

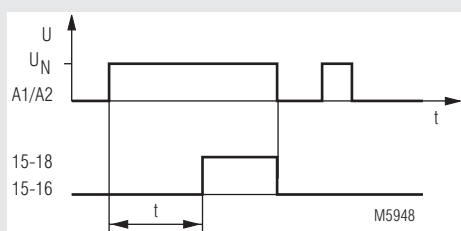
MINITIMER

Time Relay With Operate Delay
IK 7813, SK 7813



- According to IEC/EN 61 812-1
- 1 changeover contact
- Delay up to 60 min.
- Repeat accuracy $\leq 1\%$
- LED indicator for contact position
- Devices available in 2 enclosure versions:
 - IK 7813: depth 58 mm, with terminals at the bottom for installation systems and industrial distribution systems according to DIN 43 880
 - SK 7813: depth 98 mm, with terminals at the top for cabinets with mounting plate and cable ducts
- Width 17.5 mm

Function Diagram



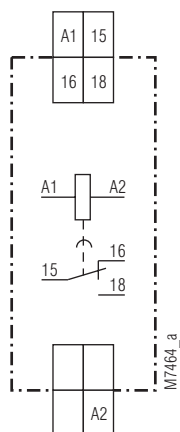
Approvals and Markings



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.

Connection Terminals

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

Technical Data	
Time circuit	
Time ranges:	0,1 ... 1 s 1 ... 10 min 0,3 ... 3 s 3 ... 30 min 1 ... 10 s 6 ... 60 min 3 ... 30 s 10 ... 100 s Infinitely variable, on relative scale
Time setting:	
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
Release time of the contacts:	< 20 ms
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
to AC 15 at 3 A, AC 230 V:	5 x 10 ⁵ switching cycles
Permissible switching frequency:	6000 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	
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:	12 V / m IEC/EN 61 000-4-3
1 GHz ... 2.7 GHz:	10 V / m IEC/EN 61 000-4-3
Fast transients:	4 kV IEC/EN 61 000-4-4
Surge voltage 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
Degree of protection	
Housing:	IP 40 IEC/EN 60 529
Terminals:	IP 20 IEC/EN 60 529

Technical Data	
Housing:	Thermoplastic with V0 behaviour according to UL Subj. 94
Vibration resistance:	Amplitude 0.35 mm IEC/EN 60 068-2-6 frequency 10 ... 55 Hz
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 7813:	75 g
SK 7813:	94 g

Dimensions	
Width x height x depth:	
IK 7813:	17.5 x 90 x 58 mm
SK 7813:	17.5 x 90 x 98 mm

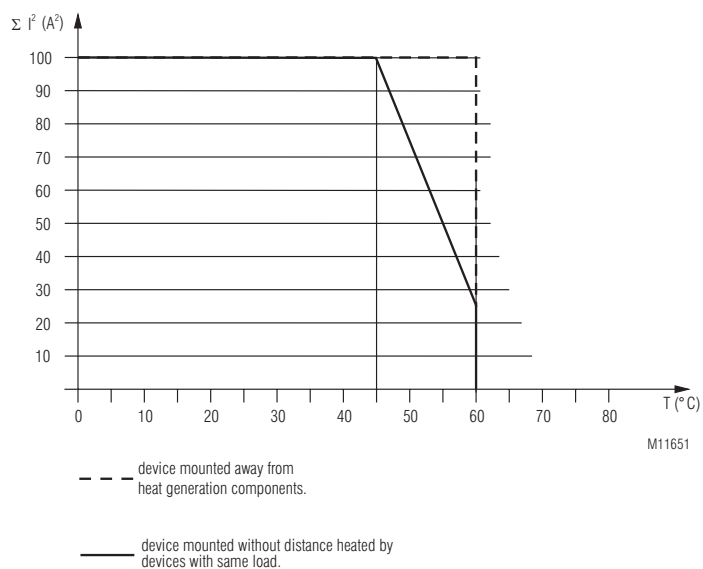
Standard Type	
IK 7813.81 AC 220 ... 240 V	0.1 ... 1 s
Article number:	0033628
• Output:	1 changeover contact
• Nominal voltage U _N :	AC 220 ... 240 V
• Time range:	0.1 ... 1 s
• Width:	17.5 mm
SK 7813.81 AC 220 ... 240 V	0.1 ... 1 s
Article number:	0054738
• Output:	1 changeover contact
• Nominal voltage U _N :	AC 220 ... 240 V
• Time range:	0.1 ... 1 s
• Width:	17.5 mm

Variant	
IK 7813.81/107:	with a time of 5 s or 0.4 s to be used in 3-phase voltage systems changeover control

Ordering example for variant

IK 7813 .81 / _ _ AC 220 ... 240 V 1 ... 10 s	
	Time range
	Nominal voltage
	Variant, if required
	Contacts
	Type

Characteristic



Quadratic total current limit curve

Connection Example

