

Product overview

Humidity & temperature measuring technology - *high quality*

 EN | 2021



Experts in managing humidity since 1972

Measuring and controlling atmospheric humidity and temperature is the focus of Galltec+Mela's operations.

Our wide product range comprising transmitters, humidistats and controllers is underpinned by two core measurement principles.

Galltec+Mela are committed to offering solutions for all applications where the control of humidity and temperature matters. Our instruments are used throughout the world.

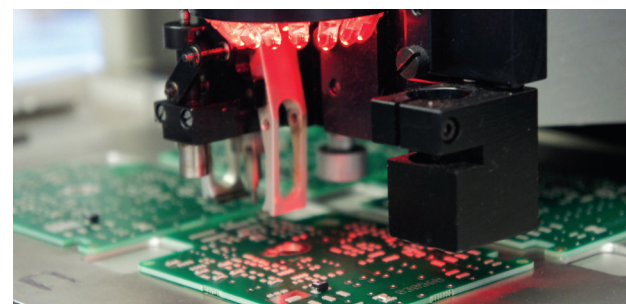
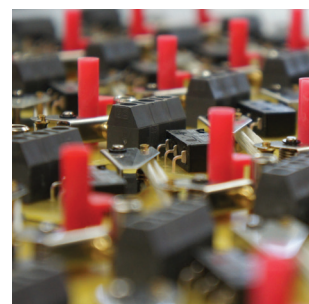
High quality and reliability are key characteristics of Galltec+Mela's products and services, allowing us to achieve our primary objective: complete customer satisfaction.

Facts

- Original equipment manufacturer
- Two measurement principles
- In-house fibre and sensorchip production
- All instruments made in Germany
- Three production and development sites
- More than 2000 m² production area
- Our own clean room production
- DIN EN ISO 9001 certified



MADE IN GERMANY



Transmitters

Economical transmitters 6

Economical transmitters are primarily optimised for HVAC applications. Thanks to their high quality manufacturing, these transmitters can also be used in moderate industrial conditions.



All-rounder transmitters 8

All-rounder transmitters not only cover the entire relative humidity range between 0 and 100 %, they also meet a wide range of requirements for accurate and reliable humidity and temperature measurements.



Heavy duty transmitters 14

Whether you are dealing with high operating temperatures (up to 200 °C), high atmospheric pressures, potentially explosive areas, high air speeds, increased dust levels, salt mists, air containing ammonia or other extreme conditions – we have the right heavy duty transmitter for your application.



POLYGA® fibre transmitters 19

POLYGA® fibres offer extraordinarily long term stability and excellent accuracy in high humidity areas. The fibres are water-resistant and washable.



Humidistats

Electronic humidistats 20

The electronic humidistats in the eStat series are flexible all-rounders for monitoring humidity and temperature. They are equipped with two relays which can be individually configured, a digital display and two additional analogue outputs for humidity and temperature.



Humidistats and condensation control 21

Humidistats equipped with unique POLYGA® fibres reliably monitor and control relative humidity without the need for any auxiliary power supply. Condensation controllers are available with POLYGA® fibres and the capacitive Mela® sensorchip.



Accessories

Filters and filtermatrix 23

Filters and protective baskets are used to adapt sensors to the different locations where they are deployed. They protect the sensors against mechanical damage in extreme conditions.



Two underlying measurement principles



POLYGA® fibres

Unique hygroscopic fibres with outstanding durability exclusively manufactured by GALLTEC®

Building on the well known fact that the length of human hair changes depending on humidity levels, GALLTEC® developed a synthetic hygroscopic fibre that also changes its length subject to humidity. It has unparalleled long term stability and is 100 % waterproof.

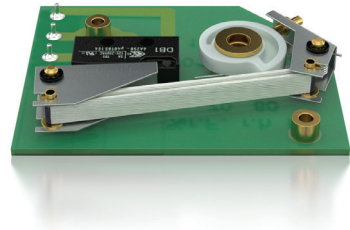
POLYGA® fibres are used for two types of instruments.

- **Humidistats**

The changes in length of the POLYGA® fibres are transferred via a lever system to a microswitch, resulting in an on/off controller that needs no auxiliary power supply.

- **Humidity transmitters**

The changes in the length of the POLYGA® fibres are converted into electrical resistance values that can either be directly measured (passive transmitters) or converted further into standard analogue output signals (active transmitters).

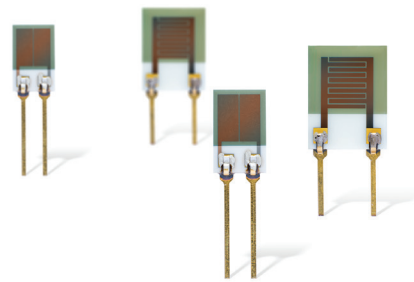


Capacitive MELA® sensorchips

Highly dynamic capacitive sensorchips for the full range of relative humidity measurements

MELA® manufactures thin film capacitive sensorchips in a high tech clean room environment. A system of layers is applied to a ceramic substrate. The layers consist of a basic electrode structure, MELA®'s proprietary hygroscopic polymer and an extremely thin covering layer of gold that is permeable to water vapour.

The MELA® polymer absorbs/desorbs atmospheric water vapour which modifies its relative permittivity and thereby changes the capacitance of the MELA® sensorchip. This capacitance is a direct measure of relative humidity.



