



Omnuc W-series

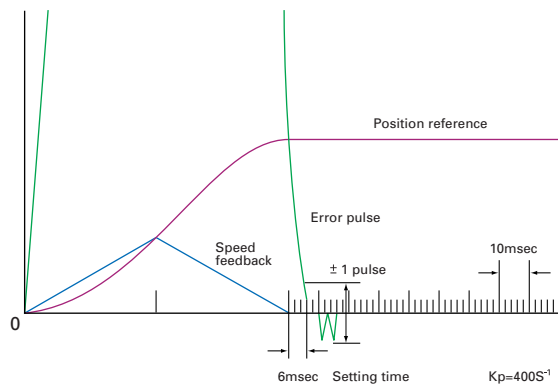
The servo that serves you best

Omron W-series Servo Systems



The servo that serves you best

The primary function of a servo system is to control movement and position of the moving parts in your machine. And this with the highest precision and shortest settling time thus enabling the highest performance of your machine. As a matter of fact the best servo-systems enable you to obtain high speed without compromising on positional accuracy or repeatability. In this respect Omron servo-systems have reached exceptional high performances. Here is how.

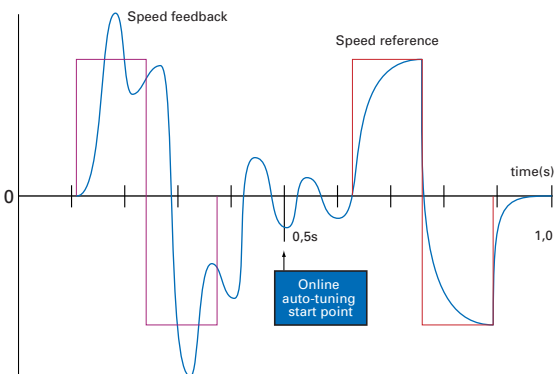


Settling time reduced to 1/3

By reducing CPU calculation time by 50% and by optimising control algorithms, Omron have reduced the position settling time to 1/3 of previous systems. The Omron W-series offers the most innovative solution to machine design.

Online auto-tuning

No need for laborious adjustments. In the Online Auto Tuning Mode you allow the W-series servo-driver to adjust it's settings automatically and precisely to the machine movements. A W-series servo-driver is even able to discriminate the capacity and type of servo-motor and is able to set itself accordingly.



Full range

The Omron W-series servo-motors range from 230V single and three phase to 400V three phase, from 1000 rpm to 6000 rpm, in power rating from 30 W to 7.5 KW.

High Performance Features

Controlled model follow-up

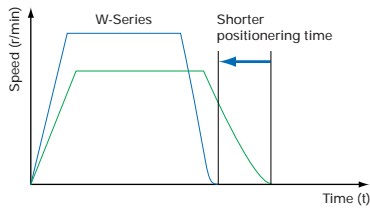
Low characteristic frequencies in machines can lead to vibrations during movement. Algorithms within Omron servo-drivers mimic a mechanical model and can be set to precisely counteract these vibrations. This also enables the reduction of settling time in rigid machinery.

Resonance suppression filter

All servo-drivers have a resonance filter, which enables you to counteract high frequency mechanical resonance noise.

Feed-back speed control

The Omron servo-motor is able to accelerate and decelerate faster, thereby shortening positioning time.



Vibration suppression

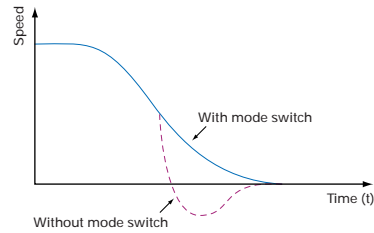
Tolerances in the machine and differences in static and dynamic frictional resistances can lead to vibration. Omron servo-drivers are able to counteract detected vibrations immediately. This gives Omron servo-systems the smoothest characteristics.

Shaft resonance filter

If it occurs this torque reference filter automatically suppresses shaft resonance.

Proportional/Integral speed control mode switch

To prevent over- and undershoot the servo-driver can be switched between speed loop PI (proportional integral) and P (proportional) control.



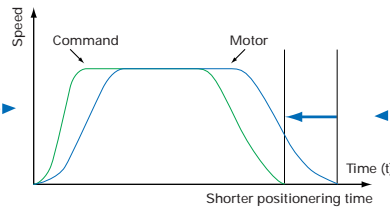
Feed forward compensation

Reduces positioning time. Feed forward compensation prevents the control system from the effects of external disturbance by making the necessary corrections in advance.

Bias

Anticipates load conditions to shorten positioning time. By assigning bias to the speed reference block reduction of positioning time is achieved.

feed forward compensation



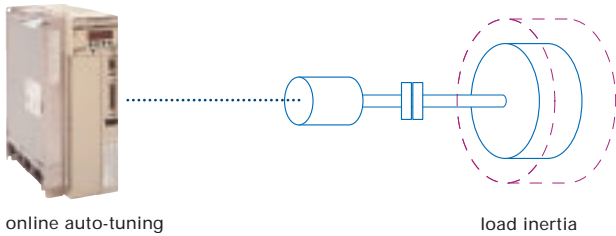
bias



Zero clamp operation

When using speed control, drift could occur even when the speed command is 0V. Omron servo-drivers offer zero clamp functionality that can also be set to lock a servo-motor below a pre-set minimum speed level.

