

Air Clean Unit

ZN-A

CSM_ZN-A_DS_E_2_4

The ZN series is even thinner and sports improved air volume. These products enable cleaning that is both fast and flexible.



- Three sizes are available to match various sizes of clean booths.



Be sure to read "Safety Precautions" on page 4.

For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

Ordering Information

Air Clean Units

Air Clean Units

| Appearance | Application | Power supply | Model |
|------------|--------------|--------------|--------------------|
| | 250 × 250 mm | 24 VDC | ZN-A2502D * |
| | 410 × 410 mm | | ZN-A4105D * |
| | 610 × 610 mm | | ZN-A6112 |
| | | | ZN-A6112P * |

*This type is equipped with a clog detection function.

Accessories

| | Application | Model | Qty. |
|--------------------------|------------------|------------------|------|
| Replacement HEPA Filters | For 250 × 250 mm | ZN9-AHP25 | 1 |
| | For 410 × 410 mm | ZN9-AHP41 | 1 |
| | For 610 × 610 mm | ZN9-AHP61 | 1 |
| Replacement Pre-filters | For 250 × 250 mm | ZN9-APF25 | 2 |
| | For 410 × 410 mm | ZN9-APF41 | 1 |
| | For 610 × 610 mm | ZN9-APF61 | 1 |

Ionizers Units

Ionizers

| Appearance | Application | Power supply | Model |
|------------|--------------|-----------------------------------|----------------|
| | 250 × 250 mm | Supplied from the Air Clean Unit. | ZN-J25A |
| | 410 × 410 mm | | ZN-J41A |

Accessories

| | Model | Qty. |
|-------------------------------|-----------------|------------|
| Replacement Discharge Needles | ZN9-JH04 | 4 per pack |

Single-sided Connector Cables (for DC power supply or I/O connection)

| Cable length | Model | Qty. |
|--------------|-----------------|------|
| 2 m | ZN9-JC02 | 1 |

Ratings and Specifications

Air Clean Units

| Item | Model | ZN-A2502D | ZN-A4105D | ZN-A6112 | ZN-A6112P |
|------------------------------------|-------|--|---|---|-----------|
| Air outlet dimension | | 225 × 205 mm | 360 × 360 mm | 578 × 568 mm | |
| Main filter/Removal rate | | HEPA filter/ 99.99% of particles 0.3-μm and larger | | | |
| Air volume (m ³ /min) | | 0.3 to 1.8 m ³ /min (typical) | 1.0 to 5.0 m ³ /min (typical) | 4 to 12 m ³ /min (typical) | |
| Power supply voltage | | 24 VDC ±10%, Ripple (p-p): 10% max. | | | |
| Current consumption | | Airflow level 5: 2.1 A max. (RMS value) (Peak: 3 A) | Airflow level 5: 3.5 A max. (RMS value) (Peak: 5.5 A) | Airflow level 5: 24 VDC: 4.3 A max. (RMS value) (Peak: 8 A) | |
| Airflow levels | | 5 levels <ul style="list-style-type: none"> • Settable by button operation • Settable by serial (RS-422 or RS-485 *1) communications | | 5 levels <ul style="list-style-type: none"> • Settable by button operation • Settable by serial (RS-422 or RS-485 *1) communications • Settable by ON/OFF signal input (3 levels) *2 | |
| Running noise | | Airflow level 3: 53 dB (typical) | | Airflow level 3: 53 dB (typical) | |
| Fan motor | | Compact DC brushless centrifugal blower x 2 | DC brushless turbo fan x 1 | DC brushless turbo fan x 1 | |
| Indicators | | Operating status: Green/Red Air volume: Blue | | | |
| Filter clogging detection | | Yes | | No | Yes |
| External output | | <p>Alarm output 1: Alarm output 1 turns OFF when one of the following events occurs. (Normally alarm output 1 is ON.) (Check indicator to find out which event occurred.)</p> <ul style="list-style-type: none"> • Filter is clogged. • Fan error • Cleaning alarm for discharge needle (when ZN-J-series Ionizer (sold separately) is connected) • Discharge error (when ZN-J-series Ionizer (sold separately) is connected) <p>Alarm output 2: Enabled only when ZN-J-series Ionizer (sold separately) is connected.</p> <ul style="list-style-type: none"> • Alarm output 2 turns OFF to indicate that cleaning is necessary for ZN-J Series discharge needles. (Normally alarm output 2 is ON.) | | <p>Fan operation alarm output Alarm output OFF in below cases (ON during normal operation)</p> <ul style="list-style-type: none"> • Fan not rotating (Including when power is OFF or on standby) • Trouble • Clogged filter (ZN-A6112P only) | |
| | | 30 VDC, 50 mA max. Residual voltage: 1 V max. with load current of 10 mA, 2 V max. with load current of 50 mA. | | | |
| Applicable Ionizer Unit (Optional) | | ZN-J25A | ZN-J41A | None | |
| Ambient temperature range | | Operating and storage: 0 to 40°C (with no icing or condensation) | | | |
| Ambient humidity range | | Operating and storage: 35% to 85% (with no condensation) | | | |
| Applicable contamination degree | | Pollution degree 2 | | | |
| Material | | Top: Antistatic plastic, bottom: SECC | | Top: ABS resin, HEPA filter frame: aluminum | |
| Dimensions (mm) | | 250 × 250 × 97.5 mm (W × D × H) | 410 × 410 × 129.5 mm (W × D × H) | 714.4 × 654.4 × 174.3 mm (W × D × H) (Height from attachment surface: 117.3) | |
| Weight (Packaged) | | Approx. 2 kg (Approx. 3.3 kg) | Approx. 5.2 kg (Approx. 8.6 kg) | Approx. 12.5 kg (Approx. 17 kg) | |
| Accessories | | Instruction Sheet, Sealing parts, Mounting screws, I/O connector (XW4B-06B1-H1) | | Instruction Sheet, Sealing parts, Mounting screws, I/O connector (XW4B-10B1-H1) | |

