HK INSTRUMENTS

USER-FRIENDLY MEASURING DEVICES

PRODUCT CATALOGUE 2020

MADE IN FINLAND

30 YEARS OF EXPERIENCE

DESIGN® FROM FINLAND

EN

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PRODUCT PORTFOLIO

DIFFERENTIAL PRESSURE TRANSMITTERS

AIR FLOW AND VELOCITY TRANSMITTERS

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MICROMANOMETER

HIGH-QUALITY MEASURING DEVICES FOR CLEAN INDOOR AIR

HK Instruments is a family-owned Finnish company that helps its customers to keep the quality of indoor air and the functionality of buildings high, resulting in wellbeing and energy savings. We design highly accurate and easy to-use measuring devices for HVAC applications in ventilation and building automation systems.

Having lived in the clean Finnish climate, we know what it is like to breath in good-quality fresh air. This is why we have been leading the way, in Finland and abroad, for 30 years, allowing everyone to enjoy good-quality indoor air.

Our advanced measuring devices produce highly accurate real-time information about indoor air to the building management system. This leads to high functionality of the building, which supports the wellbeing of people while keeping energy costs down. Our products are known for their ease of use. Applications for our devices range from highly demanding laboratory conditions to regular residential buildings.

We understand that there are different needs in different parts of the world and in different applications. This is why we work with you to customize our solutions for your needs. Using the information our devices produce, we help you to make smart decisions to support the wellbeing of your people and the functionality of your building. Our decades of experience and our broad product range allow us to offer our services to market areas at highly different levels of development.

WE SPEND NEARLY 90% OF OUR TIME INDOORS. THE QUALITY OF INDOOR AIR IS NOT INSIGNIFICANT. CLEAN INDOOR AIR THAT MAINTAINS WELLBEING – HEALTH, ENERGY LEVELS AND COMFORT – IS ONE OF THE PRECONDITIONS FOR LIFE. GOOD INDOOR AIR QUALITY SAVES COSTS IN HEALTHCARE AND BUILDING MAINTENANCE.

MANAGEMENT SYSTEM CERTIFICATION
DNV·GL
ISO 9001 = ISO 14001

VALUES

FAMILY | FRIENDSHIP | BASIC NEEDS OF PEOPLE

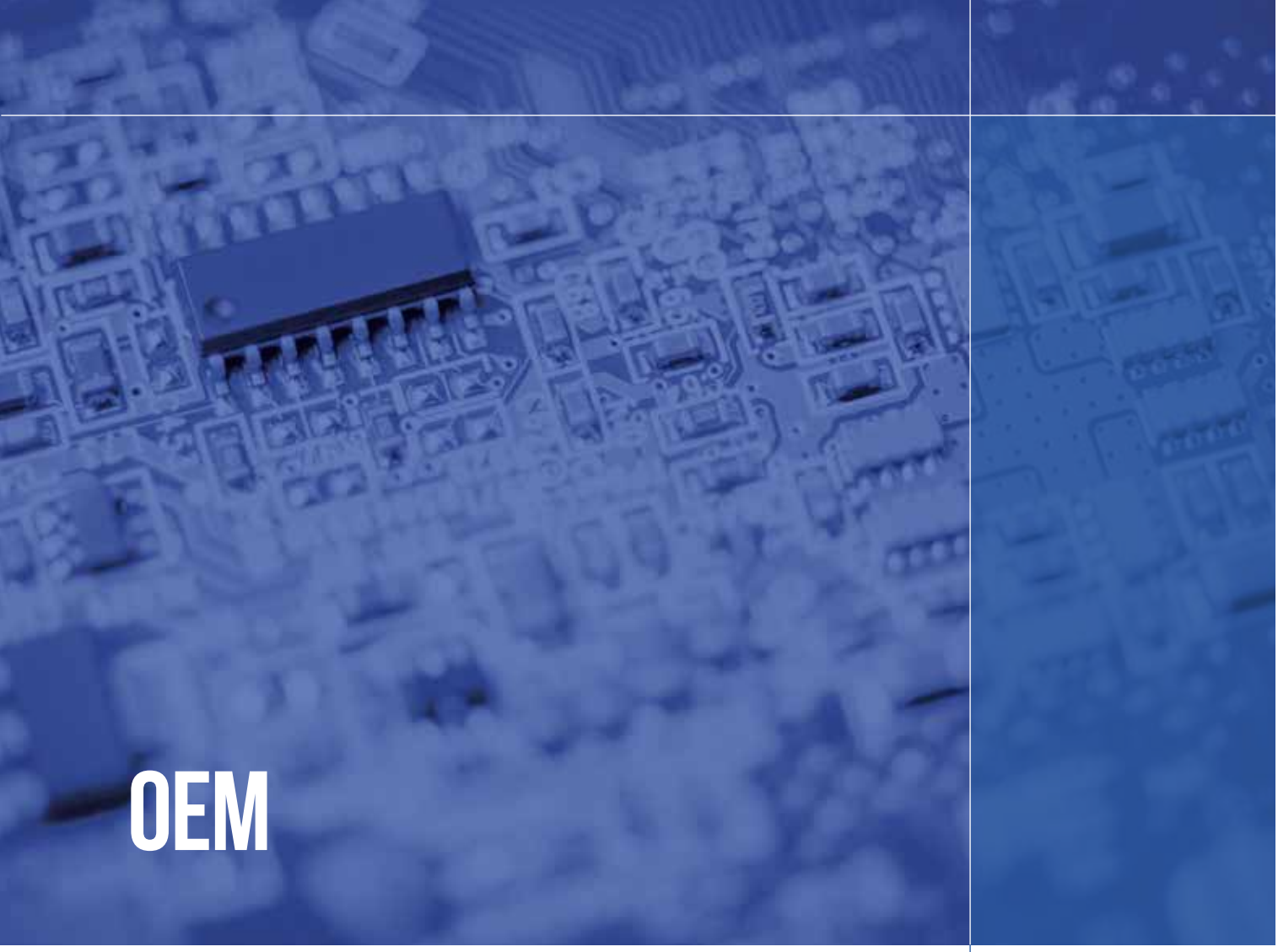
We respect Family and Friendship. Every person sharing our journey is welcomed to our HK Instruments Family. We care about people's wellbeing – including their right to breathe clean air.

VISION

To deliver the best user and customer experience in HVAC and building automation.

MISSION

Our mission is to provide clean indoor air and energy savings by manufacturing user-friendly measuring devices for HVAC.



OEM

Many of our customers are OEMs, in particular companies manufacturing air handling units. They need solutions tailored to their individual needs. We excel at unique, customer-focused implementations.

HK Instruments has cooperated closely with OEMs for more than 30 years. We have gained broad and varied experience in unique device solutions, and we have always found a functional solution for the customer's specific needs. Our expert team is attuned to your needs and knows how to meet them. We stand out from the competition by being flexible and efficient. We stay on schedule and within budget – while also listening to our customer's needs at all times. Our OEM customers are actively involved throughout the manufacturing process, as we are convinced that continuous interaction produces the best results.

We are always open to new challenges and opportunities and would like to hear from you. You can start by contacting Jarkko Nygård, our Product Manager. We will find a solution that meets your and your company's needs.

Jarkko Nygård
Product manager

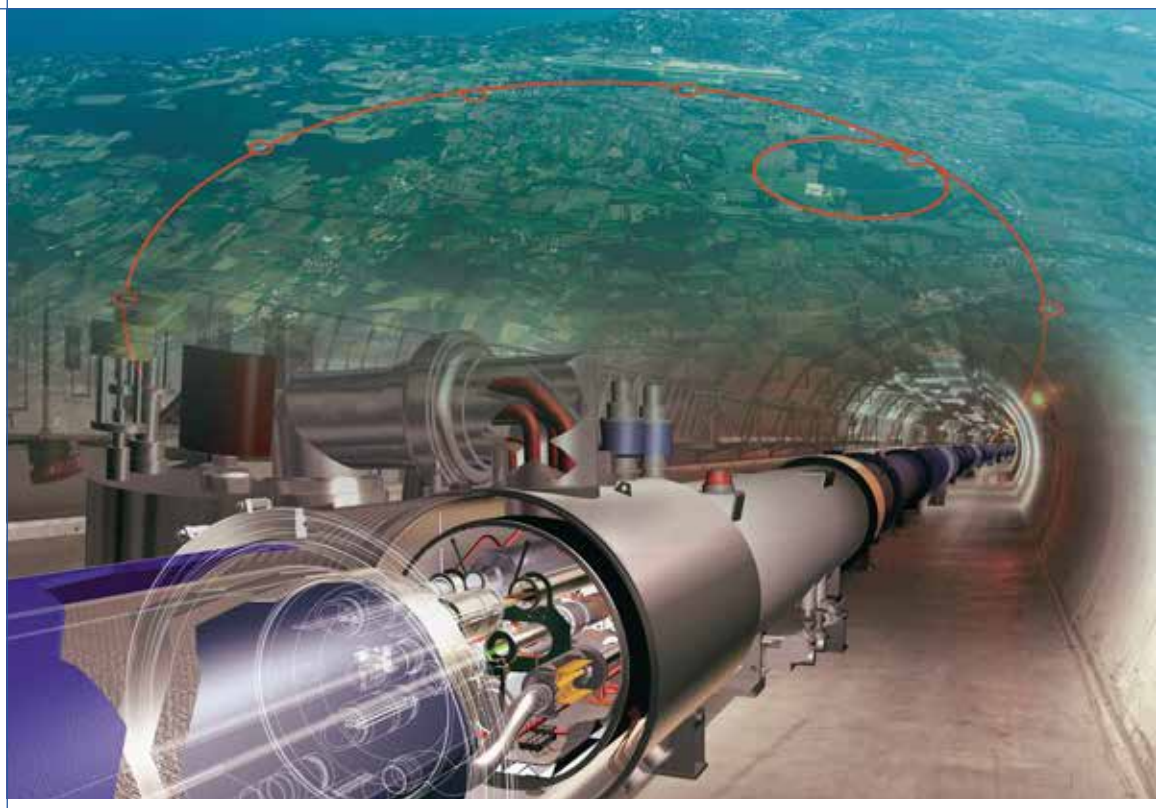


Image: CERN

HK INSTRUMENTS EXPERTISE IN CERN

CERN, the European Laboratory for Particle Physics, is carrying out a large project to monitor and regulate the air conditioning inside the LHC (Large Hadron Collider), the particle accelerator that lead to the discovery of the Higgs Boson. For the differential pressure measurements, CERN has selected the DPT250-R8 sensor from HK Instruments to meet the Organization's stringent requirements in terms of precision, reliability and ease of integration. A total of 50 DPT transmitters have been installed in the underground areas such as experimental caverns, across galleries and pressurized modules. In addition, air quality transmitters of type CDT2000 are used for the control of air conditioning in control rooms of the LHC experiments.

CERN HAS SELECTED THE DPT250-R8 SENSOR FROM HK INSTRUMENTS TO MEET THE ORGANIZATION'S STRINGENT REQUIREMENTS IN TERMS OF PRECISION.

BTIB – OUR PARTNER IN FRANCE

BTIB is a French company, specialized in HVAC and BMS (Building Management System). Created in 1991, BTIB is an independent distributor for products and technologies dedicated to the Smart Building market. Our customers are usually HVAC or BMS System Integrators or mechanical installers. We provide products and technical support associated with a highly experienced team.

As a specialized distributor, we are always looking for new products for our customers' portfolio (more than 95 System Integrators). Our goal is to provide the most interesting products with special characteristics: high quality, easy to use and competitive. Initially, BTIB was only distributing HVAC controllers, I/O modules and software for Web supervisors. Working with HK Instruments brings us a new product line of very well-built sensors to connect to these solutions.

We share many human values with HK Instruments. Indeed, BTIB tries to build a cooperation more like a partnership than a traditional supplier/customer relationship. We are very close to our customers, working like a skilled eco-system. We have a lot of pleasure working with HK Instruments team who is natural but very professional and attentive.

We are very happy to join the HK Instruments Family!

Teddy Caroni
Managing director

> "WE HAVE A LOT OF PLEASURE WORKING WITH HK INSTRUMENTS TEAM WHO IS NATURAL BUT VERY PROFESSIONAL AND ATTENTIVE."

JOIN OUR HK INSTRUMENTS FAMILY OF DISTRIBUTORS

We are constantly looking for new distributors to join our HK Instruments family. Our distributors are long-term partners, and we put in work to nurture a relationship built on trust, service and true friendship. In our 30 years' experience, this has been the key to our company's steady growth and strength. Through our success, we've been able to continually develop and create outstanding products for HVAC and building automation.

1. SALES SUPPORT
We will provide you with an HK Instruments account manager dedicated to assist you with any questions you may have, for example choosing the suitable products for your customers.

2. LEAD GENERATION
We understand the importance of more leads for your business to grow. We are skilled in developing a sales pipeline and will offer you valuable leads to utilize in networking and sales.

3. MARKETING SUPPORT
Building your brand equity will help us both win. HK Instruments is a well-known and trusted brand in Europe, and we are generous in sharing our brand equity with your business. You will receive access to our extensive media library, where you will find all marketing support materials ready to use. This includes catalogues in several languages, posters, photos, images, presentations etc.

4. TECHNICAL SUPPORT
We guarantee friendly and professional technical support between the hours of 8 a.m. and 4 p.m. GMT+2. We are here to help you.

5. FREE SALES AND TECHNICAL TRAINING
We offer our distributors sales and technical training free of charge. In some cases, we can provide you with personal technical training in Finland or in your premises. Contact your personal account manager for more information.

6. NFR SAMPLES
We are happy to send you Not for Resale (NFR) samples of HK Instruments products for use in testing, demonstrations and training.

7. SHARING BEST PRACTICES
We encourage you to share your success stories and feedback with our community. Connect with us and your fellow HK Instrument partners around the world.

8. PAYMENT TERMS
In some cases we can offer you exclusive longer payment terms. We will always evaluate these cases individually and offer these terms solely to companies of solid credit standing and financial strength.

9. IMMEDIATE REPLACEMENT
In some cases, we offer immediate replacement of the products for our long standing partners, within our 5 year warranty period. No waiting for repair – instead, you will be instantly sent a fully functional product after sending us the defective piece.

10. PROJECT PRICING OPTION
When you are competing against a strong offer from a competitor for a substantial project, you can always ask for a project price.

MOST IMPORTANTLY, WE OFFER PRODUCTS THAT SELL.

In the HVAC and building automation industry, HK Instruments is known for:

- constant product development efforts to meet the highest standards of the HVAC industry
- competitive pricing and high quality products
- high-end Finnish design and quality awarded with the Design From Finland mark
- 5 year warranty
- customized OEM products and private labeling
- its strong Nordic brand that is trusted globally by a wide scope of OEMs, system integrators, distributors and well-know multinational corporations
- more than 30 years of experience in manufacturing measuring devices for HVAC and building automation.

Contact our export sales managers for a chat and let's discuss more opportunities!

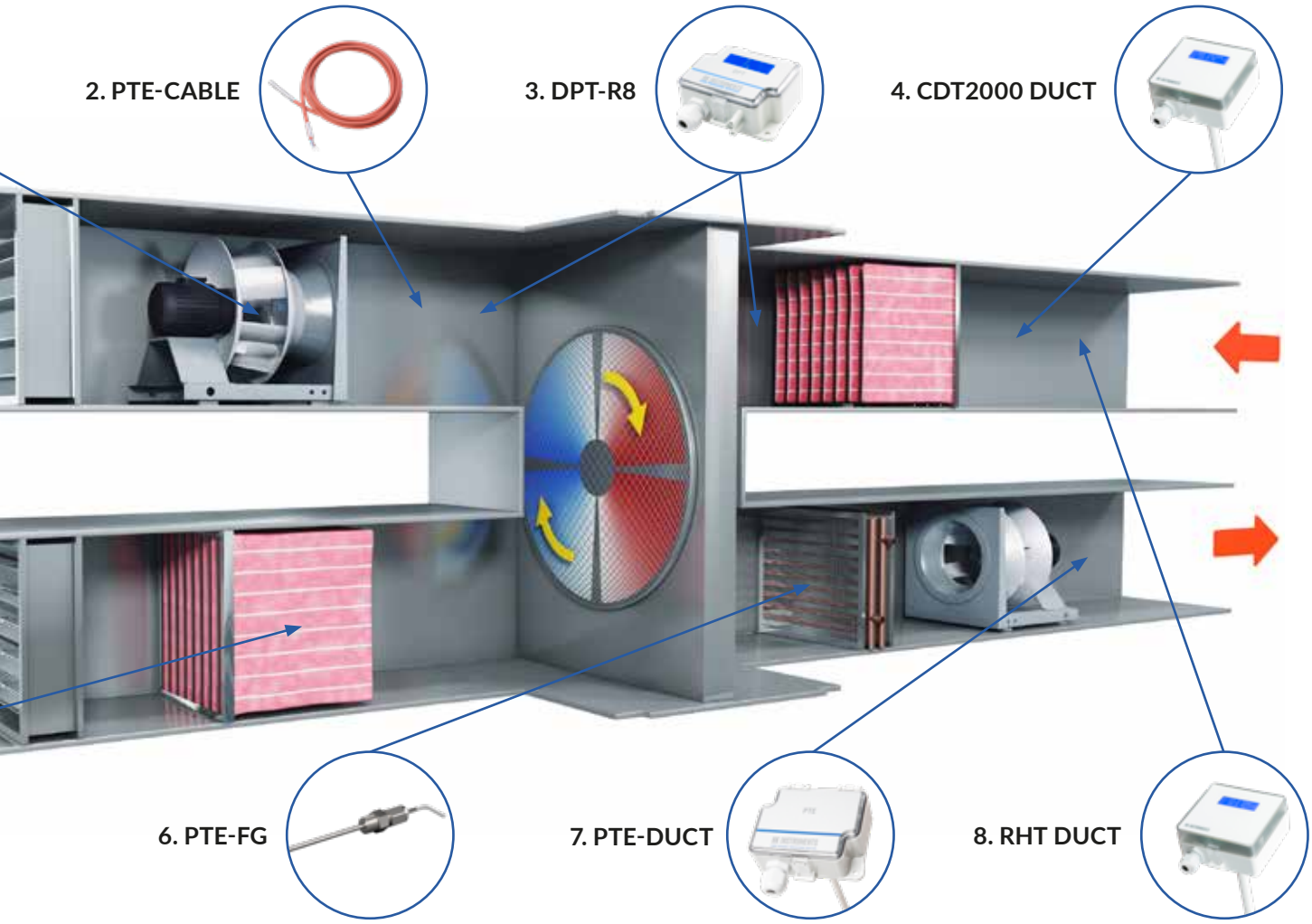
APPLICATIONS

AIR HANDLING UNITS (AHU) – MEASUREMENTS AND CONTROLS

TRADITIONAL SOLUTION

Air handling units are used in nearly all new and renovated buildings to ensure high-quality indoor air. In addition to providing clean indoor air, HK Instruments' easy-to-use devices enable cost-efficiency and the effortless installation and monitoring of air handling units. In comparison with analogue devices, modern Modbus devices require less wiring, which reduces the cost of cabling work. Designed specifically for AHUs, the DPT-Dual-MOD-AHU combination is the only one of its kind on the market.

