

TRANSMITTER

Regulation and monitoring of HVAC



ABOUT US



For more than 45 years, Sauer mann Group has designed, manufactured and sold products and services dedicated to the industrial and HVACR markets. The Group specifically focuses on the detection, measurement and control of indoor air quality (IAQ).



Member of the Verder group, Sauer mann group operates two main brands:

- The **Sauer mann** brand, through condensate removal pumps, instruments and accessories, primarily addresses the needs of Heating, Ventilation, A/C or Refrigeration contractors.
- The **Kimo** brand, through measuring instruments, meets the air management needs in light commercial and industrial installations.

HIGH ACCURACY
UNMATCHED RELIABILITY
MULTIPLE APPLICATIONS

Measurement instruments: Sauer mann measurement instruments monitor a broad spectrum of indoor air quality parameters and serve a wide range of applications, from building ventilation (heating and air conditioning) systems, to cold-chain installations and combustion gas analysis. Backed by our testing laboratories and in-house research and development programme, Sauer mann instruments deliver the accuracy and reliability that HVACR engineers need.

LOW SOUND LEVEL
LOW FAIL RATE
HIGH PERFORMANCE

Condensate management solutions: Safe and effective condensate management for air quality systems can be a challenge. Sauer mann pumps are designed to look good, while our patented piston technology delivers whisper-quiet operation and unrivalled reliability.



North America

● ● Sauer mann N.A. Corp.,
New York City,
Yardley, PA, USA

EMEA – Europe, Middle East & Africa

● Si Invest SA,
Brussels, BELGIUM

● ● Sauer mann Industrie S.A.S.,
Chevry-Cossigny,
Montpon, FRANCE

● Sauer mann GmbH,
Leingarten, GERMANY

● Sauer mann UK Ltd.,
Blackpool, UNITED KINGDOM

● Sauer mann Iberica,
Barcelona, SPAIN

● Sauer mann Italia S.r.l.,
Bologna, ITALY

Asia Pacific

● ● Sauer mann China,
Shanghai (Jiading & Pudong),
CHINA

● Sauer mann Australasia,
Sydney, AUSTRALIA

OUR EXPERTISE

ACCREDITED MEASUREMENT LABORATORIES, IN-HOUSE RESEARCH AND DEVELOPMENT

Sauer mann products and services are backed by cutting-edge facilities and expertise: a team of over 20 experts working at multiple testing and calibration laboratories worldwide, and production lines in France, the United States and China.

Our in-house research and development program – spearheaded by a young, forward-looking group of 20 engineers and 10 technicians – has three aims: to push the boundaries of innovation in ergonomic design, digital technology and connected objects, to patent our technologies, and to consistently set new standards for electronic and mechanical performance in our products.



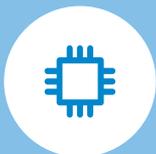
800 m² of laboratory space

Our experts provide maintenance, adjustment and calibration services for our measurement instruments.



Customer service staff trained by our experts

Our team is here to advise and quote you for the service you need.



After-sales service

Our technicians maintain and repair your devices right where they're made.

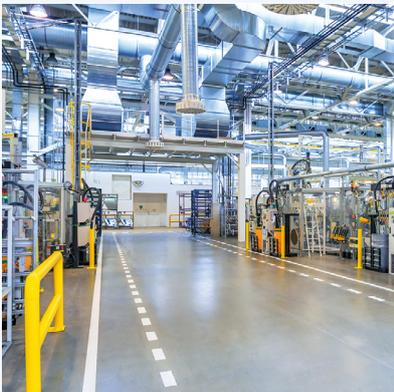


Over 20 patents, including our oscillating piston pump technology and the foldable frame system found on our DBM 620 air flow meter.

Our measurement expertise covers a wide range of fields:

Pressure	Air flow
Temperature	Gas analysis
Hygrometry	Light measurement
Weight	Electrical current
Radiometry	Acoustics
Tachometry	Air quality (CO ₂ , CO)
Air velocity	PH-Meter

Summary



CLASS 320

14

CLASS 110

08



Software solution
MONITORING
SYSTEM

18

About us 02

Our expertise 03

Class 20, Monostats 06

Class 110 08

Class 210 11

Class 310 13

Class 320 14

Touch control
and mobile application 16

Accessories 17

Software solution 18

Probes 20

Comparison table 21

Sauermann Services 23

Overview of ranges

Transmitter sensors

Pressure / Temperature / Humidity / Air velocity and air flow / Air quality / Solar / Light / Atmospheric pressure

Designed and manufactured in France, Kimo's range of transmitters can be used in all industries, in the service sector or in OEM.

From the simplest to the most elaborate, these advanced measuring instruments can be adapted to any type of application thanks to their configuration and calculation possibilities.



