MINITIMER
Timer, Off delayed
IK 9962, SK 9962

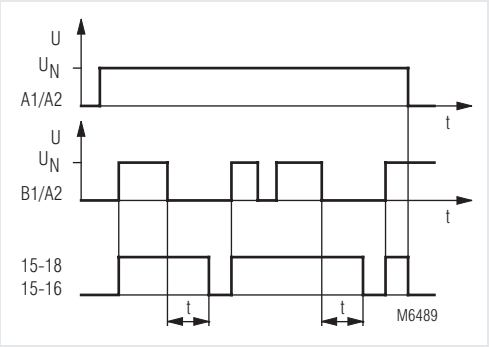
0239764


IK 9962

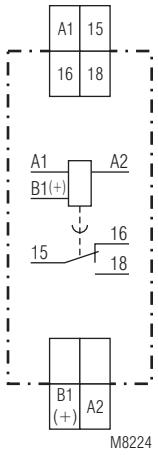

SK 9962

- According to IEC/EN 61 812-1
- 8 time ranges from 0.05 s to 300 h selectable via rotational switch
- With auxiliary supply
- Voltage range AC/DC 12 ... 240 V for auxiliary supply and control input
- No voltfree control contact necessary
- Adjustment aid for quick setting of long time values
- LED indicators for operation, contact position and time delay
- 1 changeover contact
- As option connnection of remote potentiometer 10 kΩ
- **Devices available in 2 enclosure versions:**
  IK 9962: depth 59 mm, with terminals at the bottom for installation systems and industrial distribution systems according to DIN 43 880
  SK 9962: depth 98 mm, with terminals at the top for cabinets with mounting plate and cable duct
- 17.5 mm width

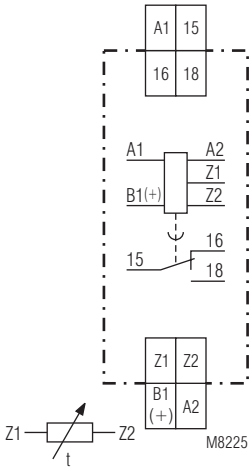
Function Diagram



Circuit Diagrams



IK 9962.81
SK 9962.81



IK 9962.81/300
SK 9962.81/300

Approvals and Marking

CE

Application

Time dependent controllers

Indicators

green LED:	on when auxiliary voltage connected
yellow LED "R/t":	shows status of output relay and time delay:
- LED off	output relay not active; no time delay
- LED continuously on	output relay active; no time delay (^= B1 input active)
- Flashing (long on, short off)	output relay active; time delay

Notes

Adjustment assistance
The flashing period of the yellow LED is 1 s ± 4% and can be used to adjust the time. Especially on the lower end of scale and for long times it is suitable as the multiplication factors between the different time ranges are exact without tolerance.
Example:
The required time is 40 min. It has to be adjusted within the range 3 ... 300 min. The time check takes too long as several timing cycles would be necessary for a precise value.

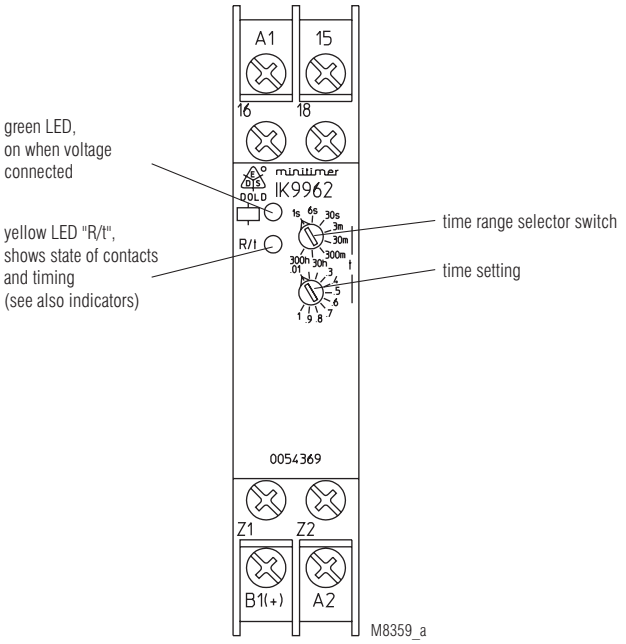
For faster adjustment the setting is made to 0.03 ... 3 min. On this range the potentiometer should be set to 0.4 min (= 24 sec). With the right potentiometer setting the LED must show 24 flashing cycles. After that the time range is switched over to 3 ... 300 min and the setting is complete.

