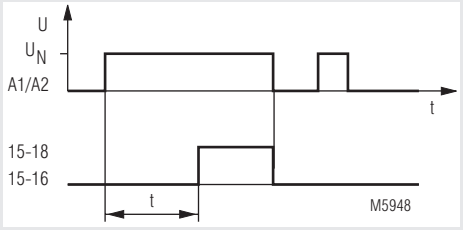
MINITIMER
Time Relay With Operate Delay
IK 7814, SK 7814

0222112

- According to IEC/EN 61 812-1
- 4 time ranges up to 640 min.
- Repeat accuracy ≤ 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



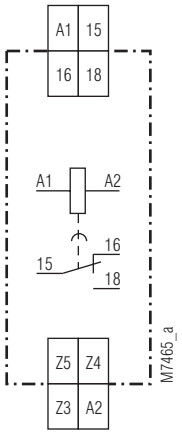
Approvals and Markings

CE

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: $AgSnO_2$
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 10^5 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 10^6 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
Climate resistance: 20 / 060 / 04 IEC/EN 60 068-1
Terminal designation: EN 50 005
Wire connection: DIN 46 228-1/-2/-3/-4
Cross section: 2 x 2,5 mm^2 solid or
2 x 1,5 mm^2 stranded ferruled
Stripping length: 10 mm
Wire fixing: Flat terminals with self-lifting clamping piece IEC/EN 60 999-1
Fixing torque: 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

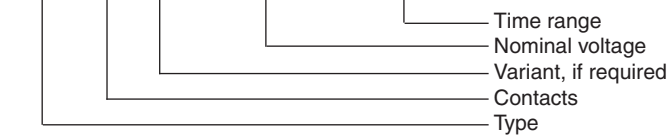
SK 7814.81 AC 220 ... 240 V 0.25 ... 640 s
Article number: 0054739
- Output 1 changeover contact
- Nominal voltage U_N: AC 220 ... 240 V
- Time range: 0.25 ... 640 s
- Width: 17.5 mm

Variante

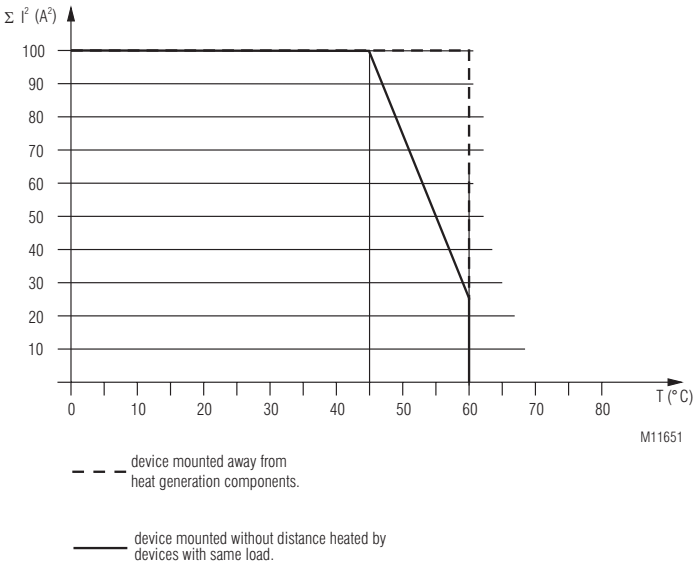
IK 7814.81/107: to be used in 3-phase voltage systems changeover control

Ordering example for variant

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



Characteristic



Quadratic total current limit curve

Connection Example