 Class 20

**HVAC and Indoor Air Quality
Commercial - Industrial - OEM**

- 1 to 2 measured parameters
- Active 0-10 V or passive 4-20 mA models



 Monostats

**HVAC and Indoor Air Quality
Commercial - Industrial - OEM**

- 1 measured parameter
- 1 x 3 A 230 V_{AC} changeover relay



 Class 110

**HVAC and Indoor Air Quality
Commercial - Industrial - OEM**

- 1 to 2 measured parameters
- 1 or 2 analog outputs 0-10 V / 4-20 mA



 Class 210

Large commercial sector - Industrial environment

- 1 to 2 parameters
- Calculation functions
- 2 x 3 A 230 V_{AC} changeover relays
- 2 analog outputs 0-10 V / 4-20 mA



 Class 310 / 320

Industrial environment - Clean rooms

- Multifunction
- 2 to 4 analog outputs
- Up to 4 relays
- Ethernet communication
- MODBUS protocol

NEW

Class 20

Accuracy and efficiency at the heart of any system

Temperature / Humidity / Differential pressure



KIMO Class 20 transmitters offer excellent price/performance ratio. CP20 sensors provide accurate differential pressure measurement and are easy to install, even in tight spaces. TH20 sensors measure temperature and humidity in ambient air or ducts. Designed for quick and easy integration, they stand out for their compact size, long-term stability, and compatibility with all types of systems.



From -250 Pa to 5000 Pa
(according to model)



From 0 to 100 %RH and -20 to 60 °C



Active 0-10 V or passive 4-20 mA models



Compatibility with all types of EMS and BMS systems

MONITORING

Monostats

HVAC and Indoor Air Quality - Commercial - Industrial - OEM

Temperature / Humidity / Differential pressure / CO level / Air quality

Quick to install and simple to set up, the monostats trigger an alarm when a pre-configured threshold is exceeded, then send this information via a relay.

The alarm can be set simply using the onboard push button or using the LCC-S software, compatible with the Monostats, 110, 210 and 310 ranges.



IP65 ABS housing



Visual and audible alarm



24 V_{DC} / V_{AC} power supply

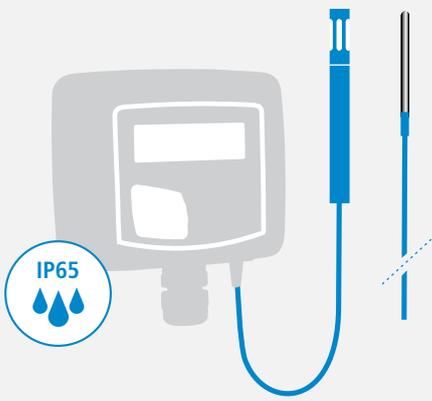


Changeover relay
3 A
230 Vac

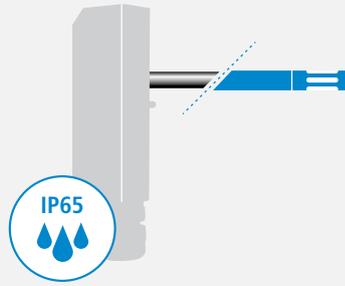


PST Manostats
Differential pressure

- From ±100 Pa to ±2000 mbar



Remote probe



Rear probe



Integrated probe



CO2ST mounted in the air handling unit of an industrial infrastructure.



CO2ST CO₂ stats
CO₂ concentration

- From 0 to 5000 ppm



HST Hygrostats
Humidity

- From 5 to 95 %RH
- From -20 to +80 °C



COST CO stats
CO concentration

- From 0 to 500 ppm



TST Thermostats
Temperature

- From -100 to +400 °C



Simplified calibration

The electronic board and measuring element are integrated into the front of the sensor, which allows you to leave the installation intact to configure or calibrate your devices.

Monostats / Class 110

TRANSMITTERS

Class 110

HVAC and Indoor Air Quality - Commercial - Industrial - OEM

Temperature / Air Quality / Light / Solar / Pressure / Atmospheric pressure
Humidity / Air velocity



The Class 110 covers a wide range of measurement parameters.

This transmitter range delivers a current or voltage signal. To suit different applications, the sensors are available as ambient, remote or rear mounted probes. The analogue outputs automatically adapt to the measurement scale configured via switches on the device or via the LCC-S software.

TH 110 Temperature / Humidity

- From 5 to 95 %RH
- From -20 to +80 °C



Configurable
outputs



1 or 2 analog
outputs



24 V_{DC} / V_{AC}
power supply



Indispensable for calibration laboratories, the CP 116 measures atmospheric pressure.



