

# Product overview

Humidity & temperature measuring technology - *high quality*



## Experts in managing humidity since 1972

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

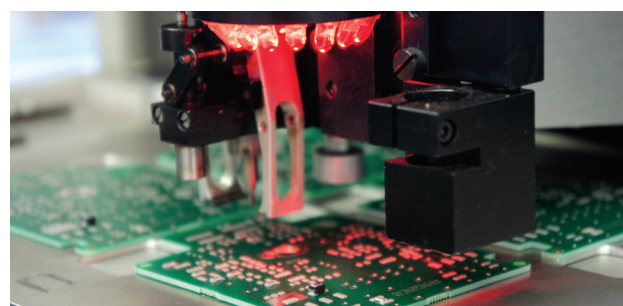
Our wide product range comprising transmitters, humidistats and controllers is underpinned by two core measurement principles.

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 m<sup>2</sup> production area
- Our own clean room production
- DIN EN ISO 9001 certified



### Transmitters



#### Economical transmitters

Economical transmitters are primarily optimised for HVAC applications, and for use in moderate industrial conditions

6

#### All-rounder transmitters

All-rounder transmitters cover the entire relative humidity range between 0 and 100 %. With features e.g. hx converter, display, USB, exchangeable measuring head, modular design, outdoor, weather-proof stainless steel

8

#### Heavy duty transmitters

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.

14

#### POLYGA® fibre transmitters

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

19

### Humidistats



#### Electronic humidistats

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.

20

#### Humidistats and condensation control

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.

21

### Accessories



#### Filters and filtermatrix

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.

23



## 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 entire 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.



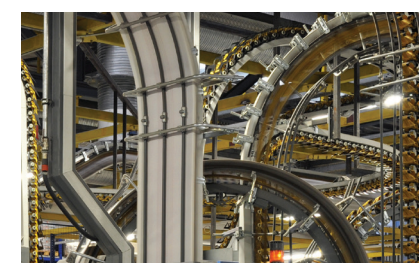
### HVAC & building automation

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	
Drying of tea, grain & meat	Wine cabinets



### Energy & environment

Electric control systems & switchboard cabinets  
Wind turbines  
Plant safety



### Meteorology

Weather stations  
Wind field measurement systems  
Snow machines

Economical transmitters | L series



Ø 12 mm

Probe LP

80°C IP65



Indoor LI

60°C



Ø 12 mm

Wall mounted LW

80°C IP65 MODBUS



Ø 12 mm

Duct mounted LK

80°C IP65 MODBUS

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 to monitor energy costs in HVAC and building automation applications. Thanks to their high quality manufacturing, they can be used in moderate industrial conditions. They are all equipped with the highly dynamic capacitive MELA® sensor element for the entire range of relative humidity measurement.

The L series digital versions use RS485 for communication and are bus-compatible with the Modbus RTU protocol.

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

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 & switch-board cabinets

Economical transmitters | „Lightseries“ WL, PL, KL and MCK



Indoor WL


60°C



Ø 20 mm

Probe PL


80°C



Ø 20 mm

Duct mounted KL

80°C



Miniature sensor MCK

80°C IP65

"Lightseries" is 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 available (page 24-25).

The miniature sensor is especially adapted to measurement tasks where only limited space is available. They feature high long term stability, a low hysteresis and good dynamic performance.

Features

Current outputs galvanically separated	Lightseries WL PL KL
Digital (similar to I2C)	MCK
IP 65 housing	MCK

Accuracy

Humidity		Lightseries WL PL KL MCK
± 3 % r.h.	40 - 60 % r.h. at 23 °C	
± 2.5 % r.h.	10 - 90 % r.h. at 10-40 °C	
Temperature		Lightseries WL PL KL MCK
± 1 K	at 10 - 40 °C	
± 0.5 K	at 23 °C ±1 digit	

Applications

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

Operating temperatures

60°C 80°C

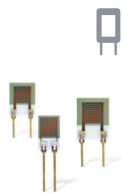
Options

IP65 IP 65 protection  
MODBUS Modbus

Measurement principle


Equipped with a capacitive sensorchip

- High dynamic - short response times
- Small dimensions
- Outstanding linearity
- Low hysteresis





All-rounder transmitters | D series



Indoor DI


60°C



Wall mounted DW

80°C IP65 hx USB

Ø 12 mm



Duct mounted DK

80°C IP65 hx USB

Ø 12 mm

Excellent midrange transmitters - highly accurate and easy to install

The industrial DK and DW models operate between -30 to 80 °C. Their integrated hx processor calculates dew point, enthalpy, mixing ratio, absolute humidity, or wet-bulb temperature based on the relative humidity and temperature. Any two of these values can be set as analogue outputsignal. The customer can change and configure the signals via USB.

