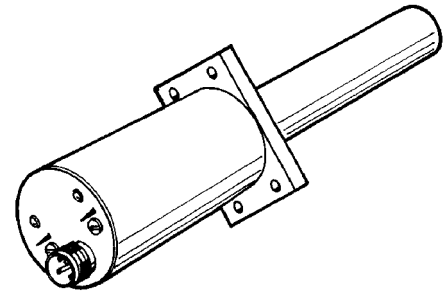


This air flow controller controls two independently adjustable limit values upto a flow velocity of 30 m/s. Short-circuit-proof normally open and normally close outputs as well as two-colour LEDs indicate when the values exceed or fall below the desired range. So troubles such as flow failure, hose rupture and required exchange of filter can be monitored in installations of inflow technique.

Normally open (LED and potentiometer at the left, 20 pitches): output connected through and given green light at min. flow existing; red LED flow failure.

Normally close (LED and potentiometer at the right, 20 pitches): output connected through and LED giving green light at value fallen below the max. flow; red LED = flow too high.

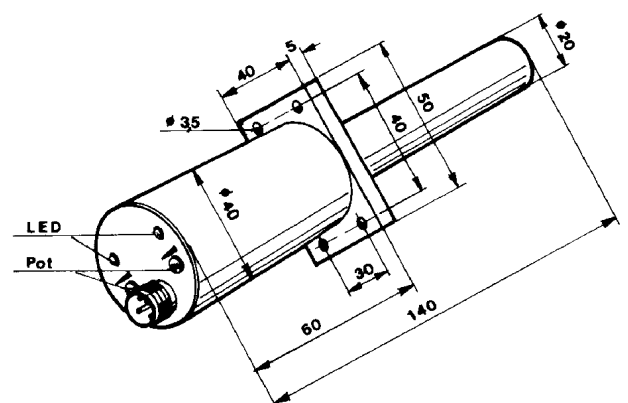
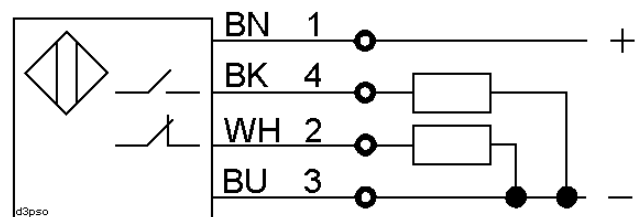


Technical Data

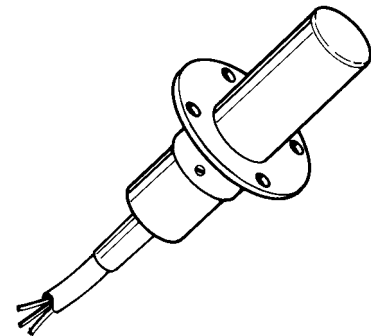
Type	FKM 230.18 GS4	
Art.-Nr.	8041A	
Output	PNP n. o. + n. c.	
Adjusting range normally open	1 - 30 m/s	
Adjusting range normally close	8 - 30 m/s	
Measuring principle	calorimetric	
Response time	< 10 s	
Readiness delay	30 s	
after applying the supply voltage both outputs are connected	during this time both LEDs give green intermittent light.	
Supply voltage	24 V DC +10 / -15%	
Ripple voltage	max. 15%	
Load current max.	0 - 400 mA	
Short-time load current	4 A / 100 ms	
Short circuit protection	yes, pulsing	
No-load current	50 mA	
Voltage drop	1,5 V	
Switching hysteresis	0,5 - 2 m/s	
Ambient temperature	-10 ... +60 °C	
Protection class	IP 65	
Connection	plug Lumberg M12	
Function display	2 LEDs 2-colour	
Housing material	sensor part	plastic
	electronic part with flange	aluminium
Weight	200 g	

The air flow controller is mounted in such a way that the air can flow onto the plane measuring surface (diameter 20 mm) from random direction. For effective temperature compensation the cylindrical part must be exposed to the same ambient temperatures 30 mm upto the measuring surface. Quick changes of temperature can result in misswitchings for a short time.

Diagram of Connections



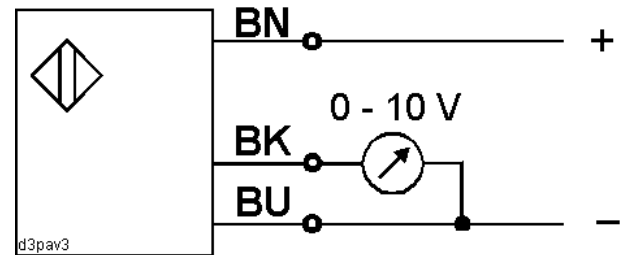
The air flow controller is mounted into the flow to be controlled as a stationary sensing unit with the flange or a PG 29 union. The air flow produces an output signal which is proportionate to the velocity. The heated flow sensors are arranged below the face of the hermetically closed casing of insulating material. Thanks to the calorimetric measuring principle with electronic evaluation maintenance-free operation is possible.



