

SGDH-□, SGM□H-□

Sigma-II Series

The Ideal servo family for motion control. Fast Response, High Speed, and High Accuracy.

- Online autotuning with 10 levels of rigidity
- Peak torque 300% of nominal
- Automatic motor recognition
- Analogue control for speed and torque
- Pulse train control for positioning
- Optional Units for system flexibility and network connectivity
- Smooth operation
- Oscilloscope available via SigmaWin tool
- Windows based Configuration and commissioning software

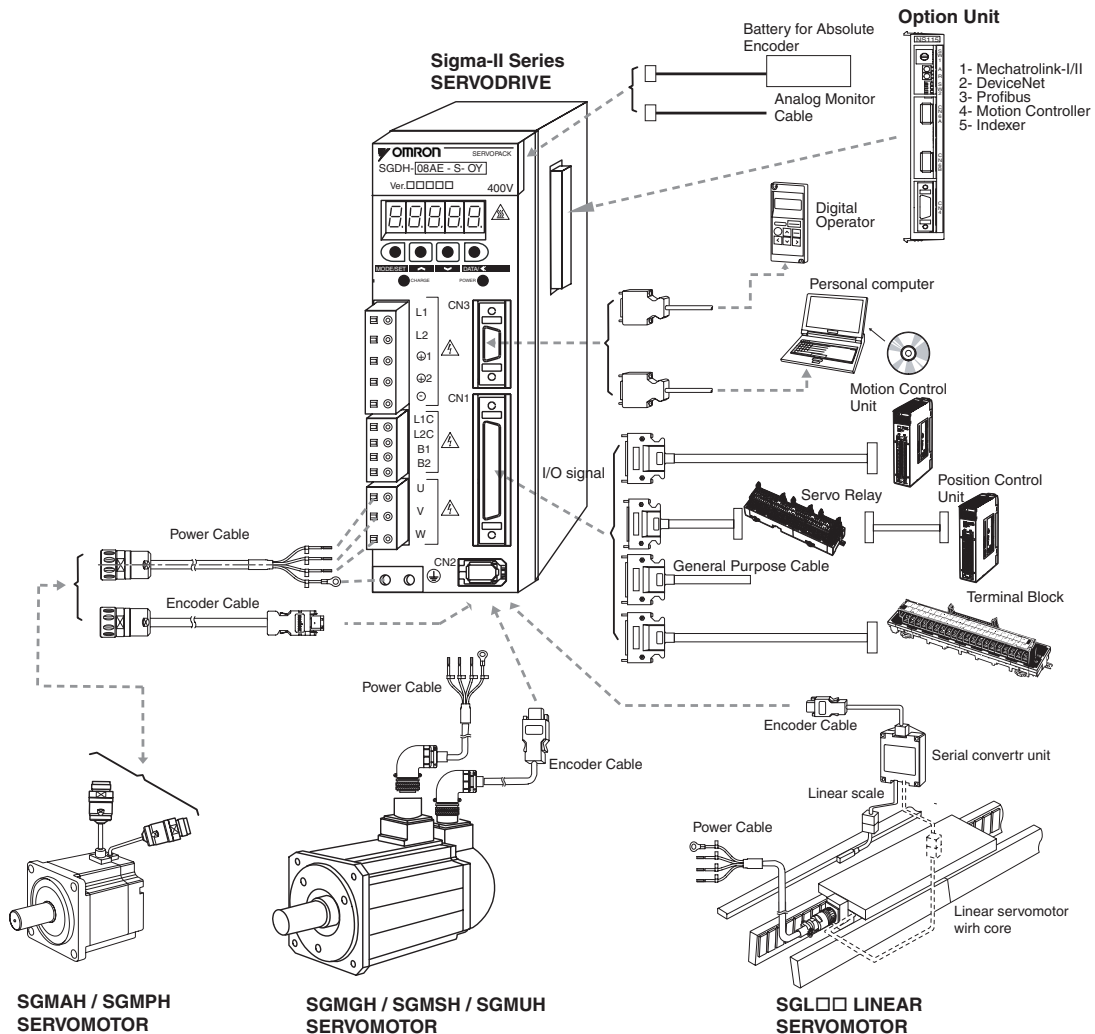
Ratings

- 230VAC Single-phase 30 W to 1.5kW (4.77 Nm)
- 400VAC Three-phase 450 W to 15 kW (95.4 Nm)



AC Servo Systems









System Configuration



Servomotor / Servo Drive Combination

Σ - II



| Servomotor | | | Servo Drive | | |
|---|-----------------|--|-------------|-----------------|-----------------|
| | Voltage | Rated Torque | Capacity | 230 V (1-phase) | 400 V (3-phase) |
| SGMAH (3000 min ⁻¹)  | 230 V | 0.0955 N.m | 30 W | SGDH-A3AE-OY | - |
| | | 0.159 N.m | 50 W | SGDH-A5AE-OY | - |
| | | 0.318 N.m | 100 W | SGDH-01AE-OY | - |
| | | 0.637 N.m | 200 W | SGDH-02AE-OY | - |
| | | 1.27 N.m | 400 W | SGDH-04AE-OY | - |
| | | 2.39 N.m | 750 W | SGDH-08AE-S-OY | - |
| | 400 V | 0.955 N.m | 300 W | - | SGDH-05DE-OY |
| | | 2.07 N.m | 650 W | - | SGDH-10DE-OY |
| SGMPH (3000 min ⁻¹)  | 230 V | 0.318 N.m | 100 W | SGDH-01AE-OY | - |
| | | 0.637 N.m | 200 W | SGDH-02AE-OY | - |
| | | 1.27 N.m | 400 W | SGDH-04AE-OY | - |
| | | 2.39 N.m | 750 W | SGDH-08AE-S-OY | - |
| | | 4.77 N.m | 1500 W | SGDH-15AE-S-OY | - |
| | 400 V | 0.637 N.m | 200 W | - | SGDH-05DE-OY |
| | | 1.27 N.m | 400 W | - | SGDH-05DE-OY |
| | | 2.39 N.m | 750 W | - | SGDH-10DE-OY |
| | | 4.77 N.m | 1500 W | - | SGDH-15DE-OY |
| SGMGH (1500 min ⁻¹)  | 400 V | 2.84 N.m | 0.45 kW | - | SGDH-05DE-OY |
| | | 5.39 N.m | 0.85 kW | - | SGDH-10DE-OY |
| | | 8.34 N.m | 1.3 kW | - | SGDH-15DE-OY |
| | | 11.5 N.m | 1.8 kW | - | SGDH-20DE-OY |
| | | 18.6 N.m | 2.9 kW | - | SGDH-30DE-OY |
| | | 28.4 N.m | 4.4 kW | - | SGDH-50DE-OY |
| | | 35.0 N.m | 5.5 kW | - | SGDH-60DE-OY |
| | | 48.0 N.m | 7.5 kW | - | SGDH-75DE-OY |
| | | 70.0 N.m | 11 kW | - | SGDH-1AE-OY |
| | | 95.4 N.m | 15 kW | - | SGDH-1EDE-OY |
| SGMSH (3000 min ⁻¹)  | 400 V | 3.18 N.m | 1.0 kW | - | SGDH-10DE-OY |
| | | 4.90 N.m | 1.5 kW | - | SGDH-15DE-OY |
| | | 6.36 N.m | 2.0 kW | - | SGDH-20DE-OY |
| | | 9.80 N.m | 3.0 kW | - | SGDH-30DE-OY |
| | | 12.6 N.m | 4.0 kW | - | SGDH-50DE-OY |
| | | 15.8 N.m | 5.0 kW | - | SGDH-50DE-OY |
| SGMUH (6000 min ⁻¹)  | 400 V | 1.59 N.m | 1.0 kW | - | SGDH-10DE-OY |
| | | 2.45 N.m | 1.5 kW | - | SGDH-15DE-OY |
| | | 4.9 N.m | 3.0 kW | - | SGDH-30DE-OY |
| | | 6.3 N.m | 4.0 kW | - | SGDH-50DE-OY |
| SGLGW Linear Motors  | 230 V | Refer to the Linear Motors chapter for details | | | |
| SGLFW Linear Motors  | 230 V, 400 V | Refer to the Linear Motors chapter for details | | | |
| SGLTW Linear Motors  | 400 V | Refer to the Linear Motors chapter for details | | | |

Type Designation

Servomotor

SGMAH - 01 A 1 A 6 S D - OY

Sigma-II Servomotor Type

- SGMAH: Super High Power Rate Type
- SGMPH: Cube Type
- SGMGH: High-speed Feed Type
- SGMSH: Super High Power Rate Type
- SGMUH: High Speed Type

Capacity (kW)

| Code | SGMAH | SGMPH | SGMGH | SGMSH | SGMUH |
|------|------------------------|------------------------|------------------------|------------------------|------------------------|
| | 3000 min ⁻¹ | 3000 min ⁻¹ | 1500 min ⁻¹ | 3000 min ⁻¹ | 6000 min ⁻¹ |
| A3 | 0.03 | | | | |
| A5 | 0.05 | | | | |
| 01 | 0.1 | 0.1 | | | |
| 02 | 0.2 | 0.2 | | | |
| 03 | 0.3 | | | | |
| 04 | 0.4 | 0.4 | | | |
| 05 | | | 0.45 | | |
| 06 | | | | | |
| 07 | 0.65 | | | | |
| 08 | 0.75 | 0.75 | | | |
| 09 | | | 0.85 | | |
| 10 | | | | 1.0 | 1.0 |
| 12 | | | | | |
| 13 | | | 1.3 | | |
| 15 | | 1.5 | | 1.5 | 1.5 |
| 20 | | | 1.8 | 2.0 | |
| 22 | | | | | |
| 30 | | | 2.9 | 3.0 | 3.0 |
| 32 | | | | | |
| 40 | | | | 4.0 | 4.0 |
| 44 | | | 4.4 | | |
| 50 | | | | 5.0 | |
| 55 | | | 5.5 | | |
| 60 | | | | | |
| 75 | | | 7.5 | | |
| 1A | | | 11 | | |
| 1E | | | 15 | | |

Voltage

- A: 230 V
- D: 400 V

Connector Specifications

| | |
|-------|----------------------------------|
| Blank | No option |
| D | Hypertac Connector (SGMAH,SGMPH) |

Brake, Oil Seal Specifications

| | |
|---|----------------------------|
| 1 | No Brake, No Oil/Dust Seal |
| S | Oil Seal |
| B | 90V Brake |
| C | 24V Brake |
| D | Oil Seal + 90VDC Brake |
| E | Oil Seal + 24VDC Brake |
| F | Dust Seal |
| G | Dust Seal + 90VDC Brake |
| H | Dust Seal + 24VDC Brake |

Shaft End Specifications

| Code | Shaft End | Type | | | | |
|------|-----------------------|-------|-------|-------|-------|-------|
| | | SGMAH | SGMPH | SGMGH | SGMSH | SGMUH |
| 2 | Straight, No key | ○ | ○ | ○ | ○ | |
| 4 | Straight, Key | ○ | ○ | | | |
| 6 | Straight, Key, Tapped | ● | ● | ● | ● | ● |
| 8 | Straight, Tapped | ○ | ○ | | | |

●: Standard ○: Option

Design Procedure:

- A: Standard
- E: SGMPH (IP67)
- F: SGMAH (prepared for oil seal mounting)

Serial Encoder Specifications

| Code | Encoder | Type | | | | |
|------|--------------------|-------|-------|-------|-------|-------|
| | | SGMAH | SGMPH | SGMGH | SGMSH | SGMUH |
| 1 | 16-bit Absolute | ○ | ○ | | | |
| 2 | 17-bit Absolute | | | ○ | ○ | |
| A | 13-bit Incremental | ● | ● | | | |
| B | 16-bit Incremental | ○ | ○ | | | |
| C | 17-bit Incremental | | | ● | ● | ● |

●: Standard ○: Option

Servo Drive

SGDH - 04 A E - S - OY

Sigma-II Servo Drive

Capacity

| | | | |
|----|--------|----|--------|
| A3 | 30 W | 15 | 1.5 kW |
| A5 | 50 W | 20 | 2.0 kW |
| 01 | 100 W | 30 | 3.0 kW |
| 02 | 200 W | 50 | 5.0 kW |
| 04 | 400 W | 60 | 6.0 kW |
| 05 | 500 W | 75 | 7.5 kW |
| 08 | 750 W | 1A | 11 kW |
| 10 | 1.0 kW | 1E | 15 kW |

Phase

| | |
|-------|--|
| Blank | Three-phase (0.5 to 15kW) Single-phase (30 to 400W) |
| S | Single-phase (750W/1.5kW) |

Model

- E: Speed, Torque, Position

Source Voltage

- A: 230V
- D: 400V

Servomotor Specifications

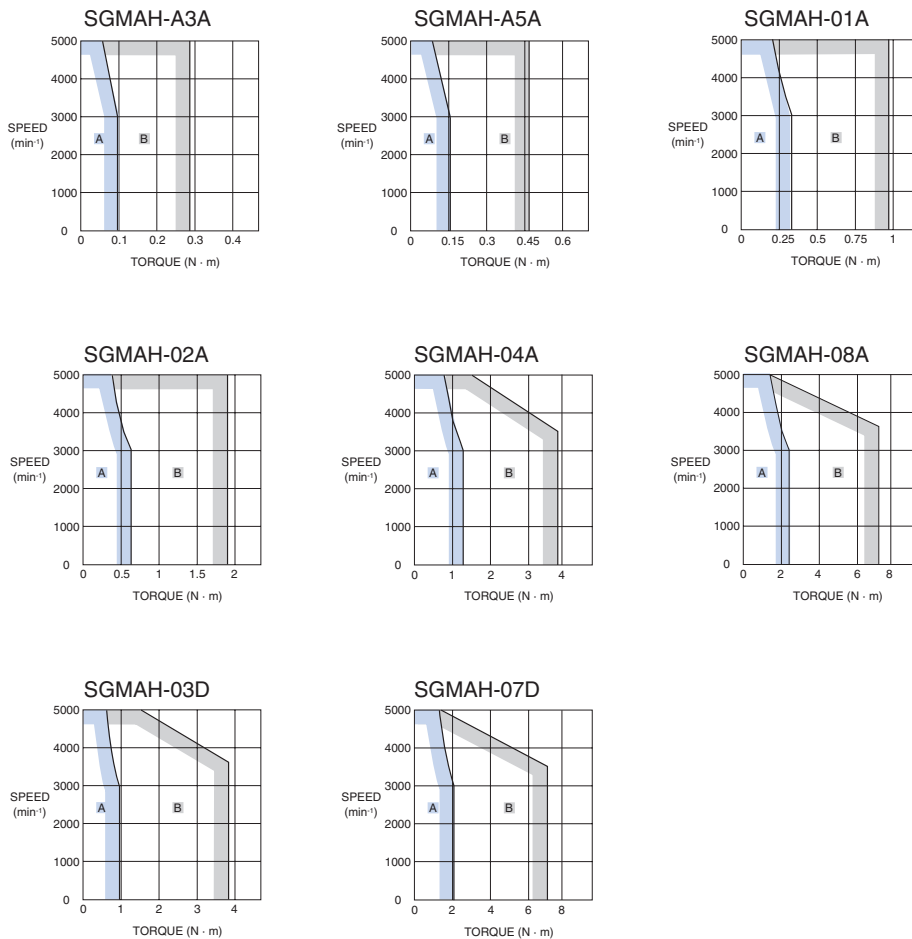
Type SGMAH, 230V/400V

Ratings and Specifications

| Applied Voltage | | 230 V | | | | | | 400 V | |
|---------------------------------------|-------------------------------------|---|-------|-------|-------|-------|-------|-------|-------|
| Servomotor Model SGMAH-□ | | A3A□ | A5A□ | 01A□ | 02A□ | 04A□ | 08A□ | 03D□ | 07D□ |
| Rated Output | W | 30 | 50 | 100 | 200 | 400 | 750 | 300 | 650 |
| Rated Torque | N·m | 0.096 | 0.159 | 0.318 | 0.637 | 1.27 | 2.39 | 0.955 | 2.07 |
| Instantaneous Peak Torque | N·m | 0.286 | 0.477 | 0.955 | 1.91 | 3.82 | 7.16 | 3.82 | 7.16 |
| Rated Current | A (rms) | 0.44 | 0.64 | 0.91 | 2.1 | 2.8 | 4.4 | 1.3 | 2.2 |
| Instantaneous Max. Current | A (rms) | 1.3 | 2.0 | 2.8 | 6.5 | 8.5 | 13.4 | 5.1 | 7.7 |
| Rated Speed | min ⁻¹ | 3000 | | | | | | | |
| Max. Speed | min ⁻¹ | 5000 | | | | | | | |
| Torque Constant | N·m/A (rms) | 0.238 | 0.268 | 0.378 | 0.327 | 0.498 | 0.590 | 0.837 | 1.02 |
| Rotor Moment of Inertia (JM) | kg·m ² ×10 ⁻⁴ | 0.017 | 0.022 | 0.036 | 0.106 | 0.173 | 0.672 | 0.173 | 0.672 |
| Allowable Load Moment of Inertia (JL) | Multiple of (JM) | 30 | | | | | | 20 | |
| Rated Power Rate | kW/s | 5.49 | 11.5 | 27.8 | 38.2 | 93.7 | 84.8 | 52.9 | 63.8 |
| Rated Angular Acceleration | rad/s ² | 57500 | 72300 | 87400 | 60100 | 73600 | 35500 | 55300 | 30800 |
| Applicable Encoder | Standard | Incremental Encoder (13 bits: 2048P/R) | | | | | | | |
| | Option | Incremental/Absolute Encoder (16 bits: 16384P/R) | | | | | | | |
| Holding Brake Moment of Inertia J | kg·m ² ×10 ⁻⁴ | 0.0085 | | | 0.058 | | 0.14 | 0.058 | 0.14 |
| Basic Specifications | Time Rating | Continuous | | | | | | | |
| | Insulation Class | Class B | | | | | | | |
| | Ambient Temperature | 0 to +40° C | | | | | | | |
| | Ambient Humidity | 20 to 80% (non-condensing) | | | | | | | |
| | Vibration Class | 15µm or below | | | | | | | |
| | Enclosure | Totally-enclosed, self-cooled, IP55 (excluding shaft opening) | | | | | | | |
| | Vibration Resistance | Vibration acceleration 49m/s ² | | | | | | | |
| | Mounting | Flange-mounted | | | | | | | |

Torque-Speed Characteristics

(A : Continuous Duty Zone B : Intermittent Duty Zone)



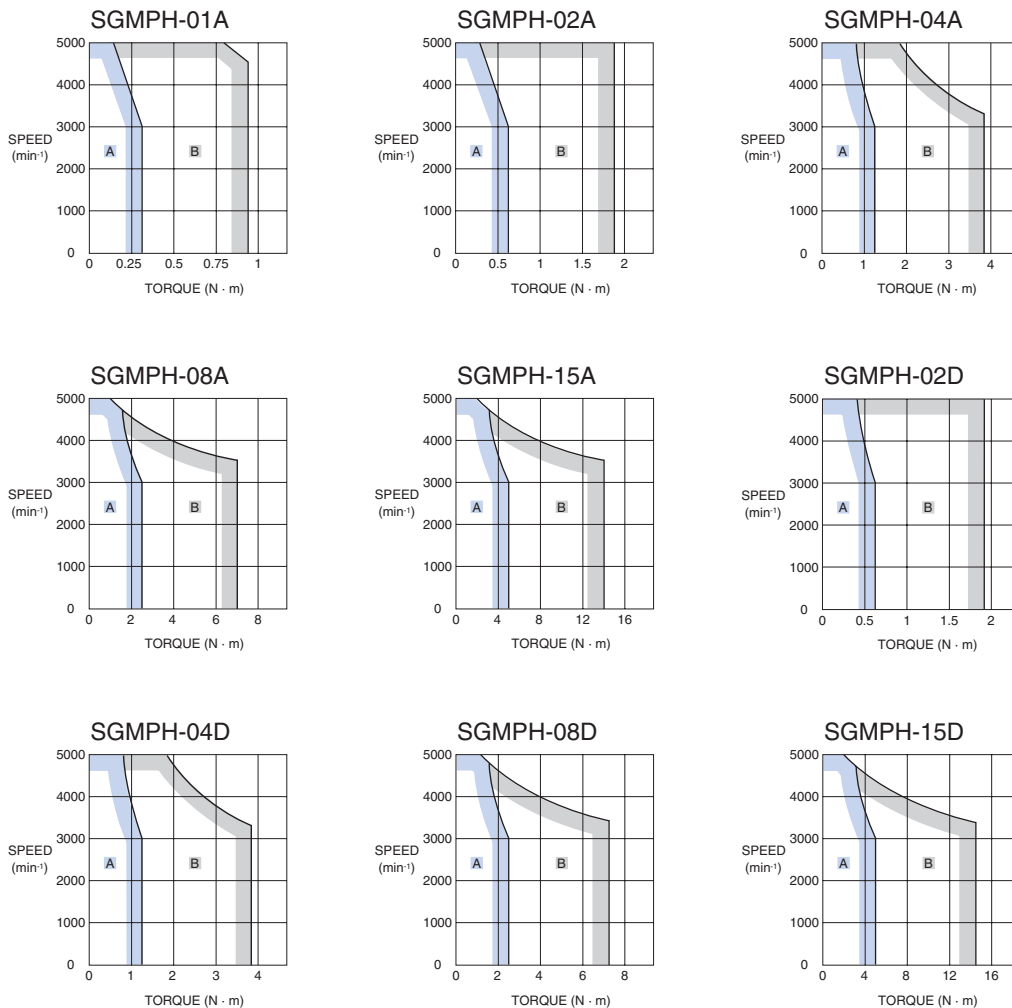
Type SGMPH, 230V/400V

Ratings and Specifications

| Applied Voltage | | 230 V | | | | | 400 V | | | |
|---------------------------------------|-------------------------------------|---|-------|-------|-------|-------|-------|-------|-------|-------|
| Servomotor Model SGMPH-□ | | 01A□ | 02A□ | 04A□ | 08A□ | 15A□ | 02D□ | 04D□ | 08D□ | 15D□ |
| Rated Output | W | 100 | 200 | 400 | 750 | 1500 | 200 | 400 | 750 | 1500 |
| Rated Torque | N·m | 0.318 | 0.637 | 1.27 | 2.39 | 4.77 | 0.637 | 1.27 | 2.39 | 4.77 |
| Instantaneous Peak Torque | N·m | 0.955 | 1.91 | 3.82 | 7.16 | 14.3 | 1.91 | 3.82 | 7.16 | 14.3 |
| Rated Current | A (rms) | 0.89 | 2.0 | 2.6 | 4.1 | 7.5 | 1.4 | 1.4 | 2.6 | 4.5 |
| Instantaneous Max. Current | A (rms) | 2.8 | 6.0 | 8.0 | 13.9 | 23.0 | 4.6 | 4.4 | 7.8 | 13.7 |
| Rated Speed | min ⁻¹ | 3000 | | | | | | | | |
| Max. Speed | min ⁻¹ | 5000 | | | | | | | | |
| Torque Constant | N·m/A (rms) | 0.392 | 0.349 | 0.535 | 0.641 | 0.687 | 0.481 | 0.963 | 0.994 | 1.14 |
| Rotor Moment of Inertia (JM) | kg·m ² ×10 ⁻⁴ | 0.0491 | 0.193 | 0.331 | 2.10 | 4.02 | 0.193 | 0.331 | 2.10 | 4.02 |
| Allowable Load Moment of Inertia (JL) | Multiple of (JM) | 25 | 15 | 7 | 5 | | 15 | 7 | 5 | |
| Rated Power Rate | kW/s | 20.6 | 21.0 | 49.0 | 27.1 | 56.7 | 21.0 | 49.0 | 27.1 | 56.7 |
| Rated Angular Acceleration | rad/s ² | 64800 | 33000 | 38500 | 11400 | 11900 | 33000 | 38500 | 11400 | 11900 |
| Aplicable Encoder | Standard | Incremental Encoder (13 bits: 2048P/R) | | | | | | | | |
| | Option | Incremental/Absolute Encoder (16 bits: 16384P/R) | | | | | | | | |
| Holding Brake Moment of Inertia J | kg·m ² ×10 ⁻⁴ | 0.029 | 0.109 | 0.875 | | | 0.109 | | 0.875 | |
| Basic Specifications | Time Rating | Continuous | | | | | | | | |
| | Insulation Class | Class B | | | | | | | | |
| | Ambient Temperature | 0 to +40° C | | | | | | | | |
| | Ambient Humidity | 20 to 80% (non-condensing) | | | | | | | | |
| | Vibration Class | 15µm or below | | | | | | | | |
| | Enclosure | Totally-enclosed, self-cooled, IP55 (excluding shaft opening) | | | | | | | | |
| | Vibration Resistance | Vibration acceleration 49m/s ² | | | | | | | | |
| | Mounting | Flange-mounted | | | | | | | | |

