

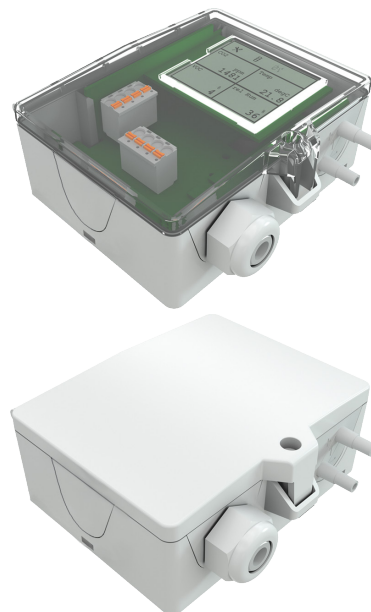
## » DPA+ (LCD)

Differential Pressure Transmitter

**thermokon**<sup>®</sup>  
HOME OF SENSOR TECHNOLOGY

### Datasheet

Subject to technical alteration  
Issue date: 31.07.2020 • A110 • 770163



### » APPLICATION

Differential pressure and volume flow transducer for monitoring differential pressure and volume flow of air and other non-flammable and non-aggressive gases. Three types with eight different measuring ranges are available for different applications. In addition to differential pressure all variants provide the calculated volume flow as second analog output signal. LCD models with RGB background light have a transparent cover. Display configuration, k-values for flow calculation (default 1500) and threshold values for color changes can be parameterized via Thermokon USEapp. With the relay option board, 2-point controllers or with both relays 2 cascaded 2-point controllers for differential pressure or volume flow can be implemented. The mounting base (included in delivery) allows mounting on a level surface or mounting on DIN rail TS35 (35x7,5 mm) according to EN 60715.

### » TYPES AVAILABLE

#### Differential pressure transducer, optional with display – 2x 0..10 V V | optional with Relay

DPA250+ <LCD> VV MultiRange <Relay> <AZ>  
DPA2500+ <LCD> VV MultiRange <Relay> <AZ>  
DPA7000+ <LCD> VV MultiRange <Relay> <AZ>

#### Differential pressure transducer, optional with display – 2x 4..20 mA + 2x 0..10 V

DPA250+ <LCD> AA MultiRange <AZ>  
DPA2500+ <LCD> AA MultiRange <AZ>  
DPA7000+ <LCD> AA MultiRange <AZ>

*MultiRange: Measuring ranges adjustable at the transducer*

*<AZ>: automatic zero-point calibration (optional)*

*<LCD>: Display (optional)*

*<Relay>: Relay (optional)*

### » NOTES ON DISPOSAL



As a component of a large-scale fixed installation, Thermokon products are intended to be used permanently as part of a building or a structure at a pre-defined and dedicated location, hence the Waste Electrical and Electronic Act (WEEE) is not applicable. However, most of the products may contain valuable materials that should be recycled and not disposed of as domestic waste. Please note the relevant regulations for local disposal.

## » PRODUCT TESTING AND CERTIFICATION



### Declaration of conformity

The declaration of conformity of the products can be found on our website <https://www.thermokon.de/>.

## » SECURITY ADVICE – CAUTION



The installation and assembly of electrical equipment should only be performed by authorized personnel.

The product should only be used for the intended application. Unauthorised modifications are prohibited! The product must not be used in relation with any equipment that in case of a failure may threaten, directly or indirectly, human health or life or result in danger to human beings, animals or assets. Ensure all power is disconnected before installing. Do not connect to live/operating equipment.

Please comply with

- Local laws, health & safety regulations, technical standards and regulations
- Condition of the device at the time of installation, to ensure safe installation
- This data sheet and installation manual

Before mounting, commissioning and operation, make sure that the right pressure gauge has been selected in terms of measuring range, design and, due to the specific measuring conditions, the suitable wetted medium. Only install and maintain pressure gauges by qualified personnel authorized by the plant operator. Failure to comply with applicable regulations may result in serious personal injury and / or property damage.

