

HYGRASGARD® ESFF/ESFTF

Screw-in humidity and temperature sensors for pressure systems, calibrateable

ESFF
ESFTF



APPLICATION:

Series ESFF/ESFTF humidity sensors are used for measuring the relative humidity and temperature of air in pressure systems and convert these measured values into standard signals of 0-10V or 4...20mA respectively. These humidity sensors are to be operated in pollutant-free non-precipitating air, mounted vertical with the sensor pointing down.

TECHNICAL DATA:

Power supply:..... 24V AC/DC for U variant
15...36V DC for I variant, R_L depending on working resistance

Sensors: digital humidity sensor with integrated temperature sensor,
dew-proof, small hysteresis, high long-term stability $\pm 1\%$ per year

Sensor protection: metal sinter filter, exchangeable

HUMIDITY:

Measuring range, humidity:..... 0...100% r.H.

Operating range, humidity:..... 10...95% r.H.

Deviation, humidity:..... $\pm 3\%$ r.H. (40...60%) at +20°C, otherwise $\pm 5\%$ r.H.

Output, humidity:..... 0-10V at U variant,
4...20mA at I variant, (transmitter $R_L < 500\Omega$)

TEMPERATURE:

Measuring range, temperature:... 0...+50°C

Operating range, temperature:.... 0...+50°C

Deviation, temperature: $\pm 0.5K$ at +20°C

Output temperature: 4...20mA

Ambient temperature:..... storage -25...+60°C, operation -5...+55°C

Electrical connection: 2- or 3-wire connection (see connecting diagram),
0.14-1.5 mm² via terminal screws on circuit board

Enclosure:..... plastic, material polyamide, 30% glass-globe-reinforced,
with quick-locking screws,
colour pure white (similar RAL9010)

Dimensions:..... 72 x 64 x 39.4 mm

Cable union:..... M16, including strain relief

Protective tube:..... metal, brass, nickel-plated, $\varnothing 20$ mm

Process connection: screwed socket with $\frac{1}{2}$ " pipe thread

Nominal pressure:..... $p_{nenn} < 20$ bar

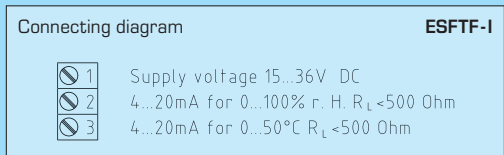
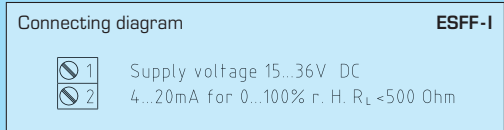
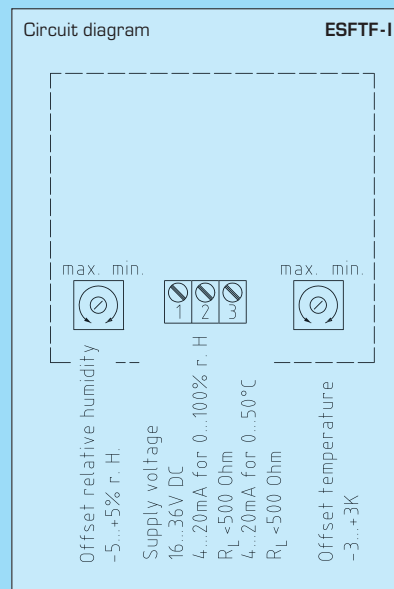
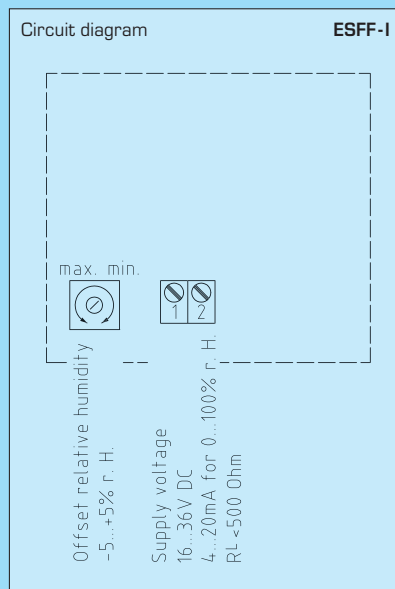
Overload: max. 5-fold nominal pressure

Burst pressure: $p_{max} = 150$ bar

Protection class: III (according to EN 60730)

