

Temperature

Humidity

Pressure

Air Quality

Flow

Brightness &
Motion

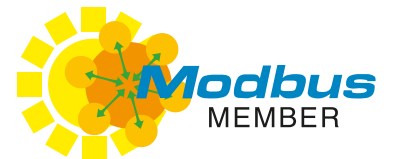
Meteorology

SENSOR TECHNOLOGY AND FIELD DEVICES QUICK REFERENCE

FuehlerSysteme



FuehlerSysteme eNET International
The Brand for Sensor Technology



FuehlerSysteme eNET International GmbH

... has been a developer, manufacturer and distributor of innovative sensor technology and field devices for industrial and building automation for 15 years. In addition to temperature sensors, transmitters and room control devices, the product range also includes instruments from the areas of humidity, pressure, air quality, flow, brightness, movement and meteorology.

The internal Customizing Team always offers the right special designs for your individual requirements. OEM solutions are also part of the Portfolio.

In this brochure you will find a section of the current range of FuehlerSysteme. Please contact us for offers, individual advice or more detailed information. We look forward to offering you tailor-made solutions for your projects!

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Temperature Sensors



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FUEHLERSYSTEME-TRANSDUCERS

SPECIAL FEATURES

- Analog outputs: 0-10 V, 4-20 mA (I-Version available as transmitter)
- Multi-Sensor-Platform - up to 5 measured variables can be processed with one device
- Elevator terminals
- Protection class IP65 (surface-mounted housing), IP30 (room housing)
- Protection class usually III
- Approvals usually CE, EAC, RoHs
- Easy installation
- Optionally with change-over contacts (at temperature up to two)
- For display devices
 - Display of offset, relay, MIN/MAX values
 - Setting of MIN/MAX measured values interval, display settings, relay hysteresis via display menu
 - Display content can be rotated in 90° steps
 - Optional backlight



MODBUS® RTU

SPECIAL FEATURES

- Multi-Sensor Platform: up to 9 measured variables can be processed in one device
- Factory reset during operation
- Master/Slave-topology via PLC
- Master/Slave-topology via FuehlerSysteme-Modbus-Master
 - Self-Sufficient Nodes
 - No PLC necessary
 - An FS1xxx device is being used as Master
- Device- and manufacturer-independent measured value display
- Cross-device actuator control
- Parameterization via DIP (address, transmission mode/speed, terminator, Master/Slave-function)
- Query a specially compiled register block
- Display content can be rotated in 90° steps
- Backlit display
- Double PG for effortless wiring
- Push-in clamps
- Protection class usually IP65
- Protection class usually III
- Approvals usually CE, EAC, RoHs
- Easy Installation





TEMPERATURE SENSORS

OUR HIGHLIGHTS

LF1/E

Pt100, Pt1000, Ni, NTC, KTY

**Contacting temperature sensor
with silicone cable and clamping band**

- - 50...+180°C
- incl. clamping band
- protection class IP65



LF2/E

Pt100, Pt1000, Ni, NTC, KTY

**Contacting temperature sensor
with clamping band**

- - 30...+110°C
- incl. clamping band
- protection class IP65



AF2/E

Pt100, Pt1000, Ni, NTC, KTY

**Outdoor temperature sensor
with sleeve**

- - 50...+90°C
- ext. protective sleeve with sensor
- protection class IP65



BF1/E

Pt100, Pt500, Pt1000

**Bayonet temperature probe with
120 ° measuring peak**

- - 30...+350°C
- 120 ° measuring peak
- bayonet cap Ø12 / Ø14mm



EF1/E

Pt100, Pt1000, Ni, NTC, KTY

**Screw-in temperature sensor
with brass immersion sleeve**

- - 30...+150°C
- Pmax 16 bar
- protection class IP65



EF4/E

Pt100, Pt1000

**Screw-in temperature sensor with
connection head Form B and neck tube**

- - 30...+600°C
- thread G1/2 inch
- Pmax. 40 bar
- protection class IP65



SPECIAL FEATURES

- extensive sensor selection (Pt100, Pt1000, Ni, NTC, KTY, LM235Z - others on request)
- protection class IP67, or IP65 for industrial housings
- special lengths
- small and large series
- cable: PVC, silicone, PTFE, glass silk/VA, shielded, etc.

EF6/E

Pt100, Pt1000

Screw-in temperature sensor with connection head type J

- - 70...+550°C
- thread G1/2 inch
- max. 40 bar
- protection class IP65



EF7/E

Pt100, Pt1000

Screw-in temperature sensor with plug connector according to DIN EN 175301

- - 30...+180°C
- thread G1/2 inch
- protection class IP65



HET / E

Pt100, Pt1000

Hand infeed temperature probe with PTFE-handle grip and PTFE-cable

- - 50...+250°C
- PTFE handle / cable
- water vapor-proof cast
- stainless steel bend protection
- protection class IP65



KP/E

Pt100, Pt1000, Ni, NTC, KTY

Cable temperature sensor with PVC-cable

- - 35...+105°C
- protection class IP67
- PVC-cable
- protection class IP67 (moisture proof rolling)



