

Time Control Technique

MINITIMER
Timer, Off-delay
MK 9962

Translation
of the original instructions



Your Advantages

- Easy operation
- Easy fault diagnostics by LEDs for control and contact position

Features

- OFF-delay relay with control signal according to EN 61812-1
- Time delay up to 100 h
- Repeat accuracy $\leq \pm 1\%$
- Dual voltage supply
- Control by voltage free contact
- 2 LED displays for control and contact position
- 2 changeover contacts
- Width 22.5 mm

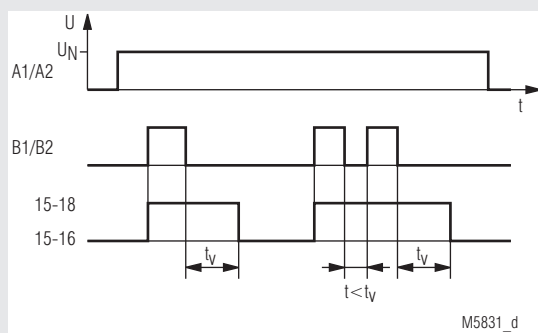
Product Description

The MK 9962 of the MINITIMER series is a release-delayed time relay with control signal. When the control signal is activated, the relay picks up and the output contact is closed. When the control signal is removed, the time lapse begins. After the time has elapsed, the relay switches back to the rest position. The delay time can be set easily and over a wide adjustment range via a stepless rotary switch.

Approvals and Markings



Function Diagram



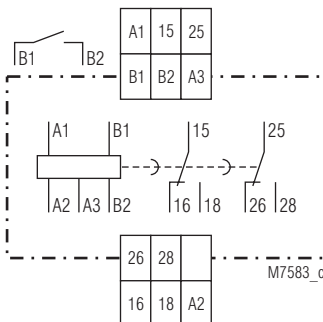
Applications

Time-dependent controllers

Indication

Upper LED: On when control contact closed
Lower LED: On when output relay energized

Circuit Diagrams



Connection Terminals

Terminal designation	Signal description
A1, A2, A3	Operation voltage
B1, B2	Control input
15, 16, 18	Changeover contacts (output relay)
25, 26, 28	Changeover contacts (2 nd output relay)

Notes



Volt-free control at B1 - B2

The connection terminals of the control inputs B1 - B2 have no galvanic isolation to A1 - A2 - A3 and are electrically connected to them. They must therefore be controlled with volt-free contacts! Depending on the level of the operating voltage at A1 - A2 - A3, these contacts must have appropriate isolation!

Technical Data

Time Circuit

Time ranges:

0.05 ... 1 s	0.5 ... 10 min.	0.15 ... 3 h
0.15 ... 3 s	1.5 ... 30 min.	0.5 ... 10 h
0.5 ... 10 s	3 ... 60 min.	1.5 ... 30 h
1.5 ... 30 s		5 ... 100 h
5 ... 100 s		
15 ... 300 s		

Time setting:	Stepless on absolute scale
Min. switch-on time:	20 ms
Repeat accuracy:	$\leq \pm 1\%$ of set value
Voltage influence:	$\leq \pm 0.5\%$
Temperature influence:	$< \pm 0.1\%$ / K
Recovery time:	Approx. 5 ms

Input

Nominal voltage U_N : AC/DC 24 V¹⁾ + AC 220 ... 240 V²⁾

¹⁾ at terminals A3 - A2

²⁾ at terminals A1 - A2

Voltage range: 0.8 ... 1.1 U_N at AC

Nominal power consumption: AC 24 V 0.8 VA

AC 230 V 7 VA

AC 240 V 8 VA

DC 24 V 0.8 W

Nominal frequency: 50 / 60 Hz

Frequency range: $\pm 5\%$ f_N

Output

Contacts: 2 delayed changeover contacts

Contact material: AgSnO₂

Measured nominal voltage: AC 250 V

Thermal current I_{th} : 5 A

Switching capacity
to AC 15

NC contact: 1 A / AC 230 V IEC/EN 60947-5-1

NO contact: 3 A / AC 230 V IEC/EN 60947-5-1

Electrical life

at 5 A, AC 230 V cos φ : 5×10^5 switching cycles

Permissible operating frequency: 6000 switching cycles / h

Short circuit strength

max. fuse rating: 6 A gG / gL IEC/EN 60947-5-1

Mechanical life: 30×10^6 switching cycles

General Data

Operating mode: Continuous operation

Temperature range

Operation: -20 ... +60 °C

Storage: -20 ... +60 °C

Altitude: ≤ 2000 m

Clearance and creepage distances

Rated impulse voltage /
pollution degree

Aux. voltage A1/A2 and

control input B1/B2 to

contact 15, 16, 18 and

contact 25, 26, 28:

4 kV / 2 IEC 60664-1

Overvoltage category:

III

Insulation test voltage,

type test:

2,5 kV; 1 min

EMC

Electrostatic discharge: 8 kV (air) IEC/EN 61000-4-2

HF irradiation

80 MHz ... 1 GHz: 10 V / m IEC/EN 61000-4-3

1 GHz ... 2 GHz: 3 V / m IEC/EN 61000-4-3

2 GHz ... 2.7 GHz: 1 V / m IEC/EN 61000-4-3

Fast transients: 2 kV IEC/EN 61000-4-4

Surge voltages

between

wires for power supply: 2 kV IEC/EN 61000-4-5

Between wire and ground: 4 kV IEC/EN 61000-4-5

Interference suppression: Limit value class B EN 55011

Technical Data

Degree of protection

Housing: IP 40 IEC/EN 60529

Terminals: IP 20 IEC/EN 60529

Housing: Thermoplastic with V0 behaviour
according to UL subject 94

Vibration resistance: Amplitude 0.35 mm,
frequency 10...55Hz IEC/EN 60068-2-6

20 / 060 / 04 IEC/EN 60068-1

Terminal arrangement: DIN 46199-5

Terminal designation: EN 50005

Wire connection: 2 x 1.5 mm² solid or
2 x 1.0 mm² stranded wire with sleeve
DIN 46228-1/-2/-3/-4

Wire fixing: Flat terminals with self-lifting
clamping piece IEC/EN 60999-1

Fixing torque: 0.4 Nm

Mounting: DIN rail IEC/EN 60715

Weight: 180 g

Dimensions

Width x height x depth: 22.5 x 82 x 99 mm

Standard Type

MK 9962 AC/DC 24 V + AC 220 ... 240 V 15 ... 300 s

Article number: 0044937

• Output: 2 changeover contacts

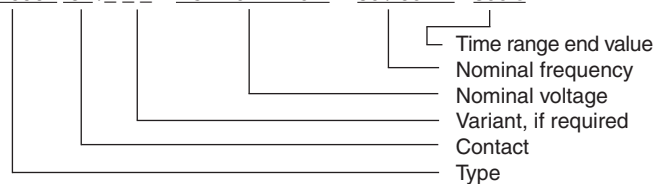
• Nominal voltage U_N : AC/DC 24 V + AC 220 ... 240 V

• Time range: 15 ... 300 s

• Width: 22.5 mm

Ordering Example

MK 9962 .82 / _ _ _ AC 220 ... 240 V 50 / 60 Hz 300 s



Accessories

ET 4752-143:

Marking plate for MK 9962

Article number: 0043203