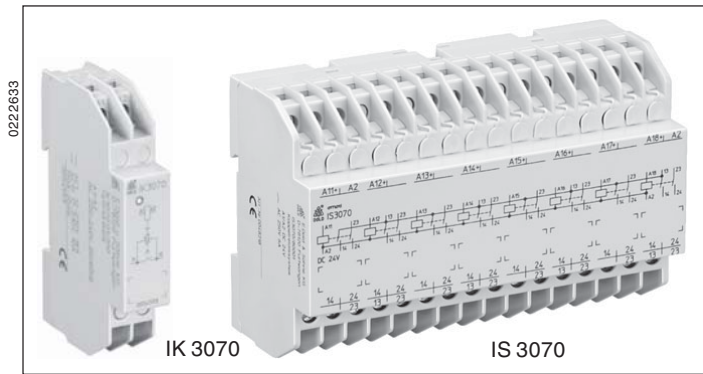
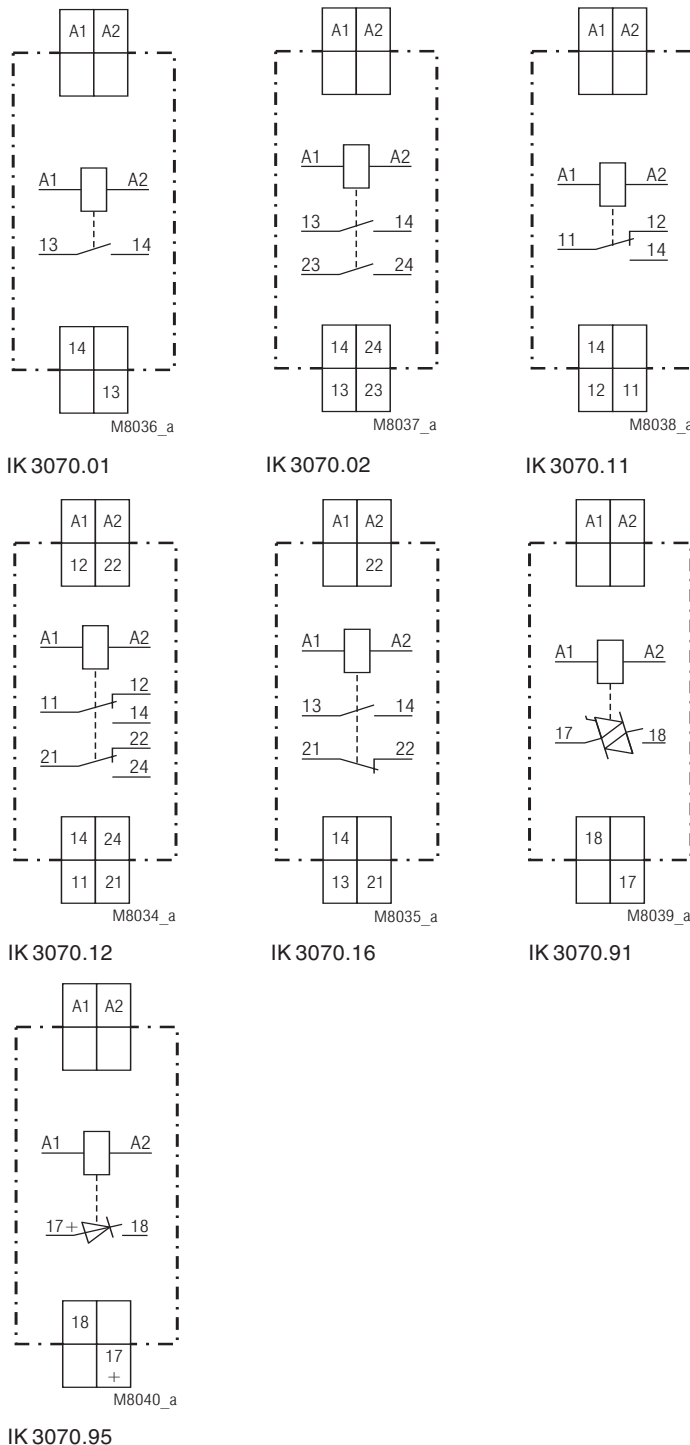