The indoor version DI has the measuring chamber 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 only one screw or clip-in cover	All
Output variables can be freely configured via USB port	All
Option: display	All

Accuracy


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

All-rounder transmitters | DZK



Transmitter with integrated connector

80°C IP65 hx USB




probes or cableprobes

85°C 80°C 125°C

Ø 12 mm



Example:  
High temperature version



Option:  
PTFE sintered filter IP 65

125°C IP65

Excellent midrange transmitters - easily customised, modular design

Transmitters and probes of the DZK series can be customized and configured via USB. The probe and transmitter are interchangeable, fitting various installations. Some models operate in up to 125°C, all offer IP65 degree of protection. The plug-in probes offer a major benefit: quick and easy exchange with no interruption in the measuring process.

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

Applications

- HVAC & building automation
- Construction
- Offices & public buildings
- Private homes
- Museums
- Swimming pools & spas
- Storage & transportation
- Cooling & air conditioning in trains
- Ship containers
- Warehousing
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- Agriculture & food industry
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- Wine cabinets
- Drying of tea, grain & meat
- Energy & environment

All-rounder transmitters | PC / RC



Optimised for outdoor meteorology applications

Robust construction and optional special filters make these sensors versatile for many humidity and temperature measurement applications. For extreme conditions (sea, desert, mountains, high air speeds), we recommend 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 <b>voltage</b> output	± 0.2 K		All
With <b>current</b> output	± 0.3 K		RC, RC-ME
With <b>current</b> output	- 0.3...+0.6 K		PC, PC.S

Operating temperatures

80°C 85°C

Options

- IP65 IP 65 protection
- MODBUS Modbus
- MET Meteorology / Outdoor

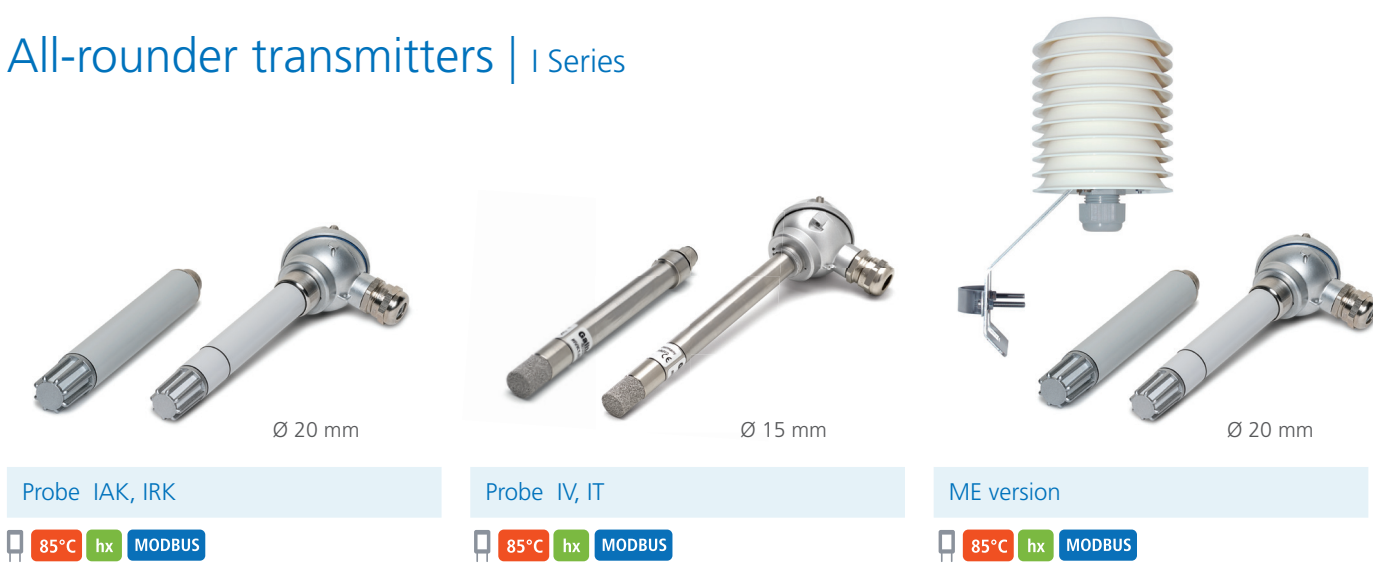
hx hx converter for calculating derived humidity variables

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

Measurement principle Equipped with a capacitive sensorchip

- High dynamic - short response times
- Outstanding linearity
- Low hysteresis

All-rounder transmitters | I Series



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. For extreme conditions (sea, desert, mountains, high air speeds), we recommend our stainless steel sintered filters (see pages 24-25).