Differential pressure

CP 111: from -100 to +100 Pa, with solenoid valve

CP 112: from -1000 to +1000 Pa

CP 113: from -10,000 to +10,000 Pa

CP 114: from -500 to +500 mbar

CP 115: from -2000 to +2000 mbar



*CP 111 only

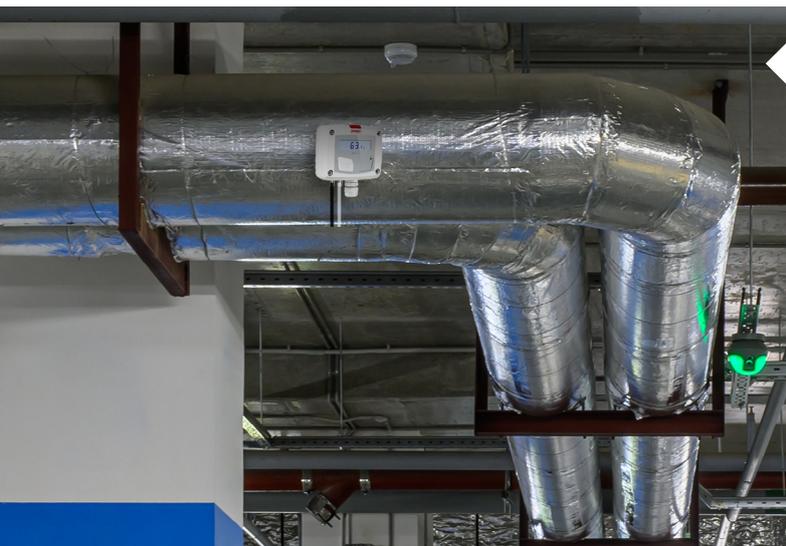
CP 110 Differential pressure

The CP 110 transmitter sensors are characterised by their reliability, high accuracy and high long-term stability. For example, they are particularly suitable for the following applications: ventilation and air-conditioning systems, control technologies based on atmospheric or differential pressure, and all types of climate monitoring.



Atmospheric pressure

CP 116: from 800 to 1100 hPa



The CP 112 connected to a Debimo device mounted in a ventilation duct. Our Debimo accessories for air flow measurement on page 17.



TM 110 Temperature

- From -100 to +400 °C



CO 110 / CO 112 Air Quality

- CO: from 0 to 500 ppm
- CO₂: from 0 to 5000 ppm



CTV 110 Air Velocity

- From 0 to 30 m/s
- From 0 to +50 °C

HM 110
Humidity

- From 5 to 95 %RH

Rear and remote models.IP65

Ambient modelIP20



LR 110
Light

- From 0 to 10,000 lux



CR 110
Solar

- From 0 to 1500 W/m²

Monitoring of solar panels' efficiency



ADVANCED

Class 210

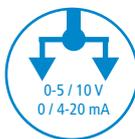
Large service sector - Industrial environment

Temperature / Humidity / Pressure
Air quality / Air velocity and Air flow



Some very demanding sectors (medical technology, food processing, nuclear, high-tech industry, etc.) require certified instruments that can measure several parameters simultaneously, such as temperature, CO₂, differential pressure or air velocity.

The Class 210-R models transmit the measured values via their analog outputs and integrate two relays allowing them to send up to two alarms directly to automated systems.



2 analog
outputs



Calculation
functions



IP65
ABS
housing



2 relays



24 V_{DC} / V_{AC} or
115/230 V_{AC}
power supply



Configurable
outputs



CP210-R in the air handling unit of an industrial facility.



CP 210-R
Pressure / Temperature

- From ±100 Pa to ±10,000 Pa
- From -100 to +400 °C
- From 3 to 85 m/s



Air quality



Air quality measurement and control

These CO₂ sensors allow you to comply with the new standards and decrees concerning the management of indoor air quality.

COT 212-R CO₂ / Temperature

- CO₂: from 0 to 5000 ppm
- From 0 to +50 °C

- Respect of limit values
- Atmosphere monitoring
- Ventilation and sanitation control



CTV 210-R Air velocity and Air flow

- From 0 to 30 m/s
- From 0 to +50 °C
- From 0 to 99,999 m³/h



TH 210-R Humidity / Temperature

- From 0 to 100 %RH
- From -40 to +180 °C



TM 210-R Temperature

- From -100 to +400 °C

LARGE DISPLAY

Class 310

Special for production areas



1 input for probe

CA 310 with large backlit display

- From -10,000 to +10,000 Pa
- From 0 to 100 %RH
- From -50 to +180 °C
- From -5 to 35 m/s (with vane probe)
- From 3 to 85 m/s (with Pitot tube)
- From 0 to 99,999 m³/h
- CO: From 0 to 500 ppm
- CO₂: From 0 to 5000 ppm
- From 800 to 1100 hPa
- From 0 to 10 V
- From 0 to 20 mA

1 port for SPI-2 or MVA card
3 changeover relays



Ethernet
Communication



MODBUS
Protocol



3 visual and
audible alarms



3 analog
outputs



Resolution
to the tenth



A total of 17 probes are available to order from our Customer Service.

LCC-S

OPTION

Configuration software for Monostats, Class 110, 210 and 310 transmitters

Units, scales, relays, thresholds,
channels and outputs setup.

- Configuration uploading
- Alarm creation
- Real time measurements display



Configure



Record



Visualise



Protect



Alarms



Duplicate

Not compatible with Class 20, 320 transmitters
The software is delivered with a USB connection cable and a user manual.

MULTIFUNCTION

Class 320

Multifunction



Differential pressure / Hygrometry / Temperature / Air velocity / Air flow / Air quality / VOC



EXPERT

Si-C320

Industry – Laboratories

For clean rooms, regulated environments and industrial VAC applications where a perfect regulation/monitoring of the air parameters is needed, our Si-C320 transmitters provide reliable measurements and allow you to achieve compliance with the strictest regulations.

The Si-C320 housing is waterproof, rugged and resistant to vaporised hydrogen peroxide (VHP). It also features a colour touch screen for comprehensive viewing and advanced control of measurement parameters.

In addition, measurements can be recorded and downloaded via the Sauermann Control application/software.

