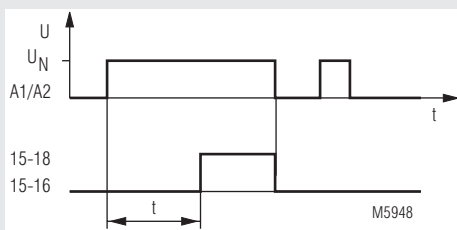


MINITIMER Time Relay With Operate Delay IK 7814, SK 7814



- According to IEC/EN 61 812-1
- 4 time ranges up to 640 min.
- Repeat accuracy $\leq 1\%$
- LED indicator for contact position
- 1 changeover contact
- Devices available in 2 enclosure versions:
 - IK 7814: depth 58 mm, with terminals at the bottom for installation systems and industrial distribution systems according to DIN 43 880
 - SK 7814: depth 98 mm, with terminals at the top for cabinets with mounting plate and cable ducts
- Width 17.5 mm

Function Diagram



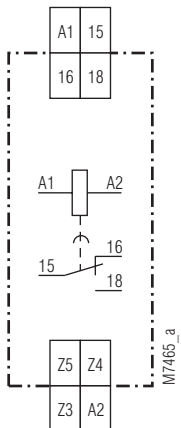
Approvals and Markings



Application

Time-based control equipment

Circuit Diagram



Indicator

LED: on when the output relay is activated (contact 15 - 18 is closed)

Notes

A change of the time setting is directly valid. If a time is changed during time elaps, the output relay may energise unintended.

The terminals Z3, Z4, Z5 are not galvanically separated to the terminals A1/A2!

Connection Terminals

Terminal designation	Signal designation
A1	L / +
A2	N / -
Z3, Z4, Z5	Control inputs for programming of the time ranges
15, 16, 18	Changeover contact

Technical Data

Time circuit

Time ranges: 4 time ranges can be programmed externally via the terminals Z3 - Z4 - Z5

Bridge Z3 Z4 Z5	Unit with second ranges	Unit with minute ranges
0 0—0	0.25 - 2.5 s	0.25 - 2.5 min
0—0	1 - 10 s	1 - 10 min
0—0—0	8 - 80 s	8 - 80 min
0 0 0	64 - 640 s	6 - 640 min

Time setting: Infinitely variable, on relative scale

Recovery time

tw 50 / 100: < 60 ms

Repeat accuracy:

0.1 %

Voltage influence:

≤ 1 % at 0.8 ... 1.1 U_N

Temperature influence:

0.05 % / K

Input

Nominal voltage U_N: AC/DC 12 V, AC/DC 24 V, AC 110 ... 127 V, AC 220 ... 240 V

Voltage range: 0.8 ... 1.1 U_N with AC and DC 48 % residual ripple
0.9 ... 1.25 U_N in battery operating mode

Release voltage: 15 % U_N

Nominal consumption: AC/DC 24 V 0.6 W

AC 230 V 50 Hz 3.5 VA

AC 240 V 50 Hz 4 VA

Nominal frequency: 50 / 60 Hz

Frequency range: ± 5 %

Output

Contacts: 1 changeover contact

Contact material: AgSnO₂

Measured nominal voltage: AC 250 V

Thermal current I_{th}: max. 10 A

(see quadratic total current limit curve)

Switching capacity

at AC 15

NO contact: 10 A / AC 230 V IEC/EN 60 947-5-1

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

Glow lamp load: 1200 W

Electrical life: IEC/EN 60 947-5-1

AC 15 at 3 A, AC 230 V: 5 x 10⁵ switching cycles

Permissible switching frequency:

6 000 switching cycles/h

Short circuit strength

max. fuse rating: 10 AgL IEC/EN 60 947-5-1

max. line circuit breaker: B16

Mechanical life: > 30 x 10⁶ switching cycles

General Data

Nominal operating mode: Continuous operation

Temperature range:

Operation: - 20 ... + 60°C

Storage: - 25 ... + 70°C

Relative air humidity: 95 % at 40 °C

Altitude: < 2.000 m

Clearance and creepage distances

Rated impulse voltage/pollution degree: 4 kV / 2 (base 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 61 000-4-3

HF irradiation

80 MHz ... 1 GHz: 10 V / m IEC/EN 61 000-4-3

1 GHz ... 2.5 GHz: 3 V / m IEC/EN 61 000-4-3

2.5 GHz ... 2.7 GHz: 1 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: 20 V IEC/EN 61 000-4-6

Interference suppression: Limit value class B EN 55 011

Technical Data

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 Subj. 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:

Terminal designation:

Wire connection: DIN 46 228-1/-2/-3/-4

Cross section: 2 x 2,5 mm² solid or 2 x 1,5 mm² stranded ferruled

Stripping length: 10 mm

Wire fixing: Flat terminals with self-lifting clamping piece IEC/EN 60 999-1

0.8 Nm IEC/EN 60 999-1

Mounting: DIN rail IEC/EN 60 715

Weight

IK 7814: 75 g

SK 7814: 94 g

Dimensions

Width x height x depth:

IK 7814: 17.5 x 90 x 58 mm

SK 7814: 17.5 x 90 x 98 mm

Standard type

IK 7814.81 AC 220 ... 240 V 0.25 ... 640 s

Article number: 0031959

• Output: 1 changeover contact

• Nominal voltage U_N: AC 220 ... 240 V

• Time range: 0.25 ... 640 s

• Width: 17.5 mm

SK 7814.81 AC 220 ... 240 V 0.25 ... 640 s

Article number: 0054739

• Output: 1 changeover contact

• Nominal voltage U_N: AC 220 ... 240 V

• Time range: 0.25 ... 640 s

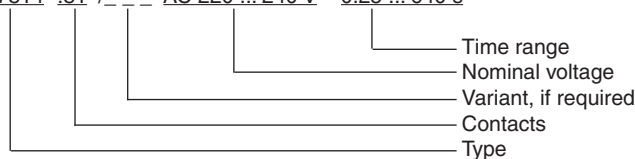
• Width: 17.5 mm

Variante

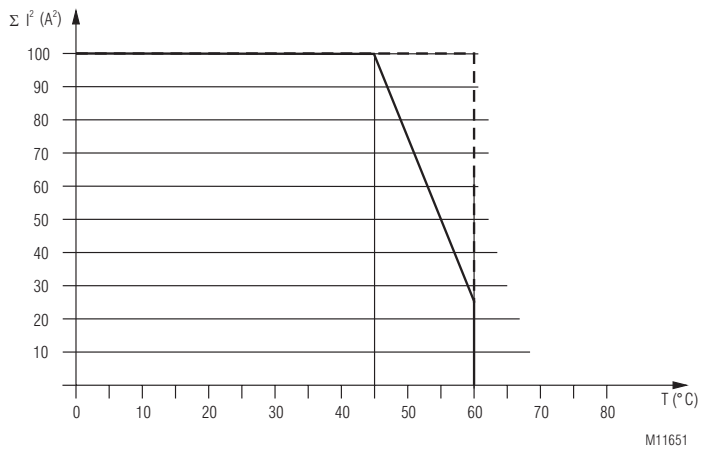
IK 7814.81/107: to be used in 3-phase voltage systems changeover control

Ordering example for variant

IK 7814 .81 / _ _ AC 220 ... 240 V 0.25 ... 640 s



Characteristic



--- device mounted away from heat generation components.

— device mounted without distance heated by devices with same load.

Quadratic total current limit curve

Connection Example