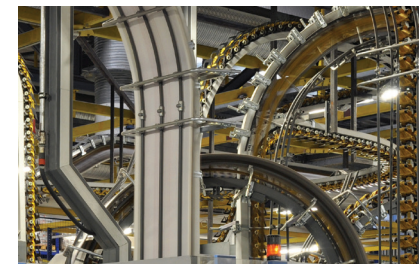
HVAC & building automation

Construction
Offices & public buildings
Private homes
Museums
Swimming pools & spas



Storage & transportation

Cooling & air conditioning in trains
Ship containers
Warehousing



Process & factory automation

Pharmaceutical industry	Industrial paint shops
Chemical industry	Textile processing
Clean rooms	Drying plants
Climate chambers	Brick manufacturing
Paper & print	



Agriculture & food industry

Greenhouses	Maturing of cheese, fruit & smoked meat
Animal husbandry	Storage & transportation of fruits, vegetables & meat
Bakery technology	Wine cabinets
Drying of tea, grain & meat	



Energy & environment

Electric control systems & switchboard cabinets
Wind turbines
Plant safety



Meteorology

Weather stations
Wind field measurement systems
Snow machines

Economical transmitters | L series



Probe LP	Indoor LI	Wall mounted LW	Duct mounted LK
IP 80 °C Ø 12 mm	60 °C	IP BUS 80 °C Ø 12 mm	IP BUS 80 °C Ø 12 mm

Optimised for the HVAC sector and very suitable for moderate industrial conditions

Economical transmitters in the L series are primarily optimised for ambient room conditions and are very suitable for helping to monitor energy costs in HVAC and building automation applications. Thanks to their high quality manufacturing, these transmitters can also be used in moderate industrial conditions.

Features

IP 65 housing	Probe, wall and duct mounted versions
IP 65 measuring head with PTFE sintered filter ZE05	Probe, wall and duct mounted versions
Sealing against condensation (optional)	Probe, wall and duct mounted versions
Protection against vibrations (optional)	Probe, wall and duct mounted versions
Operating temperature up to +80 °C	Probe, wall and duct mounted versions
Operating temperature up to +60 °C	Indoor version
Digital output signal RS232 or Modbus RS485	Wall and duct mounted versions
Analogue output signal	All
Easy installation with only one screw	Wall and duct mounted versions
Easy installation with clip-in cover	Indoor version

Accuracy

Humidity	± 3 % r.h.	30 - 80 % r.h. at 10 - 40 °C	All
Temperature	± 0.8 K	at 10 - 40 °C	All



M-Series

These miniature sensors are especially adapted to the requirements of measurement tasks where only limited space is available. They feature high long term stability, a low hysteresis and good dynamic performance.

Humidity accuracy	± 2.5 % r.h.	10 - 90 % r.h. at 10 - 40 °C
Temperature accuracy	± 0.5 K	at 23 °C ±1 digit

Applications

- HVAC & building automation
- Construction
- Offices & public buildings
- Private homes
- Museums
- Swimming pools & spas
- Warehousing
- Agriculture & food industry
- Bakery technology
- Semi-industrial applications
- Paper & print
- Electric control systems & switchboard cabinets

Economical transmitters | „Lightseries“ WL, PL, KL



Indoor WL	Probe PL	Duct mounted KL
60 °C	80 °C Ø 20 mm	80 °C Ø 20 mm

Optimised for HVAC

The "Lightseries" of sensors has been specially adapted to the needs of the ventilation and air conditioning sector. The KL and PL series come with gauze filters as standard. Filters for environments with more stringent requirements are also available (see pages 24-25).

Features

Current outputs galvanically separated	All
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Accuracy

Humidity	± 3 % r.h.	40 - 60 % r.h. at 23 °C	All
Temperature	± 1 K	at 10 - 40 °C	All

Applications

- HVAC & building automation
- Construction
- Offices & public buildings
- Private homes
- Museums
- Swimming pools & spas
- Agriculture & food industry
- Bakery technology

Key

<p>hx hx converter for calculating derived humidity variables</p> <ul style="list-style-type: none"> Dew point temperature Wet bulb temperature Absolute humidity Mixing ratio Enthalpy 	<p>Operating temperatures</p> <p>60 °C - 200 °C</p> <p>Ex ATEX</p> <p>autark Energy self-sufficient</p> <p>100% Water-resistant resistant to high humidity</p>	<p>Options</p> <ul style="list-style-type: none"> IP IP 65 protection BAR Pressure-resistant NH₃ Ammonia-resistant BUS Modbus USB USB available 	<p>Measurement principle</p> <ul style="list-style-type: none"> Capacitive sensorchip POLYGA® fibres Display available
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All-rounder transmitters | D series



Indoor DI

hx 60 °C

Wall mounted DW

hx IP USB 80 °C Ø 12 mm

Duct mounted DK

hx IP USB 80 °C Ø 12 mm

Excellent midrange transmitters - highly accurate and easy to install

The industrial versions DK and DW can be used at operating temperatures between -30 to 80 °C. The integrated hx processor uses the values for relative humidity and temperature to calculate the dew point, enthalpy, mixing ratio, absolute humidity or wet-bulb temperature. Depending on customer preferences, any two of these values can be captured at two analogue outputs using standardised signals. The integrated measuring chamber of the indoor DI is separated from the transmitter electronics to ensure good air circulation around the sensor elements.

