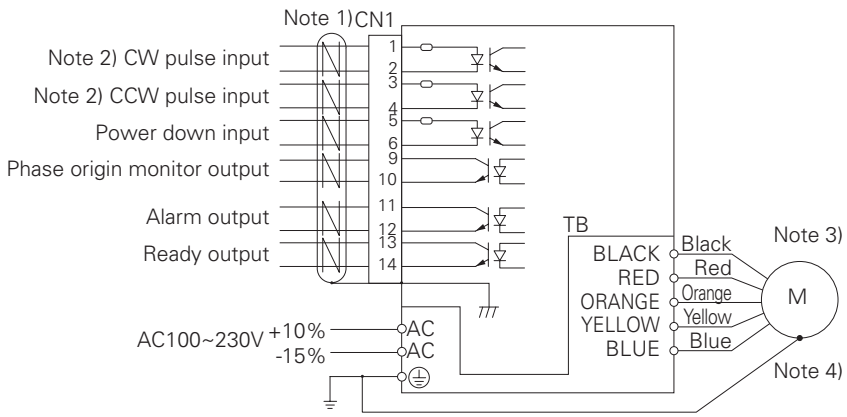
Operation, connection, and function

Each section name of the PM driver



1. Internal power establishment (POW) ..... Indicates that the internal power is established.
2. Phase origin monitor (MON) ..... Indicates that the excitation phase is at the origin (in the state when the power is turned ON).
3. Input pulse monitor (PM) ..... Indicates that the input pulse is applied.
4. Alarm monitor (AL) ..... Turns ON when the internal alarm circuit operates.
5. Function selection dipswitch ..... Functions can be selected according to the specification.
6. SW1 (reserved) ..... Not used.
7. SW2 (reserved) ..... Not used.
8. Half-step angle correction/ Step angle selection switch (SW3) ..... The stopping angle of the half-step system is corrected or the number of divisions of the micro-step drive is set.
9. Operation current selection switch (RUN) ..... Stepping motor current value during operation can be selected.
10. Stopping current adjustment control (STP) ..... The stepping motor current when stopping is adjusted when the automatic current reduction function is operated.
11. Connector for I/O signal (CN1) The I/O signal is connected.
12. Terminal block (TB) ..... I/O signals, the single-phase AC power source, and the stepping motor power cable are connected.

External wiring diagram



Note 1) Use shielded twisted-pair cables.

Note 2) Either "2-input mode (CW and CCW)" or "Pulse and direction mode (CK and U/D)" can be selected by using the function selection switch F/R

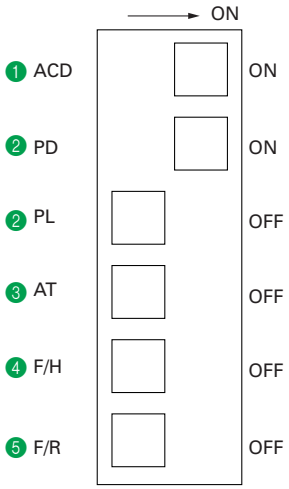
Note 3) Refer to the following table when connecting the 103H785 □ type stepping motor:

Product	Terminal block silk/stepping motor connector pin number				
PM driver (TB)	BLACK	RED	ORANGE	YELLOW	BLUE
Stepping motor connector	1	4	3	2	5

Note 4) Ground the stepping motor flange section and the stepping motor fastening screw by fixing them together when using the standard "STEPSYN H" series. Use the grounding terminal when using the "STEPSYN H" series that conform to CE Marking. Use a single point grounding.

Operation, connection, and function

● Function selection dipswitch ---❺



- Settings at the shipment are shown above.
- Turn OFF the PM driver power before changing switch settings to change the function selection dipswitch settings.

❶ ACD (automatic current reduction selection)

Automatic current reduction function is selected.

ACD	Auto current down
ON	Approx. 50% of current rating when stopped
OFF	100% of current rating when stopped

❷ PD and PL (power down and power low selection)

The stepping motor windings current value at the power down signal input is selected.

PD	PL	Stepping motor current
ON	OFF	OA (power OFF)
OFF	ON	Adjustment value of the stopping voltage adjustment control STP (power low)

❸AT (automatic micro selection

(Note)
This switch is not used.
Do not turn ON this switch.

❹ F/H (excitation system selection)

(Note)
This switch is not used.
Do not turn ON this switch.

❺ F/R (pulse input system selection)

A pulse input system is selected.

F/R	Pulse input system
ON	Pulse and direction mode (CK and U/D)
OFF	2-input mode (CW and CCW)

*1) The temperature increase in the motor driver can be controlled by setting ACD to On (approx. 50% of the rated current).
*2) The output torque when ACD is On (approx. 50% of the rated current) is approx. 50% of that when ACD is Off (100% of the rated current).

Operation, connection, and function

● Step angle selection switch (SW3) ---8

Number of basic step angle divisions of stepping motor (0.72°)

Scale	0	1	2	3	4	5	6	7
Number of divisions	1	2	2.5	4	5	8	10	20
Scale	8	9	A	B	C	D	E	F
Number of divisions	25	40	50	80	100	125	200	250

- "4" is set at the shipment (distribution ratio "5:5" or number of divisions "5").

● Operation current selection switch (RUN) ---9

Operation current of stepping motor can be selected.

Scale	0	1	2	3	4	5	6	7
Stepping motor current (A total)	6.0	5.8	5.6	5.2	5.0	4.8	4.6	4.4
Scale	8	9	A	B	C	D	E	F
Stepping motor current (A total)	4.2	3.8	3.6	3.4	3.2	3.0	2.6	2.4

- "0" is set at the shipment.
- 1.5 A/phase is set at scale 0.

● SW1, SW2 (reserved) ---6 7

This rotary switch is not used.

● Stopping current adjustment control (STP) ---10

The stepping motor current value is adjusted for the stopping operation in the automatic current reduction function and when the power down input signal is set to "ON" (power low function is selected by dipswitches).

- Approx. 50% operation current value selected by RUN is set at the shipment.
- For the STP adjustment, refer to the separate PMM-MA-50064-10 operations manual.

