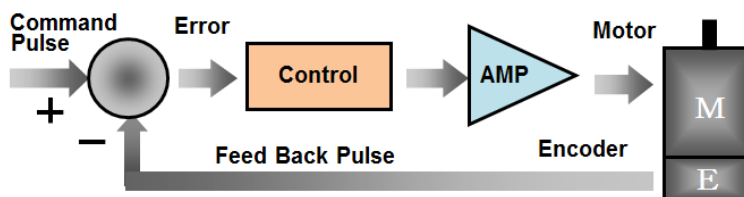


PULSERVO closed loop stepper motor is a stepper motor system that utilizes Nippon Pulse's stepper motor features and does not fall out of step, as some open-loop control systems do. Nippon Pulse offers not only pulse input type, but also Motionnet (serial communication control system) type.

- **Closed Loop Stepper Motor System**

PULSERVO can check the motor's current position using a mounted encoder that detects position and deviation from that position via closed loop. If position deviation is greater than a specified amount, PULSERVO outputs an alarm signal and stops the motor.



- **Speed Monitor**

Command speed and actual speed can both be monitored through RS-232

- **Resolution**

□28-60 is equipped with an encoder (10000P/R) for position detection, with nine-stage resolution settings. (□20 is equipped with an 4000P/R encoder, with six-stage resolution settings.)

- **Optimal Current Control**

Optimal Current Control allows for higher achievable torque than that of conventional stepper motors. This saves energy by suppressing motor and driver heat generation.

- **Tuningless**

Can be used in low-rigidity systems such as belt-drives, as tuning is not required.

- **Positioning Hysteresis with Load**

Achieve high positioning accuracy with low hysteresis, both clockwise and counter-clockwise.

- **Low Vibration Operation**

Overshooting at stop and vibration in positioning are less than that of conventional stepper systems.

- **Smooth Rotation**

Smooth rotation with less torque ripple is achieved with vector control and filtering control inside driver.

- **High-Speed Positioning with Short Stroke**

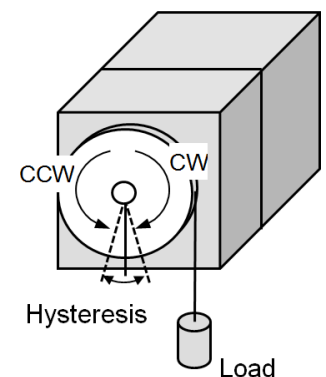
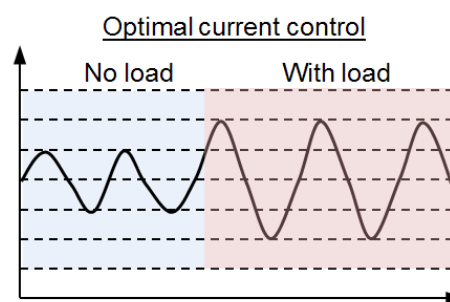
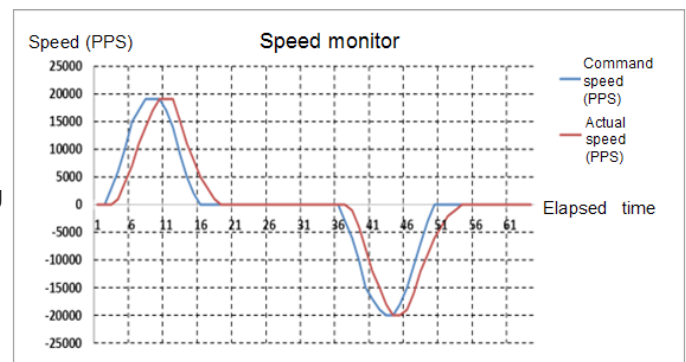
Even with a high starting torque and low vibration operation, PULSERVO can achieve high-speed, repetitive positioning with a short stroke.

- **Alarm Output and Protection Feature**

PULSERVO features 12 alarms, including position following error, motor/encoder connection error, and overcurrent error. These error alarms protect the driver and other built-in equipment.

- **Motionnet (Serial Communication Control System)**

PULSERVO is equipped with a G9103B Motionnet LSI chip, which controls pulse generation operation and motion control functions such as original return operation and operation by external inputs.