Features

hx converter for calculating derived humidity variables	Wall and duct mounted versions
On-site calibration	Wall and duct mounted versions
IP 65 housing	Wall and duct mounted versions
IP 65 measuring head with PTFE sintered filter ZE05	Wall and duct mounted versions
Operating temperature up to +80 °C	Wall and duct mounted versions
Operating temperature up to +60 °C	Indoor version
Integrated measuring chamber	Indoor version
Easy installation with clip-in cover	Indoor version
Easy installation with only one screw	Wall and duct mounted versions
Microcontroller-based electronics	All
Output variables can be freely configured via USB port	Wall and duct mounted versions
Option: display	All

Accuracy

Humidity	± 2 % r.h.	10...90 % r.h. at 10...40 °C	All
Temperature			
With voltage output	± 0.2 K	at 10...40 °C	Wall and duct mounted versions
With voltage output	± 0.25 K	at 10...40 °C	Indoor version
With current output	± 0.3 K	at 10...40 °C	Wall and duct mounted versions
With current output	± 0.4 K	at 10...40 °C	Indoor version

Applications

- HVAC & building automation
- Construction
- Offices & public buildings
- Private homes
- Museums
- Swimming pools & spas
- Storage & transportation
- Cooling & air conditioning in trains
- Ship containers
- Warehousing
- Process & factory automation
- Pharmaceutical industry
- Chemical industry
- Clean rooms
- Paper & print
- Textile processing
- Drying plants
- Brick manufacturing
- Agriculture & food industry
- Greenhouses
- Storage of fruit, vegetables & meat
- Wine cabinets
- Drying of tea, grain & meat
- Energy & environment

All-rounder transmitters | DZK



Option:
PTFE sintered filter IP 65
125 °C IP65

Transmitter with integrated connector

hx IP USB 80 °C

and probe versions

IP 85 °C 125 °C Ø 12 mm

Excellent midrange transmitters - easily customised, modular design

The transmitters can be designed for customer-specific measurement tasks and optimally configured via USB. The probe and transmitter can be used in any combination. This makes them suitable for many installation situations and applications. Some models in this series are temperature-resistant up to 125 °C. All models can be supplied with an IP 65 safety category.

Features

hx converter for calculating derived humidity variables	All
On-site calibration	All
IP 65 housing	All
IP 65 measuring head with PTFE sintered filter ZE05 - optional	All
Operating temperature up to + 80 °C	Housing and standard cable
Operating temperature up to + 85 °C	Standard probe
Operating temperature up to +125 °C	With high temperature probe and cable
Plug-in connection	In housing and/or at probe
Plug-in probe with female socket	4 probe lengths
Cable connected probe (or with female cable connector)	3 probe lengths
Option: Output variables can be freely configured via USB port	All
Option: display	All

Accuracy

Humidity	± 2 % r.h.	10...90 % r.h. at 25 °C	All
Temperature	± 0.35 K	at 5...60 °C	All

Applications

- HVAC & building automation
- Construction
- Offices & public buildings
- Private homes
- Museums
- Swimming pools & spas
- Storage & transportation
- Cooling & air conditioning in trains
- Ship containers
- Warehousing
- Process & factory automation
- Pharmaceutical industry
- Chemical industry
- Clean rooms
- Paper & print
- Textile processing
- Drying plants
- Brick manufacturing
- Agriculture & food industry
- Greenhouses
- Storage of fruit, vegetables & meat
- Wine cabinets
- Drying of tea, grain & meat
- Energy & environment

All-rounder transmitters | PC/RC



Probe PC

80 °C Ø 20 mm

Probe RC

80 °C Ø 20 mm

ME version

80 °C Ø 20 mm

Optimised for outdoor meteorology applications

Robust construction and the option of equipping the sensors with special filters, as well as a variety of optional special equipment, make these sensors stand out as versatile all-rounders for use in humidity and temperature measurement applications. For extreme location conditions (near the sea, in deserts, mountains, areas with high air speeds, etc.) we recommend one of our stainless steel sintered filters (see pages 24-25).

Features

Outdoor, meteorological applications	All
Option: protection against vibrations	All
Operating temperature -40...+80 °C	All
Analogue output signal	All
With cable- or plug-connection	PC

Accuracy

Humidity	± 2 % r.h. 5...95 % r.h. at 10...40 °C	All
Temperature		
With voltage output	± 0.2 K	All
With current output	± 0.3 K	RC, RC-ME
With current output	- 0.3...+0.6 K	PC, PC.S

Applications

- Storage & transportation
- Cooling & air conditioning in trains
- Ship containers
- Warehousing
- Process & factory automation
- Pharmaceutical industry
- Chemical industry
- Paper & print
- Drying plants
- Brick manufacturing
- Agriculture & food industry
- Drying of tea, grain & meat
- Maturing of food
- Storage of fruit, vegetables & meat
- Energy & environment
- Wind turbines
- Meteorology
- Weather stations
- Wind field measurement systems
- Snow machines

Key

hx hx converter for calculating derived humidity variables

- Dew point temperature
- Wet bulb temperature
- Absolute humidity
- Mixing ratio
- Enthalpy

Operating temperatures

60 °C - 200 °C

Ex ATEX

autark Energy self-sufficient

100% Water-resistant resistant to high humidity

Options

IP IP 65 protection

BAR Pressure-resistant

NH₃ Ammonia-resistant

BUS Modbus

USB USB available

Measurement principle

Capacitive sensorchip

POLYGA® fibres

Display available

All-rounder transmitters | I Series



Probe IAK, IRK

hx BUS 85 °C Ø 20 mm

Probe IV, IT

hx BUS 85 °C Ø 15 mm

ME version

hx BUS 85 °C Ø 20 mm

Very precise and robust compact probe transmitters

Transmitters in the I series are robust, compact probe sensors with cable, connecting head or plug-in connection to measure relative humidity and temperature with high precision. They can be used for a wide range of applications. Equipped with stainless steel sintered filters, they can be used in extreme locations near the sea, in deserts, mountains, areas with high air speeds, etc. (see pages 24-25).

The RS485 standard is the communication method used for the digital versions of the I series. Implementing the Modbus RTU protocol stack makes these sensors buscompatible.