ESSENTIAL MODELS:

Si-C320-D	With display
Si-C320-D-50	With display and -50 to 50 Pa differential pressure module included
Si-C320-D-250	With display and -250 to 250 Pa differential pressure module included
Si-C320-D-1000	With display and -1000 to 1000 Pa differential pressure module included
Si-C320-D-10000	With display and -10,000 to 10,000 differential pressure module included



Other configurations of Si-C320 transmitters are available, please contact our Sales for further information.



2 inputs for interchangeable probes



Multifunction device for VAC and IAQ applications



VHP resistant ABS IP66 housing



4 visual and audible alarms



Touch screen



1 x RS485 interface for MODBUS RTU protocol



4 configurable analog outputs
0-5 / 10 V
4-20 mA



Wireless interface for mobile App



Air Change Rate calculation

FLUSHMOUNT

Designed for clean rooms and regulated environments



Si-CPE320 transmitter

For clean room applications, the Si-CPE320 is a panel transmitter with minimal impact on the internal layout of the working environment. Its front face is made of a high-grade stainless-steel waterproof with an integrated touch screen. Equipped with the same technologies as the Si-C320, this panel-mounted version provides state-of-the-art reliability and accuracy.

In addition, measurements can be recorded and downloaded via the Sauermann Control application/software.



**IP66 VHP resistant
316L stainless steel
front**



**3 configurable
analog outputs**



**1 x input for
external probe**



**3 visual and
audible alarms**

AVAILABLE VERSIONS:

Si-CPE320 Optional wireless communication module

Si-CPE320-W Integrated wireless communication module



Si-ATE320 display

This flush-mounted display allows you to view and relay measurements from three transmitters. It features a high-quality stainless steel front panel and color touchscreen, all made of materials that are fully resistant to cleaning with vaporized hydrogen peroxide (H₂O₂). The Si-ATE320 fits perfectly into the aeraulic management system of a cleanroom environment, without intruding on its occupants' space.



**Display of
1 to 3 parameters**



**Visual and
audio alarms**



**Graphic Touch
display**

Typical applications include:



Monitoring of drying processes in industrial manufacturing (bricks, pasta...)



Monitoring and regulation of differential pressure, relative humidity, temperature, air velocity and ACR in cleanrooms, operating rooms, etc.

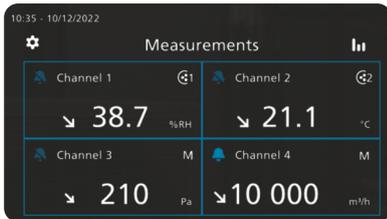


Air parameters monitoring in glove boxes, fume hoods, isolation cabinets, vial filling machines, etc.

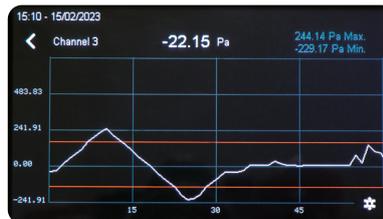
NEW TECHNOLOGIES

Touch control and mobile application

Full device setup



Trend indicator: up to 4 parameters displayed simultaneously



History: chart display



Touch screen

No physical buttons: better sealing and less mechanical failure



Simultaneous display of up to 4 measurements

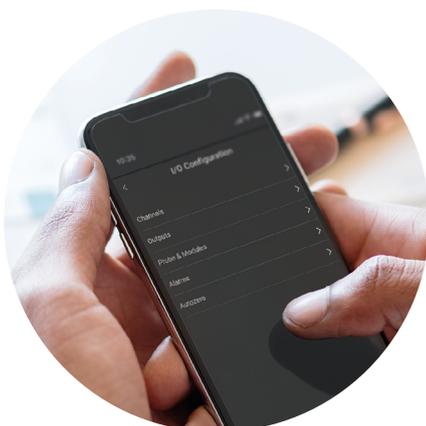
Chart form display



Full device setup



Indicator lights
blue light: wireless connection
green light: power on



Sauermann Control app

It is also possible to control and configure the Class 320 transmitters with a computer, a smartphone or a tablet via the Sauermann Control application, which allows the user to manage all the device's parameters via its wireless connection module (USB wired for computers). This app can also easily update the firmware of the instrument and its probes.

- Wireless connection with iOS and Android
- Full device control
- Downloading recorded measurements
- One-click firmware update
- Remote measurement viewing

ACCESSORIES

Unlimited modularity

The right accessory for every requirement

Wireless communication module	Configuration of transmitters using Sauer mann Control mobile app
USB/mini-DIN interface	Connect transmitters to configuration PC software
Power supply	24 V _{AC} / V _{DC}



More than 50 kits and accessories are available on demand: junctions, AC and DC power supplies, cables and extensions, adapters, protections, mountings, etc.



Mounting plates
In stainless steel and DIN rail mounting kit (except ambient)



External protection
Against solar radiation and rain fall



PVC, silicone, PFA cables
Stainless steel hose with or without shielding
Cable clamps
Mounting brackets



Connectors and thermowells



Temperature converters

AIR FLOW ACCESSORIES

Class 110, 210, 310, 320 Compatible

DEBIMO measuring blades
(air velocity / air flow)



Pitot tube with integrated temperature probe



SQR3 function: calculation of the air velocity and air flow in the duct via differential pressure measurement.