- According to IEC/EN 61 810-1
- Relay, triac or transistor output
- Protective separation according to IEC/EN 61 140, IEC/EN 60 947-1 on devices with relay output (only at IK 3070.01 / _0_, IK 3070.02 / _0_, IK 3070.11 / _0_)
 - LED as operating position display
 - Optionally input wiring with recovery diode or MOV
 - Optionally for small switching currents
 - Optionally with positive guided contacts
 - As option with 3-position test switch: Auto, Off, Manual/Sensor control (+ 24 V)
 - As option with semiconductor output
 - for high switching frequency
 - input protection with varistor
 - Optionally interface relay system to reduce the amount of wiring
- IK 3070: width 17,5 mm
- IS 3070: width 140 mm

Circuit diagrams



Approvals and marking



Applications

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

Indicators

green LED: on, when supply connected

Technical data

Input for Interface relay with relay output

Nominal voltage U_N:	DC 24 V	AC 230 V
	Other nominal voltages available on request	
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:		$\pm 5 \%$
Protection:	Varistor	Varistor

Relay output

Contacts

IK 3070.01:	1 NO contact
IK 3070.02:	2 NO contacts
IK 3070.11:	1 changeover contact
IK 3070.12:	2 changeover contacts
IK 3070.16:	1 NO, 1 NC contact
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

Technical data			
Thermal current I_{th}:	max. 8 A (see continuous current limit curve)		
IK 3070.12, IK 3070.16:	2 x 5 A		
Switching capacity for IK 3070.01; 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; IK 3070.16:			
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 to AC 15 at 3 A, AC 230 V:	$\geq 2,5 \times 10^5$ switching cycles		
Permissible switching frequency:	max. 10 switching cycles / s		
Short circuit strength max. fuse rating:	10 A gL	IEC/EN 60 947-5-1	
IK 3070.12, IK 3070.16:	4 A gL	IEC/EN 60 947-5-1	
Mechanical life:	$\geq 50 \times 10^6$		

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)

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:	- 20 ... + 55 °C		
Clearance and creepage distances overvoltage category / contamination level:	4 kV / 2	IEC 60 664-1	
Rated surge voltage:	5 kV with MOV	DIN VDE 0435-303	
Variants with relay output:	1 kV without MOV		
Variants with semiconductor outputs:	1 kV without MOV		
EMC Electrostatic discharge:	8 kV (air)	IEC/EN 61 000-4-2	
HF irradiation			
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:	4 kV	IEC/EN 61 000-4-3	
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 55 011	

Technical data			
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 IEC/EN 60 068-2-6 frequency 10 ... 55 Hz		
Climate resistance:	Humid heat	IEC/EN 60 068-2-30	
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		
Wire fixing:	Flat terminals with self-lifting clamping piece IEC/EN 60 999-1 DIN rail IEC/EN 60 715		
Mounting:			
Weight IK 3070:	68 g		
IS 3070:	520 g		
Dimensions			
Width x height x depth: IK 3070:	17,5 x 90 x 58 mm		
IS 3070:	140 x 90 x 58 mm		

Standard type			
IK 3070.02/002 DC 24 V			
Article number:	0045093	stock item	
• Output:	2 NO contacts		
• Nominal voltage U_N :	DC 24 V		
• With operating position display (LED)			
• Width:	17,5 mm		

