

Model ¹	Type of piping	Vertical	Horizontal	Vertical	Horizontal	Vertical	Horizontal
	NPN output	FD-MZ10ATK	FD-MZ10AYK	FD-MZ50ATK	FD-MZ50AYK	FD-MZ100ATK	FD-MZ100AYK
	PNP output	FD-MZ10ATKP	FD-MZ10AYKP	FD-MZ50ATKP	FD-MZ50AYKP	FD-MZ100ATKP	FD-MZ100AYKP
Appearance							
Configuration		Built-in amplifier					
Rated flow range ¹		0.14 - 2.60 G/min (0.50 - 10 L/min)		0.7 - 13.0 G/min (2.5 - 50 L/min)		1.4 - 26.0 G/min (5.0 - 100 L/min)	
Displayable range ²		0.14 - 6.35 G/min (0.50 - 30 L/min)		0.7 - 26.4 G/min (2.5 - 100 L/min)		1.4 - 52.8 G/min (5.0 - 200 L/min)	
Settable range		0 - 6.35 G/min (0 - 30 L/min)		0 - 26.4 G/min (0 - 100 L/min)		0 - 52.8 G/min (0 - 200 L/min)	
Minimum flow ³		0.14 G/min (0.50 L/min)		0.7 G/min (2.5 L/min)		1.4 G/min (5 L/min)	
Connection bore diameter		NPT3/8 (10 A)		NPT3/4 (20 A)		NPT1 (25 A)	
Detectable fluids		Water or non-corrosive liquid					
Conductivity of detection fluids		5 µS/cm or higher					
Detectable fluid temperature		0 to +85 °C 32 to 185 °F (No freezing)					
Operating pressure range		Max. 145 PSI (1.0 MPa)					
Pressure resistance		290 PSI (2.0 MPa)					
Pressure loss		Max. 1.45 PSI (0.01 MPa)					
Display method		Dual row display with 4-digit, 7 segment LED, bar display (2 colors), output indicators, flow indicator					
Display resolution		0.01/0.1 (G/min, L/min) selectable			0.1/1 (G/min, L/min) selectable		
Repeatability ⁴		0.5 s: ±5% of F.S., 1 s: ±3.5% of F.S., 2.5 s: ±2.5% of F.S., 5 s: ±1.6% of F.S., 10 s: ±1% of F.S., 30 s: ±0.8% of F.S., 60 s: ±0.6% of F.S.					
Hysteresis		Variable					
Response time (chatter prevention)		0.5 s/1 s/2.5 s/5 s/10 s/30 s/60 s variable					
Accumulated flow unit		0.01/0.1/1/10/100 (G, L) selectable			0.1/1/10/100/1000 (G, L) selectable		
Accumulation data storage cycle		Save to memory every 10 seconds					
Memory backup		EEPROM (Data storage length: 10 years or longer, Data read/write frequency: 1 million times or more)					
Control output/Accumulation pulse output/Error alarm output		NPN/PNP open collector, max. 100 mA/ch ⁵ (NPN: 40 V or less, PNP: 30 V or less), residual voltage 1 V or less, 3 outputs (N.O./N.C. switchable)					
Accumulation reset/bank switching/zero flow function		Input time: 20 ms or greater, Select either the accumulation output or the accumulation pulse by setting the mode					
Analog output		4-20 mA, max. load resistance 260 Ω. Analog output range can be set to any value					
Power supply voltage		24 V DC ±10%, ripple (P-P) ±10% or less, Class 2					
Power consumption (Current consumption)		Normal: 1700 mW (70 mA), Power save: 1000 mW (40 mA)					
Enclosure rating		IP65					
Environmental resistance	Ambient operating temperature	0 to +50 °C 32 to 122 °F (No freezing)					
	Ambient operating humidity	35 to 85% RH (No condensation)					
	Vibration resistance	10 to 55 Hz, compound amplitude 1.5 mm 0.06 , XYZ axes 2 hours for each axis					
Materials	Liquid end materials	Bore: SCS13, Measurement pipe: PPS, O ring: fluoro-rubber (FKM)					
	Other materials	Plastic case areas: PPS, Metal case areas: SUS430, Cable: PVC					
Weight		Approx. 865 g		Approx. 1130 g		Approx. 1340 g	
Accessory		Instruction Manual, Connector cable (2.7 m 106.3)					

¹ The rated flow range indicates recommended operating range.

² Can be used within the display range as well as within the rated flow range.

³ Flow below the minimum flow is displayed as 0 G/min (0 L/min).

⁴ The repeatability is effective within the display range. Convert the F.S. (full scale) listed in the table according to the rated flow range. The repeatability for FD-MZ10ATK(P)/YK(P) in the range of 5.20 to 6.35 G/min (20 to 30L/min) is the double of the value listed in the table. The repeatability is the error of the detection point when fluids flow repeatedly under the same conditions.

⁵ Maximum 20 mA for alarm output.

Lineup

Model	Applicable fluid	Detecting range ¹		Bore diameter	Pipe direction	Output
		Display range	Rated range			
FD-MZ10ATK	Water, noncorrosive liquid (electrical conductivity: 5 µS/cm or more)	0.14 - 6.35 G/min (0.50 - 30 L/min)	0.14 - 2.60 G/min (0.50 - 10 L/min)	NPT3/8 (10A)	Vertical	NPN
FD-MZ10ATKP					PNP	
FD-MZ10AYK		Horizontal	NPN			
FD-MZ10AYKP				PNP		
FD-MZ50ATK		0.7 - 26.4 G/min (2.5 - 100 L/min)	0.7 - 13.0 G/min (2.5 - 50 L/min)	NPT3/4 (20A)	Vertical	NPN
FD-MZ50ATKP					PNP	
FD-MZ50AYK		Horizontal	NPN			
FD-MZ50AYKP				PNP		
FD-MZ100ATK		1.4 - 52.8 G/min (5.0 - 200 L/min)	1.4 - 26.0 G/min (5.0 - 100 L/min)	NPT1 (25A)	Vertical	NPN
FD-MZ100ATKP					PNP	
FD-MZ100AYK		Horizontal	NPN			
FD-MZ100AYKP				PNP		

¹ Twice the rated flow range can be displayed.

L-shaped mounting
bracket
OP-42193
(sold separately)



Flat mounting
bracket
OP-42194
(sold separately)