FLEXIBLE MONITORING

All-system compatibility

Regulated environments and industrial processes

All ranges included: Monostats, Class 110, 210, 310 and 320

Our sensors and transmitters can be integrated into any monitoring system (EMS, BMS, Scada) via open communication protocols for maximum compatibility.

Our different ranges cover all types of application, from air handling systems to the most demanding industrial environments (clean rooms, hospitals, etc.), ranging from simple alarm management to data transfer for advanced monitoring.

Some multifunction devices feature multiple outputs for simultaneous transmission of various measurement parameters.



**MODBUS
PROTOCOL**



**Ethernet
Communication**

Example

of installation in a hospital



RS-485



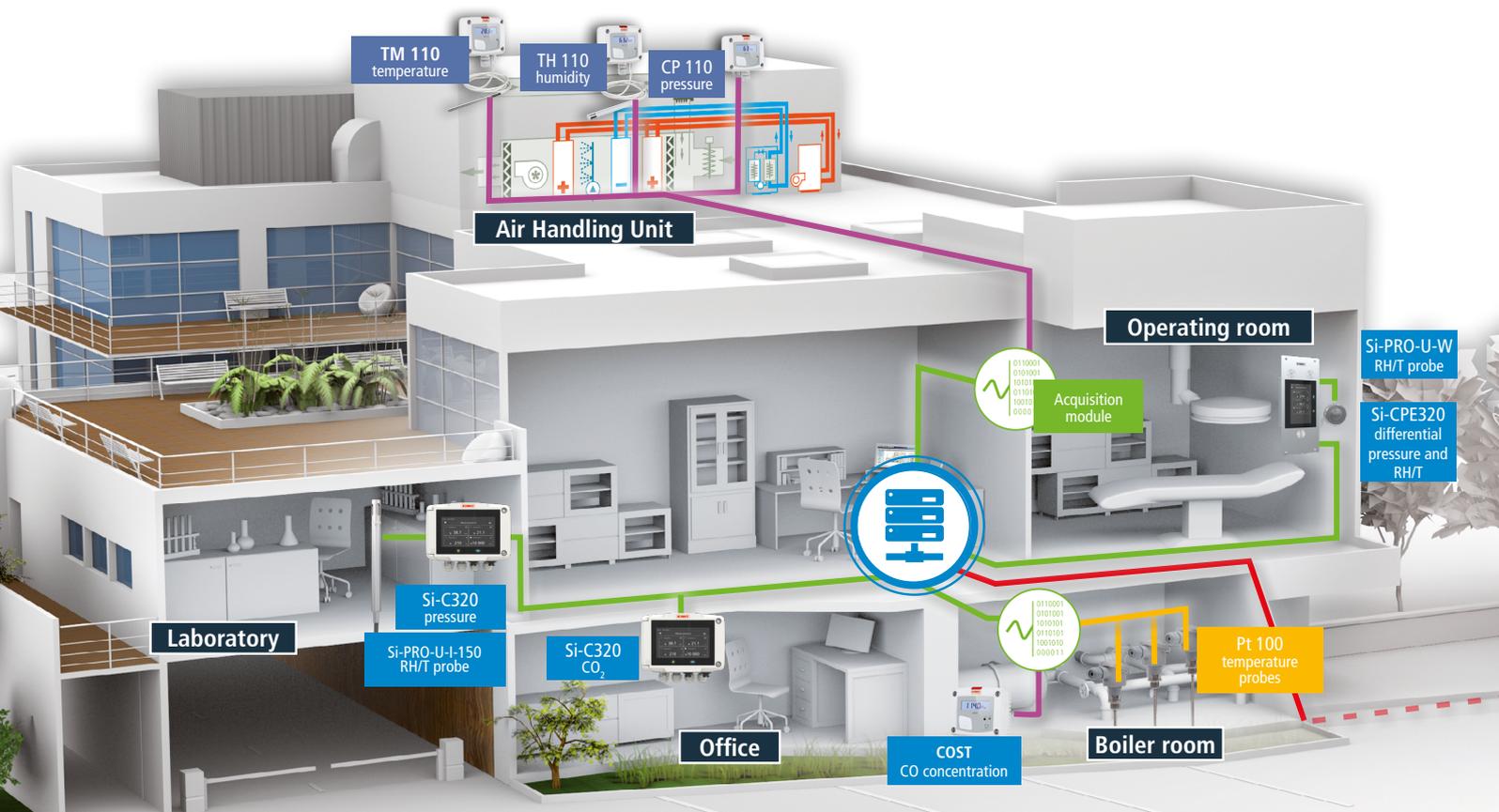
4-20 mA

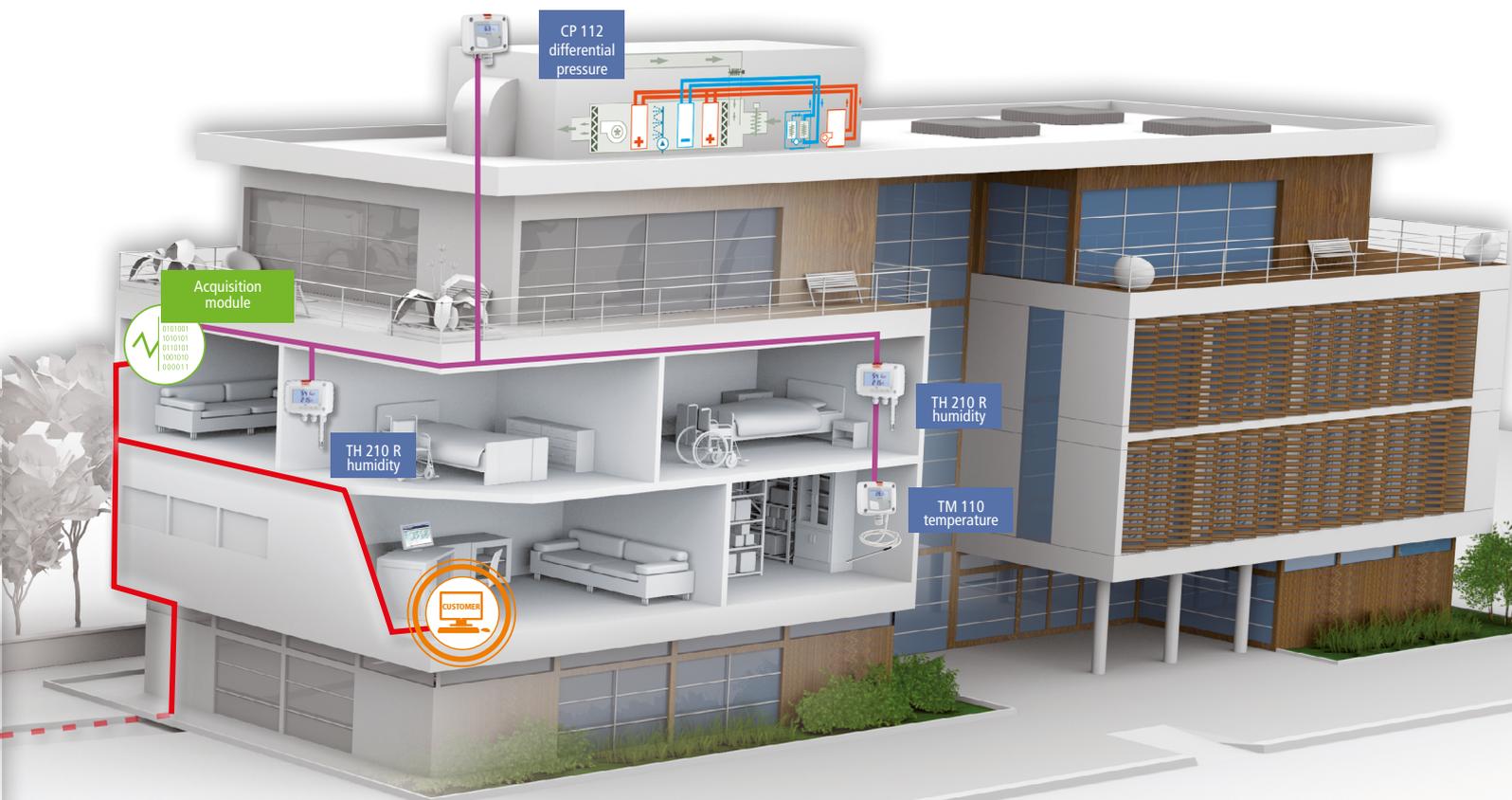
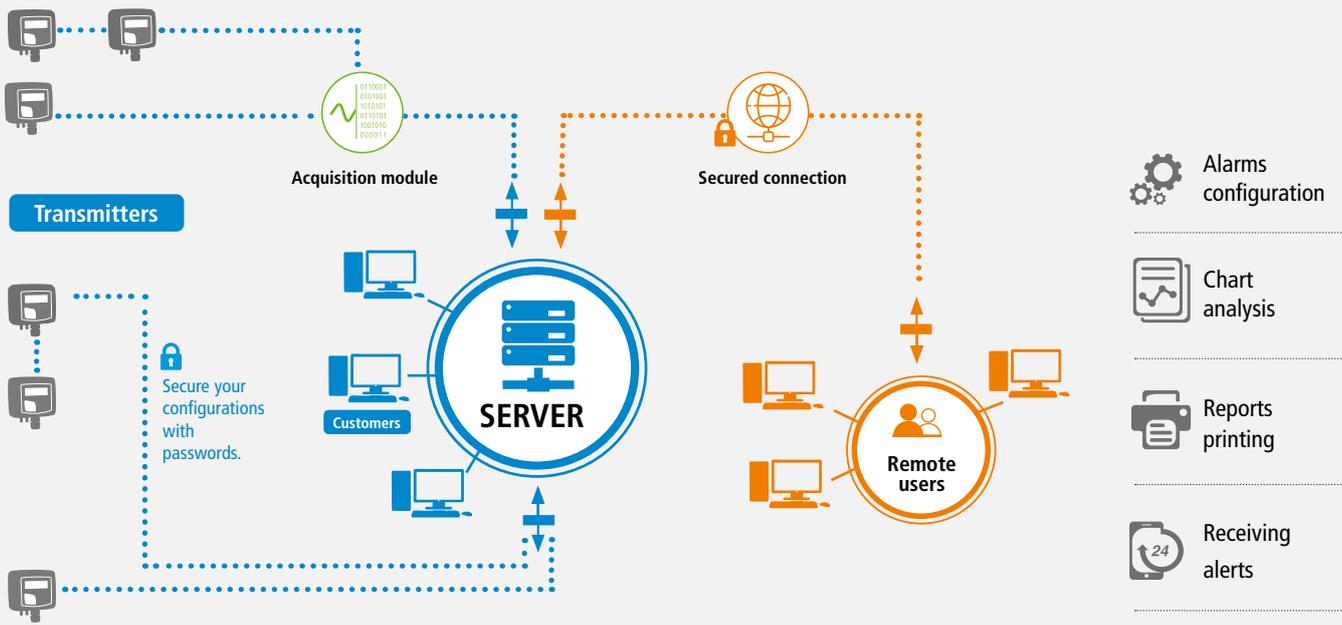