Torque-Speed Charecteristics

(A : Continuous Duty Zone B : Intermittent Duty Zone)



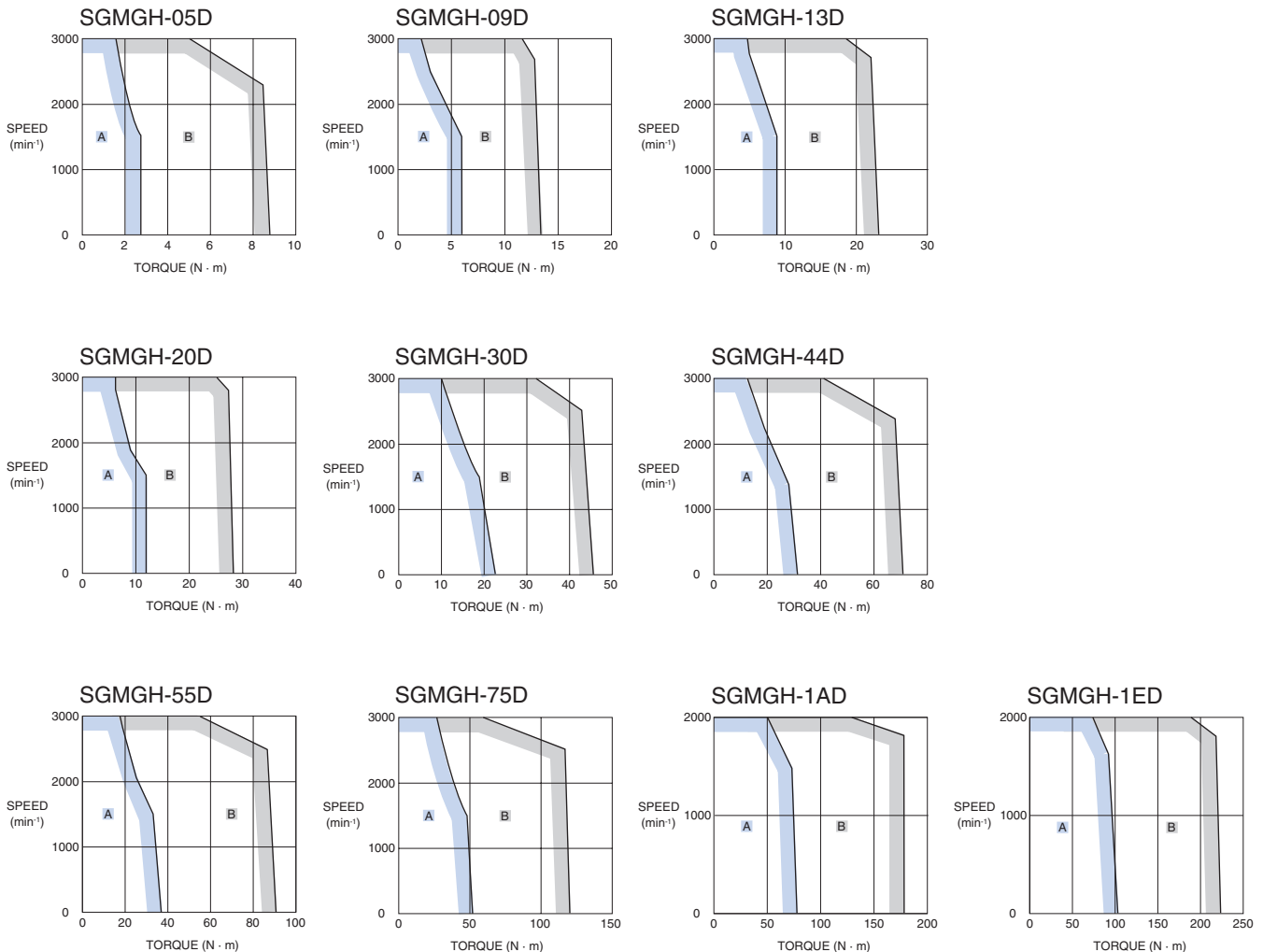
Type SGMGH, 400V

Ratings and Specifications

| Applied Voltage | | 400 V | | | | | | | | | |
|---------------------------------------|-------------------------------------|---|------|------|------|------|------|------|------|------|------|
| Servomotor Model SGMGH-□ | | 05D□ | 09D□ | 13D□ | 20D□ | 30D□ | 44D□ | 55D□ | 75D□ | 1AD□ | 1ED□ |
| Rated Output | kW | 0.45 | 0.85 | 1.3 | 1.8 | 2.9 | 4.4 | 5.5 | 7.5 | 11 | 15 |
| Rated Torque | N·m | 2.84 | 5.39 | 8.34 | 11.5 | 18.6 | 28.4 | 35.0 | 48.0 | 70.0 | 95.4 |
| Instantaneous Peak Torque | N·m | 8.92 | 13.8 | 23.3 | 28.7 | 45.1 | 71.1 | 90.7 | 123 | 175 | 221 |
| Rated Current | A (rms) | 1.9 | 3.5 | 5.4 | 8.4 | 11.9 | 16.5 | 20.8 | 25.4 | 28.1 | 37.2 |
| Instantaneous Max. Current | A (rms) | 5.5 | 8.5 | 14 | 20 | 28 | 40.5 | 55 | 65 | 70 | 85 |
| Rated Speed | min ⁻¹ | 1500 | | | | | | | | | |
| Max. Speed | min ⁻¹ | 3000 | | | | | 2000 | | | | |
| Torque Constant | N·m/A (rms) | 1.64 | 1.65 | 1.68 | 1.46 | 1.66 | 1.82 | 1.74 | 2.0 | 2.56 | 2.64 |
| Rotor Moment of Inertia (JM) | kg·m ² ×10 ⁻⁴ | 7.24 | 13.9 | 20.5 | 31.7 | 46.0 | 67.5 | 89.0 | 125 | 281 | 315 |
| Allowable Load Moment of Inertia (JL) | Multiple of (JM) | 5 | | | | | | | | | |
| Rated Power Rate | kW/s | 11.2 | 20.9 | 33.8 | 41.5 | 75.3 | 120 | 137 | 184 | 174 | 289 |
| Rated Angular Acceleration | rad/s ² | 3930 | 3880 | 4060 | 3620 | 4050 | 4210 | 3930 | 3850 | 2490 | 3030 |
| Applicable Encoder | Standard | Incremental Encoder (17 bits: 16384P/R) | | | | | | | | | |
| | Option | Absolute Encoder (17 bits: 16384P/R) | | | | | | | | | |
| Holding Brake Moment of Inertia J | kg·m ² ×10 ⁻⁴ | 2.10 | | | | | 8.50 | | | 18.8 | 37.5 |
| Basic Specifications | Time Rating | Continuous | | | | | | | | | |
| | Insulation Class | Class F | | | | | | | | | |
| | Ambient Temperature | 0 to +40° C | | | | | | | | | |
| | Ambient Humidity | 20 to 80% (non-condensing) | | | | | | | | | |
| | Vibration Class | 15µm or below | | | | | | | | | |
| | Enclosure | Totally-enclosed, self-cooled, IP67 (excluding shaft opening) | | | | | | | | | |
| | Vibration Resistance | Vibration acceleration 24.5m/s ² | | | | | | | | | |
| | Mounting | Flange-mounted | | | | | | | | | |

Torque-Speed Characteristics

(**A** : Continuous Duty Zone **B** : Intermittent Duty Zone)



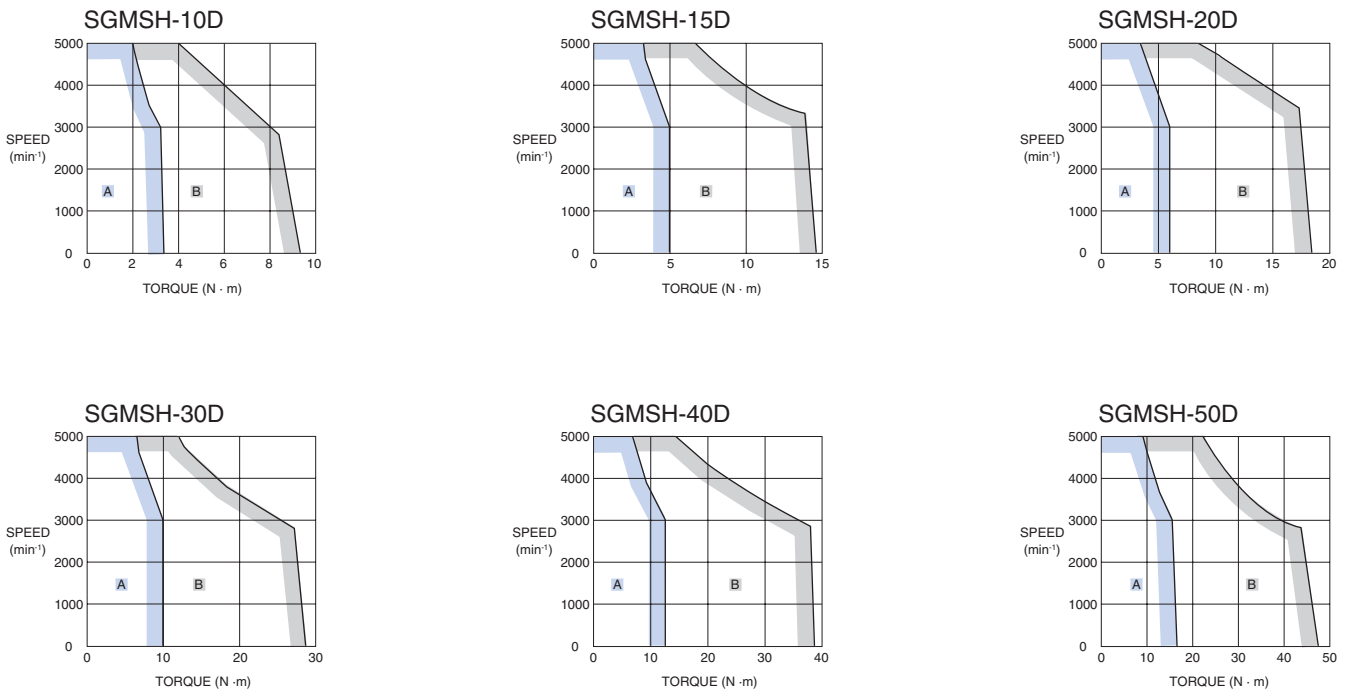
Type SGMSH, 400V

Ratings and Specifications

| Applied Voltage | | 400 V | | | | | |
|---------------------------------------|-------------------------------------|---|-------|-------|-------|-------|-------|
| Servomotor Model SGMSH-□ | | 10D□ | 15D□ | 20D□ | 30D□ | 40D□ | 50D□ |
| Rated Output | kW | 1.0 | 1.5 | 2.0 | 3.0 | 4.0 | 5.0 |
| Rated Torque | N·m | 3.18 | 4.9 | 6.36 | 9.8 | 12.6 | 15.8 |
| Instantaneous Peak Torque | N·m | 9.54 | 14.7 | 19.1 | 29.4 | 37.8 | 47.6 |
| Rated Current | A (rms) | 2.8 | 4.7 | 6.2 | 8.9 | 12.5 | 13.8 |
| Instantaneous Max. Current | A (rms) | 8.5 | 14 | 19.5 | 28 | 38 | 42 |
| Rated Speed | min ⁻¹ | 3000 | | | | | |
| Max. Speed | min ⁻¹ | 5000 | | | | | |
| Torque Constant | N·m/A (rms) | 1.27 | 1.15 | 1.12 | 1.19 | 1.07 | 1.24 |
| Rotor Moment of Inertia (JM) | kg·m ² ×10 ⁻⁴ | 1.74 | 2.47 | 3.19 | 7.0 | 9.60 | 12.3 |
| Allowable Load Moment of Inertia (JL) | Multiple of (JM) | 5 | | | | | |
| Rated Power Rate | kW/s | 57.9 | 97.2 | 127 | 137 | 166 | 202 |
| Rated Angular Acceleration | rad/s ² | 18250 | 19840 | 19970 | 14000 | 13160 | 12780 |
| Applicable Encoder | Standard | Incremental Encoder (17 bits: 16384P/R) | | | | | |
| | Option | Absolute Encoder (17 bits: 16384P/R) | | | | | |
| Holding Brake Moment of Inertia J | kg·m ² ×10 ⁻⁴ | 0.325 | | | | 2.10 | |
| Basic Specifications | Time Rating | Continuous | | | | | |
| | Insulation Class | Class F | | | | | |
| | Ambient Temperature | 0 to +40° C | | | | | |
| | Ambient Humidity | 20 to 80% (non-condensing) | | | | | |
| | Vibration Class | 15µm or below | | | | | |
| | Enclosure | Totally-enclosed, self-cooled, IP67 (excluding shaft opening) | | | | | |
| | Vibration Resistance | Vibration acceleration 24.5m/s ² | | | | | |
| | Mounting | Flange-mounted | | | | | |

Torque-Speed Characteristics

(A : Continuous Duty Zone B : Intermittent Duty Zone)



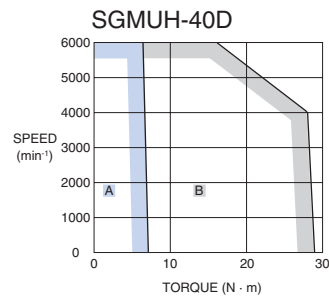
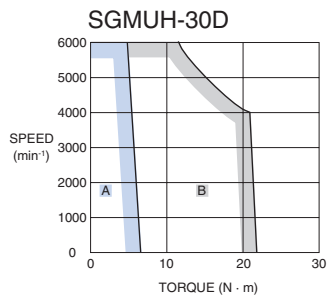
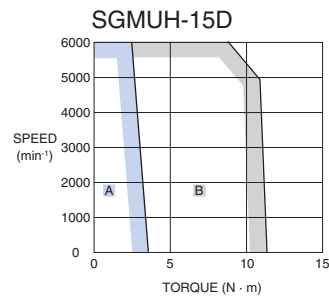
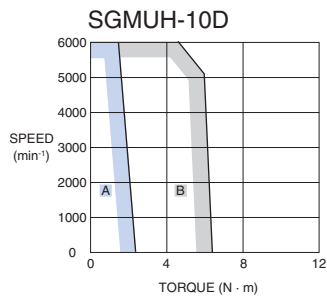
Type SGMUH, 400V

Ratings and Specifications

| Applied Voltage | | 400 V | | | |
|---------------------------------------|-------------------------------------|---|------|------|------|
| Servomotor Model SGMUH-□ | | 10D□ | 15D□ | 30D□ | 40D□ |
| Rated Output | kW | 1.0 | 1.5 | 3.0 | 4.0 |
| Rated Torque | N·m | 1.59 | 2.45 | 4.9 | 6.3 |
| Instantaneous Peak Torque | N·m | 6.5 | 11 | 21.5 | 29 |
| Rated Current | A (rms) | 2.7 | 4.1 | 8.1 | 9.6 |
| Instantaneous Max. Current | A (rms) | 8.5 | 14 | 28 | 38.5 |
| Rated Speed | min ⁻¹ | 6000 | | | |
| Max. Speed | min ⁻¹ | 6000 | | | |
| Torque Constant | N·m/A (rms) | 0.81 | 0.83 | 0.81 | 0.80 |
| Rotor Moment of Inertia (JM) | kg·m ² ×10 ⁻⁴ | 1.74 | 2.47 | 7.0 | 9.6 |
| Allowable Load Moment of Inertia (JL) | Multiple of (JM) | 5 | | | |
| Rated Power Rate | kW/s | 14.5 | 24.3 | 34.3 | 41.3 |
| Rated Angular Acceleration | rad/s ² | 9130 | 9910 | 7000 | 6550 |
| Applicable Encoder | Standard | Incremental Encoder (17 bits: 16384P/R) | | | |
| | Option | - | | | |
| Holding Brake Moment of Inertia J | kg·m ² ×10 ⁻⁴ | 0.25 | | 2.10 | |
| Basic Specifications | Time Rating | Continuous | | | |
| | Insulation Class | Class F | | | |
| | Ambient Temperature | 0 to +40° C | | | |
| | Ambient Humidity | 20 to 80% (non-condensing) | | | |
| | Vibration Class | 15µm or below | | | |
| | Enclosure | Totally-enclosed, self-cooled, IP67 (excluding shaft opening) | | | |
| | Vibration Resistance | Vibration acceleration 24.5m/s ² | | | |
| | Mounting | Flange-mounted | | | |

Torque-Speed Charecteristics

(A : Continuous Duty Zone B : Intermittent Duty Zone)



Servo Drive Specifications

Single-Phase, 230 V

| Servo Drive Type | | SGDH-□ | A3AE-OY | A5AE-OY | 01AE-OY | 02AE-OY | 04AE-OY | 08AE-S-OY | 15AE-S-OY | |
|--------------------------------|----------------------------|--|---------|---------|---------|---------|---------|-----------------------|-----------|-----|
| Applicable Servomotor | SGMAH-□ | A3A□ | A5A□ | 01A□ | 02A□ | 04A□ | 08A□ | - | | |
| | SGMPH-□ | - | - | 01A□ | 02A□ | 04A□ | 08A□ | 15A□ | | |
| Max. Applicable Motor capacity | W | 30 | 50 | 100 | 200 | 400 | 750 | 1500 | | |
| Continuous Output Current | Arms | 0.44 | 0.64 | 0.91 | 2.1 | 2.8 | 5.7 | 11.6 | | |
| Max. Output Current | Arms | 1.3 | 2.0 | 2.8 | 6.5 | 8.5 | 13.9 | 28 | | |
| Input Power | Main Circuit | For single-phase, 200 to 230 VAC + 10 to -15% | | | | | | 220 to 230 VAC | | |
| | Control Circuit | For single-phase, 200 to 230 VAC + 10 to -15% | | | | | | +10 to -15% (50/60Hz) | | |
| Control Method | | Single phase full-wave rectification / IGBT / PWM / sine-wave current drive method | | | | | | | | |
| Feedback | | Serial encoder (incremental/absolute value) | | | | | | | | |
| Conditions | Usage /storage Temperature | 0 to +55° C / -20 to 85° C | | | | | | | | |
| | Usage /storage Humidit | 90%RH or less (non-condensing) | | | | | | | | |
| | Altitude | 1000m or less above sea level | | | | | | | | |
| | Vibration/Shock Resistance | 4.9m/s ² / 19.6m/s ² | | | | | | | | |
| Configuration | | Base mounted | | | | | | | | |
| Approx. Mass | Kg | 0.8 | | | | 1.1 | | 1.7 | | 3.8 |

Three-Phase, 400 V

| Servo Drive Type | | SGDH-□ | 05DE-OY | 10DE-OY | 15DE-OY | 20DE-OY | 30DE-OY | 50DE-OY | 60DE-OY | 75DE-OY | 1ADE-OY | 1EDE-OY |
|--------------------------------|----------------------------|--|---------|---------|---------|---------|-----------|---------|---------|---------|---------|---------|
| Applicable Servomotor | SGMGH-□ | 05D□ | 09D□ | 13D□ | 20D□ | 30D□ | 44D□ | 55D□ | 75D□ | 1AD□ | 1ED□ | |
| | SGMSH-□ | - | 10D□ | 15D□ | 20D□ | 30D□ | 40D□/50D□ | - | - | - | - | - |
| | SGMUH-□ | - | 10D□ | 15D□ | - | 30D□ | 40D□ | - | - | - | - | - |
| Max. Applicable Motor capacity | kW | 0.45 | 1.0 | 1.5 | 2.0 | 3.0 | 5.0 | 6.0 | 7.5 | 11 | 15 | |
| Continuous Output Current | Arms | 1.9 | 3.5 | 5.4 | 8.4 | 11.9 | 16.5 | 20.8 | 25.4 | 28.1 | 37.2 | |
| Max. Output Current | Arms | 5.5 | 8.5 | 14 | 20 | 28 | 40.5 | 55 | 65 | 70 | 85 | |
| Input Power | Main Circuit | For three-phase, 380 to 480 VAC + 10 to -15% (50/60Hz) | | | | | | | | | | |
| | Control Circuit | 24VDC+ 15% | | | | | | | | | | |
| Control Method | | Single phase full-wave rectification / IGBT / PWM / sine-wave current drive method | | | | | | | | | | |
| Feedback | | Serial encoder (incremental/absolute value) | | | | | | | | | | |
| Conditions | Usage /storage Temperature | 0 to +55° C / -20 to +85 C | | | | | | | | | | |
| | Usage /storage Humidit | 90%RH or less (non-condensing) | | | | | | | | | | |
| | Altitude | 1000m or less above sea level | | | | | | | | | | |
| | Vibration/Shock Resistance | 4.9m/s ² / 19.6m/s ² | | | | | | | | | | |
| Configuration | | Base mounted | | | | | | | | | | |
| Approx. Mass | Kg | 2.8 | | | 3.8 | | 5.5 | | 15 | | 22 | |