DPT-Flow **(1)** enables accurate air volume flow adjustment and control for supply and extracted air. DPT-R8 **(3,5)** monitors filter cleanliness and frosting in the heat recovery unit. The CDT **(4)**, RHT **(8)** and PTE **(2,6,7)** sensors ensure demand-controlled ventilation.

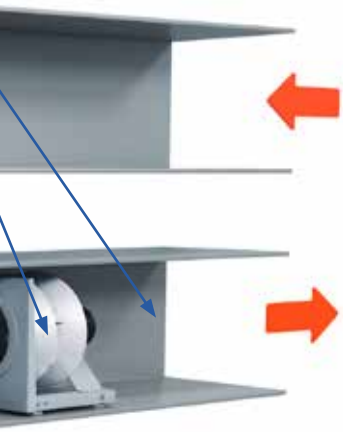


MODBUS SOLUTION

Our main products are also available with Modbus communication. When using a bus solution, you need less wires in cables and fewer input points in the controller. As a result, you will save in costs of the devices and installation.

DPT-Dual-MOD combines two differential pressure transmitters into one device. When using the Input terminal, temperature transmitters can be replaced with temperature sensors. This makes it possible to measure four different types of data.

With the Modbus solution you only need 4 wires as opposed to 23 wires when using the traditional solution.



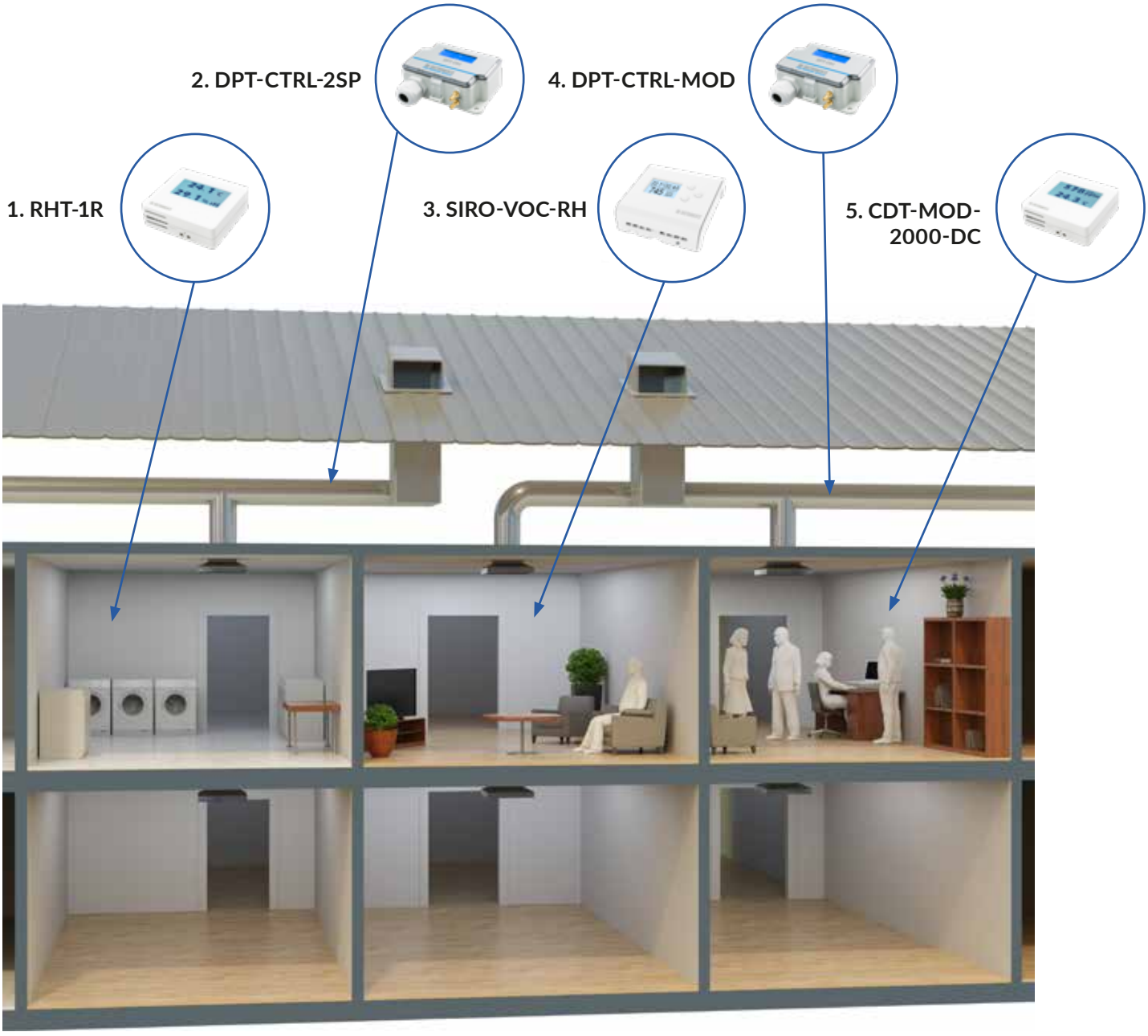
In the Modbus solution, DPT-Dual-MOD-AHU **(1)** monitors and controls air volumes. It also functions as a filter alert, replacing two separate measuring devices: air flow transmitter and differential pressure transmitter. DPT-Dual-MOD **(3)** is the right choice when you want to monitor and control duct pressure instead of air volumes.
Two temperature sensors are connected to both DPT-Dual-MOD models. These sensors are essential for the functioning of the air handling unit. DPT-MOD **(2)** prevents frosting in the heat recovery unit.

Modbus

ROOF EXTRACTION UNIT

In apartment buildings, roof extraction units are often necessary to ensure clean, high-quality indoor air. Ventilation in apartment buildings is often set at a default level, even though the load varies. This results in a significant loss of energy. Ventilation applications in apartment buildings are easy to implement by using HK Instruments' measurement devices. Our cost-efficient solutions do not necessarily need to be supported by an expensive building automation system.

DPT-Ctrl-2SP **(2)** keeps the air volume in the laundry facility at the desired standard value by controlling the EC exhaust fan. RHT-1R **(1)** monitors the air humidity and causes DPT-Ctrl-2SP to increase capacity when air humidity increases. Siro-VOC-rH **(3)** and CDT-MOD-2000-DC **(5)** monitor the air quality in apartments, and DPT-Ctrl-MOD **(4)** actively adjusts the exhaust fan. CDT2000 and DPT devices communicate seamlessly with the building management system through the Modbus interface.

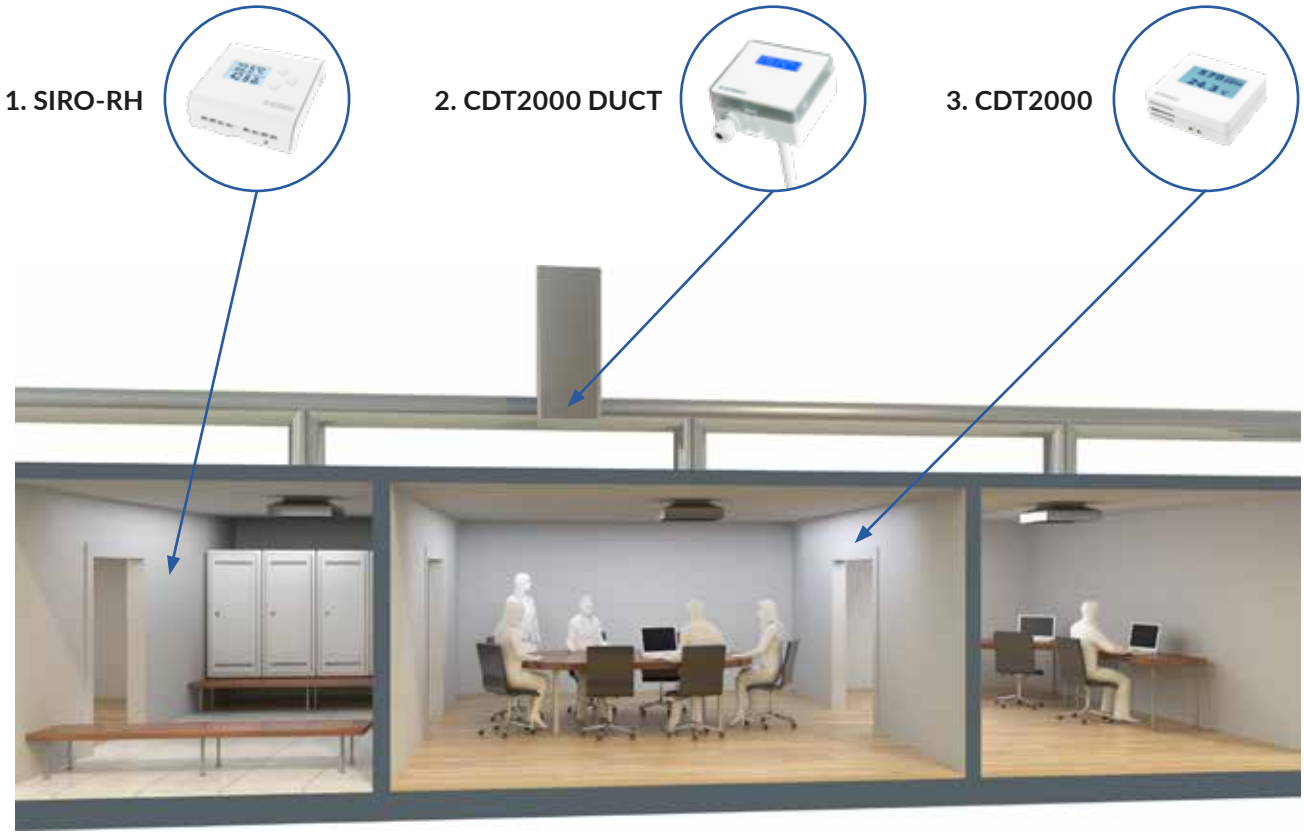


DEMAND-CONTROLLED VENTILATION (DCV)

HK Instruments' multifunctional measuring devices are used as a part of demand-controlled ventilation. Ventilation is boosted when a large number of people are in the building. Ventilation solutions of this type are needed in schools, offices, sports halls and hotels – that is, in all locations where it is important to maintain good air quality, even if utilisation rates vary greatly. In addition to ensuring good air quality, demand-controlled ventilation reduces energy consumption in buildings.

As a result of technical innovations, our devices are even more versatile than before. CDT2000-DC, a CO_2 transmitter using Dual Channel technology, is maintenance-free and can also be used in hospitals, nursing homes and other environments that would be challenging for ordinary CO_2 transmitters. The large display on a CDT device is informative and easy to read, which also creates added value for the users of the building.

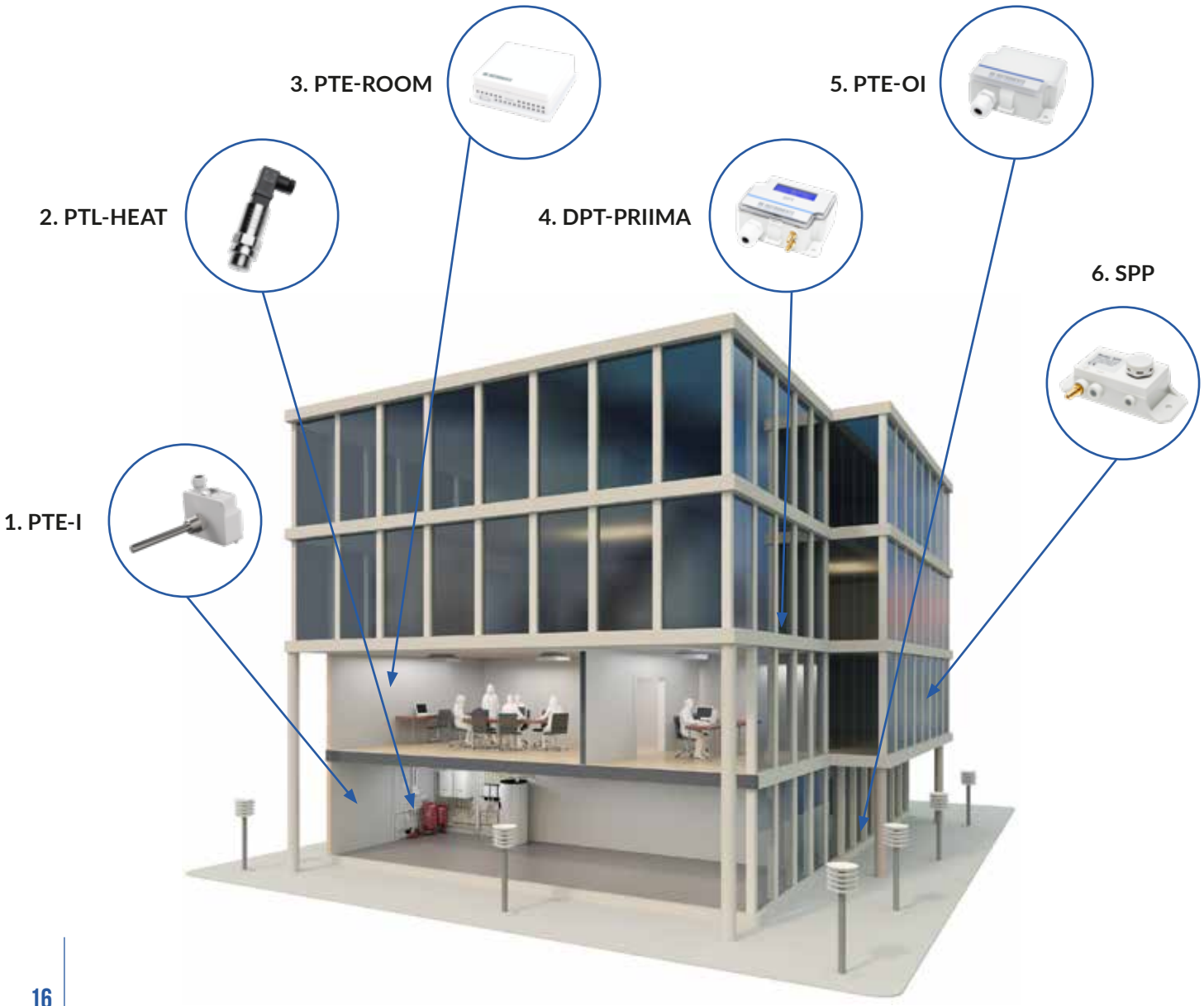
Siro-rH (**1**) and CDT2000 **(3)** monitor the air quality in individual rooms and communicate any needs for added capacity to the building management system. CDT2000 Duct **(2)** monitors the extracted air across the area, enabling demand-controlled ventilation in the entire office.



COMMERCIAL BUILDING SOLUTIONS

HK Instruments produces user-friendly measurement devices for indoor and outdoor facilities. Passive outdoor temperature and light sensors are reliable in use and reduce the need for cabling. These sensors predict the need for heating in a building and control outdoor lighting sensibly and energy-efficiently. Liquid pressure transmitters can be used to monitor district heating and cooling, as well as detecting any leaks and preventing water damage. Surveillance of the differential pressure across the building envelope takes care of the health of the building and prevents serious structural problems.