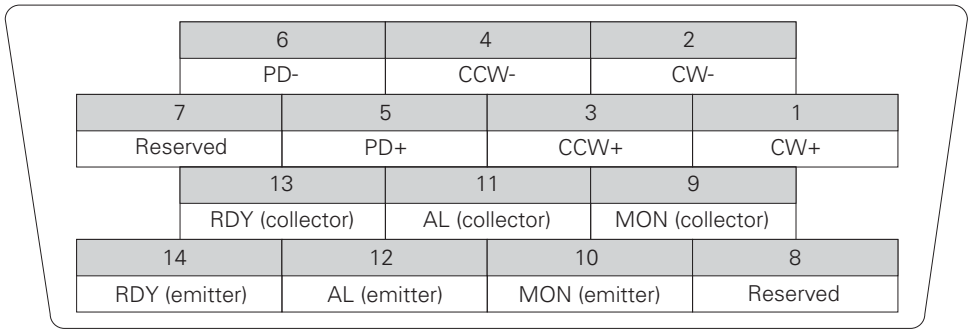
● I/O signal function (CN1) ---11

Signal name	Abbreviation	Pin Number	Function
CW pulse input (Standard)	CW+	1	When using "2-input mode"
	CW-	2	Drive pulse for the CW direction rotation is input.
Pulse column input	CK+	1	When using "Pulse and direction mode"
	CK-	2	Drive pulse train for the stepping motor rotation is input.
CCW pulse input (Standard)	CCW+	3	When using "2-input mode"
	CCW-	4	Drive pulse for the CCW direction rotation is input.
Rotation direction input	U/D+	3	The rotation direction signal of stepping motor is input for the "Pulse and direction mode". Internal photocoupler ON ····· CW direction
	U/D-	4	Internal photocoupler OFF ····· CCW direction
Power down input	PD+	5	Inputting the PD signal cuts OFF the current flowing through the stepping motor (turns OFF the power). (The power down input can be changed to the power low function by selecting dipswitches.)
	PD-	6	PD input signal ON (internal photocoupler ON) ····· PD function enabled PD input signal OFF (internal photocoupler OFF) ···PD function disabled
Phase origin monitor output	MON (collector)	9	It is turned ON when the excitation phase is at the origin (in the state when the power is turned ON)
	MON (emitter)	10	It is turned ON once per 10 pulses when setting to 2-division (full step). It is turned ON once per 20 pulses when setting to 1-division (half step).
Alarm output	AL (collector)	11	The signal is externally output when one of several alarm circuits operates in the PM driver.
	AL (emitter)	12	At this time, the stepping motor is in the unexcited state.
Ready output	RDY (collector)	13	It is turned ON and OFF when the stepping motor is in the excitation state and the unexcited state, respectively.
	RDY (emitter)	14	

- The CW direction of stepping motor means the clockwise direction rotation as viewed from the output shaft side (flange side). The CCW direction means the counterclockwise direction rotation as viewed from the output shaft side (flange side).

Operation, connection, and function

● Arrangement of the connector terminals (CN1)



Arrangement of the CN1 connector terminals

* The chart shown above is viewed from the connection section of the connector plug.

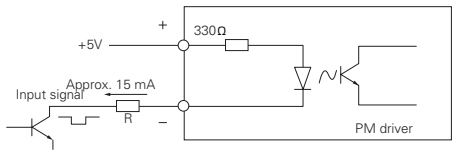
● Connectors to be used

PM driver side		Applicable Connector model number	Manufacturer
Used for	Model number		
I/O signals (CN1)	10214-52A2JL	Applicable plug:10114-3000VE Applicable shell:10314-52A0-008	Sumitomo 3M

- The applicable connectors are attached.

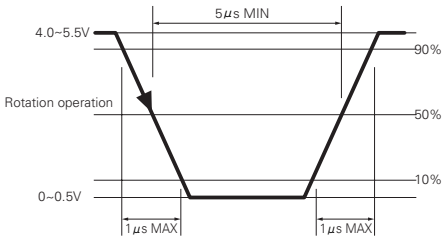
Operation, connection, and function

Input circuit configuration (CW and CCW)



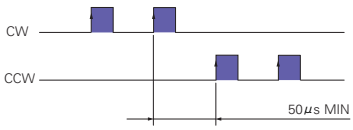
- Pulse duty is 50 % MAX
- When the peak value of the input signal is 5V, the external limit resistance R is 0 Ω.
  If the peak value exceeds 5V, set the input current to approx. 15mA using the external limit resistance R.

Input signal specifications



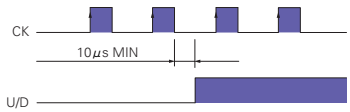
Timing of the command pulse

- 2-input mode (CW and CCW)



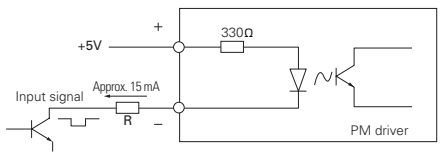
- The internal photocoupler turns ON at ■, and the internal circuit (stepping motor) operates at the leading edge of the photocoupler "ON".
- When applying the pulse to CW, set the internal photocoupler on the CCW side to "OFF".
- When applying the pulse to CCW, set the internal photocoupler on the CW side to "OFF".

- Pulse and direction mode (CK and U/D)



- The internal photocoupler turns ON at ■, and the internal circuit (stepping motor) operates at the leading edge of the CK photocoupler "ON".
- Before switching the U/D input signals, turn OFF the internal photocoupler on the CK side.

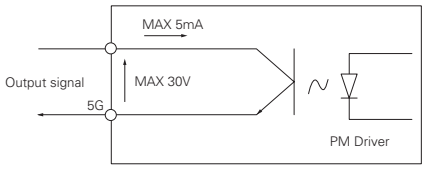
Input circuit configuration (PD)



- When the peak value of the input signal is 5V, the external limit resistance R is 0 Ω.
  If the peak value exceeds 5V, set the input current to approx. 15mA using the external limit resistance R.

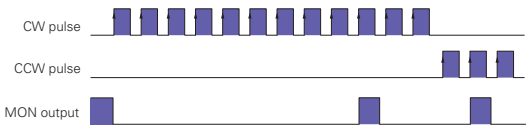
Operation, connection, and function

Output circuit configuration (MON, AL, and RDY)



- MON, AL, and RDY output signals
  Contact type:Open collector output by the photocoupler
  Contact capacity: DC 30 V, 5 mA MAX

Timing of the MON output (when 1-division is specified)

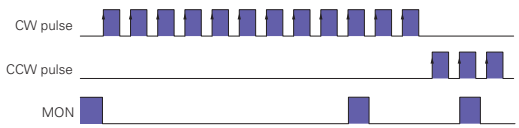


- The internal photocoupler turns "ON" at ■.

