

## 700-FS High Performance Timing Relay

- Adjustable function and timing range timing relays
- DIN Rail mounted without cost of socket
- 22.5 mm wide multi-function or single functions
- Available as SPDT or DPDT contact output, 5A
- Timing Ranges From 0.05 s...300 hr
- Coil surge protection
- Hazardous location version available



### Single Function (With 2PDT 2 C/O contacts)

Operating Mode	Contact Output	Timing Range <sup>(1)</sup>	Input Voltage	Cat. No.
On-delay	(SPDT) 1 C/O	0.05 s...300 hr	24...48V DC 24...240V AC, 50/60 Hz	700-FSA6UU23
On-delay	(DPDT) 2 C/O			700-FSA7UU23
Off-delay	(SPDT) 1 C/O			700-FSB6UU23
Off-delay	(DPDT) 2 C/O			700-FSB7UU23
One Shot w/B1	(SPDT) 1 C/O			700-FSK6UU23

(1) Ten selectable timing ranges: 0.05...1 s, 0.15...3 s, 0.5...10 s, 1.5...30 s, 5...100 s, 15...300 s, 1.5...30 min, 15...300 min, 1.5...30 hr, 15...300 hr

### Single Function With Hazardous Location Certification (With SPDT 1 C/O contacts)

Operating Mode	Contact Output	Timing Range <sup>(1)</sup>	Input Voltage	Cat. No.
One Shot w/B1	(SPDT) 1 C/O	0.05 s...300 hr	24...48V DC 24...240V AC 50/60 Hz	700-FSKGUU23-EX

(1) Ten selectable timing ranges: 0.05...1 s, 0.15...3 s, 0.5...10 s, 1.5...30 s, 5...100 s, 15...300 s, 1.5...30 min, 15...30 min, 1.5...30 hr, 15...300 hr

#### IMPORTANT

- Temp. Code T4A 2A 32VDC MAX.: II 3 G, EEx nL IIC T4 DEMKO 04 ATEX 0404974X 2A 32VDC MAX. Ta 70 °C
- Ind. Cont. Eq. for Hazardous Location Listed 87SL Class 1, Div. 2, Groups A,B,C,D Class 1, Zn 2, Group IIC
- Subject devices are to be installed in an ATEX Certified IP54 (as defined in IEC 60529) enclosure and accessible only by the use of a tool.

## Multi-Function

This device allows the flexibility of selecting the appropriate timing function.

Operating Mode	Contact Output	Timing Range <sup>(1)</sup>	Input Voltage	Cat. No.
Multi-function timing relays 10 Single-functions: A, A+, B, C, T, D, E, FG, L, and Y1 See function diagrams for further description.	(SPDT) 1 C/O	0.05 s . . . 300 hr	24 . . . 48V DC	700-FSM6UU23
	(DPDT) 2 C/O		24 . . . 240V AC 50/60 Hz	700-FSM7UU23
			380 . . . 440V AC	700-FSM7UA40
Multi-function timing relays 7 Single-functions: A, T, D, I, M, F, and G See function diagrams for further description.	(DPDT) 2 C/O		24 . . . 48V DC 24 . . . 240V AC 50/60 Hz	700-FSM8UU23

(1) Ten selectable timing ranges: 0.05...1 s, 0.15...3 s, 0.5...10 s, 1.5...30 s, 5...100 s, 15...300 s, 1.5...30 min, 15...300 min, 1.5...30 hr, 15...300 hr

## Multi-Function With Hazardous Location Certification

This device allows the flexibility of selecting the appropriate timing function.

Operating Mode	Contact Output	Timing Range	Input Voltage	Cat. No.
Multi-function timing relays 10 Single-functions: A, A+, B, C, T, D, E, FG, L, and Y1 See function diagrams for further description.	(SPDT) 1C/O	0.05 s...100 h <sup>(1)</sup>	24...48V DC 24...240V AC 50/60 Hz	700-FSM6UU23-EX
Multi-function timing relays 7 Single-functions: A, T, D, I, M, F, and G See function diagrams for further description.	(DPDT) 2 C/O	0.05 s...300 h <sup>(2)</sup>		700-FSM7UU23-EX
				700-FSM8UU23-EX

(1) Ten selectable timing ranges: 0.05...1 s, 0.15...3 s, 1.5...30 s, 0.15...3 min, 0.5...10 min, 1.5...30 min, 0.5...1 h, 15...300 min, 0.5...10 hr, 5...100 hr