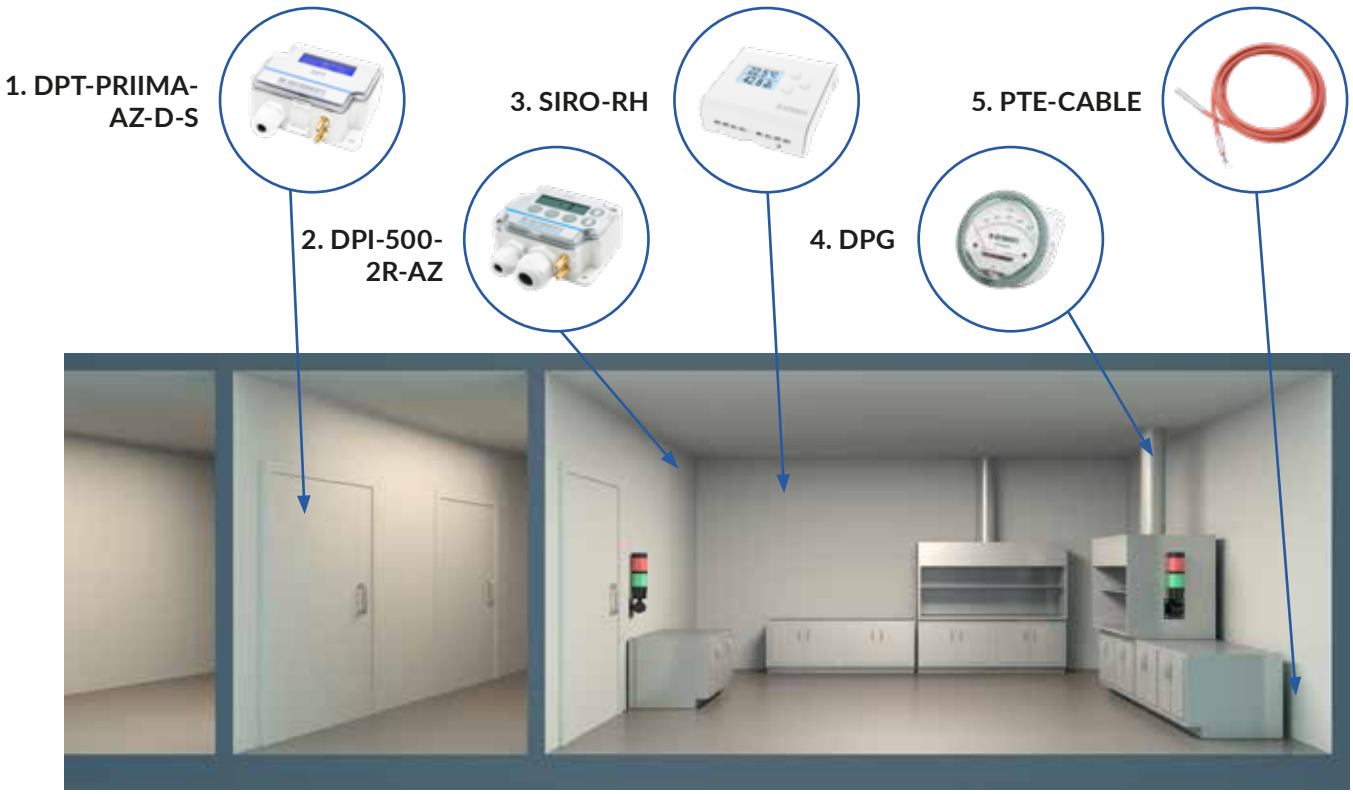
PTE-OI **(5)** measures outdoor temperatures and the level of outdoor light. Together with PTE-Room **(3)**, which measures room temperatures, the sensors enable the proactive control of the heating network. PTL-Heat **(2)** monitors pressure in the heating network and provides alerts about leaks when pressure decreases. PTE-OI carries out light measurements to determine when outdoor lighting should be switched on and off. DPT-Priima **(4)** measures the differential pressure over building envelope, maintaining the desired pressure balance. SPP **(6)**, static pressure port, connected to DPT-Priima, prevents direct wind interference on the transmitter by filtering any wind gusts.

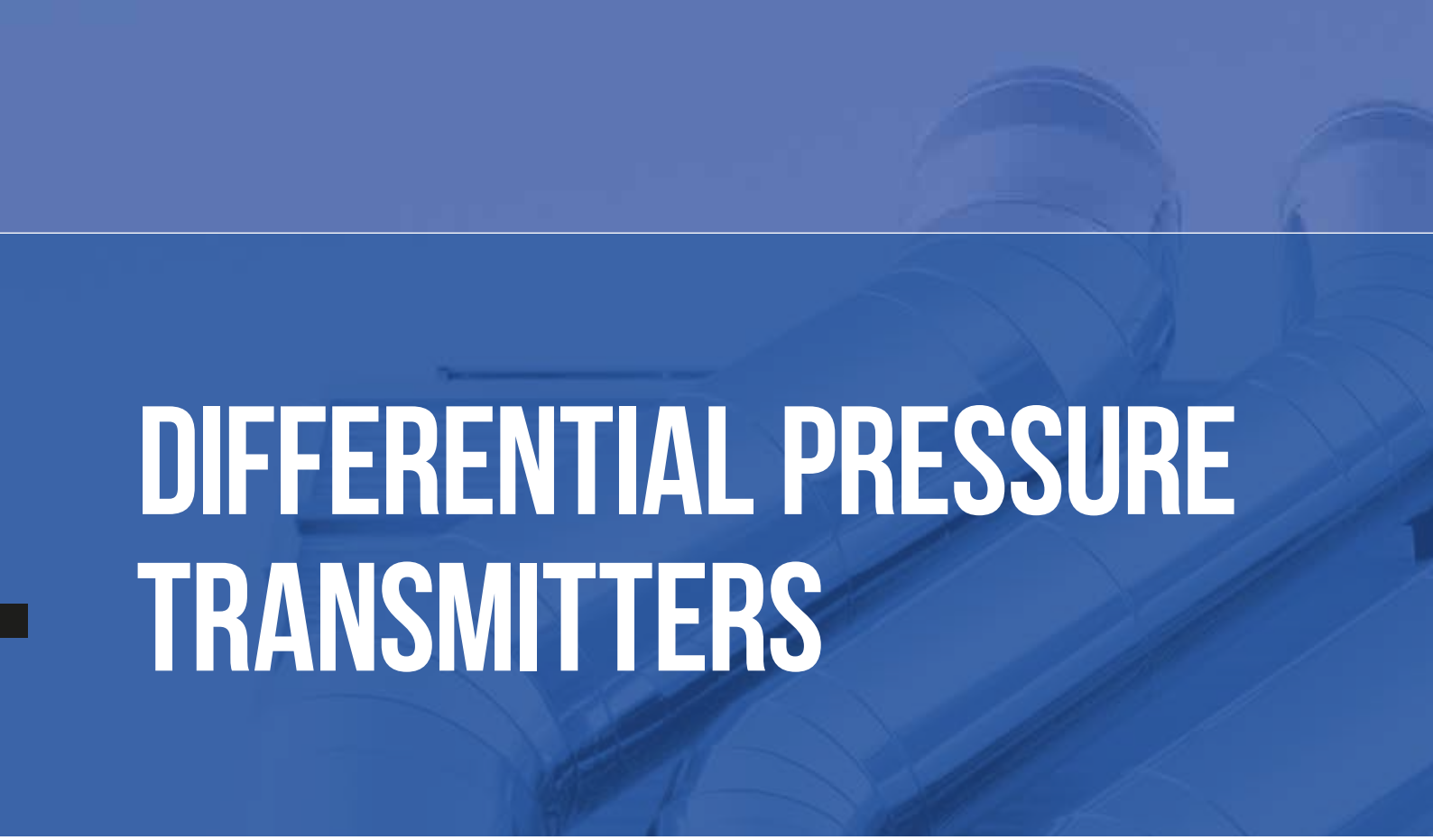


CLEANROOM APPLICATION

Pressure differences between rooms in hospitals, laboratories and other demanding environments can be controlled through pressurisation and depressurisation to ensure favourable working conditions and the cleanliness of products. Designed to monitor pressure differences between rooms, differential pressure transmitters measure the difference in pressure between the cleanroom and the outdoor air. DPT250-R8-AZ-D-S, which measures even the smallest pressure differences, is an excellent choice when the pressurisation of facilities requires high precision and operational reliability. In addition to measuring pressure differences, it is important to measure the temperature and humidity in cleanrooms. The RHT humidity and temperature transmitter is the perfect choice for such measurements. All our cleanroom devices include field calibration and are available with a calibration certificate. Our devices ensure uninterrupted production in cleanrooms, which require reliable, continuous monitoring.

The DPT-Priima-AZ-D-S **(1)** high-precision differential pressure transmitter monitors overpressure in laboratory facilities. The relay of the DPI-500-2R-AZ **(2)** electronic differential pressure switch and transmitter activates the beacon alarm light if the pressure in the facility exceeds the threshold value. Siro-rH **(3)** communicates the room temperature and humidity to the automation system. The DPG analogue gauge **(4)** is easy to read, which makes it suitable for indicating the exact pressure in the laminar flow cabinet. PTE-Cable **(5)** measures the temperature in a refrigerated cabinet, making it possible to collect long-term historical data.





DIFFERENTIAL PRESSURE TRANSMITTERS

DPT series pressure transmitters are accurate and user-friendly devices with a stylish and modern design. Fully automated zero point calibration, AZ-calibration, offers reliability in the most sensitive of applications. In addition, the AZ-calibration provides cost savings over the lifetime of a building, as it makes the device completely maintenance-free.

The excellent usability of DPT-R8 series is widely known among electricians and installers all over the world. DPT-Priima is designed especially for high accuracy applications. DPT-MOD and DPT-IO-MOD series Modbus transmitters can be connected on serial line and therefore require less wiring than traditional transmitters. Modbus communication is a modern and distortion-free way to transmit measurement data.

The DPT-Dual-MOD with Modbus communication offers savings in the device and installation costs due to its two pressure sensors and Input terminal.

NEW!

DPT-R8

DPT-PRIIMA

DPT-MOD

DPT-IO-MOD

DPT-DUAL-MOD

DPT-DUAL

DPT-2W

DPI

DPT-R8
DIFFERENTIAL PRESSURE TRANSMITTERS
THREE-WIRE

USER-FRIENDLY DEVICES WITH AN EXCEPTIONAL DESIGN

DPT-R8
The DPT-R8 series includes electronic differential pressure transmitters that offer exceptional performance, high quality and competitive pricing. Because of the high accuracy of the devices, it is usually not necessary to narrow down the range to get precise measurements. DPT-R8 devices are easily customizable, and also available for private labeling.

USAGE & APPLICATIONS
The differential pressure transmitter is used for measuring low pressures of air and non-combustible gases in order to monitor and control building automation, HVAC and cleanroom systems.

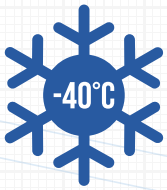
OPTIONS
AZ: autozero element **D:** display **S:** span point calibration for high accuracy applications
-40C: cold-resistant model

TECHNICAL DETAILS

Accuracy (from applied pressure): (models 250 and 2500)	Pressure < 125 Pa = 1 % + ±2 Pa Pressure > 125 Pa = 1 % + ±1 Pa
Accuracy (from applied pressure): (model 7000)	Pressure < 125 Pa = 1.5 % + ±2 Pa Pressure > 125 Pa = 1.5 % + ±1 Pa
Zero point calibration:	automatic with autozero element (-AZ) or by pushbutton
Measuring units:	Pa, kPa, mbar, inchWC, mmWC, psi
Supply voltage:	24 VDC ±10 % / 24 VAC ±10 %
Power consumption:	< 1.0 W (< 1.2 W with output current 20 mA) -40 °C model: <4.0 W when <0 °C
Output signals (3-wire):	0...10 VDC, Load R minimum 1 kΩ 4...20 mA, maximum load 500 Ω
Operating temperature:	-20...+50 °C (with autozero calibration -5...+50 °C) -40...+50 °C (-40C model)
Response time:	0.8 / 8 s
Protection standard:	IP54

DPT-R8

Example: DPT2500-R8-AZ-D	Product series						
	DPT	Differential pressure transmitter					
		Measuring ranges (Pa)					
		250	-150...+150 / -100...+100 / -50...+50 / -25...+25 / 0...25 / 0...50 / 0...100 / 0...250				
		2500	-100...+100 / 0...100 / 0...250 / 0...500 / 0...1000 / 0...1500 / 0...2000 / 0...2500				
		7000	0...1000 / 0...1500 / 0...2000 / 0...2500 / 0...3000 / 0...4000 / 0...5000 / 0...7000				
			Model type				
			-R8	Eight measuring ranges			
				Zero point calibration			
				-AZ	With autozero calibration		
					Standard with pushbutton manual zero point calibration		
					Display		
					-D	With display	
						Without display	
						Span point calibration	
						-S	Span point calibration
							Without span point calibration
							Cold resistance
							-40C -40 °C cold resistant (not available with autozero calibration)
							Without -40 °C cold resistance
Model	DPT	2500	-R8	-AZ	-D		



DPT-PRIIMA
DIFFERENTIAL PRESSURE TRANSMITTERS
HIGH ACCURACY

NEW!

HIGH ACCURACY TRANSMITTER FOR DEMANDING APPLICATIONS

DPT-PRIIMA
DPT-Priima is a high accuracy differential pressure transmitter designed for cleanrooms and other high accuracy applications. DPT-Priima has a new, extremely accurate sensor, optional span point calibration and automatic zero point calibration.

USAGE & APPLICATIONS
DPT-Priima is used in applications where the required accuracy is higher than the regular building automation pressure transmitters can reach. The most common applications are pressure monitoring in cleanrooms and over the building envelope.

OPTIONS
AZ: autozero element **D:** display **S:** span point calibration

TECHNICAL DETAILS

Accuracy (from applied pressure):	0.4 % + ±0.4 Pa
Measuring ranges (Pa):	-25...+25 / -50...+50 / -100...+100 / -500...+500 / 0...25 / 0...50 / 0...250 / 0...1000
Zero point calibration:	automatic with autozero element (-AZ) or by pushbutton
Measuring units:	Pa, kPa, mbar, inchWC, mmWC, psi
Supply voltage:	24 VDC ±10 % / 24 VAC ±10 %
Power consumption:	< 1.0 W (< 1.2 W with output current 20 mA)
Output signals (3-wire):	0...10 VDC 4...20 mA
Operating temperature:	-20...+50 °C (with autozero calibration -5...+50 °C)
Response time:	0.4 / 8 s
Protection standard:	IP54

DPT-PRIIMA

Example: DPT-Priima-AZ-D-S	Product series					
	DPT Differential pressure transmitter					
		Model type				
		-Priima High accuracy				
			Zero point calibration			
			-AZ With autozero calibration			
			Standard with pushbutton manual zero point calibration			
				Display		
				-D With display		
				Without display		
					Span point calibration	
					-S Span point calibration	
					Without span point calibration	
						Calibration certificate
						-C With calibration certificate
						Without calibration certificate
Model	DPT	-Priima	-AZ	-D	-S	

DPT-PRIIMA TOGETHER WITH SPP (STATIC PRESSURE PORT) IS A COMPLETE SOLUTION FOR BUILDING ENVELOPE MEASUREMENT

DPT-MOD
DIFFERENTIAL PRESSURE TRANSMITTERS
WITH AIR FLOW MEASUREMENT AND MODBUS COMMUNICATION

ALL-IN-ONE TRANSMITTER: MEASURE VOLUME FLOW, VELOCITY AND DIFFERENTIAL PRESSURE

DPT-MOD
DPT-MOD is a multifunctional transmitter for measuring volume flow, velocity, and static and differential pressure. The measurements can be read and the configuration done via Modbus communication. DPT-MOD requires less wiring than the traditional 3-wire transmitters because multiple devices can be connected on serial line.

USAGE & APPLICATIONS
The DPT-MOD is used for measuring air flow or low pressures of air and non-combustible gases in order to monitor and control building automation, HVAC and cleanroom systems. It can also be used with several different measurement probes such as FloXact™ or pitot tube, and air dampers.

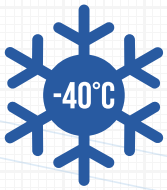
TECHNICAL DETAILS

Communication:	RS-485 Modbus (RTU)
Accuracy (from applied pressure): (model 2500)	Pressure < 125 Pa = 1 % + ±2 Pa Pressure > 125 Pa = 1 % + ±1 Pa
Accuracy (from applied pressure): (model 7000)	Pressure < 125 Pa = 1.5 % + ±2 Pa Pressure > 125 Pa = 1.5 % + ±1 Pa
Zero point calibration:	automatic with autozero element (-AZ), by pushbutton or via Modbus
Measuring units:	Pressure: Pa, kPa, mbar, inchWC, mmWC, psi Flow: m^3/s, m^3/h, cfm, l/s, m/s, ft/min
Supply voltage:	24 VAC ±10 % / 24 VDC ±10 %
Power consumption:	< 1.3 W
Output signal:	via Modbus
Response time:	1.0–20 s, selectable via menu or via Modbus
Operating temperature:	-20...+50 °C (with autozero calibration -5...+50 °C) -40...+50 °C (-40C model)
Protection standard:	IP54

DPT-MOD

Example: DPT-MOD-2500-AZ-D	Product series					
	DPT	Differential pressure transmitter				
		Model type				
		-MOD	Modbus communication			
			Measuring ranges (Pa)			
			-2500	-250...2500		
			-7000	-250...7000		
				Zero point calibration		
				-AZ	With autozero calibration	
					Standard with pushbutton manual zero point calibration	
					Display	
					-D	With display
						Cold resistance
						-40C -40 °C cold resistant (not available with autozero calibration)
						Without -40 °C cold resistance
Model	DPT	-MOD	-2500	-AZ	-D	

NOW AVAILABLE WITH AIR FLOW MEASUREMENT AND AUTOZERO CALIBRATION



DPT-IO-MOD
DIFFERENTIAL PRESSURE TRANSMITTERS
WITH MODBUS COMMUNICATION AND INPUT TERMINAL

DPT-IO-MOD
DPT-IO-MOD differential pressure transmitter for air is designed for Modbus (RTU) communication network. The DPT-IO-MOD has an input terminal that turns it into a multifeatured transmitter. When using the input terminal, temperature transmitters can be replaced with temperature sensors. Very precise pressure sensor and easily operated interface make the device reliable and user-friendly.