The I series digital versions use RS485 for communication and are bus-compatible with the Modbus RTU protocol.

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



Ø 15 mm

Probe PM15P

70°C hx



Ø 15 mm

Exchangeable measuring head PMUP

70°C hx

Excellent probe transmitters with exchangeable measuring head

The transmitters in the Plug 'n' Measure (PM) series use an internal hx processor to calculates dew point, enthalpy, mixing ratio, absolute humidity, or wet-bulb temperature based on the relative humidity and temperatures. When the transmitter needs recalibrating, the measuring heads (PMU) can be switched within seconds, allowing processes to run continuously without interruption.

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

Features

hx converter for calculating derived humidity variables	All
Calibrated sensor head, exchangeable	All
Sensor tube IP 64	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

Operating temperatures

60°C 70°C 80°C

- hx hx converter for calculating derived humidity variables
- Dew point temperature
  - Wet bulb temperature
  - Absolute humidity
  - Mixing ratio
  - Enthalpy

Measurement principle

Equipped with a capacitive sensorchip

- High dynamic - short response times
- Outstanding linearity
- Low hysteresis

All-rounder transmitters | FK Series



Indoor (T)FK120

60°C



Ø 20 mm

Duct mounted (T)FK80

80°C

Transmitter for semi-industrial and industrial applications

The transmitters 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.

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 ± 3.5 % r.h. 10...95 % r.h.	Duct mounted version Indoor version
Temperature		
With <b>voltage</b> output	± 0.2 K	Duct mounted version
With <b>current</b> output	± 0.3 K ± 0.8 K	Duct mounted version Indoor version

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

Heavy duty transmitters | VC & VR



Ø 15 mm

Probe VC

80°C IP65



Ø 15 mm

Probe VR, VR.D

80°C IP65 25 bar



Ø 15 mm

Probe VC/11

80°C NH<sub>3</sub>

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 <b>voltage</b> output ± 0.2 K 0 - 1 V at -27...70 °C With <b>voltage</b> output ± 0.2 K 0 - 10 V at -29...70 °C With <b>current</b> output - 0.2...+0.6 K With <b>current</b> output ± 0.3 K	VC, VR VC, VR VC, VR VC/11

Operating temperatures

80°C

Options

- IP65 IP 65 protection
- 25 bar Pressure-resistant up to 25 bar
- NH<sub>3</sub> Ammonia-resistant

Measurement principle

Equipped with a capacitive sensorchip

- High dynamic - short response times
- Outstanding linearity
- Low hysteresis

Heavy duty transmitters | ATEX certificate



Ø 15 mm

Wall-mount GC.Ex

IP65 Ex 80°C



Ø 15 mm

Duct-mount KC.Ex

IP65 Ex 80°C

ATEX certified – tailor-made explosion-proof technology

Humidity and temperature sensors with ATEX certification are 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).

II 1/2G Ex ia IIC T4 Ga/Gb  
II 2D Ex tb IIIC T95 °C Db  
-40 °C ≤ T<sub>a</sub> ≤ +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
Transmitter component	die-cast aluminium

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

Operating temperatures

80°C

ATEX approval  
Categories 1/2 G and 2D



Measurement principle

Equipped with a capacitive sensorchip

- High dynamic - short response times
- Outstanding linearity
- Low hysteresis



Heavy duty transmitters | B series



Ø 20 mm

Wall mounted BW

85°C IP65 hx MODBUS



Ø 20 mm | 15 mm

Remote probe BZ

200°C IP65 hx MODBUS NH3



Ø 15 mm

Duct mounted BK

200°C IP65 hx MODBUS 10 bar NH3

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	
Up to 200 °C	Remote probe	BZK.0H	
	Duct mounted	BKK.TH	
Up to 150 °C	Duct mounted	BKK.OE	
Up to 85 °C	Wall mounted	BWK.00	

