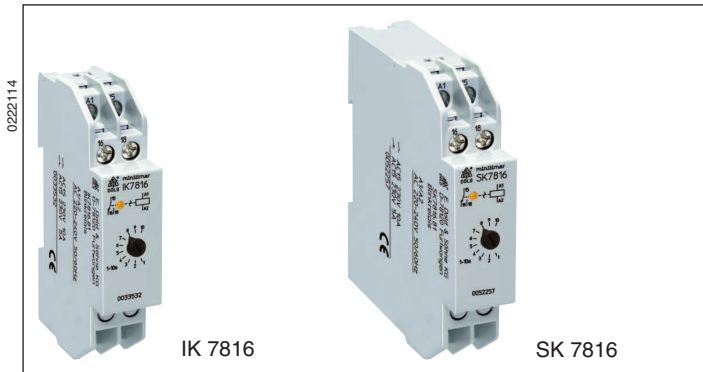
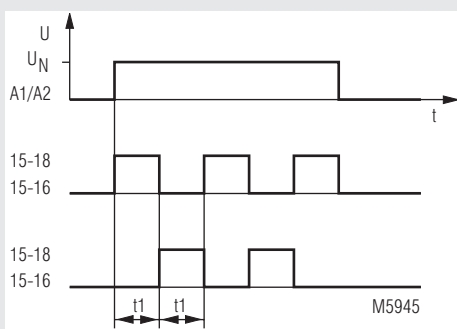


MINITIMER Flasher Relay IK 7816, SK 7816



- According to IEC/EN 61 812-1
- Pulse time up to 100 s
- Adjustable flashing time
- Repeat accuracy $\leq 1\%$
- Start with a pulse
- LED indicator for contact position
- 1 changeover contact
- Devices available in 2 enclosure versions:
 - IK 7816: depth 58 mm, with terminals at the bottom for installation systems and industrial distribution systems according to DIN 43 880
 - SK 7816: 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



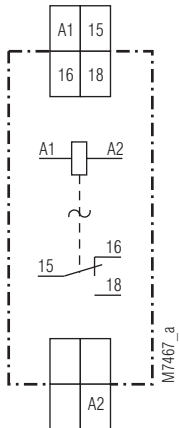
Application

Time-based control equipment

Indicator

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

Circuit Diagram



Notes

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

Connection Terminals

Terminal designation	Signal designation
A1	L / +
A2	N / -
15, 16, 18	Changeover contact

Technical Data

Time circuit

Time range:	0.1 ... 1 s = 300 ... 30 pulses/min
	0.3 ... 3 s
	1 ... 10 s
	3 ... 30 s
	10 ... 100 s
	1 ... 10 min
	3 ... 30 min
	6 ... 60 min

Pulse duty factor:

1 : 1

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
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 to 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 IEC/EN 60 947-5-1
Mechanical life:	> 30 x 10 ⁶ switching cycles

General Data

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 61 000-4-2
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:

EN 50 005

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

Fixing torque:

0.8 Nm

IEC/EN 60 999-1

Mounting:

DIN rail

IEC/EN 60 715

Weight

IK 7816: 75 g

SK 7816: 94 g

Dimensions

Width x height x depth

IK 7816: 17.5 x 90 x 58 mm

SK 7816: 17.5 x 90 x 98 mm

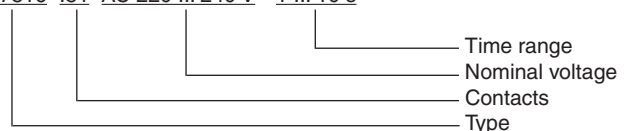
Standard Type

IK 7816.81 AC 220 ... 240 V	1 ... 10 s
Article number:	0033532
• Output:	1 changeover contact
• Nominal voltage U _N :	AC 220 ... 240 V
• Time range:	1 ... 10 s
• Width:	17.5 mm

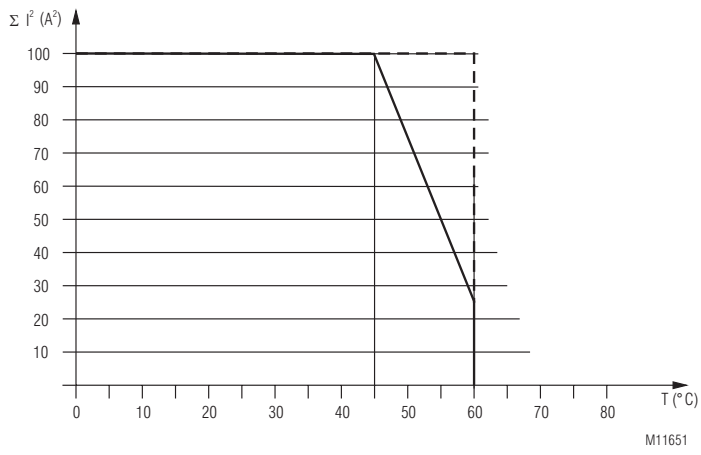
SK 7816.81 AC 220 ... 240 V	1 ... 10 s
Article number:	0052257
• Output:	1 changeover contact
• Nominal voltage U _N :	AC 220 ... 240 V
• Time range:	1 ... 10 s
• Width:	17.5 mm

Ordering Example

IK 7816 .81 AC 220 ... 240 V 1 ... 10 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