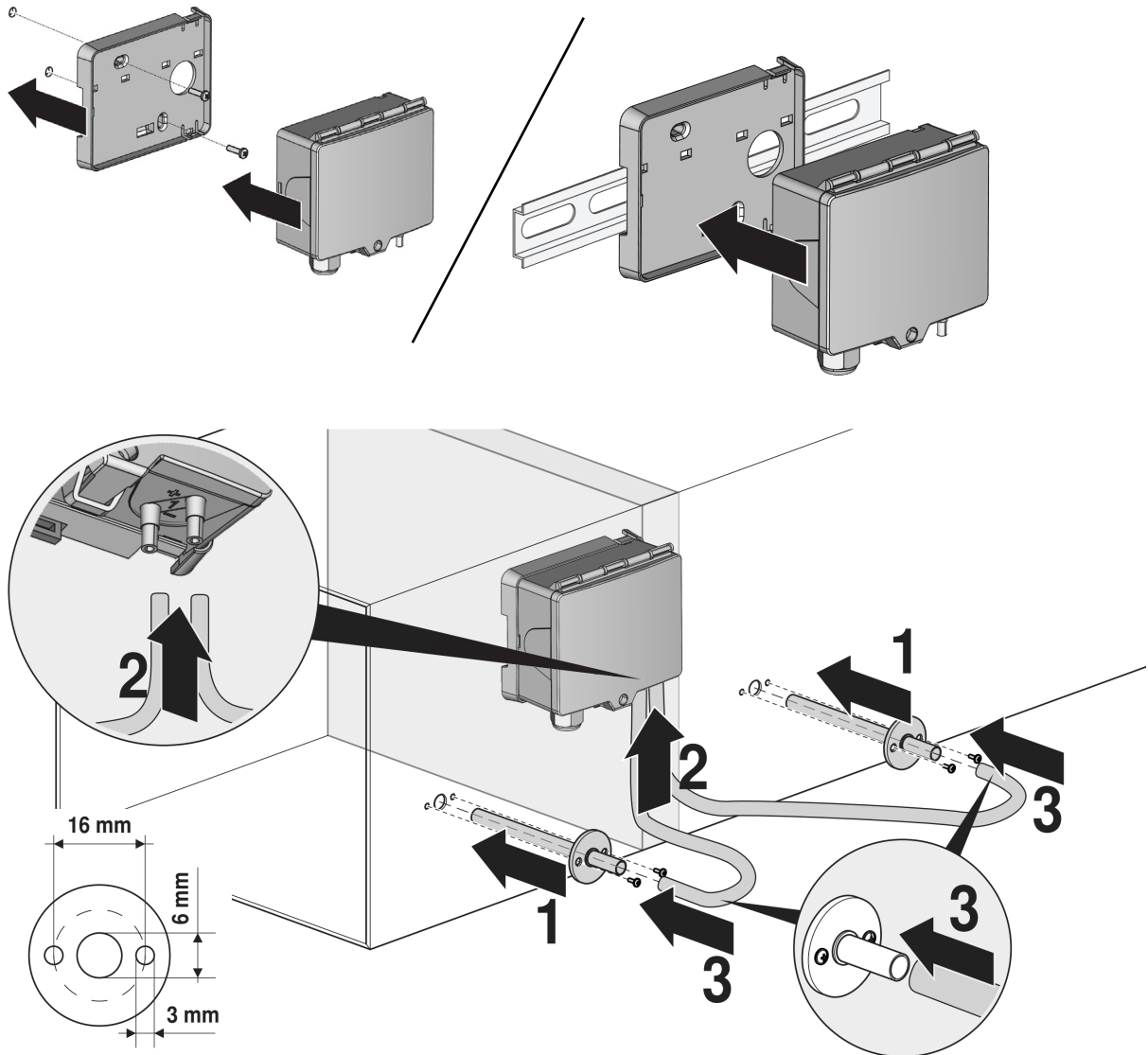
## » TECHNICAL DATA

Measuring values	differential pressure, volume flow		
Medium	air or other non-flammable/non-aggressive gases		
Output voltage	0..10 V or 0..5 V, min. load 10 kΩ, (live-zero configuration via Thermokon USEapp)		
Output Amp (type-dependent)	<b>AA</b> 2x 4..20 mA. max. load 500 Ω		
Output switch contact (type-dependent)	<b>Relay</b> 2 floating contacts for 24 V ~ or 24 V = / 3 A		
Power supply	<b>VV   Relay</b> 15..35 V = or 19..29 V ~ SELV	<b>AA</b> 15..35 V = SELV	
Power consumption	max. 2,3 W (24 V =)   max. 4,3 VA (24 V ~)		
Measuring range velocity	0... 750.000 m³/h (default), optionally configured via Thermokon USEapp		
Measuring range pressure *selectable at the device	<b>type 250</b> 0..+25   0..+50   0..+100   0..+250   -25..+25   -50..+50   - 100..+100   -150..+150 Pa	<b>type 2500</b> -100..+100   0..+100   0..+250   0..+500   0..+1000   0..+1500   0..+2000   0..+2500 Pa	<b>type 7000</b> 0..+1000   0..+1500   0..+2000   0..+2500   0..+3000   0..+4000   0..+5000   0..+7000 Pa
Accuracy pressure *deviation from calibration reference device (calibrator)	±1 Pa at range <250 Pa	±5 Pa at range <500 Pa, ±10 Pa at range >500 Pa	±10 Pa at range <2000 Pa, ±25 Pa at range >2000 Pa
