Proxitron

SENSOREN FÜR AUTOMATION

Flow Sensors

with ProxiTeach teach function

Flow monitoring of liquid and gaseous media

Flow sensors for gaseous media

Compact sensor for monitoring aeriform and gaseous flows. The air flow monitor is installed as a stationary sensor with a supplied flange or pressure-proof with a M32 fitting in the flow to be monitored. The calorimetric device with integrated evaluation electronics enables maintenance-free operation. A housing with an outstanding ceramic sensor and a smoothly enclosed plastic housing are supplied. The flow limit value to be monitored can be adjusted with a potentiometer or is automatically adjusted by means of the teach-in process in proportion to the existing flow.

Ub	Connection	Housing	Output	Adjustment	Type
24 V DC	Cable	Ø 20 mm	PNP normally open	Poti	FKM 230.13 G
		Ø 20 mm	PNP normally open	ProxiTeach*	FKM 231.13 G
		Ø 20 mm	PNP normally closed	Poti	FKM 230.12 G
		Ø 20 mm	PNP normally closed	ProxiTeach*	FKM 231.12 G
		Ø 20 mm	NPN normally open	Poti	FKM 230.11 G
		Ø 20 mm	NPN normally closed	Poti	FKM 230.10 G
		Ø 20 mm	Analog 0 - 10 V		FKM 230.19
		Ø 20 mm	Analog 0 - 20 mA		FKM 230.190
		Ø 20 mm	Analog 4 - 20 mA		FKM 230.194
	M12 plug connector	Ø 20 mm	PNP normally open	Poti	FKM 230.13 G S4
		Ø 20 mm	PNP normally open	ProxiTeach*	FKM 231.13 G S4
		Ø 20 mm	PNP normally closed	Poti	FKM 230.12 G S4
		Ø 20 mm	PNP normally closed	ProxiTeach*	FKM 231.12 G S4
		Ø 20 mm	NPN normally open	Poti	FKM 230.11 G S4
		Ø 20 mm	NPN normally closed	Poti	FKM 230.10 G S4
		Ø 20 mm	Analog 0 - 10 V		FKM 230.19 S4
		Ø 20 mm	Analog 0 - 20 mA		FKM 230.190 S4
		Ø 20 mm	Analog 4 - 20 mA		FKM 230.194 S4
	Terminal chamber	Ø 20 mm	PNP normally open	Poti	FKM 130.13 GD
		Ø 20 mm	PNP normally closed	Poti	FKM 130.12 GD
		Ø 20 mm	NPN normally open	Poti	FKM 130.11 GD
		Ø 20 mm	NPN normally closed	Poti	FKM 130.10 GD
115 V AC	Cable	Ø 20 mm	Normally open	Poti	FKM 130.53
		Ø 20 mm	Normally closed	Poti	FKM 130.52
	Terminal chamber	Ø 20 mm	Normally open	Poti	FKM 130.53 D
		Ø 20 mm	Normally closed	Poti	FKM 130.52 D
230 V AC	Cable	Ø 20 mm	Normally open	Poti	FKM 130.83
		Ø 20 mm	Normally closed	Poti	FKM 130.82
	Terminal chamber	Ø 20 mm	Normally open	Poti	FKM 130.83 D
		Ø 20 mm	Normally closed	Poti	FKM 130.82 D

*ProxiTeach is a registered trademark for the easy-to-operate adjustment system developed by Proxitron.

Flow sensors
for liquid media

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SENSOREN FÜR AUTOMATION

The flow sensor monitors liquid media and signals flow stoppage or deviation from freely adjustable flow speed. The sensor head is made of sturdy stainless steel and is available in different thread designs. The calorimetric measuring principle with integrated electronics enables easy start-up by means of the teach-in function and reliable condition sensing with maintenance-free operation. A model for the connection of external sensor heads offers an additional temperature monitoring function.

Ub	Connection	Sensor	Output	Adjustment	Type
24 V DC	Cable	G 1/4“	PNP normally open+Normally closed	ProxiTeach*	FKC 604.18 G
		NPT 1/4“	PNP normally open+Normally closed	ProxiTeach*	FKCN 604.18 G
		G 1/2“	PNP normally open+Normally closed	ProxiTeach*	FKE 604.18 G
		NPT 1/2“	PNP normally open+Normally closed	ProxiTeach*	FKEN 604.18 G
		G 3/4“	PNP normally open+Normally closed	ProxiTeach*	FKF 604.18 G
		NPT 3/4“	PNP normally open+Normally closed	ProxiTeach*	FKFN 604.18 G
	M12 plug connector	G 1/4“	PNP normally open+Normally closed	ProxiTeach*	FKC 604.18 G S4
		NPT 1/4“	PNP normally open+Normally closed	ProxiTeach*	FKCN 604.18 G S4
		G 1/2“	PNP normally open+Normally closed	ProxiTeach*	FKE 604.18 G S4
		NPT 1/2“	PNP normally open+Normally closed	ProxiTeach*	FKEN 604.18 G S4
		G 3/4“	PNP normally open+Normally closed	ProxiTeach*	FKF 604.18 G S4
		NPT 3/4“	PNP normally open+Normally closed	ProxiTeach*	FKFN 604.18 G S4
115 V AC	Cable	G 1/4“	Normally open/Normally closed	Poti	FKC 704.56 G
		NPT 1/4“	Normally open/Normally closed	Poti	FKCN 704.56 G
		G 1/2“	Normally open/Normally closed	Poti	FKE 704.56 G
		NPT 1/2“	Normally open/Normally closed	Poti	FKEN 704.56 G
		G 3/4“	Normally open/Normally closed	Poti	FKF 704.56 G
		NPT 3/4“	Normally open/Normally closed	Poti	FKFN 704.56 G
230 V AC	Cable	G 1/4“	Normally open/Normally closed	Poti	FKC 704.86 G
		NPT 1/4“	Normally open/Normally closed	Poti	FKCN 704.86 G
		G 1/2“	Normally open/Normally closed	Poti	FKE 704.86 G
		NPT 1/2“	Normally open/Normally closed	Poti	FKEN 704.86 G
		G 3/4“	Normally open/Normally closed	Poti	FKF 704.86 G
		NPT 3/4“	Normally open/Normally closed	Poti	FKFN 704.86 G
115/230 V AC, 24 V DC	Terminals	Evaluation unit	Relay change-over contact	Poti	FSP 604.6R
	M12 plug connector	Sensor head G 1/4“	Matching sensor heads for evaluation unit FSP 604		FAC 604
		Sensor head NPT 1/4“			FACN 604
		Sensor head G 1/2“			FAE 604
		Sensor head NPT 1/2“			FAEN 604
		Sensor head G 3/4“			FAF 604
		Sensor head NPT 3/4“			FAFN 604
		Matching connection cable, length 5 m, between sensor head and evaluation unit FSP 604			ST 041-5