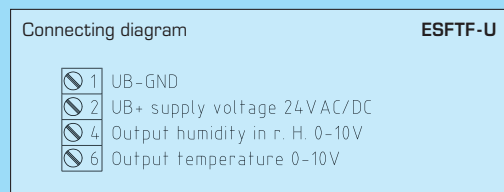
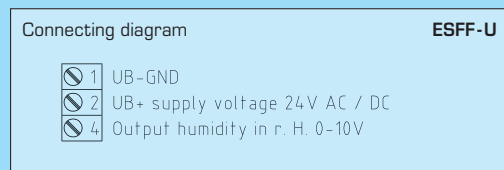
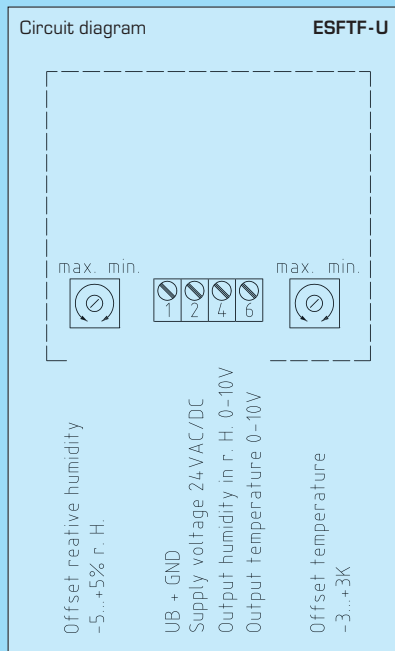
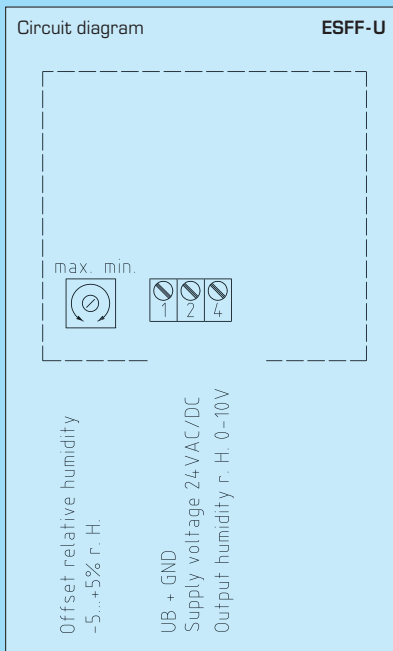
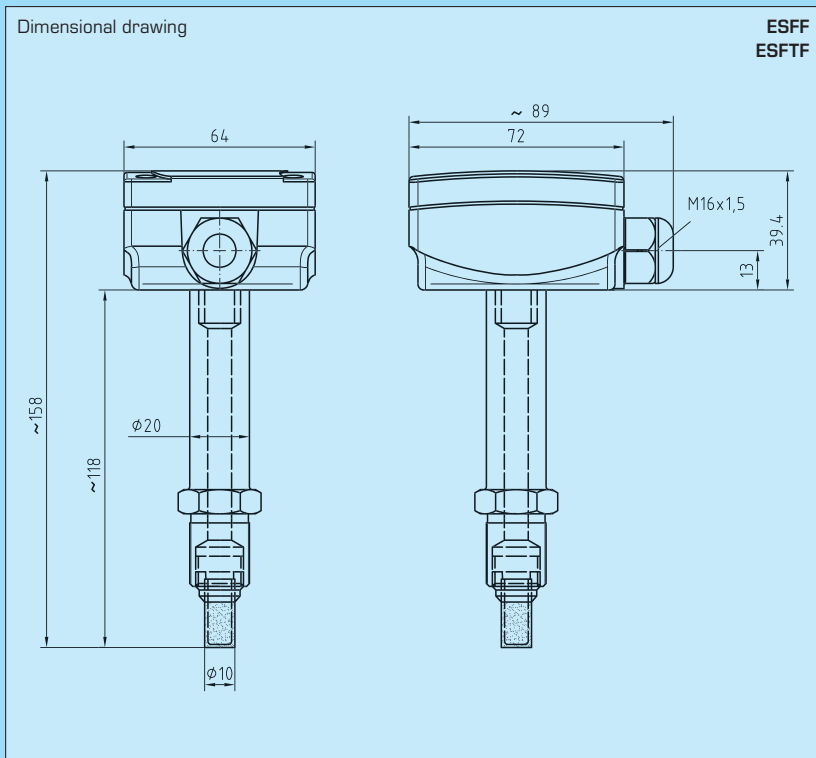
Protection type:..... IP65 (according to EN 60529)

Standards:..... CE conformity, electromagnetic compatibility
according to EN 61326+A1+A2,
EMC directive 89/336/EWG





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HYGRASGARD® ESFF and ESFTF:

Type/WG1	Range humidity (relative)	Range temperature	Output humidity (relative)	Output temperature
ESFF-I	0...100% r.H.	-	4...20mA	-
ESFF-U	0...100% r.H.	-	0-10V	-
ESFTF-I	0...100% r.H.	0...+50°C	4...20mA	4...20mA
ESFTF-U	0...100% r.H.	0...+50°C	0-10V	0-10V