# SP5000X Series - Display Module

June 2019

SP-5790WA
Model: PFXSP5790WAD

SP-5690WA
Model: PFXSP5690WAD

SP-5490WA
Model: PFXSP5490WAD

SP5000X Series is a combined unit of Display Module and Box Module.

## Model Number Configuration

### Display Module

PFXSP5 * * * * *
(1) (2) (3) (4) (5)

| (1) Size | | (2) Wireless LAN | | (3) Resolution | | (4) Touch Panel | | (5) Power Supply | |
|---|---|---|---|---|---|---|---|---|---|
| 7 | 15” | 90 | eXtreme | W | Wide TFT | A | Analog | D | DC |
| 6 | 12” | | | | | | | | |
| 4 | 7” | | | | | | | | |

×

### Box Module

PFXSP5 B * *
(6) (7)

| (6) Module Type | | (7) Class | |
|---|---|---|---|
| B | Box | 90 | eXtreme |

## ■Display Specifications

| | SP-5790WA | SP-5690WA | SP-5490WA |
|---|---|---|---|
| Display Type | TFT Color LCD (High-brightness) | | |
| Display Size | 15.6” wide | 12.1” wide | 7” wide |
| Resolution | 1,366 x 768 pixels (FWXGA) | 1,280 x 800 pixels (WXGA) | 800 x 480 pixels (WVGA) |
| Effective Display Area | 344.2 x 193.5 mm [13.55 x 7.62 in] | 261.1 x 163.2 mm [10.28 x 6.43 in] | 152.4 x 91.4 mm [6.00 x 3.60 in] |
| Display Colors | 262,144 colors | | |
| Backlight | White LED (Not user replaceable. When replacement is required, contact customer support.) | | |
| Backlight Service Life | 50,000 hrs. or more (each in continuous operation at 25 °C [77 °F] before backlight brightness decreases to 50%) | | |
| Brightness Control | 0 to 100 (Adjusted with touch panel or software) | | |
| Brightness | 1000 cd/m2 (typ.) | | |
| Touch panel type | Analog resistive | | |
| Touch panel resolution | 1,024 x 1,024 | | |
| Touch panel lifetime | 1,000,000 times or more | | |

## ■Electrical Specifications

| | | SP-5790WA | SP-5690WA | SP-5490WA |
|---|---|---|---|---|
| Rated Input Voltage | | | | |
| Input Voltage Limits | | 10.8 to 28.8 Vdc | | |
| Voltage Drop | | 12 Vdc: 1.25 ms or less<br>24 Vdc: 5 ms or less | | |
| Power Consumption *1 | Max | 48 W | 37 W | 29 W |
| | When power is not supplied to external devices | 34 W or less | 23 W or less | 17.5 W or less |
| | When screen turns off the backlight (Standby Mode) | 12.5 W or less | | |
| | When screen backlight 20% | 19 W or less | 16 W or less | 15 W or less |
| In-Rush Current | | 30 A or less | | |
| Noise Immunity | | Noise voltage: 1,000 Vp-p, Pulse duration: 1 μs, Rise time: 1 ns, (via noise simulator) | | |
| Dielectric Strength | | 1,000 Vac for 1 minute (between power terminal and FG terminal), leakage current: 20 mA or less | | |
| Insulation resistance | | 500 Vdc, 10 MΩ or more (between power terminal and FG terminal) | | |

*1 The power consumption is the sum of the power consumption of Box Module and Display Module.

