Zertifiziertes QM-System
DIN EN ISO 9001
Zertifikat-Nr. 01017

Electronic Flow Monitor

for Air

measuring • monitoring • analysing

KAL-L

- Measuring range 1 - 20 m/s air
- Accuracy: ±10 % of reading
- p_{max}: 8 bar; t_{max}: 120 °C
- Relay-output
- No moving parts
- Negligible pressure loss

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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 $V_{AC/DC}$ -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 ... 20 m/s (at 20 °C, 1 bar) (restricted span for other pressure and temperature conditions)
Switching accuracy:	±10 % of reading
Repeatability:	±1 % of reading
Temperature gradient:	30 K/min (at 8 m/s, 90 °C)
Response time:	1 ... 60 s adjustable
Flow rate indication:	8 digit LED bargraph

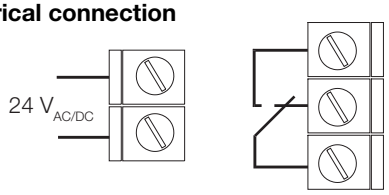
Technical details (continued)

Switch point adjustment:	with potentiometer
Output indicator:	two-colour LED
Switch output:	relay, floating changeover contact
Switch capacity:	max. 250 V_{AC} / 1000 VA / 4 A except for KAL-...ST: max. 24 $V_{AC/DC}$ / 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

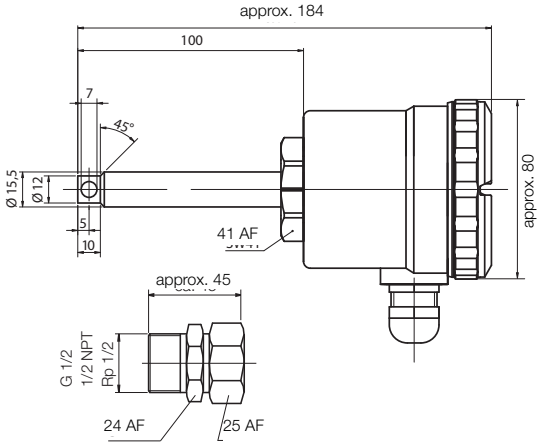


Order details (Example: **KAL-L81FL WK ST**)

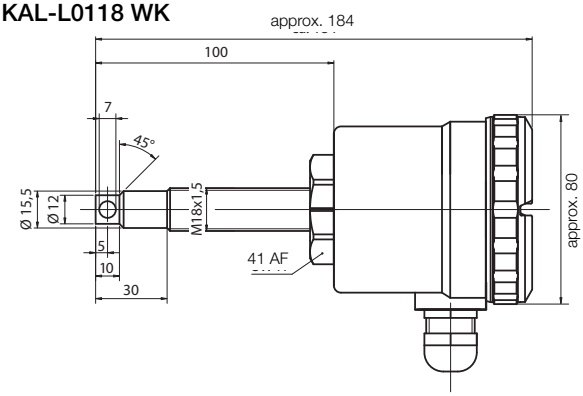
Connection	Order No.	Electr. connection/ cable connector
Smooth shaft D = 15 mm	**KAL-L8100 WK**	**PG** = cable connection M16x1,5 **ST** = connector M12x1 **S4** = connector DIN 43650 **N4** = ½" NPT for cable connection
Compression fitting G½	**KAL-L81G1 WK**	
Compression fitting Rp½	**KAL-L81R1 WK**	
Compression fitting ½" NPT	**KAL-L81N1 WK**	
with clamping flange acc. to DIN 43 743	**KAL-L81FL WK**	
M18x1.5	**KAL-L0118 WK**	

Dimensions

KAL-L8100 WK



KAL-L0118 WK



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