USAGE & APPLICATIONS
The DPT-IO-MOD is used for measuring low pressures of air and non-combustible gases in order to monitor and control building automation, HVAC and cleanroom systems.

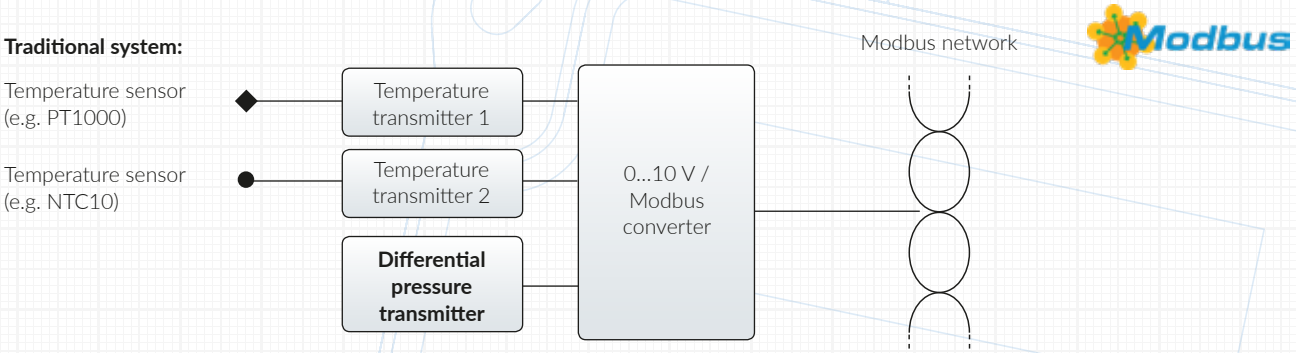
TECHNICAL DETAILS

Communication:	RS-485 Modbus (RTU)
Accuracy (from applied pressure): (model 2500)	Pressure < 125 Pa = 1 % + ±2 Pa Pressure > 125 Pa = 1 % + ±1 Pa
Accuracy (from applied pressure): (model 7000)	Pressure < 125 Pa = 1.5 % + ±2 Pa Pressure > 125 Pa = 1.5 % + ±1 Pa
Zero point calibration:	by pushbutton or via Modbus
Measuring units:	Pa, kPa, mbar, inchWC, mmWC, psi
Supply voltage:	24 VDC ±10 % / 24 VAC ±10 %
Power consumption:	< 1.3 W
Output signal:	via Modbus
Operating temperature:	-20...+50 °C
Response time:	1...20 s selectable via menu
Protection standard:	IP54

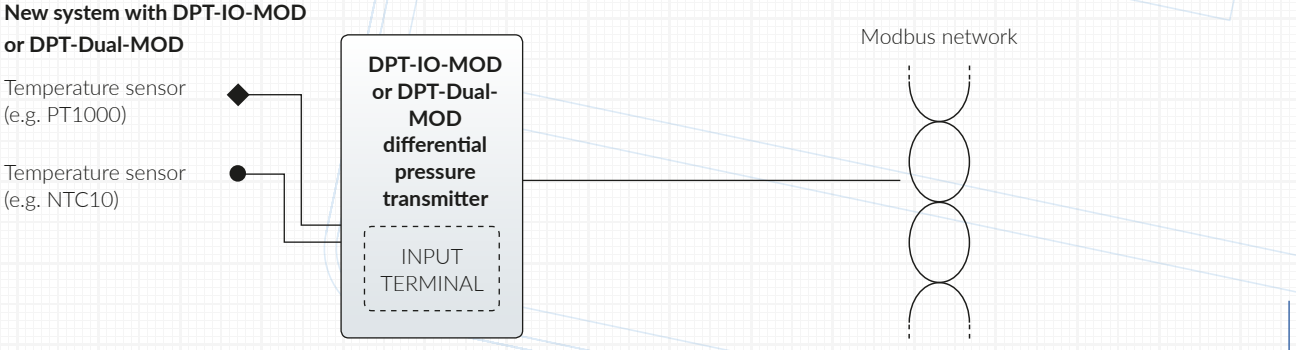
DPT-IO-MOD

Example: DPT-IO-MOD-2500-D	Product series			
	DPT	Differential pressure transmitter		
		Model type		
		-IO-MOD	Input terminal and Modbus communication	
			Measuring ranges (Pa)	
			-2500	-250...2500
			-7000	-250...7000
				Display
				-D With display
Model	DPT	-IO-MOD	-2500	-D

Traditional system:



New system with DPT-IO-MOD or DPT-Dual-MOD



DPT-DUAL-MOD

DIFFERENTIAL PRESSURE TRANSMITTERS

WITH TWO PRESSURE SENSORS AND MODBUS COMMUNICATION

AHU MODEL INCLUDES AN AIR FLOW TRANSMITTER

DPT-DUAL-MOD

DPT-Dual-MOD combines two differential pressure transmitters into one device. It offers a possibility to measure pressure from two different points. One of the measurements can be set to show the air flow rate. DPT-Dual-MOD has a Modbus interface and an Input terminal. When using the Input terminal, temperature transmitters can be replaced with temperature sensors. As a result, you will save in costs of the devices and in the installation costs. The AHU model that includes an air flow transmitter has been designed especially for ventilation units.

USAGE & APPLICATIONS

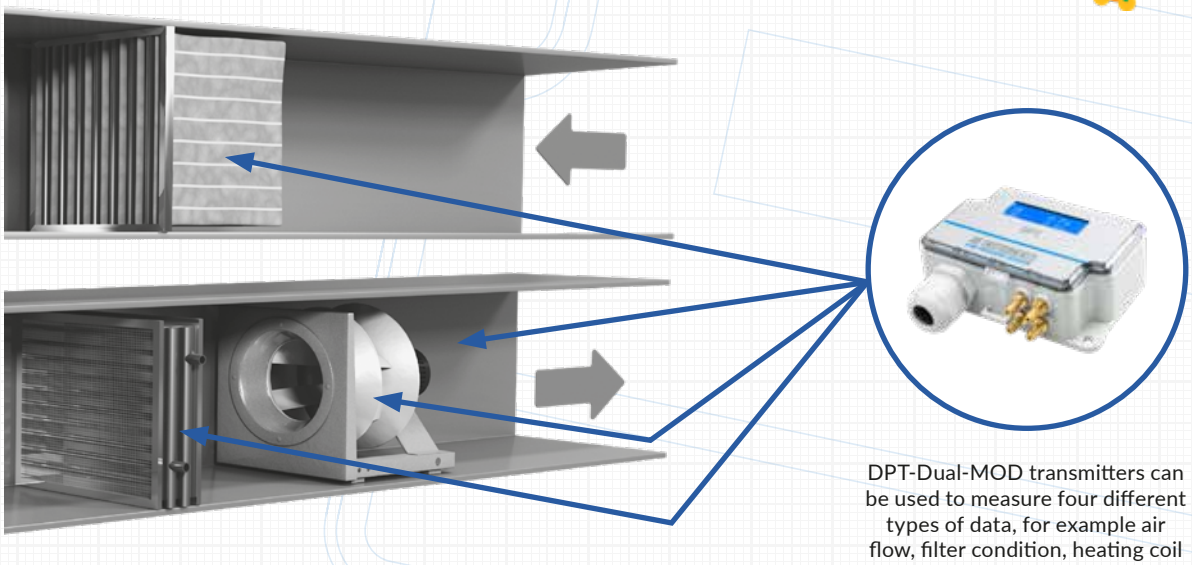
DPT-Dual-MOD can be used in all applications where you need to measure two different pressures. With the AHU model one of the measurements can be air flow. The devices are suitable for air and non-combustible gases.

TECHNICAL DETAILS

Communication:	RS-485 Modbus (RTU)
Accuracy (from applied pressure): (model 2500)	Pressure < 125 Pa = 1 % + ±2 Pa Pressure > 125 Pa = 1 % + ±1 Pa
Accuracy (from applied pressure): (model 7000)	Pressure < 125 Pa = 1.5 % + ±2 Pa Pressure > 125 Pa = 1.5 % + ±1 Pa
Zero point calibration:	by pushbutton or via Modbus
Measuring units:	Pressure: Pa, kPa, mbar, inchWC, mmWC, psi Flow: (AHU model) m^3/s, m^3/h, cfm, l/s, m/s, ft/min
Supply voltage:	24 VDC ±10 % / 24 VAC ±10 %
Power consumption:	< 1.3 W
Output signal:	via Modbus
Operating temperature:	-20...+50 °C
Response time:	1...20 s selectable via menu
Protection standard:	IP54

DPT-DUAL-MOD

Example: DPT-Dual-MOD-2500-D	Product series			
	DPT	Differential pressure transmitter		
		Model type		
		-Dual-MOD	Two pressure sensors and Modbus communication	
			Measuring ranges (Pa)	
			-2500	-250...2500
			-7000	-250...7000
			-AHU	both 2500 and 7000 sensors, with flow measurement
				Display
				-D With display
Model	DPT	-Dual-MOD	-2500	-D



DPT-Dual-MOD transmitters can be used to measure four different types of data, for example air flow, filter condition, heating coil and air temperature.

DPT-DUAL
DIFFERENTIAL PRESSURE TRANSMITTERS
WITH TWO PRESSURE SENSORS

DPT-DUAL
DPT-Dual series differential pressure transmitters are engineered for building automation in the HVAC/R industry. DPT-Dual is a technologically advanced transmitter measuring static and differential pressure from two different points, with field selectable units, range and output, all in a single device.

USAGE & APPLICATIONS
The differential pressure transmitter is used for measuring low pressures of air and non-combustible gases in order to monitor and control building automation and HVAC systems.

TECHNICAL DETAILS

Accuracy (from applied pressure): (model 2500)	Pressure < 125 Pa = 1 % + ±2 Pa Pressure > 125 Pa = 1 % + ±1 Pa
Accuracy (from applied pressure): (model 7000)	Pressure < 125 Pa = 1.5 % + ±2 Pa Pressure > 125 Pa = 1.5 % + ±1 Pa
Zero point calibration:	by pushbutton
Measuring units:	Pa, kPa, mbar, inchWC, mmWC, psi
Supply voltage:	24 VDC ±10 % / 24 VAC ±10 %
Power consumption:	< 1.0 W
Output signals (3-wire):	2 x 0...10 VDC or 2 x 0...5 VDC (selectable by jumper)
Operating temperature:	-20...+50 °C
Response time:	0.8 / 4 s
Protection standard:	IP54

DPT-DUAL

Example: DPT-Dual-2500-D	**Product series**			
	DPT	Differential pressure transmitter		
		Model type		
		-Dual	With two pressure sensors	
			Measuring ranges (Pa)	
			-2500	-100...+100 / 0...100 / 0...250 / 0...500 / 0...1000 / 0...1500 / 0...2000 / 0...2500
			-7000	0...1000 / 0...1500 / 0...2000 / 0...2500 / 0...3000 / 0...4000 / 0...5000 / 0...7000
				Display
				-D With display
				Without display
Model	DPT-Dual		-2500	-D

DPT-2W
DIFFERENTIAL PRESSURE TRANSMITTERS
TWO-WIRE

DPT-2W
The DPT-2W is a differential pressure transmitter with two-wire connection.

USAGE & APPLICATIONS
The differential pressure transmitter is used for measuring low pressures of air and non-combustible gases in order to monitor and control building automation, HVAC and cleanroom systems.

TECHNICAL DETAILS

Accuracy (from FS):	±1.5 %
Long term stability, typical 1 year:	≤ ± 8 Pa; model 2500
Measuring unit:	Pa
Zero point calibration:	by pushbutton
Supply voltage:	10...35 VDC
Output signal:	4...20 mA
Operating temperature:	-10...+50 °C
Response time:	0.8 / 4 s
Protection standard:	IP54

DPT-2W

Example: DPT-2W-2500-R8-D	Product series			
	DPT-2W	Differential pressure transmitter with 2-wire configuration		
		Measuring ranges (Pa)		
		-2500	-100...+100 / 0...100 / 0...250 / 0...500 / 0...1000 / 0...1500 / 0...2000 / 0...2500	
			Model type	
			-R8	Eight measuring ranges
				Display
				-D With display
				Without display
Model	DPT-2W	-2500	-R8	-D

LOOP-POWERED 4-20 mA TRANSMITTER

DPI

ELECTRONIC DIFFERENTIAL PRESSURE SWITCH AND TRANSMITTER

THE RIGHT CHOICE WHEN YOU NEED AN AIR PRESSURE ALARM

DPI
The DPI is an electronic differential pressure switch and transmitter with up to two relay outputs.

USAGE & APPLICATIONS
The DPI is used for measuring and indicating low pressures of air and non-combustible gases in order to monitor and control building automation, HVAC and cleanroom systems.

TECHNICAL DETAILS

Accuracy (from FS):	±1.5 % (±0.7 % with span point calibration) (including: general accuracy, temperature drift, linearity, hysteresis, and repetition error)
Long term stability, typical 1 year:	±1 Pa (±8 Pa without autozero element -AZ)
Zero point calibration:	automatic with autozero element (-AZ) or by using the buttons on the lid
Supply voltage:	21–35 VDC / 24 VAC ±10 % (without -AZ option) 24 VDC ±10 % / 24 VAC ±10 % (with -AZ option)
Current consumption:	35 mA + relays (7 mA each) + AZ (20 mA) + 0...10 V output (10 mA)
Output signals:	0...10 V, L min 1 kΩ Relay output 1 (250 VAC / 30 VDC / 6 A) Optional relay output 2 (250 VAC / 30 VDC / 6 A)
Operating temperature:	-10...+50 °C (with autozero calibration -5...+50 °C)
Response time:	0.5...10 s
Protection standard:	IP54

DPI

Example: DPI±500-2R-D	Product series				
	DPI	Differential pressure indicator			
		Measuring ranges (Pa)			
		±500	-100...100 / -250...250 / -300...300 / -500...500		
		2500	0...100 / 0...250 / 0...1000 / 0...2500		
			Number of relays		
			-1R	One relay	
			-2R	Two relays	
				Zero point calibration	
				-AZ	With autozero calibration
					Standard with manual zero point calibration
					Display
					-D With display
Model	DPI	±500	-1R		-D

UP TO TWO RELAYS WHICH CAN BE CONFIGURED SEPARATELY

ALSO WITH AUTOZERO CALIBRATION

AIR FLOW AND VELOCITY TRANSMITTERS

DPT-Flow transmitters are unique devices that make measuring air flow and air velocity easier than ever before. Together with FloXact™ measurement probes the same devices are the right option when measuring flow in a duct. Again, if you wish to measure air velocity, your selection would be AVT which offers multiple measuring ranges in a single device together with relay and temperature output signals.

DPT-FLOW

FLOXACT™

DPT-FLOW-BATT

AVT

DPT-FLOW
FLOW TRANSMITTER FOR HVAC SYSTEMS

IDEAL PRODUCT FOR MEASURING THE FLOW RATE BOTH ON CENTRIFUGAL FANS AND IN A DUCT SYSTEM

DPT-FLOW
DPT-Flow is a flow transmitter that provides an easy way to measure the flow rate on centrifugal fans or in a duct system. One device is suitable for a range of fan types. It can also be used with several different measurement probes such as FloXact™ or pitot tube, and air dampers.

USAGE
The DPT-Flow can be used to measure the air flow on centrifugal fans or as a transmitter to regulate the air flow in a duct or on the selected fan or blower. It can also be used in a duct system or in air-handling units as an on-site display for flow.

APPLICATIONS
The DPT-Flow is an ideal instrument for air flow monitoring and control, and fan and blower control.