# SP5000X Series - Display Module

## ■ Environmental Specification

| | SP-5790WA | SP-5690WA | SP-5490WA |
|---|---|---|---|
| Ambient air temperature*1 | -20 to 60 °C (-4 to 140 °F)<br>When installing and wiring:<br>-5 to 60 °C (23 to 140 °F) | -30 to 70 °C (-22 to 158 °F)<br>When installing and wiring:<br>-5 to 70 °C (23 to 158 °F)" | -30 to 65 °C (-22 to 149 °F)<br>When installing and wiring:<br>-5 to 65 °C (23 to 149 °F) |
| Storage temperature*1 | -20 to 60 °C [-4 to 140 °F] | -30 to 70 °C [-22 to 158 °F] | |
| Ambient humidity | 10 to 90 % RH (Wet bulb temperature: 39 °C [102.2 °F] max. - no condensation) | | |
| Storage humidity | 10 to 90 % RH (Wet bulb temperature : 39 °C [102.2 °F] max. - no condensation) | | |
| Dust | 0.1 mg/m$^3$ (10-7 oz/ft$^3$) or less (non-conductive levels) | | |
| Pollution degree | 3 for front face, 2 for other sides | | |
| Corrosive gases | Free of corrosive gases | | |
| Atmospheric pressure (operating altitude) | 800 to 1,114 hPa (2,000 m [6,561 ft] or lower) | | |
| UV resistance (front side) | Cutoff: 99% or more (380 nm) | | |
| Vibration resistance*1 | 1G<br>IEC 60068-2-6 compliant<br>5 to 9 Hz Single amplitude 3.5 mm (0.14 in)<br>9 to 150 Hz Fixed acceleration: 9.8 m/s$^2$<br>X, Y, Z directions for 10 cycles<br>(approximately 100 minutes)<br>IEC 61373: 1999 (Category 1, Class B)<br>5≤f≤150 Hz (weight < 500 kg: f1=5 Hz, f2=150 Hz)<br>acceleration:<br>Up and down: 7.90 m/s$^2$, Right and left: 3.50 m/s$^2$, Back and forward: 5.50 m/s$^2$ | 2G<br>IEC 60068-2-6 compliant<br>5 to 9 Hz Single amplitude 7 mm (0.28 in)<br>9 to 150 Hz Fixed acceleration: 19.6 m/s$^2$<br>X, Y, Z directions for 10 cycles<br>(approximately 100 minutes)<br>IEC 61373: 1999 (Category 1, Class B)<br>5≤f≤150 Hz (weight < 500 kg: f1=5 Hz, f2=150 Hz)<br>acceleration:<br>Up and down: 7.90 m/s$^2$, Right and left: 3.50 m/s$^2$,<br>Back and forward: 5.50 m/s$^2$ | |
| Shock resistance*1 | 15G<br>IEC 60068-2-27 compliant<br>147 m/s$^2$, 11 ms, X, Y, Z directions for 3 times | 40G<br>IEC 60068-2-27 compliant<br>392 m/s$^2$, 11 ms, X, Y, Z directions for 3 times | |
| Electronic fast transient/burst immunity | IEC 61000-4-4<br>2 kV: Power port<br>1 kV: Signal ports | | |
| Electrostatic discharge immunity | Contact discharge method: 6 kVAir discharge method: 8 kV(IEC/EN 61000-4-2 Level 3) | | |

*1 When using the fieldbus unit, environmental specifications follow those of the fieldbus unit.

NOTE:
1) Box Module environmental specifications follow those of the connected Display Module.
2) When using any of the options for this product, check the specifications for special conditions or cautions that may apply to this product.

## ■ Structural specifications

| | SP-5790WA | SP-5690WA | SP-5490WA |
|---|---|---|---|
| Cooling method | Functional grounding: Grounding resistance of 100 Ω or less, 2 mm$^2$ (AWG 14) or thicker wire, or your country's applicable standard (same for FG and SG terminals) | | |
| Cooling method | Natural air circulation | | |
| Structure*2 | IP66F, IP67F, Type 4X (indoor and outdoor use)* on the front panel when properly installed in an enclosure | | |
| External dimensions | 408 x 264 x 68 mm<br>[16.06 x 10.39 x 2.68 in] | 308.5 x 230.5 x 68 mm<br>[12.15 x 9.07 x 2.68 in] | 203.6 x 148.6 x 37 mm<br>[8.02 x 5.85 x 1.45 in] |
| Panel cut-out dimensions | 394 x 250 mm [15.51 x 9.84 in]*2<br>Panel thickness area: 1.6 to 5 mm [0.06 to 0.2 in]*3 | 295 x 217 mm [11.61 x 8.54 in]*2<br>Panel thickness area: 1.6...5 mm [0.06...0.2 in]*3 | 190 x 135 mm [7.48 x 5.31 in]*2<br>Panel thickness area: 1.6...5 mm [0.06...0.2 in]*3 |
| Weight | 4.8 kg (10.6 lb) or les | 3.2 kg (7.1 lb) or less | 1.3 kg (2.9 lb) or less |
| Front bezel materials | Aluminum die-cast<br>Stainless steel | | |