KS/E

Pt100, Pt1000, Ni, NTC, KTY

Cable temperature sensor with silicone cable

- - 50...+180°C
- silicone cable
- Protection class IP67 (moisture proof rolling)



KSt/E

Pt100, Pt1000, Ni1000

Cable temperature sensor with glass fibre/stainless steel netting

- - 50...+400°C
- glass fibre/stainless steel netting





TEMPERATURE SENSORS

OUR HIGHLIGHTS

KT/E

Pt100, Pt1000, Ni, NTC, KTY

**Cable temperature sensor
with PTFE cable**

- - 70...+250°C
- PTFE cable
- protection class IP67
(moisture proof rolling)



LP/E

Pt100, Pt1000, Ni, NTC, KTY

**Cable temperature sensor with
perforated protection sleeve and
PVC cable**

- - 35...+105°C
- perforated protec-
tive sleeve



KF1/E

Pt100, Pt1000, Ni, NTC, KTY

**Duct temperature sensor
with mounting flange**

- - 30...+150°C
- incl. mounting
flange
- protection class IP65



MWT/E

Pt100, Pt1000

Mantle Resistance Thermometer

- - 70...+500°C
- bendable
mantle probe
- installation length
- 100 to 400 mm
- short response times



OF1/E

Pt100, Pt1000, Ni, NTC, KTY

**Surface temperature sensor
self-adhesive**

- - 20...+105°C
- aluminum
mounting block
- incl. self-adhesive cap
- protection class IP65



OF2/E

Pt100, Pt1000, Ni, NTC, KTY

**Surface temperature sensor
- stainless steel block with PVC cable**

- - 35...+105°C
- stainless steel
block
- Ø5mm hole



OF4/E

Pt100, Pt500, PT1000

Surface temperature sensor magnetic

- - 40...+400°C
- magnetic adhesive force 90 N



RF/E

Pt100, Pt1000, Ni, NTC, KTY

Room temperature sensor

- - 30...+60°C
- modern room housing
- mounting on flush-mounted socket possible



DF/E

Pt100, Pt1000, Ni, NTC, KTY

Ceiling mounted temperature sensor

- - 30...+60°C
- modern housing design
- mounting in a suspended ceiling or plasterboard wall



RSF/E

Pt100, Pt1000, Ni, NTC, KTY

Radiation temperature sensor Indoor

- - 30...+75°C
- aluminium globe
- modern room housing



TF1/E

Pt100, Pt1000, Ni, NTC, KTY

Immersion temperature sensor with housing

- - 30...+150°C
- protective sleeve Ø 6 mm
- protective sleeve stainless steel VA 1.4571
- protection class IP65



TF8/E

Pt100, PT1000

Immersion Temperature Sensor with M12 Connector

- - 30...+90°C
- protective sleeve Ø 6 mm
- protective sleeve stainless steel VA 1.4571
- protection class IP65





TEMPERATURE TRANSDUCERS

OUR HIGHLIGHTS

LM1/E

0-10 V/4-20 mA

FS1053



Contacting temperature transducer with silicone cable and clamping band

- - 50...+180°C
- clamping band, clamping range 50-110 mm
- silicone cable 2m (max. +180°C)



optionally with exchange contacts

LM2/E

0-10 V/4-20 mA

FS1060



Contacting temperature transducer with clamping band

- - 30...+110°C
- clamping band, clamping range 50-110 mm



optionally with exchange contacts

AM1/E

0-10 V/4-20 mA

FS1001



Outside temperature transducer

- - 30...+70°C



optionally with exchange contacts

AM2/E

0-10 V/4-20 mA

FS1002



Outside temperature transducer with sleeve

- - 50...+90°C
- protective sleeve stainless steel VA 1.4571 6 x 45 mm



optionally with exchange contacts

EM/E

0-10 V/4-20 mA

FS1022



Screw-in temperature transducer with brass immersion sleeve

- - 30...+150°C
- Pmax. 16 bar
- protective sleeve stainless steel VA 1.4571, immersion sleeve brass Nickel-plated



optionally with exchange contacts

EM2/E

0-10 V/4-20 mA

FS1023



Screw-in temperature transducer with stainless steel immersion sleeve

- - 30...+150°C
- Pmax. 40 bar
- protective sleeve stainless steel VA 1.4571, immersion sleeve: stainless steel VA 1.4404



optionally with exchange contacts

SPECIAL FEATURES

- up to 2 potential-free change-over contacts
- selection of up to 16 measuring ranges per device via DIP-switch, for a better resolution of the measured value in the output signal
- freely programmable measuring ranges via the menu entry in the display
- many of the transducers also with digital Modbus RTU output

EM3/E

0-10 V/4-20 mA

Screw-in temperature transducer with connecting head form b

- - 30...+180°C
- Pmax. 40 bar
- thread G1/2 Inch



EM4/E

0-10 V/4-20 mA

Screw-in temperature transducer with terminal head form b and neck tube

- - 50...+150°C
- Pmax. 40 bar
- thread G1/2 Inch



RM2/E

0-10 V/4-20 mA

Screw-in temperature transducer with terminal head form B and neck tube for high temperatures