Easy Setup Features



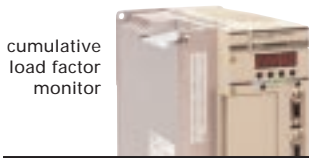
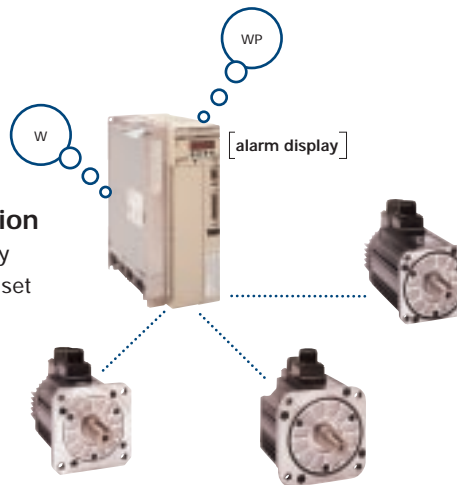
Online auto-tuning

Omron servo-systems are Plug-and-Play. Line-up the system with your machine and set the servo-driver to the Online Auto-Tuning function. This enables the servo-driver to check the characteristics of the machinery automatically and to make the necessary servo gain adjustments.

This function is so easy to use that servo gain tuning and the setting of servo gains as parameters can be performed without specific knowledge. Auto-Tuning can be performed continuously, for instance when load inertia varies during operation.

Automatic motor discrimination

W-series servo-drivers automatically sense motor type and capacity and set motor parameters accordingly.



Cumulative load factor monitor

Allows monitoring of effective torque for torque command.

Password

Prevents unauthorised alterations of user constants.

Jog operation

The hand-held digital operator allows you to override settings and to control servo-motors by hand, which makes manual operation much easier.



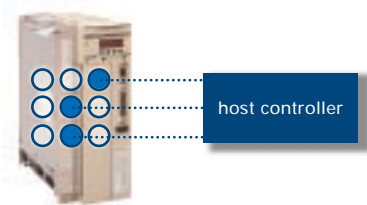
Alarm traceback

Even if the power is turned OFF, data for the last ten alarms is stored, simplifying troubleshooting.

Flexible adjustment features

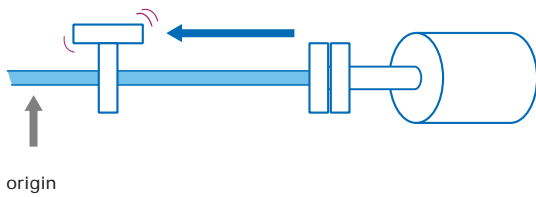
I/O signal mapping

Functional allocation of the I/O signals has never been so flexible. You can select 7 out of 13 defined input signals and 3 out of 9 output signals.



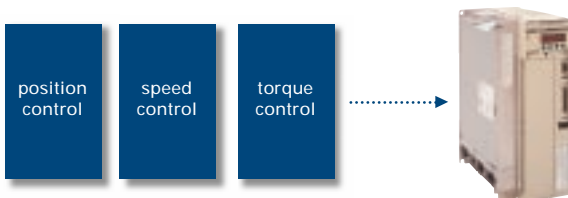
Origin search

This makes the setting of the motor shaft position in an application much easier, when the motor shaft has to be aligned with the machine.



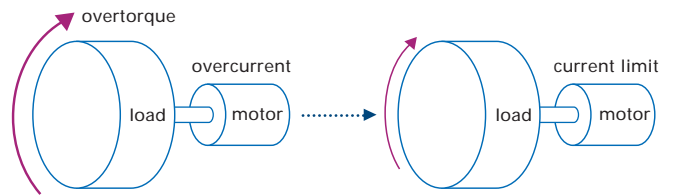
All-in-one control

In W-series servo-drivers position, torque and speed are set independently by simply switching between these modes.



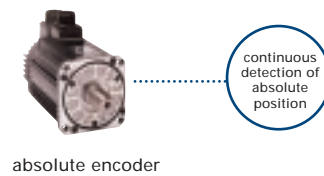
Current (torque) limit

Peak current input to motors can be limited, to prevent overtorque and resulting damage.



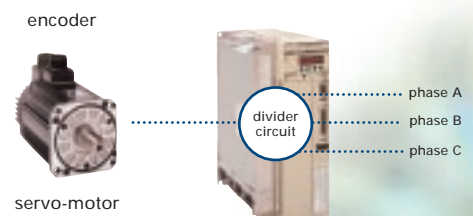
Absolute encoders

Incremental and absolute encoders can be used. In the case of an absolute encoder no return-to-origin operation is needed. After power loss, continued operation is performed immediately.



Encoder divider

Encoder output signals divided by the servo-driver can be transmitted as an output to serve as position control loop in the host controller.



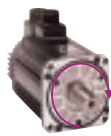
Reverse mode

Motor reverse rotation can be simply obtained on command. No rewiring of motor or encoder needed.

| | standard mode | reverse mode |
|-----------------|---------------|--------------|
| forward command | CCW | CW |
| reverse command | CW | CCW |



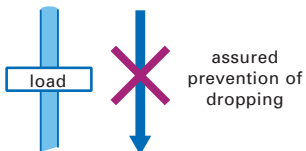
CCW



CW

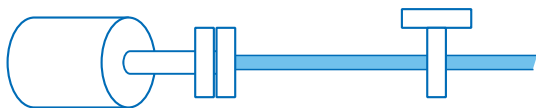
Brake interlock

Omron servo-drivers use the brake interlock output signal to control the holding brake operation in servomotors with brakes. Brake hold is assured for vertical shaft applications or when external force has to be applied to prevent shaft rotation.



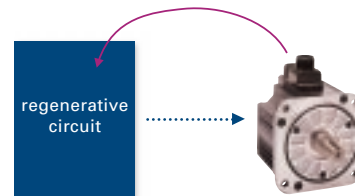
Overtravel prevention

Stops motor in case of an exceeded predefined motion range.