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

Operating temperatures

80°C 200°C

Options

IP65 IP 65 protection

MODBUS Modbus

10 bar 25 bar Pressure-resistant

NH3 Ammonia-resistant

hx hx converter for calculating derived humidity variables

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

Measurement principle

Equipped with a capacitive sensorchip

- High dynamic - short response times
- Outstanding linearity
- Low hysteresis

Heavy duty transmitters | A series



Ø 15 mm

Wall mounted with probe

85°C IP65 hx MODBUS



Ø 15 mm

Duct mounted with probe

150°C IP65 hx MODBUS NH3



Ø 15 mm

Remote probe SZKA.0H


200°C IP65 hx MODBUS 25 bar NH3

Transmitters for advanced requirements – with exchangeable probes

The probe and transmitter are interchangeable, fitting various installations. 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. The digital versions use RS485 communication and are compatible with the Modbus RTU protocol. This allows simultaneous reading of all hx values.

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.00 (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.0H (Remote probe)

Transmitter	AW	AK	Probes	SVKA.00	SVKA.OE	SZKA.0H	SZKA.HD
							

- 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

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

Heavy duty transmitters | GC, KC, ZC



Ø 20 mm

Wall mounted GC

80°C



Ø 20 mm

Wall mounted GC-ME

80°C MET



Ø 15 mm

Remote probe ZC

125°C 160°C 200°C IP65 25 bar



Ø 15 mm

Duct mounted KC

125°C IP65

For industrial applications up to 200 °C and 25 bar

The transmitters feature a robust die-cast aluminum housing with stainless steel or aluminum sensors, measuring humidity and temperature in air and non-aggressive gases up to 200°C. The pressure-resistant versions handle up to 25 bar and temperatures up to 125°C or 160°C, ideal for industrial applications like 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 <b>voltage</b> output	± 0.2 K	All
	With <b>current</b> output	± 0.3 K	All

Operating temperatures

80°C 125°C 160°C 200°C

Options


IP65 IP 65 protection  
MET Meteorology / Outdoor  
25 bar Pressure-resistant up to 25 bar

Measurement principle

Equipped with a capacitive sensorchip

- High dynamic - short response times
- Outstanding linearity
- Low hysteresis

Universal POLYGA® - transmitters | FG series



Indoor FG120

50°C



Ø 16 mm

Duct mounted FG80

80°C

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

Operating temperatures

50°C 80°C

Measurement principle

Equipped with hygroscopic fibres

- Excellent durability, reliability, robustness
- High accuracy in high humidity
- 100% waterproof (fibre)



Electronic humidistat | eStat



Indoor eStat10	Controller eStat20	with remote probes
60°C	60°C  IP65	85°C  125°C  IP65

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

Humidistats



Self-powered humidistats – very robust and reliable

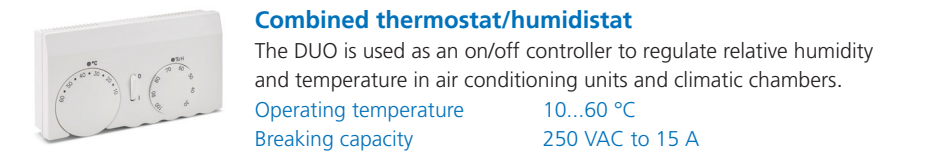
Galltec humidistats feature an impressively simple design that ensures a long service life. The watertight and robust POLYGA® measuring element, combined with a smart mechanism, provides reliable control signals. The change in the length of the measuring element activates the microswitch when the required air humidity is reached. The different humidistat 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	HG80-2
Directive 2014/30/EU	All
IP 64 duct mounted humidistat	HG80i
No power supply required	All
Operating temperature	0...+60 °C
Water-resistant, washable measuring element	HG80

Accuracy

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



Operating temperatures



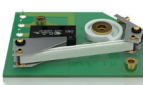
Features

- No external power supply required
- 100% Waterproof measuring element



Measurement principle  
Equipped with hygroscopic fibres

- Excellent durability, reliability, robustness
- High accuracy in high humidity
- 100% waterproof (fibre)



Condensation detectors



FAS

60°C

100%



FGO/FGS

70°C



HSF, HSF-Mini

70°C

IP65

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, HSFMini
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, HSFMini, FGS
IP 65 housing (when mounted)		HSFS, HSFMini