*1. Use the dip switches on the unit surface (connector surface) to switch between RS-422 and RS-485.

*2. Contact input: 5 mA max. ON current. Use input device of 30 V or higher withstand voltage.

Ionizer

| Item | Model | ZN-J25A | ZN-J41A |
|--|-------|--|---------------------------------|
| Applicable Air Clean Units | | ZN-A2502D | ZN-4105D |
| Power supply voltage | | 24 VDC ±10%, Ripple (p-p): 10% max. | |
| Current consumption | | 300 mA max | |
| Discharge voltage | | ±7 kV max | |
| Discharge method | | Variable DC discharge | |
| Static electricity removal time (typical) *1 | | 5 s max. | |
| Ion balance (typical) *2 | | ±30 V max. | |
| Indicators | | Power (green), Cleaning notice (orange flashing), Cleaning alarm (orange), High voltage error (red) | |
| External output | | High voltage error, cleaning outputs: Output from photo MOS relay (30V DC, 300 mA max.) | |
| Functions | | Manual adjustment of ion balance, cleaning required detection, high voltage detection | |
| Ambient temperature range | | Operating and storage: 0 to 40°C (with no icing or condensation) | |
| Ambient humidity range | | Operating and storage: 35% to 65% (with no condensation) | |
| Materials | | Unit: ABS, Discharge needles: Tungsten | |
| Dimensions (mm) | | 248 × 310 × 45 mm (W × D × H) | 408 × 470 × 45 mm (W × D × H) |
| Weight (Packaged) | | Approx. 0.6 kg (Approx. 1.4 kg) | Approx. 1.5 kg (Approx. 2.7 kg) |
| Accessories | | Instruction Sheet Sealing parts Mounting screws Connector cable for Air Clean Unit English warning label | |

*1. Measurement conditions:

Distance: 300 mm

Air Clean Unit: ZN-A Series with airflow level 5 at center of air outlet

Discharging from ±1000 V to ±100 V with a Charge Plate Monitor (150 × 150 mm, 20 pF)

Temperature: 18 to 28°C, Humidity: 35% to 55%

Performance may not be satisfied if gases such as from solvents are in the measurement area.

*2. Measurement conditions:

Distance: 300 mm

Air Clean Unit: ZN-A Series with airflow level 5 at center of air outlet

Measured for 10 sec by a charge plate monitor (150 × 150mm, 20pF)

Temperature: 18 to 28°C, Humidity: 35% to 55%

Performance may not be satisfied if gases such as from solvents are in the measurement area.