Features

Outdoor, meteorological applications	All
Option: protection against vibrations	IAK, IRK
Operating temperature -40...+85 °C	All
Output signal analogue	IAK, IRK, IV
Output signal digital RS232 ASCII protocol	IAKR, IRKR, IV
Output signal digital Modbus - RTU protocol	IAKM, IRKM, IV
Stainless steel probe with plug-in connection	IVK
Stainless steel probe with robust aluminiumconnecting head	ITK
Option: pressure-resistant up to 10 bar	All with digital output signal
hx converter for calculating derived humidity variables	All with digital output signal

Accuracy

Humidity	± 1.5 % r.h. 10...90 % r.h. at 23 °C	All
Temperature	± 0.2 K at 23 °C	All

Applications

- Storage & transportation
- Cooling & air conditioning in trains
- Ship containers
- Warehousing
- Process & factory automation
- Pharmaceutical industry
- Chemical industry
- Paper & print
- Drying plants
- Brick manufacturing
- Agriculture & food industry
- Drying of tea, corn, meat
- Maturing of food
- Storage of fruit, vegetables, meat
- Energy & environment
- Wind turbines
- Meteorology
- Weather stations
- Wind field measurement systems
- Snow machines

All-rounder transmitters | Plug 'n' Measure



Probe PM15P

hx 70 °C Ø 15 mm

Probe PMUP

hx 70 °C Ø 15 mm

Excellent probe transmitters with exchangeable measuring head

The transmitters in the Plug 'n' Measure series work with an internal hx processor which uses the measured values for relative humidity and temperature to also calculate the enthalpy, absolute humidity, mixing ratio (water/air) or wet-bulb temperature. When the transmitter needs recalibrating, the measuring heads (PMU) can be switched within seconds, allowing processes to run continuously with virtually no interruption.

Typical applications include air conditioning and refrigeration, process and production automation, the pharmaceutical industry, humidity and temperature measurements in quality control, agricultural engineering and meteorology, to name but a few.

Features

hx converter for calculating derived humidity variables	All
Calibrated sensor head, exchangeable	All
IP 64 housing	PM15P
Current or voltage output	All

Accuracy

Humidity	± 1.5 % r.h. 10 - 90 % r.h. at 25 °C	All
Temperature	± 0.15 K at 25 °C	All

Applications

- Process & factory automation
- Pharmaceutical industry
- Chemical industry
- Clean rooms
- Climate chambers
- Paper & print
- Industrial paint shops
- Textile processing
- Drying plants
- Brick manufacturing

All-rounder transmitters | FK Series



Indoor (T)FK120

60 °C

Duct mounted (T)FK80

80 °C Ø 20 mm

Transmitter for semi-industrial and industrial applications

The sensors in the FK series are very robust humidity and temperature sensors, providing highly accurate measurements across the entire measuring range. They are available in duct mounted and indoor versions, and their excellent measuring characteristics have made them best-selling items for semi-industrial and industrial applications. Transmitters for semi-industrial and industrial applications.

Features

Operating temperature	up to +80 °C	duct mounted version
Operating temperature	up to +60 °C	Indoor version

Accuracy

Humidity	± 2 % r.h.	40...60 % r.h. at 23 °C	Duct mounted version
	± 3.5 % r.h.	10...95 % r.h.	Indoor version
Temperature			Duct mounted version
	With voltage output	± 0.2 K	Duct mounted version
	With current output	± 0.3 K ± 0.8 K	Indoor version

Applications

- Storage & transportation
- Warehousing
- Process & factory automation
- Brick manufacturing
- Agriculture & food industry
- Storage of fruit, vegetables & meat

Key

<p>hx hx converter for calculating derived humidity variables</p> <ul style="list-style-type: none"> Dew point temperature Wet bulb temperature Absolute humidity Mixing ratio Enthalpy 	<p>Operating temperatures</p> <p>60 °C - 200 °C</p> <p>Ex ATEX</p> <p>autark Energy self-sufficient</p> <p>100% Water-resistant resistant to high humidity</p>	<p>Options</p> <ul style="list-style-type: none"> IP IP 65 protection BAR Pressure-resistant NH₃ Ammonia-resistant BUS Modbus USB USB available 	<p>Measurement principle</p> <ul style="list-style-type: none"> Capacitive sensorchip POLYGA® fibres Display available
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Heavy duty transmitters | VC & VR



Probe VC

IP 80 °C Ø 15 mm

Probe VR, VR.D

IP 80 °C 25BAR Ø 15 mm

Probe VC/11

NH₃ 80 °C Ø 15 mm

Compact sensors for use in extreme conditions up to 80 °C

The sensors in the VC and VR series are rod-shaped, compact sensors. They can be used in a wide range of applications and have been specially developed for extreme conditions. Their design also makes them ideally suited to performing equilibrium humidity measurements in bulk materials and in brickwork.

Features

Pressure-resistant up to 25 bar atmospheric pressure	VR.D
Resistant to ammonia (with filter ZE26)	VC/11
1.5 m connecting cable	VC & VC/11
IP 65 protection electronics	VC & VR
IP 65 protection sensor head with Filter ZE13	VC & VR
Stainless steel housing	All

Accuracy

Humidity	± 2 % r.h. 5...95 % r.h. at 10...40 °C ± 3 % r.h. 20...90 % r.h. at 15...40 °C	VC & VR VC/11
Temperature		
With voltage output	± 0.2 K 0 - 1 V at -27...70 °C	VC, VR
With voltage output	± 0.2 K 0 - 10 V at -29...70 °C	VC, VR
With current output	- 0.2...+0.6 K	VC, VR
With current output	± 0.3 K	VC/11

Applications

- Process & factory automation
- Pharmaceutical industry
- Chemical industry
- Clean rooms
- Climate chambers
- Paper & print
- Industrial paint shops
- Textile processing
- Drying plants
- Brick manufacturing
- Bulk materials

Heavy duty transmitters | ATEX certificate



Wall-mount GC.Ex

IP Ex 80 °C Ø 15 mm

Duct-mount KC.Ex

IP Ex 80 °C Ø 15 mm

ATEX certified – tailor-made explosion-proof technology

Humidity and temperature sensors with ATEX certification for use in explosion hazardous areas and locations with inflammable dust; equipment in categories 1/2G and 2D. The sensors consist of a sensor component with a sintered filter (both made from stainless steel), mounted on a robust aluminium die-cast housing (transmitter component).