Max. working overpressure	40 kPa		
Calibration	manually, automatic zero-point calibration (optional)		
Sensor	piezo measuring element		
Display (optional)	LCD 29x35 mm with RGB backlight units, pressure: Pa, inchWC, volume flow: m3/h, cfm (configurable)		
Enclosure	enclosure USE-L, PC, pure white, with removable cable entry, with LCD: cover PC, transparent		
Protection	IP65 according to EN 60529		
Cable entry (type-dependent)	<b>VV   AA</b> Flextherm M20, for wire Ø=4,5..9 mm, removable	<b>Relay</b> M25, for wire max. Ø=7 mm, seal insert for fourfold cable entry	
Connection electrical	removeable plug-in terminal, max. 2,5 mm²		
Connection mechanical	pressure connection male Ø=5,0 mm / Ø=6,3 mm, connection tube: PVC, soft		
Ambient condition	-10..+50 °C, max. 85% rH short term condensation		
Mounting	screw mounted onto flat surface, prepared for mounting on DIN rail TS35 (35x7,5 mm) according to EN 60715		

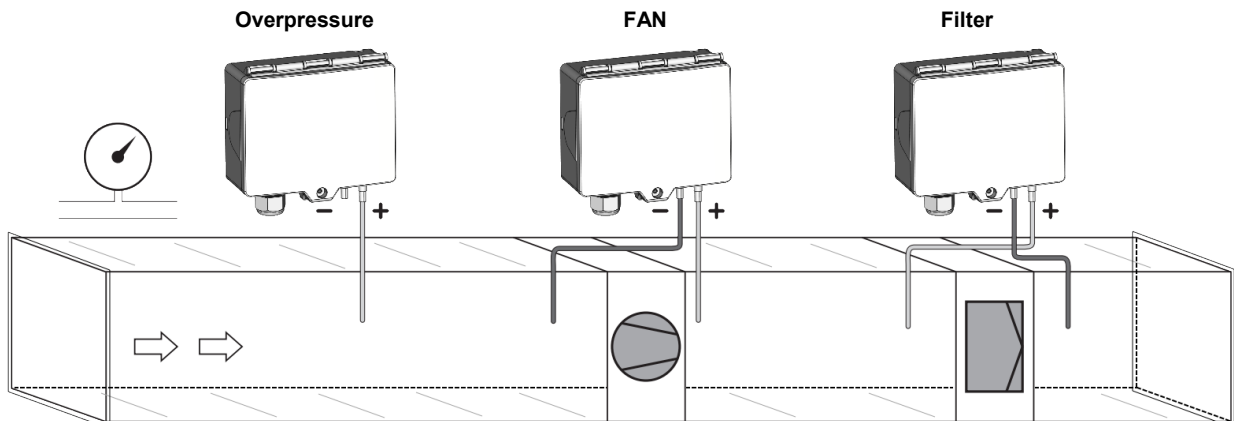
**» MOUNTING ADVICES**

Before installing the device, please check the leak tightness of the pressure lines. A prerequisite for the operation is a proper installation of all electrical supply, control and sensing leads as well as the pressurized connection line.