General Specifications

| | | | | |
|---------------------------|---|---|---|--|
| Speed/Torque Control Mode | Performance | Speed Control Range | 1:5000 | |
| | | Speed Variance | Load Variance | During 0 to 100% load ±0.01% max. (at rated speed) |
| | | | Voltage Variance | Rated voltage ±10%:0% (at rated speed) |
| | | | Temperature Variance | 25 ±25° C: ±0.1 % max (at rated speed) |
| | Frequency characteristics | 400Hz (at J _L = J _M) | | |
| | Torque Control Accuracy (Reproducibility) | ±2% | | |
| Input Signal | Soft Start Time Setting | 0 to 10s (Acceleration, deceleration can each be set.) | | |
| | | Speed Reference Input | Reference Voltage | ±6VDC (forward motor rotation if positive reference) at rated speed: Set at delivery Variable setting range: ±2 to ±10 VDC at rated speed/ max. input voltage: ±12V |
| | Input Impedance | | Approx. 14 kΩ | |
| | Circuit Time Constant | | - | |
| | Torque Reference Input | Reference Voltage | ±3 VDC (forward rotation if positive reference) at rated speed: Set at delivery Variable setting range ±1 to ±10 VDC at rated torque reference | |
| | | Input Impedance | Approx. 14 KΩ | |
| Circuit Time Constant | | Approx. 47μ s | | |
| Position Control Mode | Performance | Bias Setting | 0 to 450 min ⁻¹ (setting resolution: 1 min ⁻¹) | |
| | | Feed Forward Compensation | 0 to 100 % (setting resolution: 1%) | |
| | | Position Completed Width Setting | 0 to 250 command units (Setting resolution: 1 command unit) | |
| | Input Signal | Command Pulse | Input pulse Type | Sign + pulse train, 90° phase displacement 2-phase pulse (A-phase+ B-phase) or CCW/CW pulse train |
| Input Pulse Form | | | Line driver (+5V level) , open collector (+5V or +12 level) | |
| Input Pulse Frequency | | | 0 to 500 Kpps (200Kpps max. at open collector) | |
| Control Signal | Clear Signal (input pulse is same as reference pulse) | | | |
| I/O Signal | Position Signal Output | A-phase, B.phase, C-phase, (S-phase): Line driver output S-phase is for absolute encoder only. | | |
| | Sequence Input Signal | Servo ON, P control (or control mode switching, zero clamp, command pulse inhibit), forward/reverse run prohibit, alarm reset, forward/ reverse current limit (or internal speed switching) | | |
| | Sequence Output Signal | Servo alarm, alarm codes (3-bit output): CN1 output terminal is fixed It is possible to output three types of signals form among: positioning complete (speed agree), motor rotation, servo ready, current limit, speed limit, brake release, warning, NEAR, and zero point pulse signal | | |

| | | |
|----------------------|--|---|
| Communications | Interface | Digital operator (hand-held type), RS-422 port for PCs, etc. (RS-232C ports under some conditions) |
| | 1:N Communications | N may equal up to 14 when an RS-422A port is used |
| | Axis Address Setting | Set by user setting |
| | Functions | Status display, user constant setting monitor display, alarm traceback display, JOG run /autotuning operations, and graphing functions for speed/torque command signal, etc |
| Integrated Functions | Auto Tuning Function | Position speed loop gain and integral time constant can be automatically set. |
| | Dynamic Brake (DB) | Operates during main power OFF, servo alarm, servo OFF or overtravel |
| | Regenerative Processing | Regenerative resistor externally mounted (option) |
| | Overtravel (OT) Prevention Function | DB stop, deceleration stop or coast to stop during P-OT, N-OT operation |
| | Encoder Divider Function | Optional division possible |
| | Electronic Gearing | 0.01 < A/B < 100 |
| | Internal Speed Setting Function | 3 speeds may be set internally |
| | Protective Functions | Overcurrent, overvoltage, insufficient voltage, overload, main circuit sensor error, heatsink overheat, power phase loss, overflow, overspeed, encoder error, runaway, CPU error, parameter error, etc. |
| | Analog Monitor Functions for Supervision | Integrates analog monitor connectors for supervision of the speed and torque reference signals, etc. |
| | Display Functions | CHARGE, POWER, 7-segments LEDx5 (Integrated digital operator function) |
| Others | Reverse connection, zero search, automatic motor discrimination function, and DC reactor connection terminal for high frequency power suppression function (except: 6 to 15kW) | |

I/O Specifications

I/O Signals (CN1) - Input signals

| Pin No. | Signal Name | Function | | | | | |
|-----------------------|--|---|---|------------------|----------------------------------|-------------------|----------------|
| 40 | Common | /S-ON Servo ON: Turns ON the servomotor when the gate block in the inverter is released. | | | | | |
| 41 | /P-CON | Function selected by parameter. | | | | | |
| | | Proportional control reference | Switches the speed control loop from PI (proportional/integral) to P (proportional) control when ON. | | | | |
| | | Direction reference | With the internal set speed selected: Switch the rotation direction. | | | | |
| | | Control mode switching | <table border="0"> <tr> <td>Position ↔ speed</td> <td rowspan="3">} Enables control mode switching</td> </tr> <tr> <td>Position ↔ torque</td> </tr> <tr> <td>Torque ↔ speed</td> </tr> </table> | Position ↔ speed | } Enables control mode switching | Position ↔ torque | Torque ↔ speed |
| | | Position ↔ speed | } Enables control mode switching | | | | |
| | | Position ↔ torque | | | | | |
| Torque ↔ speed | | | | | | | |
| Zero-clamp reference | Speed control with zero-clamp function: Reference speed is zero when ON. | | | | | | |
| Reference pulse block | Position control with reference pulse stop: Stops reference pulse input when ON. | | | | | | |
| 42 43 | P-OT N-OT | Forward run prohibited Reverse run prohibited Overtravel prohibited: Stops servomotor when movable part travels beyond the allowable range of motion. | | | | | |
| 45 46 | /P-CL /N-CL | Function selected by parameter. | | | | | |
| | | Forward external torque limit ON Reverse external torque limit ON | Current limit function enabled when ON. | | | | |
| | | Internal speed switching | With the internal set speed selected: Switches the internal speed settings. | | | | |
| 44 | /ALM-RST | Alarm reset: Releases the servo alarm state. | | | | | |
| 47 | +24VIN | Control power supply input for sequence signals: Users must provide the +24 V power supply. Allowable voltage fluctuation range: 11 to 25 V | | | | | |
| 4 (2) | SEN | Initial data request signal when using an absolute encoder. | | | | | |
| 21 22 | BAT (+) BAT (-) | Connecting pin for the absolute encoder backup battery. Do not connect when a battery is connected to the host controller. | | | | | |
| 5 (6) | Speed | V-REF Speed reference speed input: ±2 to ±10 V/rated motor speed (Input gain can be modified using a parameter.) | | | | | |
| 9 (10) | Torque | T-REF Torque reference input: ±1 to ±10 V/rated motor torque (Input gain can be modified using a parameter.) | | | | | |
| 7 8 11 12 | Position | PULS /PULS SIGN /SIGN | Reference pulse input for only line driver Input mode is set from the following pulses. Sign + pulse string CCW/CW pulse Two-phase pulse (90° phase differential) | | | | |
| 15 14 | | CLR /CLR | Positional error pulse clear input: Clears the positional error pulse during position control. | | | | |
| 3 13 18 | | PL1 PL2 PL3 | +12 V pull-up power is supplied when PULS, SIGN, and CLR reference signals are open-collector outputs (+12 V power supply is built into the SERVOPACK). | | | | |

Note: 1. Pin numbers in parentheses () indicate signal grounds.

2. The functions allocated to /S-ON, /P-CON, P-OT, N-OT, /ALM-RST, /P-CL, and /N-CL input signals can be changed by using the parameters.

3. The voltage input range for speed and torque references is a maximum of ±12 V.

I/O Signals (CN1) - Output signals

| Pin No. | Signal Name | Function | |
|----------------------------|-------------|---------------------------------------|---|
| 31 32 | Common | ALM+ ALM- | Servo alarm: Turns OFF when an error is detected. |
| 27 28 | | /TGON+ /TGON- | Detection during servomotor rotation: Detects when the servomotor is rotating at a speed higher than the motor speed setting. Detection speed can be set by using the parameters. |
| 29 30 | | /S-RDY+ /S-RDY- | Servo ready: ON if there is no servo alarm when the control/main circuit power supply is turned ON. |
| 33 (1) 34 | | PAO /PAO | Phase-A signal Converted two-phase pulse (phases A and B) encoder output signal and zero-point pulse (phase C) signal: RS-422 or the equivalent (Proper line receiver is SN75175 manufactured by Texas Instruments or the equivalent corresponding to MC3486.) |
| 35 36 | | PBO /PBO | |
| 19 20 | | PCO /PCO | |
| 48 49 | | PSO /PSO | Phase-S signal With an absolute encoder: Outputs serial data corresponding to the number of revolutions (RS-422 or the equivalent) |
| 37 38 39 (1) | | ALO1 ALO2 ALO3 | Alarm code output: Outputs 3-bit alarm codes. Open-collector: 30 V and 20 mA rating maximum |
| Shell | | FG | Connected to frame ground if the shield wire of the I/O signal cable is connected to the connector shell. |
| 25 26 | | Speed | /V-CMP+ /V-CMP- |
| 25 26 | Position | /COIN+ /COIN- | Positioning completed (output in Position Control Mode): Turns ON when the number of positional error pulses reaches the value set. The setting is the number of positional error pulses set in reference units (input pulse units defined by the electronic gear). |
| - | Reserved | /CLT /VLT /BK /WARN /NEAR | Reserved terminals The functions allocated to /TGON, /S-RDY, and /V-CMP (/COIN) can be changed by using the parameters. /CLT, /VLT, /BK, /WARN, and /NEAR signals can also be changed. |
| 16 17 23 24 50 | - | - | Terminals not used Do not connect relays to these terminals. |

Note: 1. Pin numbers in parentheses () indicate signal grounds.

2. The functions allocated to /TGON, /S-RDY, and /V-CMP (/COIN) can be changed by using the parameters. /CLT, /VLT, /BK, /WARN, and /NEAR signals can also be changed.

Terminal Specifications

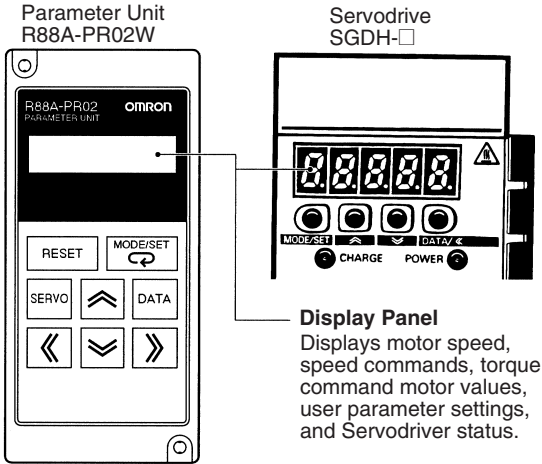
| Symbol | Name | Function | | |
|----------------------|--|---|--|---|
| L1, L2 or L1, L2, L3 | Main circuit AC input terminal | AC power input terminals for the main circuit | | |
| U V W | Servomotor connection terminal | Red White Blue | Terminals for outputs to the Servomotor. | |
| L1C, L2C | | Control power input terminal | | AC power input terminals for the control circuit. |
| ⊕ | | Frame ground | | Ground terminal. Ground to a maximum of 100Ω. (class 3) |
| B1, B2 or B1, B2, B3 | Main circuit DC output terminal | 5 kW or less: Connect an external regenerative resistor if regenerative energy is high. 5.5 kW: There is no internal regenerative resistor. Be sure to connect an external Regenerative Resistor Unit. | | |
| ⊕1, ⊕2 | DC reactor connection terminal for suppressing power supply harmonic waves | Normally, short ⊕1 and ⊕2. If a countermeasure against power supply harmonic waves is needed, connect a DC reactor between ⊕1 and ⊕2. | | |
| ⊕ | Main circuit DC output terminal (positive) | Normally, not connected. This terminal exists on the Servo Drives with a capacity of 6.0 kW or higher only. | | |
| ⊖ | Main circuit DC output terminal (negative) | Normally, not connected. | | |

Encoder Connector (CN2)

| Pin No. | Signal Name | Function |
|---------|-------------|---|
| 1 | E5V | Encoder power supply + 5V |
| 2 | E0V | Encoder power supply ground |
| 3 | BAT+ | Battery + (used only with absolute encoder) |
| 4 | BAT- | Battery - (used only with absolute encoder) |
| 5 | S+ | Encoder serial signal input |
| 6 | S- | Encoder serial signal input |

Operation

Operating Functions

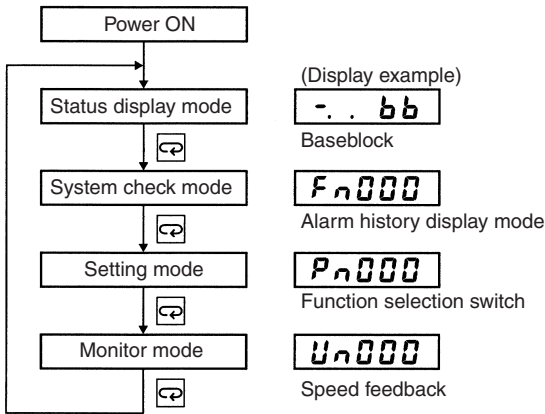


Unit Keys

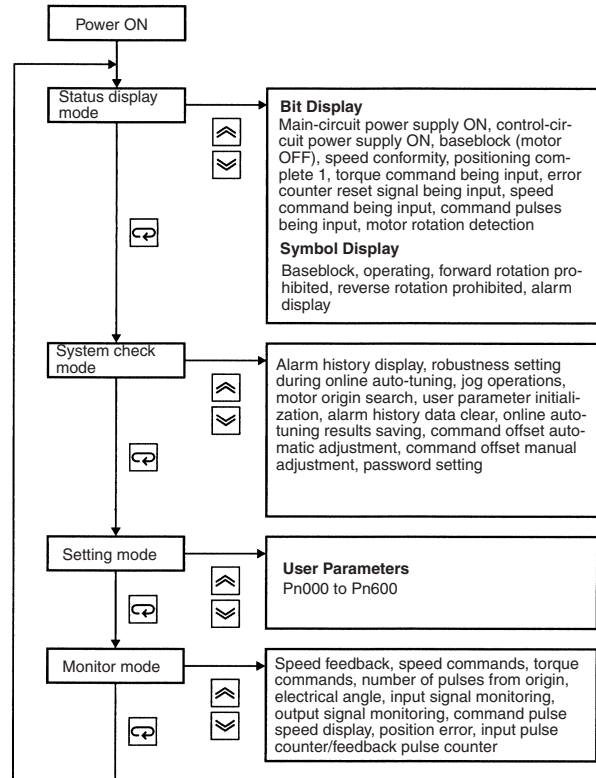
| R88A-PR02W | SGDH-□ | Function |
|------------|--------|--|
| RESET | + | Resets an alarm. |
| MODE/SET | | Switches between status display mode, system check mode, setting mode, and monitor mode. Used as a data setting key while in setting mode. |
| SERVO | | Turns ON or OFF the Servo while jog operations are being performed. |
| DATA | | Switches between parameter display and data display, and records data. |
| | | Increments parameter settings. Used as a forward rotation start key during jog operation. |
| | | Decrements parameter settings. Used as a reverse rotation start key during jog operation. |
| | | Selects the digit whose setting is to be changed. When selected, the digit flashes. |
| | | |

Changing Modes

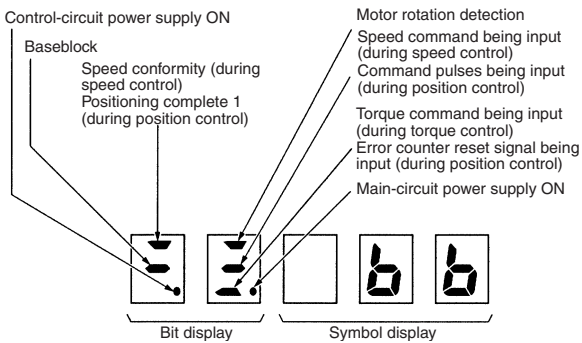
To change modes, press the MODE/SET Key.



Mode Details



Status Display Mode



| Symbol | Status |
|--------|--|
| bb | Baseblock (motor OFF) |
| r | Operating |
| F | Forward rotation prohibited (forward overtravel) |
| R | Reverse rotation prohibited (reverse overtravel) |
| A | Alarm display |

Parameters

| Parameter No. | Name | Setting Range | Units | Factory Setting | Setting Validation | | |
|---------------|---|---|--|---|--|---------------|---------------|
| Pn000 | Function Selection Basic Switches | | - | - | 0000 | After restart | |
| | Digit | Function name | Setting | Explanation | | | |
| | 0 | Direction Selection | 0 | Sets CCW as forward direction | | | |
| | | | 1 | Sets CW as forward direction (Reserve Rotation Mode) | | | |
| | | | 2 and 3 | Reserved (Do not change.) | | | |
| | 1 | Control Method Selection | 0 | Speed control (analog reference) | | | |
| | | | 1 | Position control (pulse train reference) | | | |
| | | | 2 | Torque control (analog reference) | | | |
| | | | 3 | Internal set speed control (contact reference) | | | |
| | | | 4 | Internal set speed control (contact reference)<->Speed control (analog reference) | | | |
| | | | 5 | Internal set speed control reference<->Position control (pulse train reference) | | | |
| | | | 6 | Internal set speed control (contact reference)<->Torque control (analog reference) | | | |
| | | | 7 | Position control (pulse train reference)<->Speed control (analog reference) | | | |
| | | | 8 | Position control (pulse train reference)<->Torque control (analog reference) | | | |
| 9 | | | Torque control (analog reference)<->Speed control (analog reference) | | | | |
| A | | A | Speed control (analog reference)<->Zero clamp | | | | |
| | | B | Position control (pulse train reference)<->Position control (Inhibit) | | | | |
| 2 | Axis Address | 0 to F | Sets ServoDrive axis address (Function supported by PC software SigmaWin 100/200). | | | | |
| | | 0 | Starts up as rotation type. | | | | |
| 3 | Rotation Type/Linear Type Startup Selection | 0 | Starts up as rotation type. | | | | |
| | | 1 | Starts up as linear type. | | | | |
| Pn001 | Function Selection Application Switches 1 | | - | - | 0000 | After restart | |
| | Digit | Function name | Setting | Explanation | | | |
| | 0 | Servo OFF or Alarm Stop Mode | 0 | Stops the motor by applying dynamic brake (DB) | | | |
| | | | 1 | Stops the motor by applying dynamic brake (DB) and then releases DB | | | |
| | | | 2 | Makes the motor coast to a stop state without using the dynamic brake (DB) | | | |
| | 1 | Overtravel (OT) Stop Mode | 0 | Same setting as Pn001.0 (Stops the motor by applying DB or by coasting) | | | |
| | | | 1 | Sets the torque of Pn406 to the maximum value, decelerate the motor to a stop, and then set it to servolock state | | | |
| | | | 2 | Sets the torque of Pn406 to the maximum value. decelerates the motor to a stop, and then sets it to coasting state | | | |
| | 2 | AC/DC Power Input Selection | 0 | Not applicable to DC power input: Input AC power supply through L1, L2 (,and L3) terminals | | | |
| | | | 1 | Applicable to DC power input: Input DC power supply between (+1) and (-) | | | |
| | 3 | Warning Code Output Selection | 0 | ALO1, ALO2, and ALO3 output only alarm codes. | | | |
| | | | 1 | ALO1, ALO2, and ALO3 output both alarms codes and warning codes. While warning codes are output, ALM signal output remains ON (normal state). | | | |
| | Pn002 | Function Selection Application Switches 2 | | - | - | 0000 | After restart |
| | | Digit | Function name | Setting | Explanation | | |
| 0 | | Speed Control Option | 0 | N/A | | | |
| | | | 1 | Uses T-REF as an extended | | | |
| | | | 2 | Uses T-REF as an external torque limit input when P-CL and N-CL are ON. | | | |
| 1 | | Torque Control Option | 0 | N/A | | | |
| | | | 1 | Uses V-REF as an external speed limit input. | | | |
| 2 | | Absolute Encoder Usage | 0 | Uses absolute encoder as an absolute encoder | | | |
| | | | 1 | Uses absolute encoder as an incremental encoder | | | |
| 3 | | Reserved (Do not change) | | | | | |
| Pn003 | | Function Selection Application Switches 3 | | - | - | 0002 | After restart |
| | | Digit | Function name | Setting | Explanation | | |
| | | 0 | Analog Monitor 1 Torque Reference Monitor | 0 | Motor speed: 1V/1000 min ⁻¹ | | |
| | | | | 1 | Speed reference: 1V/1000 min ⁻¹ | | |
| | 2 | | | Torque reference: 1 V/100% | | | |
| | 3 | | | Position error: 0,05 V/1 reference unit | | | |
| | 4 | | | Position error:0,05 V/100 reference units | | | |
| | 5 | | | Reference pulse frequency (converted to min ⁻¹): 1V/1000 min ⁻¹ | | | |
| | 6 | | | Motor Speed x 4: 1V/250 min ⁻¹ | | | |
| | 7 | | | Motor Speed x 8: 1V/250 min ⁻¹ | | | |
| | 8 to F | Reserved (Do not change) | | | | | |
| | 1 | Analog Monitor 2 Speed Reference Monitor | 0 to F | Same as Analog Monitor 1 Torque Reference Monitor | | | |
| | 2 | Reserved (Do not change) | | | | | |
| | 3 | Reserved (Do not change) | | | | | |
| Pn004 | Reserved (Do not change) | - | - | 0000 | Immediately | | |
| Pn005 | Reserved (Do not change) | - | - | 0000 | Immediately | | |
| Pn100 | Speed Loop Gain | 1 to 2000 Hz | 1 Hz | 40 Hz | Immediately | | |
| Pn101 | Speed Loop Integral Time Constant | 0.15 to 512.00 ms | 0.01 ms | 20.00 ms | Immediately | | |
| Pn102 | Position Loop Gain | 1 to 2000/s | 1/s | 40/s | Immediately | | |
| Pn103 | Moment of Inertia Ratio | 0 to 20000% | 1% | 0% | Immediately | | |
| Pn104 | 2nd Speed Loop Gain | 1 to 2000 Hz | 1 Hz | 40 Hz | Immediately | | |
| Pn105 | 2nd Speed Loop Integral Time Constant | 0.15 to 512.00 ms | 0.01 ms | 20.00 ms | Immediately | | |
| Pn106 | 2nd Position Loop Gain | 1 to 2000/s | 1/s | 40/s | Immediately | | |
| Pn107 | Bias | 0 to 450 min ⁻¹ | 1 min ⁻¹ | 0 min ⁻¹ | Immediately | | |

