

PRODUCT PROFILE

BULLETIN 700-FS

DIN RAIL TIMING RELAYS FOR HAZARDOUS LOCATION APPLICATIONS

Rockwell Automation is introducing a new line of Allen-Bradley DIN rail timing relays. Bulletin 700-FS timers have been designed to meet the stringent requirements of hazardous location applications while maintaining the functionality of the existing 700-FS family of timing relays.

HAZARDOUS LOCATION CERTIFICATION

In order to address global applications, Bulletin 700-FS timers have the following approvals:

- cULus
- Class 1 Div 2 Groups A, B, C, D
- Class 1 Zone 2 Group IIC
- ATEX
- $\text{Ex II 3 G, EEx nL IIC T4}$

FULL FEATURED

The Bulletin 700-FS is a multi-function timing relay with 8 single-functions, SPDT or DPDT contact output, and adjustable timing ranges.

EASY TO USE

The performance and installation of the new 700-FS timer is comparable to the existing family of timers.

DIN RAIL MOUNTED

The 700-FS timer can be directly mounted on a DIN rail which eliminates the need for a socket while reducing overall space requirements.

AVAILABLE PART NUMBERS:

700-FSK3AU23-EX One Shot/Watch Dog
(pulse controlled), 0.05...1 second

700-FSK3CU23-EX One Shot/Watch Dog
(pulse controlled), 0.5...3 seconds

700-FSM3UU23-EX Multi-function, SPDT

700-FSM4UU23-EX Multi-function, DPDT



Time Characteristics (according to VDE 0435, Part 2021)

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|------------------|---|
| Setting Accuracy | ±5% of full scale |
| Repeatability | ±0.2% of the setting values |
| Tolerance | Voltage: ±0.001%/° U Temperature: ±0.025%/°C |

Supply

| | |
|---------------------------------------|--|
| Supply Voltages | 24f 48V DC and 24f 240V AC, 50/60 Hz (multi voltage) |
| Voltage Tolerance | ...20f +20% (DC),...15f +10% (AC) |
| Power Consumption | 0.5 W at 24V DC, 5 VA at 240V AC |
| Time Energized | 100% |
| Reset Time | 50 ms |
| Voltage Interruption | 20 ms without reset (supply voltage) |
| Input Impedance | Relay ON: 3K-13K ohms Relay OFF: 0.7K-4K ohms |
| Cable Length (Supply Voltage Control) | Max. 250 m (800 ft) |

Pulse Control (B 1)



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|----------------------|--|
| Pulse Duration | 50 ms (AC), 30 ms (DC) |
| Input Voltage | Supply voltage range |
| Input Current | 1 mA |
| Max. Leakage Current | 400 micro Amps |
| Cable Length | Max. 250 m (800 ft) without parallel load between B 1 and A2 Max. 50 m (160 ft) with load (<3 k) between B 1 and A2 |

Outputs

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|--|--|
| Contact Type | Relay as changeover switch |
| Dielectric Coil to Contact Withstand Voltage | 5,000 V |
| Switching Capacity | Voltage: 440V AC |
| | Current Ith (AC-1): 8 A (5 A for 700-FSQ) |
| | Power: 2000 VA |
| | According to IEC 947-5-1: |
| | 3 A/440V AC (inductive load, AC 14) 3 A/250V AC (inductive load, AC 15) 1 A/24V DC (inductive load, DC 13) |
| Short-Circuit Resistance | According to UL 508: 1.5 A/250V AC (B 300) 3 A/120V AC (B 300) |
| | 10 A gl |
| | Life |
| Electrical operations : | |
| 4 Mil. at 1 A/250V AC, cos = 1 | |
| 0.2 Mil. at 6 A/250V AC, cos = 1 | |
| 1.5 Mil. at 1 A/250V AC, cos = 0.3 | |
| 0.3 Mil. at 3 A/250V AC, cos = 0.3 | |
| 0.5 Mil. at 6 A/24V DC, resistive | |
| 2 Mil. at 4 A/24V DC, resistive | |
| 2 Mil. at 0.2 A/230V DC, resistive | |
| 1 Mil. at 0.4 A/24V DC, L/R = 20 ms | |
| 1 Mil. at 0.2 A/110V DC, L/R = 20 ms | |
| 1 Mil. at 0.1 A/230V DC, L/R = 20 ms | |
| State Indicator | 1 LED, combination signal |

General Data

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|----------------------------|--|
| Insulation Characteristics | 2 kVAC/50 Hz test voltage according to VDE 0435 and 6 kV 1.2/50 ∞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 1000-4-5: 4 kV 1.2/50 ∞s Burst according to IEC 1000-4-4: 6 kV 6/50 ns ESD discharge according to IEC 1000-4-2: Contact 8 kV, air 8 kV Electromagnetic HF field according to IEC 801-3 and conducted Electromagnetic HF signal according to IEC 801-6: Level 3 |
| EMC/Emission | Electromagnetic fields according to EN 55 022: class B |
| Safe Isolation | According to VDE 106, part 101 |
| Climatic Withstand | 56 Cycles (24 h) at 25f 40°C and 95% relative humidity according to IEC 68-2-30 and IEC 68-2-3 |
| Vibration Resistance | 4 g in 3 axes at 10f 500 Hz, test FC according to IEC 68-2-6 |
| Shock Resistance | 50 g according to IEC 68-2-27 |
| Protection Class | Enclosure: IP40 IP 30 (Single-function) Terminal: IP20 according to IEC 947-1 |
| Weight | 100 g |
| Approval | UL, cUL |
| Ambient Temperature | Open: ...25f +60°C Enclosed: ...25f +45°C Storage: ...40f +85°C |
| Terminals | Screw terminal M3.5 for Number 2 Posidrive, Philips, and slotted screws. Suitable for power screwdriver. Rated tightening torque 8.8 lb.-in. (0.8 N m, max. 1.2 N m). Dual-chamber system for terminal cross-sections of 1 x 0.5 mm ² 2 x 2.5 mm ² (solid) or stranded 2 x 2.5 mm ² (flexible with sleeve), #20f 14 AWG. Finger protection according to VDE 0106. |
| Mounting | Front mounting: For snap-on mounting on 35 mm DIN Rail or screw fixing by adapter and 2 screws (M4 type) |
| Disposal | Synthetic material without dioxin according to EC/EFTA notification Number 93/0141/D electrical contacts with cadmium |
| Certifications | cUL Recognized, File E14840, cULus Listed, File E14840, Guide NKCR, CE Marked (per EU Low Voltage Directive 73/23 EEC 93/68 EEC; per Electromagnetic Compatibility Directive 89/336 EEC 92/31 EEC 93/681 EEC) |
| Standards | EN 60947-1, EN 60947-5-1, EN 50081-1, IEC 947, UL 508, CS A 22.2 |

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|  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 I, Div. 2, Groups A,B,C,D Class I, Zn 2, Group IIC Temp. Code T4A 2A 32VDC MAX. |
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