Remote potentiometer
With the variant IK/SK 9962.81/300 the time setting can also be made via remote potentiometer of 10 kOhms. It is connected to the terminals Z1-Z2. The corresponding potentiometer on the relay has to be set to min. If no remote potentiometer is required the terminals Z1-Z2 have to be linked.
The wires to the remote potentiometer should be installed separately from the lines with mains voltage. If this is not possible, a screened cable is recommendet where the shield is connected to Z1.
To terminals Z1 and Z2 no external voltage must be connected, as the unit might be damaged.

Notes

Control input B1
The unit needs a continuously connected auxiliary supply on A1-A2. The timing is controlled via input B1. The control unit B1 (+ with DC) has to be supplied with voltage against A2. The control signal could be the same as the auxiliary/control voltage of A1 or any other voltage between 12 and 240 V AC or DC. Operating a parallel load (e. g. contactor) between B1 and A2 is allowed.

Setting



Technical Data

Time circuit

Time ranges:	8 time ranges settable via rotational switch:	
	0.05 ... 1 s	0.3 ... 30 min
	0.06 ... 6 s	3 ... 300 min
	0.3 ... 30 s	0.3 ... 30 h
	0.03 ... 3 min	3 ... 300 h
Time setting:	continuous, 1:100 on relative scale	
Minimum on time (B1):		
AC 50 Hz:	approx. 15 ms	
DC:	approx. 5 ms	
Repeat accuracy:	± 0.5 % of selected end of scale value + 20 ms	
Voltage and temperature influence:	≤ 1 % with the complete operating range	

Input

Auxiliary voltage U_H:	AC/DC 12 ... 240 V
Voltage range:	0.8 ... 1.1 U_N
Frequency range (AC):	45 ... 400 Hz
Nominal consumption	
at AC 12 V:	approx. 1.5 VA
at AC 24 V:	approx. 2 VA
at AC 240 V:	approx. 3 VA
at DC 12 V:	approx. 1 W
at DC 24 V:	approx. 1 W
at DC 240 V:	approx. 1 W
Release voltage (A1/A2)	
AC 50 Hz:	approx. 7.5 V
DC:	approx. 7 V
Control voltage (B1/A2):	AC/DC 12 ... 240 V
Voltage range (B1/A2):	0.8 ... 1.1 U_N
Control current (B1):	input resistance approx. 220 kΩ in series with diode
Release voltage (B1/A2)	
AC 50 Hz:	approx. 5 V
DC:	approx. 4 V

Technical Data

Output

Contacts		
IK/SK 9962.81:	1 changeover contact	
Thermal current I_{th}:	4 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:	1 A / DC 24 V	
Electrical life		
to AC 15 at 1 A, AC 230 V:	1.5 x 10^5 switching cycles	IEC/EN 60 947-5-1
Permissible switching frequency:	30 000 switching cycles / h	
Short circuit strength		
max. fuse rating:	4 A gL	IEC/EN 60 947-5-1
Mechanical life:	≥ 30 x 10^6 switching cycles	

