Interface Module
UG 3091

0275155

Your Advantages
- Simple contact multiplication and reinforcement also for safety modules
- Cost and space saving alternative compared to contactors
- Easy monitoring of contact state via forcibly guided NC contacts

Features
- According to IEC/EN 60 947-5-1
- With partially forcibly guided contacts according to IEC 61810-3
- 10 output contacts
- As option with pluggable terminal block for easy exchange of devices - with screw terminals
- 22,5 mm Baubreite

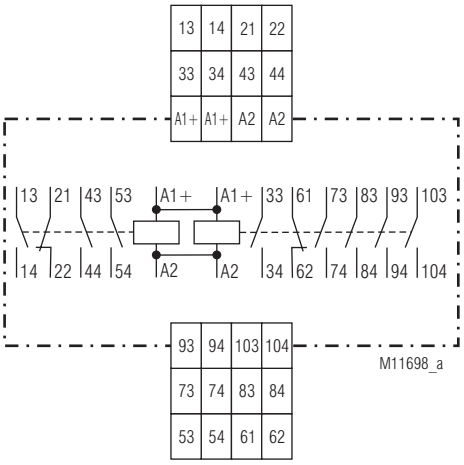
Product Description

The interface module UG 3091 provides 10 contacts in 2 relays with forcibly guided contacts. It is suitable for safe electrical separation of control and power levels as well as for contact multiplication and reinforcement of safety modules.

Approvals and Markings

CE

Circuit Diagram



Applications

- Interfacing between control and load circuits
- Contact multiplication and reinforcement
- separate switching of several current circuits, e. g. with
  - Machines and plants,
  - Energy production and transport

Indicator

green LED: on, when supply connected

Connection Terminals

Terminal designation	Signal description
A1+, A2	Hilfsspannung DC, 2-fach vorhanden, gepolt
33, 34; 73, 74; 83, 84; 93, 94; 103, 104	5 Schließerkontakte, Rel 1, zwangsgeführt
61, 62	1 Öffnerkontakt, Rel 1, zwangsgeführt
13, 14; 43, 44; 53, 54	3 Schließerkontakte, Rel 2 zwangsgeführt
21, 22	1 Öffnerkontakt, Rel 2, zwangsgeführt

Technical Data

Input

Nominal voltage U_N:	DC 24, 110 V (others on request)	
Voltage range:	0.8 ... 1.1 U_N	
Nominal consumption:	1.4 W	
Min. release time		
DC 24 V:	200 ms	
DC 110 V:	500 ms	

Output

Contacts:	8 NO and 2 NC contacts	
Contact type:	2 relays, forcibly guided	
Operate time:	typisch 12 ms	
Rückfallzeit:	typisch 35 ms	
Nominal output voltage:	AC 250 V, DC 24 V	
Thermal current I_{th}:	max. 4 A (see quadratic total current limit curve)	
Switching capacity		
to AC 15:		
NO contacts:	3 A / AC 230 V	IEC/EN 60 947-5-1
NC contacts:	2 A / AC 230 V	IEC/EN 60 947-5-1
nach DC 13:		
NO contacts:	2 A / DC 24 V	IEC/EN 60 947-5-1
NC contacts:	2 A / DC 24 V	IEC/EN 60 947-5-1
to DC 13:		
NO contacts:	4 A / DC 24 V at 0.1 Hz	IEC/EN 60 947-5-1
NC contacts:	4 A / DC 24 V at 0.1 Hz	IEC/EN 60 947-5-1
Electrical life		
at AC 230 V, 5 A, cos φ = 1:	2.2 x 10^6 switch. cycl.	IEC/EN 60 947-5-1
at DC 24 V, 5 A, ohmic:	1.5 x 10^6 switch. cycl.	IEC/EN 60 947-5-1
Permissible switching frequency:	10 switching cycles / s	
Switching voltage min./max.:	AC/DC 10 V / AC/DC 250 V	
Short circuit strength max. fuse rating:		
NO contact:	10 A gG / gL	IEC/EN 60 947-5-1
NC contact:	6 A gG / gL	IEC/EN 60 947-5-1
Mechanical life:	≥ 20 x 10^6 switching cycles	

General Data

Operating mode:	Continuous operation	
Temperature range:		
Operation:	- 20 ... + 60 °C (siehe Kennlinie)	
Storage:	- 40 ... + 70 °C	
Clearance and creepage distances		
Rated impulse voltage / pollution degree		
Auxiliary voltage / contacts:	6 kV / 2	IEC 60 664-1
Contacts / contacts:	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:	10 V / m	IEC/EN 61 000-4-3
Fast transients:	4 kV	IEC/EN 61 000-4-4
Surge voltage		
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 VO 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 / 060 / 04	IEC/EN 60 068-1
Terminal designation:	EN 50 005	
Wire connection:		DIN 46 228-1/-2/-3/-4
Plugin with screw terminals (PS)		
Cross section:	1 x 0.25 ... 2.5 mm² solid or stranded ferruled (isolated) or 2 x 0.25 ... 1.0 mm² solid or stranded ferruled (isolated)	

Technical Data

Insulation of wires		
or sleeve length:	7 mm	
Wire fixing:	captive slotted screw	
Fixing torque:	0.5 Nm	
Mounting:	DIN rail	IEC/EN 60 715
Weight:	approx. 210 g	

Dimensions

Width x height x depth:	
UG 3091 PS:	22.5 x 110 x 120.3 mm

Standard Type

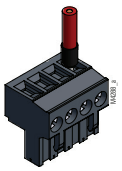
UG 3091.67PS DC 24 V	
Article number:	0067553
• Outputs:	8 NO, 2 NC
• Width:	22.5 mm

Variants

UG 3091 .67 _ _ / _ _ _ DC 24 V

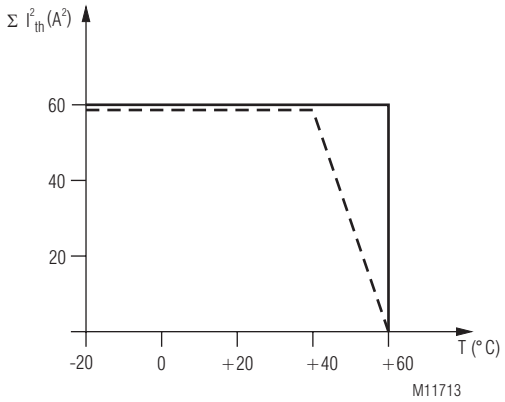
- DC 24 V: Nominal voltage
- _ _ _: Variant, if required
- _ _: Type of terminals
- .67: Contacts
  - PS (plugin screw): pluggable terminal blocks, with screw terminals
- UG 3091: Type

Option with Pluggable Terminal Block



Screw terminal
(PS/plugin screw)

Characteristic



——— Mounted with distance, with air circulation

– – – Mounted without distance, heated by units with similar load

Quadratic total current

$$\Sigma I^2_{th} = I^2_{th1} + \ldots + I^2_{th7} + \ldots + I^2_{th10}$$

$I_{th1 \ldots th10}$: thermal current in contactrows

Quadratic total current limit curve