Ex II 1/2G Ex ia IIC T4
Ex II 2D Ex tb IIIC T95 °C
-40 °C ≤ T_a ≤ +80 °C

Approved for use in explosion hazardous areas:
EC Design Test Certificate
IBExU 07 ATEX 1114

Features

IP 66 protection		All
Sensor component	stainless steel	All
Transmitter component	die-cast aluminium	All

Accuracy

Humidity	± 2 % r.h. 5...95 % r.h. at 10...40 °C	All
Temperature	± 0.2 K at 23 °C	All

Applications

- Process & factory automation
- Pharmaceutical industry
- Chemical industry
- Paper & print
- Industrial paint shops

Key

<p>hx hx converter for calculating derived humidity variables</p> <ul style="list-style-type: none"> Dew point temperature Wet bulb temperature Absolute humidity Mixing ratio Enthalpy 	<p>Operating temperatures</p> <p>60 °C - 200 °C</p> <p>Ex ATEX</p> <p>autark Energy self-sufficient</p> <p>100% Water-resistant resistant to high humidity</p>	<p>Options</p> <ul style="list-style-type: none"> IP IP 65 protection BAR Pressure-resistant NH₃ Ammonia-resistant BUS Modbus USB USB available 	<p>Measurement principle</p> <ul style="list-style-type: none"> Capacitive sensorchip POLYGA® fibres Display available
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Heavy duty transmitters | B series



Wall mounted BW

Duct mounted BK

Remote probe BZ

hx IP BUS 85 °C

hx IP BUS 10BAR NH₃ 150 °C 200 °C

hx IP BUS NH₃ 200 °C

For advanced requirements - transmitter/probe firmly connected

Depending on the individual design, these sensors can be used at temperatures between -80 °C and +200 °C and at pressures of up to 10 bar in non-corrosive atmospheres. In the B Series, the probe and transmitter are permanently connected to one another. With the RS485 Modbus RTU protocol all of the hx-values can be read simultaneously.

Features

hx converter for calculating derived humidity variables	All
On-site calibration	All
Option: digital output signal (RS232 or Modbus)	All
Option: display	All
On request: resistant to ammonia	Duct mounted version, remote probe
Option: pressure-resistant up to 10 bar	Duct mounted version

Operating temperature Design

Up to 200 °C	Remote probe	BZK.OH
	Duct mounted	BKK.TH
Up to 150 °C	Duct mounted	BKK.OE
Up to 85 °C	Wall mounted	BWK.OO

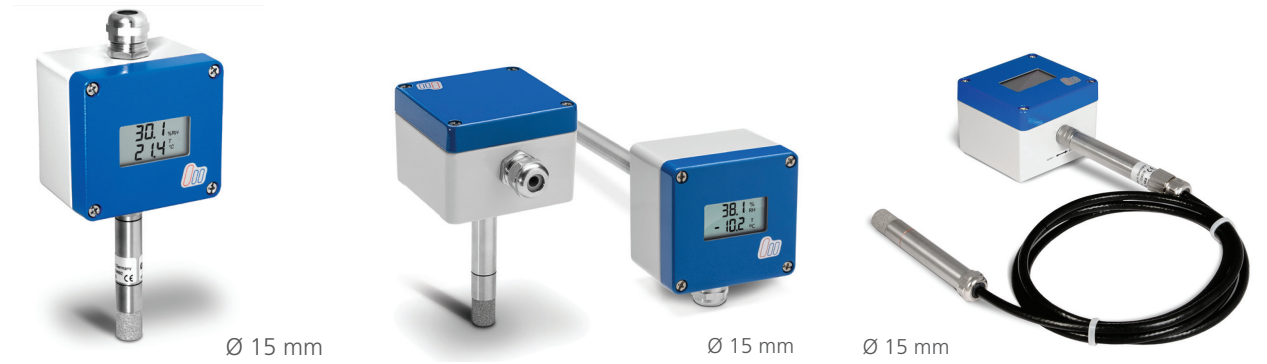
Accuracy

Humidity	± 1.5 % r.h.	10...90 % r.h. at 23 °C	All
Temperature	± 0.15 K	at 23 °C	All

Applications

- Process & factory automation
- Pharmaceutical industry
- Chemical industry
- Clean rooms
- Climate chambers
- Paper & print
- Industrial paint shops
- Textile processing
- Drying plants
- Brick manufacturing
- Agriculture & food industry
- Drying of tea, grain & meat

Heavy duty transmitters | A series



Wall mounted with probe

Duct mounted with probe

Remote probe SZKA.OH

hx IP BUS 85 °C

hx IP BUS NH₃ 150 °C

hx IP BUS NH₃ 25BAR 200 °C

Transmitters for advanced requirements – with exchangeable probes

The probe and transmitter are exchangeable and can be used in any combination. Depending on the individual design, these sensors can be used at temperatures between -80 °C and +200 °C and at pressures of up to 25 bar. Implementing the Modbus RTU protocol stack makes these sensors bus-compatible for the digital versions of the A series. With the RS485 standard all of the hx-values can be read simultaneously.

