

PRODUCT DESCRIPTION

Web Sensors PA86xx without a display and with an Ethernet connection are designed to measure temperature and relative humidity of the air. The devices are equipped with CINCH connectors for connecting temperature and humidity probes. The PA8652 sensor also includes three binary inputs for monitoring two-state quantities (dry contact or two-level voltage signals). The first binary input of the PA8652 sensor can be used to connect the LD-81 flood detector. The devices can be powered either by a power supply adapter or via Power over Ethernet (PoE).

The measured values are available via the Ethernet connection. They are displayed on the device's web interface and can be sent to the COMET Cloud online portal or stored in the local COMET Database. The sensors also support integration with third-party data collection systems via Modbus TCP, HTTP GET (JSON and XML), HTTP POST (JSON), and SNMP protocols. An important feature of the devices are the ability to monitor measured values and send warning messages when user-defined limits are exceeded. Notifications can be delivered through the device's web interface, e-mail messages, or the Syslog protocol. The device can be configured through its web interface or via COMET Vision software, which is available free of charge from the manufacturer's website (www.cometsystem.com).

type	measured values	version
PA8610	T	internal temperature sensor
PA8611	T + RH	connector CINCH (1x) for external probes (temperature and relative humidity)
PA8641	T + RH	connector CINCH (4x) for external probes (temperature and relative humidity)
PA8652	T + RH + BIN	connector CINCH (2x) for external probes (temperature and relative humidity), binary inputs (3x)

T...temperature, RH...relative humidity, BIN...binary inputs

INSTALLATION AND OPERATION

The devices should be mounted on a flat surface according to the procedure on the other side of this manual. External probes must be placed in the environment to be measured. Careful attention should be paid to the installation of the devices and probes. Incorrect positioning or placement can adversely affect the accuracy and long-term stability of the measured values. Devices with a probe without a cable, or with a measuring stem, should be installed vertically with the sensor cover facing downwards.

The devices do not require any special operation or maintenance. Periodic calibration is recommended to ensure measurement accuracy.

DEVICE SETUP

To install the device and connect it to the network, you must have a free IP address. This address can be either static or obtained automatically from a DHCP server. Contact your network administrator and request permission before connecting the device. The device supports both IPv4 and IPv6 protocols. **The device is configured to use DHCP by default.** The IPv6 protocol is enabled in automatic mode (DHCPv6 or SLAAC) by default. Connect the network cable and, if necessary, plug in the power adapter. Since the device is set to DHCP by default, you need to determine its IP address after connecting it. This can be done by searching for the device using the COMET Vision program or viewing the IP address in the gateway/DHCP server configuration. Then enter the IP address into your web browser. From here, you can make the desired changes to the device settings. Configuration mode is activated by pressing the button on the home page. The changes are applied after saving the  configuration.

COMMUNICATION PROTOCOLS AND ERROR STATES

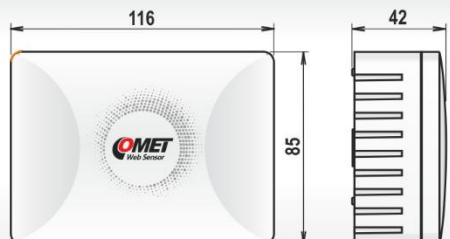
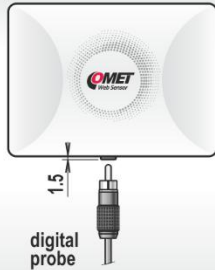
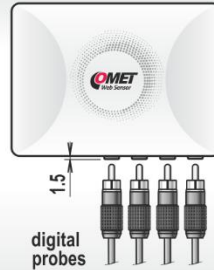
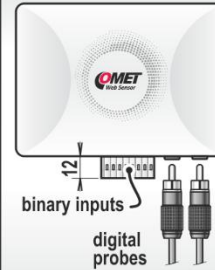
A detailed description of communication protocols and error states is available in the user manual on the manufacturer's website. A brief overview of the communication protocols can also be viewed directly on the device's web interface.