State Indication (LED)

Indication	Color	Explanation
POW turns ON.	Green	Internal power has been established.
MON turns ON.	Green	Excitation phase is at the origin (the power is turned on). When 1-division is specified (full step), turns on once in 10 pulses. When 2-division is specified (half step), turns on once in 20 pulses.
PM turns ON.	Green	Command pulse is input. Turns on for Approx. 100ms for every one pulse input.

Timing of MON illumination (1-division setting)



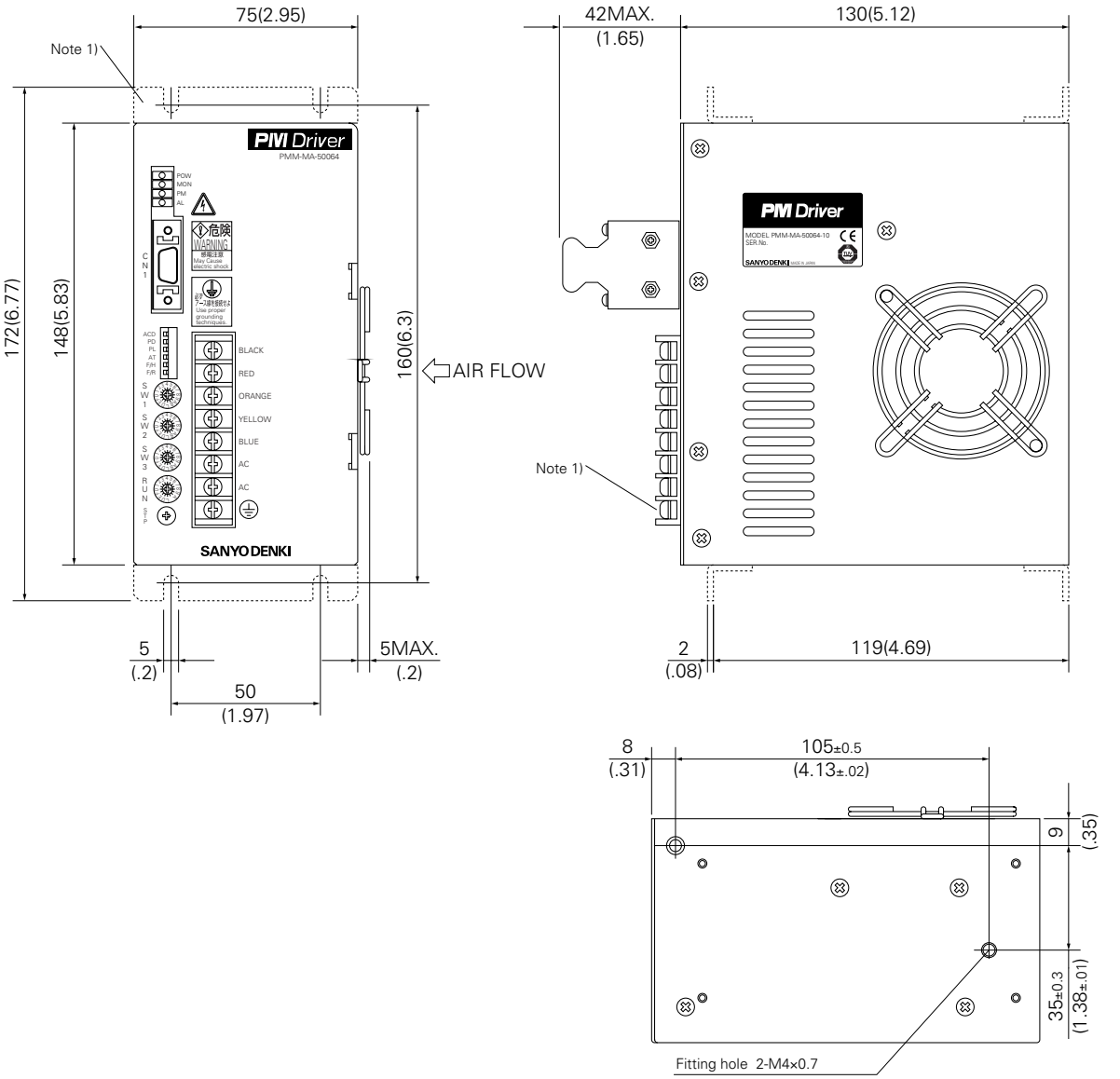
- The internal photocoupler turns "ON" at ■.

Alarm Indication (LED)

Indication	Color	Explanation
AL turns on.	Red	The overheat protection alarm circuit of the internal device operates.The circuit operates when both the internal temperature of the PM driver and the ambient temperature become 80˚C MIN.

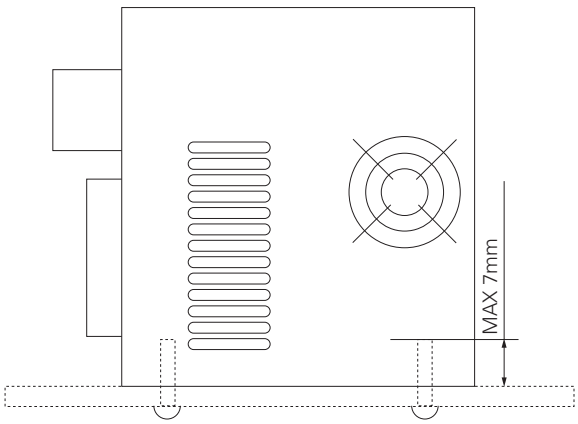
- Each alarm circuit operation turns on the alarm LED and cuts off the stepping motor current to result in the unexcited state.At the same time, the alarm output circuit photocoupler of I/O signal connector (CN1) turns ON and the signal is output externally.The alarm automatically stops to turn ON the stepping motor current when the internal semiconductor temperature becomes 80˚C MAX.Turn OFF the main power and try to radiate the generated heat by the forced-air-cooling of PM driver cabinet and so on before the automatic recovery from the alarm state when an alarm occurs.

Dimensions [Unit:mm(inch)]



Note 1) The fitting metal and the terminal block cover are optional.