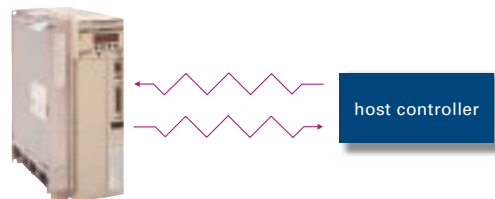
Regenerative processing

Omron servo-drivers are equipped with ample regenerative circuits, which absorb the electric power regenerated by a decelerating motor. When required, larger capacity regenerative resistors can be fitted.



Positioning completed signal

Detects whether remaining pulses from the offset counter are within the completed positioning range, which are specified as a user constant.



Dynamic braking

In the event of a power loss during machine operation, dynamic braking is realised by electronically shortening the motor windings. It serves as an emergency brake that rapidly stops the servo-motor.

Command pulses

Any type of command pulses are supported by W-series servo-drivers, such as Sign+Pulse train, 90° phase displacement, 2-phase pulse and CCW/CW pulse train.

Specifications

• Common for All Models

| | | | | |
|---------------------------|---|--|--|--|
| Speed/Torque Control Mode | Performance | Speed Control Range | 1:5000 | |
| | | Speed Variance | Load Variance | During 0 to 100% load: $\pm 0.01\%$ max. (at rated speed) |
| | | | Voltage Variance | Rated voltage $\pm 10\%$: 0% (at rated speed) |
| | | | Temperture Variance | 25 \pm 25°C: $\pm 0.1\%$ max. (at rated speed) |
| | | Frequency Characteristics | 400Hz (at $J_L = J_M$) | |
| | | Torque Control Accuracy | (Reproducibility) $\pm 2\%$ | |
| | Soft Start Time Setting | 0 to 10s (Acceleration, deceleration can each be set) | | |
| Input Signal | Speed Reference Input | Reference Voltage | ± 6 VDC (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: ± 12 V | |
| | | Input Impedance | Approx. 14k Ω | |
| | | Circuit Time Constant | - | |
| | Torque Reference Input | Reference Voltage | ± 3 VDC (forward rotation torque if positive reference) at rated speed: set at delivery Variable setting range: ± 1 to ± 10 VDC at rated torque reference | |
| | | Input Impedance | Approx. 14k Ω | |
| | | Circuit Time Constant | Approx. 47 μ s | |
| Position Control Mode | Perform. | Bias Setting | 0 to 450 r/min. (setting resolution: 1r/min) | |
| | | 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 500kpps (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 absoluteencoder 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 | It is possible to output three types of signals from among: positioning complete (speed agree), motor rotation, servo ready, current limit, speed limit, brake release, warning, NEAR, and zero point pulse signal | | |
| Integrated Functions | Communications | Interface | Digital operator (hand-held type), RS-422A port for PC 's 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. | |
| | 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. CHARGE, POWER, 7-segment LEDx5 (Integrated digital operator function) | | |
| | Display Functions | Reverse connection, zero search, automatic motor discrimination function, and DC reactor connection terminal for high frequency power suppression function (except: 6kW and 7kW) | | |
| Others | | | | |

Servo-Motor Specifications

General Servo-Motor Specifications

| | 230 VAC Type | 400VAC Type |
|--|--|------------------------------|
| Ambient temperature | Operation: 0 to +40 C Storage: -20 to +60 C | |
| Ambient humidity (with no condensation) | Operation: 20% to 80% Storage: 20% to 80% | |
| Atmosphere | No corrosive gasses | |
| Vibration resistance | 49 m/s ² (5G) | 24.5 m/s ² (2.5G) |
| Shock resistance | 490 m/s (twice in vertical direction) | |
| Insulation resistance | 10MW min. at 500 VDC | |
| Dielectric strenght | 1500VAC for 1 min. | |
| Insulation class | B | F |
| Construction | Totally enclosed self-cooling | |
| Enclosure rating | IP55 (see note 1,2) | IP67 (see note 1) |
| Vibration class | 15 mm or below | |

Note 1: Enclosure ratings do not include the shaft opening

Note 2: IP67 option for R88M-WP type

Single Phase 230VAC Performance Specifications Cylinder-style (super power rate) and Cube-style Servo-motor