Flow sensors
for liquid and gaseous media

Proxitron flow sensors control the flow speed of liquid and gaseous media. In an enclosed housing a heat resistance generates a low temperature increase. The cooling effect of the flow is evaluated electronically. The calorimetric measuring principle enables wear-free and low-maintenance operation. Different designs offer an optimum technical and economic solution for many industrial applications.

Models with different cable lengths as well as customized variants are available.

We recommend special designs with separate sensor heads for applications with fast changes of temperature.

Please specify your requirements.

We would be pleased to advise you!

Applications

Coolant and lubricant flow in steel and rolling mills

Ventilator shutdown and filter soiling in air conditioning and ventilation technology

Suction devices in sawmills and wood working plants

Bearing cooling systems of drive motors

Inlets and outlets of containers and mixing plants.

Oil and water mixtures for roller conveyor lubrication

Irrigation plants in horticulture and in greenhouses.

Valve positions in distribution systems

Pumps in sewage plants

General Data

	Gaseous media	Liquid media
Adjustable flow limit value	0 - 10 m/s	30 - 3000 mm/s
Flow range, analog	0 - 16 m/s	
Medium temperature	0 - 60 °C	0 - 60 °C
Medium	Air, gaseous	Water, hydraulic oil
Continuous current load AC/DC	0,5 - 300 mA / 0 - 200 mA	0,5 - 400 mA / 0 - 400 mA

Product range

Inductive Proximity Switches

WG 210	**Sensing distance < 20 mm**
WG 220	**Sensing distance 20-60 mm**
WG 230	**Sensing distance 60-120 mm**
WG 240	**Sensor strips**
WG 241	**Surface sensors**
WG 250	**Ring sensors**
WG 260	**Inductive analog sensors and evaluation electronics**

Further Sensors

WG 100	**Capacitive sensors**
WG 510	**Piros light barriers**
WG 610	**Piros infrared sensors**
WG 620	**Piros for fibre optic cables**
WG 630	**Piros infrared pyrometers**
WG 800	**Flow sensors, air**
WG 830	**Flow sensors, liquid**

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SENSOREN FÜR AUTOMATION

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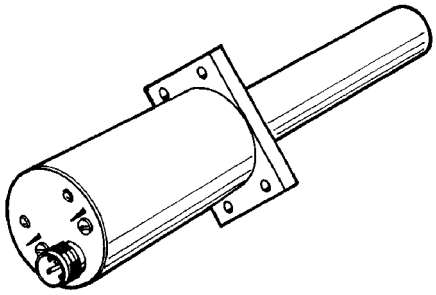
Proxitron
Sensoren für Automation

Air Flow Controller
FKM 230.18 G S4

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.

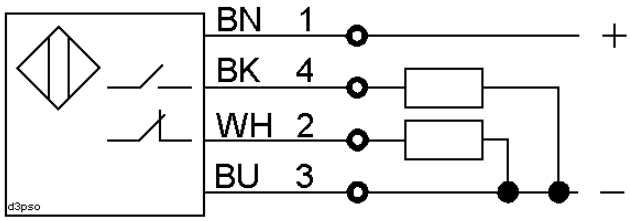


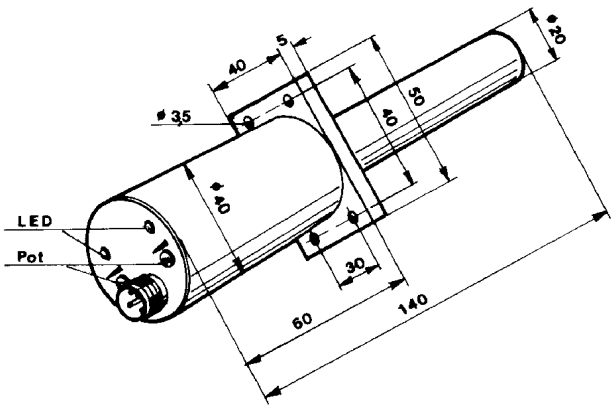
Technical Data

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 after applying the supply voltage both outputs are connected	30 s 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 electronic part with flange	plastic 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





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