- - 35...+600°C
- thread G1/2 Inch



EM5/E

0-10 V/4-20 mA

Screw-in temperature transducer with silicone cable

- - 50...+180°C
- Pmax. 40 bar
- thread G1/2 Inch
- protective sleeve stainless steel VA 1.4571



optionally with exchange contacts

KSM/E

0-10 V/4-20 mA

Cable temperature transducer with silicone cable

- - 50...+180°C
- 2 m silicone cable (max. +180°C)
- protective sleeve stainless steel VA 1.4571



optionally with exchange contacts

FS1040

Modbus

KTM/E

0-10 V/4-20 mA

Cable temperature transducer with PTFE cable

- - 50...+250°C
- 2 m PTFE cable (2x0. 22 mm², max. +260°C)
- protective sleeve stainless steel VA 1.4571



optionally with exchange contacts

FS1041

Modbus



TEMPERATURE TRANSDUCERS

OUR HIGHLIGHTS

KM/E

0-10 V / 4-20 mA

FS1021



**Duct temperature transducer
with mounting flange**

- - 30...+150°C
- protective sleeve
Ø 6 mm
stainless steel VA
1.4571
- incl. mounting
flange



optionally with exchange contacts

MM/E

0-10 V / 4-20 mA

FS1030



**Average temperature
transducer**

- - 30...+80°C
- rod length
0,4 / 3 / 6m (Ø 6 mm)
- tightened rod by
copper core
- incl. mounting
flange



optionally with exchange contacts

OM1/E

0-10 V / 4-20 mA

FS1050



**Surface temperature-transducer
with self-adhesive mounting cap**

- - 20...+105°C
- aluminum mounting
block
- incl. self-adhesive cap



optionally with exchange contacts

OM3/E

0-10 V / 4-20 mA

FS1051



**Surface temperature transducer
with stainless steel block**

- - 40...+250°C
- stainless steel block
- 2 m glass silk /
stainless steel braid
(2x0.22 mm², max.
+400°C)



optionally with exchange contacts

OM4/E

0-10 V / 4-20 mA

FS1052



**Surface temperature transducer
with magnet**

- - 40...+250°C
- magnetic adhesive
force 90 N
- 2 m silicone cable
(max. +180°C)



optionally with exchange contacts

TPM2/E

0-10 V / 4-20 mA

FS1043



**Temperature transducer
with stainless steel room pendulum**

- - 30...+105°C
- pendulum made of
stainless steel,
15 x 100 mm



optionally with exchange contacts

RTM1/E

0-10 V/4-20 mA

FS1080



Room temperature transducer

- 0...+50°C
- wall mounting or surface mounting box



optionally with exchange contacts

UM1/E

0-10 V/4-20 mA

Flush-mounted room temperature transducer

- 0...+50°C
- switch Series:
Busch Jäger,
Gira, Jung, Berker,
Merten



TPM1/E

0-10 V/4-20 mA

FS1042



Radiated pendulum temperature transducer with aluminium sphere

- - 30...+75°C
- aluminium sphere in black
- measurement of heat radiation



optionally with exchange contacts



THERMOCOUPLES

OUR HIGHLIGHTS

BF1/T

Type J, K, L

Bayonet thermocouple with 120° measuring peak

- - 30...+350°C
- bayonet peak Ø6 or Ø8mm
- measuring point: 120°
- bayonet cap Ø 12 or 14 mm
- stainless steel VA 1.4571



EF4/T

Type J, K, L

Screw-in thermocouple with connection head form B and neck tube

- -200...+800°C
- neck tube length 80 mm
- thread G1/2 Inch
- protective sleeve stainless steel VA 1.4571



HE/T

Type J, K, L

Hand infeed thermocouple with PTFE-hand grip and silicone-cable

- - 50...+600°C
- PTFE-hand grip
- cable anti-kink protection
- sensor 6x150mm
- hand grip 20x120mm



KS/T

Type J, K, L

Cable thermocouple with TE mini-plug

- - 50...+200°C
- protective sleeve 6 x 50 mm, stainless steel VA 1.4571
- TE-Mini-plug



MT1/T

Type K

Sheath thermocouple with TE mini-plug

- -220...+1100°C
- Type K (NiCr-Ni)
- flexible



MJP/E

Type J

Jacket thermocouple type J with 2m PVC cable

- -220...+850°C
- flexible
- 2 m PVC cable with end ferrules



SPECIAL FEATURES

- cable ends with or without wire end ferrules, plug etc. - more on request!
- special lengths, small and large series
- Type K (NiCr-Ni), type J (Fe-CuNi), etc. according to DIN EN 60584, IEC 584 (potential free)
- cable: PVC, silicone, PTFE, glass silk/VA, shielded, etc.
- connection: rolled, crimped, shrunk and much more
- sleeve diameter: 6mm, 3mm, etc.