(1)	Series Name	PULSERVO
(2)	Type	S: Pulse Input Type M: Motionnet Type
(3)	Motor Frame Size	20: 20mm 28: 28mm 42: 42mm 56: 56mm 60: 60mm
(4)	Motor Case Length	S: Single M: Middle L: Large XL: Extra Large

Part Numbering:

PLS — S — 42 — S — PG — PN — 10
 (1) — (2) — (3) — (4) — (5) — (6) — (7)

(5)	Option	None: Standard BK: with brake PG: with gear
(6)	Gear Type	None: no gear PN: PN gear
(7)	Gear Ratio	3 / 5 / 8 / 10 / 15 / 25 / 40 / 50

Product Type

Pulse Input Type — Standard Type

Model Name	Figure (Frame Size * Motor Case)
PLS-S-20M	□ 20 * L29
PLS-S-20L	□ 20 * L29
PLS-S-28S	□ 28 * L32
PLS-S-28M	□ 28 * L46
PLS-S-28L	□ 28 * L53
PLS-S-42S	□ 42 * L34
PLS-S-42M	□ 42 * L40
PLS-S-42L	□ 42 * L48
PLS-S-42XL	□ 42 * L60
PLS-S-56S	□ 56 * L46
PLS-S-56M	□ 56 * L55
PLS-S-56L	□ 56 * L87
PLS-S-60S	□ 60 * L47
PLS-S-60M	□ 60 * L56
PLS-S-60L	□ 60 * L85

Motionnet Type — Standard Type

Model Name	Figure (Frame Size * Motor Case)
PLS-M-20M	□ 20 * L29
PLS-M-20L	□ 20 * L29
PLS-M-28S	□ 28 * L32
PLS-M-28M	□ 28 * L46
PLS-M-28L	□ 28 * L53
PLS-M-42S	□ 42 * L34
PLS-M-42M	□ 42 * L40
PLS-M-42L	□ 42 * L48
PLS-M-42XL	□ 42 * L60
PLS-M-56S	□ 56 * L46
PLS-M-56M	□ 56 * L55
PLS-M-56L	□ 56 * L87
PLS-M-60S	□ 60 * L47
PLS-M-60M	□ 60 * L56
PLS-M-60L	□ 60 * L85

With Brake

Model Name	Figure (Frame Size * Motor Case)
PLS-S-42S-BK	□ 42 * L34
PLS-S-42M-BK	□ 42 * L40
PLS-S-42L-BK	□ 42 * L48
PLS-S-42XL-BK	□ 42 * L60
PLS-S-56S-BK	□ 56 * L46
PLS-S-56M-BK	□ 56 * L55
PLS-S-56L-BK	□ 56 * L80
PLS-S-60S-BK	□ 60 * L47
PLS-S-60M-BK	□ 60 * L56
PLS-S-60L-BK	□ 60 * L85

With Brake

Model Name	Figure (Frame Size * Motor Case)
PLS-M-42S-BK	□ 42 * L34
PLS-M-42M-BK	□ 42 * L40
PLS-M-42L-BK	□ 42 * L48
PLS-M-42XL-BK	□ 42 * L60
PLS-M-56S-BK	□ 56 * L46
PLS-M-56M-BK	□ 56 * L55
PLS-M-56L-BK	□ 56 * L80
PLS-M-60S-BK	□ 60 * L47
PLS-M-60M-BK	□ 60 * L56
PLS-M-60L-BK	□ 60 * L85

With PN Gear

Model Name	Figure (Frame Size * Motor Case)
PLS-S-42S-PG-PN*	□ 42 * L34
PLS-S-42M-PG-PN*	□ 42 * L40
PLS-S-42L-PG-PN*	□ 42 * L48
PLS-S-42XL-PG-PN*	□ 42 * L60
PLS-S-56S-PG-PN*	□ 56 * L46
PLS-S-56M-PG-PN*	□ 56 * L55
PLS-S-56L-PG-PN*	□ 56 * L80
PLS-S-60S-PG-PN*	□ 60 * L47
PLS-S-60M-PG-PN*	□ 60 * L56
PLS-S-60L-PG-PN*	□ 60 * L85

With PN Gear

Model Name	Figure (Frame Size * Motor Case)
PLS-M-42S-PG-PN*	□ 42 * L34
PLS-M-42M-PG-PN*	□ 42 * L40
PLS-M-42L-PG-PN*	□ 42 * L48
PLS-M-42XL-PG-PN*	□ 42 * L60
PLS-M-56S-PG-PN*	□ 56 * L46
PLS-M-56M-PG-PN*	□ 56 * L55
PLS-M-56L-PG-PN*	□ 56 * L80
PLS-M-60S-PG-PN*	□ 60 * L47
PLS-M-60M-PG-PN*	□ 60 * L56
PLS-M-60L-PG-PN*	□ 60 * L85

*3 / 5 / 8 / 10 / 15 / 25 / 40 / 50

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