

Differential Pressure Station ZN-DPX21-SA

CSM_ZN-DPX21-SA_DS_E_4_6

Precision measurement of differential pressure inside and outside of clean room or booth

- Ultra wide-range precision measurement
- Equipped with an SD card slot.
- LAN port connection makes it possible to easily construct monitor systems.
- The PC Software Multi Data Viewer Light* available easy conversions of logging data to graphs.
- Using the optional environmental visualization software makes it possible to show the sensing data in real time on a waveform display and layout display.

* Download the PC Multi Data Viewer Light from the following OMRON website (<http://www.fa.omron.co.jp/multi-d-v-e>).

 Be sure to read "Safety Precautions" on page 3.



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

Ordering Information

Main unit

Sensor heads

Appearance	Item	Model
	Sensor head 1.5 m type	ZN-DPS11-S
		ZN-DPS11C-S *
	Sensor head 10 m type	ZN-DPS15-S
		ZN-DPS15C-S *

* Please choose this form when you buy with the calibration certificate.
Contents of Certificate of Calibration Set: Calibration Certificate, Inspection Result, and Traceability Chart

Stations

Appearance	Item	Model	Power supply
	Station	ZN-DPX21-SA	Battery/DC cable

Options (Order separately)

Appearance	Item		Model
	Mounting Magnet *1		ZN9-EM01-S
	DC cable (2 m)	Straight type (ZN9-ED01-S comes with ZN-DPX21-SA)	ZN9-ED01-S
		Right angle type	ZN9-ED02-S
	AC Adapter Power supply voltage: 100 to 240 VAC/50 to 60 Hz Operating temperature range: 0 to 40°C		ZN9-ACP01-S
	Environmental Visualization Software Wave Inspire ES *2 *3 *4		ZN-SW11-S

*1. When the magnet is used, the vibration resistance becomes 55 Hz or less. (Two logger installation screws are attached.)

*2. System requirements OS: Microsoft Windows 10 (32 bit/64 bit)/Microsoft Windows 11 (64 bit)

CPU: compatible Intel processors, 1 GHz or higher.
Memory: 1 GB or more (2 GB or more recommended)

*3. The compliant version is Ver. 2.4.0 or later

*4. The maximum number of connectable sensors is 95.
(When one PC is connected with a leased line network. The sampling period is set to 10 minutes.)
The number of possible sensor connections changes by a sampling period, connected number of PC or PLC, and the network load situation.

Calibration service

Item		Model
Sensor head 1.5 m type	Calibration Certificate, Inspection Result Traceability chart	ZN-DPS11-CAL
Sensor head 10 m type		ZN-DPS15-CAL

Note: 1. If a Certificate of Calibration is required after you purchase the sensor head, use the above model number to order one.
2. As the sensor head and station are digitally connected, only the sensor head is subject to calibration. Remove the tube.
3. It is necessary to ship the product back to OMRON in Japan.

Ratings and Specifications

Sensor head

Item	Type	ZN-DPS11-S	ZN-DPS11C-S	ZN-DPS15-S	ZN-DPS15C-S
Measurement range		-500 to 500 Pa			
Measurement precision		3%±0.2 Pa of the measured value (at 23°C)			
Resolution		0.1Pa			
Temperature effect		Zero point: No effects (lower than measurement resolution)			
		Span: Less than 0.5% of the specified value/10°C			
Operating temperature range		0 to 50°C			
Applicable gas type		Air, nitrogen			
Cable length		1.5 m		10 m	
Weight (packaged)		Approx. 300g		Approx. 500 g	
Accessories 1		Instruction Sheet, air tube 1 m x 2, mounting screw (M3 x 8) x 2			
Accessories 2		—	Calibration Certificate, Inspection Result Traceability chart	—	Calibration Certificate, Inspection Result Traceability chart

Note: 1. For the precision under a rated environment, an offset less than 0.1 Pa/year may occur.

2. The accessories tube inside diameter is 4 mm, and the outside diameter is 6 mm.

Station

Item	Model	ZN-DPX21-SA
Sensor that can be connected		Fine Differential Pressure Sensor Head (ZN-DPS1□□-S)
Display		LCD 7-segment 5-digit 2-step display, auxiliary information indicator display
Measurement interval		1 s, 2 s, 5 s, 10 s, 20 s, 30 s, 1 min, 2 min, 5 min, 10 min, 20 min, 30 min, 1 h
Calculation function		Instantaneous value, maximum value, minimum value, average value
Operating mode		Network connection mode, sleep mode *1, air particle sensor (ZN-PD□□-S□) connection mode *2
Recording mode		Continue *3, ring *4
Alarm signal output		Output to photocoupler (External power supply: 12 to 24 VDC, Load current: Max. 45 mA) Alarm hold setting is possible. *5
Communications interface		Ethernet (10BASE-T, 100BASE-TX)
Communications protocol		Socket (TCP), original protocol
Internal storage device		Internal memory: Approx. 11,000 data items *6
External storage device		SD card (measured value and converted value saving/set value saving and reading), Recommended SD card: HMC-SD292 (2GB) and HMC-SD492 (4GB) (manufactured by OMRON) *7
Power supply voltage		DC input: 24 VDC ±10% AC Adapter: 100 to 240 VAC/50 to 60 Hz Battery: 2 AAA batteries *8
Battery life		Approx. 1 year (sleep mode) Approx. 2 hours (Network connection mode, air particle sensor (ZN-PD□□-SA) connection mode) Measurement interval of 10 minutes (with 2 AAA nickel metal hydride batteries, with SD card not inserted) *9
Operating temperature range		0 to 60°C (AC adapter: 0 to 40°C)
Operating humidity range		20% to 85% (no condensation)
Weight (packaged)		Approx. 500 g
Accessories		Instruction Sheet, Startup Guide, Alarm output connector *10, DC cable (straight type), Ferrite core

*1. Power saving mode. The indicator is always OFF in default setting. (Turns ON with button operation.)