*2 The front face of this product, installed in a solid panel, has been tested using conditions equivalent to the standards shown in the specification. Even though this product's level of resistance is equivalent to these standards, oils that should have no effect on this product can possibly harm this product. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oils are allowed to adhere to this product for long periods of time. If this product's front face protection sheet or cover glass peels off, these conditions can lead to the ingress of oil into this product and separate protection measures are suggested. Also, if non-approved oils are present, they may cause deformation or corrosion of the front panel's cover. Therefore, prior to installing this product, be sure to confirm the type of conditions that will be present in this product 's operating environment. If the installation gasket is used for a long period of time, or if this product and its gasket are removed from the panel, the original level of protection cannot be kept. To maintain the original protection level, be sure to replace the installation gasket regularly.

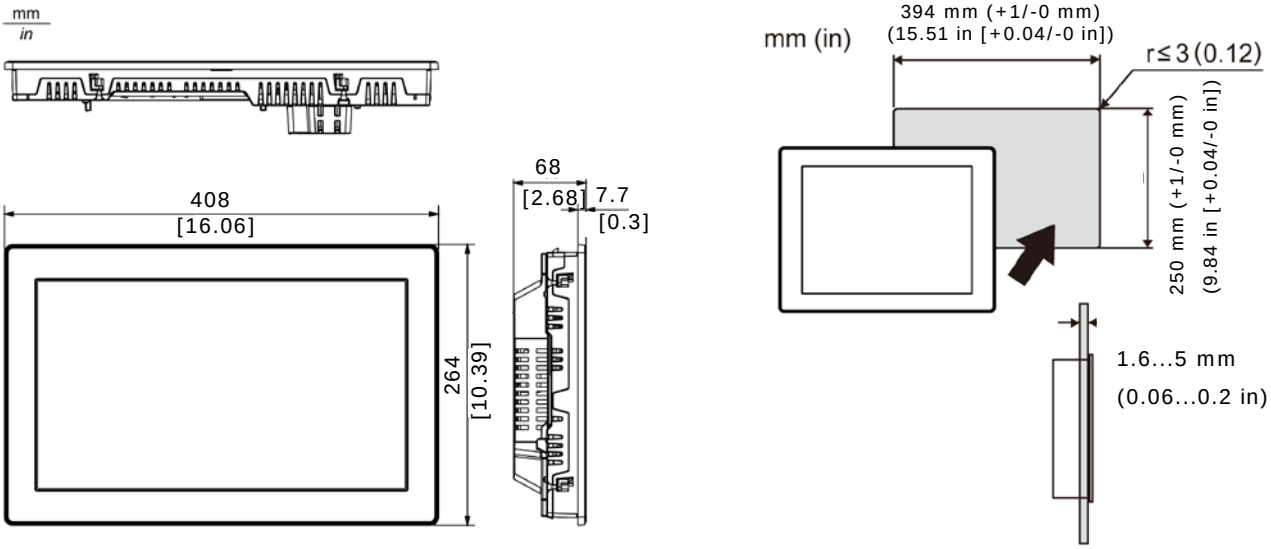
*3 For dimensional tolerance, everything +1/-0 mm (+0.04/-0 in) and R in angle are below R3 (R0.12 in).

*4 Even if the installation wall thickness is within the recommended range for the Panel Cut Dimensions, depending on wall's material, size, and installation location of this product and other devices, the installation wall could warp. To prevent warping, the installation surface may need to be strengthened.

