HYGRASGARD® AFTF-EtherCAT P

NEW

S+S REGELTECHNIK

On-wall humidity and temperature sensor (± 2.0%), for mixture ratio, relative/absolute humidity, dew point, enthalpy and temperature, Bluetooth-enabled, with EtherCATP port

Networkable on-wall humidity and temperature sensor **HYGRASGARD® AFTF-EtherCAT P** with M8 plug-in connector (EtherCATP-encoded), Bluetooth-enabled, in an impact-resistant plastic housing with quick-locking screws, optionally with/without display and bar graph, with plastic sinter filter (replaceable).

The sensor is used to detect various parameters in humidity measurement. It measures the **relative humidity** (0...100% r.H.) and the **temperature** (–35...+80°C) of the ambient air. These measurands are used internally to calculate further output values: **absolute humidity** (0...80g/m³), **mixture ratio** (0...80g/kg), **dew point temperature** (–20...+80°C) and **enthalpy** (0...85kJ/kg) while ignoring atmospheric air pressure. A long-term stable, digital sensor guarantees exact measurement results. The sensor is factory-calibrated.

EtherCATP-enabled measuring transducer for industrial requirements with maximum reliability: includes easy PLC integration using the device's ESI configuration file, diagnostics (such as communication failure counter), advanced settings options, access to historical data (min / max) and establishing the sensor's service interval. Optionally with large illuminated display (3-line, customised programming in the 7-segment and dot-matrix range) and bar graph (7-digit, LEDs freely configurable) for graphical display, e.g., as a traffic light indicator.

AFTF-EtherCAT P

EtherCAT P
Cable connection and
LED status display

TECHNICAL DATA

Power supply:	24VDC via EtherCATP (U_S)
Power consumption:	< 3W
Bus protocol:	**EtherCAT**
Radio technology:	**Bluetooth** (LE)
Data points:	Temperature [°C], relative humidity [% r.H.], dew point [°C], absolute humidity [g/m³], mixture ratio [g/kg], enthalpy [kJ/kg]
Sensor:	**Digital humidity sensor with integrated temperature sensor,** low hysteresis, high long-term stability
Measuring range:	0...100% r.H. (humidity) –35...+80°C (temperature)
Deviation in humidity:	Typically **± 2.0%** (20...80% r. H.) at +25°C, otherwise ± 3.0%
Deviation in temperature:	Typically ± 0.4K at +25°C
Long-term stability:	± 1% per year
Medium:	Clean air and non-aggressive, non-combustible gases
Sensor protection:	Plastic sinter filter, Ø 14mm, l = 35 mm, replaceable (optionally **metal** sinter filter, Ø 16mm, l = 32mm)
Protective tube:	Stainless steel **V2A** (1.4301), Ø 16mm (see dimensional drawing)
Housing:	Plastic, UV-resistant, polyamide material, 30% glass-globe reinforced, with quick-locking screws (slotted / Phillips head combination), colour traffic white (similar to RAL 9016), housing cover for display is transparent!
Dimensions:	126 x 90 x 50mm (Tyr 2)
Cable connection:	**M8 plug-in connector**, EtherCATP-encoded
Process connection:	Using screw-in device on housing
Ambient temperature:	–30...+70 °C
Permitted humidity:	< 95% r. H., non-precipitating air
Protection class:	III (according to EN 60 730)
Protection type:	**IP 54** (according to EN 60 529)
Standards:	CE conformity, according to EMC Directive 2014 / 30 / EU, according to RED 2014 / 53 / EU
Equipment:	**Display with illumination,** 3-line, customised programming, cutout approx. W 51 x H 29mm, to display actual humidity, actual temperature and/or an alternative characteristic value or a customised display value. **Bar graph**, 7-digit, LEDs freely configurable, to graphically display the reading.
ACCESSORIES	See table

