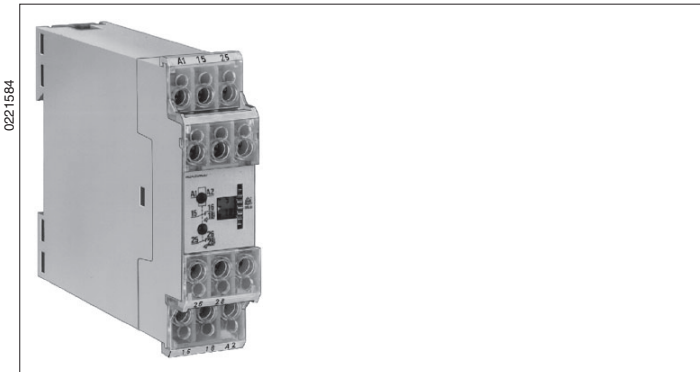


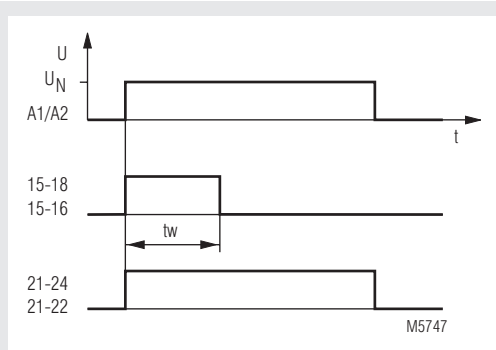
MINITIMER

Fleeting Action Timer, adjustable MK 9989



- 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



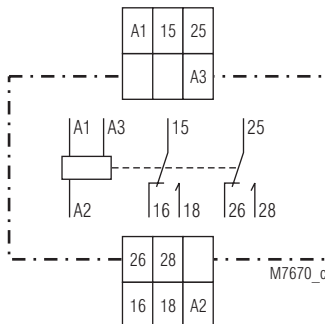
Applications

Time-dependent circuits

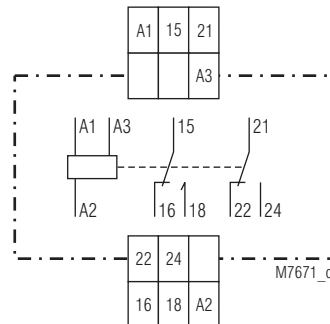
Indicators

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

Circuit Diagrams



MK 9989



MK 9989.77

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

Technical Data

Output

Contacts

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

Thermal current I_{th} :

5 A

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

Electrical life

to AC 15 at 3 A, AC 230 V: 5 x 10⁵ switching cycles IEC/EN 60 947-5-1

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 10⁶ switching cycles

General Data

Operating mode:

Continuous operating

Temperature range:

- 20 ... + 60 °C

Clearance and creepage distances

rated impuls voltage /

pollution degree: 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 mm² solid or
2 x 1.0 mm² 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

Ordering example

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