| | | | see note 3 | | | | | | |
|----------------------------|------------------------------|-------------------------------------|--|------------------|------------------|------------------|-----------------|-------|-------|
| Servo-motor Type R88M-W | cylinder-style | | 03030 | 05030 | 10030 | 20030 | 40030 | 75030 | -- |
| Servo-motor Type R88M-WP | cube-style | | -- | -- | 10030 | 20030 | 40030 | 75030 | 1K530 |
| Servo-driver Type R88D-WT | | | A3H | A5H | 01H | 02H | 04H | 08HH | 15HH |
| Rated Output | W | | 30 | 50 | 100 | 200 | 400 | 750 | 1500 |
| Rated Torque | N•m | | 0.0955 | 0.159 | 0.318 | 0.637 | 1.27 | 2.39 | 4.77 |
| Max. Momentary Torque | N•m | | 0.286 | 0.477 | 0.955 | 1.91 | 3.82 | 7.16 | 14.3 |
| Rated Speed | r/min | | 3000 | | | | | | |
| Max. Momentary Speed | r/min | | 5000 | | | | | | |
| Rated Current | A(rms) | | 0.44 | 0.64 | 0.91 | 2.1 | 2.8 | 4.4 | 7.5 |
| Rotor Inertia | | | | | | | | | |
| | cylinder-style | kgm ² x 10 ⁻⁴ | 0.0166 | 0.022 | 0.0364 | 0.106 | 0.173 | 0.672 | - |
| | cube-style | kgm ² x 10 ⁻⁴ | -- | -- | 0.0491 | 0.193 | 0.331 | 2.1 | 4.02 |
| Power Rate | | | | | | | | | |
| | cylinder-style | kW/s | 5.49 | 11.5 | 27.8 | 38.2 | 93.7 | 84.8 | - |
| | cube-style | kW/s | -- | -- | 20.6 | 21 | 49 | 27.1 | 56.7 |
| Applicable load inertia | | | | | | | | | |
| | cylinder-style | multiple | 30 times or less | | | 20 times or less | | | |
| | cube-style | multiple | -- | 25 times or less | 15 times or less | 7 times or less | 5 times or less | | |
| Approx. weight (w/o brake) | | | | | | | | | |
| | cylinder-style | kg | 0.3 | 0.4 | 0.5 | 1.1 | 1.7 | 3.4 | - |
| | cube-style | kg | -- | -- | 0.7 | 1.4 | 2.1 | 4.2 | 6.6 |
| Applicable encoder | standard option | | Incremental Encoder (13 bits: 2048P/R) Absolute Encoder (16 bits: 16384P/R) | | | | | | |
| Input Power Supply | main circuit control circuit | | Single phase 200 to 230VAC, +10% to -15%, 50/60Hz | | | | | | |
| | | | 220 to 230VAC +10% to -15%, 50/60Hz | | | | | | |
| Max. Servo-motor Output | W | | 30 | 50 | 100 | 200 | 400 | 750 | 1500 |
| Rated Output Current | A(ms) | | 0.44 | 0.64 | 0.91 | 2.1 | 2.8 | 4.4 | 7.5 |
| Max. Output Current | A(ms) | | 1.3 | 2 | 2.8 | 6.5 | 8.5 | 13.9 | 23.0 |
| Control Method | | | Single phase full wave rectification/IGBT/PWM/sine wave current drive method | | | | | | |
| Feedback | | | Serial encoder, 13/16 bits (incremental and absolute encoder) | | | | | | |
| Weight | kg | | 0.8 | 0.8 | 0.8 | 0.8 | 1.1 | 1.7 | 3.8 |
| Conditions | | | | | | | | | |
| | Usage/storage temperature | | 0 to 55 C/-20 to +85 C | | | | | | |
| | Usage/storage humidity | | 90%RH or less (no condensation) | | | | | | |
| | Altitude | | 1000m or less above sea level | | | | | | |
| | Vibration/shock resistance | | 4.9 m/s ² /19.6 m/s ² | | | | | | |

Note 3: R88D-WT08HH/WT15HH under development

Three Phase 400VAC Performance Specifications Servo-Motor 1500 r/min

| Servo-motor Type R88M-W | | 45015 | 85015 | 1K315 | 1K815 | 2K915 |
|----------------------------------|-------------------------------------|--|-------|-------|-------|-------|
| Servo-driver Type R88D-WT | | 05HF | 10HF | 15HF | 20HF | 30HF |
| Rated Output | W | 450 | 850 | 1300 | 1800 | 2900 |
| Rated Torque | N·m | 2.84 | 5.39 | 8.34 | 11.5 | 18.6 |
| Max. Momentary Torque | N·m | 8.92 | 13.8 | 23.3 | 28.7 | 45.1 |
| Rated Speed/Max. Momentary Speed | r/min | 1500/3000 | | | | |
| Rated Current | A(rms) | 1.9 | 3.5 | 5.4 | 8.4 | 11.9 |
| Rotor Inertia | kgm ² x 10 ⁻⁴ | 7.24 | 13.9 | 20.5 | 31.7 | 46 |
| Power Rate | kW/s | 11.2 | 20.9 | 33.8 | 41.5 | 75.3 |
| Applicable load inertia | multiple | 5 times or less | | | | |
| Approx. weight (w/o brake) | kg | 5.5 | 7.6 | 9.6 | 14 | 18 |
| Applicable encoder | standard | Incremental Encoder (17 bits: 16384P/R) | | | | |
| | option | Absolute Encoder (17 bits: 16384P/R) | | | | |
| Input Power Supply | main circuit control circuit | Three phase 380 to 480VAC, +10% to -15%, 50/60Hz 24VDC-15% | | | | |
| Max. Servomotor Output | W | 450 | 1000 | 1500 | 2000 | 3000 |
| Rated Output Current | A(ms) | 1.9 | 3.5 | 5.4 | 8.4 | 11.9 |
| Max. Output Current | A(ms) | 5.5 | 8.5 | 14 | 50 | 28 |
| Control Method | | Three phase full wave rectification/IGBT/PWM/sine wave current drive method | | | | |
| Feedback | | Serial encoder, 13/16 bits (incremental and absolute encoder) | | | | |
| Weight | kg | 3 | | | 4.5 | |
| Conditions | Usage/storage temperature | 0 to 55 C/-20 to +85 C | | | | |
| | Usage/storage humidity | 90%RH or less (no condensation) | | | | |
| | Altitude | 1000m or less above sea level | | | | |
| | Vibration/shock resistance | 4.9 m/s ² /19.6 m/s ² | | | | |