MJS/E

Type J

Sheathed thermocouple type J with 2m silicone cable

- -220...+850°C
- flexible
- 2 m silicone cable
- ferrules



MJG/E

Type J

Sheath thermocouple, Type J with 2m glass silk/stainless steel braid

- -220...+850°C
- flexible
- 2 m glass silk / stainless steel braid
- ferrules



MKP/E

Type K

Sheath thermocouple, type J with 2m PVC cable

- -220...+1150°C
- flexible
- 2 m PVC-cable
- ferrules



MKS/E

Type K

Sheath thermocouple, Type J with 2m silicone cable

- -220...+1150°C
- flexible
- 2 m silicone cable
- ferrules



MKG/E

Type K

Sheath thermocouple, type J with 2m glass silk/stainless steel braid

- -220...+1150°C
- flexible
- 2 m glass silk / stainless steel braid
- ferrules



TPK/E

Type K

Thermocouple type K with TE mini-plug

- - 40...+400°C
- fast response time
- TE-Mini Typ K
- flexible
- 1500 mm glass silk





TEMPERATURE ROOM CONTROL UNITS

OUR HIGHLIGHTS

RF1/R

Pt100, Pt1000, Ni, NTC, KTY

Room temperature sensor with potentiometer

- - 30...+60°C
- 1 kOhm Poti



RF2/R

Pt100, Pt1000, Ni, NTC, KTY

Room temperature sensor with button and LED

- - 30...+60°C
- buttons
- green LED



RF3/R

Pt100, Pt1000, Ni, NTC, KTY

Room temperature sensor with potentiometer and rotary switch

- - 30...+60°C
- 1 kOhm Poti
- 4 step rotary switch



RF4/R

Pt100, Pt1000, Ni, NTC, KTY

Room temperature sensor with potentiometer, button and LED

- - 30...+60°C
- 1 kOhm Poti
- buttons
- green LED



RF5/R

Pt100, Pt1000, Ni, NTC, KTY

Room temperature sensor with potentiometer, buttons and 2 LEDs

- - 30...+60°C
- 1 kOhm Poti
- buttons
- 2 LED



RF6/R

Pt100, Pt1000, Ni, NTC, KTY

Room temperature sensor with poti, 4-step rotary switch, rocker switch, 4 buttons and 4 LEDs

- - 30...+60°C
- 1 kOhm Poti,
- 4-stage, rocker,
- 4-buttons, 4 LED



SPECIAL FEATURES

- discreet, functional case
- easy installation
- versions available with buttons, LEDs, potentiometers, step, rotary, rocker switches
- flush and surface mounted
- wide range of sensors (Pt100, Pt500, Pt1000, Ni1000, KTY, NTC, LM235Z etc.)
- different colours for room housings (black, yellow, red and many more)
- printing possible according to customer requirements

UP1/R

Pt100, Pt1000, Ni, NTC, KTY

Flush-mounted room temperature sensor with potentiometer

- - 30...+60°C
- 1 kOhm Poti



UP2/R

Pt100, Pt1000, Ni, NTC, KTY

Flush-mounted room temperature sensor with button and LED

- - 30...+60°C
- buttons
- green LED



UP3/R

Pt100, Pt1000, Ni, NTC, KTY

Flush-mounted room temperature sensor with potentiometer and rotary switch

- - 30...+60°C
- 1 kOhm Poti
- 4 step rotary switch



UP4/R

Pt100, Pt1000, Ni, NTC, KTY

Flush-mounted room temperature sensor with potentiometer, button and LED

- - 30...+60°C
- 1 kOhm Poti
- button
- green LED



UP5/R

Pt100, Pt1000, Ni, NTC, KTY

Flush-mounted room temperature sensor with potentiometer, rotary switch and 2 LEDs

- - 30...+60°C
- 1 kOhm Poti
- rotary switch
- 2 LED





HUMIDITY

OUR HIGHLIGHTS

RAF/A

0-10 V/4-20 mA

Humidity transducer

- 0...100% r. h.
- accuracy $\pm 3\%$ r. h.



optionally with relay

RAF(H)/A

0-10 V/4-20 mA

Humidity transducer high-precision with calibration certificate

- 0...100% r. h.
- accuracy $\pm 2\%$ r. h.



optionally with relay

RKF/A

0-10 V/4-20 mA

Humidity transducer duct

- 0...100% r. h.
- accuracy $\pm 3\%$ r. h.



optionally with relay

RKF(H)/A

0-10 V/4-20 mA

Humidity transducer duct high-precision with calibration certificate

- 0...100% r. h.
- accuracy $\pm 2\%$ r. h.



optionally with relay

RRF/A

0-10 V/4-20 mA

Humidity transducer indoor

- 0...100% r. h.
- accuracy $\pm 3\%$ r. h.



optionally with relay

RRF(P)/A

0-10 V/4-20 mA

Humidity transducer with pendulum sensor

- 0...100% r. h.
- accuracy $\pm 2\%$ r. h.
- pendulum sensor



optionally with relay


SPECIAL FEATURES

- sensor protection usually by means of heated sensors (depending on the version permanent heating) and/ or sintered filter
- optional measurement / calculation of (relative/absolute humidity, temperature, mixing ratio, dew point temperature, wet bulb temperature)
- high precision up to 2%
- compressive strength up to 10 bar
- manual offset of humidity and temperature, manual setting of relay hysteresis