Network communications with host devices cannot be made.

*2. This mode makes one-to-one network connection with Air Particle Sensor (ZN-PD□□-S□) and enables logging of the particle count value and differential pressure data simultaneously to the SD card. Network communications with host devices cannot be made.

*3. Automatically writes data to the SD card when reaching the upper limit of the internal memory and keeps recording until the capacity limit of the SD card. If the SD card is not inserted when the internal memory reaches the upper limit, recording stops. (Data can be output to the SD card by pressing the button after inserting the SD card.)

*4. This mode always records the latest measured values for the upper limit of the internal memory. (When the measured values exceed the upper limit of the internal memory, the data items will be deleted beginning with the oldest data item.)

*5. An alarm is shown when exceeding the upper limit value or lower limit value that has been set in threshold setting mode.

*6. Air particle sensor connection mode is excluded.

*7. When using a third party SD card, it is recommended to use a reliable and durable industrial SD card (SD standard or SDHC standard (not compliant with SDXC standard), Class 4 or higher, flash memory type SLC or MLC type).

You must confirm the operation of the SD card yourself.

*8. Nickel hydride battery and alkaline battery can be used. Manganese batteries cannot be used.

*9. Battery life differs depending on measurement environment, sampling, operating mode, battery type or performance.

*10. The connector is type XW4B-02B1-H1, made by OMRON.

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.



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

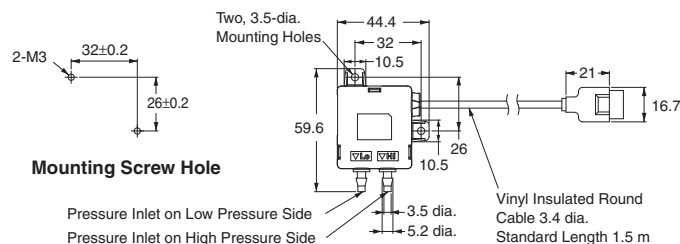
Dimensions

(Unit: mm)

Tolerance class IT16 applies to dimensions in this data sheet unless otherwise specified.

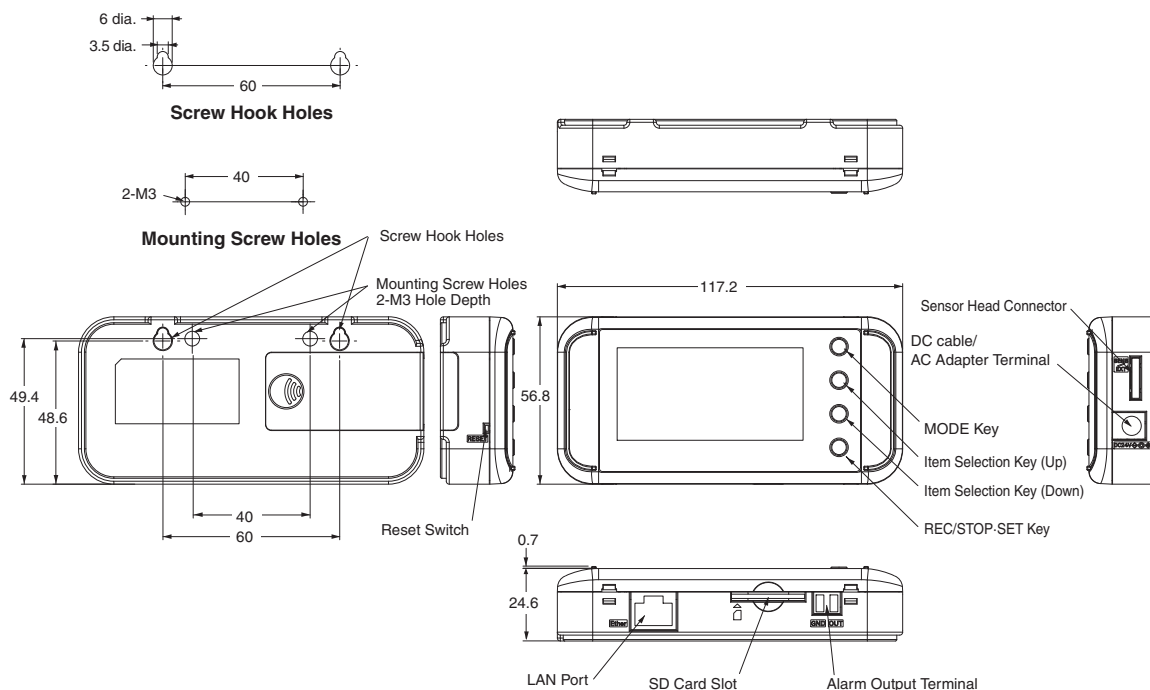
Sensor head

ZN-DPS11-S



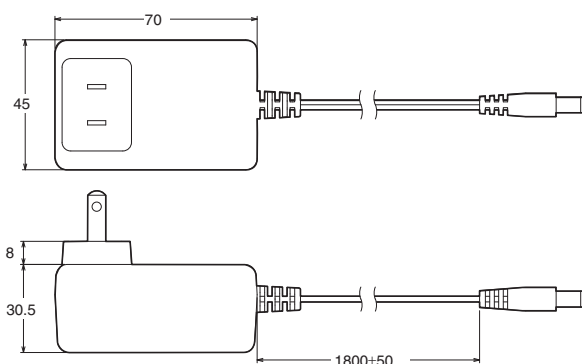
Station

ZN-DPX21-SA



AC adapter

ZN9-ACP01-S



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