PRODUCT DESCRIPTION

Programmable regulators with power relay outputs are designed to measure temperature and relative humidity of air in non-aggressive environment, to alarm indication and to control of external devices. Regulators are available in wall-mount version or with probe on a cable. For measuring temperature and relative humidity of compressed air is used type TxxxxP. Regulators are powered by AC voltage of 110 to 240 V.

Two output relays functions can be set from regulator keyboard or from computer. Each relay can be assigned to one of measured or computed value (dewpoint temperature, absolute humidity, specific humidity mixing ratio and specific enthalpy). Setting of delay, hysteresis, audible alarm is enabled for each relay. Measured and calculated values are displayed on a two-line display. Using *TSensor* software (see www.cometsystem.com) can be all regulator parameters set. To connect to PC is used USB adapter SP003 (optional accessories).

type *	measured value	version	mounting
H3060	T + RH + CV	ambient air	wall
H3061	T + RH + CV	probe with a cable	wall
H3061P	T + RH + CV	probe with a cable – pressure up to 25 bars	wall

* models marked Hxxxx**Z** are custom - specified devices   T…temperature, RH…relative humidity, CV…computed values

INSTALLATION AND OPERATION

The mounting holes and connection terminals are accessible after unscrewing the four screws in the corners of case and removing the lid. Devices have to be mounted on a flat surface to prevent its deformation. Pass cables (external diameter 4 to 8mm) through released glands and connect wires according to diagram. Wire cross-section choose from 0.14 to 1.5mm^2. Tighten glands and screw the lid. Insert attached plug into unused cable glands too. Pay attention to device mounting, because incorrect choice of working position or place of measuring could adversely affect accuracy and long-term stability of measured values.

Actual parameters settings of each relay can be displayed by pressing of „ ▲ " key. To change any parameter, press the „**Set**" key, enter password (default 0000) and set required value. Then click on „**Set**" and pressing „**Esc**" key exit setup mode. To change the password and to set all other parameters ((alarm settings, used units, computed value selection etc.) is used *Extended setting mode* (see manual for devices at www.cometsystem.com).

Devices don´t require special maintenance. We recommend you periodic calibration for measurement accuracy validation.

ELECTRIC INSTALLATION AND SAFETY

Regulator is designed for the permanent connection to the AC voltage. Power supply has to be equipped with a cut-off switch member (power switch, circuit breaker) which is easily achievable by operator and is marked as the cut-off element.

The revisal of the device in accordance to local rules and standards has to be done before starting - up. It is recommended to pass the revisal periodically due to valid standards.

ERROR STATES

Device continuously checks its state during operation and if an error appears, it is displayed relevant code: **Err 1** – measured or calculated value is over the upper limit, **Err 2** – measured or calculated value is below the lower limit, **Err 0** and **Err 3** – it is a serious error, please contact distributor of the device, **Err5, Err6** - there is problem with assigned value to output relay, **Err9** – inserted password is not valid.
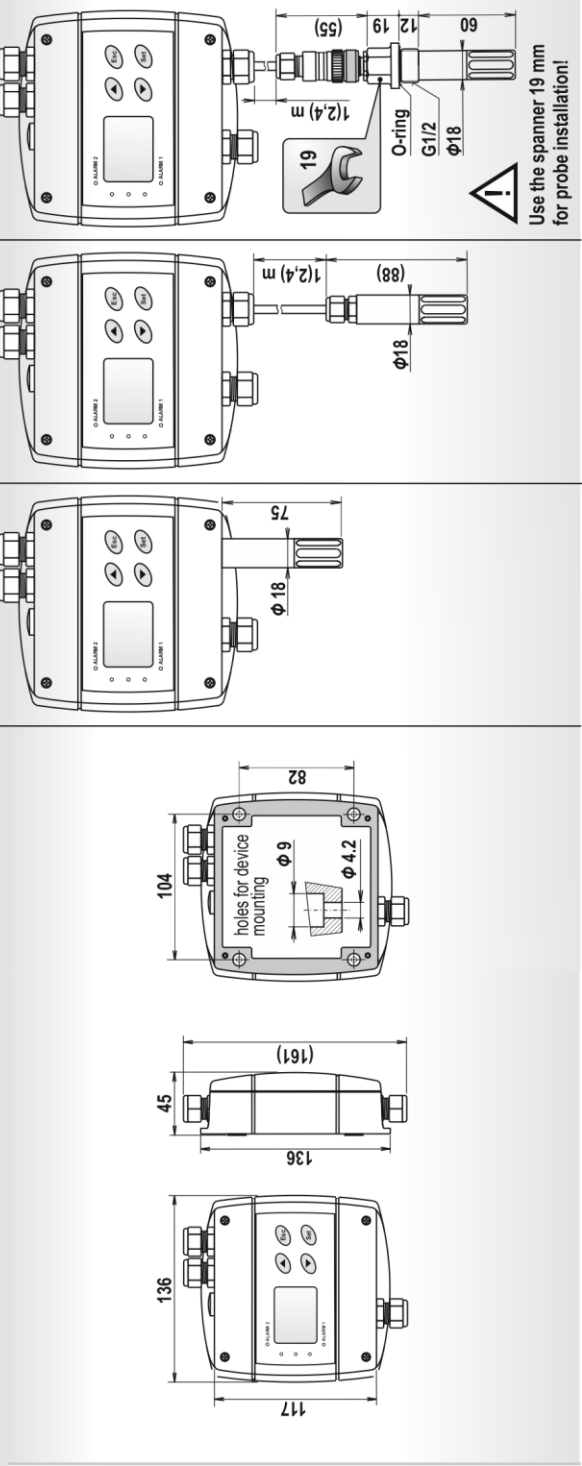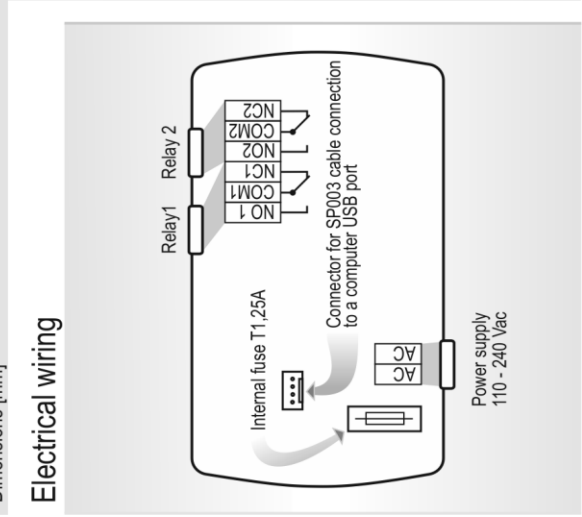
SAFETY INSTRUCTIONS