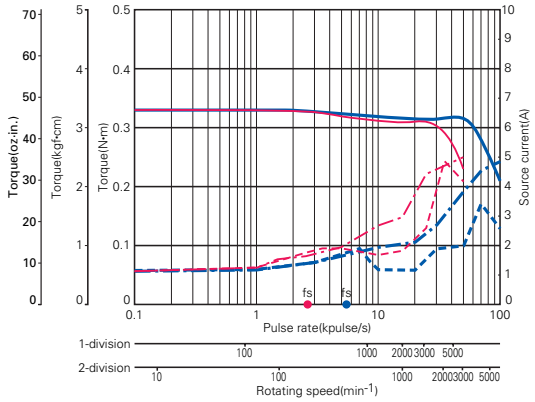
Installation direction and position



- Install the PM driver vertically.
- As shown in the figure, fix the PM driver by using the M4 screws through fitting holes on the bottom surface of PM driver (no fitting metals are necessary).
- Use such screws that enter inside the drive equipment for maximum 7 mm.
- The PM driver also can be installed on the front or back surface by using optional fitting metals.

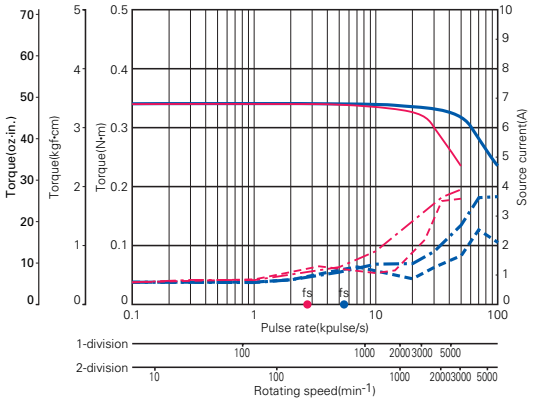
Pulse rate-torque characteristics/pulse rate-source current characteristics

●103H6500-80 □□ :100V



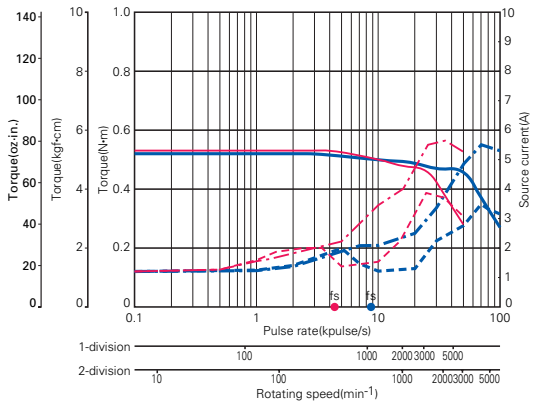
Source voltage:AC100V·Operating current: 1.5A/phase
—— Pull-out torque(JL1=0.94×10-4kg·m2 [5.14 oz·in2] Use the rubber coupling)
– · – Source current(TL=MAX) – – – Source current(TL=0)
fs:No load maximum starting pluse rate
■ 1-division is specified ■ 2-division is specified

●103H6500-80 □□ :200V



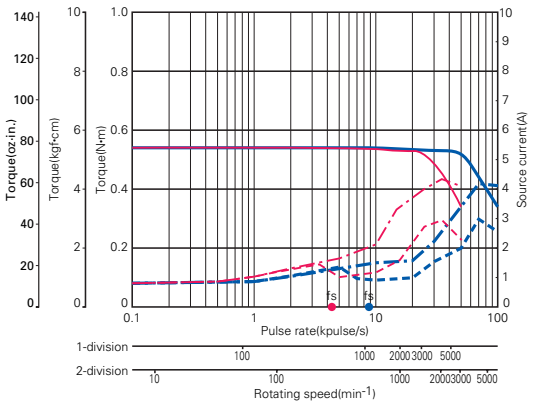
Source voltage:AC200V·Operating current: 1.5A/phase
—— Pull-out torque(JL1=0.94×10-4kg·m2 [5.14 oz·in2] Use the rubber coupling)
– · – Source current(TL=MAX) – – – Source current(TL=0)
fs:No load maximum starting pluse rate
■ 1-division is specified ■ 2-division is specified

●103H6501-80 □□ :100V



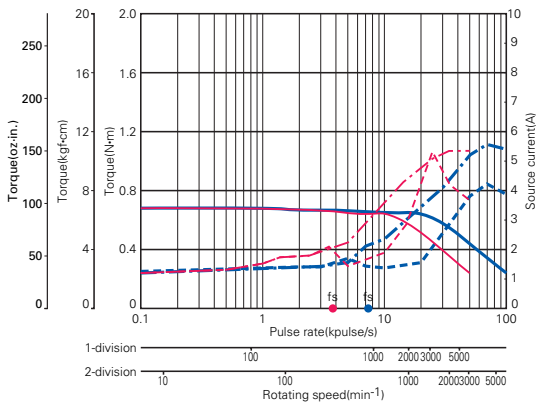
Source voltage:AC100V·Operating current: 1.5A/phase
—— Pull-out torque(JL1=0.94×10-4kg·m2 [5.14 oz·in2] Use the rubber coupling)
– · – Source current(TL=MAX) – – – Source current(TL=0)
fs:No load maximum starting pluse rate
■ 1-division is specified ■ 2-division is specified

●103H6501-80 □□ :200V



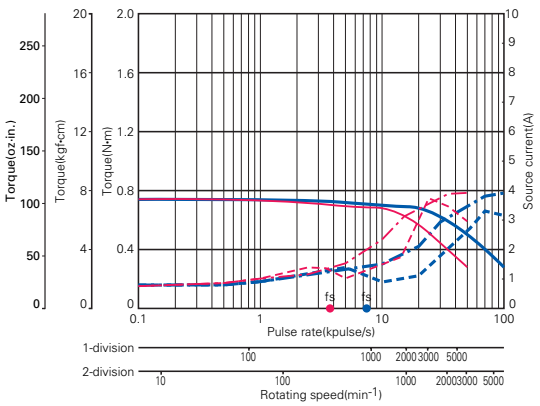
Source voltage:AC200V·Operating current: 1.5A/phase
—— Pull-out torque(JL1=0.94×10-4kg·m2 [5.14 oz·in2] Use the rubber coupling)
– · – Source current(TL=MAX) – – – Source current(TL=0)
fs:No load maximum starting pluse rate
■ 1-division is specified ■ 2-division is specified