RDF/A
0-10 V/4-20 mA

Humidity transducer for ceiling mounting

- 0...100% r. h.
- accuracy $\pm 3\%$ r. h.




optionally with relay


RAFT/A **FS1100**
0-10 V/4-20 mA 

Humidity/temperature transducer

- % r. h., g/m^3 , g/kg , DP $^{\circ}\text{C}$
- accuracy $\pm 3\%$ r. h.




optionally with relay

RAFT(H)/A **FS1101**
0-10 V/4-20 mA 

High precision humidity/temperature transducer with calibration certificate

- % r. h., g/m^3 , g/kg , DP $^{\circ}\text{C}$
- accuracy $\pm 2\%$ r. h.




optionally with relay

RAFTP/A
HUM: 0-10 V/4-20 mA
TMP: Pt100, Pt1000, Ni, NTC, LM235Z

Humidity transducer active with passive temperature output

- 0...100% r. h.
- Ω $^{\circ}\text{C}$




optionally with relay


FS3110

Humidity transducer surface-mounted for relative/absolute humidity, wet bulb /dew point temperature, mixing ratio and temperature, heated sensors

- permanently heated sensor
- high humidity measurement up to 99% r. h.
- slight concentrations of pollutants




optionally with relay

RKFT/A **FS1120**
0-10 V/4-20 mA 

Humidity/temperature transducer duct

- % r. h., g/m^3 , g/kg , DP $^{\circ}\text{C}$



optionally with relay



HUMIDITY

OUR HIGHLIGHTS

RKFT(H)/A

0-10 V/4-20 mA

FS1121



Humidity/temperature transducer for channels, highly accurate with calibration certificate

- % r. h., g/m³, g/kg, DP °C
- accuracy ±2% r. h.



optionally with relay

RKFTP/A

r. h.: 0-10 V/4-20 mA

°C: Pt100, Pt1000, Ni, NTC, LM235Z

Humidity transducer duct

- 0...100% r. h.
- Ω °C



optionally with relay

FS3130

0-10 V/4-20 mA

Humidity-transducer duct for relative/ absolute humidity, wet bulb/dew point temperature, mixing ratio and temperature, heated sensor

- permanently heated sensor
- high humidity measurement up to 99% r. h.
- slight concentrations of pollutants



optionally with relay

FS3135

0-10 V/4-20 mA

Humidity transducer compressed air for relative/ absolute humidity, dew point temperature, mixing ratio and temperature

- % r. h., g/m³, g/kg, °C, DP °C
- max. 10 bar



optionally with relay

RRFT/A

0-10 V/4-20 mA

FS1180



Humidity/temperature transducer indoor

- % r. h., g/m³, g/kg, DP °C
- accuracy 3% r. h.



optionally with relay

RRFTP/A

r. h.: 0-10 V/4-20 mA

°C: Pt100, Pt1000, Ni, NTC, LM235Z

Humidity transducer indoor active - passive temperature output

- 0...100% r. h.
- Ω °C



optionally with relay

RRF(P)/A

0-10 V/4-20 mA

FS1141



Humidity/temperature transducer with pendulum sensor

- % r. h., g/m³, g/kg, DP °C



optionally with relay

RRFTP(P)/A

r. h.: 0-10 V/4-20 mA

°C: Pt100, Pt1000, Ni, NTC, LM235Z

Humidity transducer with pendulum sensor and passive temperature output

- 0...100% r. h.
- Ω °C



optionally with relay

RDFT/A

0-10 V/4-20 mA

FS1140



Humidity/temperature transducer for ceiling mounting

- % r. h., g/m³, g/kg, DP °C



optionally with relay

TW/A

0-10 V/4-20 mA

alternating contact

Dew point monitor with clamping band switching output

- 0...100% r. h.
- protection against condensation



optionally with relay

RAF/M

Exchange contact

Hygrostat, electronic switching output (change-over contact)

- 0...100% r. h.
- 2-digit LED display



RKF/M

Exchange contact

Duct hygrostat, electronic, switching output (change-over contact)

- 0...100% r. h.
- 2-digit LED display





PRESSURE

OUR HIGHLIGHTS

DMU/A

0-10 V/4-20 mA

Pressure transducer for pressure difference

- -5000...+5000 Pa
- 8 measurement ranges
- incl. connection set



optionally with relay

FS1200



Pressure transducer for differential pressure 100 Pa

- -100...+100 Pa
- incl. connection set



optionally with relay

FS1201



Pressure transducer for pressure difference 500 Pa

- - 500...+500 Pa
- incl. connection set



optionally with relay

DMU2/A

0-10 V/4-20 mA

Pressure transducer for pressure difference with EMC cable gland

- -5000...+5000 Pa
- 8 measurement ranges
- incl. connection set



FS1202



Pressure transducer for pressure difference 5000 Pa and volume flow

- -5000...+5000 Pa
- 0-200.000m³/h
- k-factor input via master
- incl. connection Set



optionally with relay

VMU1/A

0-10 V/4-20 mA

Pressure transducer for volume flow and pressure difference

- 0-200.000 m³/h,
-5000...+5000 Pa
- k-factor input on the device
- incl. connection Set



optionally with relay

SPECIAL FEATURES

- relative/absolute pressure, pressure difference, flow rate, atmospheric and barometric air pressure
- smallest pressures measurable between -25 Pa to 25 Pa
- relative pressures 0 to 1000 Bar
- negative/positive pressure range
- selection of up to 8 measuring ranges for better resolution of the measured value in the output signal
- output attenuation
- manual zero adjustment directly on-site using push buttons
- pressure switch