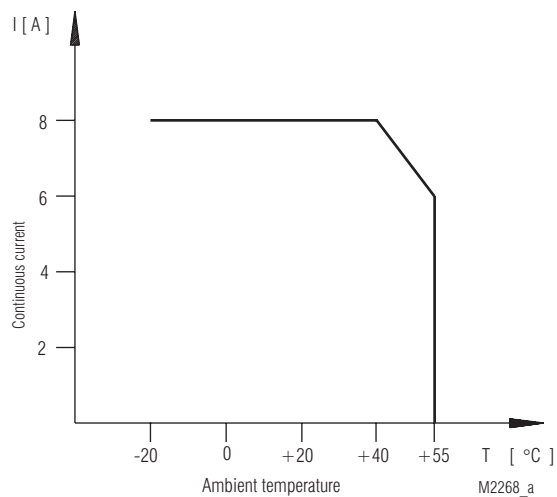
Variants*	
IK 3070. _ _ / _ _ _ _	
Input circuit	
0	Standard
1	with MOV
2	with LED as operating position display
8	with recovery diode for DC version
A	with MOV and recovery diode DC version
B	with MOV and LED as operating position display
C	with LED as operating position display and recovery diode DC version
D	with MOV, LED as operating position display and recovery diode DC version
Additional functions	
0	Standard
1	positive guided contacts at IK 3070.02, IK 3070.12, IK 3070.16
2	with test switch at IK 3070.01, IK 3070.11
Contacts	
0	Standard
1	for small loads (0,3 ... 60 V, 1 ... 300 mA)
01	1 NO contact
02	2 NO contacts
11	1 changeover contact
12	2 changeover contacts (only variants with MOV possible)
16	1 NO, 1 NC contact (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

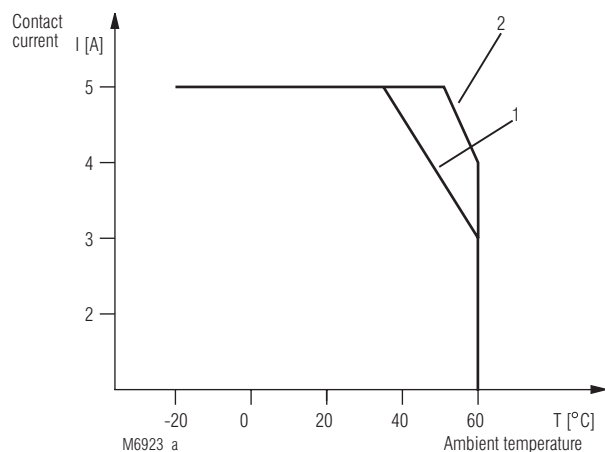
Ordering example for Variants

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

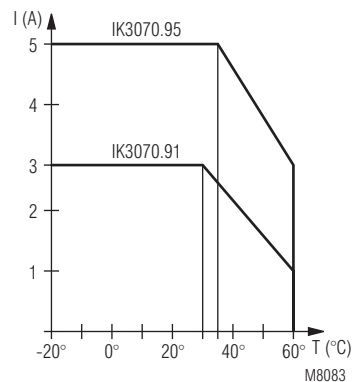
Characteristics



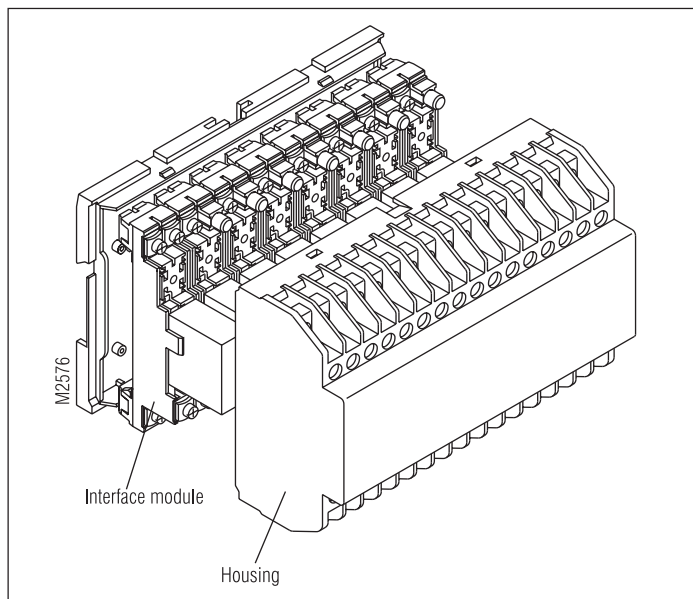
Continuous current limit curve for IK 3070.01, IK 3070.02, IK 3070.11