●103H7851-80 □□ :100V



Source voltage:AC100V·Operating current: 1.5A/phase
—— Pull-out torque(JL1=2.6×10-4kg·m2 [14.22 oz·in2] Use the rubber coupling)
– · – Source current(TL=MAX) – – – Source current(TL=0)
fs:No load maximum starting pluse rate
■ 1-division is specified ■ 2-division is specified

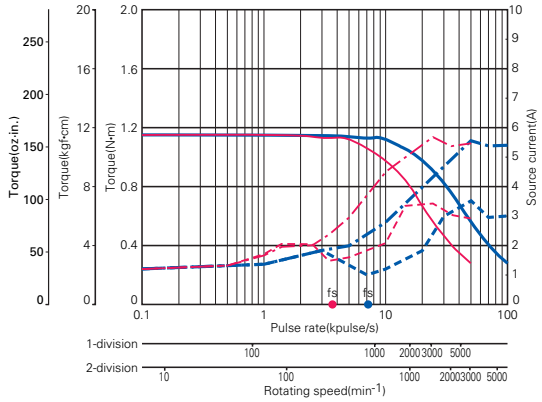
●103H7851-80 □□ :200V



Source voltage:AC200V·Operating current: 1.5A/phase
—— Pull-out torque(JL1=2.6×10-4kg·m2 [14.22 oz·in2] Use the rubber coupling)
– · – Source current(TL=MAX) – – – Source current(TL=0)
fs:No load maximum starting pluse rate
■ 1-division is specified ■ 2-division is specified

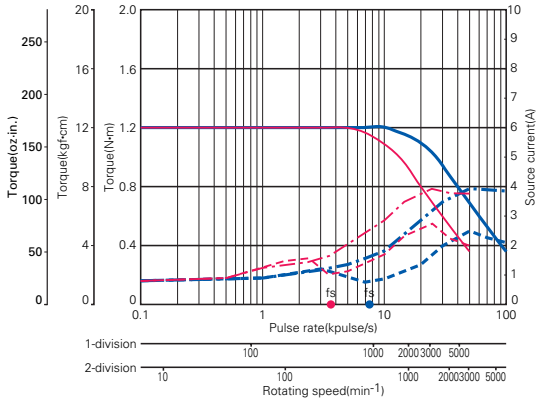
Pulse rate-torque characteristics/pulse rate-source current characteristics

●103H7852-80 □□ :100V



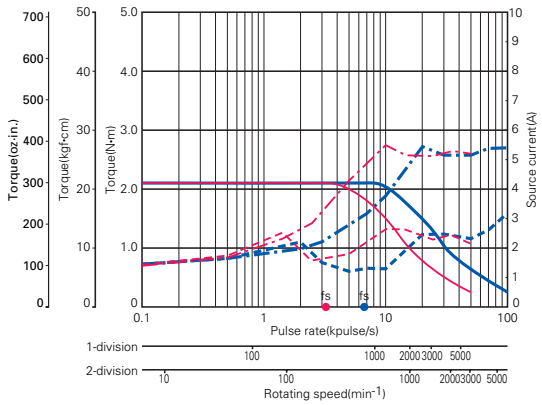
Source voltage:AC100V·Operating current: 1.5A/phase
—— Pull-out torque(J_L1=2.6×10^{-4}kg·m^2 [14.22 oz·in^2] Use the rubber coupling)
– · – Source current(T_L=MAX) – – – Source current(T_L=0)
fs:No load maximum starting pluse rate
■ 1-division is specified ■ 2-division is specified

●103H7852-80 □□ :200V



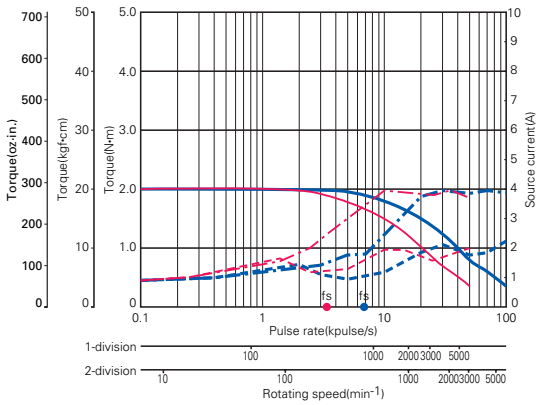
Source voltage:AC200V·Operating current: 1.5A/phase
—— Pull-out torque(J_L1=2.6×10^{-4}kg·m^2 [14.22 oz·in^2] Use the rubber coupling)
– · – Source current(T_L=MAX) – – – Source current(T_L=0)
fs:No load maximum starting pluse rate
■ 1-division is specified ■ 2-division is specified

●103H7853-80 □□ :100V



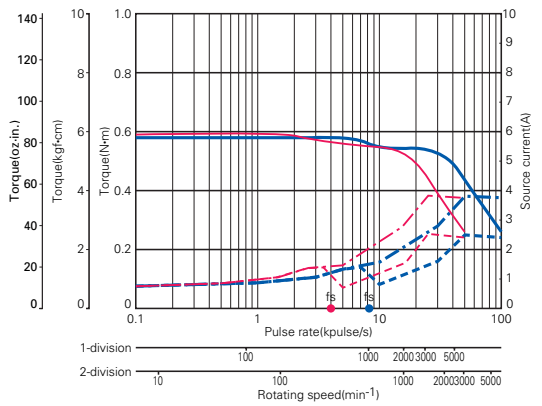
Source voltage:AC100V·Operating current: 1.5A/phase
—— Pull-out torque(J_L1=7.4×10^{-4}kg·m^2 [40.46 oz·in^2] Use the rubber coupling)
– · – Source current(T_L=MAX) – – – Source current(T_L=0)
fs:No load maximum starting pluse rate
■ 1-division is specified ■ 2-division is specified