DT/D

0-10 V/4-20 mA

Pressure transducer for relative pressure

- 0...0.05 to 0...1,000 bar
- nonlinearity 0.5% BFSL
- stainless steel membrane
- thread g1/4 inch (G1/2 inch also possible with adapter)



ADF/A

0-10 V/4-20 mA

Pressure transducer for absolute pressure

- 0...16 bar abs.
- thread G1/4 inch (G1/2 inch also possible with adapter)



AD/A

0-10 V/4-20 mA

Pressure transducer for atmospheric and barometric air pressure

- 500...1150 mbar
- height above sea level via menu entry



optionally with relay

FS1205



Pressure transducer for atmospheric and barometric air pressure

- 500...1150 mbar
- input of height above sea level via master



optionally with relay

DW/H

Exchange contact

Pressure switch for non-aggressive gases, mechanical

- 20...5000 Pa
- incl. connection set



FS3610

Exchange contact

Differential pressure switch for liquid with adjustable setting

- liquid and gaseous – also aggressive
- max. 10 bar
- with protection cap and mounting bracket
- IP54





AIR QUALITY

OUR HIGHLIGHTS

KL/A

0-10 V / 4-20 mA

**Air quality sensor duct
for mixed gas (VOC)**

- 0...100% mixed gas VOC
- automatic recalibration
- sensitivity VOC adjustable in three stages



optionally with relay

KLT/A

0-10 V / 4-20 mA

**air quality sensor duct
for mixed gas (VOC) and temperature**

- 0...100% mixed gas VOC, 0...+50°C
- automatic recalibration
- LCD display
- sensitivity VOC adjustable in three stages



optionally with relay

RL/A

0-10 V / 4-20 mA

**Room air quality sensor
for mixed gas (VOC)**

- 0...100% mixed gas VOC
- automatic recalibration
- LCD Display
- sensitivity VOC adjustable in three stages



optionally with relay

RLT/A

0-10 V / 4-20 mA

**Air quality sensor indoor for mixed gas
(VOC) and temperature**

- 0...100% mixed gas VOC, 0...+50°C
- automatic recalibration
- LCD display
- sensitivity VOC adjustable in three stages



optionally with relay

RL2/A

0-10 V / 4-20 mA

**Room air quality sensor for mixed gas
(VOC) with LED display**

- 0...100% mixed gas VOC
- automatic recalibration
- LED traffic light display
- sensitivity VOC adjustable in three stages



optionally with relay

RLU/A

0-10 V

**Flush-Mounted Air Quality Sensor
for mixed gas (VOC)**

- 0...100% mixed gas VOC
- closer
- automatic recalibration



optionally with relay

SPECIAL FEATURES

- up to 5 combinations of CO, CO₂, VOC, humidity, temperature, atmospheric/barometric air pressure (more possible with Modbus)
- automatic/manual VOC calibration
- devices with selectable analog outputs (0-10 V, 4-20mA)
- 3 scales via DIP switch with CO and CO₂
- measurement via non-dispersive infrared sensor (NDIR)
- LCD Display

CO₂T-A/A

0-10 V/4-20 mA

CO₂ and temperature sensor with measuring range switch

- 0-2000/5000/10000 ppm
- 0...+50°C
- non-dispersive infrared sensor (NDIR)
- LCD Display



optionally with relay

CO₂VOC-A/A

0-10 V/4-20 mA

CO₂ and mixed gas VOC air quality sensor with measuring range switch

- 0-2000/5000/10000 ppm
- mixed gas VOC
- LCD display
- sensitivity VOC adjustable in three stages



optionally with relay

CO₂T-K/A

0-10 V/4-20 mA

CO₂ and temperature sensor for air ducts, with measuring range switch

- 0-2000/5000/10000 ppm
- 0...+50°C
- non-dispersive infrared sensor (NDIR)
- LCD display
- sensitivity VOC adjustable in three stages



optionally with relay

CO₂VOC-K/A

0-10 V/4-20 mA

CO₂ and mixed gas VOC air quality sensor for air ducts with measuring range switch