Performance Specifications Servo-Motor 3000 r/min

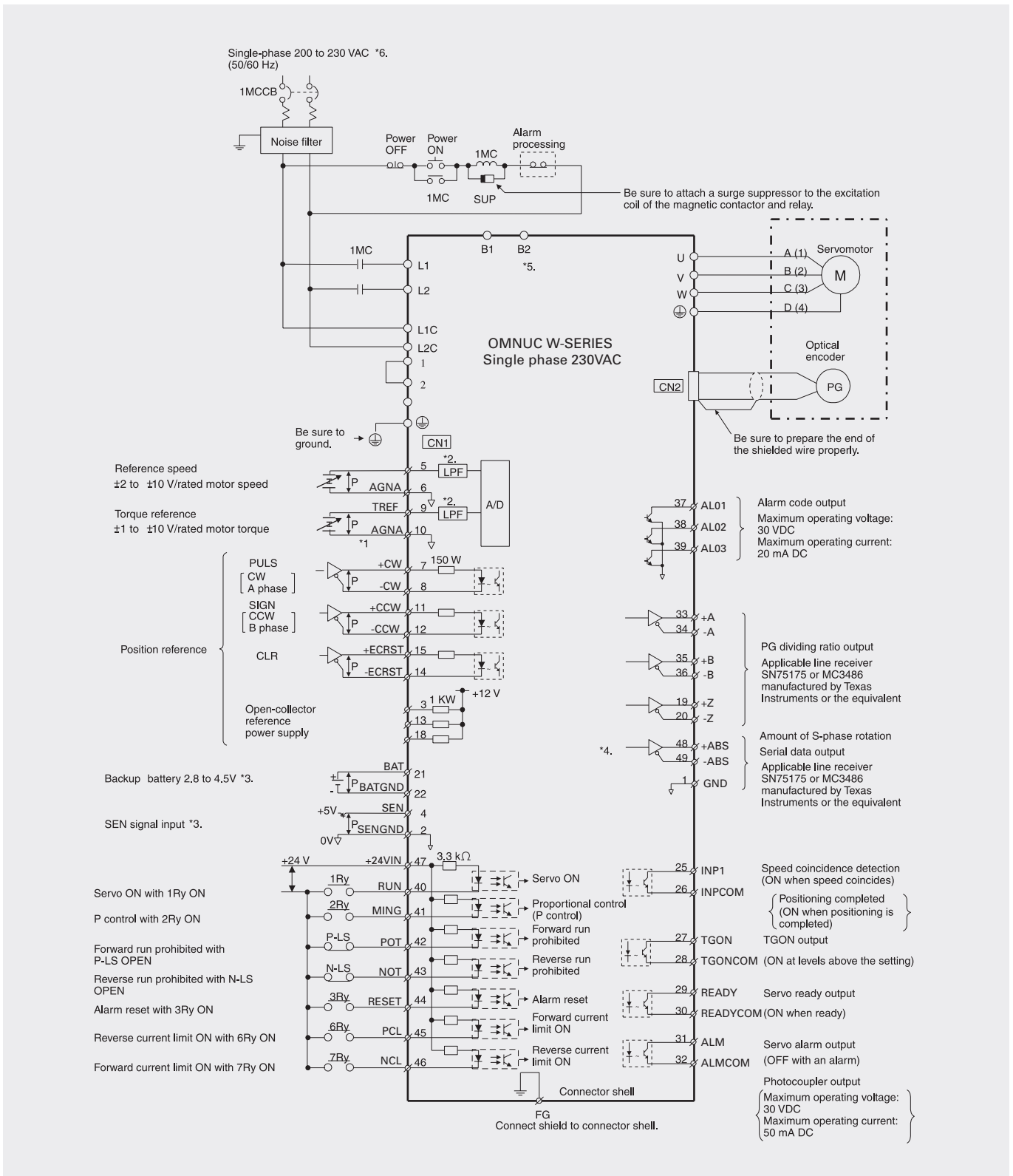
| Servo-motor Type R88M-W | | 1K030 | 1K530 | 2K030 | 3K030 |
|----------------------------------|-------------------------------------|---|-------|-------|-------|
| Servo-driver Type R88D-WT | | 10HF | 15HF | 20HF | 30HF |
| Rated Output | W | 1000 | 1500 | 2000 | 3000 |
| Rated Torque | N·m | 3.18 | 4.9 | 6.36 | 9.8 |
| Max. Momentary Torque | N·m | 9.54 | 14.7 | 19.1 | 29.4 |
| Rated Speed/Max. Momentary Speed | r/min | 3000/5000 | | | |
| Rated Current | A(rms) | 2.8 | 4.7 | 6.2 | 8.9 |
| Rotor Inertia | kgm ² x 10 ⁻⁴ | 1.74 | 2.47 | 3.19 | 7 |
| Power Rate | kW/s | 57.9 | 97.2 | 127 | 137 |
| Applicable Load Inertia | multiple | 5 times or less | | | |
| Approx. weight (w/o brake) | kg | 4.6 | 5.8 | 7 | 11 |
| Applicable Encoder | standard | Incremental encoder (17 bits: 16384P/R) | | | |
| | option | Absolute encoder (17 bits: 16384P/R) | | | |

Ratings and Specifications Servo-Motor 6000 r/min

| Servo-motor Type R88M-W | | 1K060 | 1K560 | 3K060 |
|----------------------------------|-------------------------------------|---|-------|-------|
| Servo-driver Type R88D-WT | | 10HF | 15HF | 30HF |
| Rated Output | W | 1000 | 1500 | 3000 |
| Rated Torque | N·m | 1.59 | 2.45 | 4.9 |
| Max. Momentary Torque | N·m | 6.5 | 11 | 21.5 |
| Rated Speed/Max. Momentary Speed | r/min | 6000/6000 | | |
| Rated Current | A(rms) | 2.7 | 4.1 | 8.1 |
| Rotor Inertia | kgm ² x 10 ⁻⁴ | 1.74 | 2.47 | 7 |
| Power Rate | kW/s | 14.5 | 24.3 | 34.3 |
| Applicable Load Inertia | multiple | 5 times or less | | |
| Approx. weight (w/o brake) | kg | 5.1 | 6.3 | 11.5 |
| Applicable Encoder | standard | Incremental encoder (17 bits: 16384P/R) | | |

