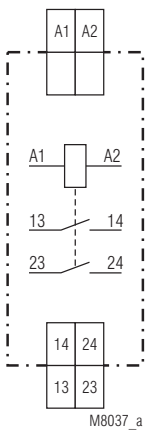


## Interface Relay Input-Output Interface Relay IK 3070

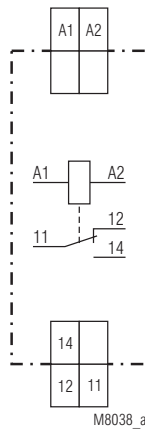


- According to IEC/EN 60 947-5-1
- Relay, triac or transistor output
- Protective separation according to IEC/EN 61 140, IEC/EN 60 947-1 on devices with relay output (only at IK 3070.02 / \_0\_, IK 3070.11 / \_0\_)
- LED as operating position display
- Optionally input wiring with recovery diode or MOV
- As option with semiconductor output
  - for high switching frequency
  - input protection with varistor
- Width 17.5 mm

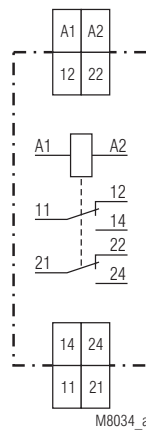
### Circuit Diagrams



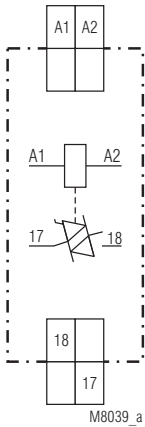
IK 3070.02



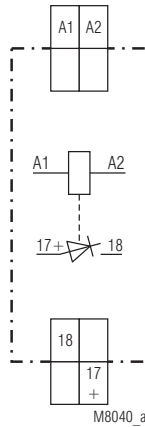
IK 3070.11



IK 3070.12



IK 3070.91



IK 3070.95

### Approvals and Markings



### 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

**Technical Data****Input for Interface Relay with Relay Output**

<b>Nominal voltage <math>U_N</math>:</b>	DC 24 V AC 230 V
<b>Voltage range:</b>	DC 0.9 ... 1.2 $U_N$ AC 0.8 ... 1.1 $U_N$
<b>Nominal consumption:</b>	DC approx. 0.5 W AC approx. 0.9 W

**Input for Interface Relay with Semiconductor Output**

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

**Relay Output****Contacts**

IK 3070.02:	2 NO contacts	
IK 3070.11:	1 changeover contact	
IK 3070.12:	2 changeover contacts	
<b>Reaction time:</b>	$\leq 10$ ms	
<b>Release time:</b>	$\leq 15$ ms	
<b>Nominal switching voltage:</b>	AC 250 V	
<b>Nominal output voltage:</b>	min. AC 8 V; max. AC 400 V	
<b>Switching-on capacity:</b>	min. 0.3 A max. 8 A or 2 x 5 A at the same time max. 8 A (see continuous current limit curve) 2 x 5 A	

**Thermal current  $I_{th}$ :**

IK 3070.12:		
<b>Switching capacity</b>		
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
<b>Electrical life</b>	IEC/EN 60 947-5-1	
to AC 15 at 3 A, AC 230 V:	$\geq 2.5 \times 10^5$ switching cycles	
<b>Permissible switching frequency:</b>	max. 10 switching cycles / s	
<b>Short circuit strength</b>		
<b>max. fuse rating:</b>	10 A gG / gL	IEC/EN 60 947-5-1
IK 3070.12:	4 A gG / gL	IEC/EN 60 947-5-1
<b>Mechanical life:</b>	$\geq 10 \times 10^6$ switching cycles	

