

NO: TC-087 **PRODUCT:** ES1 Infrared Temperature Sensors
DATE: June 2017 **TYPE:** Discontinuation Notice Update

ES1 Infrared Temperature Sensors Were Discontinued; Replace with ES1-N Series Coming September 2017

Final order date: June 2017

Affected Parts

| Product discontinuation | Recommended replacement |
|-------------------------|-------------------------|
| ES1-PRO-P | ES1-TOOLS |
| ES1-PRO | ES1-TOOLS |
| ES1-LW50-P | ES1-LW50-N-P |
| ES1-LW50H-P | ES1-LW100-N-P |
| ES1-LW50H | ES1-LW100-N |
| ES1-LW50-300-P | ES1-LW50-N-P |
| ES1-LW50-300 | ES1-LW50-N |
| ES1-LW50 | ES1-LW50-N |
| ES1-LW100-P | ES1-LW100-N-P |
| ES1-LW100H-P | ES1-LW100-N-P |
| ES1-LW100H | ES1-LW100-N |
| ES1-LW100 | ES1-LW100-N |
| ES1-LP3-P | ES1-LP3-N-P |
| ES1-LP3 | ES1-LP3-N |
| ES1-LP10-P | ES1-LP10-N-P |
| ES1-LP10 | ES1-LP10-N |

Cautions on Applying Replacements

- The sensor position of ES1 series is different from that of the recommended replacement product.
- The enclosure is connected to Common of power supply.
- The setting is done on a PC that has the dedicated software installed. Software can be downloaded free of charge from Omron247.com.

See the detail of differences on the following pages.

Detail of Differences

Body Color

| Product discontinuation Model ES1 series | Recommended replacement Model ES1-N series |
|--|---|
| Model ES1-LP3/-LP10/-LW50/-LW50H/ -LW100H/-LW100 Black Mode IES1-PRO Black/Gray | Model ES1-LP3-N/-LP10-N/-LW50-N/-LW100-N Metal color Model ES1-TOOLS Nothing |

Wiring Diagram

| Product discontinuation Model ES1 series | Recommended replacement Model ES1-N series |
|---|---|
| Model ES1-LP3/-LP10/-LW50/-LW50H/ -LW100H/-LW100 | Model ES1-LP3-N/-LP10-N/-LW50-N/-LW100-N |

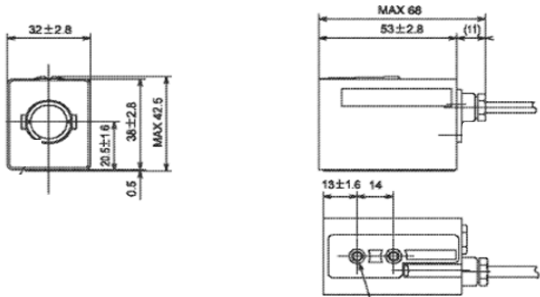
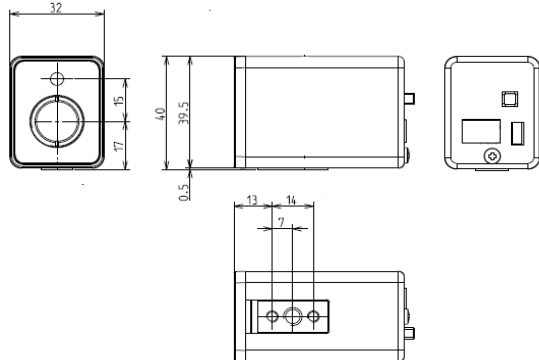
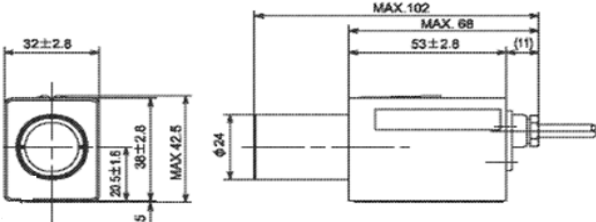
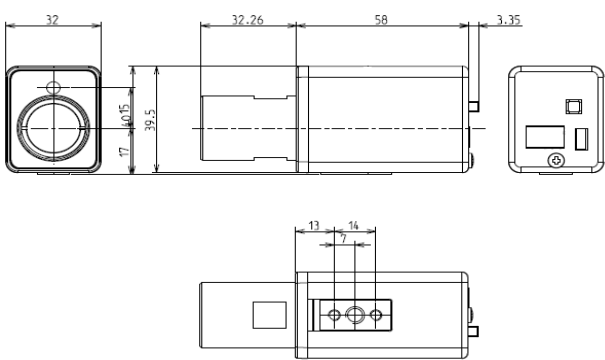
Mounting Dimensions