(2) Ten selectable timing ranges: 0.05...1 s, 0.15...3 s, 0.5...10 s, 1.5...30 s, 5...100 s, 15...300 s, 1.5...30 min, 15...30 min, 1.5...30 hr, 15...300 hr

### IMPORTANT

- Temp. Code T4A 2A 32VDC MAX.: II 3 G, EEx nL IIC T4 DEMKO 04 ATEX 0404974X 2A 32VDC MAX. Ta 70 °C
- Ind. Cont. Eq. for Hazardous Location Listed 87SL Class 1, Div. 2, Groups A,B,C,D Class 1, Zn 2, Group IIC
- Subject devices are to be installed in an ATEX Certified IP54 (as defined in IEC 60529) enclosure and accessible only by the use of a tool.

## Special Function

Operating Mode	Contact Output	Timing Range <sup>(1)</sup>	Input Voltage	Cat. No.
OFF-delay without auxiliary voltages	(SPDT) 1 C/O	0.05 s...10 min	24...240V DC	700-FSQ6QU18
	(DPDT) 2 C/O		24...240V AC 50/60 Hz	700-FSQ7QU18
Star-Delta	2 C/O		24...48V DC	700-FSY7UU23
			380...440V AC	700-FSY7UA40

(1) This time range is selectable in seven smaller ranges: 0.05 s...1 s, 0.15...3 s, 0.15...10 s, 1.5...30 s, 5...100 s, 15...300 s, 0.5...10 min

## Accessories - 700-FS Relays

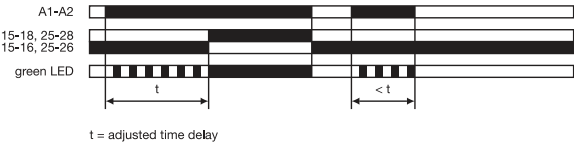
Description	Pkg. Quantity	Cat. No.
<b>Panel Mounting Adapter</b> For surface mounting according to drilling plan EN 50 002	5	700-FSPMA
<b>Transparent Cover</b>	10	100-FSTC

### IMPORTANT

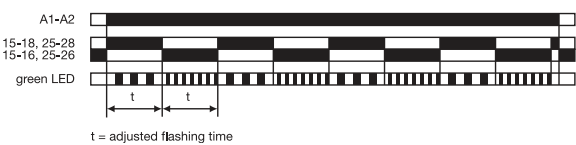
Versatile Mounting: The 700-FS timing relay can be panel or DIN rail mounted. For best long-term performance, allow at least 10 mm (.04 in.) of space on each side of the relay for proper ventilation when operating in temperatures above 40 °C (104 °F).

