

Series P9

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	-25 °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

$\leq 25 \text{ m } \Omega$ according to IEC 255, cat. 3

Identification of the terminals

According CENELEC EN 50013

Electrical performances

Rated thermal current $I_{th} = 10 \text{ A}$

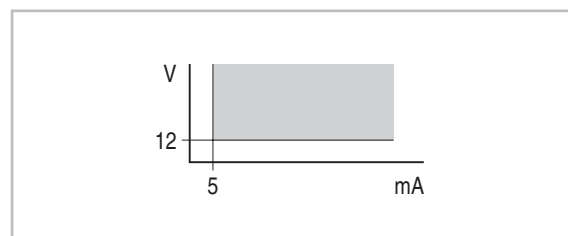
Performances according IEC 947.5.1

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

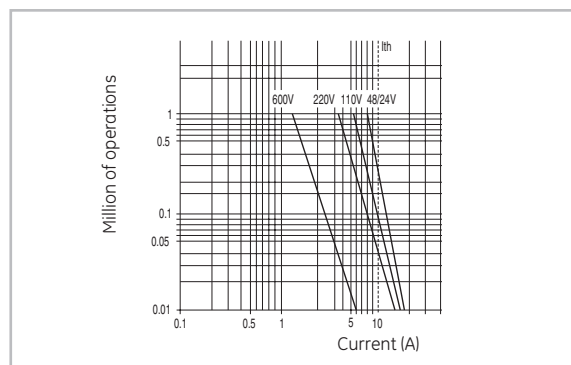
AC Heavy Duty	(A600)
DC Standard Duty	(Q300)

Operating range

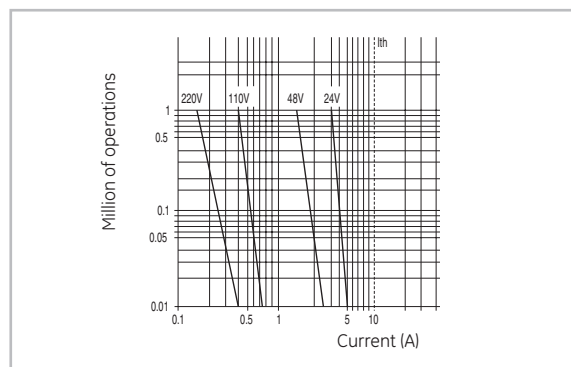


Electrical endurance

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.

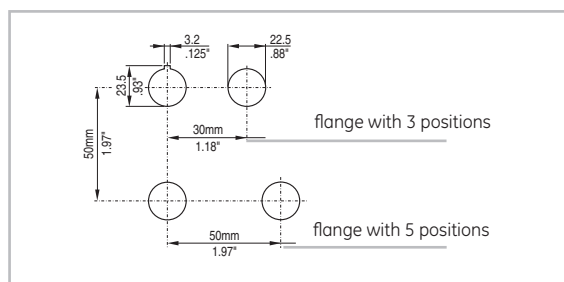
Using the five position flange take into account the bigger with (50 mm instead of 30 mm).

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.



Selector switches with knob

2 positions		Function (1)	Cat. no.	Ref. no. see bottom	Cat. no.	Ref. no. see bottom	Cat. no.	Ref. no. see bottom							
	Metal								Plastic		Plastic				
															
	Fixed		D	P9MSMD0●		P9XSMD0N	185110	P9SSMD0N	186110						
			I	P9MSMI0●		P9XSMI0N	185120	P9SSMI0N	186120						
			H	P9MSMH0●											
	With spring return		D	P9MSMD5●		P9XSMD5N	185150	P9SSMD5N	186140						
			I	P9MSMI5●				P9SSMI5N	186150						
			H	P9MSMH1●											
3 positions															
	Fixed		E	P9MSME0●				P9SSME0N	186170						
			L	P9MSML0●											
			U	P9MSMU0●		P9XSMU0N	185190	P9SSMU0N	186190						
	With spring return		Z, B	P9MSMZ0●		P9XSMZ0N	185200	P9SSMZ0N	186200						
			E	P9MSME1●				P9SSME1N	186210						
			L	P9MSML1●											
			U	P9MSMU●				P9SSMU1N	186230						
			Z, B	P9MSMZ1●		P9XSMZ1N	185240	P9SSMZ1N	186240						
			E	P9MSME5●											
			L	P9MSML5●											
			U	P9MSMU5●											
			Z, B	P9MSMZ5●		P9XSMZ5N	185280	P9SSMZ5N	186280						
				E	P9MSME3●										
			L	P9MSML3●											
			U	P9MSMU3●											
			Z, B	P9MSMZ3●		P9XSMZ3N	185320	P9SSMZ3N	186320						
4 positions															
	Fixed		X	P9MSMX0●		P9XSMX0N	185330	P9SSMX0N	186330						
	With spring return		X	P9MSMX5●											
5 positions															
	Fixed		X	P9MSMY0●											
			W	P9MSMW0●											

(1) Electrical diagrams, see E.22

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

Colours round shape		black	red	green	yellow	blue
Knobs	●	N	R	V	G	L

For reference numbers, see chapter X, pg. X.8