TECHNICAL DETAILS

Accuracy (from applied pressure): (models 1000 and 2000)	Pressure < 125 Pa = 1 % + ±2 Pa Pressure > 125 Pa = 1 % + ±1 Pa
Accuracy (from applied pressure): (models 5000 and 7000)	Pressure < 125 Pa = 1.5 % + ±2 Pa Pressure > 125 Pa = 1.5 % + ±1 Pa
Zero point calibration:	automatic with autozero element (-AZ) or by pushbutton
Measuring units:	Pressure: Pa, kPa, mbar, inchWC, mmWC, psi Flow: m^3/s, m^3/h, cfm, l/s, m/s, ft/min
Supply voltage:	24 VAC ±10 % / 24 VDC ±10 %
Power consumption:	< 1.0 W -40C model: <4.0 W when <0 °C
Output signals for pressure and air flow (selectable by jumper):	0...10 VDC 4...20 mA
Operating temperature:	-20...+50 °C (with autozero calibration -5...+50 °C) -40...+50 °C (-40C model)
Response time:	1...20 s
Protection standard:	IP54

ALSO USABLE WITH MEASUREMENT PROBES SUCH AS FLOXACTTM, PITOT TUBES, AND AIR DAMPERS

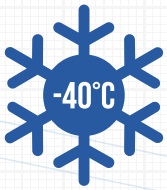
DPT-FLOW

Example: DPT-Flow-2000-AZ-D	Product series				
	DPT-Flow	Flow transmitter for HVAC systems			
		Measuring ranges (Pa)			
		-1000	0...1000		
		-2000	0...2000		
		-5000	0...5000		
		-7000	0...7000		
			Zero point calibration		
			-AZ	With autozero calibration	
				Standard with pushbutton manual zero point calibration	
				Display	
				-D	With display
					Cold resistance
					-40C -40 °C cold resistant (not available with autozero calibration)
					Without -40 °C cold resistance
Model	DPT-Flow	-2000	-AZ	-D	

PRE-PROGRAMMED FAN MANUFACTURERS

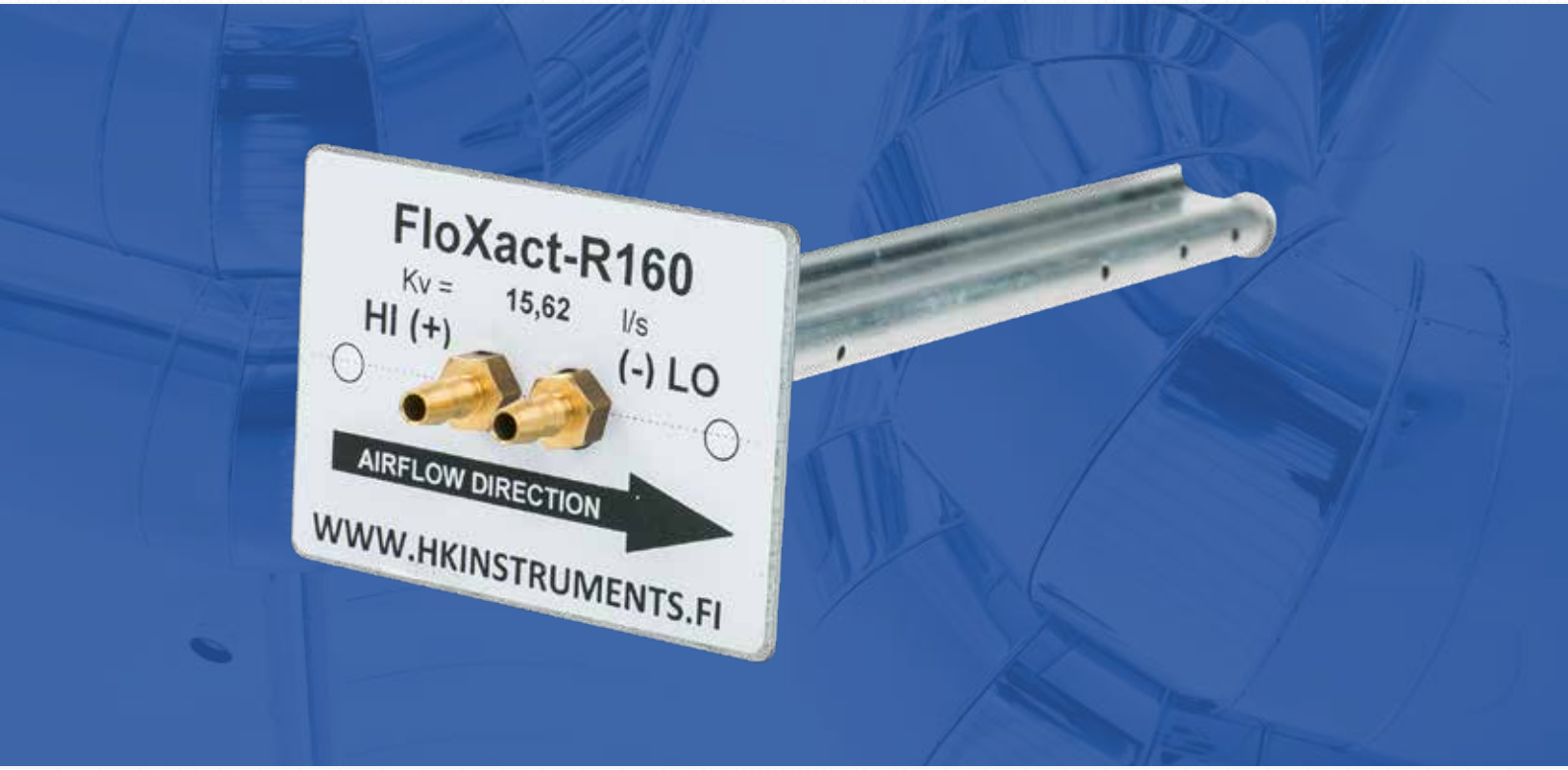
Fläkt Woods, Rosenberg, Nicotra Gebhardt, Comefri, Ziehl-Abegg, ebm-papst

The fan only needs to have a pressure tap/port to which the DPT-Flow can be connected



FLOXACT™

AVERAGING MULTI-POINT PITOT TUBE FOR FLOW MEASUREMENTS



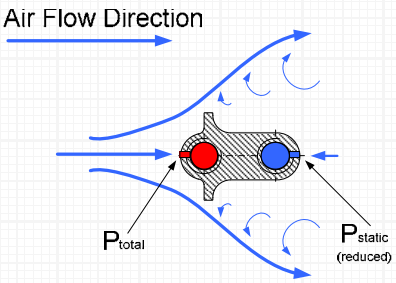
FLOXACT™

The FloXact™ probe is a differential air pressure device designed to measure air volume flow in a duct. It includes multiple sensing points to measure total and static pressures. The FloXact™ probe incorporates a unique design to amplify the differential pressure by 2.5 times for accurate measurement of lower air velocities down to 1.0 m/s (200 fpm). It is easy to install and cost-effective.

DESIGN FEATURES

- Multiple sensing points for greater accuracy
- Easy installation
- Chamfered sensing points for consistent readings
- 2 % accuracy
- 2.5 X signal amplification
- Accepts 1/4” OD tubing

OPERATION



Operation of the FloXact™

INSTALLATION

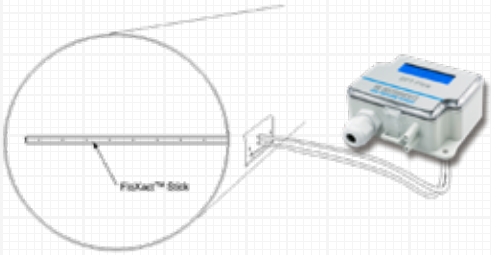


Figure 1. FloXact™ -R mounting.

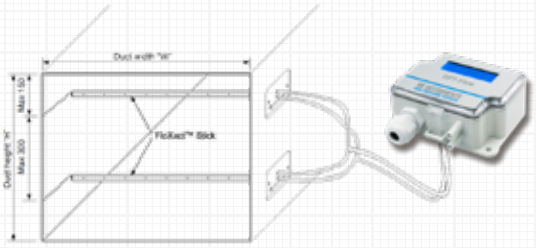
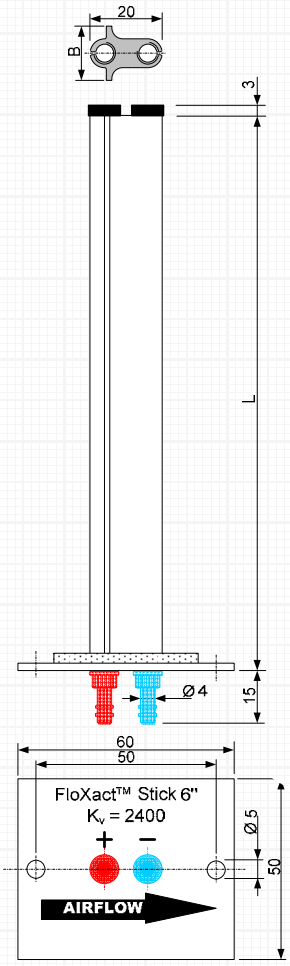


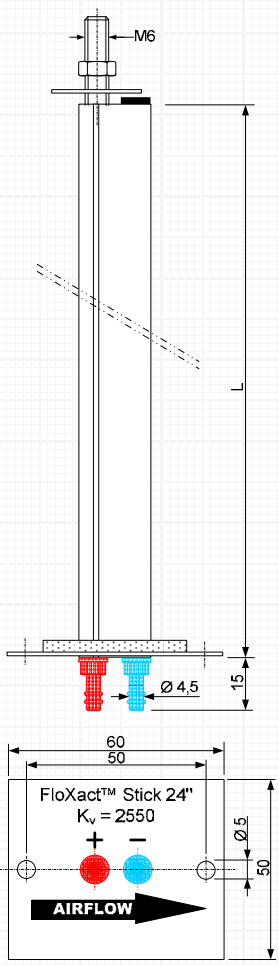
Figure 2. FloXact™ -L mounting.

DIMENSIONS

FloXact™-R available models :
All standard round duct sizes up to 1500 m



FloXact™-L available models :
250, 300, … 1500 (50 mm steps)



DPT-FLOW-BATT

BATTERY POWERED DIFFERENTIAL PRESSURE AND AIR FLOW METER

MEASURE THE AIR FLOW IN ENVIRONMENTS WHERE ELECTRICITY IS NOT AVAILABLE

DPT-FLOW-BATT

DPT-Flow-Batt is a user-friendly on-site display for air flow designed for environments and applications where electricity is not available. One device is suitable for a range of different fan types. It also provides an easy way to measure flow rate in a duct system for example together with a FloXact™ averaging measurement probe.

USAGE & APPLICATIONS

The DPT-Flow-Batt is an on-site display designed for air handling units to measure the air flow on centrifugal fans. The DPT-Flow-Batt can also be used in the duct system as an on-site display for flow. The device can be used with several different measurement probes such as FloXact™ or pitot tube, and air dampers. The requirement is that the K-value of the measurement probe or damper is known.

TECHNICAL DETAILS

Accuracy (from FS):	±1.5 % (Including: general accuracy, temperature drift, linearity, hysteresis, long term stability, and repetition error)
Zero point calibration:	by pushbutton
Measuring units:	Pressure: Pa, kPa, mbar, inchWC, mmWC, psi Flow: m^3/s, m^3/h, cfm, l/s, m/s, ft/min
Supply voltage:	9 V battery
Current consumption:	~20 mA on active mode
Operating temperature:	-20...+50 °C
Response time:	1.0–10 s, selectable via menu
Protection standard:	IP54

DPT-FLOW-BATT

Example: DPT-Flow-Batt-7000-D	Product series		
	DPT-Flow-Batt	Battery powered air flow meter	
		Measuring ranges (Pa)	
		-7000	0...7000
			Display
			-D With display
Model	DPT-Flow-Batt	-7000	-D

AVT
AIR VELOCITY AND TEMPERATURE TRANSMITTER
WITH RELAY OUTPUT

AVT
The AVT is an electronic air velocity and temperature transmitter for air and non-combustible gases with optional relay output.

USAGE
AVT is used in HVAC and building automation systems.

APPLICATIONS
Monitoring air velocity and temperature in ducts and laminar flow cabinets, and at ventilators and dampers.

TECHNICAL DETAILS

Accuracy (from reading):	< 0.2 m/s + 5 % (Range 0...2 m/s) < 0.5 m/s + 5 % (Range 0...10 m/s) < 1.0 m/s + 5 % (Range 0...20 m/s)
Measuring units:	m/s, °C
Supply voltage:	24 VDC ±10 % / 24 VAC ±10 %
Power consumption:	35 mA (50 mA with relay) + 40 mA with mA outputs
Output signal 1:	0...10 V (linear to °C) or 4...20 mA (linear to °C)
Output signal 2:	0...10 V (linear to m/s) or 4...20 mA (linear to m/s)
Optional relay output:	Potential free SPDT 250 VAC, 6 A / 30 VDC, 6 A with adjustable switching point and hysteresis
Operating temperature:	0...+50 °C
Probe:	Adjustable immersion length 50...180 mm, mounting flange included
Protection standard:	IP54

AVT

Example: AVT-D-R	Product series		
	AVT	Air velocity transmitter, measuring ranges 0...2 / 0...10 / 0...20 m/s	
		Display	
		-D	With display
			Without display
			Relay
			-R With relay
			Without relay
Model	AVT	-D	-R

PRESSURE AND FLOW CONTROLLERS

The DPT-Ctrl series PID controllers are engineered for stand-alone building automation in the HVAC/R industry. With the built-in controller it is possible to control the constant pressure or flow of fans, VAV systems or dampers. DPT-Ctrl series offers various models for energy-efficient control of modern EC fans in all sizes of systems.

The DPT-Ctrl-MOD can be used as a pressure or flow controller in modular building automation systems. Setpoints and other parameters can be adjusted remotely via bus. With the temperature compensation feature, the fan speed can be adjusted according to temperature. This saves energy by exhausting the right amount of air in cold environments.

DPT-Ctrl-2SP is a perfect choice for small independent systems where the user can choose the desired air flow from two separate setpoints by using for example occupancy sensor or key card switch.

DPT-CTRL

DPT-CTRL-MOD

DPT-CTRL-2SP

DPT-CTRL
PID CONTROLLERS
WITH DIFFERENTIAL PRESSURE OR AIR FLOW TRANSMITTER

DPT-CTRL
DPT-Ctrl is a multifunctional PID controller with differential pressure or air flow transmitter. It enables controlling constant pressure or flow of fans, VAV systems or dampers. When controlling flow, it is possible to select a fan manufacturer or a common measuring probe that has a K-value.

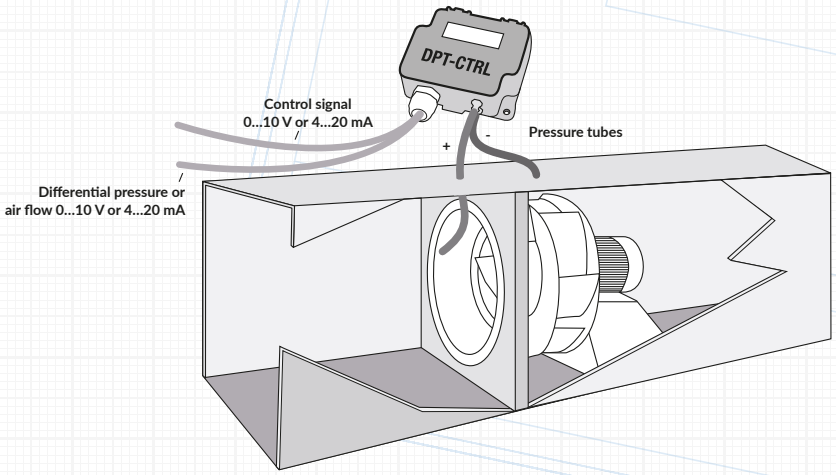
USAGE & APPLICATIONS
DPT-Ctrl can be used to control air flow or constant pressure in applications where it is important to keep a constant vacuum or a steady air flow, such as vacuuming units in renovation sites that keep a constant negative pressure so that impurities do not spread to other spaces.

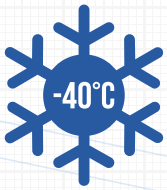
TECHNICAL DETAILS

Accuracy (from applied pressure): (model 2500)	Pressure < 125 Pa = 1 % + ±2 Pa Pressure > 125 Pa = 1 % + ±1 Pa
Accuracy (from applied pressure): (model 7000)	Pressure < 125 Pa = 1.5 % + ±2 Pa Pressure > 125 Pa = 1.5 % + ±1 Pa
Measuring units:	Pressure: Pa, kPa, mbar, inchWC, mmWC, psi Flow: m^3/s, m^3/h, cfm, l/s, m/s, ft/min
Control signal:	0...10 VDC
Output signal for pressure or air flow (selectable via menu):	0...10 VDC 4...20 mA
PID-parameters:	Adjustable via menu
Zero point calibration:	Automatic with autozero element (-AZ) or by pushbutton
Supply voltage:	24 VDC ±10 % / 24 VAC ±10 %
Power consumption:	< 1.0 W
Operating temperature:	-20...+50 °C with autozero (-AZ) calibration -5...+50 °C -40...+50 °C (-40C model)
Protection standard:	IP54

DPT-CTRL

Example: DPT-Ctrl-2500-AZ-D	Product series				
	DPT-Ctrl	Pressure and flow controller			
		Measuring ranges (Pa)			
		-2500	0...2500		
		-7000	0...7000		
			Zero point calibration		
			-AZ	With autozero calibration	
				Standard with pushbutton manual zero point calibration	
				Display	
				-D	With display
					Cold resistance
					-40C -40 °C cold resistant (not available with autozero calibration)
					Without -40 °C cold resistance
Model	DPT-Ctrl	-2500	-AZ	-D	





DPT-CTRL-MOD
PID CONTROLLERS
WITH DIFFERENTIAL PRESSURE OR AIR FLOW TRANSMITTER AND MODBUS COMMUNICATION

DPT-CTRL-MOD
The DPT-Ctrl-MOD controller is engineered for building automation in the HVAC industry. With the built-in controller of the DPT-Ctrl-MOD it is possible to control the constant pressure or flow of fans, VAV systems or dampers. When controlling air flow, it is possible to select a fan manufacturer or a common measuring probe that has a K-value. Modbus communication enables remote adjustment of the setpoint and other parameters, so it can be used as a part of building management systems (BMS).

USAGE & APPLICATIONS
DPT-Ctrl-MOD is designed to be used in buildings with a BMS to control air flow or constant pressure of an individual zone. A building operator can easily monitor and adjust the parameters via Modbus. The outdoor temperature compensation feature brings energy savings in cold areas automatically by decreasing extract air flow rates to preserve warm air.