Continuous current limit curve for IK 3070.12, IK 3070.16



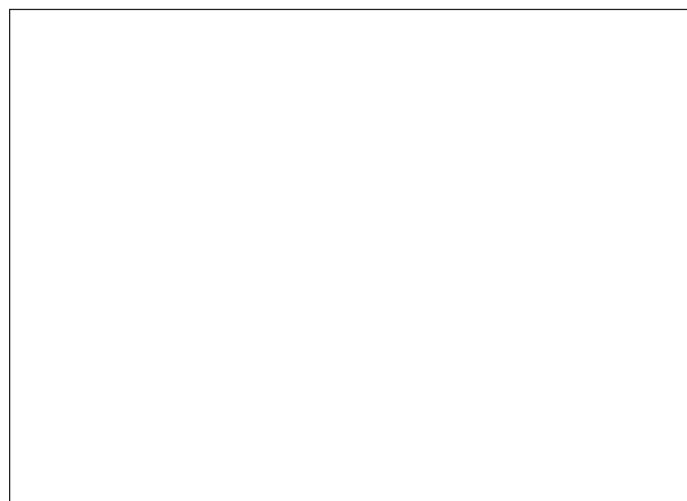
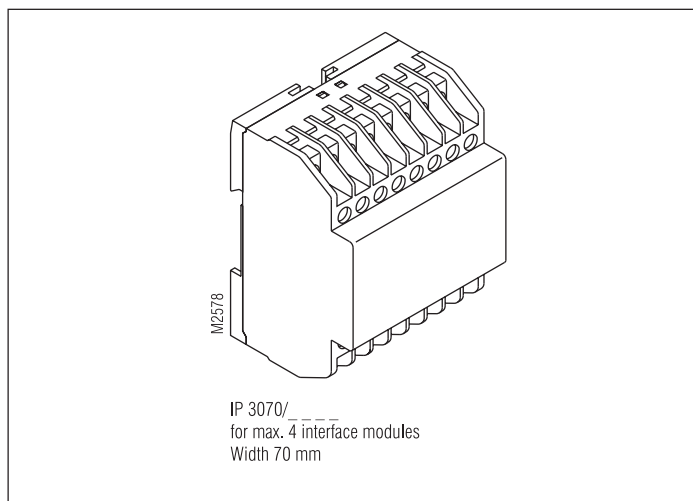
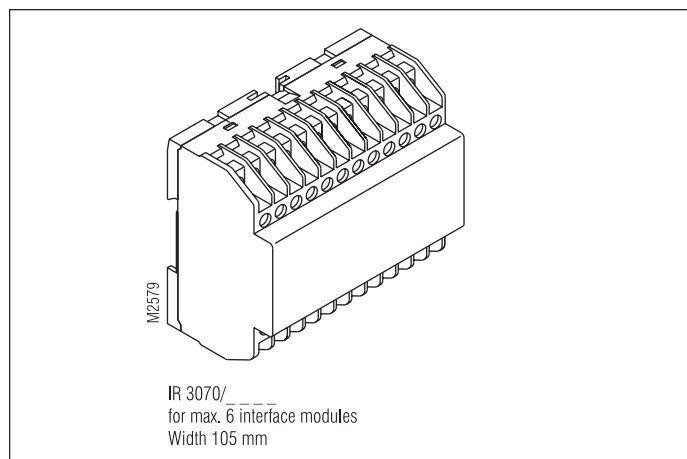
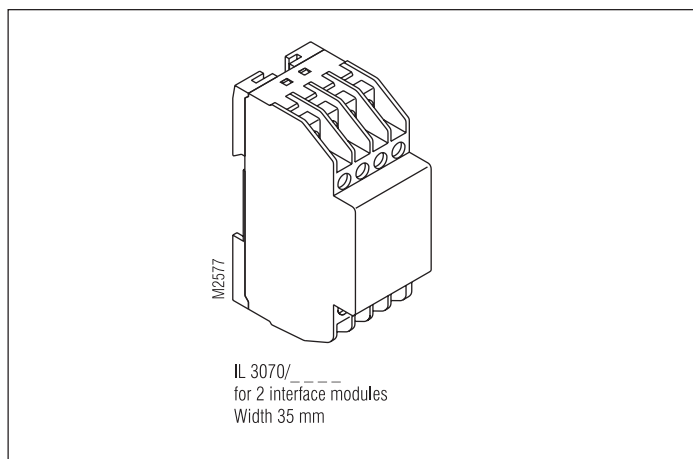
Continuous current limit curve for IK 3070.95, IK 3070.91



The interface relay system consists of a maximum of 8 interface modules that are accommodated in a housing. The product configuration can be chosen as required according to the different versions shown here. The purpose of the enquiry form below is to specify the required interface relay system.