Ethernet



Pt100

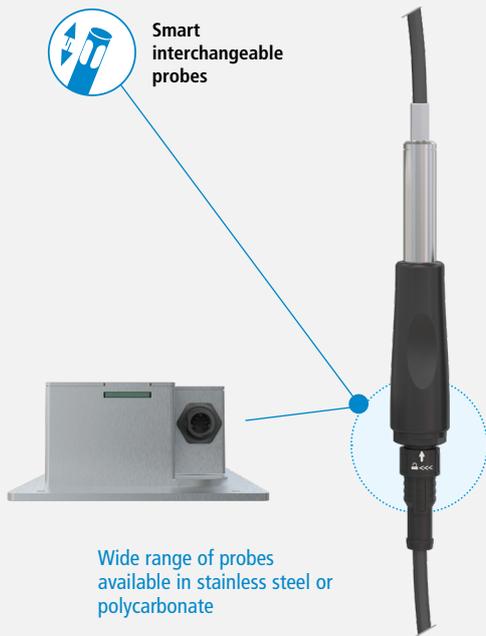




New generation probes

High accuracy, stable and reliable long-term measurements with Class 320

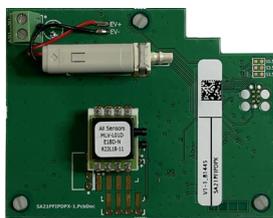
Plug & Measure



Changing the probe is quick and easy.
Automatic recognition.

Humidity - Temperature - Air velocity - Air quality - Differential pressure

The latest technology for your measurements



Si-PRO-DP

Internal differential pressure modules

- Autocalibration via solenoid valve
- Temperature compensation from -10 to 50 °C



Si-PRO-U-W

Flush mounted humidity and temperature probe

- For being used in clean rooms
- VHP resistant, stainless steel body



Si-PRO-U-I-100-H

Heated humidity and temperature probe

- Heated probe
- Resistant against pollution

COMPARISON



A total of 16 probes are available to order from our Customer Service.



PROBES		SPECIFIC PARAMETERS		COMMON PARAMETERS (calculated parameters if present)			TRANSMITTER SENSORS COMPATIBILITY			
Photo	Part number	DIFFERENTIAL PRESSURE	AIR VELOCITY	TEMPERATURE	AIR FLOW	ACR*	Si-C320	Si-CPE320		
	Si-PRO-DP-50	-50 to 50 Pa	0 to 9 m/s (0 to 29.5 fps)	-200 to 1300 °C (-328 to 2372 °F) (according to connected probe)	0 to 999,999 m³/h (0 to 588 577 cfm)	0 to 1000 ACH	✓	-		
	Si-PRO-DP-250	-250 to 250 Pa	0 to 20 m/s (0 to 65.6 fps)				✓	-		
	Si-PRO-DP-1000	-1000 to 1000 Pa	0 to 40 m/s (0 to 131 fps)				✓	-		
	Si-PRO-DP-10000	-10,000 to 10,000 Pa	0 to 100 m/s (0 to 328 fps)				✓	-		
	Si-M4R	SPDT relays 40 V _{DC} / 600 mA.					✓	-		
		TEMPERATURE		HYGROMETRY						
	Si-PRO-U-150	-40 to 80 °C (-40 to 176 °F)		Relative humidity: 0 to 100 %RH Wet temperature: -50 to 100 °C _{tw} (-58 to 212 °F _{tw}) Dewpoint: -50 to 100 °C _{td} (-58 to 212 °F _{td}) Frost point: -50 to 100 °C _{fp} (-58 to 212 °F _{fp}) Absolute humidity: 0 to 1000 g/m³ Enthalpy: 0 to 15,000 kJ/kg Mixing ratio: 0 to 1000 g/kg					✓	✓
	Si-PRO-U-I-150	-40 to 150 °C (-40 to 302 °F)							✓	✓
	Si-PRO-U-I-300	-40 to 150 °C (-40 to 302 °F)							✓	✓
	Si-PRO-U-I-100-H	-40 to 150 °C (-40 to 302 °F)							✓	-
	Si-PRO-U-W	-20 to 80 °C (-4 to 176 °F)							-	✓
	Si-PRO-T-150	-80 to 150 °C (-112 to 302 °F)							✓	✓
	Si-ACC-ETP	According to the connected Pt100 probe (max. measuring range in temperature: -100 to 400 °C/-148 to 752 °F)							✓	✓
		AIR VELOCITY AND TEMPERATURE								
	Si-PRO-V-300	Air velocity: 0 to 30 m/s (0 to 98.4 fps) Temperature : 0 to 50 °C (32 to 122 °F) Air flow: 0 to 999,999 m³/h (0 to 588,577 cfm) ACR*: 0 to 1000 ACH		✓	✓					
		AIR QUALITY								
	Si-PRO-CO	CO concentration: 0 to 500 ppm					✓	✓		
	Si-PRO-CO2	CO ₂ concentration: 0 to 10,000 ppm					✓	✓		
	Si-PRO-VOC	VOC (total) concentration: Isobutene equivalent: 0 to 1000 ppb - CO ₂ equivalent: 400 to 2000 ppm					✓	✓		

