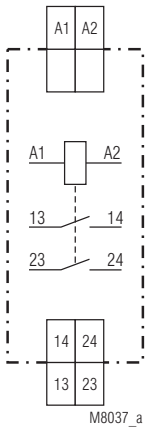
Interface Relay
Input-Output Interface Relay
IK 3070

0222633

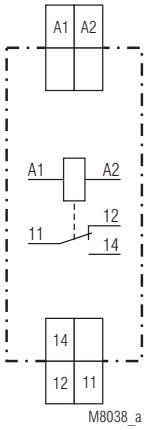


- According to IEC/EN 60 947-5-1
- Relay, triac or transistor output
- Protective separation according to IEC/EN 61 140, IEC/EN 60 947-1 on devices with relay output (only at IK 3070.02 /_0_, IK 3070.11 /_0_)
- LED as operating position display
- Optionally input wiring with recovery diode or MOV
- As option with semiconductor output
  - for high switching frequency
  - input protection with varistor
- Width 17.5 mm

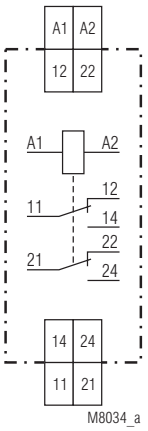
Circuit Diagrams



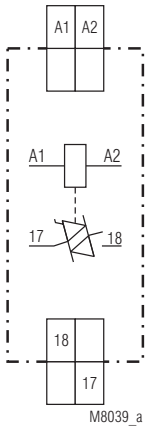
IK 3070.02



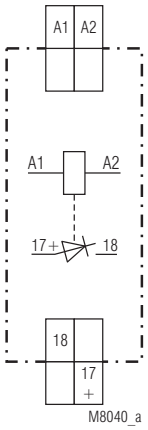
IK 3070.11



IK 3070.12



IK 3070.91



IK 3070.95

Approvals and Markings

CE

Applications

- Link between the control and the power level
- For separating potentials

Indicators

green LED: on, when supply connected

Connection Terminals

Terminal designation	Signal description
A1, A2	Operating voltage
11 ... 24	Output contacts see circuit diagrams

All technical data in this list relate to the state at the moment of edition. We reserve the right for technical improvements and changes at any time.

Technical Data

Input for Interface Relay with Relay Output

Nominal voltage U_N:	DC 24 V AC 230 V
Voltage range:	DC 0.9 ... 1.2 U_N AC 0.8 ... 1.1 U_N
Nominal consumption:	DC approx. 0.5 W AC approx. 0.9 W

Input for Interface Relay with Semiconductor Output

Nominal voltage U_N:	DC 24 V	AC 230V
Voltage range:	DC 18 ... 30 V	AC 0.8 ... 1.1 U_N
Input current:	approx. 10 mA	approx. 10 mA
Power consumption:	approx. 0.25 W	approx. 2.5 VA
Nominal frequency:	-	50 / 60 Hz
Frequency range:	-	± 5 %
Protection:	Varistor	Varistor

Relay Output

Contacts		
IK 3070.02:	2 NO contacts	
IK 3070.11:	1 changeover contact	
IK 3070.12:	2 changeover contacts	
Reaction time:	≤ 10 ms	
Release time:	≤ 15 ms	
Nominal switching voltage:	AC 250 V	
Nominal output voltage:	min. AC 8 V; max. AC 400 V	
Switching-on capacity:	min. 0.3 A max. 8 A or 2 x 5 A at the same time	
Thermal current I_{th}:	max. 8 A (see continuous current limit curve)	
IK 3070.12:	2 x 5 A	
Switching capacity		
for IK 3070.11		
to AC 15:	6 A / AC 230 V	IEC/EN 60 947-5-1
to DC 13:	2 A / DC 24 V	IEC/EN 60 947-5-1
for IK 3070.02		
to AC 15:	3 A / AC 230V	IEC/EN 60 947-5-1
to DC 13:	2 A / DC 24V	IEC/EN 60 947-5-1
for IK 3070.12		
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		
NO contact:	1 A / DC 24 V	IEC/EN 60 947-5-1
NC contact:	1 A / DC 24 V	IEC/EN 60 947-5-1
Electrical life		IEC/EN 60 947-5-1
to AC 15 at 3 A, AC 230 V:	≥ 2.5 x 10^5 switching cycles	
Permissible switching frequency:	max. 10 switching cycles / s	
Short circuit strength		
max. fuse rating:	10 A gG / gL	IEC/EN 60 947-5-1
IK 3070.12:	4 A gG / gL	IEC/EN 60 947-5-1
Mechanical life:	≥ 10 x 10^6 switching cycles	

Transistor Output for DC-Load (pay attention to polarity)

IK 3070.95:	1 Transistor
Nominal output voltage:	DC 24 V
Voltage range:	DC 0 ... 30 V
Switching current:	max 5 A (see diagram)
Pick-up time:	< 2 ms
Drop-out time:	< 18 ms
Max. overcurrent:	25 A, max. 5 s (not cyclic)
Residual voltage:	< 0.3 V
Residual current:	< 1 mA
Min. load current:	1 mA
Protection:	Varistor (tp = 2 ms 8.6 J)

