

NEW MG/MR Function
Compact Digital Mass Flow Controller

MODEL EX-201S SERIES

■ Multi Gas Multi Range

■ Compact design

■ S.P. accuracy and 1sec response

■ RS485 communication function

Analog input / output selectable from 0 to 5VDC or 4 to 20mA

Power supply selectable from ± 15 VDC or 24VDC



Standard Specifications

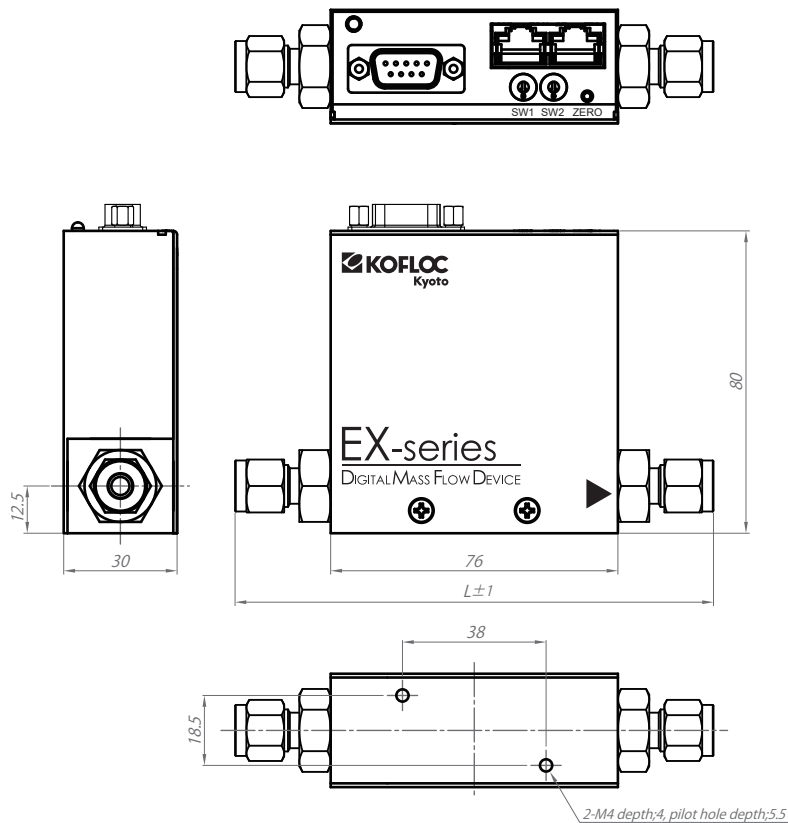
MODEL	EX-201SC-RJ
Sensor type	Thermal sensor
Valve type	Proportional solenoid valve (normally closed)
Applicable gas	N ₂ (Air, H ₂ , He, Ar, O ₂ , CO ₂ , CH ₄ /C.F. input)
Full-scale flow rate (N ₂ equivalent)	10/30/50/100/300/500SCCM 1/3/5/10SLM
Control range	2~100%F.S.
Response	Within 1sec. (within $\pm 2\%$ F.S.) (F.S.<10SLM L:50~149KPa H:150~300KPa) (F.S. 10SLM L:100~149KPa H:150~350KPa)
Accuracy	$\pm 1\%$ S.P.($>35\%$ F.S.) $\pm 0.35\%$ F.S.($\leq 35\%$ F.S.)
Repeatability	$\pm 0.2\%$ F.S.
Operating differential pressure	F.S.<10SLM 50~300KPa(Ar CO ₂ :100~300KPa) F.S.10SLM 100~350KPa(Ar CO ₂ :150~300KPa)
Max. inlet pressure	500kPa(G)
Proof pressure	1MPa(G)
He leak rate	$\leq 1 \times 10^{-8}$ Pa·m ³ /s
Allowable ambient temperature	5~50°C
Accuracy guarantee temperature	15~35°C
Allowable storage temperature	-10~60°C
Allowable ambient humidity	10%RH to 90%RH (no dew condensation)
Materials of parts in contact with gases	SUS316L, SUS316, Magnetic stainless steel, PTFE, FKM (option: NBR or FFKM)
Electrical connection	D-sub 9 pins RJ45 connector, 2pcs
Flow rate setting signal	0 to 5VDC (Input impedance: Approx. 1M Ω) or 4 to 20mA (Input impedance: Approx. 250 Ω)
Flow rate output signal	0 to 5VDC (Load resistance: 10k Ω or more) or 4 to 20mA (Load resistance: 500 Ω or less)
Digital communication	Standard : RS485 (original protocol) Option : RS485 (Modbus protocol, RTU mode)
Power supply	+15VDC ($\pm 5\%$) 100mA or less -15VDC ($\pm 5\%$) 150mA or less or 24VDC ($\pm 10\%$) 300mA or less
Fittings	Standard: 1/4SWL type Option: 1/8SWL type, 1/4VCR type, Rc1/4
Weight	Approx. 500g

* Use with a dry and clean gas containing no corrosive components, dust or mist.

* Accuracy assurance with N₂ gas and calibrated full scale range.

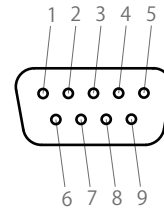
* Using dedicated software, gas type, full scale flow rate (30 to 100% of original condition. 30 to 80% for CO₂ and CH₄), calibration temperature, and analog input/output (0 to 5V or 4 to 20mA) can be changed.

Dimensions



Fittings	Dimension L (mm)
Rc1/4	102.0
1/8SWL	122.8
1/4SWL	127.4
1/4VCR	123.8

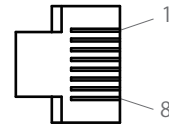
Wiring connection



D-sub connector (male)

Pin no.	±15V specification	+24V specification
	Signal name	
1	Valve open / close input	
2	Flow rate output	
3	Power +15V	Power +24V
4	Power COM	
5	Power -15V	N.C.
6	Flow rate setting signal Hi	
7	Flow rate output COM	
8	Flow rate setting signal Lo	
9	N.C.	

* Do not connect to N.C.



RJ-45 connector (female)

Pin no.	Signal name
1	TR_COM
2	TR_COM
3	N.C.
4	TR (-)
5	TR (+)
6	N.C.
7	N.C.
8	N.C.

Ordering

MODEL	Power supply	Fittings	Calibration gas	Full-scale flow rate	Calibration temperature	Setting signal	Output signal	Working pressure	Option	MG/MR
EX-201SC-RJ	15:±15V 24:24V	1/4SW 1/8SW 1/4VCR Rc1/4	N ₂	10SCCM 500SCCM 30SCCM 1SLM 50SCCM 3SLM 100SCCM 5SLM 300SCCM 10SLM	0°C 20°C 25°C	V:0-5V I:4-20mA	V:0-5V I:4-20mA	H:150~300kPa L: 50~149kPa	NBR: NBR seal FFKM: FFKM seal MOD:MODBUS-RTU	
EX-201SC-RJ	24	1/4VCR	N ₂	3SLM	20°C	V	V	H		MG:CH4 MR:2SLM

※ H: 150 to 350kPa and L: 100 to 149kPa for 10SLM full scale.

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