Connection diagrams

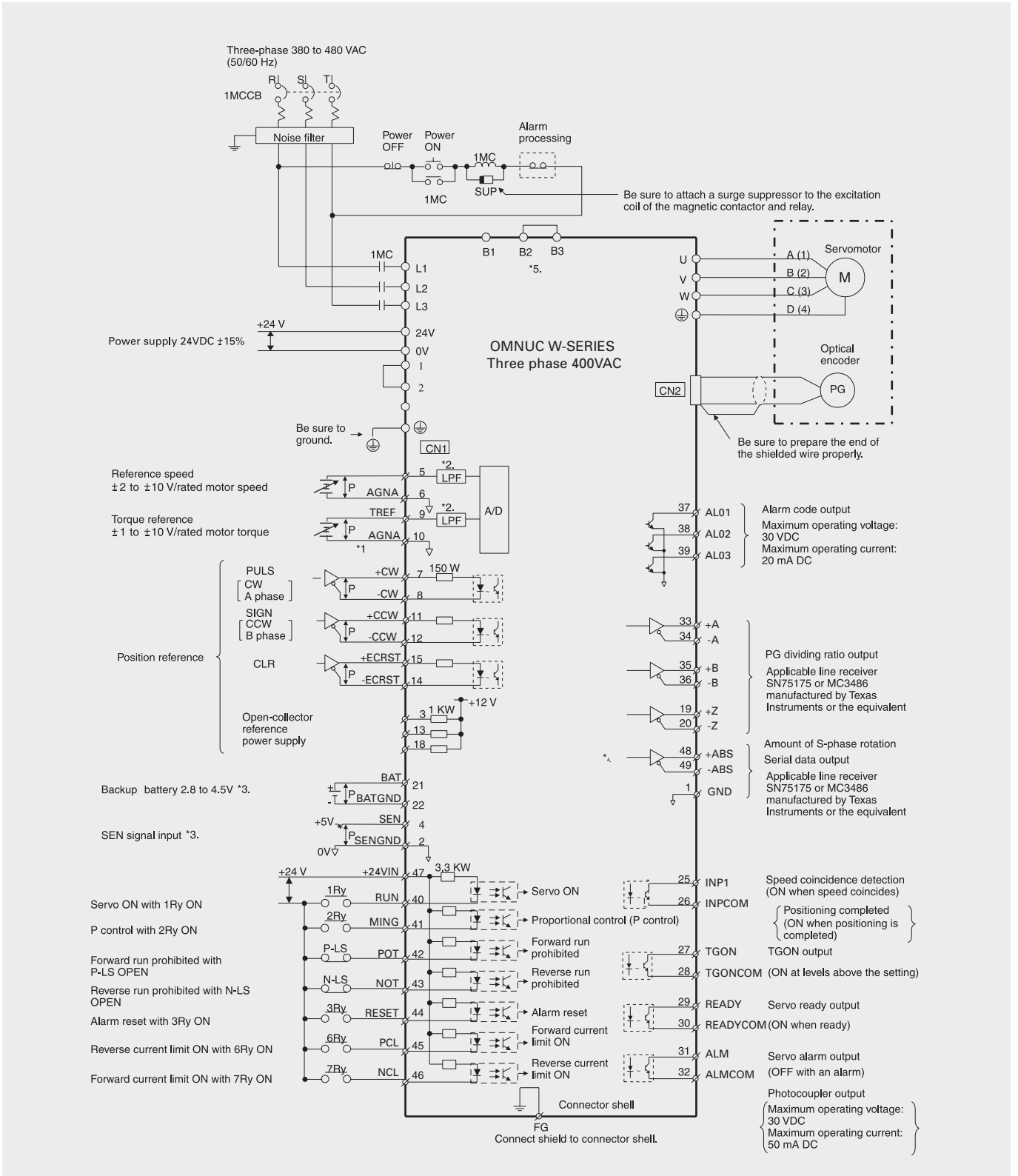
Single-phase, 230VAC



- *1. $\overline{\text{P}}$ represents twisted-pair wires
- *2. the time constant for the primary filter is 47 ms
- *3. connect when using an absolute encoder
- *4. used only with an absolute encoder
- *5. regenerative resistor can be connected between B1 and B2
- *6. single-phase 220 to 230V (50/60 Hz) for R88D-WT08HH/15HH

Connection diagrams

Three-phase, 400VAC



*1. $\overline{\text{P}}$ represents twisted-pair wires

*2. the time constant for the primary filter is 47 ms

*3. connect when using an absolute encoder

*4. used only with an absolute encoder

*5. for using an external regenerative resistor, connect it between B1 and B2 (and disconnect B2 and B3)

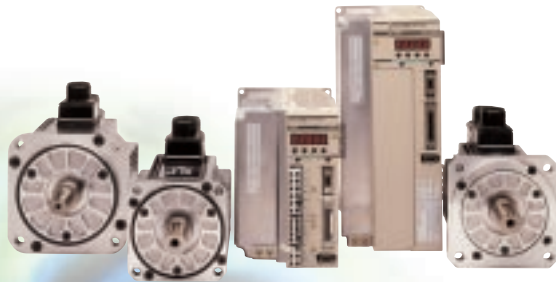
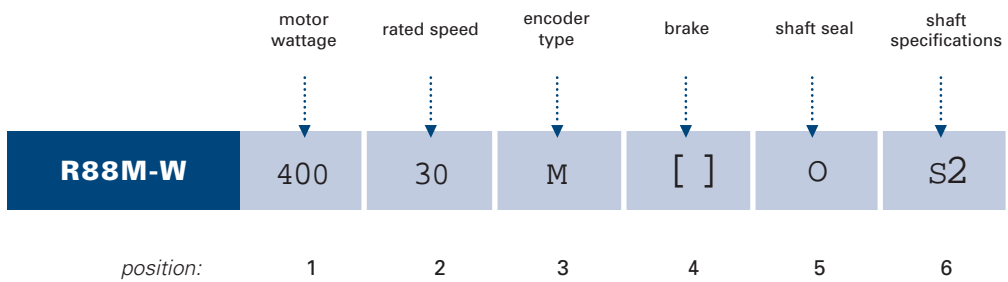
Easy ordering

Omron's simple classification system

It is so easy to order exactly your servo from the extensive range of Omron servo-motors. The following table enables you to find the exact Type Number of the servo-motor of your choice.

