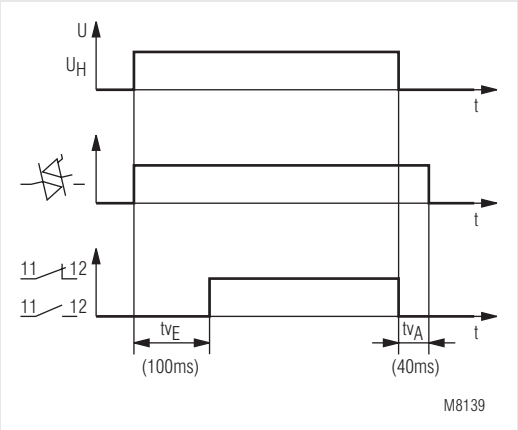
Hybrid Switching Relay
IK 3070/200

0242054

Your Advantages
- For loads with high inrush current
- Reliable switching of energysaving- and LED lamps
- High electrical life due to hybrid technology

Features
- According to IEC/EN 60 947-4-3
- Measured nominal current 20 A
- High electric life of >10^6 switching cycles at AC 15 10 A inductive
- Silent switching
- To switch resistive, inductive and capacitive loads
- Switching at zero-crossing
- 1 NO contact
- 17.5 mm width

Function Diagram



Approvals and Marking

CE

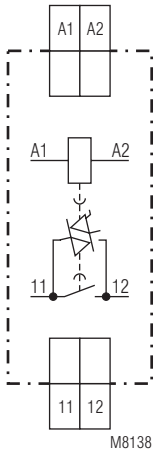
Applications

The hybrid power relay is designed to switch high inductive or capacitive loads, e.g. energy saving and LED lamps.
Other applications are in heating, air conditioning and lighting systems.

Function

The hybrid switching relay contains an output relay with parallel connected triac, when switching the triac takes the load. The continous current is then lead over the relay contact due to the higher losses on the triac.
As the triac only switches off at zero-crossing, the device can only switch AC-loads.

Circuit Diagram



Indication

LED on, when power supply connected

Technical Data

Input

Nominal voltage U_N:	AC/DC 24 V AC 110 ... 127 V, 220 ... 240 V
Frequency range:	50 / 60 Hz
Voltage range	
at AC:	± 10 %
at DC:	- 10 %; + 25 %

Output

Type of output:	relay with parallel connected triac
Contact:	1 NO contact
Load voltage range:	AC 24 ... 265 V
Frequency range:	50 / 60 Hz
Leakage current in off-state:	≤ 0.5 mA
Measured nominal current 20 A:	AC-51 1.25 x Ie - 60 s : 50-30 (at 45 °C ambient temperature)
Thermal current I_{th}:	16 A (also at 60 °C ambient temperature)
Switching capacity	
to AC 15, 10 A inductive	
switch on:	100 A, cos φ 0.3
switch off:	10 A, cos φ 0.3
fluorescent lamp load with electronic ballast unit (EVG):	60 x 58 W 1 row, with 10 µF compensation 30 x 58 W 2 rows, with 22 µF compensation
parallel compensation:	48 x 58 W 1 row, with 7 µF compensation
Switching current:	190 A 20 ms
Semiconductor fuse:	180 A^2s 10 ms (protection for triac)
Varistor voltage:	AC 275 V
Electrical life	
to AC 15 at 10 A, AC 230 V:	≥ 10^6 switching cycles IEC/EN 60 947-5-1
Short circuit strength	
max. short circuit current:	300 A IEC/EN 60 947-5-1
max. automatic fuse:	B 16 A
Permissible switching frequency:	max. 3600 switching cycles / h
Mechanical life:	≥ 30 x 10^6 switching cycles

General Data

Nominal operating mode:	Continuous operation
Temperature range:	- 20 ... +60 °C
Clearance and creepage distances	
rated impulse voltage / pollution degree:	4 kV / 2 IEC 60 664-1
EMC	
Electrostatic discharge:	8 kV (air) IEC/EN 61 000-4-2
HF-irradiation:	10 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:	10 V IEC/EN 61 000-4-6
Interference suppression:	Limit value class B EN 55011
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:	20 / 60 / 03 IEC/EN 60 068-1

Technical Data

Terminal designation:	EN 50 005
Wire connection:	2 x 2.5 mm^2 solid or 2 x 1.5 mm^2 stranded ferruled DIN 46 228-1/-2/-3
Wire fixing:	Flat terminals with self-lifting clamping piece IEC/EN 60 999-1
Mounting:	DIN rail IEC/EN 60 715
Weight:	
IK 3070/200:	70 g
SK 3070/200:	90 g

Dimensions

Width x height x depth:	
IK 3070/200:	17.5 x 90 x 58 mm
SK 3070/200:	17.5 x 90 x 98 mm

Standard Type

IK 3070.01/200 AC 220 ... 240 V 50 / 60 Hz

Article number:	0054593
• Output:	1 NO contact
• Nominal voltage U_N:	AC 220 ... 240 V
• Width:	17.5 mm

Ordering Example

IK 3070 .01 /200 AC/DC 24 V 50 / 60 Hz

- 50 / 60 Hz — Nominal frequency
- AC/DC 24 V — Nominal voltage
- .01 — Contact
- IK 3070 — Type