Function Diagrams - 700-FS Relays

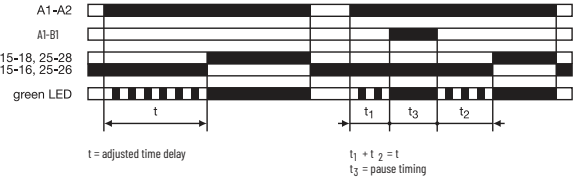
(A) ON-Delay



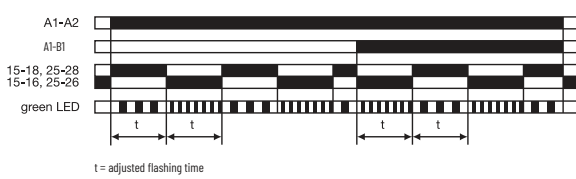
(F) Flasher, Starting with ON



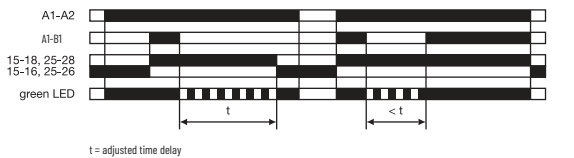
(A+) Accumulative ON-delay



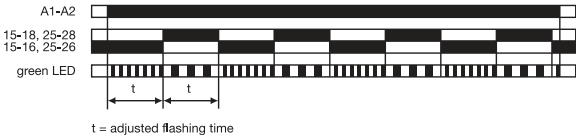
(FG) Flasher, Starting with ON or OFF



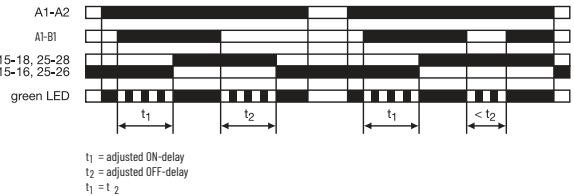
(B) OFF-delay with Auxiliary Voltage



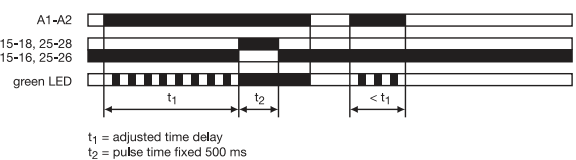
(G) Flasher, Starting with OFF



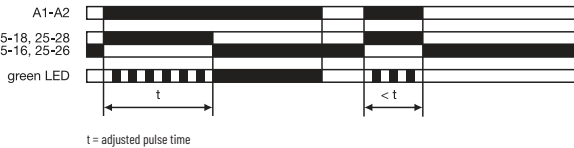
(C) ON-delay and OFF-delay, Symmetrical



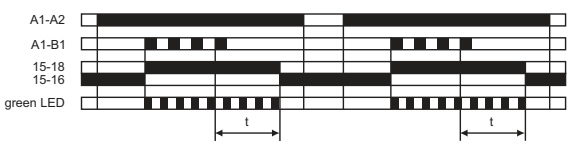
(I) Fixed Impulse with Adjustable Time Delay



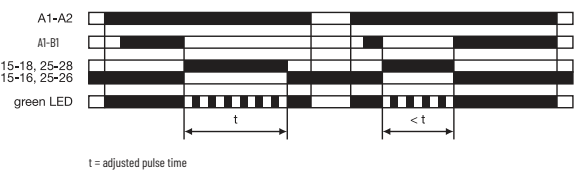
(D) Impulse-ON



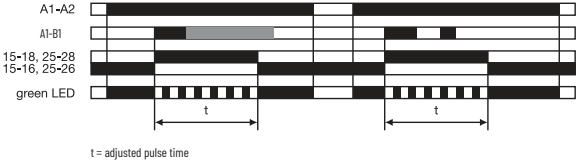
(K) One Shot with B1

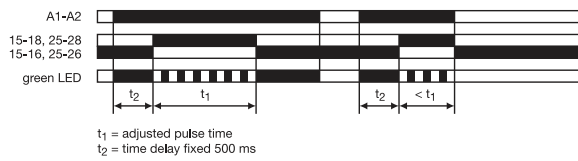
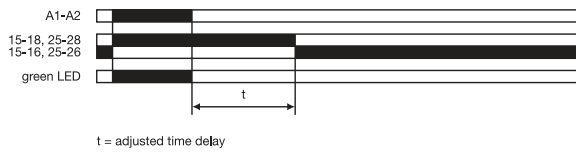
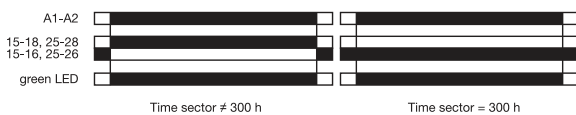
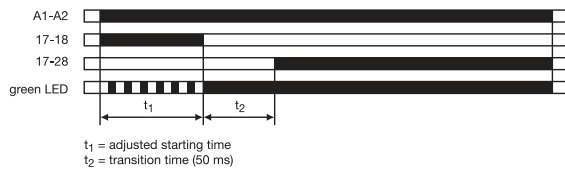
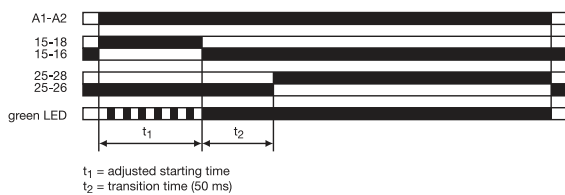


(E) Impulse-OFF with Auxiliary Voltage



(L) Pulse Former



**(M) Adjustable Impulse with Fixed Time Delay****(Q) OFF-delay without Auxiliary Voltage****(T) ON/OFF-function****(Y) Star-delta Change-over****(Y1) Star-delta Change-over with Impulse Function****Specifications - 700-FS Relays<sup>(1)</sup>**

Attribute	Value
Setting Accuracy	$\pm 6\%$ of full scale
Repeatability	$\pm 0.2\%$ of the setting values
Tolerance	Voltage: $\pm 0.004\%/V$ Temperature: $\pm 0.035\%/^{\circ}C$