Just follow these rules.

This is how the Type Number is built:



1

motors and cables

OPEN PAGE 12a/12b

2

drivers and filters

13

1 motors and cables

| W-series motor wattage | | rated speed | | | encoder resolution related to the driver input power supply voltage | | | | | brake | | |
|---|---------|--|---------|---------|--|--------|--------|------------------|--------|---|------------------|---|
| code | wattage | 1500RPM | 3000RPM | 6000RPM | incremental encoder | | | absolute encoder | | without | with brake 24VDC | |
| | | | | | 230VAC | | 400VAC | 230VAC | 400VAC | | | |
| | | | | | 13-bit | 16-bit | 17-bit | 16-bit | 17-bit | | | |
| 230VAC cylinder type | 030 | 30W | - | 30 | - | H | M | - | T | - | [] | B |
| | 050 | 50W | - | 30 | - | H | M | - | T | - | [] | B |
| | 100 | 100W | - | 30 | - | H | M | - | T | - | [] | B |
| | 200 | 200W | - | 30 | - | H | M | - | T | - | [] | B |
| | 400 | 400W | - | 30 | - | H | M | - | T | - | [] | B |
| | 750 | 750W | - | 30 | - | H | M | - | T | - | [] | B |
| 230VAC cube type | P100 | 100W | - | 30 | - | H | M | - | T | - | [] | B |
| | P200 | 200W | - | 30 | - | H | M | - | T | - | [] | B |
| | P400 | 400W | - | 30 | - | H | M | - | T | - | [] | B |
| | P750 | 750W | - | 30 | - | H | M | - | T | - | [] | B |
| | P1K5 | 1500W | - | 30 | - | H | M | - | T | - | [] | B |
| 400VAC | 450 | 450W | 15 | - | - | - | - | F | - | C | [] | B |
| | 850 | 850W | 15 | - | - | - | - | F | - | C | [] | B |
| | 1K0 | 1000W | - | 30 | 60 | - | - | F | - | C | [] | B |
| | 1K3 | 1300W | 15 | - | - | - | - | F | - | C | [] | B |
| | 1K5 | 1500W | - | 30 | 60 | - | - | F | - | C | [] | B |
| | 1K8 | 1800W | 15 | - | - | - | - | F | - | C | [] | B |
| | 2K0 | 2000W | - | 30 | - | - | - | F | - | C | [] | B |
| | 2K9 | 2900W | 15 | - | - | - | - | F | - | C | [] | B |
| | 3K0 | 3000W | - | 30 | 60 | - | - | F | - | C | [] | B |
| position 1 | | position 2 | | | position 3 | | | | | position 4 | | |
| Please choose 450 or 1K0, or any other out of this column | | Please make your choice out of 15, 30, 60 and add this number to the motor description | | | Please make your choice out of H, F, M, T or C and add it to the motor description | | | | | Please choose [] or B and add it to the motor description | | |

R88M-W

Note: 1. 6000RPM motors only with incremental encoder

2. Power range up to 7500W for three phase 230VAC types

- not applicable [] blank in description

| shaft seal | | | shaft specifications | | | | | cable specifications | | | |
|---|---------------|-------------|--|-------------------|---------------------------|------------------------------|---------------------|---|----------------------------------|-----------------------|---------------|
| without sea | with oil seal | water-proof | straight without key | straight with key | straight with key and tap | straight without key and tap | taper 1/10 with key | power cable for motor without brake | power cable for motor with brake | braking cable (only!) | encoder cable |
| □ | O | - | □ | S1 | S2 | S3 | - | A0xxS | A0xxB | - | A0xxC |
| □ | O | - | □ | S1 | S2 | S3 | - | A0xxS | A0xxB | - | A0xxC |
| □ | O | - | □ | S1 | S2 | S3 | - | A0xxS | A0xxB | - | A0xxC |
| □ | O | - | □ | S1 | S2 | S3 | - | A0xxS | A0xxB | - | A0xxC |
| □ | O | - | □ | S1 | S2 | S3 | - | A0xxS | A0xxB | - | A0xxC |
| □ | O | - | □ | S1 | S2 | S3 | - | A0xxS | A0xxB | - | A0xxC |
| □ | O | W | □ | S1 | S2 | S3 | - | A0xxS | A0xxB | - | A0xxC |
| □ | O | W | □ | S1 | S2 | S3 | - | A0xxS | A0xxB | - | A0xxC |
| □ | O | W | □ | S1 | S2 | S3 | - | A0xxS | A0xxB | - | A0xxC |
| □ | O | W | □ | S1 | S2 | S3 | - | A0xxS | A0xxB | - | A0xxC |
| □ | O | W | □ | S1 | S2 | S3 | - | B0xxS | B0xxB | - | A0xxC |
| □ | O | - | □ | - | S2 | - | S4 | C0xxS-E | - | C0xxB-E | B0xxN-E |
| □ | O | - | □ | - | S2 | - | S4 | C0xxS-E | - | C0xxB-E | B0xxN-E |
| □ | O | - | □ | - | S2 | - | S4 | C0xxS-E | - | C0xxB-E | B0xxN-E |
| □ | O | - | □ | - | S2 | - | S4 | C0xxS-E | - | C0xxB-E | B0xxN-E |
| □ | O | - | □ | - | S2 | - | S4 | C0xxS-E | - | C0xxB-E | B0xxN-E |
| □ | O | - | □ | - | S2 | - | S4 | D0xxS-E | - | C0xxB-E | B0xxN-E |
| □ | O | - | □ | - | S2 | - | S4 | C0xxS-E | - | C0xxB-E | B0xxN-E |
| □ | O | - | □ | - | S2 | - | S4 | D0xxS-E | - | C0xxB-E | B0xxN-E |
| □ | O | - | □ | - | S2 | - | S4 | D0xxS-E | - | C0xxB-E | B0xxN-E |
| position 5 | | | position 6 | | | | | position 1 | | | position 1 |
| Please choose □, O or W and add it to the motor description | | | Please make your choice out of □, S1, S2, S3 or S4 and add it to the motor description | | | | | Please choose A0xxS, A0xxB or another parameter and add it to the cable description | | | |
| motor description rule | | | R88A-CAW | | | | | R88A-CRW | | | |
| | | | | | | | | Please note that 'xx' = 03, 05, 10, 15 or 20 (referring to the cable length in metres). | | | |
| | | | | | | | | cable description rule | | | |