- 0-2000/5000/10000 ppm
- mixed gas VOC
- LCD display
- sensitivity VOC adjustable in three stages



optionally with relay

CO₂T-R/A

0-10 V/4-20 mA

CO₂ and temperature sensor indoor, with measuring range switch

- 0-2000/5000/10000 ppm
- 0...+50°C
- LCD display



optionally with relay

CO₂VOC-R/A

0-10 V/4-20 mA

CO₂ and mixed gas VOC air quality sensor with measuring range switch

- 0-2000/5000/10000 ppm
- mixed gas VOC
- LCD display
- sensitivity VOC adjustable in three stages



optionally with relay



AIR QUALITY

OUR HIGHLIGHTS

CO2-U/A

0-10 V

CO2 air quality sensor for flush mounting indoors

- 0-10000 ppm
- Automatic recalibration



optionally with relay

CO2-M/A

0-10 V/4-20 mA

Multi-Functional Air Quality Sensor

- CO2
- mixed gas VOC
- humidity
- temperature
- atmospheric/barometric air pressure



with change-over contact

COT-A/A

0-10 V/4-20 mA

CO and temperature sensor with measuring range switch

- 0-200/500/1000 ppm
- 0...+50°C
- LCD Display



optionally with relay

COT-K/A

0-10 V/4-20 mA

CO and temperature sensors for air channels with measuring range switch

- 0-200/500/1000 ppm
- 0...+50°C
- LCD Display



optionally with relay

COT-R/A

0-10 V/4-20 mA

CO and temperature sensor indoor with measuring range switch

- 0-200/500/1000 ppm
- 0...+50°C
- LCD Display



optionally with relay

CO M/A

0-10 V/4-20 mA

Multi-Functional Air Quality Sensor

- CO
- mixed gas VOC
- humidity
- temperature
- atmospheric/barometric air pressure
- sensitivity VOC adjustable in three stages



with change-over contact

FS1300



Air quality transducer flush-mounted for CO₂, VOC, humidity and temperature

- CO₂
- VOC
- % r. h.
- °C



optionally with relay

FS1301



Air quality transducer surface-mounted for CO, VOC, humidity and temperature

- CO
- VOC
- % r. h.
- °C



optionally with relay

FS1320



Air quality transducer duct for CO₂, VOC, humidity and temperature

- CO₂
- VOC
- % r. h.
- °C



optionally with relay

FS1321



Air quality transducer duct for CO, VOC, humidity and temperature

- CO
- VOC
- % r. h.
- °C



optionally with relay

FS1380



Air quality transmitter, indoor for CO₂, VOC, temperature and humidity

- CO₂
- VOC
- % r. h.
- °C



optionally with relay

FS1381



Air quality transducer indoor for CO, VOC, temperature and humidity, digital output

- CO
- VOC
- % r. h.
- °C



optionally with relay



FLOW

SPECIAL FEATURES

- laminar air flow
- volume flow
- temperature
- active output
- switching output
- air and liquids

OUR HIGHLIGHTS

FS5020

0-10 V/4-20 mA

Flow transducer duct for laminar air flow, volume flow and temperature

- 0-5 m/s
- 0...+50°C
- 0-50.000m³/h



optionally with relay

FS1420



FS5021

0-10 V/4-20 mA

Flow-transducer duct for airflow, volume flow and temperature

- 0-20 m/s
- 0...+50°C
- 0-200.000 m³/h



optionally with relay

FS1421



WFR/N

Exchange contact

Air flow monitor for ventilation duct, switching output

- 1...9.2 m/s
- exchange contact



with change-over contact

SRW/N

Exchange contact

Flow controller for liquids, switching output

- switching threshold
0.2-172.5 m³/h
- exchange contact
- pipe 1/2 inch to 8 inch



with change-over contact

CUSTOMIZING

Our Customizing Team

Our experienced team of experts supports you from start to finish.



Room housing

- › individual printing
- › sensors
- › rotary switch
- › potentiometer switch
- › buttons
- › display
- › LEDs
- › and much more

Housing

- › room housing
- › industrial housing



Industrial housing

- › individual printing
- › colored hinges
- › dual PG gland
- › display
- › and much more

Connections

- › duct sensors
- › immersion sensor
- › pressure
- › contacting sensor
- › flow
- › and much more



Tailor-made sensors for YOUR application

We manufacture according to your wishes.

Sleeves

- › perforated
- › mounting hole
- › conical
- › and much more



Cable tail

- › with wire-end ferrules
- › without wire-end ferrules
- › connector
- › variable length
- › and much more



Cable

- › PVC
- › silicone
- › PTFE
- › glass fibre/stainless steel
- › shielded
- › and much more



Connection

- › rolled
- › crimped
- › shrink tubing
- › and much more



- › Ø 6 mm
- › Ø 3 mm
- › and much more



BRIGHTNESS & MOTION

OUR HIGHLIGHTS

BFA/A

Motion sensor with infrared sensor switching output

- movement yes/no
- temperature difference of > 3 K to Sensor



with change-over contact

BFR/A

Motion sensor with infrared sensor switching output

- movement yes/no
- holding time 5 sec. up to 15 min.



with change-over contact

BFD/A

Motion sensor with infrared sensor for ceiling installation, switching output

- movement yes/no
- holding time 5 sec. up to 15 min.



with change-over contact

BHA/A

LUX: 0-10 V

Motion/brightness sensor with infrared sensor and photodiode

- movement yes/no
- 4 measuring ranges per plate
- brightness-dependent motion detection mode selectable



with change-over contact

BHR/A

LUX: 0-10 V

Motion/brightness sensor for indoors with infrared sensor and photodiode

- movement yes/no
- 3 measuring ranges
- brightness-dependent motion detection mode selectable



with change-over contact

BHT-D/A

LUX, TMP: 0-10 V

Motion/brightness and temperature sensor for ceiling mounting

- movement yes/no
- 0-1 kLux
- 0...50°C
- holding time 5 sec. up to 15 min



with change-over contact

SPECIAL FEATURES

- movement in a 360° environment, range 10 m by means of infrared
- adjustable holding time
- adjustable switching threshold
- brightness-dependent motion detection
- ceiling installation