●103H7853-80 □□ :200V



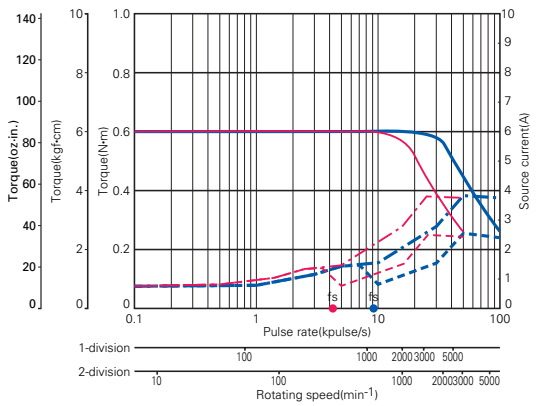
Source voltage:AC200V·Operating current: 1.5A/phase
—— Pull-out torque(J_L1=7.4×10^{-4}kg·m^2 [40.46 oz·in^2] Use the rubber coupling)
– · – Source current(T_L=MAX) – – – Source current(T_L=0)
fs:No load maximum starting pluse rate
■ 1-division is specified ■ 2-division is specified

●103H7521-62 □□ /103H7521-80 □□ :100V



Source voltage:AC100V·Operating current: 1.5A/phase
—— Pull-out torque(J_L1=0.94×10^{-4}kg·m^2 [5.14 oz·in^2] Use the rubber coupling)
– · – Source current(T_L=MAX) – – – Source current(T_L=0)
fs:No load maximum starting pluse rate
■ 1-division is specified ■ 2-division is specified

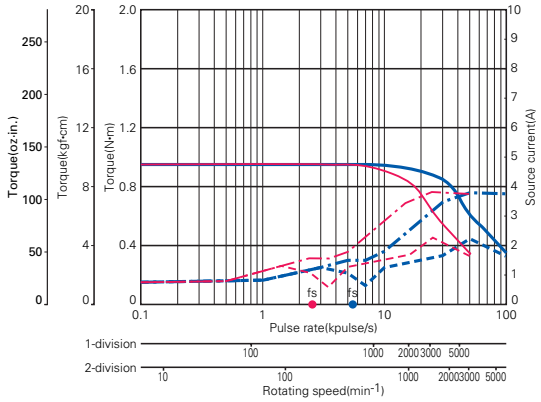
●103H7521-62 □□ /103H7521-80 □□ :200V



Source voltage:AC200V·Operating current: 1.5A/phase
—— Pull-out torque(J_L1=0.94×10^{-4}kg·m^2 [5.14 oz·in^2] Use the rubber coupling)
– · – Source current(T_L=MAX) – – – Source current(T_L=0)
fs:No load maximum starting pluse rate
■ 1-division is specified ■ 2-division is specified

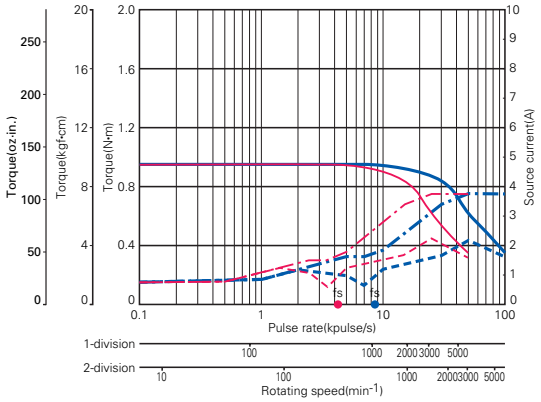
Pulse rate-torque characteristics/pulse rate-source current characteristics

●103H7522-62□□ /103H7522-80□□ :100V



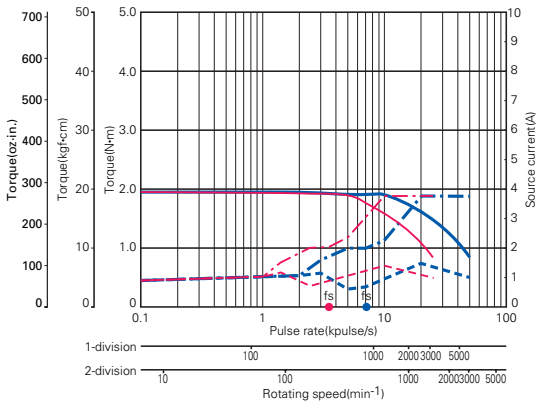
Source voltage:AC100V·Operating current: 1.5A/phase
—— Pull-out torque(J_L1=2.6×10^{-4}kg·m^2 [14.22 oz·in^2] Use the rubber coupling)
–·– Source current(T_L=MAX) – – – Source current(T_L=0)
fs:No load maximum starting pluse rate
■1-division is specified ■2-division is specified

●103H7522-62□□ /103H7522-80□□ :200V



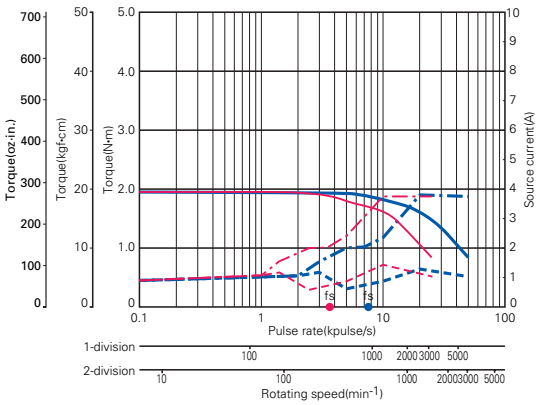
Source voltage:AC200V·Operating current: 1.5A/phase
—— Pull-out torque(J_L1=2.6×10^{-4}kg·m^2 [14.22 oz·in^2] Use the rubber coupling)
–·– Source current(T_L=MAX) – – – Source current(T_L=0)
fs:No load maximum starting pluse rate
■1-division is specified ■2-division is specified

●103H7523-62□□ /103H7523-80□□ :100V



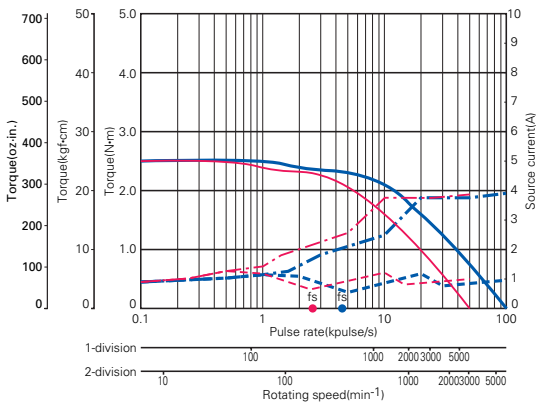
Source voltage:AC100V·Operating current: 1.5A/phase
—— Pull-out torque(J_L1=7.4×10^{-4}kg·m^2 [40.46 oz·in^2] Use the rubber coupling)
–·– Source current(T_L=MAX) – – – Source current(T_L=0)
fs:No load maximum starting pluse rate
■1-division is specified ■2-division is specified