2 drivers and filters

| W-series servo-driver | | | input power supply voltage | | noise filter | |
|-----------------------|---------|------------------|----------------------------|--------------------|---------------------------------|--------------------------------|
| code | wattage | high spec driver | single phase 230VAC | three phase 400VAC | filter type single phase 230VAC | filter type three phase 400VAC |
| A3 | 30W | H | [] | - | 104-E | - |
| A5 | 50W | H | [] | - | 104-E | - |
| 01 | 100W | H | [] | - | 104-E | - |
| 02 | 200W | H | [] | - | 104-E | - |
| 04 | 400W | H | [] | - | 107-E | - |
| 05 | 500W | H | - | F | - | 4006-E |
| 08 | 750W | H | H* | - | 115-E | - |
| 10 | 1000W | H | - | F | - | 4006-E |
| 15 | 1500W | H | H* | F | 125-E | 4006-E |
| 20 | 2000W | H | - | F | - | 4010-E |
| 30 | 3000W | H | - | F | - | 4010-E |
| position 1 | | position 2 | position 3 | | position 1 | |

Please choose A3, A5 or any other out of this column

Please choose H

Please make your choice out of [], H* or F and add it to the driver description

Please choose 104-E, 107-E, 115-E, 125-E, 4006-E or 4010-E and add it to the noise filter description



* under development - not applicable [] blank in description

Control Cables and Relay Units

| specification | model | | |
|---|---|---------------|--------------|
| for motion control units | Control cables for 1 axis (common to SYSMAC CS1, C200H, and CV-series PC's) | | |
| | 1 m | R88A-CPW001M1 | |
| | 2 m | R88A-CPW002M1 | |
| | 3 m | R88A-CPW003M1 | |
| | 5 m | R88A-CPW005M1 | |
| | Control cables for 2 axis (common to SYSMAC CS1, C200H, and CV-series PC's) | | |
| | 1 m | R88A-CPW001M2 | |
| | 2 m | R88A-CPW002M2 | |
| | 3 m | R88A-CPW003M2 | |
| | 5 m | R88A-CPW005M2 | |
| for position control units and SYSMAC CQM 1 | Servo Relay Units | | |
| | For C200H-NC112 For C200HW-NC113 | XW2B-20J6-1B | |
| | For C200H-NC211 For C200HW-NC213/413 | XW2B-40J6-2B | |
| | For CQM1-CPU43 | XW2B-20J6-3B | |
| | Cables on servo-driver end | | |
| | 1 m | XW2Z-100J-B4 | |
| | 2 m | XW2Z-200J-B4 | |
| | Cables on position control unit end | | |
| | For C200HW-NC113 | 0,5 m | XW2Z-050J-A6 |
| | | 1 m | XW2Z-100J-A6 |
| | For C200HW-NC213/413 | 0,5 m | XW2Z-050J-A7 |
| | | 1 m | XW2Z-100J-A7 |
| | For CQM1-CPU43 | 0,5 m | XW2Z-050J-A3 |
| | | 1 m | XW2Z-100J-A3 |
| | For C200H-NC112 | 0,5 m | XW2Z-050J-A1 |
| | | 1 m | XW2Z-100J-A1 |
| | For C200H-NC111 and C500-NC113/211 | 0,5 m | XW2Z-050J-A2 |
| | | 1 m | XW2Z-100J-A2 |
| for general-purpose controllers | Control cables with connector at one end | | |
| | 1 m | R88A-CPW001S | |
| | 2 m | R88A-CPW002S | |
| | Cables for relay terminal block | | |
| | 1 m | R88A-CPW001N | |
| | 2 m | R88A-CPW002N | |
| | Relay terminal block | XW2B-50G5 | |

Front Panel Mounting Brackets

| specifications | model |
|----------------------------|------------|
| For R88D-WTA3□ to WT10H | R88A-TK01W |
| For R88D-WT15H | R88A-TK02W |
| For R88D-WT20H/WT30H/WT50H | R88A-TK03W |

Accessory List

| description | model |
|---|---------------|
| Parameter unit (with cable, 1m) | R88A-PR02W |
| Cable for parameter unit, 2m (see note) | R88A-CCW002C |
| Analog monitor cable | R88A-CMW001S |
| PC cable | R88A-CCW002P2 |
| CN1 Connector | R88A-CNU11C |
| CN2 Connector (control I/O) | R88A-CNW01R |
| Braking resistor, 220W 47Ω | R88A-RR22047S |
| Battery unit for absolute encoder | R88A-BAT01W |

Note: This cable can be used to connect the R88A-PR02U parameter unit for U-series to the W-series servo-driver.





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