TECHNICAL DETAILS

Communication:	RS-485 Modbus (RTU)
Accuracy (from applied pressure):	Pressure < 125 Pa = 1 % + ±2 Pa Pressure > 125 Pa = 1 % + ±1 Pa
Measuring units:	Pressure: Pa, kPa, mbar, inchWC, mmWC, psi Flow: m^3/s, m^3/h, cfm, l/s, m/s, ft/min
Control signal:	0...10 VDC
PID-parameters:	Selectable via menu and Modbus
Zero point calibration:	via Modbus or by pushbutton
Supply voltage:	24 VDC ±10 % / 24 VAC ±10 %
Power consumption:	< 1.0 W
Output signal:	via Modbus
Operating temperature:	-20...+50 °C
Protection standard:	IP54

DPT-CTRL-MOD

Example: DPT-Ctrl-MOD-2500-D	Product series			
	DPT-Ctrl	Pressure and flow controller		
		Model type		
		-MOD	Modbus communication	
			Measuring ranges (Pa)	
			-2500	-250...2500
				Display
				-D With display
Model	DPT-Ctrl	-MOD	-2500	-D

OUTSIDE AIR TEMPERATURE COMPENSATION FUNCTION AND FIXED OUTPUT FUNCTION VIA MENU AND MODBUS

DPT-CTRL-2SP
PID CONTROLLERS
WITH TWO SETPOINTS

DPT-CTRL-2SP MAY BE USED AS A MEANS OF SAVING ENERGY WHEN A ROOM IS NOT OCCUPIED

DPT-CTRL-2SP

DPT-Ctrl-2SP is designed for simple systems to control constant pressure or air flow of fans, VAV systems or dampers. The device has a binary input to select between two user-adjustable setpoints. When controlling air flow, it is possible to select a fan manufacturer or a common measuring probe that has a K-value. The device also includes a temperature sensor input which enables compensation of flow or pressure according to for example outside temperature.

USAGE & APPLICATIONS

DPT-Ctrl-2SP can be used to control air flow or constant pressure in applications where it is important to keep a constant vacuum or steady air flow. Energy savings and optimal indoor air quality can be achieved because of the two setpoints and the outdoor temperature compensation feature of the device. The desired setpoint can be selected, for example, with weekly clock, turn switch or key card switch.

TECHNICAL DETAILS

Accuracy (from applied pressure): (model 2500)	Pressure < 125 Pa = 1 % + ±2 Pa Pressure > 125 Pa = 1 % + ±1 Pa
Measuring units:	Pressure: Pa, kPa, mbar, inchWC, mmWC, psi Flow: m^3/s, m^3/h, cfm, l/s, m/s, ft/min
Control signal:	0...10 VDC
Output signal:	None
PID-parameters:	Adjustable via menu
Zero point calibration:	by pushbutton
Supply voltage:	24 VDC ±10 % / 24 VAC ±10 %
Power consumption:	< 1.0 W
Operating temperature:	-20...+50 °C
Protection standard:	IP54

DPT-CTRL-2SP

Example: DPT-Ctrl-2SP-2500-D	Product series			
	DPT-Ctrl	Pressure and flow controller		
		Model type		
		-2SP	Two setpoints (switchable via binary input), only control output	
			Measuring ranges (Pa)	
			-2500	-250...2500
				Display
				-D With display
Model	DPT-Ctrl	-2SP	-2500	-D

CARBON DIOXIDE TRANSMITTERS

CDT2000 series products are versatile devices that measure CO_2 concentration and temperature (T). These devices are available for duct or wall mounting. CDT2000 is the first device measuring CO_2 with a large touchscreen display enabling easy configuration and adjustment. CDT2000 Duct is a cost-effective solution for measuring the total concentration of CO_2 in duct systems.

Siro-CO2 transmitters with a modern design measure CO_2, temperature, relative humidity and VOC.


NEW!
SIRO-CO2
CDT2000
CDT2000 DUCT

SIRO-CO2

CARBON DIOXIDE TRANSMITTERS

WALL MOUNTED

SIRO-CO2

Siro-CO2 is a carbon dioxide transmitter with a modern design and new hardware, including sensors. The transmitter combines CO_2 concentration, temperature and optional relative humidity and VOC measurements into one easy-to-use device. It offers easy installation and adjustment, several different model options and various output signals that are configurable separately for each measurement parameter. Siro-CO2 utilizes the industry standard NDIR measurement principle with self-calibrating ABC logic™ for CO_2 measurement.

USAGE & APPLICATIONS

Siro-CO2 is used to monitor and control temperature, CO_2, humidity and VOC levels in offices, public spaces, meeting rooms and classrooms.

TECHNICAL DETAILS

Measuring units:	CO_2 ppm, °C
Optional measuring units:	rH, VOC ppm
Calibration:	Automatic self-calibration, ABC Logic™
Supply voltage:	24 VDC/VAC ±10 %
Output signal 1:	0...10 V (linear to CO_2) or optional 4...20 mA (linear to CO_2)
Output signal 1:	0...10 V (linear to Temp) or optional 4...20 mA (linear to Temp)
Optional output signal 3:	0...10 V (linear to rH) or optional 4...20 mA (linear to rH)
Optional output signal 4:	0...10 V (linear to VOC) or optional 4...20 mA (linear to VOC)
Operating temperature:	0...+50 °C
Protection standard:	IP20

SIRO-CO2

Example: Siro-CO2-VOC-rH-D	**Product series**				
	Siro-CO2	Carbon dioxide transmitter			
		VOC sensor			
		-VOC	With VOC sensor		
			Without VOC sensor		
			Relative humidity sensor		
			-rH	With relative humidity sensor	
				Without relative humidity sensor (option not available with VOC sensor)	
				Output	
					Voltage output
				-A	Voltage and current output
					Display
					-D With display
					Without display
Model	Siro-CO2	-VOC	-rH		-D

CDT2000
CARBON DIOXIDE TRANSMITTERS
WALL MOUNTED

CDT2000

CDT2000 combines CO_2 concentration, temperature and optional relative humidity measurements into one easy-to-use device with a touchscreen display. It offers easy installation and adjustment, several different model options and various output signals that are configurable separately for each measurement parameter. CDT2000 utilizes the industry standard NDIR measurement principle with self-calibrating ABC logic™ for CO_2 measurement. CDT2000-DC is a dual channel model with a measuring channel and a reference channel that makes a continuous comparison and the necessary adjustment accordingly. CDT2000-DC is also suitable for buildings that are continuously occupied.

USAGE & APPLICATIONS

CDT2000 wall mount model is used to monitor and control CO_2 and humidity levels in offices, public spaces, meeting rooms and classrooms. CDT2000-DC series devices can also be used in applications where there is a constant source of carbon dioxide present (for example hospitals and greenhouses).

TECHNICAL DETAILS

Accuracy:	CO_2: ±40 ppm + 2 % of reading, DC model: 75 ppm or 10 % of reading (whichever is greater) Temperature: <0.5 °C Relative humidity: ±2...3 % rH at 0...50 °C and 10...90 % rH Total error band includes accuracy, hysteresis and temperature effect over 5...50 °C and 10–90 % rH
Measuring units:	ppm, °C, % rH
Calibration:	Automatic self-calibration, ABC Logic™ or continuous comparison (DC)
Supply voltage:	24 VDC/VAC ±10 %
Output signal 1:	0/2...10 V or 4...20 mA (linear to CO_2)
Optional output signal 2:	0/2...10 V or 4...20 mA (linear to rH)
Output signal 3:	0/2...10 V or 4...20 mA (linear to Temp)
Optional relay output:	Potential free SPDT 250 VAC, 6 A / 30 VDC, 6 A with adjustable switching point and hysteresis
Operating temperature:	0...+50 °C
Protection standard:	IP20

CDT

Example: CDT2000-1R-D	Product series					
	CDT2000	Carbon dioxide transmitter, analog outputs				
	CDT-MOD-2000	Carbon dioxide transmitter, Modbus communication				
		Calibration				
			ABC logic™, Automatic Background Calibration			
		-DC	Dual channel, for continuously occupied space			
			Mounting			
				Wall mount		
				Relay		
				-1R	With relay	
					Without relay	
					Relative humidity sensor	
					-rH	With relative humidity sensor
						Without relative humidity sensor
						Display
						-D With display
						Without display
Model	CDT2000			-1R		-D

CDT2000-DC IS ALSO SUITABLE FOR BUILDINGS THAT ARE CONTINUOUSLY OCCUPIED

CDT2000 DUCT
CARBON DIOXIDE TRANSMITTERS
DUCT MOUNTED

MEASURE THE TOTAL CONCENTRATION OF CO_2 WHERE ROOM MEASUREMENT IS NOT POSSIBLE

CDT2000 DUCT

CDT2000 Duct combines CO_2 and temperature measurements into one device installed in a ventilation duct. Illuminated display ensures easy readability also from a distance. The CDT2000 Duct has a screwless lid and an easily adjustable mounting flange that make installing the device easy. CDT2000 utilizes the industry standard NDIR measurement principle with self-calibrating ABC logic™ for CO_2 measurement. CDT2000-DC is a dual channel model with a measuring channel and a reference channel that makes a continuous comparison and the necessary adjustment accordingly. CDT2000-DC is also suitable for buildings that are continuously occupied.

USAGE & APPLICATIONS

CDT2000 Duct is used to monitor and control CO_2 concentration of incoming and return air in a ventilation system. CDT2000-DC Duct series devices can also be used in applications where there is a constant source of carbon dioxide present (for example hospitals and greenhouses).

TECHNICAL DETAILS

Accuracy:	CO_2: ±40 ppm + 2 % of reading, DC model: 75 ppm or 10 % of reading (whichever is greater) Temperature: <0.5 °C
Measuring units:	ppm, °C
Calibration:	Automatic self-calibration, ABC Logic™ or continuous comparison (DC)
Supply voltage:	24 VDC/VAC ±10 %
Output signal 1:	0/2...5/10 V (linear to CO_2)
Output signal 2:	0/2...5/10 V (linear to Temp)
Optional output signal 3:	4...20 mA (linear to CO_2) (A model)
Optional output signal 4:	4...20 mA (linear to Temp) (A model)
Operating temperature:	0...+50 °C
Protection standard:	IP54

CDT DUCT

Example: CDT2000 Duct-D	Product series	Calibration	Mounting	Output	Display	
	CDT2000	Carbon dioxide transmitter, analog outputs				
	CDT-MOD-2000	Carbon dioxide transmitter, Modbus communication				
		ABC logic™, Automatic Background Calibration				
		-DC	Dual channel, for continuously occupied space			
			Duct	Duct mount		
				Voltage output		
				-A	Voltage and current output	
					-D	With display
						Without display
Model	CDT2000		Duct		-D	

ALSO AVAILABLE WITH MODBUS COMMUNICATION AND mA OUTPUT

HUMIDITY TRANSMITTERS

RHT series devices measure relative humidity (rH) and temperature. They are available for duct or wall mounting. The configuration and adjustment of the RHT is quick and easy because of the large touchscreen display. RHT Duct is a user-friendly solution for measuring relative humidity in air ducts.

Siro-rH transmitters with a modern design measure relative humidity and temperature.


NEW!
22.5 °C
42.8 %RH
24.1 °C
29.1 % rH
SIRO-RH
RHT
RHT DUCT

SIRO-RH
HUMIDITY TRANSMITTERS
WALL MOUNTED

SIRO-RH
Siro-rH is a relative humidity and temperature transmitter with a modern design and new hardware. It offers easy installation and adjustment, several different model options and various output signals that are configurable separately for each measurement parameter.

USAGE & APPLICATIONS
Siro-rH is used to monitor and control relative humidity levels in offices, public spaces, hospitals, meeting rooms and classrooms.

TECHNICAL DETAILS

Measuring units:	°C, % rH
Supply voltage:	24 VDC/VAC ±10 %
Output signal 1:	0...10 V (linear to rH) or optional 4...20 mA (linear to rH)
Output signal 2:	0...10 V (linear to Temp) or optional 4...20 mA (linear to Temp)
Operating temperature:	0...+50 °C
Protection standard:	IP20

SIRO-RH

Example: Siro-rH-D	**Product series**			
	Siro-rH	Humidity transmitter		
		Output		
			Voltage output	
		-A	Voltage and current output	
			Display	
			-D	With display
				Without display
Model	Siro-rH		-D	

RHT
HUMIDITY TRANSMITTERS
WALL MOUNTED

RHT
RHT is a wall mounted relative humidity and temperature transmitter that offers several different model options for easy customizability.

USAGE & APPLICATIONS
RHT wall mount model is used to monitor and control relative humidity levels in offices, public spaces, hospitals, meeting rooms and classrooms.

TECHNICAL DETAILS

Accuracy:	Temperature: <0.5 °C Relative humidity: ±2...3 % rH at 0...50 °C and 10...90 % rH Total error band includes accuracy, hysteresis and temperature effect over 5...50 °C and 10–90 % rH
Measuring units:	°C, % rH
Supply voltage:	24 VDC/VAC ±10 %
Output signal 1:	0/2...10 V or 4...20 mA (linear to rH)
Output signal 2:	0/2...10 V or 4...20 mA (linear to Temp)
Optional relay output:	Potential free SPDT 250 VAC, 6 A / 30 VDC, 6 A with adjustable switching point and hysteresis
Operating temperature:	0...+50 °C
Protection standard:	IP20

RHT

Example: RHT-1R-D	**Product series**				
	RHT	Relative humidity transmitter, analog outputs			
	RHT-MOD	Relative humidity transmitter, Modbus communication			
		Mounting			
		Wall mount			
			Relay		
			-1R	With relay	
				Without relay	
				Display	
				-D	With display
					Without display
Model	RHT		-1R	-D	

ALSO AVAILABLE WITH MODBUS COMMUNICATION

RHT DUCT
HUMIDITY TRANSMITTERS
DUCT MOUNTED

RHT DUCT
RHT Duct is a duct mounted humidity and temperature transmitter available also with an illuminated display.

USAGE & APPLICATIONS
RHT Duct is used to monitor and control relative humidity of incoming and return air in ventilation system.

TECHNICAL DETAILS

Accuracy:	Temperature: <0.5 °C Relative humidity: ±2...3 % rH at 0...50 °C and 10...90 % rH Total error band includes accuracy, hysteresis and temperature effect over 5...50 °C and 10–90 % rH
Measuring units:	°C, % rH
Supply voltage:	24 VDC/VAC ±10 %
Output signal 1:	0/2...5/10 V (linear to rH)
Output signal 2:	0/2...5/10 V (linear to Temp)
Optional output signal 3:	4...20 mA (linear to rH) (A model)
Optional output signal 4:	4...20 mA (linear to Temp) (A model)
Operating temperature:	0...+50 °C
Protection standard:	IP54

RHT DUCT

Example: RHT Duct-D	**Product series**			
	RHT	Relative humidity transmitter, analog outputs		
	RHT-MOD	Relative humidity transmitter, Modbus communication		
		Mounting		
		Duct	Duct mount	
			Output	
				Voltage output
			-A	Voltage and current output
				Display
				-D With display
				Without display
Model	RHT	Duct		-D

Modbus

ALSO AVAILABLE WITH MODBUS COMMUNICATION AND mA OUTPUT

SIRO-VOC
VOLATILE ORGANIC COMPOUND TRANSMITTERS
WALL MOUNTED

SIRO-VOC
Siro-VOC is a VOC (Volatile Organic Compound), relative humidity and temperature transmitter with a modern design and new hardware. It offers easy installation and adjustment, several different model options and various output signals that are configurable separately for each measurement parameter.

USAGE & APPLICATIONS
Siro-VOC is used to monitor and control VOC levels in schools, offices, public spaces and warehouses.

TECHNICAL DETAILS

Measuring units:	VOC ppm, % rH, °C
Supply voltage:	24 VDC/VAC ±10 %
Output signal 1:	0...10 V (linear to VOC) or optional 4...20 mA (linear to VOC)
Output signal 2:	0...10 V (linear to Temp) or optional 4...20 mA (linear to Temp)
Output signal 3:	0...10 V (linear to rH) or optional 4...20 mA (linear to rH)
Operating temperature:	0...+50 °C
Protection standard:	IP20

SIRO-VOC

Example: Siro-VOC-rH-D	Product series			
	Siro-VOC	Indoor air quality transmitter		
		Relative humidity sensor		
		-rH	With relative humidity sensor	
			Output	
				Voltage output
			-A	Voltage and current output
				Display
				-D With display
				Without display
Model	Siro-VOC	-rH		-D

VOC TRANSMITTER ENSURES HEALTHY INDOOR AIR

CMT
CARBON MONOXIDE TRANSMITTER

SCREW FIXING MAKES REPLACING THE SENSOR EASY. THIS IS PARTICULARLY USEFUL WHEN THE DEVICE NEEDS CALIBRATING.

CMT
The CMT is an easy-to-use, reliable transmitter for detecting CO gas. It is commonly used in places where air includes CO gas, such as parking garages.

TECHNICAL DETAILS

Measuring unit:	ppm
Measuring range:	0...300 ppm CO
Measuring element:	Electro-chemical
Linearity:	≤2 % on 300 ppm CO
Cross sensitivity:	≤2 % on 300 ppm CO
Response time t90:	<60 s
Supply voltage:	14...28 VDC
Output signal:	4–20 mA (2-wire)
Operating temperature:	-10...+40 °C
Protection standard:	IP54

PRESSURE TRANSMITTERS FOR LIQUIDS

Pressure detection in liquids in heating and cooling systems.
Also suitable for refrigerants and non-aggressive gases.

PTL-HEAT

PTL-Heat is used for pressure detection in non-condensing applications such as district heating or heat recovery systems.

PTL-COOL

PTL-Cool is designed for extreme conditions where condensation is a common problem. PTL-Cool has a two-layer protection for electronics. This is why the possible condensation does not harm the product. Suitable for plants that use refrigerants.