(Unit: mm)

| Product discontinuation Model ES1 series | Recommended replacement Model ES1-N series |
|---|---|
| Model ES1-LP3/-LP10/-LW50/-LW50H/ -LW100H/-LW100 | Model ES1-LP3-N/-LP10-N/-LW50-N/-LW100-N |

Dimensions

(Unit: mm)

| Product discontinuation Model ES1 series | Recommended replacement Model ES1-N series |
|---|--|
| <p>Model ES1-LP10/LP3/LW50</p>  | <p>Model ES1-LP10-N/LP3-N/LW50-N</p>  |
| <p>Model ES1-LW100</p>  | <p>Model ES1-LW100-N</p>  |

Characteristics

| Item | Product discontinuation Model ES1 series | Recommended replacement Model ES1-N series |
|------------------------------------|--|--|
| Operating temperature | -LP3/-LP10: 0~500°C -LW50/-LW100: -50~500°C -LW50H/-LW100H: 0~1000°C | -LP3-N/-LP10-N: -50~500°C -LW50-N: -50~500°C -LW100-N: -50~1000°C |
| Current consumption | 4~20mA load impedance 300Ω or less | ← |
| Operating area | -LP3: φ 3mm or less (length 30mm) -LP10: φ 8mm or less (length 100mm) -LW50: φ 72mm or less (length 1000mm) -LW100: φ 35mm or less (length 1000mm) -LW50H: φ 72mm or less (length 1000mm) -LW100H: φ 35mm or less (length 1000mm) | -LP3-N: φ 3mm or less (length 30mm) -LP10-N: φ 8mm or less (length 100mm) -LW50-N: φ 72mm or less (length 1000mm) -LW50-N: φ 72mm or less (length 1000mm) -LW100-N: φ 35mm or less (length 1000mm) -LW100-N: φ 35mm or less (length 1000mm) |
| Emissivity | Initial setting: 0.95 (Changeable by ES1-PRO: 0.10~1.99, STEP 0.01) | Initial setting: 0.95 (Changeable by ES1-TOOLS: 0.100~1.999, STEP 0.001) |
| Operating temperature· humidity | Temperature 0~55°C, Humidity 35~85% (with no icing or condensation) | ← |
| Storage temperature | -20~55°C | ← |
| Power supply voltage | DC12~24V | DC12~24V |
| Operating voltage range | 95~100% of rated voltage | ← |
| Current consumption | 40mA or less (45mA or less using ES1- PRO) | 40mA or less (DC24V) |
| Withstand voltage | AC1000V 50/60Hz 1min Between Cable (shield common) and Mounting hole | Not covered (Metal cover connected to power supply common) |
| Insulation | 5MΩ or more between cable (shield common) and mounting hole | Not covered (Metal cover connected to power supply common) |
| Cable | 2m | 2m (Removable by connector) |
| Casing material | Nylon 6 | Aluminum |
| Degree of protection | IPX2 | -- |
| Weight | -LP3/-LP10: Approximately 120g -LW50: Approximately 120g -LW100: Approximately 150g -LW50H: Approximately 120g -LW100H: Approximately 150g | -LP3-N/-LP10-N: Approximately 130g -LW50-N: Approximately 130g -LW100-N: Approximately 160g |

