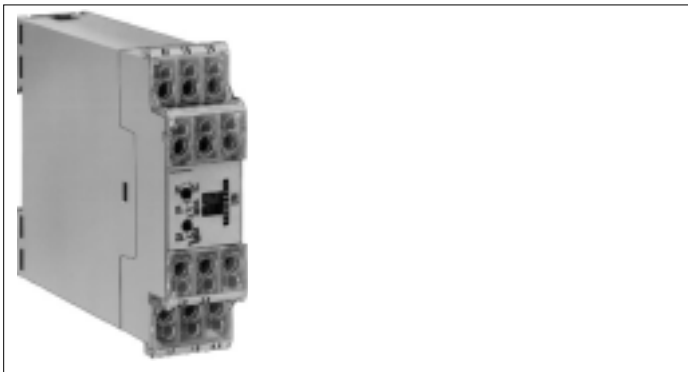


Time control technique

Fleeting action timer MK 9989, adjustable minitimer

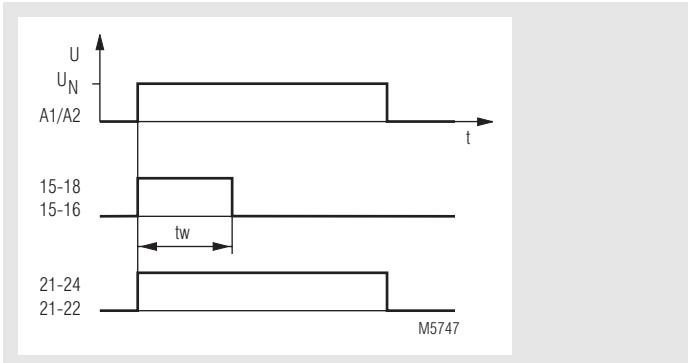


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- According to IEC/EN 61 812-1
- Fleeting make
- Fleeting time up to 300 s or on request
- Repeat accuracy $< \pm 0,5 \%$
- Setting on absolute scale
- Available as 2-voltage version
- LED displays for availability and contact position
- 2 fleeting make or
1 fleeting make and 1 non-delayed changeover contact
- Also available with instantaneous contact
- Also available with CSA approval
- Width 22,5 mm

Function diagram



Approvals and marking



* see Variants

Applications

Time-dependent circuits

Indicators

upper LED: on, when supply connected
lower LED: on, when output relay active

Technical data

Time circuit

Time ranges: 0,05 ... 1 s 1,5 ... 30 s
0,15 ... 3 s 5 ... 100 s
0,5 ... 10 s 15 ... 300 s
Other time ranges on request
Stepless on absolute scale

Time setting:
Recovery time
tw 50 / 100: < 40 ms
Repeat accuracy: $< \pm 0,5 \%$ of full-scale value
Voltage influence: $\leq 1 \%$
Temperature influence: $\pm 0,1 \%$ / K

Input

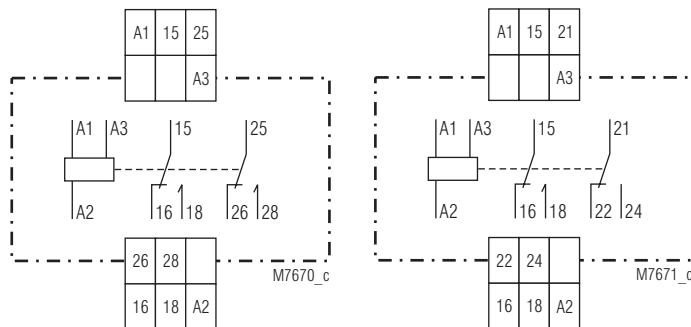
Nominal voltage U_N : AC/DC 24 V¹⁾ + AC 110 ... 127 V²⁾
AC/DC 24 V¹⁾ + AC 230 ... 240 V²⁾
¹⁾ at terminals A3 - A2
²⁾ at terminals A1 - A2
also available single voltage version:
AC/DC 12 V, AC/DC 42 ... 48 V
Voltage range: AC 0,8 ... 1,1 U_N
DC 0,9 ... 1,25 U_N
Release voltage: 15 % U_N
Nominal power consumption: AC 230 V DC 24 V DC 42 V
8,5 VA 1 W 1 W
Nominal frequency: 50 / 60 Hz
Frequency range: $\pm 5 \%$ f_N
Permissible residual current: 5 mA

Output

Contacts
MK 9989: 2 fleeting make (changeover contacts)
MK 9989.77: 1 fleeting make (changeover contact)
1 non-delayed changeover contact
5 A

Thermal current I_{th} :
Switching capacity
to AC 15:
NO contact: 3 A / AC 230 V IEC/EN 60 947-5-1
NC contact: 2 A / AC 230 V IEC/EN 60 947-5-1

Circuit diagrams



MK 9989

MK 9989.77

Technical data

Electrical life	IEC/EN 60 947-5-1
to AC 15 at 3 A, AC 230 V:	5 x 10 ⁵ switching cycles
Permissible switching frequency:	6 000 switching cycles / h
Short-circuit strength	
max. fuse rating:	6 A gL IEC/EN 60 947-5-1
Mechanical life:	> 30 x 10 ⁶ switching cycles

General data

Operating mode:	Continuous operating
Temperature range:	- 20 ... + 60 °C
Clearance and creepage distances	
overvoltage category / contamination level:	4 kV / 2 IEC 60 664-1
EMC	
Electrostatic discharge:	8 kV (air) IEC/EN 61 000-4-2
HF irradiation:	10 V/m IEC/EN 61 000-4-3
Fast transients:	4 kV IEC/EN 61 000-4-4
Surge voltages between	
wires for power supply:	2 kV IEC/EN 61 000-4-5
between wire and ground:	4 kV IEC/EN 61 000-4-5
HF-wire guided:	10 V IEC/EN 61 000-4-6
Interference suppression:	Limit value class B EN 55 011
Degree of protection:	Housing: IP 40 IEC/EN 60 529
	Terminals: IP 20 IEC/EN 60 529
Housing:	Thermoplastic with V0 behaviour according to UL Subject 94
Vibration resistance:	Amplitude 0,35 mm, frequency 10 ... 55 Hz, IEC/EN 60 068-2-6
Climate resistance:	20 / 060 / 04 IEC/EN 60 068-1
Terminal designation:	EN 50 005
Wire connection:	2 x 1,5 mm ² solid or 2 x 1,0 mm ² stranded wire with sleeve DIN 46 228-1/-2/-3/-4
Wire fixing:	Flat terminals with self-lifting clamping piece IEC/EN 60 999-1
Mounting:	DIN rail IEC/EN 60 715
Weight:	140 g

Dimensions

Width x height x depth: 22,5 x 82 x 99 mm

Standard type

MK 9989	AC/DC 24 V + AC 220 ... 240 V	50/60Hz	10 s
Article number:	0044947		stock item
• Output:	2 fleeting make (changeover contacts)		
• Nominal voltage U _N :	AC/DC 24 V + AC 220 ... 240 V		
• Time range:	0,5 ... 10 s		
• Width:	22,5 mm		

Variant

MK 9989. __ / 60: with CSA version

Ordering example for variant

MK 9989 .77 / __ AC/DC 24 V + AC 230 ... 240 V 50 / 60 Hz 30 s