Applications

To reduce the amount of wiring required for several interface relays.



Enquiry form for interface relay system I_ 3070

Production
type no.

I_ 3070 /

Consecutive number
Number of interface modules
Product type

Connection terminals

↓	Activation possibilities								Nominal voltage
A11									
A12									
A13									
A14									
A15									
A16									
A17									
A18									

Reference potential connections

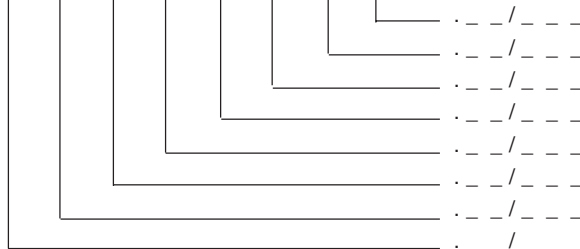
A21									
A22									
A23									
A24									
A25									
A26									
A27									
A28									

Modules

M2684

1	2	3	4	5	6	7	8
Type IL							
Type IP							
Type IR							
Type IS							

Version IK 3070



Further requests

(e.g. connections between output contacts):

.....
.....
.....
.....

Ordering example

Production
type no.

IS 3070 / 8 0 1 1 7

Consecutive number
Number of interface modules
Product type

Assignment:

A coupling relay system consisting of the following 8 coupling modules is required:

Module 1: for DC 24 V, 2 N.O. contacts without operating position display

Module 2: for DC 24 V, 2 N.O. contacts with MOV and positive guided contacts

Module 3: for DC 24 V, 1 N.O. contact with recovery diode

Module 4: for AC 230 V, 1 changeover contact with MOV and recovery diode

Module 5: for AC 230 V, 1 changeover contact without operating position display

Module 6: for DC 24 V, 1 N.O. contact with MOV and without operating position display

Module 7: for DC 24 V, 2 N.O. contacts, positive guided contacts, MOV and recovery diode

Module 8: for DC 24 V, 2 N.O. contacts, for small loads, MOV and recovery diode

Activation of modules 1 + 2 via A11

Activation of module 3 via A13

Activation of modules 4 + 5 via A14 AC 230 V

Activation of modules 6 + 7 + 8 via A16 DC 24 V

The (-) connections of the DC 24 V modules are to be made via a joint connection terminal (A21). A joint neutral conductor connection of the AC 230 V modules must be provided via a further connection terminal (A24).

Connection terminals

↓	Activation possibilities								Nominal voltage
A11	X	X							DC 24 V
A12									
A13			X						DC 24 V
A14				X	X				AC 230 V
A15									
A16						X	X	X	DC 24 V
A17									
A18									

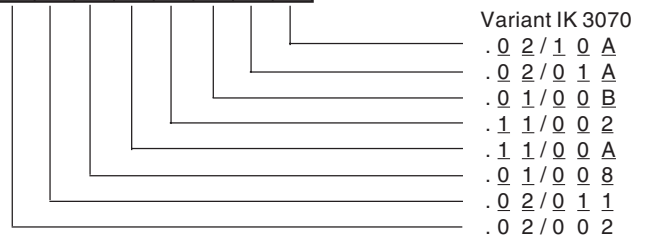
Reference potential connections

A21	X	X	X			X	X	X	DC 24 V
A22									
A23									
A24				X	X				N
A25									
A26									
A27									
A28									

Modules

M2685

1	2	3	4	5	6	7	8
Type IL							
Type IP							
Type IR							
Type IS							



Variant IK 3070

. 0 2 / 1 0 A
. 0 2 / 0 1 A
. 0 1 / 0 0 B
. 1 1 / 0 0 2
. 1 1 / 0 0 A
. 0 1 / 0 0 8
. 0 2 / 0 1 1
. 0 2 / 0 0 2