Features

hx converter for calculating derived humidity variables	All (except RS232)
On-site calibration	All
Option: digital output signal (RS232 or Modbus)	All
Option: display	All
Option: pressure-resistant up to 25 bar	Remote probe SVKA.HD
On request: resistant to ammonia	All probes

Humidity	Temperature	Versions	Design
0 ... 100 %r.F.	-40 ... + 85 °C		AW with SVKA.OO (Wall mounted)
0 ... 100 %r.F.	-50 ... +150 °C		AK with SVKA.OE (Duct mounted)
0 ... 100 %r.F.	-60 ... +160 °C	Pressure-resistant up to 25 bar	AW with SZKA.HD (Remote probe)
0 ... 100 %r.F.	-80... + 200 °C		AW with SZKA.OH (Remote probe)



Accuracy

Humidity	± 1.5 % r.h.	10...90 % r.h. at 23 °C	All
Temperature	± 0.15 K	at 23 °C	All

Applications

- Process & factory automation
- Pharmaceutical industry
- Chemical industry
- Clean rooms
- Climate chambers
- Paper & print
- Industrial paint shops
- Textile processing
- Drying plants
- Brick manufacturing
- Agriculture & food industry
- Drying of tea, grain & meat

Heavy duty transmitters | GC, KC, ZC



Wall mounted GC

80 °C Ø 20 mm



Duct mounted KC

IP 125 °C Ø 15 mm



Remote probe ZC

IP 125 °C 160 °C 200 °C 25BAR Ø 15 mm

For industrial applications up to 200 °C and 25 bar

The transmitters in this series are supplied with a robust, die-cast aluminium housing with a stainless steel or aluminium sensor component, to measure relative humidity only, or relative humidity and temperature, in air and other non-aggressive gases for operating temperatures up to 200 °C.

The pressure-resistant versions "D" and "HD" can be used at pressures up to 25 bar, and temperatures up to 125 °C or 160 °C respectively. These sensors are ideally suited to industrial applications, e.g. drying processes.

Features

Pressure-resistant up to 25 bar atmospheric pressure	ZC.HD, ZC.D
Current outputs galvanically separated	All
Meteorological applications	Wall mounted GC-ME
IP 65 housing	All
IP 65 sensor component	KC, ZC

Operating temperature Design

Up to 200 °C	remote probe	ZC.H
Up to 160 °C and 25 bar	remote probe	ZC.HD
Up to 125 °C	remote probe duct mounted	ZC KC
Up to 125 °C and 25 bar	remote probe	ZC.D
Up to 80 °C	wall mounted	GC, GC-ME

Accuracy

Humidity	± 2 % r.h.	5 - 95 % r.h. at 10 - 40 °C	All
Temperature			
With voltage output	± 0.2 K		All
With current output	± 0.3 K		All

Applications

- Process & factory automation
- Pharmaceutical industry
- Chemical industry
- Clean rooms
- Climate chambers
- Paper & print
- Industrial paint shops
- Textile processing
- Drying plants
- Brick manufacturing
- Agriculture & food industry
- Drying of tea, grain & meat

Universal POLYGA® - transmitters | FG series



Indoor FG120

50 °C autark



Duct mounted FG80

80 °C Ø 16 mm

Outstanding durability, reliability and robustness

POLYGA® transmitters demonstrate excellent measuring properties and accuracy in high humidity conditions. They can be adjusted and cleaned in water. Their outstanding durability, reliability and robustness make them the classic choice for applications in the food processing industry, such as fermenting and ripening processes, or applications with extended periods of high humidity.

Features

Washable measuring element	Duct mounted version
With resistance, current or voltage output	All
IP 64, high grade steel sensor material	Duct mounted version

Accuracy

Humidity	± 2.5 % r.h.	> 40 % r.h.	All
Temperature	± 0.5 K		All

Applications

- HVAC & building automation
- Construction
- Offices & public buildings
- Museums
- Swimming pools & spas
- Storage & transportation
- Warehousing
- Process & factory automation
- Industrial paint shops
- Drying plants
- Brick manufacturing
- Agriculture & food industry
- Greenhouses
- Animal husbandry
- Bakery technology
- Drying of tea, grain & meat
- Storage of fruit, vegetables & meat
- Maturing of food

Key

<p>hx hx converter for calculating derived humidity variables</p> <ul style="list-style-type: none"> Dew point temperature Wet bulb temperature Absolute humidity Mixing ratio Enthalpy 	<p>Operating temperatures</p> <p>60 °C - 200 °C</p> <p>Ex ATEX</p> <p>autark Energy self-sufficient</p> <p>100% Water-resistant resistant to high humidity</p>	<p>Options</p> <ul style="list-style-type: none"> IP IP 65 protection BAR Pressure-resistant NH₃ Ammonia-resistant BUS Modbus USB USB available 	<p>Measurement principle</p> <ul style="list-style-type: none"> Capacitive sensorchip POLYGA® fibres Display available
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Electronic humidistat | eStat



Indoor eStat10 **Controller eStat20** with remote probes

60 °C IP 60 °C IP 85 °C 125 °C Ø 12 mm

Humidistat all-rounders with 2 switching points and analogue outputs

With two relays for monitoring humidity which can be individually configured, a digital display and two additional analogue outputs for humidity and temperature, these two humidistats have the entire spectrum of possible applications covered. The potential-free relay outputs can be configured internally as either normally closed (NC) or normally open (NO) contacts. Both humidity setpoints and the respective hysteresis required can be easily set without having to open the housing.

