

Digital Measure Counters

FM Series



Features

- Measure counting: multiply-mode / divide-mode
- Operation modes: count-up, count-down, count-up / down
- Counting speeds: 1 cps / 30 cps / 300 cps / 2 kcps / 5 kcps
- Parameter configuration settings: input / output operation mode, max. counting speed, decimal point location, OUT1 / OUT2 output time (0.01 to 99.99 sec), no-voltage (NPN) / voltage (PNP) input selection, multiply-mode / divide-mode selection
- 10 year memory protection (using non-volatile semiconductor)
- Power supply: 100 - 240 VAC ~ 50 / 60 Hz

Specifications

Model	FM4M-□4	FM6M-□4
Display digits	4-digit	6-digit
Character size	W 6 × H 10 mm	W 4 × H 8 mm
Max. counting speed	1 / 30 / 300 / 2 k / 5 k cps	
Return time	≤ 500 ms	
Min. signal width	RESET: ≈ 20 ms	
Input logic	Voltage input (PNP) - input impedance: ≤ 10.8 kΩ, [H]: 5 - 30 VDC≡, [L]: 0 - 2 VDC≡ No-voltage input (NPN) - short-circuit impedance: ≤ 470 Ω, short-circuit residual voltage: ≤ 1 VDC≡ open-circuit impedance: ≥ 100 kΩ	
One-shot output time	0.01 to 99.99 s	
Contact control output	Relay	
Type (1-stage)	Instantaneous SPDT (1c) × 1	
Type (2-stage)	Instantaneous SPST (1a) × 2	
Capacity	250 VAC ~ 3 A, 30 VDC≡ 3 A resistive load	
Solid-state control output	NPN open collector	
Type (1-stage)	× 1	
Type (2-stage)	× 2	
Capacity	≤ 30 VDC≡, 100 mA, residual voltage: ≤ 1 VDC≡	
Unit weight (packaged)	1-stage setting: ≈ 180 g (≈ 245 g) 2-stage setting: ≈ 200 g (≈ 265 g) Indicator: ≈ 160 g (≈ 225 g)	
Approval	CE, RoHS, ENEC	
Power supply	100 - 240 VAC ~ ± 10 % 50 / 60 Hz	
Power consumption	Dependent on the output	
1-stage setting	≤ 4.6 VA	
2-stage setting	≤ 5.8 VA	
Indicator	≤ 3.8 VA	
External supply power	≤ 12 VDC≡ ± 10 % 50 mA	
Memory retention	≈ 10 years (non-volatile semiconductor memory type)	
Insulation resistance	≥ 100 MΩ (500 VDC≡ megger)	
Dielectric strength	Between all terminals and case: 2,000 VAC ~ 50 / 60 Hz for 1 min	
Noise immunity	± 2 kV square wave noise (pulse width: 1 μs) by the noise simulator	
Vibration	0.75 mm double amplitude at frequency of 10 to 55 Hz (for 1 minute) in each X, Y, Z direction for 1 hour	
Vibration (malfunction)	0.5 mm double amplitude at frequency of 10 to 55 Hz (for 1 minute) in each X, Y, Z direction for 10 minute	
Shock	300 m/s ² (≈ 30 G) in each X, Y, Z direction for 3 times	
Shock (malfunction)	100 m/s ² (≈ 10 G) in each X, Y, Z direction for 3 times	
Relay life cycle	Mechanical: ≥ 5,000,000 operations Electrical: ≥ 100,000 operations (250 VAC ~ 3 A resistive load)	
Ambient temperature	-10 to 55 °C, storage: -25 to 65 °C (no freezing or condensation)	
Ambient humidity	35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)	
Protection rating	IP20 (front part, IEC standard)	



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