*ACR: Air Change Rate

COMPARISON



DEVICES /
FEATURES

CLASSE 20

MONOSTATS

CLASSE 110

CLASSE 210-R

CLASSE 310

CLASSE 320

Temperature	-	TST	TM 50 - TM 110	TM 210-R	CA 310 Multifonction Pa %RH °C m/s m ³ /h ppm hPa V mA Alternating display	Si-C320 Multifonction Pa %RH °C m/s m ³ /h ppm ppb Display of 1 to 4 parameters simultaneously	Si-CPE320 Multifonction Pa %RH °C m/s m ³ /h ppm ppb Display of 1 to 3 parameters simultaneously	
Humidity	-	HST	HM110	-				
Temperature - Humidity	TH20	-	TH 110	TH 210-R				
Air velocity	-	-	CTV 110	-				
Pressure	CP20	PST	CP 111 CP 112 CP 113 CP 114 CP 115	CP 210-R				
Atmospheric pressure	-	-	CP 116	-				
CO level	-	COST	-	-				
Air quality	-	CO2ST	CO 110 - CO 112	-				
CO ₂ - Temperature	-	-	-	COT 212-R				
Air velocity and air flow	-	-	-	CTV 210-R				
Light	-	-	LR 110	-	-	-	-	
Solar	-	-	CR 110	-	-	-	-	
Analog outputs	1 or 2	-	1 or 2	2	3	4	3	
Wireless communication module	-	-	-	-	-	Option	Option	
Ethernet Module	-	-	-	-	Option	-	-	
MODBUS Protocol	-	-	-	-	Option	Yes	Yes	
Relays	-	1	-	2	3	4 (optional)	-	
Visual and audible alarm	-	1	-	-	3	4	3	
Type of probes	Fixed	Fixed	Fixed	Fixed	Interchangeable			
Material	ABS	ABS	ABS	ABS	ABS	ABS	Stainless steel	
Tightness according to model	IP54	IP20 - IP65	IP20 - IP65	IP65	IP65	IP66	IP66	
VHP* resistant	-	-	-	-	-	Yes	Yes	
PC Software	-	LCC-S				-	Sauermann Control	Sauermann Control
Mobile App	-	-	-	-	-	Sauermann Control	Sauermann Control	
Mounting	TH20: on wall-mounting plate CP20: on housing	On wall-mounting plate			Bracket	On wall-mounting plate	Flush mount	
Safety	-	-	-	The keypad lock with access code allows you to secure your installation.		The on-board menu is secured with an access code.		
Standards	All sensors meet the CE standard and the EMC requirements							

NOTES:

METROLOGY

Sauermann Services

A complete metrological solution to support your measurement equipment



Free quote

IN OUR LABORATORIES

- Regulated environment laboratories
- Customised measurement points
- Diagnostics, repair, and maintenance
- Adjustment for KIMO / Sauermann instruments



Temperature



Hygrometry



Pressure



Air flow



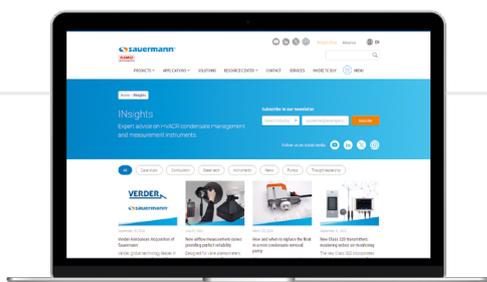
Air velocity



Air quality



Professional solutions for condensate management and indoor air quality measurement



INsights

Case studies, useful information and practical advice for HVACR and indoor air quality professionals.

sauermanngroup.com/en-US/insights

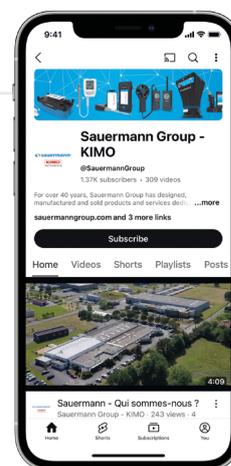


Scan me to view all our Sauermann and Kimo catalogues online

Sauermann on YouTube

Head to our YouTube channel for tutorials, webinars and product guides.

youtube.com/sauermanngroup



To learn more, please visit:
sauermanngroup.com