| Parameter No. | Name | Setting Range | Units | Factory Setting | Setting Validation |
|---------------|-----------------------------------|---------------------------------------|---------------------------------------|--|---------------------------|
| Pn108 | Bias Width Addition | 0 to 250 reference units | Reference unit | 7 reference units | Immediately |
| Pn109 | Feed-forward | 0 to 100% | 1% | 0% | Immediately |
| Pn10A | Feed-forward Filter Time Constant | 0.00 to 64.00 ms | 0.01 ms | 0.00 ms | Immediately |
| Pn10B | Gain-related Application Switches | | - | 0000 | - |
| | Digit | Function name | Setting | Explanation | Setting Validation |
| | 0 | Mode Switch Selection | 0 | Uses internal torque reference as the condition (Level setting: Pn10C) | Immediately |
| | | | 1 | Uses speed reference as the condition (Level setting: Pn10D) | |
| | | | 2 | Uses acceleration as the condition (Level setting: Pn10E) | |
| | | | 3 | Uses position error pulse as the condition (Level setting: P10F) | |
| | | | 4 | No mode switch function available | |
| | 1 | Speed Loop Control Method | 0 | PI control | After restart |
| | | | 1 | IP control | |
| | | | 2 and 3 | Reserved (Do not change) | |
| | 2 | Automatic Gain Switching Selection | 0 | Automatic Gain Switching Disabled | After restart |
| | | | 1 | Position Reference | |
| 2 | | | Position error | | |
| 3 | | | Position Reference and Position Error | | |
| 3 | Reserved (Do not change) | | | | |
| Pn10C | Mode Switch Torque Reference | 0 to 800% | 1% | 200% | Immediately |
| Pn10D | Mode Switch Speed Reference | 0 to 10000 min ⁻¹ | 1 min ⁻¹ | 0 min ⁻¹ | Immediately |
| Pn10E | Mode Switch Acceleration | 0 to 3000 min ⁻¹ /s | 1 min ⁻¹ /s | 0 min ⁻¹ /s | Immediately |
| Pn10F | Mode Switch Error Pulse | 0 to 10000 reference units | 1 reference unit | 0 reference unit | Immediately |
| Pn110 | Online Autotuning Switches *1 | | - | 0010 | - |
| | Digit | Function name | Setting | Explanation | Setting Validation |
| | 0 | Online Autotuning Method | 0 | Tunes only at the beginning operation | After restart |
| | | | 1 | Always tunes. | |
| | | | 2 | Does not perform autotuning. | |
| | 1 | Speed feedback Compensation Selection | 0 | Applicable | Immediately |
| | | | 1 | N/A | |
| | 2 | Friction Compensation Selection | 0 | Friction compensation: Disabled | Immediately |
| | | | 1 | Friction compensation: Small | |
| | | | 2 | Friction compensation: Large | |
| 3 | Reserved (Do not change) | | | | |
| Pn111 | Speed Feedback Compensation *2 | 1 to 500% | 1% | 100% | Immediately |
| Pn112 | Reserved (Do not change) | - | - | 100% | - |
| Pn113 | | | | 1000 | |
| Pn114 | | | | 200 | |
| Pn115 | | | | 32 | |
| Pn116 | | | | 16 | |
| Pn117 | | | | 100% | |
| Pn118 | | | | 100% | |
| Pn119 | | | | 50 /s | |
| Pn11A | | | | 1000% | |
| Pn11B | | | | 50 Hz | |
| Pn11C | | | | 70 Hz | |
| Pn11D | | | | 100% | |
| Pn11E | | | | 100% | |
| Pn11F | | | | 0 ms | |
| Pn120 | | | | 0 ms | |
| Pn121 | 50 Hz | | | | |
| Pn122 | 0 Hz | | | | |
| Pn123 | 0% | | | | |
| Pn124 | Automatic Gain Switching Timer | 1 to 10000 ms | 1 ms | 100 ms | Immediately |
| Pn125 | Automatic Gain Switching Width | 1 to 250 reference units | 1 reference | 7 reference units | Immediately |

| Parameter No. | Name | Setting Range | Units | Factory Setting | Setting Validation |
|---------------|---|------------------------------|---|-------------------------|--------------------|
| Pn200 | Position Control References Selection Switches | - | - | 0000 | After restart |
| | Digit Function Name | Setting | Explanation | | |
| | 0 Reference Pulse Form | 0 | Sign + Pulse, positive logic | | |
| | | 1 | CW + CCW, positive logic | | |
| | | 2 | Phase A + Phase B (x 1), positive logic | | |
| | | 3 | Phase A + Phase B (x 2), positive logic | | |
| | | 4 | Phase A + Phase B (x 4), positive logic | | |
| | | 5 | Sign + Pulse, negative logic | | |
| | | 6 | CW + CWW, negative logic | | |
| | | 7 | Phase A + Phase B (x 1), negative logic | | |
| | | 8 | Phase A + Phase B (x 2), negative logic | | |
| | | 9 | Phase A + Phase B (x 4), negative logic | | |
| | 1 Error Counter Clear | 0 | Clears error counter when the signal is at H level | | |
| | | 1 | Clears error counter at the rising edge of the signal | | |
| | | 2 | Clears error counter when the signal is at L level. | | |
| | | 3 | Clears error counter at the falling edge of the signal | | |
| | 2 Clear Operation | 0 | Clear error counter at the baseblock | | |
| | | 1 | Does not clear error counter (Only possible to clear error counter with CLR signal) | | |
| | | 2 | Clears error counter when an alarm occurs. | | |
| | 3 Filter Selection | 0 | Reference input filter for line driver signals | | |
| | | 1 | Reference input filter for open collector signals | | |
| Pn201 | PG Dividing Pulse (16bit or less) | 16 to 16384 P/rev | 1 P/rev | 16384 P/rev | After restart |
| Pn202 | Electronic Gear Ratio (Numerator) | 1 to 65535 | - | 4 | After restart |
| Pn203 | Electronic Gear Ratio (Denominator) | 1 to 65535 | - | 1 | After restart |
| Pn204 | Position Reference Accel/Decel Time Constant | 0.00 to 64.00 ms | 0.01 ms | 0.00 ms | Immediately |
| Pn205 | Multiturn Limit Setting * | 0 to 65535 rev | rev | 65535 rev | After restart |
| Pn206 | Reserved (Do not change) | - | - | 16384 P/rev | - |
| Pn207 | Position Control Function Switches | - | - | 0000 | After restart |
| | Digit Function Name | Setting | Explanation | | |
| | 0 Position Reference Filter selection | 0 | Acceleration/deceleration filter | | |
| | | 1 | Average movement filter | | |
| | 1 Position Control Option | 0 | N/A | | |
| | | 1 | Uses V-REF as a speed feed-forward input | | |
| | 2 Dividing Pulse Parameter Selection | 0 | Use Pn201 (16-bit or less) | | |
| | | 1 | Use Pn212 (17-bit or more) | | |
| | 3 Reserved (Do not change) | - | | | |
| Pn208 | Position Reference Movement Averaging Time | 0.00 to 64.00 ms | 0.01 ms | 0.00 ms | After restart |
| Pn212 | PG Dividing Pulse (17 bit or more)* | 16 to 1073741824 P/rev | 1 P/rev | 2048P/rev | After restart |
| Pn217 | Reference Pulse Input Multiplication | ×1 to ×99 | × 1 | ×1 | Immediately |
| Pn218 | Reference Pulse Multiplication Function Selection | - | - | 0000 | After restart |
| | Digit Function Name | Setting | Explanation | | |
| | 0 Reference Pulse Multiplication Function Selection | 0 | Disabled | | |
| | | 1 | Enabled | | |
| | 1 Reserved (Do not change) | - | | | |
| | 2 Reserved (Do not change) | - | | | |
| | 3 Reserved (Do not change) | - | | | |
| Pn300 | Speed Reference Input Gain | 1.50 to 30.00 V/ rated speed | 0.01V/ rated speed | 6.00 V/ rated speed | Immediately |
| Pn301 | Speed 1 | 0 to 10000 min ⁻¹ | 1 min ⁻¹ | 100 min ⁻¹ | Immediately |
| Pn302 | Speed 2 | 0 to 10000 min ⁻¹ | 1 min ⁻¹ | 200 min ⁻¹ | Immediately |
| Pn303 | Speed 3 | 0 to 10000 min ⁻¹ | 1 min ⁻¹ | 300 min ⁻¹ | Immediately |
| Pn304 | JOG Speed | 0 to 10000 min ⁻¹ | 1 min ⁻¹ | 500 min ⁻¹ | Immediately |
| Pn305 | Soft Start Acceleration Time | 0 to 10000 ms | 1 ms | 0 ms | Immediately |
| Pn306 | Soft Start Deceleration Time | 0 to 10000 ms | 1 ms | 0 ms | Immediately |
| Pn307 | Speed Reference Filter Time Constant | 0.00 to 655.35 ms | 0.01 ms | 0.40 ms | Immediately |
| Pn308 | Speed Feedback Filter Time Constant | 0.00 to 655.35 ms | 0.01 ms | 0.00 ms | Immediately |
| Pn309 | Reserved (Do not change) | 0 - 500 min ⁻¹ | 1 min ⁻¹ | 60 min ⁻¹ | Immediately |
| Pn400 | Torque Reference Input Gain | 1.0 to 10.0 V/rated torque | 0.1 V/rated torque | 3.0 V/ rated torque | Immediately |
| Pn401 | Torque Reference Filter Time Constant | 0.00 to 655.35 ms | 0.01 ms | 1.00 ms | Immediately |
| Pn402 | Forward Torque Limit | 0 to 800% | 1% | 800% | Immediately |
| Pn403 | Reverse Torque Limit | 0 to 800% | 1% | 800% | Immediately |
| Pn404 | Forward External Torque Limit | 0 to 800% | 1% | 100% | Immediately |
| Pn405 | Reverse External Torque Limit | 0 to 800% | 1% | 100% | Immediately |
| Pn406 | Emergency Stop Torque | 0 to 800% | 1% | 800% | Immediately |
| Pn407 | Speed Limit during Torque Control | 0 to 10000 min ⁻¹ | 1 min ⁻¹ | 10000 min ⁻¹ | Immediately |
| Pn408 | Torque Function Switches | - | - | 0000 | Immediately |
| | Digit Function Name | Setting | Explanation | | |
| | 0 Notch Filter Selection | 0 | N/A | | |
| | | 1 | Uses a notch filter for torque reference | | |
| | 1 Reserved (Do not Change) | - | | | |
| | 2 2nd Notch Filter Selection | 0 | Disabled | | |
| | | 1 | Enabled | | |
| | 3 Reserved (Do not Change) | - | | | |

| Parameter No. | Name | Setting Range | Units | Factory Setting | Setting Validation |
|---------------|--|---|---------------------|---|--------------------|
| Pn409 | Notch Filter Frequency | 50 to 2000 Hz | 1 Hz | 2000 Hz | Immediately |
| Pn40A | Notch Filter Q Value | 50 to 400(0.50 to 4.00) | 0.01 | 70(0.70) | Immediately |
| Pn40B | 2nd Notch Filter Frequency | 50 to 2000 Hz | 1 Hz | 2000 Hz | Immediately |
| Pn40C | 2nd Notch Filter Q Value | 50 to 400 (0.50 to 4.00) | 0.01 | 70(0.70) | Immediately |
| Pn500 | Positioning Completed Width | 0 to 250 reference units | 1 reference unit | 7 reference units | Immediately |
| Pn501 | Zero Clamp Level | 0 to 10000 min ⁻¹ | 1 min ⁻¹ | 10 min ⁻¹ | Immediately |
| Pn502 | Rotation Detection Level | 1 to 10000 min ⁻¹ | 1 min ⁻¹ | 20 min ⁻¹ | Immediately |
| Pn503 | Speed Coincidence Signal Output Width | 0 to 100 min ⁻¹ | 1 min ⁻¹ | 10 min ⁻¹ | Immediately |
| Pn504 | NEAR Signal Width | 1 to 250 reference units | 1 reference unit | 7 reference units | Immediately |
| Pn505 | Overflow Level | 1 to 32767reference units | 256 reference unit | 1024 reference units | Immediately |
| Pn506 | Brake Reference - Servo OFF Delay Time | 1 to 50 (10 to 500 ms) | 10 ms | 10 ms | Immediately |
| Pn507 | Brake Reference Output Speed Level | 0 to 10000 min ⁻¹ | 1 min ⁻¹ | 100 min ⁻¹ | Immediately |
| Pn508 | Timing for Brake Reference Output during Motor Operation | 10 to 100 (100 to 1000 ms) | 10 ms | 500 ms | Immediately |
| Pn509 | Momentary Hold time | 20 to 1000 ms | 1 ms | 20 ms | Immediately |
| Pn50A | Input Signal Selections 1 | - | - | 2100 | After restart |
| | Digit | Function Name | Setting | Explanation | |
| | 0 | Input Signal Allocation Mode | 0 | Uses the sequence input signal terminals with standard allocation | |
| | | | 1 | Changes the sequence input signal allocation for each signal | |
| | 1 | /S-ON Signal Mapping Signal Polarity:Normal:Servo ON when ON Signal Polarity:Reverse: Servo ON when OFF | 0 | ON when CN1-40 input signals is ON (L-level). | |
| | | | 1 | ON when CN1-41 input signals is ON (L-level) | |
| | | | 2 | ON when CN1-42 input signals is ON (L-level) | |
| | | | 3 | ON when CN1-43 input signals is ON (L-level) | |
| | | | 4 | ON when CN1-44 input signals is ON (L-level) | |
| | | | 5 | ON when CN1-45 input signals is ON (L-level) | |
| | | | 6 | ON when CN1-46 input signals is ON (L-level) | |
| | | | 7 | Sets signal ON | |
| | | | 8 | Sets signal OFF | |
| | | | 9 | OFF when CN1-40 input signals is OFF (H-level) | |
| | | | A | OFF when CN1-41 input signals is OFF (H-level) | |
| | | | B | OFF when CN1-42 input signals is OFF (H-level) | |
| | | | C | OFF when CN1-43 input signals is OFF (H-level) | |
| | | | D | OFF when CN1-44 input signals is OFF (H-level) | |
| | | | E | OFF when CN1-45 input signals is OFF (H-level) | |
| | | | F | OFF when CN1-46 input signals is OFF (H-level) | |
| | 2 | /P-CON Signal Mapping (P control when ON(L-level) | 0 to F | Same as /S-ON | |
| | 3 | /P-OT Signal Mapping(Overtravel when OFF(H-level) | 0 | Forward run allowed when CN1-40 input signal is ON (L-level) | |
| | | | 1 | Forward run allowed when CN1-41 input signal is ON (L-level) | |
| | | | 2 | Forward run allowed when CN1-42 input signal is ON (L-level) | |
| | | | 3 | Forward run allowed when CN1-43 input signal is ON (L-level) | |
| | | | 4 | Forward run allowed when CN1-44 input signal is ON (L-level) | |
| | | | 5 | Forward run allowed when CN1-45 input signal is ON (L-level) | |
| | | | 6 | Forward run allowed when CN1-46 input signal is ON (L-level) | |
| | | | 7 | Forward run prohibited. | |
| | | | 8 | Forward run allowed. | |
| | | | 9 | Forward run allowed when CN1-40 input signals is OFF (H-level) | |
| | | | A | Forward run allowed when CN1-41 input signals is OFF (H-level) | |
| | | | B | Forward run allowed when CN1-42 input signals is OFF (H-level) | |
| | | | C | Forward run allowed when CN1-43 input signals is OFF (H-level) | |
| | | | D | Forward run allowed when CN1-44 input signals is OFF (H-level) | |
| | | | E | Forward run allowed when CN1-45 input signals is OFF (H-level) | |
| | | | F | Forward run allowed when CN1-46 input signals is OFF (H-level) | |

| Parameter No. | Name | Setting Range | Units | Factory Setting | Setting Validation |
|---------------|---|---|--|--|--------------------|
| Pn50B | Input Signal Selections 2 | - | - | 6543 | After restart |
| | Digit | Function Name | Setting | Explanation | |
| | 0 | N-OT Signal Mapping (Overtravel when OFF (H-level)) | 0 | Reserve run allowed when CN1-40 input signals is ON (L-level). | |
| | | | 1 | Reserve run allowed when CN1-41 input signals is ON (L-level). | |
| | | | 2 | Reserve run allowed when CN1-42 input signals is ON (L-level). | |
| | | | 3 | Reserve run allowed when CN1-43 input signals is ON (L-level). | |
| | | | 4 | Reserve run allowed when CN1-44 input signals is ON (L-level). | |
| | | | 5 | Reserve run allowed when CN1-45 input signals is ON (L-level). | |
| | | | 6 | Reserve run allowed when CN1-46 input signals is ON (L-level). | |
| | | | 7 | Reserve run prohibited. | |
| | | | 8 | Reserve run allowed | |
| | | | 9 | Reserve run allowed when CN1-40 input signals is OFF (H-level) | |
| | | | A | Reserve run allowed when CN1-41 input signals is OFF (H-level) | |
| | | | B | Reserve run allowed when CN1-42 input signals is OFF (H-level) | |
| | | | C | Reserve run allowed when CN1-43 input signals is OFF (H-level) | |
| | | | D | Reserve run allowed when CN1-44 input signals is OFF (H-level) | |
| | | | E | Reserve run allowed when CN1-45 input signals is OFF (H-level) | |
| F | | | Reserve run allowed when CN1-46 input signals is OFF (H-level) | | |
| 1 | /ALM-RST Signal Mapping (Alarm Reset when ON(L-level)) | 0 to F | Same as N-OT | | |
| 2 | /P-CL Signal Mapping(Torque Limit when ON(L-level)) | 0 to F | Same as S-ON, the setting of Pn50A.1 | | |
| 3 | /N-CL Signal Mapping(Torque Limit when ON(L-level)) | 0 to F | Same as S-ON, the setting of Pn50A.1 | | |
| Pn50C | Input Signal Selections 3 | - | - | 8888 | After restart |
| | Digit | Function Name | Setting | Explanation | |
| | 0 | /SPD-D Signal Mapping | 0 | ON when CN1-40 input signal is ON (L-level). | |
| | | | 1 | ON when CN1-41 input signal is ON (L-level). | |
| | | | 2 | ON when CN1-42 input signal is ON (L-level). | |
| | | | 3 | ON when CN1-43 input signal is ON (L-level). | |
| | | | 4 | ON when CN1-44 input signal is ON (L-level). | |
| | | | 5 | ON when CN1-45 input signal is ON (L-level). | |
| | | | 6 | ON when CN1-46 input signal is ON (L-level). | |
| | | | 7 | Set signal ON. | |
| | | | 8 | Set signal OFF. | |
| | | | 9 | ON when CN1-40 input signal is OFF (H-level). | |
| | | | A | ON when CN1-41 input signal is OFF (H-level). | |
| | | | B | ON when CN1-42 input signal is OFF (H-level). | |
| | | | C | ON when CN1-43 input signal is OFF (H-level). | |
| | | | D | ON when CN1-44 input signal is OFF (H-level). | |
| | | | E | ON when CN1-45 input signal is OFF (H-level). | |
| F | | | ON when CN1-46 input signal is OFF (H-level). | | |
| 1 | /SPD-A Signal Mapping | 0 to F | Same as SPD-D | | |
| 2 | /SPD-B Signal Mapping | 0 to F | Same as SPD-D | | |
| 3 | /C-SEL Signal Mapping (Control mode change when ON (L-level)) | 0 to F | Same as SPD-D | | |
| Pn50D | Input Signal Selections 4 | - | - | 8888 | After restart |
| | Digit | Function Name | Setting | Explanation | |
| | 0 | /ZCLAMP Signal Mapping (Zero clamp when ON (L-level)) | 0 | ON when CN1-40 input signal is ON (L-level). | |
| | | | 1 | ON when CN1-41 input signal is ON (L-level). | |
| | | | 2 | ON when CN1-42 input signal is ON (L-level). | |
| | | | 3 | ON when CN1-43 input signal is ON (L-level). | |
| | | | 4 | ON when CN1-44 input signal is ON (L-level). | |
| | | | 5 | ON when CN1-45 input signal is ON (L-level). | |
| | | | 6 | ON when CN1-46 input signal is ON (L-level). | |
| | | | 7 | Set signal ON. | |
| | | | 8 | Set signal OFF. | |
| | | | 9 | ON when CN1-40 input signal is OFF (H-level). | |
| | | | A | ON when CN1-41 input signal is OFF (H-level). | |
| | | | B | ON when CN1-42 input signal is OFF (H-level). | |
| | | | C | ON when CN1-43 input signal is OFF (H-level). | |
| | | | D | ON when CN1-44 input signal is OFF (H-level). | |
| | | | E | ON when CN1-45 input signal is OFF (H-level). | |
| F | | | ON when CN1-46 input signal is OFF (H-level). | | |
| 1 | /INHIBIT Signal Mapping (Reference pulse inhibit when ON (L-level)) | 0 to F | Same as /Z CLAMP | | |
| 2 | /G-SEL Signal Mapping (Gain change when ON (L-level)) | 0 to F | Same as /Z CLAMP | | |
| 3 | Reserved (Do not Change) | | | | |

| Parameter No. | Name | Setting Range | Units | Factory Setting | Setting Validation | |
|---------------|---|---|---|---|--------------------|--|
| Pn50E | Output Signal Selections 1 | - | - | 3211 | After restart | |
| | Digit Function Name | Setting | Explanation | | | |
| | 0 | Positioning Completion Signal Mapping (/COIN) | 0 | Disabled (the above signal is not used) | | |
| | | | 1 | Outputs the signal from CN1-25, 26 output terminal | | |
| | | | 2 | Outputs the signal from CN1-27, 28 output terminal | | |
| | | | 3 | Outputs the signal from CN1-29, 30 output terminal | | |
| | 1 | Speed Coincidence Detection Signal Mapping (/V-CMP) | 0 to 3 | Same as /COIN | | |
| 2 | Speed Coincidence Detection Signal Mapping (/V-CMP) | 0 to 3 | Same as /COIN | | | |
| 3 | Speed Coincidence Detection Signal Mapping (/V-CMP) | 0 to 3 | Same as /COIN | | | |
| Pn50F | Output Signal Selections 2 | - | - | 0000 | After restart | |
| | Digit Function Name | Setting | Explanation | | | |
| | 0 | Torque Limit Detection Signal Mapping (/CLT) | 0 | Disabled (the above signal is not used) | | |
| | | | 1 | Outputs the signal from CN1-25, 26 output terminal | | |
| | | | 2 | Outputs the signal from CN1-27, 28 output terminal | | |
| | | | 3 | Outputs the signal from CN1-29, 30 output terminal | | |
| | 1 | Speed Limit Detection Signal Mapping (/VLT) | 0 to 3 | Same as /CLT | | |
| 2 | Brake Interlock Signal Mapping (/BK) | 0 to 3 | Same as /CLT | | | |
| 3 | Warning Signal Mapping (/WARN) | 0 to 3 | Same as /CLT | | | |
| Pn510 | Output Signal Selections 3 | - | - | 0000 | After restart | |
| | Digit Function Name | Setting | Explanation | | | |
| | 0 | Near Signal Mapping (/NEAR) | 0 | Disabled (the above signal is not used) | | |
| | | | 1 | Outputs the signal from CN1-25 or -26 output terminal | | |
| | | | 2 | Outputs the signal from CN1-27 or -28 output terminal | | |
| | | | 3 | Outputs the signal from CN1-29 or -30 output terminal | | |
| | 1 | Reserved (Do not Change) | - | | | |
| | 2 | Reference Pulse Input Multiplication Selection Signal Mapping (/PSELA) | 0 | Disabled (the above signal is not used) | | |
| | | | 1 | Outputs the signal from CN1-25 or -26 output terminal | | |
| | | | 2 | Outputs the signal from CN1-27 or -28 output terminal | | |
| 3 | | | Outputs the signal from CN1-29 or -30 output terminal | | | |
| 3 | Reserved (Do not Change) | - | | | | |
| Pn511 | Reserved (Do not change) | - | - | 8888 | Immediately | |
| Pn512 | Output Signal Reversal Settings | - | - | 0000 | After restart | |
| | Digit Function Name | Setting | Explanation | | | |
| | 0 | Output Signal Reversal for CN1-25 or -26 Terminals | 0 | Output signal is not reversed | | |
| | | | 1 | Output signal is reversed | | |
| | 1 | Output Signal Reversal for CN1-27 or -28 Terminals | 0 | Output signal is not reversed | | |
| | | | 1 | Output signal is reversed | | |
| | 2 | Output Signal Reversal for CN1-29 or -30 Terminals | 0 | Output signal is not reversed | | |
| 1 | | | Output signal is reversed | | | |
| 3 | Reserved (Do not Change) | - | | | | |
| Pn513 | Input Signal Selections 5 | - | - | 0088 | After restart | |
| | Digit Function Name | Setting | Explanation | | | |
| | 0 | /PSEL Signal Mapping (Reference pulse input multiplication when ON (L-level)) | 0 | ON when CN1-40 input signal is ON (L-level). | | |
| | | | 1 | ON when CN1-41 input signal is ON (L-level). | | |
| | | | 2 | ON when CN1-42 input signal is ON (L-level). | | |
| | | | 3 | ON when CN1-43 input signal is ON (L-level). | | |
| | | | 4 | ON when CN1-44 input signal is ON (L-level). | | |
| | | | 5 | ON when CN1-45 input signal is ON (L-level). | | |
| | | | 6 | ON when CN1-46 input signal is ON (L-level). | | |
| | | | 7 | Set signal ON. | | |
| | | | 8 | Set signal OFF. | | |
| | | | 9 | ON when CN1-40 input signal is OFF (H-level). | | |
| | | | A | ON when CN1-41 input signal is OFF (H-level). | | |
| | | | B | ON when CN1-42 input signal is OFF (H-level). | | |
| | | | C | ON when CN1-43 input signal is OFF (H-level). | | |
| | | | D | ON when CN1-44 input signal is OFF (H-level). | | |
| | E | ON when CN1-45 input signal is OFF (H-level). | | | | |
| F | ON when CN1-46 input signal is OFF (H-level). | | | | | |
| 1 | Reserved (Do not change) | - | | | | |
| 2 | Reserved (Do not change) | - | | | | |
| 3 | Reserved (Do not change) | - | | | | |
| Pn51A | Position Error Level Between Motor and Load | 0 - 32767 Reference Unit | 1 Reference Unit | 0 | Immediately | |
| Pn51B | Reserved (Do not Change) | 1 - 32767 | 256 | 100 | Immediately | |
| Pn51C | Reserved (Do not Change) | 0 - 10000 min ⁻¹ | 1 min ⁻¹ | 450 min ⁻¹ | Immediately | |
| Pn51E | Excessive Position Error Warning Level | 0 to 100% | 1% | 0% | Immediately | |
| Pn600 | Regenerative Resistor Capacity | Depends on ServoDrive Capacity | 10 W | 0 W | Immediately | |
| Pn601 | Reserved (Do not change) | Depends on Servo Drive-Capacity | - | 0 W | Immediately | |