- In order to connect the device, the process lines must be unpressurized
- Consider the suitability of the device for the medium to be measured
- Consider maximum pressures

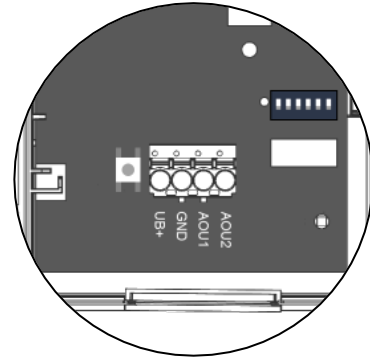
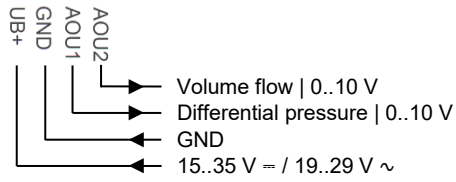
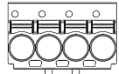


**» DIFFERENTIAL PRESSURE IN HVAC SYSTEMS**

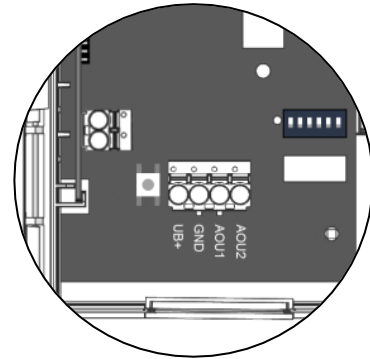
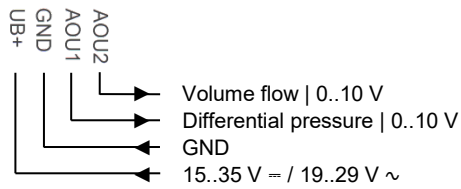
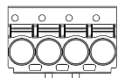
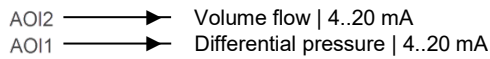


» **CONNECTION PLAN**

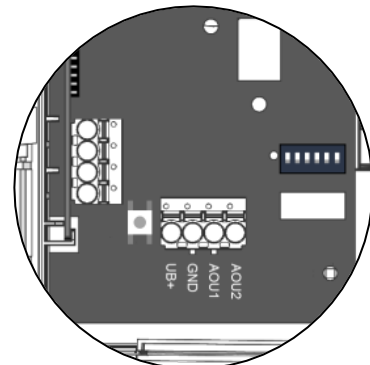
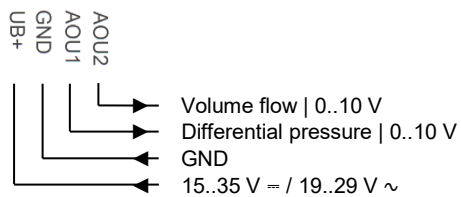
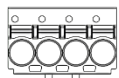
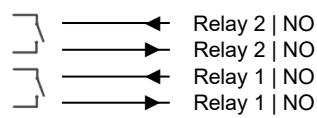
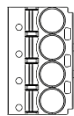
**DPA+ LCD VV MultiRange**