Safety Precautions

⚠ WARNING

This product is not designed or rated for ensuring safety of persons either directly or indirectly. Do not use it for such purposes.

**Precaution for Correct Use**

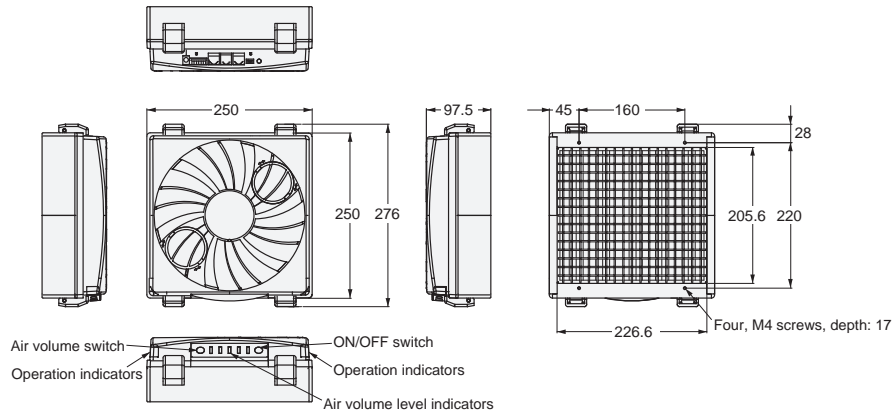
Do not use the product in ambient atmospheres or environments that exceed the ratings.

For technical information and product FAQs, refer to the “Technical Guide” on your OMRON website.