DPTL

The DPTL is made for differential pressure detection in liquids for air-conditioning, heating and water systems. The equipment can withstand mildly corrosive substances and liquids.

TECHNICAL DETAILS PTL-HEAT

Accuracy (from FS):	±1.0 %
Power:	15...24 VDC/VAC
Output:	0...10 V or 4...20 mA (2-wire)
Protection standard:	IP65, one-layer protection
Pressure connector:	inside thread G1/4”
Ambient temperature:	0...+105 °C, non-condensing
Temperature of medium:	0...+125 °C

TECHNICAL DETAILS PTL-COOL

Accuracy (from FS):	±1.0 %
Power:	15...24 VDC/VAC
Output:	0...10 V or 4...20 mA (2-wire)
Protection standard:	IP65, two-layer protection against condensation
Pressure connector:	inside thread G1/4”
Ambient temperature:	-40...+60 °C
Temperature of medium:	-40...+50 °C

PTL

Example: PTL-Heat-4-V	Product series			
	PTL	Pressure transmitter for liquids		
		Application		
		- Heat	For heating applications	
		- Cool	For cooling applications	
			Measuring range (bar)	
			-4	0...4 (PTL-Cool only on request)
			-6	0...6
			-10	0...10
			-16	0...16 (PTL-Cool only on request)
			-25	0...25 (PTL-Cool only on request)
				Output
				-V Voltage
				-A Current (2-wire)
Model	PTL	-Heat	-4	-V

PTL-COOL HAS A TWO-LAYER PROTECTION FOR ELECTRONICS. THIS IS WHY THE POSSIBLE CONDENSATION DOES NOT HARM THE PRODUCT.

TECHNICAL DETAILS DPTL

Accuracy (from FS):	±1.0 %
Power:	15...24 VDC/VAC
Output:	0...10 V or 4...20 mA (3-wire)
Protection standard:	IP65
Pressure connector:	inside thread G1/4”
Operating temperature:	-10...+80 °C

DPTL

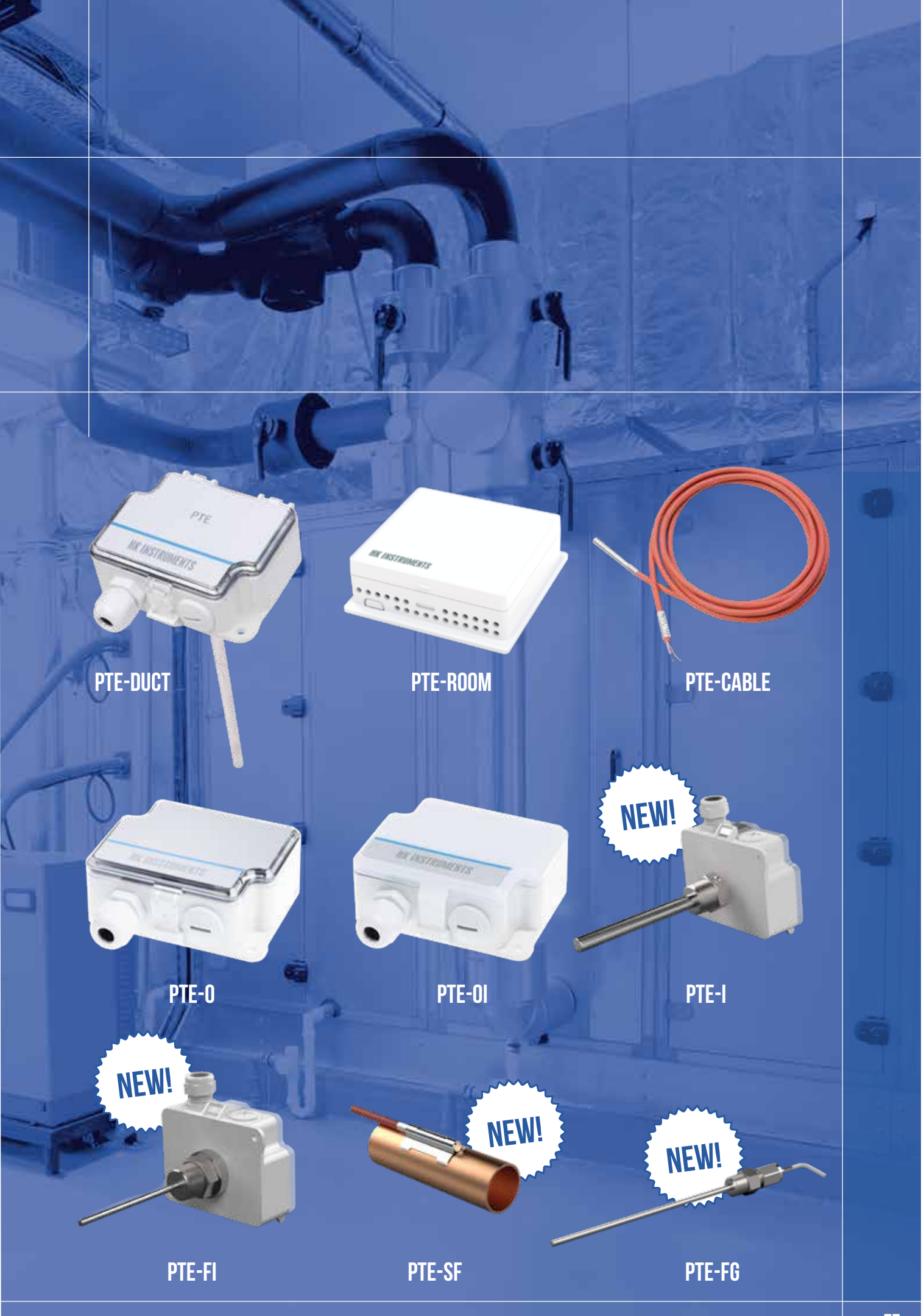
Example: DPTL-2,5-V	Product series		
	DPTL	Differential pressure transmitter for liquids	
		Measuring range (bar)	
		-1	0...1
		-2,5	0...2.5
		-4	0...4
		-6	0...6
			Output
			-V Voltage
			-A Current (3-wire)
Model	DPTL	-2,5	-V

PASSIVE TEMPERATURE SENSORS

PTE series passive temperature sensors are engineered for HVAC applications. The design approach has been to offer user-friendly and premium quality products with competitive pricing.

PTE products are available with the following sensor types and accuracies:

- NTC10k ± 0.25 °C @ 25 °C
- NTC20k ± 0.25 °C @ 25 °C
- Pt1000 ± 0.3 °C @ 0 °C
- Ni1000 ± 0.4 °C @ 0 °C
- Ni1000-LG ± 0.4 °C @ 0 °C
- NTC1.8k ± 0.5 °C @ 25 °C



PTE-DUCT

PTE-ROOM

PTE-CABLE

PTE-O

PTE-OI

PTE-I

PTE-FI

PTE-SF

PTE-FG

PASSIVE TEMPERATURE SENSORS FOR GAS

PTE-DUCT

DUCT TEMPERATURE SENSOR

PTE-Duct is used to sense air temperature inside a ventilation duct. The temperature sensor is housed inside a stainless steel tube that protects it from the environment and condensation, ensuring long service life.

PTE-ROOM

ROOM TEMPERATURE SENSOR

PTE-Room is used to sense air temperature indoors. The temperature sensor is housed in a modern white plastic housing. PTE-Room is particularly easy to install. The cover can be opened without tools and the cable can be routed from behind or above/below the installation surface. PTE-Room can be installed on top of a standard electrical switch box.

PTE-CABLE

CABLE TEMPERATURE SENSOR

PTE-Cable senses temperatures in a wide range. It is well protected from the environment by its stainless steel sleeve which is crimped on to premium quality silicone rubber cable. Inside the sleeve, the temperature sensor is protected against condensation, ensuring long service life. The cable is halogen-free and oil resistant. PTE-Cable has a high protection rating of IP67.

TECHNICAL DETAILS PTE-DUCT

Operating temperature:	-50 ... +100 °C
Sensor tube length:	190 mm
Sensor tube outer diameter:	7 mm
Protection class:	IP54

EASY INSTALLATION WITH MOUNTING HOLES

TECHNICAL DETAILS PTE-ROOM

Operating temperature:	-10 ... +50 °C
Housing dimensions:	85 x 85 x 27,5 mm
Protection class:	IP20

NEW HOUSING

TECHNICAL DETAILS PTE-CABLE

Operating temperature:	-60 ... +180 °C
Short-term temperature:	up to +250 °C
Materials:	Sleeve: Stainless steel Cable: Silicone rubber
Sleeve dimensions:	Outer diameter: 6 mm Length: 50 mm
Cable length:	2.0 m (Custom lengths available upon request)
Protection class:	IP67

PTE-CABLE HAS A HIGH PROTECTION RATING OF IP67

PTE-DUCT / PTE-ROOM / PTE-CABLE

Example:	Product series		
PTE-Duct-NTC10	PTE	Passive temperature sensor for gas	
PTE-Room-NTC10		**Installation type**	
PTE-Cable-NTC10		-Duct	Duct
		-Room	Room
		-Cable	Cable
			Sensor element
			-NTC10 10 KΩ @ 25 °C
			-NTC20 20 KΩ @ 25 °C
			-Pt1000 1000 Ω @ 0 °C
			-Ni1000 1000 Ω @ 0 °C
			-Ni1000-LG 1000 Ω @ 0 °C
			-NTC1.8k 1.8 KΩ @ 25 °C
Model	PTE	-Duct	-NTC10
	PTE	-Room	-NTC10
	PTE	-Cable	-NTC10

PASSIVE TEMPERATURE SENSORS FOR GAS

PTE-O

OUTSIDE AIR TEMPERATURE SENSOR

PTE-O is used to sense outside air temperature. The temperature sensor is hermetically sealed for protection.

PTE-OI

OUTSIDE AIR TEMPERATURE AND ILLUMINANCE SENSOR

PTE-OI is a combination of a passive temperature and an illuminance sensor. It is used to sense outside air temperature and ambient lighting conditions. In addition to the outside air temperature, the PTE-OI includes an ambient illuminance sensor. The illuminance sensor is hermetically sealed for protection.

TECHNICAL DETAILS PTE-O

Operating temperature: -50 ... +50 °C

Protection class: IP54

TECHNICAL DETAILS PTE-OI

Operating temperature: -50 ... +50 °C

Measuring range: 0...1000 lx

Illuminance sensor accuracy: ±20 % @100 lx

Protection class: IP54

PTE-O / PTE-OI

Example: PTE-O-NTC10 PTE-OI-NTC10	Product series		
	PTE	Passive temperature sensor for gas	
		Installation type	
		-O	Outside
		-OI	Outside with illuminance
			Sensor element
			-NTC10 10 KΩ @ 25 °C
			-NTC20 20 KΩ @ 25 °C
			-Pt1000 1000 Ω @ 0 °C
			-Ni1000 1000 Ω @ 0 °C
			-Ni1000-LG 1000 Ω @ 0 °C
			-NTC1.8k 1.8 KΩ @ 25 °C
Model	PTE	-O	-NTC10
	PTE	-OI	-NTC10

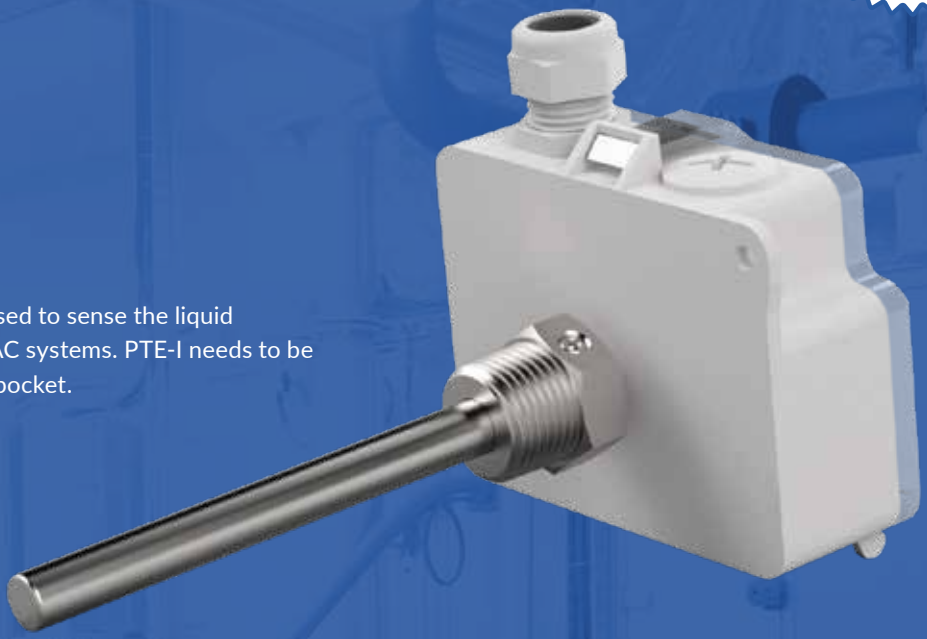
PASSIVE TEMPERATURE SENSORS FOR LIQUIDS

NEW!

PTE-I

IMMERSION SENSOR

PTE-I immersion sensor is used to sense the liquid temperature in pipes in HVAC systems. PTE-I needs to be installed into an immersion pocket.



PTE-FI

FAST RESPONSE IMMERSION SENSOR

PTE-FI immersion sensor is used to sense the liquid temperature in pipes in HVAC systems. PTE-FI is a fast response immersion sensor for liquid applications where fast response time is needed.

TECHNICAL DETAILS PTE-I

Operating temperature: -50 ... +180 °C

Sensor tube length: 100 mm

Sensor tube outer diameter: 7 mm

Protection class: IP54

TECHNICAL DETAILS PTE-FI

Operating temperature: -50 ... +120 °C

Sensor tube length: 100 mm

Sensor tube outer diameter: 4 mm

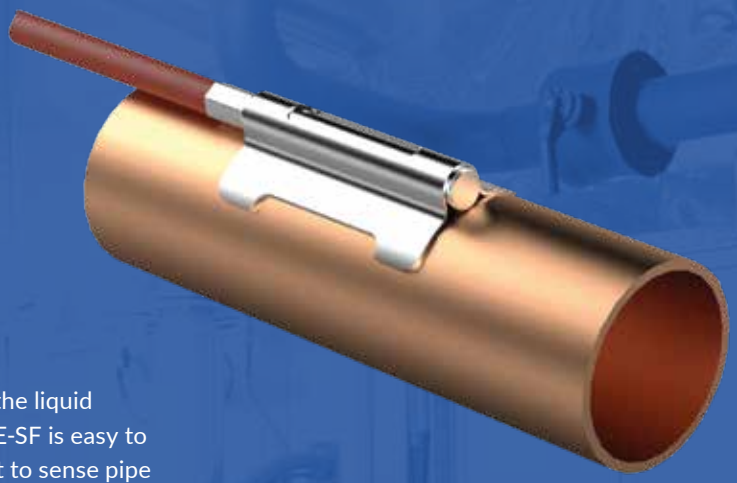
Protection class: IP54

PTE-I / PTE-FI

Example: PTE-I-NTC10 PTE-FI-NTC10	Product series		
	PTE	Passive temperature sensor for liquids	
		Installation type	
		-I	Immersion
		-FI	Fast response immersion
			Sensor element
			-NTC10 10 KΩ @ 25 °C
			-NTC20 20 KΩ @ 25 °C
			-Pt1000 1000 Ω @ 0 °C
			-Ni1000 1000 Ω @ 0 °C
			-Ni1000-LG 1000 Ω @ 0 °C
			-NTC1.8k 1.8 KΩ @ 25 °C
Model	PTE	-I	-NTC10
	PTE	-FI	-NTC10

PASSIVE TEMPERATURE SENSORS FOR LIQUIDS

NEW!



PTE-SF

SURFACE SENSOR

PTE-SF immersion sensor is used to sense the liquid temperature in pipes in HVAC systems. PTE-SF is easy to install and does not need immersion pocket to sense pipe temperature.

PTE-FG

FROST GUARD SENSOR

PTE-FG frost guard sensor is used to sense the liquid temperature in radiators and pipes in HVAC systems. PTE-FG is a fast response sensor for protecting radiators from freezing.

TECHNICAL DETAILS PTE-SF

Operating temperature: -60 ... +80 °C

Short-term temperature: up to +150 °C

Materials: Sleeve: Stainless steel
Cable: Silicone rubber

Sleeve dimensions: Outer diameter: 6 mm
Length: 50 mm

Cable length: 2.0 m (Custom lengths available upon request)

Protection class: IP67

TECHNICAL DETAILS PTE-FG

Operating temperature: -50 ... +120 °C (sensor tube)

Materials: Housing material: ABS
Cover material: PC
Sensor tube: acid-proof stainless steel

Dimensions: Sensor tube outer diameter: 4 mm
Sensor tube length: 200, 400 mm

Protection class: IP54

EASY TO INSTALL EVEN IN NARROW SPACES BECAUSE OF THE L-BEND

PTE-SF / PTE-FG

Example: **PTE-SF-NTC10** **PTE-FG-NTC10**	**Product series**		
	PTE	Passive temperature sensor for liquids	
		Installation type	
		-SF	Surface (strap-on)
		-FG	Frost guard
			Sensor element
			-NTC10 10 KΩ @ 25 °C
			-NTC20 20 KΩ @ 25 °C
			-Pt1000 1000 Ω @ 0 °C
			-Ni1000 1000 Ω @ 0 °C
			-Ni1000-LG 1000 Ω @ 0 °C
			NTC1.8k 1.8 KΩ @ 25 °C
Model	PTE	-SF	-NTC10
	PTE	-FG	-NTC10

DPG
DIFFERENTIAL PRESSURE GAUGE

DPG
The DPG is a standard pressure gauge for measuring overpressure and differential pressure.