●103H7523-62□□ /103H7523-80□□ :200V



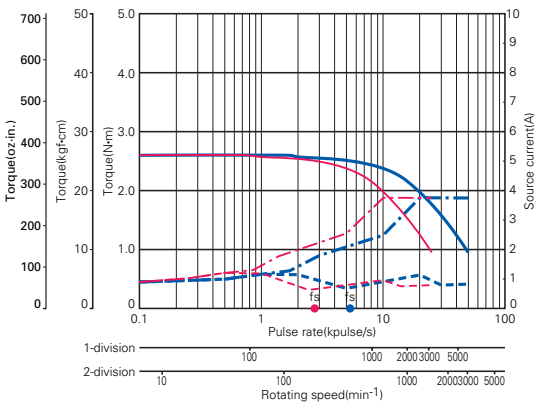
Source voltage:AC200V·Operating current: 1.5A/phase
—— Pull-out torque(J_L1=7.4×10^{-4}kg·m^2 [40.46 oz·in^2] Use the rubber coupling)
–·– Source current(T_L=MAX) – – – Source current(T_L=0)
fs:No load maximum starting pluse rate
■1-division is specified ■2-division is specified

●103H8581-62□□ /103H8581-80□□ :100V



Source voltage:AC100V·Operating current: 1.5A/phase
—— Pull-out torque(J_L1=7.4×10^{-4}kg·m^2 [40.46 oz·in^2] Use the rubber coupling)
–·– Source current(T_L=MAX) – – – Source current(T_L=0)
fs:No load maximum starting pluse rate
■1-division is specified ■2-division is specified

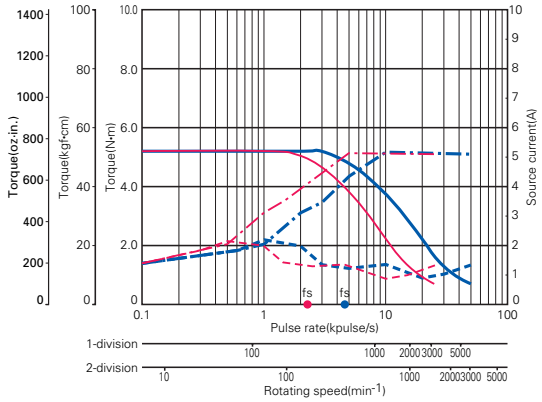
●103H8581-62□□ /103H8581-80□□ :200V



Source voltage:AC200V·Operating current: 1.5A/phase
—— Pull-out torque(J_L1=7.4×10^{-4}kg·m^2 [40.46 oz·in^2] Use the rubber coupling)
–·– Source current(T_L=MAX) – – – Source current(T_L=0)
fs:No load maximum starting pluse rate
■1-division is specified ■2-division is specified

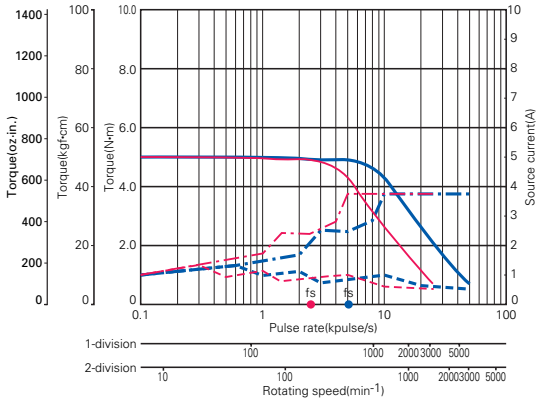
Pulse rate-torque characteristics/pulse rate-source current characteristics

●103H8582-62□□ /103H8582-80□□ :100V



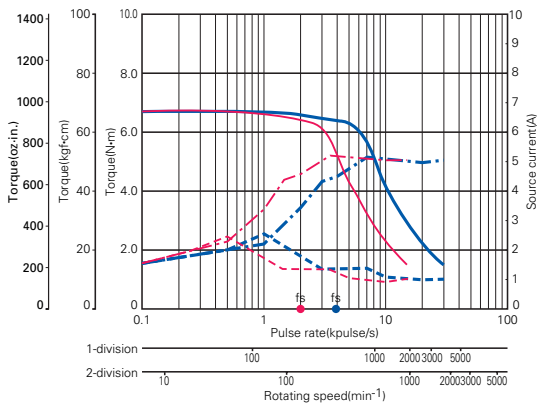
Source voltage:AC100V·Operating current: 1.5A/phase
—— Pull-out torque(JL1=15.3×10^{-4}kg·m^2 [83.65 oz·in^2] Use the rubber coupling)
– · – Source current(TL=MAX) – – – Source current(TL=0)
fs:No load maximum starting pluse rate
■ 1-division is specified ■ 2-division is specified

●103H8582-62□□ /103H8582-80□□ :200V



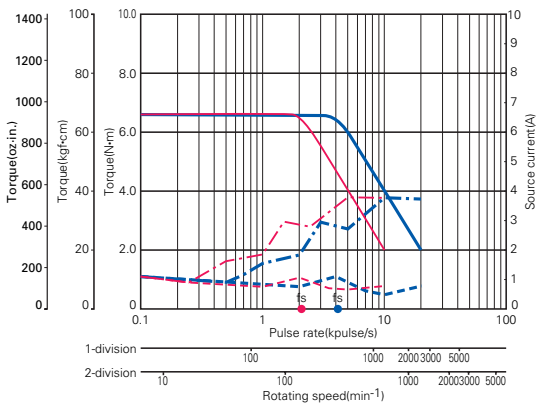
Source voltage:AC200V·Operating current: 1.5A/phase
—— Pull-out torque(JL1=15.3×10^{-4}kg·m^2 [83.65 oz·in^2] Use the rubber coupling)
– · – Source current(TL=MAX) – – – Source current(TL=0)
fs:No load maximum starting pluse rate
■ 1-division is specified ■ 2-division is specified