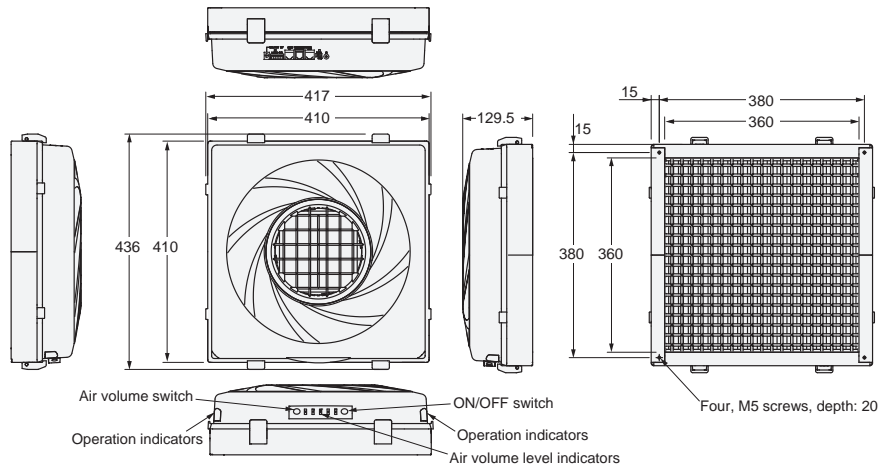
Dimensions

Air Clean Units

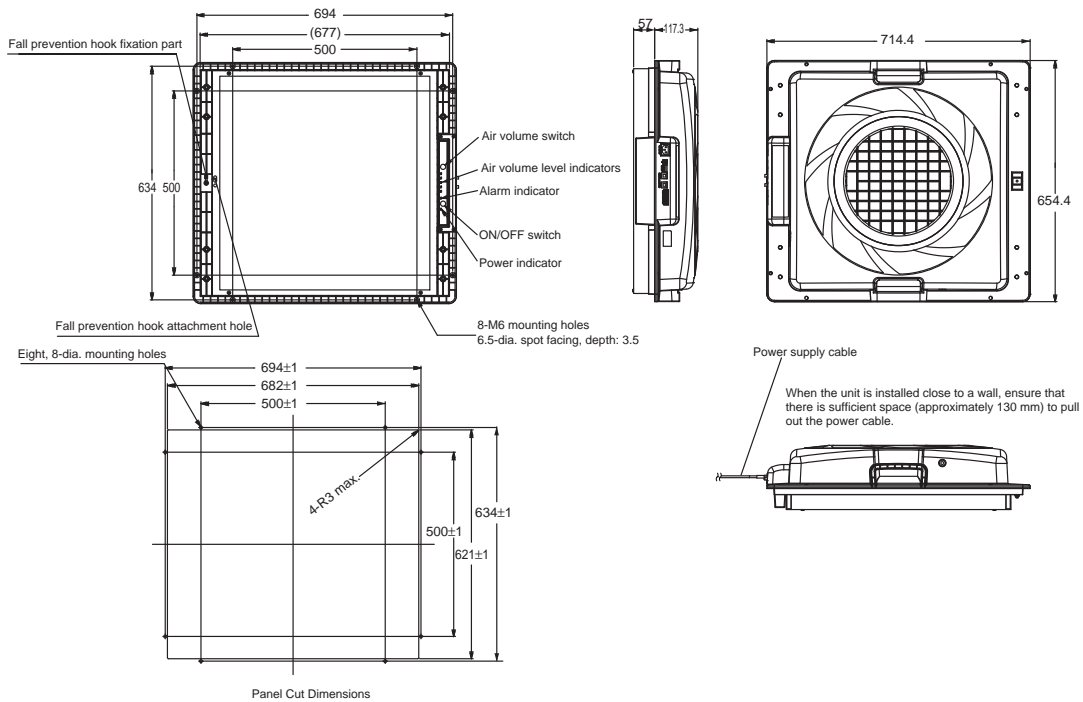
ZN-A2502D



ZN-A4105D

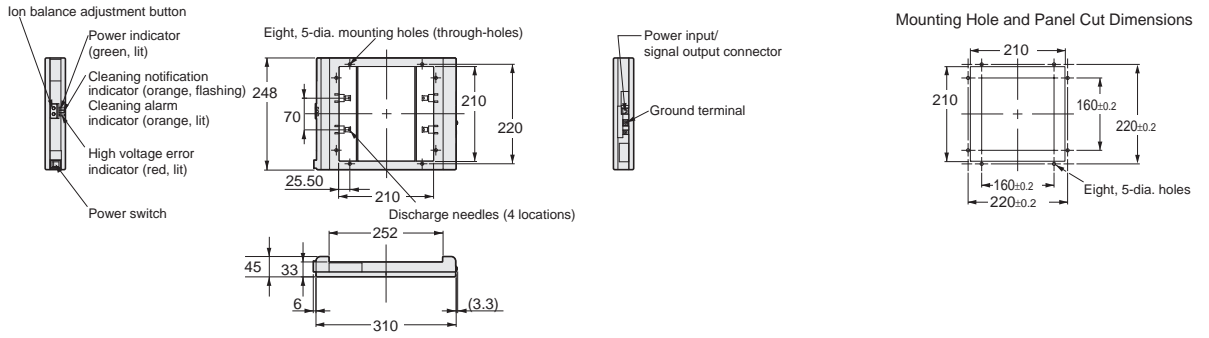


ZN-A6112/A6112P

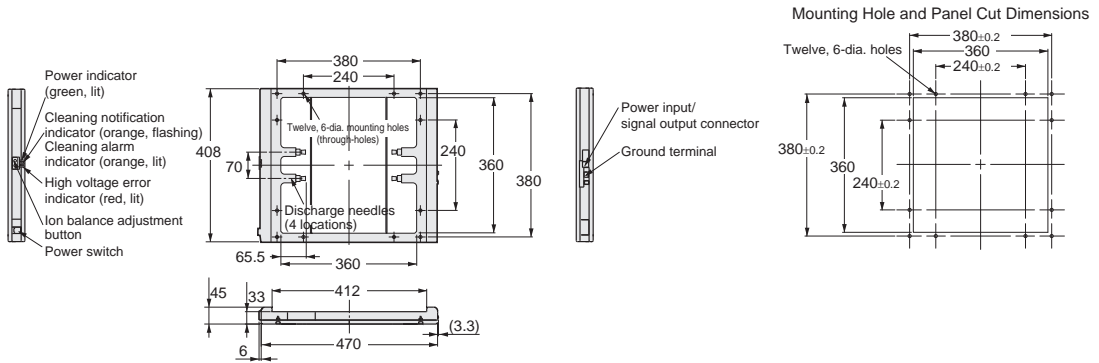


Ionizers

ZN-J25A



ZN-J41A



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