Features

2 potential-free switching outputs configurable as NC or NO contacts	All
2 independently configurable setpoints and switching hystereses	All
Display of current relay switching states	All
Temperature compensation	All
Long term stability	All
With remote probe (cable up to 25 m)	eStat20
IP 65 cable sensor with PTFE sintered filter ZE05	eStat20
High temperature probe up to +125 °C	eStat20
Plug-in connection to housing and/or probe	eStat20
Keylock to prevent unauthorized changes to the settings	All

Accuracy

Humidity	± 3 % r.h.	10...90 % r.h. at 25 °C	Indoor version Remote probe
	± 2 % r.h.	10...90 % r.h. at 25 °C	
Temperature	± 0.3 K	at 23 °C	Indoor version Remote probe
	± 0.35 K	at 23 °C	

Applications

- HVAC & building automation
- Construction
- Offices & public buildings
- Private homes
- Museums
- Swimming pools & spas
- Air conditioning & refrigeration
- Storage & transportation
- Agriculture & food industry
- Process & factory automation
- Machinery & plant engineering

Humidistats



Duct mounted HG80 **Indoor HG120** **Indoor HG Mini** **Indoor Hygroswitch**

100% 60 °C autark 100% 60 °C autark 100% 60 °C autark 100% 60 °C autark

Self-powered humidistats – very robust and reliable

Humidistats for monitoring and controlling relative humidity feature an impressively simple, robust design that ensures a long service life. The watertight and robust POLYGA® measuring element, combined with a smart mechanism, provides reliable control signals. The change in the length of the measuring element activates the microswitch when the required air humidity is reached. The different humidistat types cover a range of breaking capacities from 1 mA to 15 A.

Features

Breaking capacity 250 VAC up to 5 A	All
Changeover contacts	All
1 or 2 changeover contacts	HG120-2, HG80-2
Directive 2014/30/EU	All
No power supply required	All
IP 64 duct mounted humidistat	HG80i
Operating temperature 0...+60 °C	All
Water-resistant, washable measuring element	HG80

Accuracy

Humidity	± 3 % r.h.	Indoor version Duct mounted version
	± 3,5 % r.h.	

Combined thermostat/humidistat

The DUO combined thermostat/humidistat is used as an on/off controller to regulate relative humidity and temperature in air conditioning units and climatic chambers.

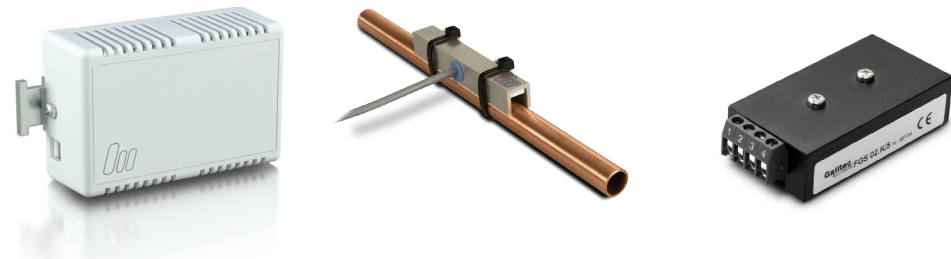
Operating temperature	10...60 °C
Breaking capacity	250 VAC to 15 A



Applications

- HVAC & building automation
- Construction
- Offices & public buildings
- Private homes
- Museums
- Swimming pools & spas
- Storage & transportation
- Cooling & air conditioning in trains
- Warehousing
- Process & factory automation
- Paper & print
- Industrial paint shops
- Textile processing
- Drying plants
- Brick manufacturing
- Agriculture & food industry
- Greenhouses
- Animal husbandry
- Bakery technology
- Drying of tea grain & meat
- Maturing of food
- Storage of fruit, vegetables & meat
- Wine cabinets
- Energy & environment
- Electric control system & switchboard cabinets
- Wind turbines

Condensation detectors



FAS

HSF

FGO/FGS

100% 60 °C autark

IP 70 °C

70 °C

Prevent damage due to condensation or high air humidity

Condensation controller sensors are mounted on cooling water pipes or cooled surfaces. They monitor the temperature with reference to a preset relative humidity value, in order to prevent condensation.

We offer condensation controllers with POLYGA® fibres and switching output or with the capacitive Mela® sensorchip and switching output or analogue output signal.

Features

Operating temperature	0...+60 °C	FAS
Operating temperature	0...+70 °C	HSF, FGS
Changeover contacts		FAS
Breaking capacity max.	48 VAC	FAS, FGS
Breaking capacity max.	250 VAC	FAS 250 VAC
Switching and analogue output		HSF2
Analogue output signal		FGO
Switching output		FAS, HSFs, FGS

Applications

- Chilled ceilings
- Storage & transportation
- Cooling & air conditioning in trains
- Electric controlsystems systems & switchboard cabinets
- Wind turbines

Accuracy

Humidity	± 2 % r.h.	HSF2
	± 3 % r.h.	FAS

Key

hx

converter for calculating derived humidity variables

- Dew point temperature
- Wet bulb temperature
- Absolute humidity
- Mixing ratio
- Enthalpy

Operating temperatures

60 °C - 200 °C

Ex

ATEX

autark

Energy self-sufficient

100%

Water-resistant resistant to high humidity

Options

- IP IP 65 protection
- BAR Pressure-resistant
- NH₃ Ammonia-resistant
- BUS Modbus
- USB USB available