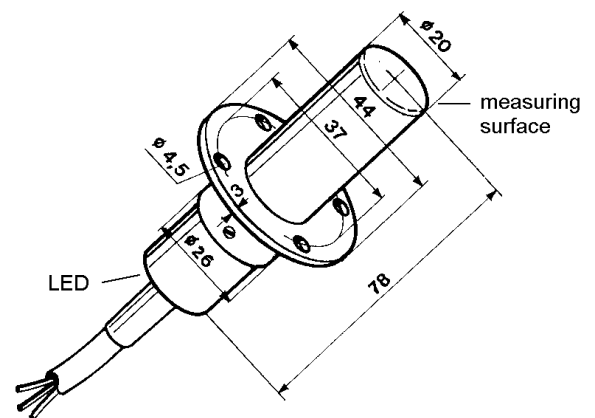
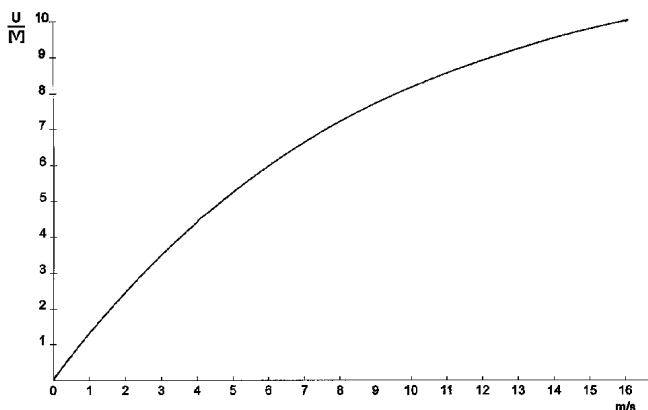
Technical Data

Type	FKM 230.19
Art.-No.	8027A
Output	0 - 10 V ($R_L \geq 10\text{ K}$)
Measuring range	0 - 16 m/s
Resolution	0,01 m/s
Exactitude	+/- 5 %
Temperature error	0,5 %/K
Response time	15 s (t 90)
Starting time	5 min
Supply voltage	24 V DC +10 % / -15 %
Power absorption	60 mA
Ambient temperature	0 to +50 °C
Protection class	IP 67
Connection	2 m cable
Function display	LED
Housing material	plastic

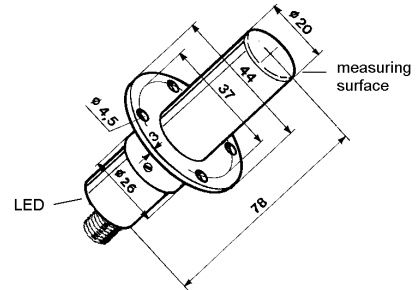
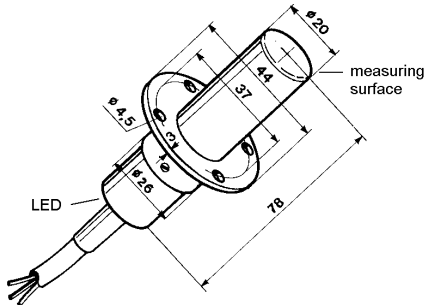
Diagram of Connections



Output voltage/flow rate standard



One-part sensor for controlling air and gaseous flows with integrated evaluation electronic. The calorimetrically working unit in a hermetically closed casing of insulation material offers maintenance-free operation.



DC 24 V 2 m cable

Type	Art.-No.	Connection technology
FKM 230.10 G	8035A	NPN n. c. 3-wire
FKM 230.11 G	8034A	NPN n. o. 3-wire
FKM 230.12 G	8033A	PNP n. c. 3-wire
FKM 230.13 G	8032A	PNP n. o. 3-wire

DC 24 V plug S4 (M12x1)

Type	Art.-No.	Connection technology
FKM 230.10 G S4	8035B	NPN n. c. 3-wire
FKM 230.11 G S4	8034B	NPN n. o. 3-wire
FKM 230.12 G S4	8033B	PNP n. c. 3-wire
FKM 230.13 G S4	8032B	PNP n. o. 3-wire

AC 110 V 2 m cable

Type	Art.-No.	Connection technology
FKM 230.52	8039A	n. c. 3-wire
FKM 230.53	8038A	n. o. 3-wire

AC 230 V 2 m cable

Type	Art.-No.	Connection technology
FKM 230.82	8037A	n. c. 3-wire
FKM 230.83	8036A	n. o. 3-wire

All DC-types available without short circuit protection . Typenumber without G.

Technical Data

Adjusting range	1 - 10 m/s	Voltage drop	2 V
Set limit value	3 m/s	Load current max. DC/AC	0 - 200 mA / 0 - 300 mA
Response time	max. 10 s	Switching hysteresis	max. 15 %
Readiness delay	30 s	Measuring principle	calorimetric
Short circuit protection DC/AC	yes / no	Function display	yes
Protection class	IP 67	Ambient temperature	- 10 bis +60 °C
No load current	30 mA	Housing material	plastic

The value of 3 m/s which is set in the factory is a preferred value in the ranges of building technology and mechanical engineering, however it can subsequently be set to values between 1 and 10 m/s.

After applying the service voltage (the green LED lightens) the output simulates an existing flow for 30 seconds. After this readiness delay the switch output gives a signal and the yellow LED indicates the actual condition of flow. The normally open version switches through and the yellow LED lightens, when the limit value of flow is exceeded and opens when the flow falls below the limit value (inverse behaviour in case of normally close versions). The response time of 10 seconds also applies to unfavourable flow conditions and thus protects safe and quickly all kinds of installations from damage.

The air flow controller is mounted in such a way that the air can flow onto the plane measuring surface (diameter 20 mm) from random direction. For effective temperature compensation the cylindrical part must be exposed to the same ambient temperatures 30 mm up to the measuring surface. Quick changes of temperature can result in misswitchings for a short time.

A mounting flange is included in the scope of supply. Alternatively suitable clips or a Pg 29 cable union can be used for pressure-tight assembly.

16.03.1999 Details are subject to change without notice.

WG 800