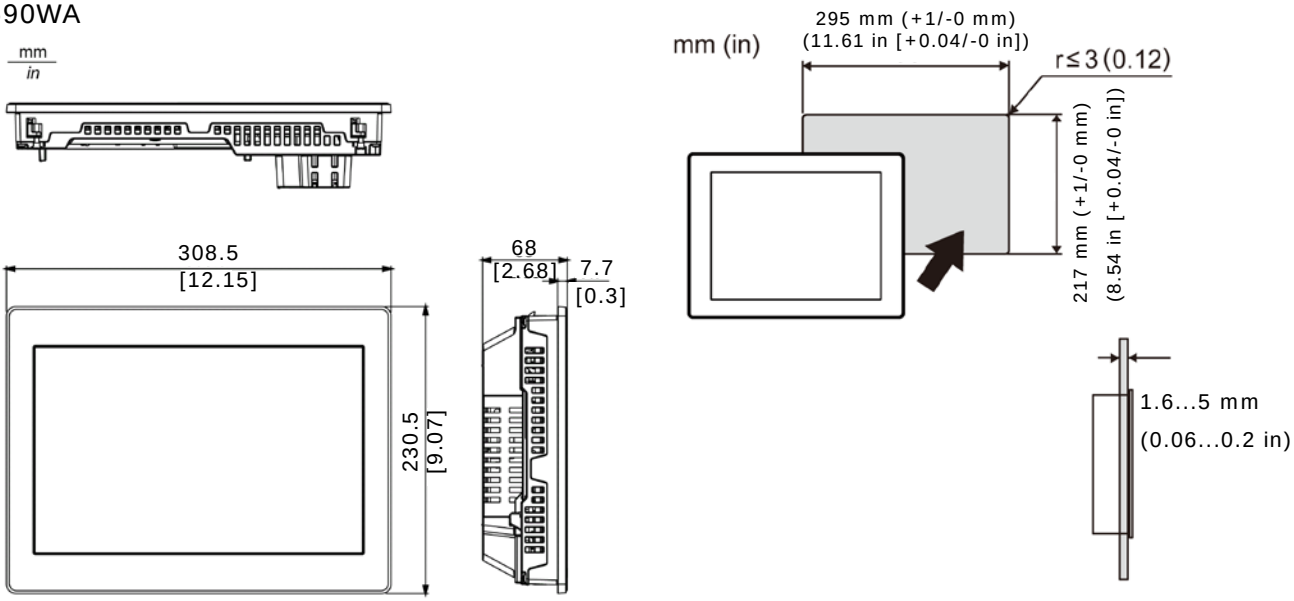
# SP5000X Series - Display Module

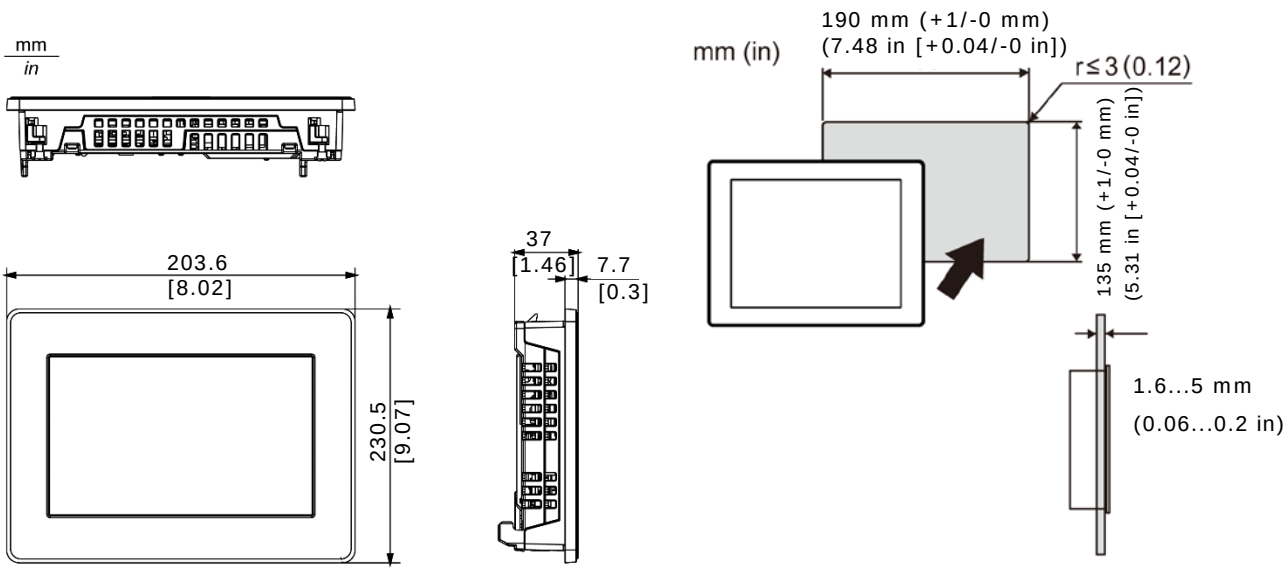
## ■External Dimensions / Panel Cut Dimensions

### SP-5790WA




### SP-5690WA




### SP-5490WA