Measurement principle

- Capacitive sensorchip
- POLYGA® fibres
- Display available

Filter matrix

Recommended ✓ Possible

	LP	LW	LK	M	PL	KL	DW	DK	PM-P	PC	RC	PC/RC-ME	I-Series (IA, IR)	FK80	VC	VR	VC/1	VR.D	GC	GC-ME	KC	ZC	GC.Ex and KC.Ex	BW	BK, BZ	Sensor SVKA, SZKA	FG80 und HG80	eStat20
Ø mm	12	12	12	12	20	20	12	12	15	20	20	20	20	20	15	15	15	15	20	20	15	15	15	20	15	15	16	12
ZE07 Open	✓	✓	✓	✓																								
ZE08 Membrane	✓	✓	✓	✓			✓	✓																				
ZE05 PTFE	✓	✓	✓	✓			✓	✓																				
ZE04 Open															✓	✓							✓	✓				
ZE04+ Open+PTFE															✓	✓							✓	✓				
ZE15 Gauze															✓	✓							✓	✓				
ZE26 Membrane																							✓	✓				
ZE13 SiMet ¹⁾																							✓	✓				
ZE29 PTFE																												
ZE28 PTFE																												
ZE16 Open																												
ZE16+ Open+PTFE																												
ZE17 Gauze																												
ZE20 Membrane																												
ZE22 SiMet ¹⁾																												
ZE21 SiMet ¹⁾																												
ZE18 PTFE																												
20.063 PTFE																												
20.014 Gauze																												
PM15P Open+PTFE																												

¹⁾ SiMet = Sintered stainless steel filters

Protective filters

Filters and protective baskets are used to adapt sensors to the different locations where they are deployed. They protect the sensor against mechanical damage resulting from particle penetration at relatively high air speeds, as well as damaging deposits.



Protective baskets

- Zero air speed
- Clean atmosphere
- Quick response time



ZE07
Ø 12 mm
Plastic



ZE04
Ø 15 mm
Stainless steel



ZE16
Ø 20 mm
Metallised plastic

Application

- Clean room
- Indoor applications

Recommended for

- DW, LW, AW, BW, GC

Humidity response time	Operating temperature range	IP rating	Article no.
< 20 s	-40...85 °C	IP 20	ZE07
20 s	-80...200 °C	IP 10	ZE04
< 20 s	-40...85 °C	IP 20	ZE16

Not suitable for high humidity, outdoor applications or dusty conditions

Filters with stainless steel gauze

- Low air speed
- Clean atmosphere
- Coarse dirt



ZE15
Ø 15 mm
Stainless steel
with gauze



ZE17
Ø 20 mm
Metalized plastic
with gauze



20.214
Ø 16 mm
Gauze tube
for Polyga duct-mount

Application

- Climate chambers
- Ventilation systems

Recommended for

- A & B series, D series, I series
- PC, VC, KC, ZC, GC,
- (T)FG80, HG80

Humidity response time	Operating temperature range	IP rating	Article no.
< 1 min	-80...200 °C	IP 40	ZE15
< 1 min	-40...85 °C	IP 40	ZE17
	Up to 80 °C		20.214

Membrane filters

- Air speed up to 10 m/s
- Dust
- Aerosols



ZE08
Ø 12 mm
Plastic with
membrane



ZE26
Ø 15 mm
Stainless steel
with membrane



ZE20
Ø 20 mm
Metallised plastic
with membrane

Application

- Meteorology
- Industry

Recommended for

- All capacitive sensors with filter (depending on diameter)

Humidity response time	Operating temperature range	IP rating	Article no.
< 1.5 min	-40...85 °C	IP 30	ZE08
< 2 min	-5...150 °C	IP 54	ZE26
< 1.5 min	-40...85 °C	IP 54	ZE20

Sintered stainless steel filters

- Air speed up to 20 m/s
- Outdoor applications
- Dust



ZE13
Ø 15 mm
Coarse pore



ZE22
Ø 20 mm
Coarse pore



ZE21
Ø 20 mm
Fine pore

Application

- Sand particles
- Heavy duty industry

Recommended for

- A & B series, I series
- GC-ME, PC, RC, VC, KC, ZC

Humidity response time	Operating temperature range	IP rating	Article no.
< 1.5 min	-80...200 °C	IP 65	ZE13
< 1.5 min	-50...150 °C	IP 65	ZE22
< 1.5 min	-50...150 °C	IP 65	ZE21

Sintered PTFE filters

- Air speed up to 20 m/s
- Outdoor applications
- Water



ZE05
Ø 12 mm
ZE29
Ø 15 mm



ZE28
Ø 15 mm



ZE18
Ø 20 mm

23.063
Ø 16 mm
Two-part filter
for Polyga duct
mounted version

Application

- Dust exposure
- Swimming pools
- Heavy duty industry

Recommended for

- L series, D series
- A & B series, I series
- ZC (ZE28)

Humidity response time	Operating temperature range	IP rating	Article no.
< 3 min	-80...200 °C	IP 65	ZE05
< 3 min	-80...200 °C	IP 65	ZE29
< 3 min	-50...200 °C	IP 65	ZE28
< 3 min	-80...200 °C	IP 65	ZE18
< 3 min	Up to 80 °C	IP 65	23.063

Further information

Visit the downloads page on our website (www.galltec-mela.de/downloads/EN) to find leaflets, extra information and our entire product catalogue. Or simply get in touch with us – we are happy to help with any measuring task. Our dedicated and experienced team, will be able to come up with the perfect solution for you!



<p>Humidistats</p>	<p>Combined thermostat/humidistats</p>	<p>Modular DZK</p>	<p>D series</p>
<p>ATEX</p>	<p>A series</p>	<p>B series</p>	<p>Meteorology</p>

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Humidity measuring technology *high quality*

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Version: 02-05-2020

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