

## Electronic Flow Monitor for Air



- Range: 1-20 m/s Air
- Accuracy:  
± 10 % of measured value
- $p_{max}$  8 bar,  
 $t_{max}$  120 °C
- Relay-output
- No moving parts
- Negligible pressure loss

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**Model:**  
KAL-L...

**Method of operation**

The model KAL-L... electronic flow switch monitors air and gas flow. It is suited for securely monitoring flows with minimum pressure loss.

**Function**

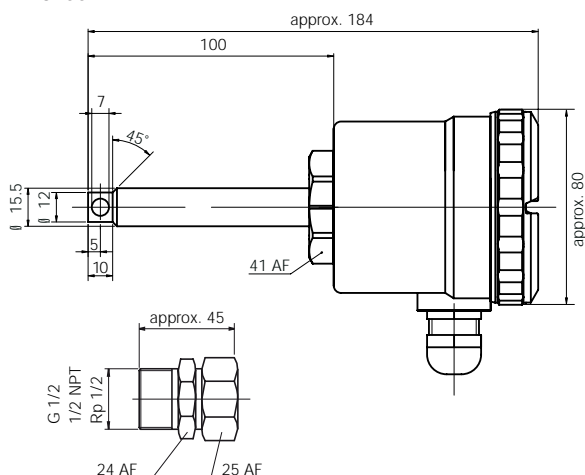
The operation of the electronic flow monitor KAL-L... is based on the proven calorimetric principle. A sensor is heated to a few degrees above the temperature of the flow medium. When the medium flows, the heat generated in the sensor is transferred to the medium, ie, the sensor is cooled. This cooling process is a measure of the flow velocity. A second sensor measures the medium temperature. The electronics compares the resistances of both sensors by means of a Wheatstone bridge circuit, and switches an output relay if the actual value drops below the set switching value.

**Technical details:**

- Power supply: 24 V<sub>AC/DC</sub> - 15%, +10%
- Power consumption: max. 4 VA
- Ambient temperature: -10°C ... +60°C
- Temperature of medium: -25°C ... +120°C
- Max. pressure: 8 bar
- Warm up time: max. 30 s
- Switching range: 1 to 20 m/s (at 20°C, 1 bar) (restricted span for other pressure and temperature conditions)
- Switching accuracy: ± 10 % of measured value
- Repeatability: ± 1 % of measured value
- Temperature gradient: 30 K/min. (at 8 m/s, 90°C)
- Response time: 1...60 s adjustable
- Flow rate indication: LED bargraph
- Switch point adjustment: with potentiometer
- Output indicator: two-colour LED

**Dimensions**

**KAL-L8100 WK**



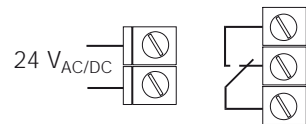
**Technical details (continued):**

- Switch output: relay, floating changeover contact
- Switch capacity: max. 250 V<sub>AC</sub> / 1000 VA / 4 A except for KAL-...ST: max. 24 V<sub>AC/DC</sub> / 3 A
- Protection: IP 65
- Case material: glass-fibre-reinforced polyamide
- Sensor material: brass, nickel-plated

**Fields of application**

- Air conditioning systems
- Extraction plants
- Conveying plants

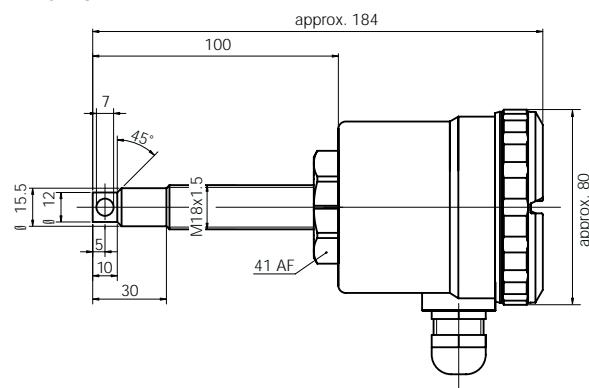
**Electrical connection**



**Order details** (example of order: **KAL-L81FL WK ST**)

Connection	Order No.	Electr. connection/ cable connector
Smooth shaft D=15 mm	<b>KAL-L8100 WK</b>	<b>PG</b> = cable connection M16x1.5 <b>ST</b> = connector M12x1 <b>S4</b> = connector DIN 43650 <b>N4</b> = 1/2 NPT for cable connection
Compression fitting G 1/2	<b>KAL-L81G1 WK</b>	
Compression fitting Rp 1/2	<b>KAL-L81R1 WK</b>	
Compression fitting 1/2 NPT	<b>KAL-L81N1 WK</b>	
with clamping flange according to DIN 43 743	<b>KAL-L81FL WK</b>	
M18x1.5	<b>KAL-L0118 WK</b>	

**KAL-L0118 WK**





## Calorimetric Flow Meter, Monitor, Totalizer



measuring  
•  
monitoring  
•  
analysing



- Measuring range:  
1 - 10 ... 600 - 12 000 L/min air
- Accuracy:  $\pm 5\%$  f. s.
- LCD display
- Switching outputs PNP,  
Analogue output
- LED switching indication
- Compact and separate version

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**Model:**  
DVK