HFA/A

0-10 V/4-20 mA

Brightness sensor with photo diode

- 0-10 V or 4-20 mA in one device possible
- 0-100 kLux
- 0...+50°C
- 8 Lux measuring ranges per device



HFR/A

0-10 V/4-20 mA

Brightness sensor indoor with photo diode

- 0-20 kLux
- 0...+50°C
- 3 Lux measurement ranges per device



HFD/A

LUX: 0-10 V/4-20 mA

Brightness sensor with photo diode for ceiling mounting

- 0-10 V or 4-20 mA in one device
- 0-100 kLux
- 8 Lux measuring ranges per device



FS1500



Transducer on-wall for brightness, movement, humidity and temperature

- Lux, movement, % r.h., °C



optionally with relay

FS1540



Transducer ceiling for brightness or motion

- Lux, movement



optionally with relay

FS1580



Transducer indoor for brightness, movement, humidity and temperature

- Lux, movement, % r.h., °C



optionally with relay



METEOROLOGY

OUR HIGHLIGHTS

FS6001

0-10 V

Weather station

- wind speed
- precipitation yes/no
- brightness (east/south/west)
- temperature / humidity / twilight
- rel. humidity
- twilight



FS6002

0-10 V/  Modbus

Weather station with ultrasonic sensors

- wind speed
- precipitation mm / h
- brightness (east/south/west)
- temperature, humidity, air pressure



FS6003

 Modbus

Weather station compact

- Wind speed
- Precipitation yes/no
- Brightness (east/south/west)
- Temperature, humidity, twilight, air pressure



NW/O

Relay

Rain sensor

- rain (yes/no)
- heated glass-coated ceramic



NW1/O

Relay

Precipitation monitor with infrared light barrier system

- precipitation yes/no



with change-over contact

WG2/O

0-10 V/4-20 mA

Wind speed transmitter compact

- 0-20 m/s
- opto-electronic scanning



SPECIAL FEATURES

- weather station
- rain, -precipitation monitors
- wind speed transmitter
- wind direction transmitter
- pyranometer

WG/O

0-1 V / 0-5 V / 0-10V /
0-20 mA / 4-20 mA

Wind speed transmitter Classic

- 0.3-50 m / s
- electronically
controlled heating



WRG2/O

0-10 V / 4-20 mA

Wind direction transmitter compact

- 0-360°
- resolution 1°
- electronically
controlled heating



WRG/O

0-10 V / 4-20 mA

Wind direction transmitter Classic

- 0-360°
- resolution 1°
- electronically
controlled heating



GSM/O

0-10 V / 4-20 mA

Pyranometer

- 0-1300 W / m²
- 380-2500 nm



ZM/O

Accessories

Meteorology-accessories

- traverse
- base plate
- lightning rod





ACCESSORIES

OUR HIGHLIGHTS

DT/G

Digital display

- input Pt100/TC type K
- 3.5-digit display
- IP54/IP65



BN/E

Bayonet nipple

- bayonet nipple
- stainless steel
- all common thread sizes



KV/E

Compression clamp

- G1/2 inch, G1/4 inch, M6/8/10x1
- Ø 1.5 - 6 mm
- stainless steel/PTFE clamping ring



MFL/E

Mounting flange

- aluminum
- synthetic
- incl. fastening screw



MUH/E

0-10 V/4-20 mA

Pt100 temperature transformer for DIN rail mounting

- - 50...+250°C
- protection type IP20



MUB/E

0-10 V/4-20 mA

Pt100 temperature transformer head form B

- 16 measuring ranges per plate
- -200...+600°C
- 1 freely programmable measurement range



SPECIAL FEATURES

- wide range of accessories
- especially for the requirements in building and industrial automation

MUD/E

0-10 V/4-20 mA

Pt100 temperature transformer with double-PG housing

- 16 measuring ranges per plate
- - 50...+50°C up to 0...+250°C
- 1 freely programmable measurement range



ZT/E

TH3/Z

with a compression clamp

Immersion sleeve optionally with compression clamp

- Tmax: 600 / 200°C
- brass sleeve Pmax. 16 bar
- stainless steel sleeve Pmax. 40 bar



ST/E

Connector

- plug connector male/female
- mini/standard size
- ceramic plug up to +650°C



SWS/A

Radiation and weather protection

- protection against precipitation
- protection against radiation
- easy mounting



SB/E

Snap-on mounting for DIN rails

- easy installation
- DIN rails
- mounting rail acc. DIN



SZ/E

Other accessories

- tension band
- heat transfer paste
- sun protection
- vandalism protection



Temperature

Humidity

Pressure

Air Quality

Flow

Brightness &
Motion

Meteorology

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The Brand for Sensor Technology



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