



- protection against condensation of air humidity
- simple and fast mounting
- integrated and remote sensor version available
- operating voltage AC/DC 24 V or AC 230 V
- potential free contact - 250 VAC / 6 A
- status indication by two colored LED
- switching hysteresis selection

The ESDP condensation control switch can be operated as a monitor on cooling ceilings or pipes so that the switching output is activated when dew builds up on the cooling ceilings of the property to be monitored and e.g. a heating system is started, or other actuators are initiated. The switch can be installed on cooling ceilings, on cooling/cold-water piping or on cooled surfaces and is designed to prevent the formation of condensation.

With the sensing elements, the monitors acquire the relative humidity close to the dew point ($\approx 100\%$ r. h.). The resistance of the sensing elements raises sharply in the range of $90\ldots 100\%$ r. h. Before reaching the dew point, the electronics energize the relay to trigger counteractions.

The sensor is placed in an aluminum profile, which is adapted for mounting on the cooling pipe using metal fastening strips with a lock or on a surface using two screws/bolts. The evaluation unit in a plastic polycarbonate head is placed directly above the sensor or is connected to the sensor with a standard 2m cable.

Basic technical parameters

Supply voltage	24VDC $\pm 10\%$ or 24V/50Hz $\pm 10\%$
Power consumption	max. 0,5VA
Switchpoint	approx. 95 % RH
Switching hysteresis	hys 1x: cca 1% RH hys 2x: cca 2% RH
Type of sensor	SHS-A4L
Range of working temperature	$0 \div 50^\circ\text{C}$
Range of recommended storage temp./RH	$10 \div 50^\circ\text{C} / 20 \div 60\% \text{RH}$
Protection type of housing	IP65 (EN 60529)
Terminal board	COB (wires max. $2,5 \text{ mm}^2$)
Cable gland	PG9 / 8 mm
Housing dimensions	66 x 97 x 38 mm
Relay output...voltage/current	250 VAC / 6 A ($\cos \varphi = 1$) 24 VDC / 6 A ($\cos \varphi = 1$)
Max. relay switching power	(AC1)1500 VA / 150 W
Min. service life (number of cycles)	20×10^6
Galvanic separation of relay	yes < 250V
External fuse	16 A

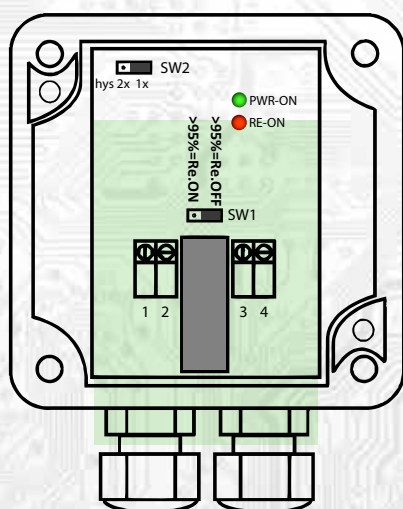
List of available types

Type	Execution
ESDP14	integrated sensor
ESDP18	remote sensor

ESDP 14 - with strap for direct mounting on pipes or for direct mounting on flat surfaces (e.g. walls, ceilings)

ESDP 18 - with detached sensor head (cable length $L = 2 \text{ m}$) for mounting on pipes

Connection diagram (Fig. 1)



Terminal 1..... Supply voltage, (ESDP.../24DC... positive pole)
 Terminal 2..... Supply voltage, (ESDP.../24DC... negative pole)
 Terminal 3..... Relay output contact
 Terminal 4..... Relay output contact

SW1..... Output relay function selection:
 >95%=Re.ON.....the relay will close
 >95%=Re.OFF.....the relay will open
 SW2..... Switching hysteresis selection:
 hys 1x..... relay switching hysteresis is approx. 1%
 hys 2x..... relay switching hysteresis is approx. 2%

LED green..... Indication of connected supply voltage
 LED red..... Indication of closed relay

Installation

Mounting choices:

- Pipe-mounting with strap-on band (pipe diameter 10...100 mm)...ESDP14
 - Surface-mounting on walls or ceilings: 2 screws for the sensor head; 2 screws for the sensor main housing...ESDP18
- The sensor is attached to the pipe with the two included tapes, or with two M3 screws or $\varnothing 3$ mm screws to the surface.

The switches perform their function only when the humidity sensing elements assume the same temperature as the surface to be protected against condensation. The following points should be paid attention to:

- Mount condensation monitors at the coldest spot of the chilled ceiling (plant).
- In the case of water-cooled chilled ceilings, mount the monitors on the water inlet pipe.
- Protect the sensing elements against aggressive chemicals and dirt (both can adversely affect the correct operation of the switches and drastically shorten their lives).

The switches must not be continuously exposed to condensation.

Dimensions:

