

Technical data

Compliance with standards

IEC 947.5.1 - VDE 0660 - NFC 63140
IEC/EN 60947.5.1 - UTE - BSI - NEMA
CENELEC EN 50007

Approvals

cUL U.S. - RINA - CE - GOST R - Lloyd's Register of Shipping - Bureau
Veritas - Germanischer Lloyd

Climatic protections

The standard versions are suitable for use in the following climates:

Temperate climate	cat. 23/50 (DIN 50014)
Wet climate	cat. 23/83 (DIN 50015)
Hot wet climate	cat. 40/92 (DIN 50015)
Variable wet climate	FW24 (DIN 50016)

Temperature ranges

Operation	-30 °C to +70 °C
Storage	-40 °C to +70 °C

Protection degree of the operators

IP66 according to CENELEC EN 60529 when they are mounted into enclosures with the same or a higher degree of protection.

Suitable for using into enclosures type NEMA
1-3-3R-3S-4-4X-12-13 according to UL 508.

Protection degree of the terminals

IP2x according to CENELEC EN 60529.

Shock resistance (acc. to MIL 202 B method 202 A)

1/2 sinusoid 11 ms:

No damage or disassembling at 100 g for all devices, except for the illuminated operators with transformer 38 g.

Vibration resistance (according to IEC 68-2-6)

16 g with frequency range from 40 to 500 Hz and maximum shifting 0.75 mm (peak-to-peak).

Rated insulation voltage

690V according to EN 60947.1

Impulse withstand voltage

4 kV according to EN 60947.1

Insulation class

Groep C according VDE 0110

Electrical shocks protection (acc. IEC 536)

Metal operators	Class I
Plastic operators	Class II (double insulation)

Short-circuit protection

With fuses 16A gG according to IEC 269.1 and 269.3.

Performances of the contacts

- Slow acting
- Self-cleaning sliding
- NC forced breaking
- Double movable bridge
- Four switching points
- Double break

Electrical resistance of the contact

≤25 mΩ according to IEC 255, cat. 3

Identification of the terminals

According CENELEC EN 50013

Electrical performances

Rated thermal current I_{th} = 10 A

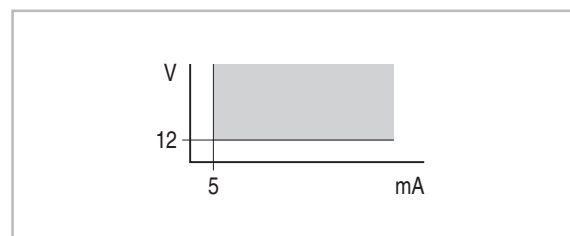
Performances according IEC 947.5.1

Categorie AC 15										
Voltage	Ue (V)	24	48	60	110	220	380	500	600	
Current	Ie (A)	10	10	10	6	3	2	1.5	1.2	
Categorie DC 13										
Voltage	Ue (V)	24	48	60	110	220	300			
Current	Ie (A)	2.5	1.4	1	0.55	0.27	0.2			

Performances according to CSA and UL

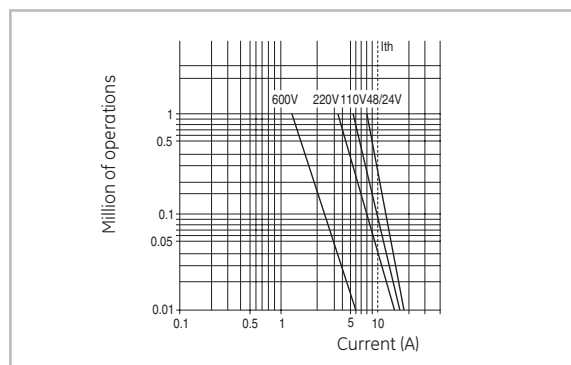
AC Heavy Duty	(A600)
DC Standard Duty	(Q300)

Operating range

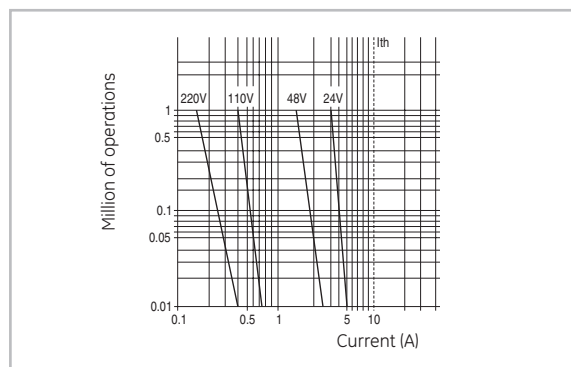


Electrical endurance

Alternative current 50/60 Hz cat. AC 15



Direct current cat. DC 13



Mechanical endurance

Locking emergency	
Mushroom head push-buttons 3 positions	0.3 Mil./op.
Illuminated mushroom head push-buttons 3 pos.	
Joysticks	
Key push-buttons	
Toggle switches	0.5 Mil./op.
Illuminated selector switches	
Push-on push-off device	
Standard selector switches	
Key selector switches	
Illuminated push-buttons	1 Mil./op.
Selector push-buttons	
Emergency lever	
Standard push-buttons	3 Mil./op.
Mushroom head push-buttons	

Rear panel modularity

The P9 series is composed with 10 mm or a multiple of 10 mm modular units, fitted side by side on a proper mounting flange. The standard operators are supplied with a three position flange with a capacity of 3 units of 10 mm or 1 of 10 mm and 1 of 20 mm or 1 of 30 mm.