**Supply**

Attribute	Value
Supply Voltages	24...48V DC and 24...240V AC, 50/60 Hz (multi voltage)
Voltage Tolerance	$-15\% \dots +10\%$ ( $-25\% \dots +10\%$ DC-EX)
Power Consumption	Max 16 VA
Time Energized	100%
Reset Time	$< 80$ ms
Cable Length (Supply Voltage Control)	50 m (800 ft) - 100 pF/m

**Pulse Control (B1)**

Attribute	Value
Pulse Duration	$\geq 20$ ms
Input Voltage	Supply voltage range
Input Current	1 mA
Cable Length	50 m (800 ft) - 100 pF/m

**Outputs**

Contact Type	Relay as changeover switch
Dielectric Coil to Contact	4000 V
Switching Capacity	Voltage: 500V AC
	According to IEC 947-5-1:
	3 A/230V AC (inductive load, AC 15)
	2 A/24V DC (inductive load, DC 13)
	According to UL 508:
Life	1.5 A/250V AC (B300)
	3 A/120V AC (B300)
	Mechanical: 30 million operations
Electrical: 100,000 operations at AC12, 230V, 4 A	
State Indicator	1 LED, combination signal

(1) Time Characteristics (according to VDE 0435, Part 2021)

General Data- 700-FS Relays

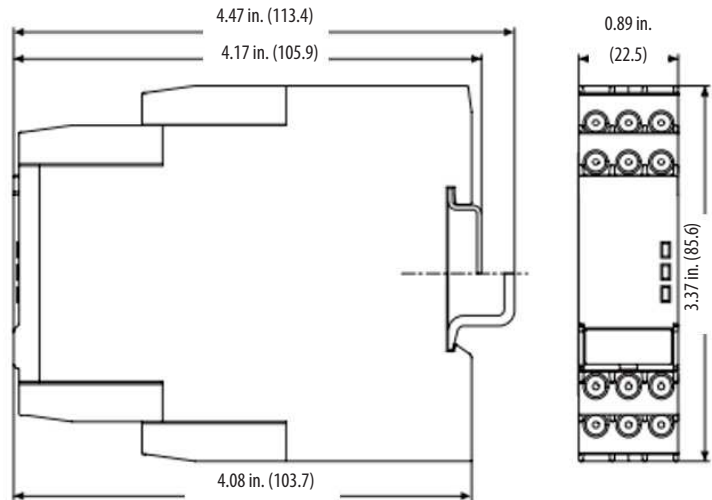
Insulation Characteristics	2 kVAC/50 Hz test voltage according to VDE 0435 and 4 kV 1.2/50 $\mu$ s surge voltage according to IEC 947-1 between all inputs and outputs
EMC/Interference Immunity	Performance of following requirements: Surge capacity of the supply voltage according to IEC 61000-4-5: 2 kV Burst according to IEC 1000-4-4: 6 kV 6/50 ns ESD discharge according to IEC 61000- 4-2: Contact 6 kV, air 8 kV
EMC/Emission	Electromagnetic fields according to EN 55 022: class B
Safe Isolation	According to VDE 106, part 101
Relative Humidity	25 ... 85%
Vibration Resistance, operating	1 G
Vibration Resistance, nonoperating	4 G
Shock Resistance, operating	7 G
Shock Resistance, nonoperating	50 G
Ambient Temperature, operating	-25 ... +60 °C
Ambient Temperature, nonoperating	-40 ... +85 °C
Terminals	Tightening torque 5.31 ... 7.08 lb.-in. (0.6 ... 0.8 N•m) 1 x 0.5 ... 2.5 mm <sup>2</sup> (stranded) 1x 0.5 ... 4 mm <sup>2</sup> , 2 x 0.5 ... 2.5 mm <sup>2</sup> (solid)
Mounting	Front mounting; For snap-on mounting on 35 mm DIN Rail or screw fixing by adapter and 2 screws (M4 type)
Certifications	cULus Listed (File No. E14840, Guide NKCR/NKCR7), CE Marked
Standards	EN/IEC 60947-1, EN/IEC 60947-5-1, UL 508, CSA 22.2 No. 14

		Temp. Code T4A 2 A 32V DC max
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**Mounting:** Install product in an enclosure constructed in accordance with the requirements of EN50021.

Dimensions - 700-FS Relays

Approximate dimensions are shown in inches (millimeters). Dimensions are not intended for manufacturing purposes.



Cat. No. 700-FS