General Data

Operating mode:	Continuous operation	
Temperature range:	- 40 ... + 60°C	
Clearance and creepage distances		
rated impuls voltage / pollution degree:	4 kV / 2	IEC 60 664-1
EMC		
Electrostatic discharge:	8 kV (air)	IEC/EN 61 000-4-2
Fast transients:	2 kV	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
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
Climate resistance:	40 / 060 / 04	IEC/EN 60 068-1
Terminal designation:	EN 50 005	
Wire connection:	2 x 2.5 mm² solid or 2 x 1.5 mm² stranded wire with sleeve DIN 46 288-1/-2/-3/-4	
Wire fixing:	Flat terminals with self-lifting clamping piece	IEC/EN 60 999-1
Mounting:	DIN rail	IEC/EN 60 715
Weight:		
IK 9962:	approx. 65 g	
SK 9962:	approx. 84 g	

Dimensions

Width x height x depth:	
IK 9962:	17.5 x 90 x 59 mm
SK 9962:	17.5 x 90 x 98 mm

Standard Type

IK 9962.81 AC/DC 12 ... 240 V 0.05 ... 300 h

Article number:	0054368
• Output:	1 changeover contact
• Auxiliary voltage U_H:	AC/DC 12 ... 240 V
• Time ranges:	0.05 ... 300 h
• Width:	17.5 mm

SK 9962.81 AC/DC 12 ... 240 V 0.05 ... 300 h

Article number:	
• Output:	1 changeover contact
• Auxiliary voltage U_H:	AC/DC 12 ... 240 V
• Time ranges:	0.05 ... 300 h
• Width:	17.5 mm

Variant

IK/SK 9962.81/300: Connection facility for a remote potentiometer 10 kΩ to adjust the time

Ordering example for variant

IK 9962 .81 /_ _ _ AC/DC 12 ... 240 V 0.05 s ... 300 h

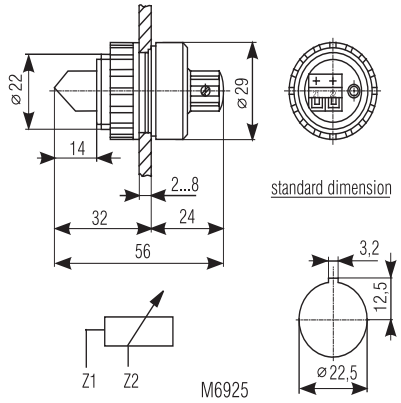
- Time range
- Auxiliary voltage
- Variant, if required
- Contacts
- Type

Accessories

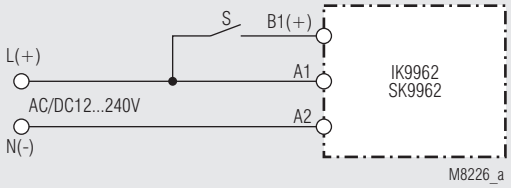
AD 3: External potentiometer 10 kΩ

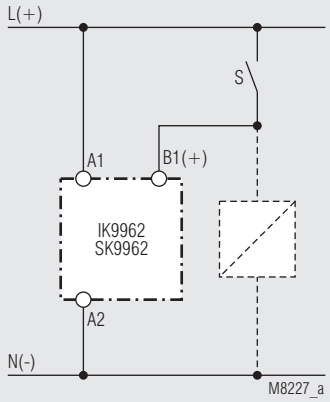
The external potentiometer is used for remote setting of the time delay. The internal potentiometer of the timer must be set to min. time delay.

Degree of protection front side: IP 60

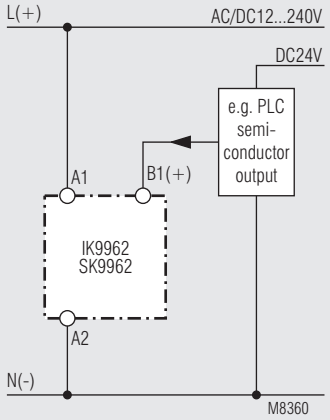


Connection Examples





Control with parallel connected load



Connection with 2 different control voltages