

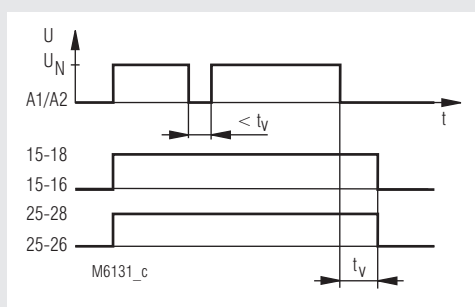
Time Control Technique

MINITIMER Timer, Release Delay MK 7873N



- According to IEC/EN 61 812-1
- Release delay, without control signal
- No-voltage safe
- Delay up to 300 s
- Repeat accuracy $\leq \pm 0.5 \%$
- No recovery time
- With large voltage range AC/DC 24 ... 240 V
- LED display for power supply
- 2 changeover contacts
- Wire connection: also 2 x 1.5 mm² stranded ferruled, or 2 x 2.5 mm² solid DIN 46 228-1/-2/-3/-4
- With pluggable terminal blocks for easy exchange of devices
 - With screw terminals
 - Or with cage clamp terminals
- Width 22.5 mm

Function Diagram



Approvals and Markings



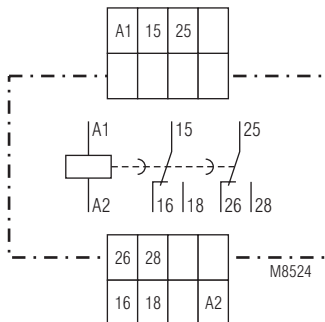
Application

Time dependent controls for industrial and railway applications.

Indicators

LED: on, when supply connected

Circuit Diagram



Connection Terminals

Terminal designation	Signal description
A1, A2	Operating voltage
15, 16, 18, 25, 26, 28	Changeover contacts

MK 7873N.82

Technical Data

Time circuit

Time ranges:	0.05 ... 1 s	0.15 ... 3 s
	0.5 ... 10 s	1.5 ... 30 s
	5 ... 100 s	15 ... 300 s

Time setting: stepless

Minimum switch-on time of the control input

for DC 24 V: 150 ms
for UC 220 V: 25 ms

Recovery time

tw 50 / 100: 0

Repeat accuracy: $\leq \pm 0.5\%$ of set value

Voltage influence: $\leq 0.5\%$

Temperature influence: $< 0.2\%$ / K

Input

Nominal voltage U_N :
(Operating voltage): AC/DC 24 ... 240 V
Voltage range: AC 19.2 ... 264 V
DC 21.6 ... 300 V

Nominal consumption

Effective power: 0.8 W

Frequency range: 45 ... 400 Hz

Release voltage: 10 V

Output

Contacts: 2 delayed changeover contacts

Contact material: AgSnO₂ + 0.2 µm Au

Measured nominal voltage: AC 250 V

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: 1 A / AC 230 V IEC/EN 60 947-5-1

to DC 13 at 0.1 Hz: 1 A / DC 24 V IEC/EN 60 947-5-1

Electrical life IEC/EN 60 947-5-1

at AC 230 V, 6 A, $\cos \varphi = 1$: 8×10^5 switching cycles

Permissible operating frequency:

for time ranges ≤ 10 s: 1 400 switching cycles / h

for time ranges ≥ 30 s: 700 switching cycles / h

Short circuit strength

max. fuse rating: 6 A gG / gL IEC/EN 60 947-5-1

Mechanical life: 30×10^6 switching cycles

General Data

Operating mode: Continuous operation

Temperature range:

Operation: - 20 ... + 60°C

Storage: - 25 ... + 60°C

Relative air humidity: 93 % at 40°C

Altitude: < 2,000 m

Clearance and creepage distances

rated impulse voltage / pollution degree: 4 kV / 2 (basis insulation) IEC 60 664-1

Overvoltage category: III

Insulation test voltage, type test: 2.5 kV; 1 min

EMC

Electrostatic discharge: 8 kV (air) IEC/EN 61 000-4-2

HF-irradiation

80 MHz ... 1 GHz: 12 V / m IEC/EN 61 000-4-3

1 GHz ... 2.7 GHz: 5 V / m IEC/EN 61 000-4-3

Fast transients IEC/EN 61 000-4-4

Surge voltages

between

wires for power supply: 1 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

20 / 060 / 04 IEC/EN 60 068-1

Climate resistance: EN 50 005

Terminal designation:

Technical Data

Wire connection

DIN 46 228-1/-2/-3/-4

Screw terminals

(integrated):

1 x 4 mm² solid or
1 x 2.5 mm² stranded ferruled or
2 x 1.5 mm² stranded ferruled or
2 x 2.5 mm² solid

Insulation of wires

or sleeve length: 8 mm

Plug in with screw terminals

max. cross section

for connection: 1 x 2.5 mm² solid or
1 x 2.5 mm² stranded ferruled

Insulation of wires

or sleeve length: 8 mm

Plug in with cage

clamp terminals

max. cross section

for connection: 1 x 4 mm² solid or
1 x 2.5 mm² stranded ferruled

min. cross section

for connection: 0.5 mm²

Insulation of wires

or sleeve length: 12 ^{+0.5} mm

Wire fixing:

Plus-minus terminal screws M 3.5
box terminals with wire protection or
cage clamp terminals

Fixing torque: 0.8 Nm

Mounting: DIN rail IEC/EN 60 715

Weight: 132 g

Dimensions

Width x height x depth:

MK 7873N: 22.5 x 90 x 97 mm

MK 7873N PC: 22.5 x 111 x 97 mm

MK 7873N PS: 22.5 x 104 x 97 mm

Classification to DIN EN 50155

Vibration and

shock resistance:

Category 1, Class B IEC/EN 61 373

Ambient temperature: T1 compliant

T2, T3 and TX with operational limitations

Protective coating of the PCB: No

UL-Data

Switching capacity:

Ambient temperature 60°C: Pilot duty B300

5A 250Vac G.P.

5A 24Vdc G.P.

Wire connection:

60°C / 75°C copper conductors only

Screw terminals fixed: AWG 20 - 12 Sol/Str Torque 0.8 Nm

Plug in screw: AWG 20 - 14 Sol Torque 0.8 Nm

AWG 20 - 16 Str Torque 0.8 Nm

Plug in cage clamp: AWG 20 - 12 Sol/Str



Technical data that is not stated in the UL-Data, can be found in the technical data section.

Standard Type

MK 7873N.82/61 AC/DC 24 ... 240V 1.5 ... 30 s

- Article number: 0054462
- Output: 2 changeover contacts
 - Nominal voltage U_N : AC/DC 24 ... 240 V
 - Time range: 1.5 ... 30 s
 - Width: 22.5 mm

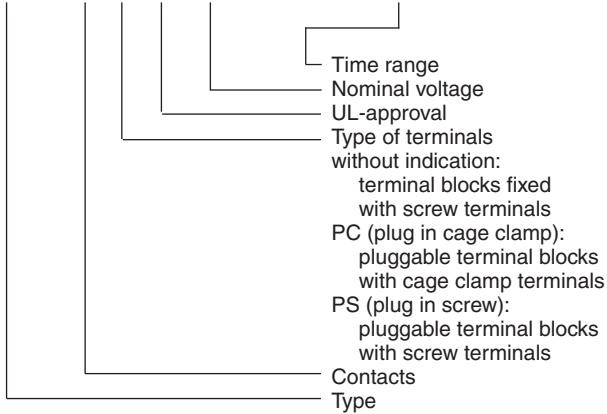
Variant

MK 7873N.82/300 AC/DC 24 ... 240 V 1.5 ... 30 min

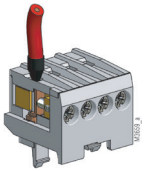
- Article number: 0060240
- Output: 2 changeover contacts
 - Nominal voltage U_N : AC/DC 24 ... 240 V
 - Time range: 1.5 ... 30 min
 - Width: 22.5 mm

Ordering Example

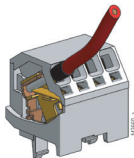
MK 7873N .82 _ _ /61 AC/DC 24 ... 240 V 5 ... 100 s



Options with Pluggable Terminal Blocks



Screw terminal
(PS/plugin screw)



Cage clamp
(PC/plugin cage clamp)

Notes

Removing the terminal blocks with cage clamp terminals

1. The unit has to be disconnected.
2. Insert a screwdriver in the side recess of the front plate.
3. Turn the screwdriver to the right and left.
4. Please note that the terminal blocks have to be mounted on the belonging plug in terminations.