Operation Ratings

| Item | Product discontinuation Model ES1 series | Recommended replacement Model ES1-N series |
|-----------------------------|---|---|
| Measurement accuracy | <p>-LP3/-LP10 Within $\pm(3+0.1\% \text{ output range})^{\circ}\text{C}$ (0~300$^{\circ}\text{C}$) Within $\pm(2\% \text{ rdg}-3+0.1\% \text{ output range})^{\circ}\text{C}$ (300~500$^{\circ}\text{C}$)</p> <p>-LW50/-LW100 Within $\pm(10\% \text{ rdg}+2+0.1\% \text{ output range})^{\circ}\text{C}$ (-50~0$^{\circ}\text{C}$) Within $\pm(2+0.1\% \text{ output range})^{\circ}\text{C}$ (0~200$^{\circ}\text{C}$) Within $\pm(1\% \text{ rdg}+0.1\% \text{ output range})^{\circ}\text{C}$ (200~500$^{\circ}\text{C}$)</p> <p>-LW50H/-LW100H Within $\pm(2+0.1\% \text{ output range})^{\circ}\text{C}$(0~200$^{\circ}\text{C}$) Within $\pm(1\% \text{ rdg}+0.1\% \text{ output range})^{\circ}\text{C}$ (200~1000$^{\circ}\text{C}$)</p> | <p>-LP3-N/-LP10-N/-LW50-N • USB output within $\pm(-8\% \text{ rdg}+1)^{\circ}\text{C}$ (-50~0$^{\circ}\text{C}$) within $\pm 1^{\circ}\text{C}$ (0~200$^{\circ}\text{C}$) within $\pm 0.5\% \text{ rdg}^{\circ}\text{C}$ (200~500$^{\circ}\text{C}$)</p> <p>• Current output within $\pm 0.5^{\circ}\text{C}$(the difference from USB output)</p> <p>-LW100-N • USB output within $(-8\% \text{ rdg}+1)^{\circ}\text{C}$ (-50~0$^{\circ}\text{C}$) within $\pm 1^{\circ}\text{C}$ (0~200$^{\circ}\text{C}$) within $\pm 0.5\% \text{ rdg}^{\circ}\text{C}$ (200~1000$^{\circ}\text{C}$)</p> <p>• Current output within $\pm 0.5^{\circ}\text{C}$(the difference from USB output)</p> |
| Reproducibility | <p>-LP3/-LP10: Within 1$^{\circ}\text{C}$ -LW50: Within 0.5$^{\circ}\text{C}$ -LW100: Within 1$^{\circ}\text{C}$ -LW50H/-LW100H: Within $\pm 0.25^{\circ}\text{C}/^{\circ}\text{C}$(0~500$^{\circ}\text{C}$) Within $\pm 0.5^{\circ}\text{C}/^{\circ}\text{C}$(500~1000$^{\circ}\text{C}$)</p> | <p>-LP3-N/-LP10-N: Within 0.5$^{\circ}\text{C}$ -LW50-N: Within 0.5$^{\circ}\text{C}$ -LW100-N: Within 1$^{\circ}\text{C}$(-50~0$^{\circ}\text{C}$) Within 0.5$^{\circ}\text{C}$(0~500$^{\circ}\text{C}$) Within 1$^{\circ}\text{C}$(500~1000$^{\circ}\text{C}$)</p> |
| Temperature drift | <p>-LP3/-LP10: Within $\pm(0.2^{\circ}\text{C}/^{\circ}\text{C}+0.01\%/^{\circ}\text{C})$ -LW50/-LW100: Within $\pm 0.5^{\circ}\text{C}/^{\circ}\text{C}$(-50~0$^{\circ}\text{C}$) Within $\pm 0.25^{\circ}\text{C}/^{\circ}\text{C}$(0~500$^{\circ}\text{C}$) -LW50H/-LW100H: Within $\pm 0.25^{\circ}\text{C}/^{\circ}\text{C}$(0~500$^{\circ}\text{C}$) Within $\pm 0.5^{\circ}\text{C}/^{\circ}\text{C}$(500~1000$^{\circ}\text{C}$)</p> | <p>-LP3-N/-LP10-N: Within $\pm 0.5^{\circ}\text{C}/^{\circ}\text{C}$(-50~0$^{\circ}\text{C}$) Within $\pm 0.25^{\circ}\text{C}/^{\circ}\text{C}$(0~500$^{\circ}\text{C}$) -LW50-N: Within $\pm 0.5^{\circ}\text{C}/^{\circ}\text{C}$(-50~0$^{\circ}\text{C}$) Within $\pm 0.25^{\circ}\text{C}/^{\circ}\text{C}$(0~500$^{\circ}\text{C}$) -LW100-N: Within $\pm 0.5^{\circ}\text{C}/^{\circ}\text{C}$(-50~0$^{\circ}\text{C}$) Within $\pm 0.25^{\circ}\text{C}/^{\circ}\text{C}$(0~500$^{\circ}\text{C}$) Within $\pm 0.5^{\circ}\text{C}/^{\circ}\text{C}$(500~1000$^{\circ}\text{C}$)</p> |
| Response time | Within 0.4s (95% response, number of moving average data=1) | Within 0.15s (90% response, number of moving average data=1) |

Operation Methods

| Product discontinuation Model ES1 series | Recommended replacement Model ES1-N series |
|--|--|
| Setting temperature range and emissivity by using the ES1-PRO. | Setting temperature range and emissivity by using the ES1-TOOLS. It connects by USB. Please download software from Omron for free |

Specifications and prices in this product news are as of the issue date and are subject to change without notice. Only main changes in specifications are described in this document. Please be sure to read the relevant catalogs, datasheets, product specifications, instructions, and manuals for precautions and necessary information when using products.