**DPA+ LCD AA MultiRange**



**DPA+ LCD VV MultiRange Relay**





## » CONFIGURATION



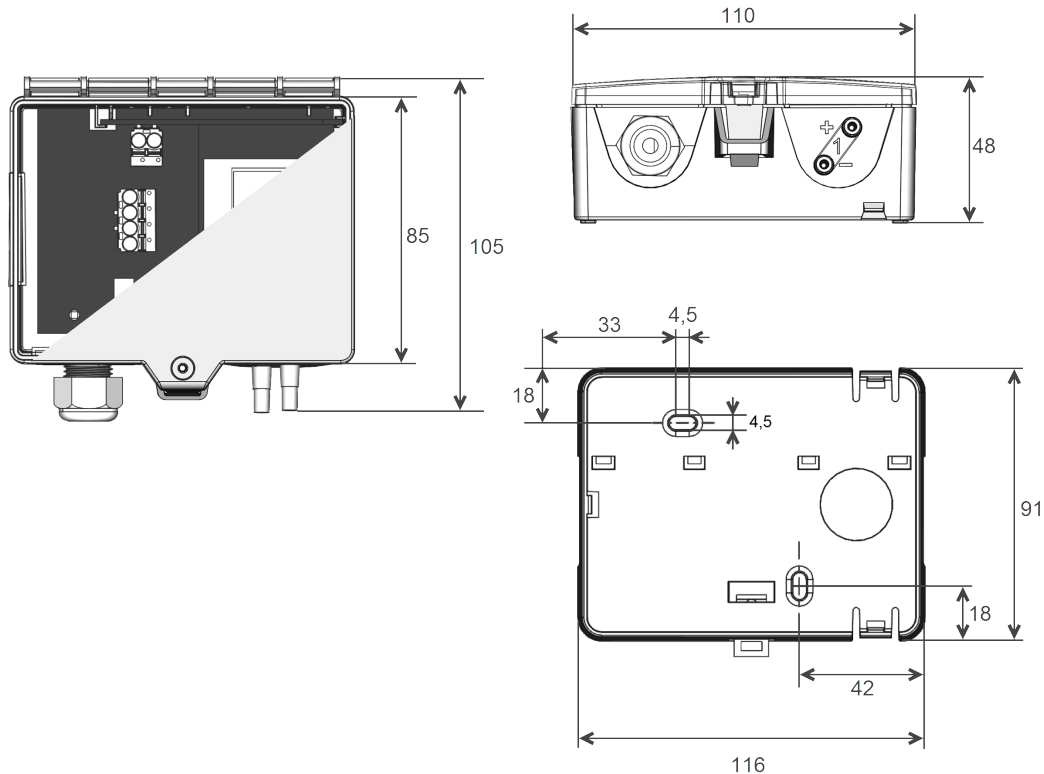
The Thermokon bluetooth dongle with micro-USB is required for communication between USEapp and USE-M / USE L (Item No.: 668262). Commercial bluetooth dongles are not compatible.

Application-specific reconfiguration of the devices can be carried out using the Thermokon USEapp. The configuration is carried out in the voltage-supplied state.

The configuration-app and the app description can be found in the Google Play Store or in the Apple App Store.



## » DIMENSIONS (MM)



## » ACCESSORIES (INCLUDED IN DELIVERY)

Mounting base enclosure USE-L

2 m PVC connection tube

KKS40 kit

• 2 plastic duct flanges • 4 mounting screws 4x20

Item No. 668361

Item No. 484268

Item No. 430135

Mounting kit universal

• Cover screw + screw cover • 2 Rawlplugs • 2 Screws (countersunk head) • 2 Screws (rounded head)

Item No. 698511

## » ACCESSORIES (OPTIONAL)

Bluetooth dongle USE for USEapp

Cable entry M25 USE white, sealing insert 4x  $\varnothing=7$  mm (4 pcs)

T-hose connector for pressure hoses  $\varnothing=4$  mm (10 pcs)

Adapter 90° angle for pressure hoses  $\varnothing=4$  mm

Metal duct connectors 40 mm

Metal duct connectors 100 mm

Sealing insert M20 USE white, 2x  $\varnothing=7$  mm (for 2 wire; PU 10 pieces)

Item No. 668262

Item No. 641364

Item No. 668323

Item No. 668330

Item No. 265138

Item No. 302531

Item No. 641333