

## Bulletin 700-FS High Performance Timing Relay

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

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

### Supply

Supply Voltages	24...48V DC and 24...240V AC, 50/60 Hz (multi voltage)
Voltage Tolerance	-20...+20% (DC), -15...+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 (B1)

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 B1 and A2 Max. 50 m (160 ft) with load (<3 kΩ) between B1 and A2

## Outputs

Contact Type	Relay as changeover switch
Dielectric Coil to Contact Withstand Voltage	5000 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) According to UL 508: 1.5 A/250V AC (B300) 3 A/120V AC (B300)
Short-Circuit Resistance	10 A gL
Life	Mechanical: 30 million operations Electrical operations: 4 Mil. at 1 A/250V AC, $\cos \phi = 1$ 0.2 Mil. at 6 A/250V AC, $\cos \phi = 1$ 1.5 Mil. at 1 A/250V AC, $\cos \phi = 0.3$ 0.3 Mil. at 3 A/250V AC, $\cos \phi = 0.3$ 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

Insulation Characteristics	2 kVAC/50 Hz test voltage according to VDE 0435 and 6 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 1000-4-5: 4 kV 1.2/50 $\mu$ 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 hr) at 25...40 °C and 95% relative humidity according to IEC 68-2-30 and IEC 68-2-3
Vibration Resistance	4 g in three axes at 10...500 Hz, test FC according to IEC 68-2-6
Shock Resistance	50 g according to IEC 68-2-27
Protection Class	Enclosure:IP 40 IP 30 (Single-function) Terminal:IP 20 according to IEC 947-1
Weight	100 g
Approval	UL, C-UL
Ambient Temperature	Open: -25...+60 °C Enclosed: -25...+45 °C Storage: -40...+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 <sup>2</sup> ...2 x 2.5 mm <sup>2</sup> (solid) or stranded 2 x 2.5 mm <sup>2</sup> (flexible with sleeve), #20...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	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

• See Performance Data.



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

Temp. Code T4A  
2A 32VDC MAX.

**Mounting:** Product shall be installed in an enclosure constructed in accordance with the requirements of EN50021.