

**On-wall humidity and temperature sensor ($\pm 2.0\%$),
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-EtherCATP** 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% RH) 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-EtherCATP

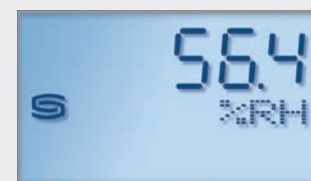


EtherCATP
Cable connection and
LED status display

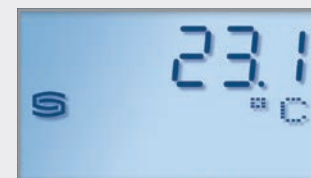
TECHNICAL DATA

Power supply:	24VDC via EtherCATP (U _S)
Power consumption:	< 3W
Bus protocol:	EtherCAT
Radio technology:	Bluetooth (LE)
Data points:	Temperature [°C], relative humidity [% RH], dew point [°C], absolute humidity [g/m ³], 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% RH (humidity) -35...+80°C (temperature)
Accuracy in humidity:	Typically $\pm 2.0\%$ (20...80% RH) at +25°C, otherwise $\pm 3.0\%$
Accuracy in temperature:	Typically $\pm 0.4K$ at +25°C
Long-term stability:	$\pm 1\%$ per year
Medium:	Clean air and non-aggressive, non-combustible gases
Sensor protection:	Plastic sinter filter, \varnothing 14mm, l = 35 mm, replaceable (optionally metal sinter filter, \varnothing 16mm, l = 32mm)
Protective tube:	Stainless steel V2A (1.4301), \varnothing 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!
Housing dimension:	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% RH, 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**

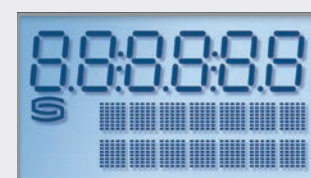


Humidity



Temperature

Programmable display screen **xx-ECATP Tyr 2**



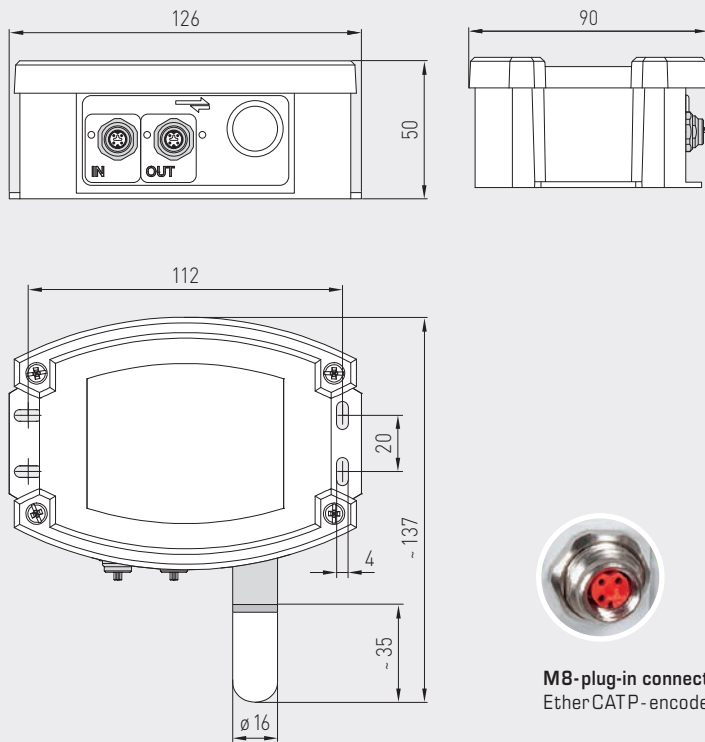


S+S REGELTECHNIK

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Dimensional drawing

AFTF-EtherCAT P



M8-plug-in connector
Ether CATP - encoded



SF-K
Plastic sinter filter
(standard)

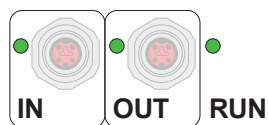


SF-M
Metal sinter filter
(optional)

AFTF-EtherCAT P
with display and bar graph



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WS-03
Weather and sun protection hood
(optional)



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.	

Display screen Reading **xx-ECATP Tyr 2**

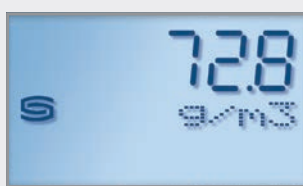


Humidity

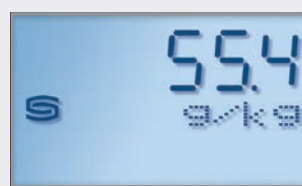


Temperature

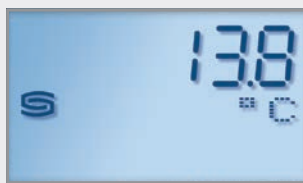
Display screen alternative output variables **xx-ECATP Tyr 2**



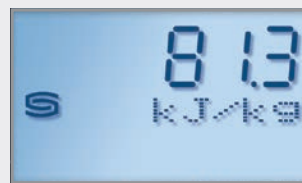
Absolute humidity



Mixture ratio

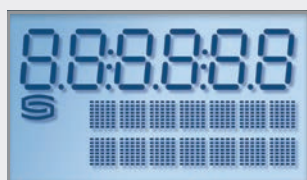


Dew point



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 ($\pm 2.0\%$), with EtherCAT port				
Type / WG02	Measuring Range / Readout		Output	Bar graph Display	Item No.	Price
	Humidity (switchable)	Temperature				
AFTF-ECATP xx						
AFTF-ECATP	0 ... 100 % RH (default) 0 ... 80 g / kg (MV) 0 ... 80 g / m ³ (a.F.) 0 ... 85 kJ / kg (ENT.) -20...+80 °C (TP)	-35...+80 °C	EtherCAT P		2003-6261-9100-001	393,62 €
AFTF-ECATP LCD	0 ... 100 % RH (default) 0 ... 80 g / kg (MV) 0 ... 80 g / m ³ (a.F.) 0 ... 85 kJ / kg (ENT.) -20...+80 °C (TP)	-35...+80 °C	EtherCAT P	<input type="checkbox"/> <input checked="" type="checkbox"/>	2003-6262-9100-001	443,18 €
Note:		Cable connection with M8 plug-in connector (EtherCATP-encoded)				

ACCESSORIES						
WS-03	Sun and ball-impact protection hood , 184x180x80 mm, stainless steel V2A (1.4301)				7100-0040-6000-000	47,92 €
SF-K	Plastic sinter filter , \varnothing 16 mm, L = 35 mm, exchangeable				7000-0050-2310-000	13,78 €
SF-M	Metal sinter filter , \varnothing 16 mm, L = 32 mm, exchangeable, stainless steel V4A (1.4404)				7000-0050-2200-100	45,34 €

For further information, see last chapter Accessories!