Monitor Mode Details

| Monitor No. | Monitor item | Unit | Explanation |
|-------------|------------------------------------|-------------------|--|
| Un000 | Speed Feedback | min ⁻¹ | Displays the actual motor speed. |
| Un001 | Speed Command | min ⁻¹ | Displays the speed command value or internally set speed value during speed control. 0 is displayed during pulse-train input control. |
| Un002 | Torque Command | % | Displays the command value for a current loop that is expressed by treating the rated torque as 100%. |
| Un003 | Number of Pulses from Z-Phase | Pulses | Displays the number of pulses from Z-Phase in encoder resolution units (times 4). |
| Un004 | Electrical Angle | degrees | Displays the motor electrical angle. |
| Un005 | Input Signal Monitor | --- | Displays driver I/O signal status by turning ON or OFF each signal bit. |
| Un006 | Output Signal Monitor | --- | |
| Un007 | Command Pulse Speed Display | min ⁻¹ | Displays command pulse frequency converted in r/min. |
| Un008 | Position Deviation (Error Counter) | Reference units | Displays the number of pulses accumulated in the error counter (Position Deviation) that are converted in reference units (input pulse references). |
| Un009 | Motor Load Rate | % | Displays effective torque at intervals of 10 s that is expressed by treating the rated torque as 100%. |
| Un00A | Regeneration Load Rate | % | Displays the amount of regeneration energy absorbed at intervals of 10 s that is expressed by treating the Pn600 setting (Regenerative Resistor Capacity) as 100%. |
| Un00B | Dynamic Brake Resistance Load Rate | % | Displays the resistance load factor at intervals of 10 s that is expressed by treating the rated load factor as 100%. |
| Un00C | Input Pulse Counter | Reference units | Displays the number of counted input pulses in hexadecimal notation. |
| Un00D | Feedback Pulse Counter | Pulses | Displays the number of counted encoder feedback pulses in hexadecimal notation (multiplied by 4). |

List of Function Modes

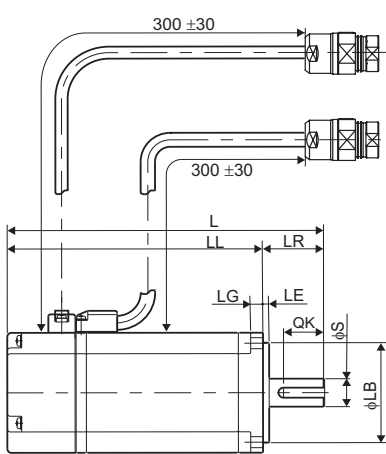
| Parameter No. | Function |
|---------------|--|
| Fn000 | Alarm traceback data display |
| Fn001 | Rigidity setting during online autotuning |
| Fn002 | JOG mode operation |
| Fn003 | Zero-point search mode |
| Fn004 | Fixed parameter |
| Fn005 | Parameter setting initialization |
| Fn006 | Alarm traceback data clear |
| Fn007 | Writing to EEPROM moment of inertia ratio data obtained from online autotuning |
| Fn008 | Absolute encoder multiturn reset and encoder alarm reset |
| Fn009 | Automatic tuning of analog (speed, torque) reference offset |
| Fn00A | Manual adjustment of speed reference offset |
| Fn00B | Manual adjustment of torque reference offset |
| Fn00C | Manual zero-adjustment of analog monitor output |
| Fn00D | Manual gain-adjustment of analog monitor output |
| Fn00E | Automatic offset-adjustment of motor current detection signal |
| Fn00F | Manual offset-adjustment of motor current detection signal |
| Fn010 | Password setting (protects parameters from being changed) |
| Fn011 | Motor models display |
| Fn012 | Software version display |
| Fn013 | Multiturn limit setting change when a Multiturn Limit Disagreement Alarm (A.CC) occurs |
| Fn014 | Application module detection results clear |

Dimensions

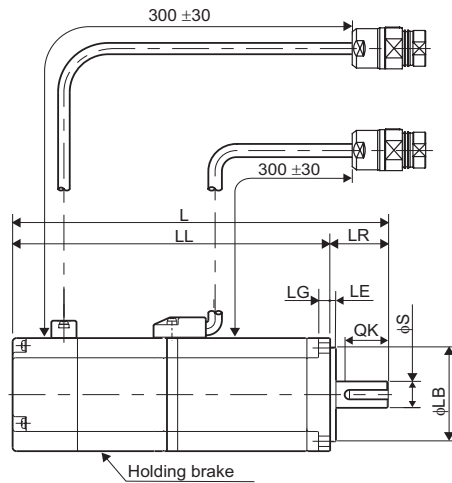
Servomotors

Type SGMAH (230/400V)

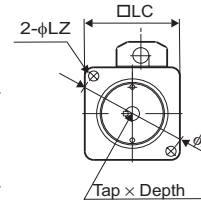
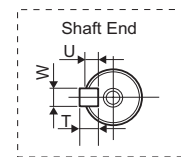
| Dimensions (mm) | Without Brake | | With Brake | | LR | Flange surface | | | | | | Shaft end | | | | | |
|-------------------|---------------|-------|------------|-------|----|----------------|------------------|----|-----|----|-----|------------------|----|---|---|-----|-------------|
| | L | LL | L | LL | | LA | LB | LC | LE | LG | LZ | S | QK | W | T | U | Tap × Depth |
| SGMAH-A3A□A6□D-OY | 94.5 | 69.5 | 126 | 101 | 25 | 46 | 30 ^{h7} | 40 | 2.5 | 5 | 4.3 | 6 ^{h6} | 14 | 2 | 2 | 1.2 | M2.5 × 5L |
| SGMAH-A5A□A6□D-OY | 102.0 | 77 | 133.5 | 108.5 | | | | | | | | | | | | | |
| SGMAH-01A□A6□D-OY | 119.5 | 94.5 | 160 | 135 | | | | | | | | | | | | | |
| SGMAH-02A□A6□D-OY | 126.5 | 96.5 | 166 | 136 | 30 | 70 | 50 ^{h7} | 60 | 3 | 6 | 5.5 | 14 ^{h6} | 20 | 5 | 5 | 3 | M3 × 6L |
| SGMAH-03D□A6□D-OY | 154.5 | 124.5 | 194 | 164 | | | | | | | | | | | | | |
| SGMAH-04A□A6□D-OY | 185 | 145 | 229.5 | 189.5 | 40 | 90 | 70 ^{h7} | 80 | 3 | 8 | 7 | 16 ^{h6} | 30 | | | | |
| SGMAH-07D□A6□D-OY | | | | | | | | | | | | | | | | | |
| SGMAH-08A□A6□D-OY | | | | | | | | | | | | | | | | | |



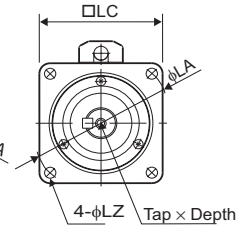
Models without Brake



Models with Brake



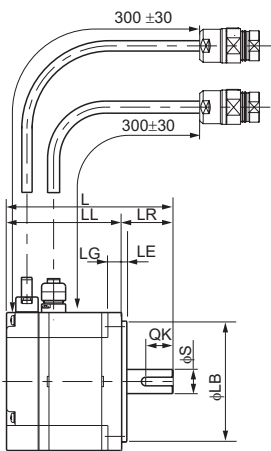
SGMAH-A3, -A5, -01



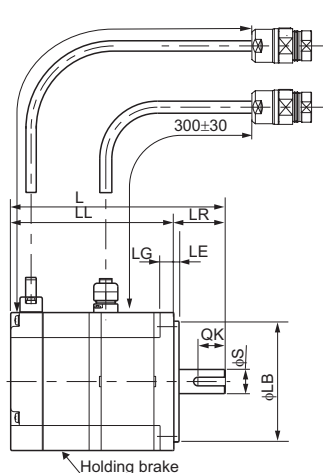
SGMAH-02 to -08

Type SGMPH (230/400V)

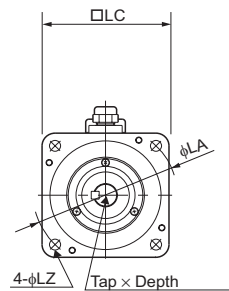
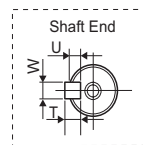
| Dimensions (mm) | Without Brake | | With Brake | | LR | Flange surface | | | | | | Shaft end | | | | | |
|-------------------|---------------|-------|------------|-------|----|----------------|-------------------|-----|-----|----|-----|------------------|----|---|---|-----|-------------|
| | L | LL | L | LL | | LA | LB | LC | LE | LG | LZ | S | QK | W | T | U | Tap × Depth |
| SGMPH-01□□□6□D-OY | 87 | 62 | 116 | 91 | 25 | 70 | 50 ^{h7} | 60 | 3 | 6 | 5.5 | 8 ^{h6} | 14 | 3 | 3 | 1.8 | M3x6L |
| SGMPH-02□□□6□D-OY | 97 | 67 | 128.5 | 98.5 | | | | | | | | | | | | | |
| SGMPH-04□□□6□D-OY | 117 | 87 | 148.5 | 118.5 | 30 | 90 | 70 ^{h7} | 80 | 3 | 8 | 7 | 14 ^{h6} | 16 | 5 | 5 | 3 | M5x8L |
| SGMPH-08□□□6□D-OY | 126.5 | 86.5 | 160 | 120 | | | | | | | | | | | | | |
| SGMPH-15□□□6□D-OY | 154.5 | 114.5 | 188 | 148 | | | | | | | | | | | | | |
| | | | | | 40 | 145 | 110 ^{h7} | 120 | 3.5 | 10 | 10 | 16 ^{h6} | 22 | 6 | 6 | 3.5 | M6x10L |
| | | | | | | | | | | | | | | | | | |



Models without Brake

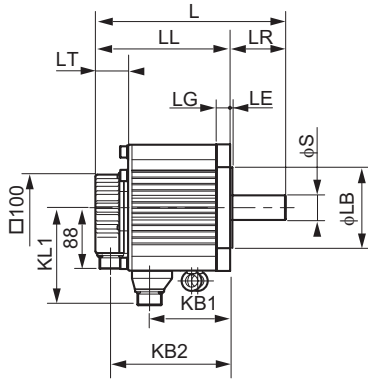


Models with Brake

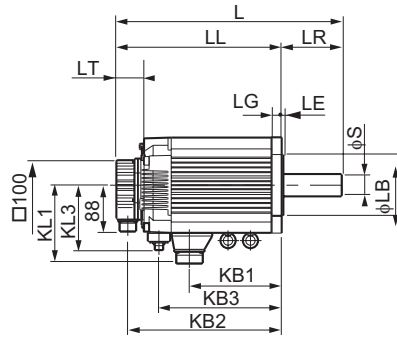


Type SGMGH (400V)

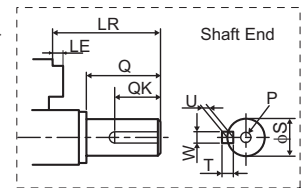
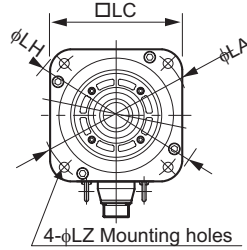
| Dimensions (mm) | Without Brake | | | With Brake | | | KL3 | LR | LT | KB1 | KL1 | Flange surface | | | | | | | Shaft end | | | | | | | |
|------------------|---------------|-----|-----|------------|-----|-----|-----|-----|-----|-----|-----|----------------|-----|-------|-----|-----|----|-----|-----------|----|-----|----|----|----|-----|---------|
| | L | LL | KB2 | L | LL | KB2 | | | | | | KB3 | LA | LB | LC | LE | LG | LH | LZ | S | Q | QK | W | T | U | P |
| SGMGH-05D□A6□-OY | 196 | 138 | 117 | 234 | 176 | 154 | 109 | 98 | 58 | 46 | 65 | 109 | 145 | 110 | 130 | 6 | 12 | 165 | 9 | 19 | 40 | 25 | 5 | 5 | 3 | M5x12L |
| SGMGH-09D□A6□-OY | 219 | 161 | 140 | 257 | 199 | 177 | 132 | | | | 88 | | | | | | | | | 22 | | | 6 | 6 | 3.5 | |
| SGMGH-13D□A6□-OY | 243 | 185 | 164 | 281 | 223 | 201 | 156 | | | | 112 | | | | | | | | | | | | | | | |
| SGMGH-20D□A6□-OY | 245 | 166 | 144 | 296 | 217 | 195 | 137 | 123 | 79 | 47 | 89 | 140 | 200 | 114.3 | 180 | 3.2 | 18 | 230 | 13.5 | 35 | 76 | 60 | 10 | 8 | 5 | M12x25L |
| SGMGH-30D□A6□-OY | 271 | 192 | 170 | 322 | 243 | 221 | 163 | | | | 115 | | | | | | | | | | | | | | | |
| SGMGH-44D□A6□-OY | 305 | 226 | 204 | 356 | 277 | 255 | 197 | | | | 149 | | | | | | | | | | | | | | | |
| SGMGH-55D□A6□-OY | 373 | 260 | 238 | 424 | 311 | 289 | 231 | | 113 | | 174 | 150 | | | | | | | | 42 | 110 | 90 | 12 | | | M16x32L |
| SGMGH-75D□A6□-OY | 447 | 334 | 312 | 498 | 385 | 363 | 305 | | | | 248 | | | | | | | | | | | | | | | |
| SGMGH-1AD□A6□-OY | 454 | 338 | 316 | 499 | 383 | 362 | 315 | 142 | 116 | 47 | 251 | 168 | 235 | 200 | 220 | 4 | 18 | 270 | 13.5 | 42 | 110 | 90 | 12 | 8 | 5 | M16x32L |
| SGMGH-1ED□A6□-OY | 573 | 457 | 435 | 635 | 519 | 497 | 415 | | | 48 | 343 | | | | | | | | | 55 | | | 16 | 10 | 6 | M20x40L |



Models without Brake

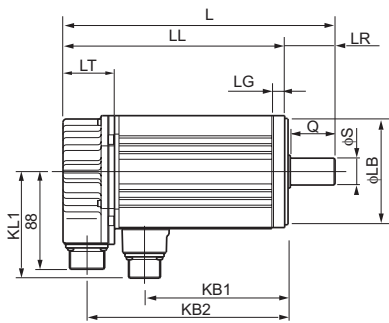


Models with Brake

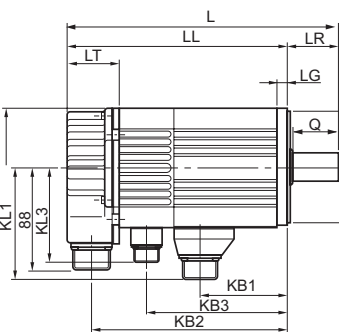


Type SGMSH (400V)

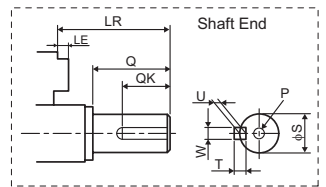
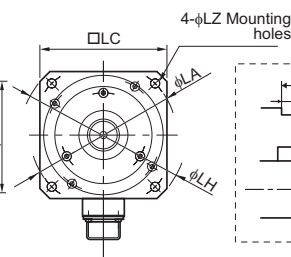
| Dimensions (mm) | Without Brake | | | With Brake | | | KL3 | LR | LT | KB1 | KL1 | Flange surface | | | | | | | Shaft end | | | | | | | |
|------------------|---------------|-----|-----|------------|-----|-----|-----|----|----|-----|-----|----------------|-----|-------------------|-----|----|----|-----|-----------|------------------|----|----|---|---|---|--------|
| | L | LL | KB2 | L | LL | KB2 | | | | | | KB3 | LA | LB | LC | LE | LG | LH | LZ | S | Q | QK | W | T | U | P |
| SGMSH-10D□A6□-OY | 194 | 149 | 128 | 238 | 193 | 171 | 120 | 85 | 45 | 46 | 76 | 96 | 115 | 95 ^{h7} | 100 | 3 | 10 | 130 | 7 | 24 ^{h6} | 40 | 32 | 8 | 7 | 4 | M8x16L |
| SGMSH-15D□A6□-OY | 220 | 175 | 154 | 264 | 219 | 197 | 146 | | | | 102 | | | | | | | | | | | | | | | |
| SGMSH-20D□A6□-OY | 243 | 198 | 177 | 287 | 242 | 220 | 169 | | | | 125 | | | | | | | | | | | | | | | |
| SGMSH-30D□A6□-OY | 262 | 199 | 178 | 300 | 237 | 216 | 170 | 98 | 63 | | 124 | 114 | 145 | 110 ^{h7} | 130 | 6 | 12 | 165 | 9 | 28 ^{h6} | 55 | 50 | | | | |
| SGMSH-40D□A6□-OY | 299 | 236 | 215 | 337 | 274 | 253 | 207 | | | | 161 | | | | | | | | | | | | | | | |
| SGMSH-50D□A6□-OY | 339 | 276 | 255 | 377 | 314 | 293 | 247 | | | | 201 | | | | | | | | | | | | | | | |



Models without Brake

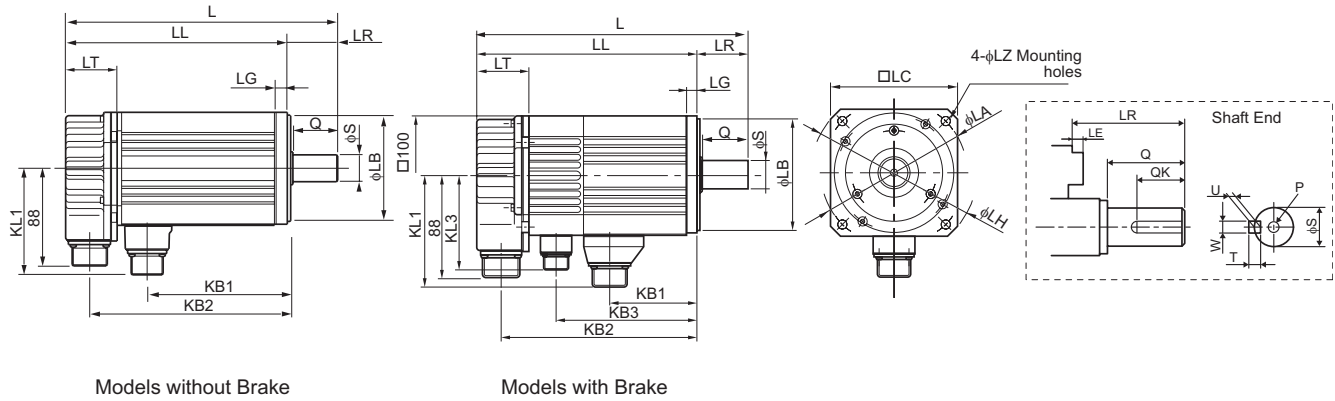


Models with Brake



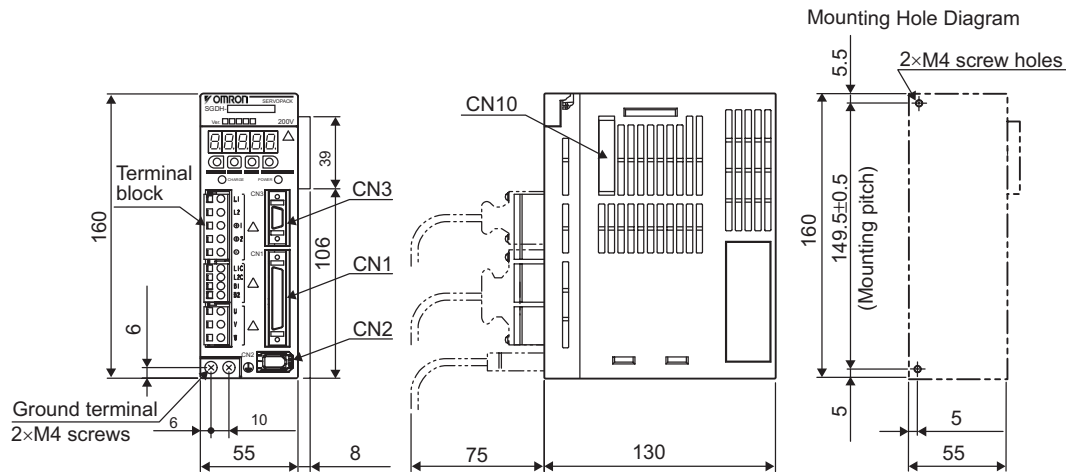
Type SGMUH (400V)

| Dimensions (mm) | Without Brake | | | | With Brake | | | | LR | LT | KB1 | KL1 | Flange surface | | | | | | Shaft end | | | | | | | |
|------------------|---------------|-----|-----|-----|------------|-----|-----|-----|----|----|-----|-----|----------------|-----|-----|-----|----|-----|-----------|------------------|----|----|---|---|---|--------|
| | L | LL | KB2 | L | LL | KB2 | KB3 | KL3 | | | | | LA | LB | LC | LE | LG | LH | LZ | S | Q | QK | W | T | U | P |
| SGMUH-10D□A6□-OY | 194 | 149 | 128 | 238 | 193 | 171 | 120 | 85 | 45 | 46 | 76 | 96 | 130 | 110 | 116 | 3.5 | 10 | 150 | 9 | 24 ^{h6} | 40 | 32 | 8 | 7 | 4 | M8x16L |
| SGMUH-15D□A6□-OY | 220 | 175 | 154 | 264 | 219 | 197 | 146 | | | | 102 | | | | | | | | | | | | | | | |
| SGMUH-30D□A6□-OY | 262 | 202 | 181 | 300 | 237 | 219 | 173 | 98 | 60 | | 127 | 114 | 165 | 130 | 155 | | 12 | 190 | 11 | 28 ^{h6} | 55 | 50 | | | | |
| SGMUH-40D□A6□-OY | 327 | 269 | 245 | 362 | 302 | 281 | 210 | | | 71 | 164 | | | | | | | | | | | | | | | |