SAFETY INSTRUCTION



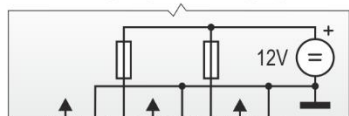
- Do not connect or disconnect probe cables while the device is powered.
- The external probe cable should be routed as far as possible from potential sources of interference.
- The device does not have enhanced protection against water or dust ingress. Never use it in environments with splashing or dripping water, condensation, aerosols, or excessive dust.
- The device must not be operated or stored without a sensor cover.
- The humidity sensors should not be exposed to water or other liquids.
- Use a power adapter approved according to the relevant standards. Use only IEEE 802.3af PoE.
- The device is not intended for use in critical applications where a communication failure could endanger health or cause material damage. Ensure proper cybersecurity measures when operating the device.
- Installation should only be performed by qualified personnel in accordance with applicable regulations and standards.
- The devices contain electronic components and must be disposed of in accordance with current regulations.
- **For additional information**, refer to the manuals and other documentation available in the "Download" section for each device at www.cometsystem.com

Technical specifications

Device type	PA8610	PA8611	PA8641	PA8652
Supply voltage - coaxial connector, diameter 5.1 x 2.1 mm —  +	5 to 24 Vdc	5 to 24 Vdc	5 to 24 Vdc	15 to 24 Vdc
Power over Ethernet	according to IEEE 802.3af, PD Class 0 (max. 12.95W), voltage from 36V to 57Vdc			
Device consumption	cca 1W	cca 1W	cca 1W	cca 1W *
Temperature measuring range	-30 to +60°C	according to the probe	according to the probe	according to the probe
Accuracy of temperature measurement	± 0.6°C	according to the probe	according to the probe	according to the probe
Relative humidity measuring range	—	according to the probe	according to the probe	according to the probe
Accuracy of relative humidity measurement	—	according to the probe	according to the probe	according to the probe
Device operating temperature range	-30 to +60°C	-30 to +60°C	-30 to +60°C	-30 to +60°C
Device operating humidity range (no condensation)	0 to 100 %RH	0 to 100 %RH	0 to 100 %RH	0 to 100 %RH
Protection class	IP30	IP30	IP30	IP30
Recommended calibration interval	2 years	according to the probe	according to the probe	according to the probe
Mounting position	sensor cover downwards	any position **	any position **	any position **
Weight	190 g	180 g	180 g	180 g
Dimensions [mm]				
				

PA8652 - binary inputs

- 3 binary inputs without galvanic isolation
- the type of input is selectable at device setup
 - dry contact
 - voltage input
 - flood detector LD-81 (only IN1 input)
- internal wiring diagram of binary inputs



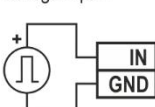
- terminals +12V - power supply for sensors with two-state output (I_{max} = 0.15A)

- dry contact



Terminal voltage with open contact	3.3 V
Current through closed contact	< 0.1 mA
Resistance of the contact	< 5 kΩ

- voltage input



Voltage level for „LOW“	< 1.0 V
Voltage level for „HIGH“	> 2.5 V
Internal resistance of the voltage source	< 2 kΩ
Input voltage range	0 to 30 V

ATTENTION - input IN1 is not protected against polarity reversal !

- flood detector LD-81



- LD-81 temperature operating range: -10 to +40°C
- maximal cable length: 2.9 m

Factory defaults

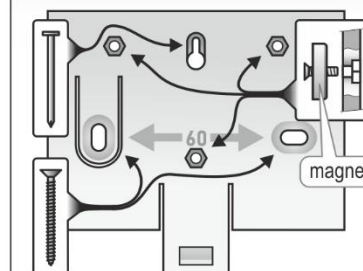


To restore the device configuration to the state of a newly device use the button (see fig.)

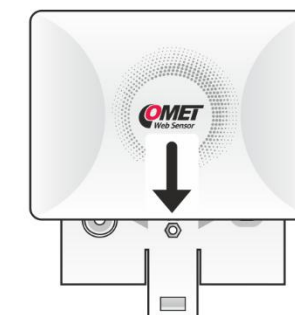
- turn off the device (unplug the power adapter or the RJ45 cable if PoE is used)
- press and hold the button
- turn on the device
- wait 5 seconds, then release the button

Device installation

1. select one of the device holder mounting methods and fasten the holder



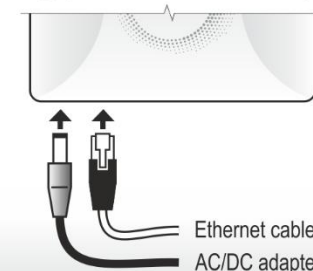
2. slide the device onto the holder



3. connect the binary inputs (use the SP013 supplied tool or a suitable screwdriver)

4. connect the probes

5. connect the Ethernet cable (if PoE power supply is not used, connect the adapter)



* not including the power consumption of external sensors supplied from the PA8652 +12V terminals

** the device with a probe without a cable (e.g. DSRH/C probe) install vertically with the sensor cover downwards