●103H8583-62□□ /103H8583-80□□ :100V



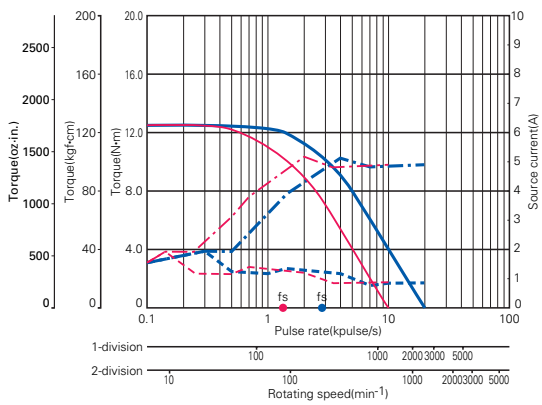
Source voltage:AC100V·Operating current: 1.5A/phase
—— Pull-out torque(JL1=43×10^{-4}kg·m^2 [235.10 oz·in^2] Use the rubber coupling)
– · – Source current(TL=MAX) – – – Source current(TL=0)
fs:No load maximum starting pluse rate
■ 1-division is specified ■ 2-division is specified

●103H8583-62□□ /103H8583-80□□ :200V



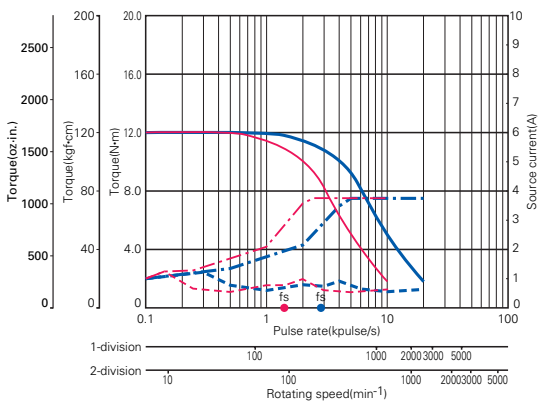
Source voltage:AC200V·Operating current: 1.5A/phase
—— Pull-out torque(JL1=43×10^{-4}kg·m^2 [235.10 oz·in^2] Use the rubber coupling)
– · – Source current(TL=MAX) – – – Source current(TL=0)
fs:No load maximum starting pluse rate
■ 1-division is specified ■ 2-division is specified

●103H89582-62□□ /103H89582-80□□ :100V



Source voltage:AC100V·Operating current: 1.5A/phase
—— Pull-out torque(JL1=43×10^{-4}kg·m^2 [235.10 oz·in^2] Use the rubber coupling)
– · – Source current(TL=MAX) – – – Source current(TL=0)
fs:No load maximum starting pluse rate
■ 1-division is specified ■ 2-division is specified

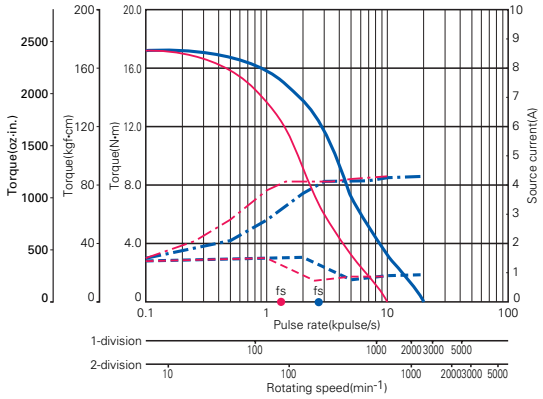
●103H89582-62□□ /103H89582-80□□ :200V



Source voltage:AC200V·Operating current: 1.5A/phase
—— Pull-out torque(JL1=43×10^{-4}kg·m^2 [235.10 oz·in^2] Use the rubber coupling)
– · – Source current(TL=MAX) – – – Source current(TL=0)
fs:No load maximum starting pluse rate
■ 1-division is specified ■ 2-division is specified

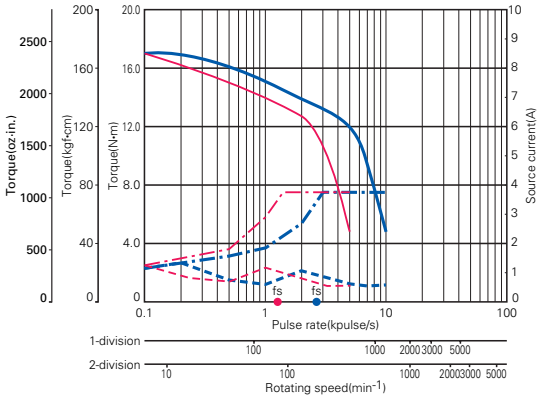
Pulse rate-torque characteristics/pulse rate-source current characteristics

●103H89583-62□□ /103H89583-80□□ :100V



Source voltage:AC100V·Operating current: 1.5A/phase
—— Pull-out torque($J_L1=43\times10^{-4}$kg·m^2 [235.10 oz·in^2] Use the rubber coupling)
– · – Source current(T_L=MAX) – – – Source current(T_L=0)
fs:No load maximum starting pluse rate
■1-division is specified ■2-division is specified

●103H89583-62□□ /103H89583-80□□ :200V



Source voltage:AC200V·Operating current: 1.5A/phase
—— Pull-out torque($J_L1=43\times10^{-4}$kg·m^2 [235.10 oz·in^2] Use the rubber coupling)
– · – Source current(T_L=MAX) – – – Source current(T_L=0)
fs:No load maximum starting pluse rate
■1-division is specified ■2-division is specified

Option

Fitting metal

Model number	Quantity
PM-AP-002	One set

- The fitting metal can be commonly used for either front or back surface.

Terminal block cover

Model number	Quantity
PM-AP-015	One

Connector cable

Model number	Application
PM-C14S0100-02	Connector cable for I/O signals (CN1)

- The connector cable is a 1-meter cable assembled with the connector.

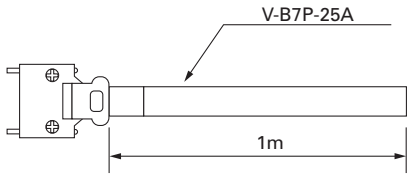
Option

● Cable 1 (I/O signal cable)

Driver side

Pin number	Color
1	Red
2	Red*
3	Black
4	Black*
5	Green
6	Green*
7	Orange
8	Orange*
9	Blue
10	Blue*
11	Brown
12	Brown*
13	Yellow
14	Yellow*

*: White spiral



Cable model number	Length
PM-C14S0100-02	1m