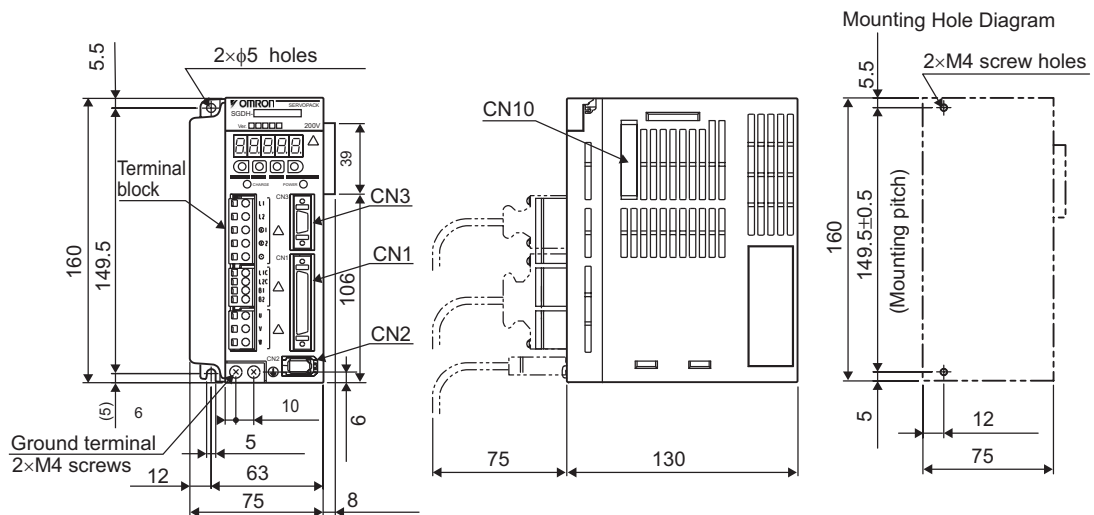


Servodrives

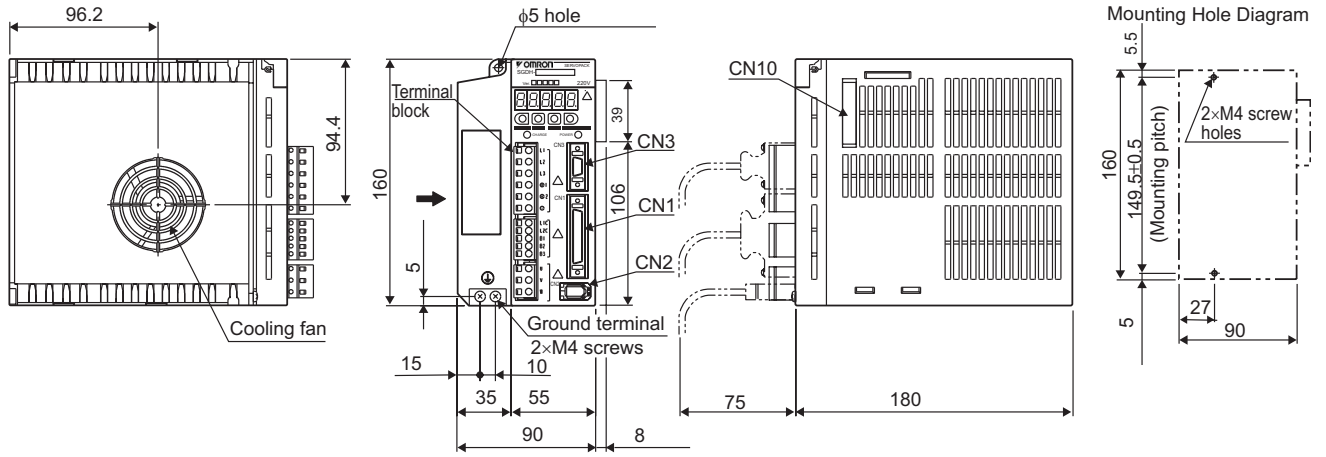
SGDH-A3AE-OY to -02AE-OY (230V, 30 to 200W)



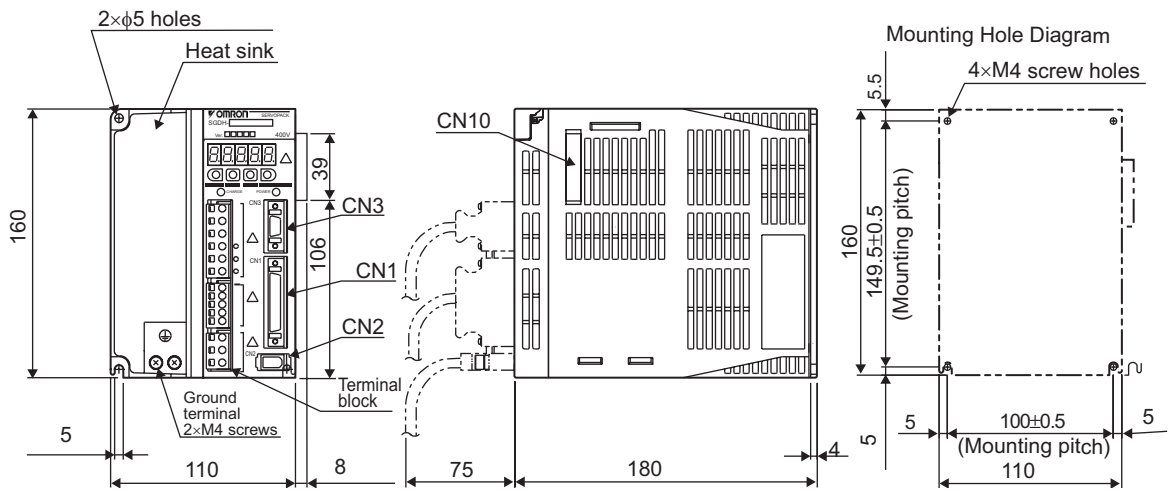
SGDH-04AE-OY (230V, 400W)



SGDH-08AE-S-OY (230V, 750W)

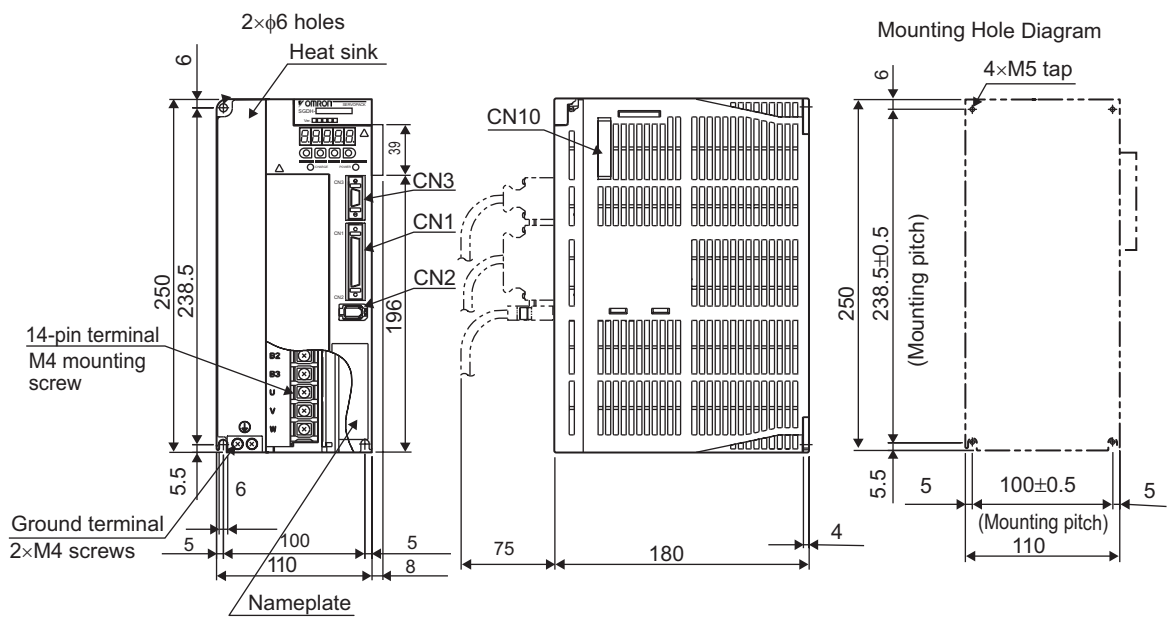


SGDH-05DE-OY to -15DE-OY (400V, 0.5 to 1.5kW)

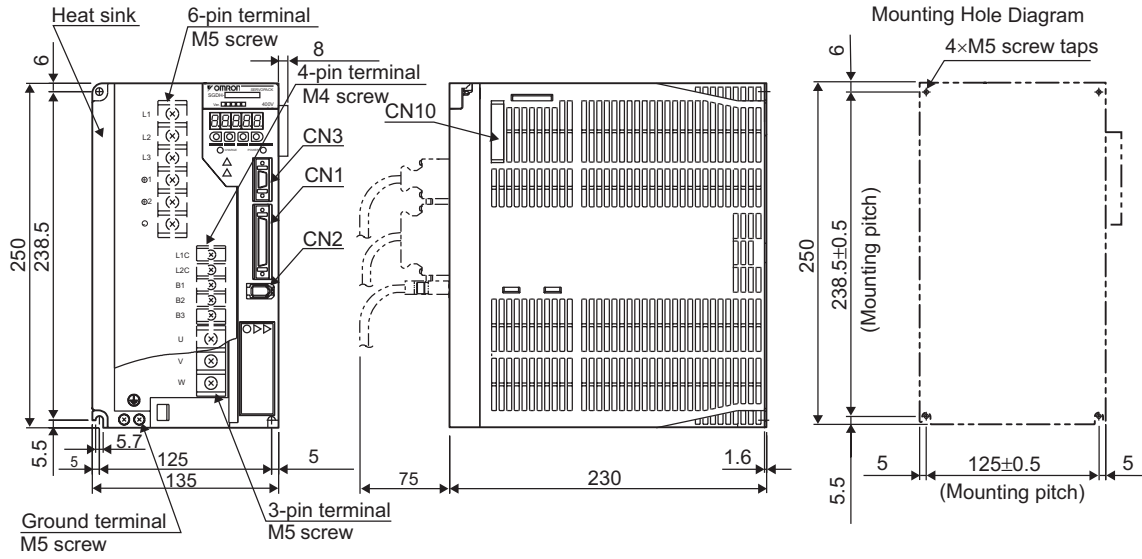


SGDH-15AE-S (230V, 1.5 kW)

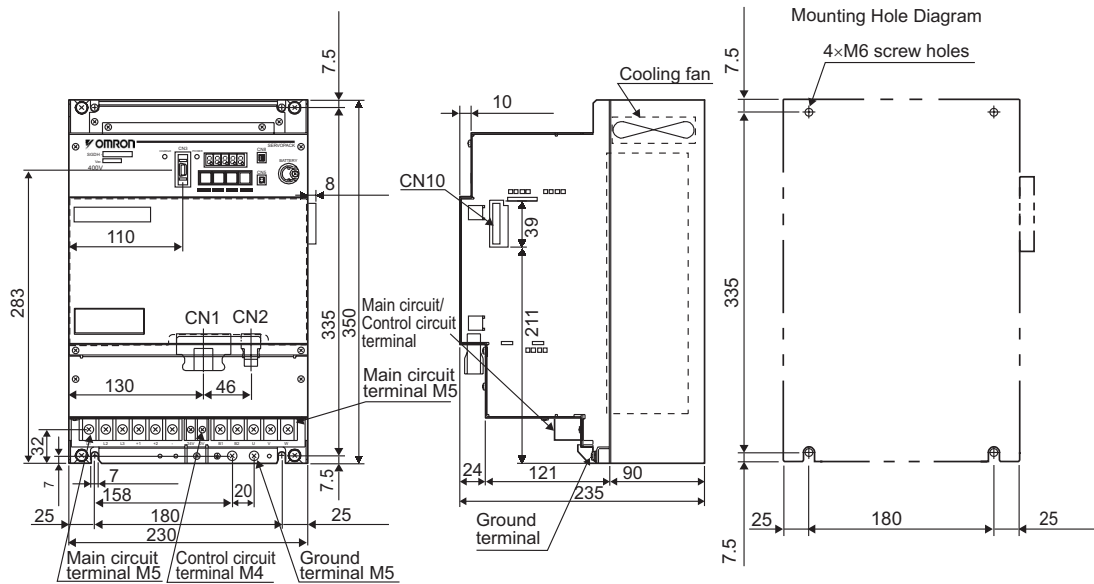
SGDH-20/30DE-OY (400V, 2/3kW)



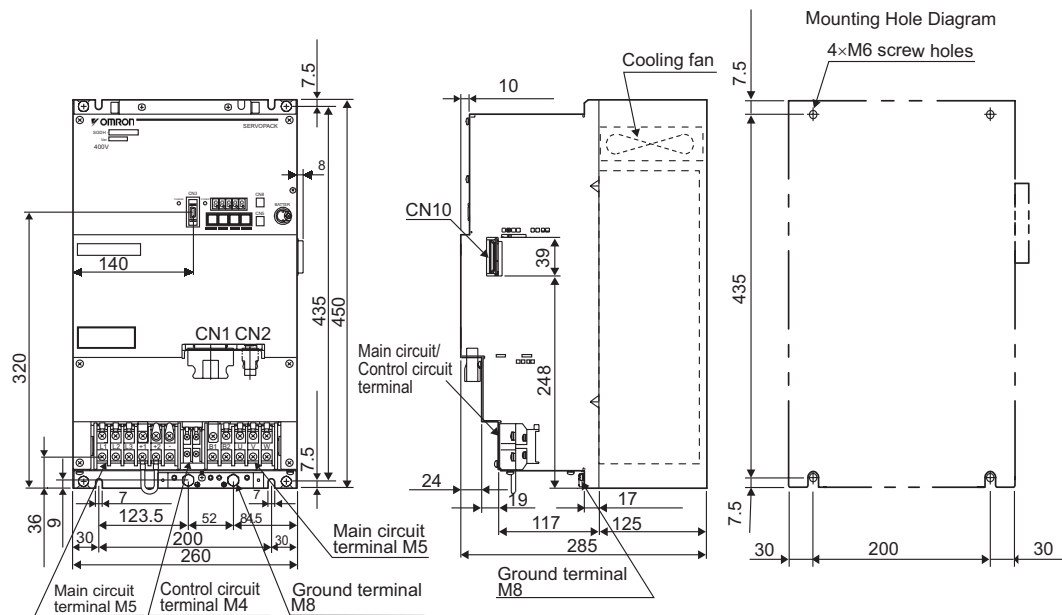
SGDH-50DE-OY (400V, 5kW)



SGDH-60/75DE-OY (400V, 6/7.5kW)

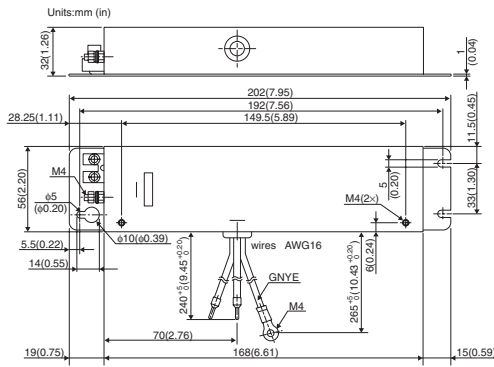


SGDH-1A/1EDE-OY (400V, 11/15kW)



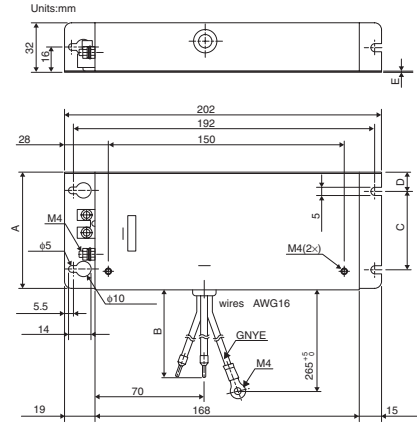
Filters

R88A-FIW104-SE

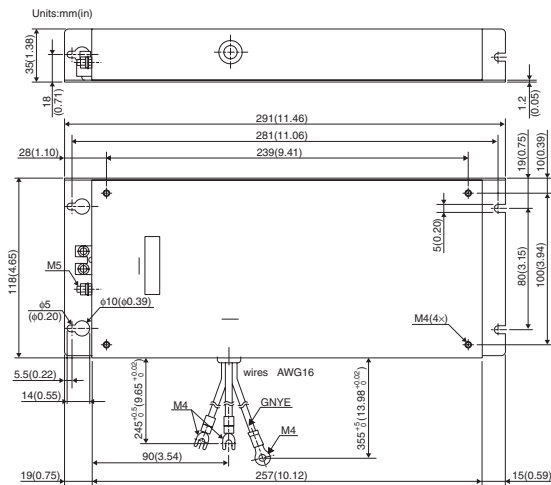


R88A-FIW107-SE, R88A-FIW115-SE

| Model | R88A-FIW107-SE | R88A-FIW115-SE |
|------------------|----------------|-------------------|
| Dimensions in mm | A | 75 |
| | B | 240 ⁺⁵ |
| | C | 50 |
| | D | 12 |
| | E | 1 |

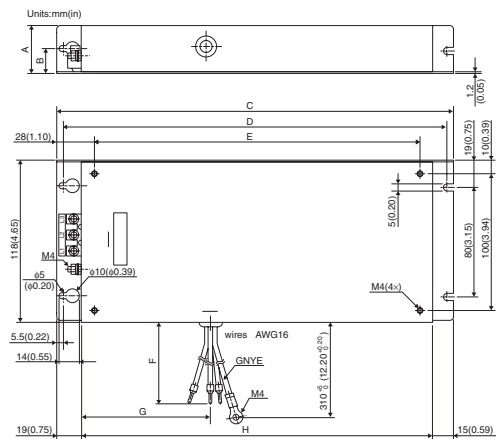


R88A-FIW125-SE

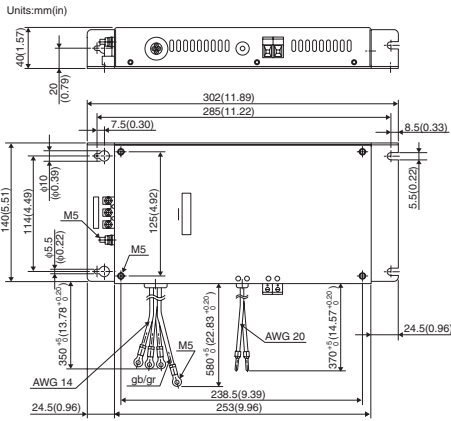


R88A-FIW4006-SE, R88A-FIW4010-SE

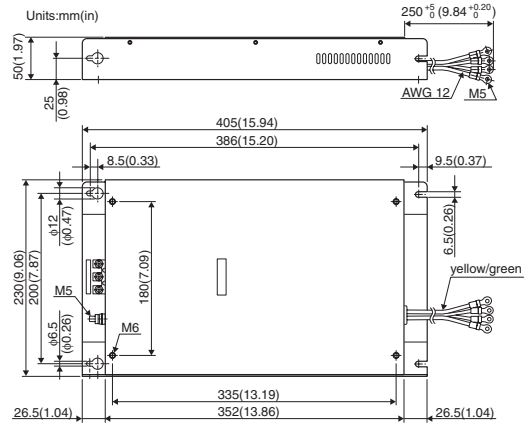
| Model | R88A-FIW4006-SE | R88A-FIW4010-SE |
|-----------------------|-----------------|-----------------|
| Dimensions in mm (in) | A | 32 (1.26) |
| | B | 16 (0.63) |
| | C | 202 (7.95) |
| | D | 192 (7.56) |
| | E | 150 (5.91) |
| | F | 300 (11.81) |
| | G | 70 (2.76) |
| | H | 168 (6.61) |



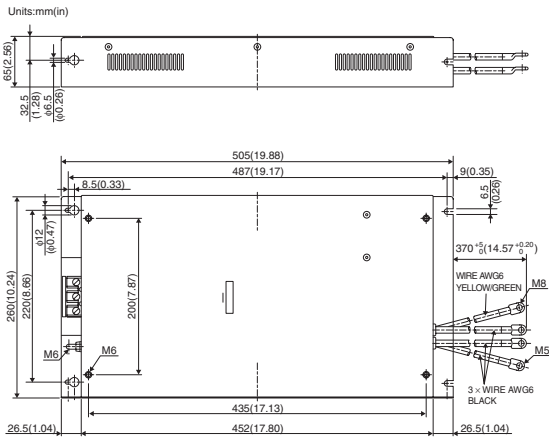
R88A-FIW4020-SE



R88A-FIW4030-SE

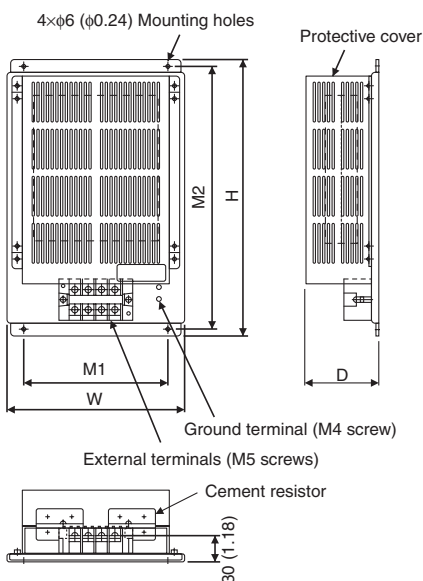


R88A-FIW4055-SE



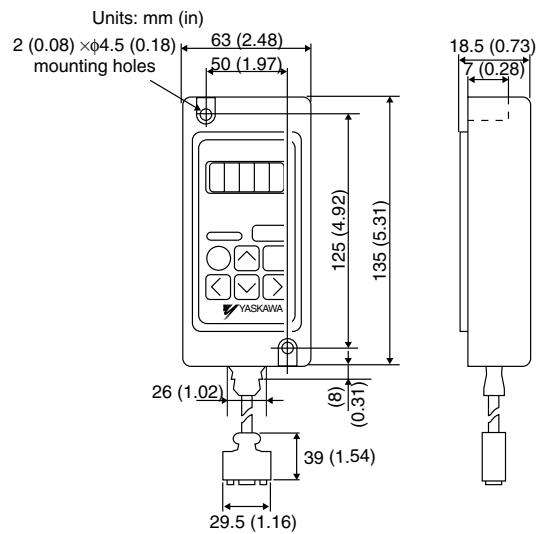
Regenerative Resistor Units

| Model | W | H | D | M1 | M2 | Approx. Mass kg |
|-----------|-----|-----|----|-----|-----|-----------------|
| JUSP-RA18 | 220 | 350 | 92 | 180 | 335 | 4 |
| JUSP-RA19 | 300 | 350 | 95 | 250 | 335 | 7 |