Display screen
Reading

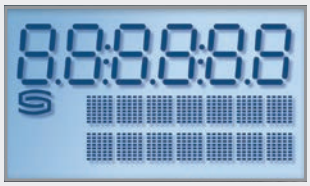
xx-ECATP
Tyr 2

Humidity

Temperature

Programmable
display screen

xx-ECATP
Tyr 2



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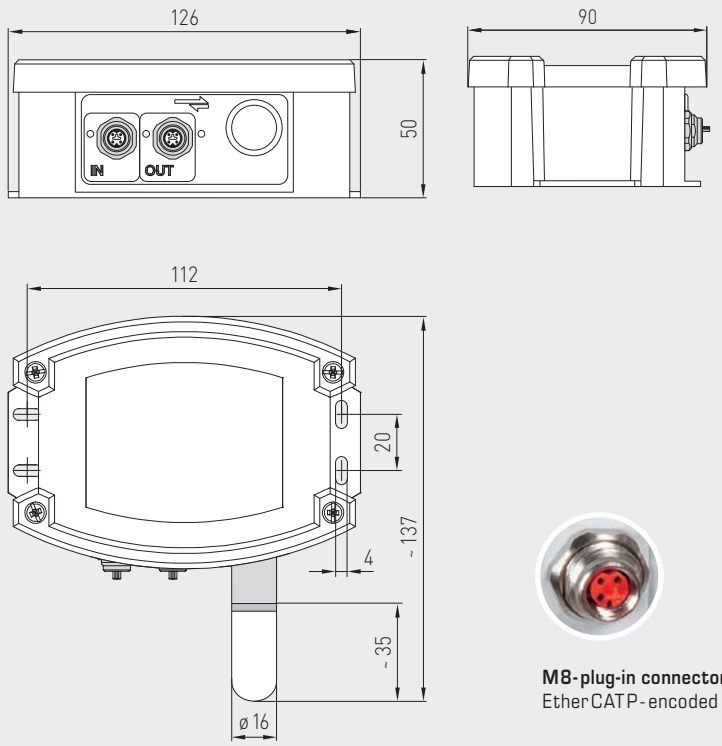
Dimensional drawing

AFTF-EtherCAT P



M8-plug-in connector
EtherCATP-encoded

SF-K
Plastic sinter filter (standard)

SF-M
Metal sinter filter (optional)

AFTF-EtherCAT P
with display and bar graph

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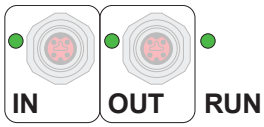


EtherCAT P	LED status display
1. LED	**"IN"**
off	no connection to upstream EtherCAT module
illuminated	LINK: connection to upstream EtherCAT module
blinking	ACT: communication with upstream EtherCAT module
2. LED	**"OUT"**
off	no connection to downstream EtherCAT module
illuminated	LINK: connection to downstream EtherCAT module
blinking	ACT: communication with downstream EtherCAT module
3. LED	**"RUN"**
off	EtherCAT module is in "Init" state
quickly blinking	EtherCAT module is in "Pre-Operational" state
slowly blinking	EtherCAT module is in "Safe-Operational" state
illuminated	EtherCAT module is in "Operational" state
The status LEDs are next to the cable connection.	

WS-03
Weather and sun protection hood
(optional)

Display screen
Reading

xx-ECATP
Tyr 2

Humidity

Temperature

Display screen
alternative output variables

xx-ECATP
Tyr 2

Absolute humidity

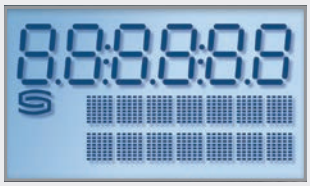
Mixture ratio

Dew point

Enthalpy

Programmable
display screen

xx-ECATP
Tyr 2



Use the EtherCAT interface to program the **LCD display**.
With only one output value selected, the display is static;
with several values selected, the display is cyclical with one after the other.

In the **first line** the value is displayed and in the **second line** the corresponding unit.
The **third line** is empty by default if there are no customised inputs.

The entire display in the 7-segment range
as well as in the dot-matrix range can be **customised**.

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AFTF-EtherCAT P
with display and bar graph

HYGRASGARD® AFTF-EtherCAT P	On-wall humidity and temperature sensor (± 2.0%), with EtherCATP port					
Type / WG02	**Measuring Range / Readout** Humidity (switchable)	Temperature	**Output**	**Bar graph Display**	**Item No.**	**Price**
AFTF-ECATP xx						
AFTF-ECATP	0 ...100 % r. H. (default) 0 ... 80 g / kg (MV) 0 ... 80 g / m³ (a.F.) 0 ... 85 kJ / kg (ENT.) –20...+80 °C (TP)	–35...+80 °C	EtherCAT P		2003-6261-9100-001	**349,96 €**
AFTF-ECATP **LCD**	0 ...100 % r. H. (default) 0 ... 80 g / kg (MV) 0 ... 80 g / m³ (a.F.) 0 ... 85 kJ / kg (ENT.) –20...+80 °C (TP)	–35...+80 °C	EtherCAT P	□ ■	2003-6262-9100-001	**394,02 €**
Note:	Cable connection with **M8 plug-in connector** (EtherCATP-encoded)					

ACCESSORIES			
WS-03	**Sun and ball-impact protection hood,** 184 x 180 x 80 mm, stainless steel **V2A** (1.4301)	7100-0040-6000-000	**42,61 €**
SF-K	**Plastic sinter filter**, Ø 16 mm, L = 35 mm, exchangeable	7000-0050-2310-000	**12,25 €**
SF-M	**Metal sinter filter**, Ø 16 mm, L = 32 mm, exchangeable, stainless steel **V4A** (1.4404)	7000-0050-2200-100	**40,31 €**
	For further information, see last chapter Accessories!		