When the three position flange is not enough to satisfy the applications needs, the five position flange is required to add two more units of 10 mm mounted side by side.

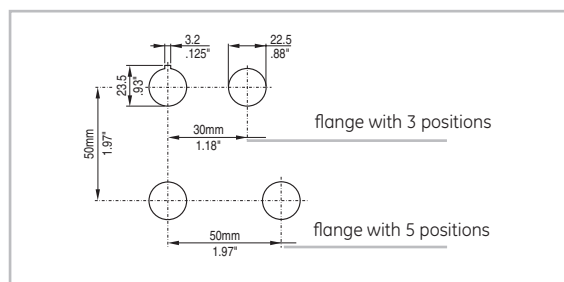
Using the five position flange take into account the bigger with (50 mm instead of 30 mm).

Number of electrical contacts

	Flange	
	standard 3 positions	optional 5 positions
Standard push-buttons		
Mushroom head push-buttons	max 6	max 8
Emergency lever		
Standard selectors	max 4	max 8
Key selector switches		
Joysticks		
Key push-buttons	max 4	-
Selector push-buttons		
Toggle switches		
Mushroom head with lock	max 4	-
Mushroom head push-buttons 3 pos.	max 2	
Illuminated push-buttons		
Illuminated mushroom head push-buttons	max 4	max 4
Illuminated selector switches		
Illuminated mush. push-buttons with lock	max 2	max 2
Illuminated mush. push-buttons 3 pos.		

Mounting

Fitted for panels 1 to 6 mm. thick with holes drilled according to CENELEC EN 50007 standards.



Intro

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J/X

Contact blocks

Logic Reed A new range of LOGIC REED contact blocks with faston terminals for use with power lower than 12V - 5mA.			Cat. no.	Ref. no.
	Contact type	NC	P9B01FH	187014
		NO	P9B10FH	187015
	Rated voltage	AC2 to 120V max. DC2 to 30V max.		
	Rated current	AC/DC - 0.001 to 0.15A max.		
	Rated power	AC - 8VA max. DC - 4.5W max.		
	Minimum centerline distance	30x32 mm.		
	Mounting on operators	through specific bayonet flange adaptor.	P9ACFSM	187846
Full voltage power supply			P9PDHF	187056



With screw  min. 1 of 22 AWG (0.32 mm²) max. 2 of 12 AWG (3.3 mm²)			Contact type	Cat. no.	Ref. no.
Faston  1 x (6.35 x 0.8 mm) 2 x (2.8 x 0.8 mm)			Contact type	Cat. no.	Ref. no.
Terminal adapter printed circuit board adapter			Contact type	Cat. no.	Ref. no.

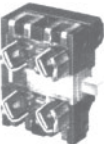
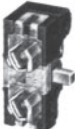
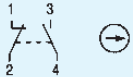
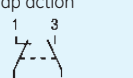
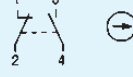


The catalogue numbers **in bold** are available from stock.

Nameplates

	Description	Cat. no.	Ref. no.	
	For push-button and pilot lights			
	Without text (black background)	077TNA	181650	
	With text in English (black background)	077TNA40	181840	
	 STOP			
	Without text (black background)	077TNA2	181660	
	With text (black background)	077TNA230	181930	
	Without text (black background)	077TNA3	181670	
	With text (black background)	077TNA301 077TNA312 077TNA313	181951 181962 181963	
	Diameter 62 mm for emergency push-buttons			
	Without text (yellow background)	077TGR	181720	
	With text (yellow background): EMERGENCY STOP	077TGRO2	181722	

Contact blocks

	2 positions	Contacts	Cat. no.	Ref. no.	
       	Standard	For all the applications Illuminated push-buttons and illuminated selector switches excluded			
		NC+NO	077-11	180001	
		NC	077-01	180003	
		NO	077-10	180002	
		NC late opening	077-01R	180008	
		NO early closing	077-10A	180007	
	Accessories for contact blocks 077-...				
	IP2X protection	for use with NO for use with NC for use with NO+NC	077PTB10 077PTB01 077PTB11	181608 181609 181615	
	For 2 + 2 and 4 + 4 positions joysticks Snap action		099SPDTDB	180009	
		NC+NO	P9B11VN	187000	
		NC	P9B01VN	187001	
		NO	P9B10VN	187002	

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