Accuracy

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

Applications

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

Filter matrix

		ZE07	ZE08	ZE05	ZE04	ZE04+	ZE16	ZE16+	ZE17	ZE20	ZE22	ZE21	ZE18	20.063	20.014	PM15P
	Ø	Open	Membrane	PTE	Open	Open+PTE	Open	Open+PTE	Gauze	Membrane	SiMet <sup>1)</sup>	SiMet <sup>1)</sup>	PTE	PTE	Gauze	Open+PTE
LP	12	✓	✓	✓												
LW	12	✓	✓	✓												
LK	12	✓	✓	✓												
M	12	✓	✓	✓												
PL	20												✓			
KL	20												✓			
DW	12		✓													
DK	12		✓													
PM-P	15															✓
PC	20															
RC	20															
PC/RC-ME	20															
I-Series (IA, IR)	20															
FK80	20															
VC	15															
VR	15															
VC/11	15															
VR.D	15															
GC	20															
GC-ME	20															
KC	15															
ZC	15															
GC.Ex and KC.Ex	15															
BW	20															
BK, BZ	15															
Sensor SVKA, SZKA	15															
FG80 und HG80	16															
eStat20	12															

Outdoor Heavy duty Possible <sup>1)</sup> 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)

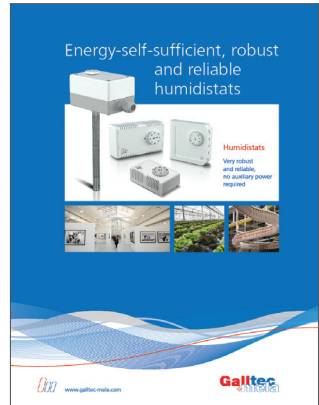
Humidity response time	Operating temperature range	IP rating	Article no.
< 3 min	-80...200 °C	IP 65	ZE05
< 3 min	-80...200 °C	IP 65	ZE29
< 3 min	-50...200 °C	IP 65	ZE28
< 3 min	-80...200 °C	IP 65	ZE18
< 3 min	Up to 80 °C	IP 65	23.063

Further information

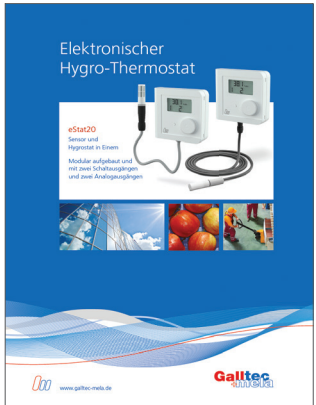
Visit the downloads page on our website ([www.galltec-mela.de/downloads/EN](http://www.galltec-mela.de/downloads/EN)) to find leaflets, extra information and our entire product catalogue. Or simply get in touch with us – we are happy to help with any measuring task. Our dedicated and experienced team,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



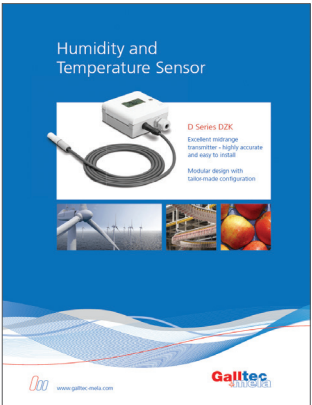
Humidistats



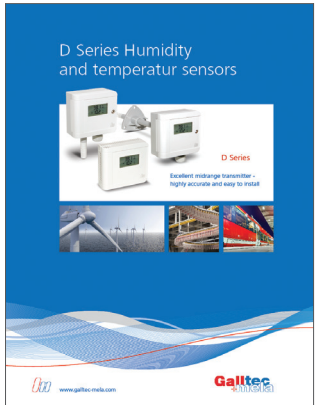
Combined thermostat/humidistats



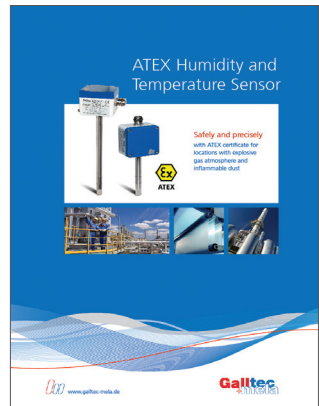
Modular DZK



D series



ATEX



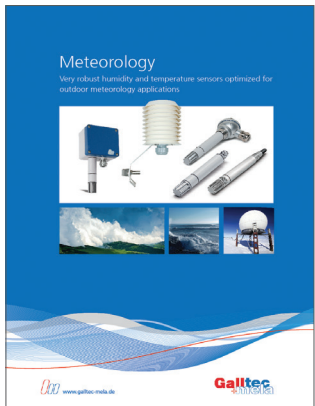
A series



B series



Meteorology



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Humidity measuring technology *high quality*

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