- Humidity and temperature sensors of the regulator cannot be operate and store without a filter cap.
- Temperature and humidity sensors have not to be exposed to direct contact with water and other liquids.
- It is not recommended to use the humidity regulators for long time under condensation conditions.
- Take care when unscrewing the filter cap as the sensor element could be damaged.
- Don't connect or disconnect devices while power supply voltage is on.
- If the sensing probe of H3061P regulator is installed, make sure that measured area is without pressure.
- Don't use the device without the cover.
- Installation, electrical connection and commissioning should be performed by qualified personnel only.
- Devices contain electronic components, it needs to liquidate them according to currently valid conditions.
- For more information, please use detailed manuals and other documentation which are available at www.cometsystem.com

Technical specifications

Device type	H3060	H3061	H3061P
Supply voltage	110 to 240 Vac, 50 to 60 Hz		
Current consumption	115Vac max. 115mA, 230Vac max.70mA		
Relay outputs - maximum switching voltage	250 Vac	250 Vac	250 Vac
- maximum switching current	8 A	8 A	8 A
- maximum switching power	2000 VAac, 192 Wdc	2000 VAac, 192 Wdc	2000 VAac, 192 Wdc
Measuring interval	1s	1s	1s
Temperature measuring range	-30 to 80 °C	-30 to 105 °C	-30 to 105 °C
Accuracy of temperature measurement	± 0.4°C	± 0.4°C	± 0.4°C
Relative humidity (RH) measuring range	0 to 100 %RH	0 to 100 %RH	0 to 100 %RH
Accuracy of humidity measurement from 5 to 95 %RH at 23°C	± 2.5 %RH	± 2.5 %RH	± 2.5 %RH
Other calculated humidity variables	yes	yes	yes
Recomended calibration interval	1 year	1 year	1 year
Protection class of the case with elektronics	IP65	IP65	IP65
Protection class of the sensors cover	IP40	IP40	IP40
Temperature operating range of the case with electronics *	-30 to +80°C	-30 to +80°C	-30 to +80°C
Temperature operating range of the sensing element (sensors)	-30 to +80°C	-30 to +105°C	-30 to +105°C
Humidity operating range	0 to 100%RH	0 to 100%RH	0 to 100%RH
Mounting position	sensor cover downwards	any position **	any position **
Storage temperature range (humidity 0 to 100%RH, no condensation)	-30 to +80°C	-30 to +80°C	-30 to +80°C
Electromagnetic compatibility according to	EN 61326-1, EN 55011, EN 61000-3-2, EN 61000-3-3		
Weight	420 g	400 (440, 520) g	450 (490, 570) g
Dimensions [mm]			

Use the spanner 19 mm for probe installation!

O-ring G1/2 Φ18

holes for device mounting Φ 9 Φ 4.2

Electrical wiring

Relay1 Relay 2

NC2
COM2
NO2
NC1
COM1
NO1

Connector for SP003 cable connection to a computer USB port

Internal fuse T1,25A

AC
AC

Power supply 110 - 240 Vac

* It is recomended to switch off the LCD display at ambient temperature above 70°C.

** if it can lead to long term condensation of water, it is necessary to use the probe at position with sensor cover downwards