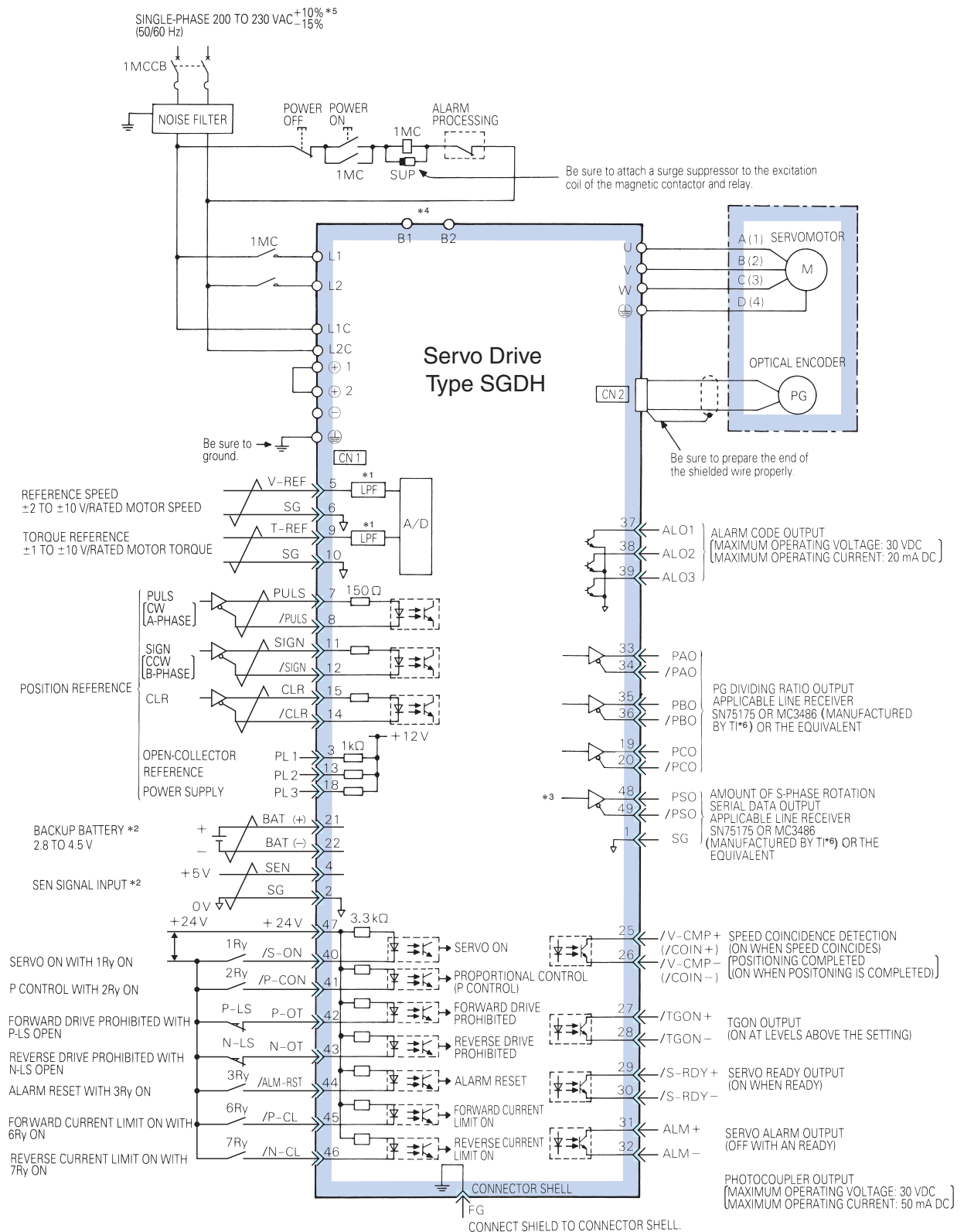
Digital Operator

JUSP-OP02A-2



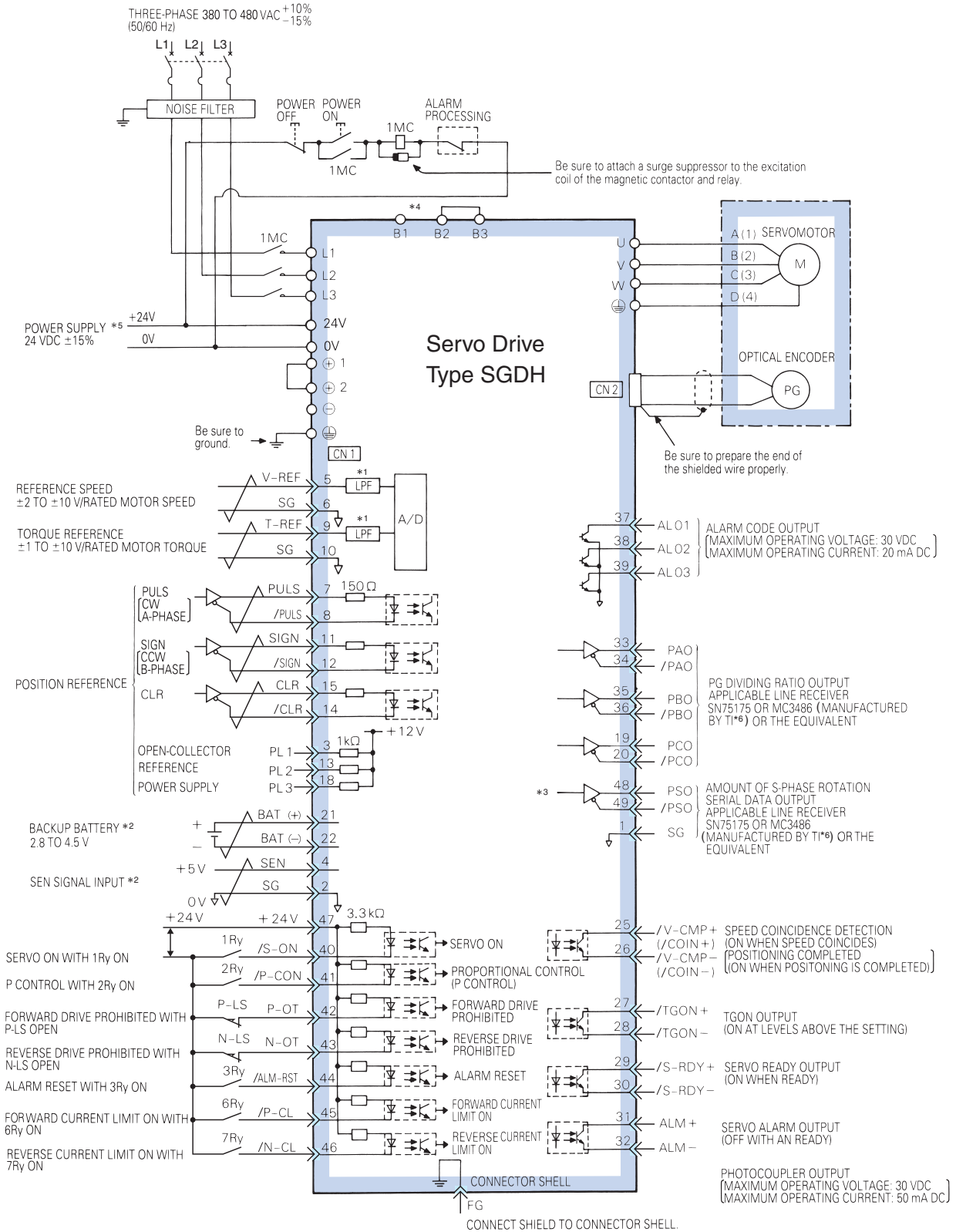
Installation

Single-phase, 230VAC



- *1 The time constant for the primary filter is 47 μ s.
- *2 Connect when using an absolute encoder.
- *3 Used only with an absolute encoder.
- *4 Regenerative resistor can be connected between B1 and B2.
- *5 For types SGDH-08AE-S-OY and SGDH-15AE-S-OY, voltage is 220 to 230 VAC (+10% -15%).
- *6 TI stands for Texas Instruments Inc.

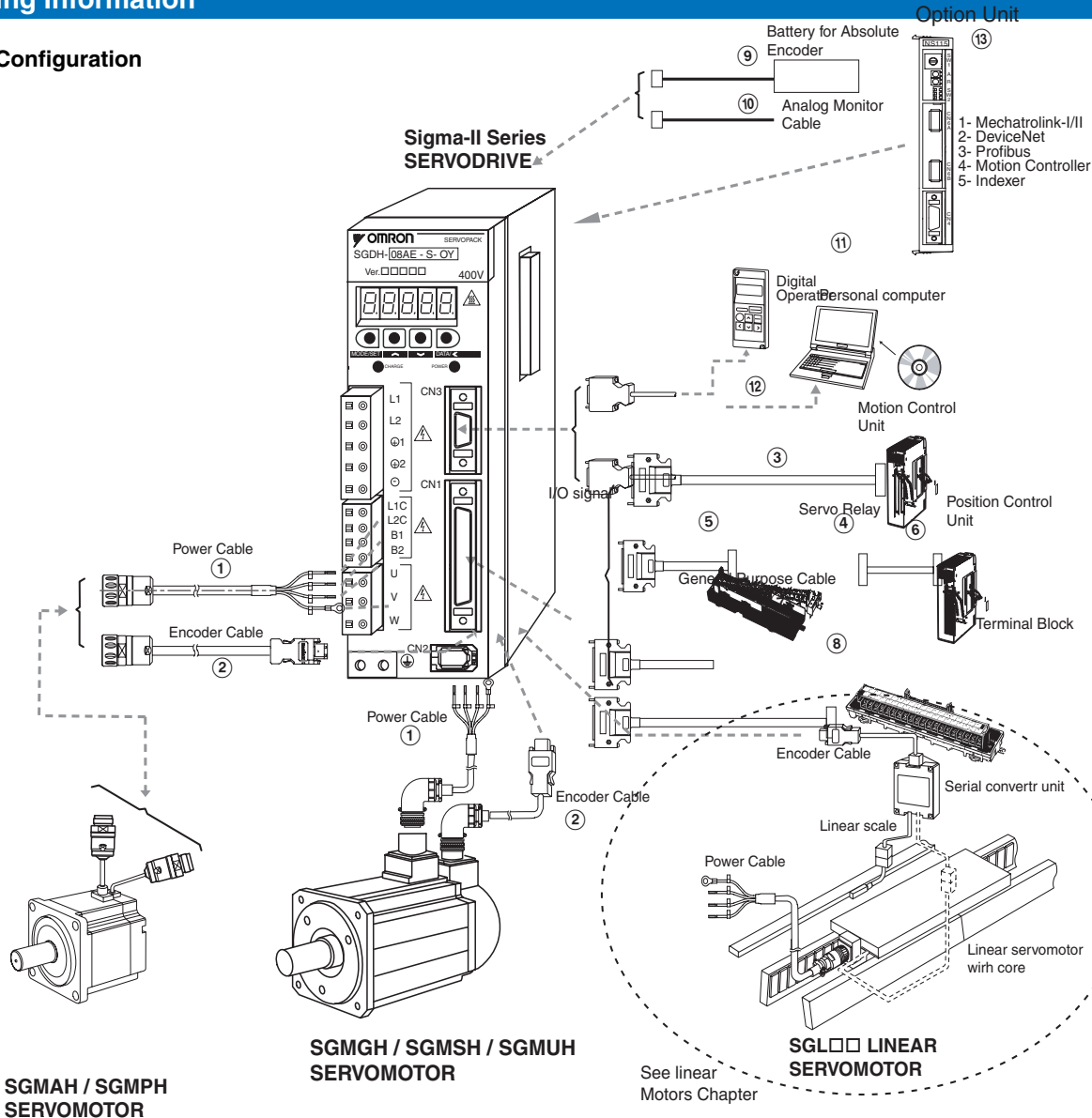
Three-phase, 400VAC



- *1 The time constant for the primary filter is 47 μs .
- *2 Connect when using an absolute encoder.
- *3 Used only with an absolute encoder.
- *4 For using an external regenerative resistor, connect it between B1 and B2.
(Be sure to connect a regenerative resistor unit to ServoDrive of 6/7.5/11/15kW)
- *5 It is the user's responsibility to obtain 24VDC power supply.
- *6 TI stands for Texas Instruments Inc.

Ordering Information

System Configuration



AC Servo Systems

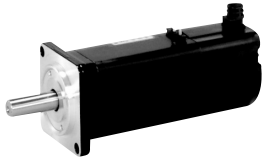
Servo Drives

| Specifications | Model | Compatible Servomotors | Linear Motors |
|------------------|---------|------------------------|---|
| 1 Phase 200 V AC | 30 W | SGDH-A3AE-OY | SGMAH-A3A□ |
| | 50 W | SGDH-A5AE-OY | SGMAH-A5D□ |
| | 100 W | SGDH-01AE-OY | SGMAH-01A□, SGMPH-01A□ |
| | 200 W | SGDH-02AE-OY | SGMAH-02A□, SGMPH-02A□ |
| | 400 W | SGDH-04AE-OY | SGMAH-04A□, SGMPH-04A□ |
| | 750 W | SGDH-08AE-S-OY | SGMAH-08A□, SGMPH-08A□ |
| | 1500 W | SGDH-15AE-S-OY | SGMPH-15A□ |
| 3 Phase 400 V AC | 0.5 kW | SGDH-05DE-OY | SGMGH-05D□, SGMAH-03D□, SGMPH-02D□/04D□ |
| | 1.0 kW | SGDH-10DE-OY | SGMGH-09D□, SGMSH/UH-10D□, SGMAH-07D□, SGMPH-08D□ |
| | 1.5 kW | SGDH-15DE-OY | SGMGH-13D□, SGMSH/UH-15D□, SGMPH-15D□ |
| | 2.0 kW | SGDH-20DE-OY | SGMGH-20D□, SGMSH-20D□ |
| | 3.0 kW | SGDH-30DE-OY | SGMGH-30D□, SGMSH/UH-30D□ |
| | 5.0 kW | SGDH-50DE-OY | SGMGH-44D□, SGMSH/UH-40D□, SGMSH-50D□ |
| | 6.0 kW | SGDH-60DE-OY | SGMGH-55D□ |
| | 7.5 kW | SGDH-75DE-OY | SGMGH-75D□ |
| | 11.0 kW | SGDH-1ADE-OY | SGMGH-1AD□ |
| | 15.0 kW | SGDH-1EDE-OY | SGMGH-1ED□ |
| | | | |
| | | | SGLFW-50D200□, SGLTW-35D170□, SGLTW-50D170□ |
| | | | SGLFW-50D380□, SGLFW-1ZD200□ |
| | | | SGLTW-35D320□, SGLTW-50D320□ |
| | | | SGLFW-1ZD380□, SGLTW-40D400□ |
| | | | SGLTW-40D60□, SGLTW-80D400□ |
| | | | SGLTW-80D600□ |

Note: SGLGW-□ Linear motor combination is made considering the use of Standard Magnets. Refer to the Linear motors chapter for details.

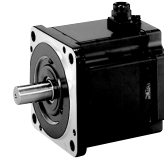
200 V Servomotors

SGMAH - Cylindrical Servomotors 3000 r/min (30 - 750 W)



| Specifications | | | | Model |
|--|---------------|----------|-------|-------------------|
| Incremental Encoder (13 bit) Straight shaft with key & Tap | Without brake | 0.096 Nm | 30 W | SGMAH-A3AAA61D-OY |
| | | 0.159 Nm | 50 W | SGMAH-A5AAA61D-OY |
| | | 0.318 Nm | 100 W | SGMAH-01AAA61D-OY |
| | | 0.637 Nm | 200 W | SGMAH-02AAA61D-OY |
| | | 1.27 Nm | 400 W | SGMAH-04AAA61D-OY |
| | | 2.39 Nm | 750 W | SGMAH-08AAA61D-OY |
| | With brake | 0.096 Nm | 30 W | SGMAH-A3AAA6CD-OY |
| | | 0.159 Nm | 50 W | SGMAH-A5AAA6CD-OY |
| | | 0.318 Nm | 100 W | SGMAH-01AAA6CD-OY |
| | | 0.637 Nm | 200 W | SGMAH-02AAA6CD-OY |
| | | 1.27 Nm | 400 W | SGMAH-04AAA6CD-OY |
| | | 2.39 Nm | 750 W | SGMAH-08AAA6CD-OY |
| Absolute Encoder (16 bit) Straight shaft with key & Tap | Without brake | 0.096 Nm | 30 W | SGMAH-A3A1A61D-OY |
| | | 0.159 Nm | 50 W | SGMAH-A5A1A61D-OY |
| | | 0.318 Nm | 100 W | SGMAH-01A1A61D-OY |
| | | 0.637 Nm | 200 W | SGMAH-02A1A61D-OY |
| | | 1.27 Nm | 400 W | SGMAH-04A1A61D-OY |
| | | 2.39 Nm | 750 W | SGMAH-08A1A61D-OY |
| | With brake | 0.096 Nm | 30 W | SGMAH-A3A1A6CD-OY |
| | | 0.159 Nm | 50 W | SGMAH-A5A1A6CD-OY |
| | | 0.318 Nm | 100 W | SGMAH-01A1A6CD-OY |
| | | 0.637 Nm | 200 W | SGMAH-02A1A6CD-OY |
| | | 1.27 Nm | 400 W | SGMAH-04A1A6CD-OY |
| | | 2.39 Nm | 750 W | SGMAH-08A1A6CD-OY |

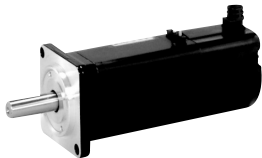
SGMPH - Flat Type Servomotors 3000 r/min (100 - 1500 W)



| Specifications | | | | Model | | |
|--|---------------|---|---------------|-------------------|-------|-------------------|
| Incremental Encoder (13 bit) Straight shaft with key & Tap | Without brake | 0.318 Nm | 100 W | SGMPH-01AAA61D-OY | | |
| | | 0.637 Nm | 200 W | SGMPH-02AAA61D-OY | | |
| | | 1.27 Nm | 400 W | SGMPH-04AAA61D-OY | | |
| | | 2.39 Nm | 750 W | SGMPH-08AAA61D-OY | | |
| | | 4.77 Nm | 1500 W | SGMPH-15AAA61D-OY | | |
| | | 0.318 Nm | 100 W | SGMPH-01AAA6CD-OY | | |
| | With brake | 0.637 Nm | 200 W | SGMPH-02AAA6CD-OY | | |
| | | 1.27 Nm | 400 W | SGMPH-04AAA6CD-OY | | |
| | | 2.39 Nm | 750 W | SGMPH-08AAA6CD-OY | | |
| | | 4.77 Nm | 1500 W | SGMPH-15AAA6CD-OY | | |
| | | Absolute Encoder (16 bit) Straight shaft with key & Tap | Without brake | 0.318 Nm | 100 W | SGMPH-01A1A61D-OY |
| | | | | 0.637 Nm | 200 W | SGMPH-02A1A61D-OY |
| 1.27 Nm | 400 W | | | SGMPH-04A1A61D-OY | | |
| 2.39 Nm | 750 W | | | SGMPH-08A1A61D-OY | | |
| 4.77 Nm | 1500 W | | | SGMPH-15A1A61D-OY | | |
| 0.318 Nm | 100 W | | | SGMPH-01A1A6CD-OY | | |
| With brake | 0.637 Nm | | 200 W | SGMPH-02A1A6CD-OY | | |
| | 1.27 Nm | | 400 W | SGMPH-04A1A6CD-OY | | |
| | 2.39 Nm | | 750 W | SGMPH-08A1A6CD-OY | | |
| | 4.77 Nm | | 1500 W | SGMPH-15A1A6CD-OY | | |

400 V Servomotors

SGMAH - Cyl. Servomotors 3000 r/min (300 - 650 W)



| Specifications | | | | Model |
|--|---------------|----------|-------|-------------------|
| Incremental Encoder (13 bit) Straight shaft with key | Without brake | 0.955 Nm | 300 W | SGMAH-03DAA61D-OY |
| | | 2.07 Nm | 650 W | SGMAH-07DAA61D-OY |
| | With brake | 0.955 Nm | 300 W | SGMAH-03DAA6CD-OY |
| | | 2.07 Nm | 650 W | SGMAH-07DAA6CD-OY |
| Absolute Encoder (16 bit) Straight shaft with key | Without brake | 0.955 Nm | 300 W | SGMAH-03D1A61D-OY |
| | | 2.07 Nm | 650 W | SGMAH-07D1A61D-OY |
| | With brake | 0.955 Nm | 300 W | SGMAH-03D1A6CD-OY |
| | | 2.07 Nm | 650 W | SGMAH-07D1A6CD-OY |

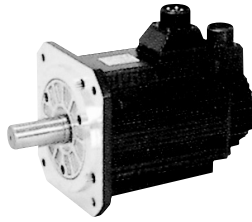
SGMPH - Flat Type Servomotors 3000 r/min (0.2 - 1.5 kW)



| Specifications | | | | Model | | |
|--|---|------------|---------------|-------------------|-------------------|-------------------|
| Incremental Encoder (13 bit) Straight shaft with key | Without brake | 0.637 Nm | 200 W | SGMPH-02DAA61D-OY | | |
| | | 1.27 Nm | 400 W | SGMPH-04DAA61D-OY | | |
| | | 2.39 Nm | 750 W | SGMPH-08DAA61D-OY | | |
| | | 4.77 Nm | 1500 W | SGMPH-15DAA61D-OY | | |
| | | With brake | 0.637 Nm | 200 W | SGMPH-02DAA6CD-OY | |
| | | | 1.27 Nm | 400 W | SGMPH-04DAA6CD-OY | |
| | 2.39 Nm | | 750 W | SGMPH-08DAA6CD-OY | | |
| | 4.77 Nm | | 1500 W | SGMPH-15DAA6CD-OY | | |
| | Absolute Encoder (16 bit) Straight shaft with key | | Without brake | 0.637 Nm | 200 W | SGMPH-02D1A61D-OY |
| | | | | 1.27 Nm | 400 W | SGMPH-04D1A61D-OY |
| | | 2.39 Nm | | 750 W | SGMPH-08D1A61D-OY | |
| | | 4.77 Nm | | 1500 W | SGMPH-15D1A61D-OY | |
| With brake | | 0.637 Nm | | 200 W | SGMPH-02D1A6CD-OY | |
| | | 1.27 Nm | | 400 W | SGMPH-04D1A6CD-OY | |
| | | 2.39 Nm | 750 W | SGMPH-08D1A6CD-OY | | |
| | | 4.77 Nm | 1500 W | SGMPH-15D1A6CD-OY | | |