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

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

**Technical Data****Triac Output for AC-Load**

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

**General Data**

<b>Operating mode:</b>	Continuous operation	
<b>Temperature range:</b>		
Operation:	- 20 ... + 55 °C	
Storage:	- 20 ... + 55 °C	
Altitude:	$< 2,000$ m	
<b>Clearance and creepage distances</b>		
Rated insulation voltage:	300 V	
Overvoltage category:	III	
Rated impulse voltage / pollution degree:	4 kV / 2	IEC 60 664-1
<b>EMC</b>		
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
<b>Degree of protection</b>		
Housing:	IP 40	IEC/EN 60 529
Terminals:	IP 20	IEC/EN 60 529
<b>Housing:</b>	Thermoplastic with V0 behaviour according to UL subject 94	
<b>Vibration resistance:</b>	Amplitude 0.35 mm IEC/EN 60 068-2-6 frequency 10 ... 55 Hz	
<b>Climate resistance:</b>	20 / 055 / 04	IEC/EN 60 068-1
<b>Terminal designation:</b>	EN 50 005	
<b>Wire connection:</b>	2 x 2.5 mm <sup>2</sup> solid or 2 x 1.5 mm <sup>2</sup> stranded ferruled DIN 46 228-1/-2/-3/-4	
<b>Stripping length:</b>	10 mm	
<b>Wire fixing:</b>	vis de serrage cruciformes imperdables M3,5; bornes en caisson avec protection du conducteur. Fonction selon IEC 60 999-1	
<b>Fixing torque:</b>	0.8 Nm	
<b>Mounting:</b>	DIN rail	IEC/EN 60 715
<b>Weight:</b>	68 g	

**Dimensions**

<b>Width x height x depth:</b>	17.5 x 90 x 58 mm
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### 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

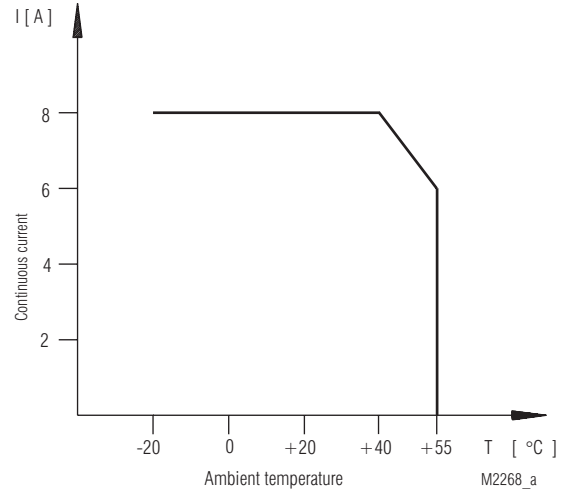
\* on request

### Ordering example for variants

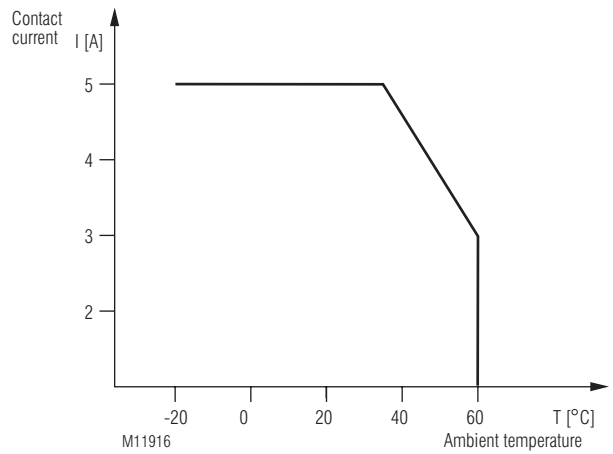
IK 3070 .12 / \_ \_ DC 24 V

- Nominal voltage
- Variant, if required
- Contact
- Type

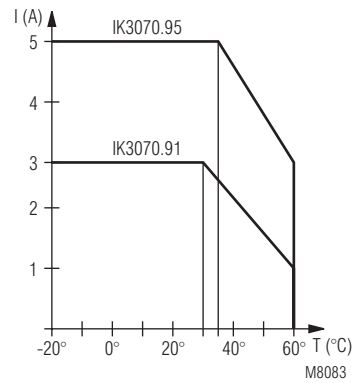
### Characteristics



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