USAGE
The DPG is used to measure low pressures of air and non-combustible gases mainly in HVAC systems.

APPLICATIONS
- monitoring filters and ventilators
- monitoring overpressure and pressure difference in air ducts, air handling units, cleanrooms and laminar flow cabinets
- monitoring air flow on ventilators and in air ducts (special flow scales available separately)

TECHNICAL DETAILS

Accuracy (from FS):	< ±2 % (DPG60 < ±4 % ; DPG100 < ±3 %)
Operating temperature:	-5...+60 °C
Zero point adjustment screw:	external in the plastic cover
Mounting:	surface mounting or flush mounting
Mounting position:	vertical
Measuring air flow:	special flow scales available separately, easy to install on site

Product description	Measuring range
DPG60	0–60 Pa
DPG100	0–100 Pa
DPG120	0–120 Pa
DPG200	0–200 Pa
DPG250	0–250 Pa
DPG300	0–300 Pa
DPG400	0–400 Pa
DPG500	0–500 Pa
DPG600	0–600 Pa
DPG800	0–800 Pa
DPG1K	0–1 kPa
DPG1.5K	0–1.5 kPa
DPG2K	0–2 kPa
DPG3K	0–3 kPa
DPG5K	0–5 kPa

INTERCHANGEABLE FLOW SCALES

Snap!

Install!

Go!

LIQUID COLUMN MANOMETERS

MM

Reliable inclined column manometer with leakage protection system

MMU

Traditional U-tube manometer with easy zero point calibration

Liquid column manometers are reliable and inexpensive traditional pressure meters. The manometers are good for measuring and indicating small overpressure, vacuum and differential pressure of air and non-aggressive gases in low pressure ranges.

Liquid column manometers are ideal for general-purpose work in air-conditioning and ventilation, monitoring of air filters for contamination and monitoring of air flow and air velocity.

MM

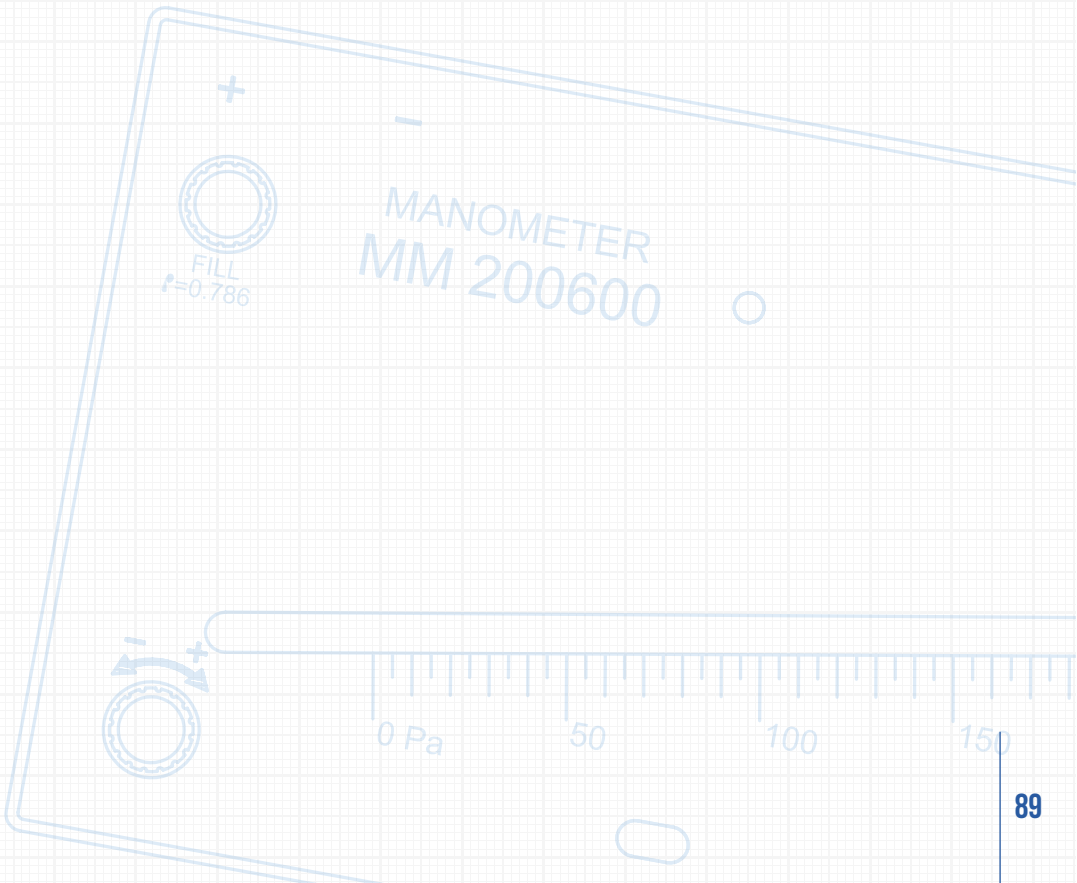
Product	Measuring range	Accuracy
MM±50 *)	-50...0...50 Pa	1 Pa
MM100 *)	-20...0...100 Pa	1 Pa
MM±100500	-100...100...500 Pa	5 Pa/25 Pa
MM200600	0...200...600 Pa	5 Pa/25 Pa

*) The types delivered with level bubble

Optional level bubble is available to all models on request!

MMU

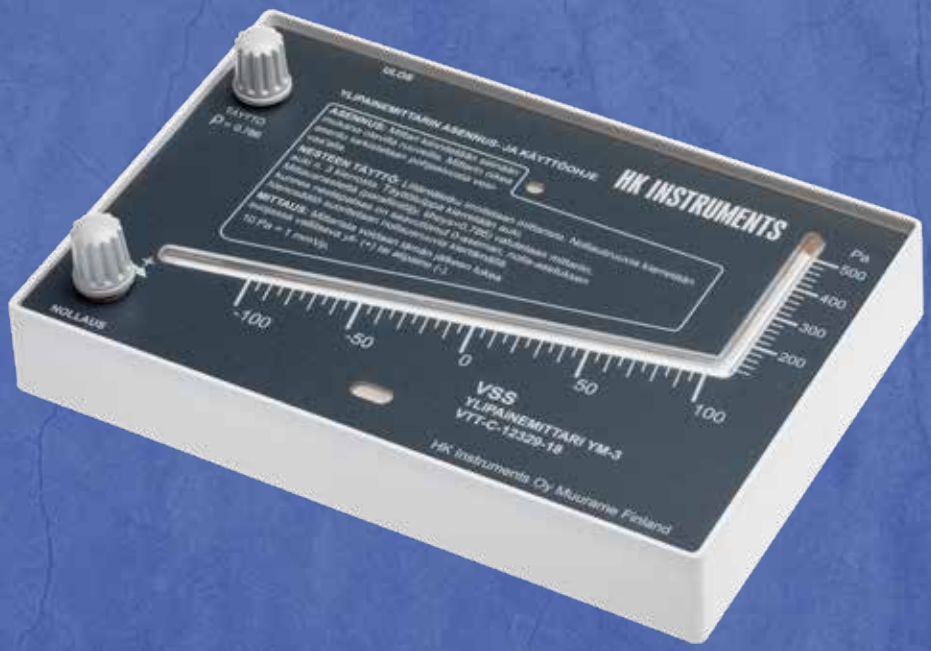
Product	Measuring range	Accuracy
MMU±500	±500 Pa	10 Pa



YM-3

OVERPRESSURE METER FOR CIVIL DEFENCE AND MILITARY SHELTERS

PROTECTED AGAINST BLAST SHOCK AND STATIC PRESSURE LOADS



YM-3

The YM-3 overpressure meter is designed and tested to withstand strong blast loadings exerted on the meter through its connection pipe. YM-3 is type-tested and approved by the Technical Research Centre of Finland / VTT that performs type inspecting mandated by the Finnish Ministry of the Interior.

USAGE & APPLICATIONS

Measures and monitors overpressure in civil defence and military shelters.

TECHNICAL DETAILS

Accuracy (MM±100500):	-100...100 Pa ±5 Pa 100...500 Pa ±25 Pa
Overpressure:	Static pressure -20...300 kPa
Measurement ranges:	-100...100...500 Pa
Safety:	Withstands rapid change in velocity 2.5 m/s, 30 g Withstands vibration with acceleration of 2.5 m/s, 30 g Protected against blast shock and static pressure loads Certificate VTT-C-12329-18 granted by VTT / Technical Research Centre of Finland

CERTIFIED BY VTT / TECHNICAL RESEARCH CENTRE OF FINLAND

PS
DIFFERENTIAL PRESSURE SWITCH

PS
The PS is a robust, easy-to-use differential pressure switch for air and non-combustible gases.

USAGE
The pressure switches are used in ventilation and air-conditioning systems to monitor changes in overpressure, vacuum and differential pressure.

APPLICATIONS
- monitoring filters and fans
- monitoring vacuum and overpressure in air ducts
- controlling defrosting functions

TECHNICAL DETAILS

Accuracy of switching point (low limit typ.):	±5 Pa (PS1500: ±20 Pa, PS4500: ±100 Pa)
Accuracy of switching point (high limit typ.):	PS200: ±20 Pa, PS300 & PS500: ±30 Pa, PS600 & PS1500: ±50 Pa, PS4500: ±200 Pa
Service life:	over 1 000 000 switching operations
Electrical rating (resistive load):	3 A / 250 VAC (PS200: 0.1 A / 250 VAC)
Electrical rating (inductive load):	2 A / 250 VAC (PS200: --)
Operating temperature:	-20...+60 °C
Protection standard:	IP54

Product	Measuring range
PS200	20...200 Pa
PS300	30...300 Pa
PS500	30...500 Pa
PS600	40...600 Pa
PS1500	100...1500 Pa
PS4500	500...4500 Pa

FILTER ALERTS

MM/PS

DPG/PS

The filter alerts are a solution for systems requiring visual indication of pressure on site, together with a switching point signal. The filter alerts are ideal for general-purpose work in air-conditioning and ventilation, especially in monitoring of air filters for contamination.

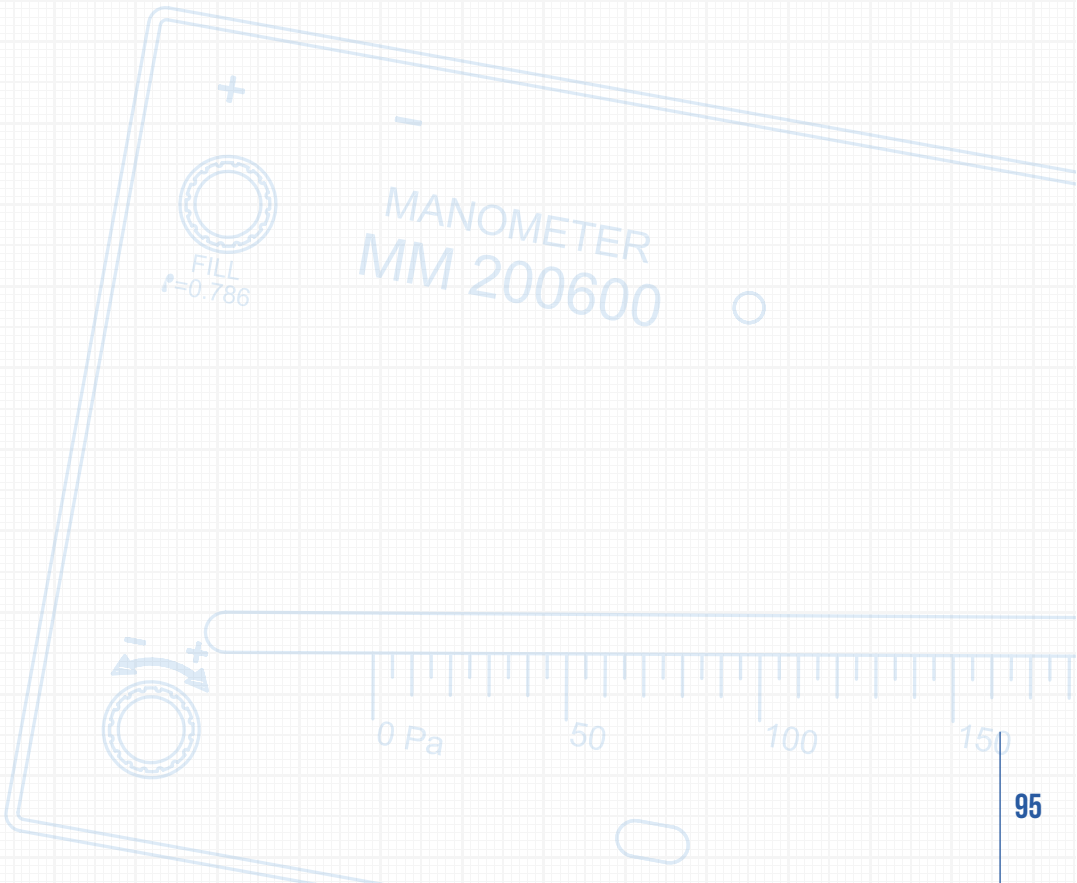
The available combinations include pressure gauge and pressure switch combination (DPG/PS), and inclined tube manometer and pressure switch combination (MM/PS).

MM/PS

Product	MM range	PS range
MM200600/PS600	0... 600 Pa	40...600 Pa

DPG/PS

Product	DPG range	PS range
DPG200/PS200	0... 200Pa	20...200 Pa
DPG600/PS600	0... 600 Pa	40...600 Pa
DPG1,5K/PS1500	0...1500 Pa	100...1500 Pa



PHM-V1
MICROMANOMETER

HANDHELD INSTRUMENT FOR MEASURING AIR PRESSURE AND AIR FLOW

COMPLETE FIELD INSTRUMENT FOR HVAC VENTILATION BALANCING AND DIAGNOSTICS

PHM-V1

PHM-V1 micromanometer is a handheld instrument for measuring air pressure and air flow. Its patented technology includes over 1000 preprogrammed ventilation valve and diffuser K-factor databases. This feature allows measuring without manual calculations or knowing the manufacturer's K-factors. Over 500 measuring results can be saved and then downloaded to PHM-V1 Manager computer software for documentations.

APPLICATIONS

- Air flow and pressure measurements from air diffusers, ventilation valves, dampers and grilles
- Measuring room-to-room pressures or across the building envelope
- In-duct measurements with pitot tube
- Measuring pressure drop across the filter
- Fan flow measurement
- Cleanroom air flow measurements

TECHNICAL DETAILS

Range:	-250...2550 Pa
Maximum overpressure:	30 kPa
Accuracy:	± 1.4 % from applied pressure
USB:	Mini B
Units on display:	Pressure: Pa, mmH_2O, inchWC, mbar Volume flow: l/s, m^3/h, m^3/s
Operating temp. range:	-10 ... +50 °C

Can be used with pitot tube

Preprogrammed valve manufacturers include for example:

- EH-Muovi
- Fläkt Woods
- Halton
- Lindab
- Climecon
- Swegon
- Uponor

Save time and reduce human error with a preprogrammed K-factor database

PHM-V1 Manager software allows you to upload measuring results, add new ventilation valve data and create documentations efficiently on your computer

PHM-V1 is delivered in a handy case containing a calibration certificate, ventilation valve measurement kit, PHM-V1 manager software etc.

ACCESSORIES

TUBES AND EXTENSIONS

PVC tube 4/7 matt, 2 m

PVC tube 4/7 matt, 100 m coil

T-connector for d=4 mm tube
L-connector for d=4 mm tube
Connector extension for d=4 mm tube

MOUNTING

Accessory pack (tube, duct connectors, screws)

Accessory pack for DPG flush mounting

PTL adapter G1/4”-G1/2”

Duct connector, plastic, for d=4 mm tube (80 mm)

Duct connector, metallic, for d=4 mm tube (40 mm)

Duct connector, metallic, for d=4 mm tube (100 mm)

DPTL mounting plate

Mounting flange for duct sensors

MANOMETER LIQUIDS

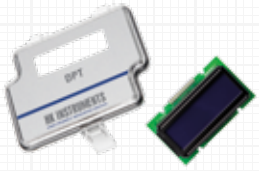
Gauge fluid 0,786; 30 ml (red)
Gauge fluid 0,786; 250 ml (red)
Gauge fluid 1,870; 30 ml (blue)

THERMOMETERS

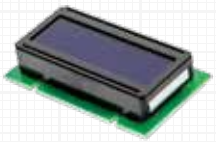
Thermometer 0...+60 °C

Thermometer -40...60 °C

OTHER ACCESSORIES



Display upgrade kit
(DPT & DPT-Flow)



Digital display, blue
(DPT & DPT-Flow)

4-digit, green/black
display (2W, AVT)

DPT cover with front label

Static pressure port

HK INSTRUMENTS

USER-FRIENDLY MEASURING DEVICES

HK Instruments is a Finnish company specialized in manufacturing and developing technologically advanced measuring devices for HVAC applications. Our devices are primarily used in air handling systems and building automation.

Over 30 years of experience and exports to more than 45 countries prove our high-class product development and cost-effective manufacturing. We have invested in practical user interfaces and that is why the installation of our devices is extremely easy and fast.

HK INSTRUMENTS

ERGATE

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5 YEAR WARRANTY

DESIGN FROM FINLAND

MANAGEMENT SYSTEM CERTIFICATION DNV·GL ISO 9001 = ISO 14001