Technical Data

Triac Output for AC-Load

IK 3070.91:	1 Triac
Nominal output voltage:	AC 230 V
Voltage range:	AC 12 ... 275 V
Switching current:	max. 3 A (see diagram)
Pick-up time:	< 12 ms
Drop-out time:	< 20 ms
Max. overcurrent:	25 A, max. 5 s (not cyclic)
Residual voltage:	< 1.1 V
Residual current:	< 1 mA
Min. load current:	50 mA
Protection:	Varistor (tp = 2 ms 8.6 J)

General Data

Operating mode:	Continuous operation	
Temperature range:		
Operation:	- 20 ... + 55 °C	
Storage:	- 20 ... + 55 °C	
Altitude:	< 2,000 m	
Clearance and creepage distances		
Rated insulation voltage:	300 V	
Overvoltage category:	III	
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 80 MHz ... 2,7 GHz		
Variants with relay output:	10 V / m	IEC/EN 61 000-4-3
Variants with semiconductor outputs:	3 V / m	IEC/EN 61 000-4-3
Fast transients:	2 kV	IEC/EN 61 000-4-3
Surge voltages		
between		
wires for power supply:	1 kV	IEC/EN 61 000-4-5
between wire and ground:	2 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 55 011
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 / 055 / 04	IEC/EN 60 068-1
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/-4	
Stripping length:	10 mm	
Wire fixing:	vis de serrage cruciformes imperdables M3,5; bornes en caisson avec protection du conducteur. Fonction selon IEC 60 999-1	
Fixing torque:	0.8 Nm	
Mounting:	DIN rail	IEC/EN 60 715
Weight:	68 g	

Dimensions

Width x height x depth:	17.5 x 90 x 58 mm

Standard Type

IK 3070.02/002 DC 24 V
Article number: 0045093

- Output:2 NO contacts
- Nominal voltage U_N:DC 24 V
- With operating position display (LED)
- Width: 17.5 mm

Variants*

IK 3070._ _ / 0 0 _

Input circuit
- 0 Standard
- 1 with MOV
- 2 with LED as operating position display
- 8 with recovery diode for DC version
- A with MOV and recovery diode DC version
- B with MOV and LED as operating position display
- C with LED as operating position display and recovery diode DC version
- D with MOV, LED as operating position display and recovery diode DC version

Contacts
- 02 2 NO contacts
- 11 1 changeover contact
- 12 2 changeover contacts (only variants with MOV possible)
- 91 1 NO contact semiconductor triac only with /001 or /00B
- 92 1 NO contact semiconductor transistor only with /001 or /00B

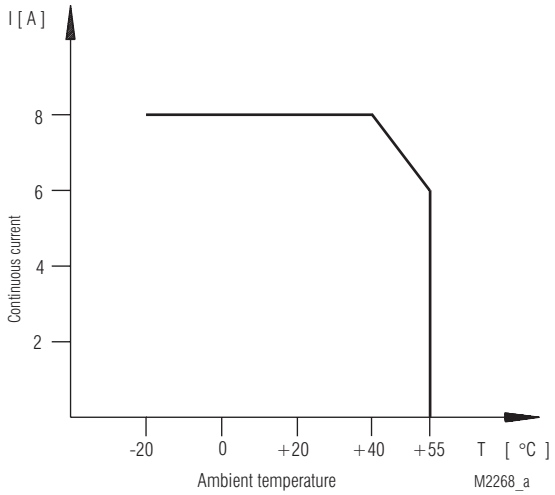
* on request

Ordering example for variants

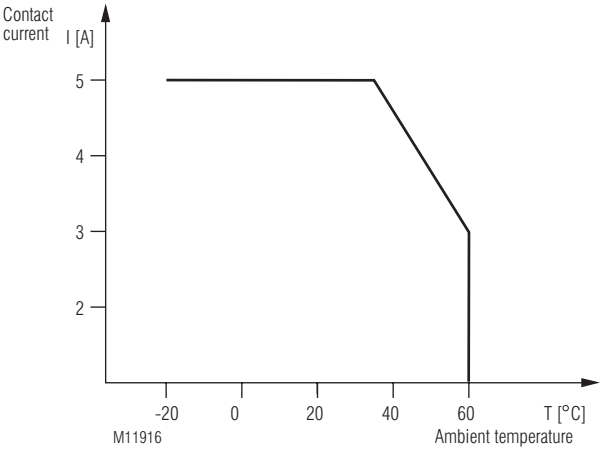
IK 3070 .12 /_ _ _ DC 24 V

- DC 24 V: Nominal voltage
- /_ _ _: Variant, if required
- .12: Contact
- IK 3070: Type

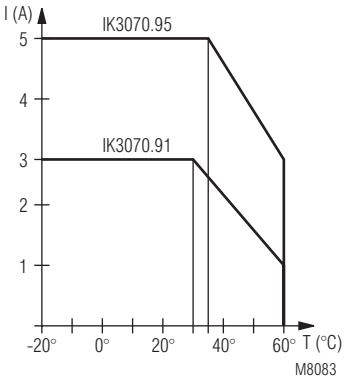
Characteristics



Continuous current limit curve for IK 3070.02, IK 3070.11



Continuous current limit curve for IK 3070.12



Continuous current limit curve for IK 3070.95, IK 3070.91