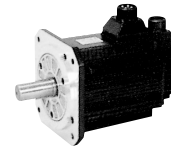
400V Servomotors

SGMGH - Servomotors 1500 r/min (0.45 - 15 kW)



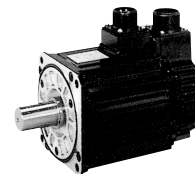
| Specifications | | | | Model |
|--|---------------|------------------|------------------|------------------|
| Incremental Encoder (17 bit) Straight shaft with key & Tap | Without brake | 2.84 Nm | 0.45 kW | SGMGH-05DCA6F-OY |
| | | 5.39 Nm | 0.85 kW | SGMGH-09DCA6F-OY |
| | | 8.34 Nm | 1.3 kW | SGMGH-13DCA6F-OY |
| | | 11.5 Nm | 1.8 kW | SGMGH-20DCA6F-OY |
| | | 18.6 Nm | 2.9 kW | SGMGH-30DCA6F-OY |
| | | 28.4 Nm | 4.4 kW | SGMGH-44DCA6F-OY |
| | | 35.0 Nm | 5.5 kW | SGMGH-55DCA6F-OY |
| | | 48.0 Nm | 7.5 kW | SGMGH-75DCA6F-OY |
| | | 70.0 Nm | 11.5 kW | SGMGH-1ADCA6F-OY |
| | 95.4 Nm | 15.0 kW | SGMGH-1EDCA6F-OY | |
| | With brake | 2.84 Nm | 0.45 kW | SGMGH-05DCA6H-OY |
| | | 5.39 Nm | 0.85 kW | SGMGH-09DCA6H-OY |
| | | 8.34 Nm | 1.3 kW | SGMGH-13DCA6H-OY |
| | | 11.5 Nm | 1.8 kW | SGMGH-20DCA6H-OY |
| | | 18.6 Nm | 2.9 kW | SGMGH-30DCA6H-OY |
| | | 28.4 Nm | 4.4 kW | SGMGH-44DCA6H-OY |
| | | 35.0 Nm | 5.5 kW | SGMGH-55DCA6H-OY |
| | | 48.0 Nm | 7.5 kW | SGMGH-75DCA6H-OY |
| 70.0 Nm | | 11.5 kW | SGMGH-1ADCA6H-OY | |
| 95.4 Nm | 15.0 kW | SGMGH-1EDCA6H-OY | | |
| Absolute Encoder (17 bit) Straight shaft with key & Tap | Without brake | 2.84 Nm | 0.45 kW | SGMGH-05D2A6F-OY |
| | | 5.39 Nm | 0.85 kW | SGMGH-09D2A6F-OY |
| | | 8.34 Nm | 1.3 kW | SGMGH-13D2A6F-OY |
| | | 11.5 Nm | 1.8 kW | SGMGH-20D2A6F-OY |
| | | 18.6 Nm | 2.9 kW | SGMGH-30D2A6F-OY |
| | | 28.4 Nm | 4.4 kW | SGMGH-44D2A6F-OY |
| | | 35.0 Nm | 5.5 kW | SGMGH-55D2A6F-OY |
| | | 48.0 Nm | 7.5 kW | SGMGH-75D2A6F-OY |
| | | 70.0 Nm | 11.5 kW | SGMGH-1AD2A6F-OY |
| | 95.4 Nm | 15.0 kW | SGMGH-1ED2A6F-OY | |
| | With brake | 2.84 Nm | 0.45 kW | SGMGH-05D2A6H-OY |
| | | 5.39 Nm | 0.85 kW | SGMGH-09D2A6H-OY |
| | | 8.34 Nm | 1.3 kW | SGMGH-13D2A6H-OY |
| | | 11.5 Nm | 1.8 kW | SGMGH-20D2A6H-OY |
| | | 18.6 Nm | 2.9 kW | SGMGH-30D2A6H-OY |
| | | 28.4 Nm | 4.4 kW | SGMGH-44D2A6H-OY |
| | | 35.0 Nm | 5.5 kW | SGMGH-55D2A6H-OY |
| | | 48.0 Nm | 7.5 kW | SGMGH-75D2A6H-OY |
| 70.0 Nm | | 11.5 kW | SGMGH-1AD2A6H-OY | |
| 95.4 Nm | 15.0 kW | SGMGH-1ED2A6H-OY | | |

SGMSH - Servomotors 3000 r/min (1 - 5 KW)



| Specifications | | | | Model | |
|--|--|---------------|------------------|------------------|------------------|
| Incremental Encoder (17 bit) Straight shaft with key & Tap | Without brake | 3.18 Nm | 1.0 kW | SGMSH-10DCA6F-OY | |
| | | 4.9 Nm | 1.5 kW | SGMSH-15DCA6F-OY | |
| | | 6.36 Nm | 2.0 kW | SGMSH-20DCA6F-OY | |
| | | 9.8 Nm | 3.0 kW | SGMSH-30DCA6F-OY | |
| | | 12.6 Nm | 4.0 kW | SGMSH-40DCA6F-OY | |
| | With brake | 3.18 Nm | 1.0 kW | SGMSH-10DCA6H-OY | |
| | | 4.9 Nm | 1.5 kW | SGMSH-15DCA6H-OY | |
| | | 6.36 Nm | 2.0 kW | SGMSH-20DCA6H-OY | |
| | | 9.8 Nm | 3.0 kW | SGMSH-30DCA6H-OY | |
| | | 12.6 Nm | 4.0 kW | SGMSH-40DCA6H-OY | |
| | Absolute Encoder (17 bit) Straight shaft with key & Tap | Without brake | 3.18 Nm | 1.0 kW | SGMSH-10D2A6F-OY |
| | | | 4.9 Nm | 1.5 kW | SGMSH-15D2A6F-OY |
| | | | 6.36 Nm | 2.0 kW | SGMSH-20D2A6F-OY |
| | | | 9.8 Nm | 3.0 kW | SGMSH-30D2A6F-OY |
| | | | 12.6 Nm | 4.0 kW | SGMSH-40D2A6F-OY |
| With brake | 3.18 Nm | 1.0 kW | SGMSH-10D2A6H-OY | | |
| | 4.9 Nm | 1.5 kW | SGMSH-15D2A6H-OY | | |
| | 6.36 Nm | 2.0 kW | SGMSH-20D2A6H-OY | | |
| | 9.8 Nm | 3.0 kW | SGMSH-30D2A6H-OY | | |
| | 12.6 Nm | 4.0 kW | SGMSH-40D2A6H-OY | | |
| With brake | 15.8 Nm | 5.0 kW | SGMSH-50DCA6F-OY | | |
| | 15.8 Nm | 5.0 kW | SGMSH-50DCA6H-OY | | |
| | 15.8 Nm | 5.0 kW | SGMSH-50D2A6F-OY | | |
| | 15.8 Nm | 5.0 kW | SGMSH-50D2A6H-OY | | |
| | 15.8 Nm | 5.0 kW | SGMSH-50D2A6H-OY | | |

SGMUH - Servomotors 6000 r/min (1 - 4 kW)

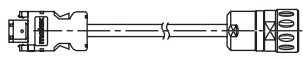
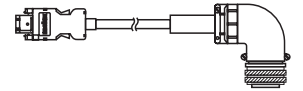


| Specifications | | | | Model |
|--|---------------|---------|--------|------------------|
| Incremental Encoder (17 bit) Straight shaft with key | Without brake | 1.59 Nm | 1.0 kW | SGMUH-10DCA61-OY |
| | | 2.45 Nm | 1.5 kW | SGMUH-15DCA61-OY |
| | | 4.9 Nm | 3.0 kW | SGMUH-30DCA61-OY |
| | | 6.3 Nm | 4.0 kW | SGMUH-40DCA61-OY |
| | With brake | 1.59 Nm | 1.0 kW | SGMUH-10DCA6C-OY |
| | | 2.45 Nm | 1.5 kW | SGMUH-15DCA6C-OY |
| | | 4.9 Nm | 3.0 kW | SGMUH-30DCA6C-OY |
| | | 6.3 Nm | 4.0 kW | SGMUH-40DCA6C-OY |

Power Cables

| Symbol | Specifications | Model | Appearance | |
|---|---|------------------|------------------|--|
| A | For 200V Servomotors without brake SGMAH-□□A□□□1D-OY SGMPH-(01/02/04/08)A□□41D-OY | 3 m | R88A-CAWA003S-DE | |
| | | 5 m | R88A-CAWA005S-DE | |
| | | 10 m | R88A-CAWA010S-DE | |
| | | 15 m | R88A-CAWA015S-DE | |
| | | 20 m | R88A-CAWA020S-DE | |
| | For 200V Servomotors with brake SGMAH-□□A□□□CD-OY SGMPH-(01/02/04/08)A□□4CD-OY | 3 m | R88A-CAWA003B-DE | |
| | | 5 m | R88A-CAWA005B-DE | |
| | | 10 m | R88A-CAWA010B-DE | |
| | | 15 m | R88A-CAWA015B-DE | |
| | | 20 m | R88A-CAWA020B-DE | |
| | For 200V Servomotors without brake SGMPH-15A□□□1D-OY | 3 m | R88A-CAWB003S-DE | |
| | | 5 m | R88A-CAWB005S-DE | |
| | | 10 m | R88A-CAWB010S-DE | |
| | | 15 m | R88A-CAWB015S-DE | |
| | | 20 m | R88A-CAWB020S-DE | |
| | For 200V Servomotors with brake SGMPH-15A□□□CD-OY | 3 m | R88A-CAWB003B-DE | |
| | | 5 m | R88A-CAWB005B-DE | |
| | | 10 m | R88A-CAWB010B-DE | |
| | | 15 m | R88A-CAWB015B-DE | |
| | | 20 m | R88A-CAWB020B-DE | |
| For 400V Servomotors without brake SGMAH-□□D□□□1D-OY SGMPH-□□D□□□1D-OY | 3 m | R88A-CAWK003S-DE | | |
| | 5 m | R88A-CAWK005S-DE | | |
| | 10 m | R88A-CAWK010S-DE | | |
| | 15 m | R88A-CAWK015S-DE | | |
| | 20 m | R88A-CAWK020S-DE | | |
| For 400V Servomotors with brake SGMAH-□□D□□□CD-OY SGMPH-□□D□□□CD-OY | 3 m | R88A-CAWK003B-DE | | |
| | 5 m | R88A-CAWK005B-DE | | |
| | 10 m | R88A-CAWK010B-DE | | |
| | 15 m | R88A-CAWK015B-DE | | |
| | 20 m | R88A-CAWK020B-DE | | |
| For 400V Servomotors SGMGH-(05/09/13)D□ SGMSH-(10/15/20)D□ SGMUH-(10/15)D□ For servomotors with Brake a separate cable (R88A-CAWC□□B-E) is needed | 3 m | R88A-CAWC003S-E | | |
| | 5 m | R88A-CAWC005S-E | | |
| | 10 m | R88A-CAWC010S-E | | |
| | 15 m | R88A-CAWC015S-E | | |
| | 20 m | R88A-CAWC020S-E | | |
| For 400V Servomotors SGMGH-(20/30)D□ SGMSH-(30/40/50)D□ SGMUH-(30/40)D□ For servomotors with Brake a separate cable (R88A-CAWC□□B-E) is needed | 3 m | R88A-CAWD003S-E | | |
| | 5 m | R88A-CAWD005S-E | | |
| | 10 m | R88A-CAWD010S-E | | |
| | 15 m | R88A-CAWD015S-E | | |
| | 20 m | R88A-CAWD020S-E | | |
| For 400V Servomotors SGMGH-44D□ For servomotors with Brake a separate cable (R88A-CAWC□□B-E) is needed | 3 m | R88A-CAWG003S-E | | |
| | 5 m | R88A-CAWG005S-E | | |
| | 10 m | R88A-CAWG010S-E | | |
| | 15 m | R88A-CAWG015S-E | | |
| | 20 m | R88A-CAWG020S-E | | |
| For 400V Servomotors SGMGH-55D□ For servomotors with Brake a separate cable (R88A-CAWC□□B-E) is needed | 3 m | R88A-CAWF003S-E | | |
| | 5 m | R88A-CAWF005S-E | | |
| | 10 m | R88A-CAWF010S-E | | |
| | 15 m | R88A-CAWF015S-E | | |
| | 20 m | R88A-CAWF020S-E | | |
| For 400V Servomotors SGMGH-(75/1A)D□ For servomotors with Brake a separate cable (R88A-CAWC□□B-E) is needed | 3 m | R88A-CAWH003S-E | | |
| | 5 m | R88A-CAWH005S-E | | |
| | 10 m | R88A-CAWH010S-E | | |
| | 15 m | R88A-CAWH015S-E | | |
| | 20 m | R88A-CAWH020S-E | | |
| For 400V Servomotors SGMGH-1ED□ For servomotors with Brake a separate cable (R88A-CAWC□□B-E) is needed | 3 m | R88A-CAWJ003S-E | | |
| | 5 m | R88A-CAWJ005S-E | | |
| | 10 m | R88A-CAWJ010S-E | | |
| | 15 m | R88A-CAWJ015S-E | | |
| | 20 m | R88A-CAWJ020S-E | | |
| Brake Cable only. For 400V Servomotors with Brake SGMGH-□□D□ SGMSH-□□D□ SGMUH-□□D□ | 3 m | R88A-CAWC003B-E | | |
| | 5 m | R88A-CAWC005B-E | | |
| | 10 m | R88A-CAWC010B-E | | |
| | 15 m | R88A-CAWC015B-E | | |
| | 20 m | R88A-CAWC020B-E | | |

Encoder Cables (for CN2)

| Symbol | Specifications | Model | Appearance | |
|--------|--|-------|------------------|---|
| B | Encoder cable for SGMAH/PH Servomotors SGMAH-□□□□□□□□D-OY SGMPH-□□□□□□□□D-OY | 3 m | R88A-CRWA003C-DE |  |
| | | 5 m | R88A-CRWA005C-DE | |
| | | 10 m | R88A-CRWA010C-DE | |
| | | 15 m | R88A-CRWA015C-DE | |
| | | 20 m | R88A-CRWA020C-DE | |
| | Encoder cable for SGMGH/SH/UH Servomotors SGMGH-□ SGMSH-□ SGMUH-□ | 3 m | R88A-CRWB003N-E |  |
| | | 5 m | R88A-CRWB005N-E | |
| | | 10 m | R88A-CRWB010N-E | |
| | | 15 m | R88A-CRWB015N-E | |
| | | 20 m | R88A-CRWB020N-E | |

Control Cables (for CN1)

| Symbol | Description | Connect to | Model | |
|---|--|--|--|---------------------------------|
| ③ | Control Cable (1 Axis) | Motion Control Units CS1W-MC221 CS1W-MC421 C200H-MC221 | 1 m | R88A-CPW001M1 |
| | | | 2 m | R88A-CPW002M1 |
| | | | 3 m | R88A-CPW003M1 |
| | | | 5 m | R88A-CPW005M1 |
| | | | 1 m | R88A-CPW001M2 |
| | Control Cable (2 Axis) | Motion Control Units CS1W-MC221 CS1W-MC421 C200H-MC221 | 2 m | R88A-CPW002M2 |
| | | | 3 m | R88A-CPW003M2 |
| | | | 5 m | R88A-CPW005M2 |
| | | | - | R88A-TC04-E |
| | | | 1 M | R88A-CMUK001J3-E2 |
| Terminal Block (4 Axes) Servodrive connecting Cable (1 Axis) PLC Unit Control Cables (4 Axes) | Motion Control Unit C200HW-MC402-E | 1 m | R88A-CMX001S-E | |
| | | 1 m | R88A-CMX001J1-E | |
| | | 1 m | R88A-CMX001J1-E | |
| ④ | Servo Relay Unit | CS1W-NC1□3, CJ1W-NC1□3, or C200HW-NC113 Position Control Unit CS1W-NC2□3/4□3, CJ1W-NC2□3/4□3, or C200HW-NC213/413 Position Control Unit CQM1H-PLB21 CQM1-CPU43 CJ1M-CPU22/23 | XW2B-20J6-1B (1 axis) | |
| | | | XW2B-40J6-2B (2 axes) | |
| | | | XW2B-20J6-3B (1 axis) | |
| | | | XW2B-20J6-8A (1 axis) XW2B-40J6-9A (2 axes) | |
| | | | XW2Z-100J-B4 XW2Z-200J-B4 | |
| ⑤ | Cable to Servo drive | Servo Relay Units XW2B-□0J6-□B | 1 m | XW2Z-100J-B4 |
| | | | 2 m | XW2Z-200J-B4 |
| ⑥ | Position Control Unit Connecting Cable | C200H-NC112 | 0.5 m | XW2Z-050J-A1 |
| | | | 1 m | XW2Z-100J-A1 |
| | | C200H-NC211 | 0.5 m | XW2Z-050J-A2 |
| | | | 1 m | XW2Z-100J-A2 |
| | | CQM1-CPU43-V1 and CQM1H-PLB21 | 0.5 m | XW2Z-050J-A3 |
| | | | 1 m | XW2Z-100J-A3 |
| | | CS1W-NC113 and C200HW-NC113 | 0.5 m | XW2Z-050J-A6 |
| | | | 1 m | XW2Z-100J-A6 |
| | | CS1W-NC213/413 and C200HW-NC213/413 | 0.5 m | XW2Z-050J-A7 |
| | | | 1 m | XW2Z-100J-A7 |
| | | CS1W-NC133 | 0.5 m | XW2Z-050J-A10 |
| | | | 1 m | XW2Z-100J-A10 |
| | | CS1W-NC233/433 | 0.5 m | XW2Z-050J-A11 |
| | | | 1 m | XW2Z-100J-A11 |
| | | CJ1W-NC113 | 0.5 m | XW2Z-050J-A14 |
| | | | 1 m | XW2Z-100J-A14 |
| | | CJ1W-NC213/413 | 0.5 m | XW2Z-050J-A15 |
| | | | 1 m | XW2Z-100J-A15 |
| CJ1W-NC133 | 0.5 m | XW2Z-050J-A18 | | |
| | 1 m | XW2Z-100J-A18 | | |
| CJ1W-NC233/433 | 0.5 m | XW2Z-050J-A19 | | |
| | 1 m | XW2Z-100J-A19 | | |
| CJ1M-CPU22/23 | 0.5 m | XW2Z-050J-A27 | | |
| | 1 m | XW2Z-100J-A27 | | |
| ⑦ | Control Cable | For General purpose Controllers | 1 m | R88A-CPW001S or JZSP-CKI01-1 |
| | | | 2 m | R88A-CPW002S or JZSP-CKI01-1 |
| ⑧ | Relay Terminal Block Cable | General-purpose Controller | 1 m | R88A-CTW001N |
| | | | 2 m | R88A-CTW002N |
| | Relay Terminal Block | - | XW2B-50G5 | |

Battery Backup for absolute encoder (for CN8)

| Symbol | Name | Model |
|--------|---------------------------------|-------------|
| I | Battery for 30W to 5 kW Drives | JZSP-BA01 |
| | Battery for 6kW to 15 kW Drives | JZSP-BA01-1 |

Cable (for CN5)

| Symbol | Name | Model |
|--------|----------------------|------------------------------|
| J | Analog Monitor Cable | R88A-CMW001S or DE9404559 |

Options (for CN3)

| Symbol | Name | Model |
|--------|---------------------------|--------------------------------|
| ⑪ | Parameter Unit with Cable | JUSP-OP02A-2 or R88A-PR02W |
| ⑫ | Computer Connecting Cable | R88A-CCW002P2 or JZSP-CMS02 |

Option Units (for CN10)

| Symbol | Name | Model |
|--------|--|-------------------|
| ⑬ | 1.5 axis Advanced Motion Controller with Host Link Interface | R88A-MCW151-E |
| | 1.5 axis Advanced Motion Controller with DeviceNet Interface | R88A-MCW151-DRT-E |
| | Mechatrolink-I Interface unit | JUSP-NS100 |
| | Mechatrolink-II Interface unit | JUSP-NS115 |
| | DeviceNet Interface unit with Positioning Functionality | JUSP-NS300 |
| | PROFIBUS-DP Interface unit with Positioning Functionality | JUSP-NS500 |
| | Indexer Unit. Versatile Point to Point Positioning | JUSP-NS600 |

Connectors

| Specification | Model |
|--|-----------------------------|
| Control I/O connector (For CN1) | R88A-CNU11C or JZSP-CKI9 |
| Sigma-II Drive Encoder connector (For CN2) | JZSP-CMP9-1 |
| Hypertac Power Connector IP67 (For 200V Motors SGMHAH/PH-□□A□□□□D-OY) | SPOC-06K-FSDN169 |
| Hypertac Power Connector IP67 (For 400V Motors SGMHAH/PH-□□D□□□□D-OY) | LPRA-06B-FRBN170 |
| Hypertac Encoder Connector IP67 (For Motors SGMHAH/PH-□□□□□□□□D-OY) | SPOC-17H-FRON169 |
| Military Power connector IP67 (For 400V Motors SGMGH-(05/10/13)D□, SGMSh-(10/15/20)D□, SGMUH-(10/15)D□) | MS3108E18-10S |
| Military Power connector IP67 (For 400V Motors SGMGH-(20/30/44)D□, SGMSh-(30/40/50)D□, SGMUH-(30/40)D□) | MS3108E22-22S |
| Military Power connector IP67 (For 400V Motors SGMGH-(55/75/1A/1E)D□) | MS3108E32-17S |
| Military Brake connector IP67 (For 400V ServoMotors SGMGH-□, SGMSh-□, SGMUH-□) | MS3108E10SL-3S |
| Military Encoder connector IP67 (For Motors SGMGH-□, SGMSh-□, SGMUH-□) | MS3108E20-29S |

Filters

| Specifications (applicable Servo Drive) | Model | Rated Current | Rated Voltage |
|--|-----------------|---------------|-------------------------|
| SGDH-A3AE-OY, SGDH-A5AE-OY, SGDH-01AE-OY, SGDH-02AE-OY | R88A-FIW104-SE | 4 A | 250 VAC Single-Phase |
| SGDH-04AE-OY | R88A-FIW107-SE | 7A | |
| SGDH-08AE-S-OY | R88A-FIW115-SE | 15 A | |
| SGDH-15AE-S-OY | R88A-FIW125-SE | 25 A | |
| SGDH-05DE-OY, SGDH-10DE-OY, SGDH-15DE-OY | R88A-FIW4006-SE | 6 A | 400 VAC Three-Phase |
| SGDH-20DE-OY, SGDH-30DE-OY | R88A-FIW4010-SE | 10 A | |
| SGDH-50DE-OY | R88A-FIW4020-SE | 20 A | |
| SGDH-60DE-OY, SGDH-75DE-OY | R88A-FIW4030-SE | 30 A | |
| SGDH-1AE-OY, SGDH-1EDE-OY | R88A-FIW4055-SE | 55 A | |

External Regenerative Resistor

| Servo Drive Model | Regenerative Resistor Unit Model | Specifications | Allowable Power Loss |
|--------------------------|----------------------------------|------------------|----------------------|
| SGDH-60DE-OY to -75DE-OY | JUSP-RA18 | 18 Ω , 880 W | 180 W |
| SGDH-1AE-OY to -1EDE-OY | JUSP-RA19 | 14.25 Ω , 1760 W | 350 W |

Computer Software

| Specifications | Model |
|----------------------|--------------|
| SigmaWin | MOTION TOOLS |
| WMON Win Version 2.0 | |

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.