PETERCEM

Application

Microswitch for severe industrial environment: humidity, corrosion, temperature…

- Operating temperature:
  - – screw terminals: -25 ... +85 °C general use
    -55 ... +155 °C extended temperature range design (**R...V-1** types)
  - – wired terminals: -30 ... +120 °C general use
    -55 ... +155 °C extended temperature range design (**R...F50-1** types)
- Ratings (220 V a.c. – 50 Hz voltage): 2.5 A (standard version) or 5 A.
- Mechanical service life: 100 000 cycles.

Description

Encapsulated snap-action switch.

- Brass tinned casing.
- Inert gas filled switching chamber.
- Gold plated silver contacts.
- Mounting by way of screws or threaded bushing according to product design.
- Terminals: – screw terminals,
  – 1 mm² (AWG 17) leadwires, Reticulated synthetic rubber insulation - general use
  – 0.93 mm² (AWG 18) leadwires* , FEP insulation - extended temperature range design "**-1**" series

  * Compliant to AIR 4524 ; NF L 52-125A Category B of 1971 - lightweight cables ; Interchangeability: AICMA No 5116 recommendation of February 1961.

Approvals and Compliance to Standards

French Air Ministry Approval based on standard: **AIR 8459.**
AIR equipment sheets No: 6.552.200, 6.552.201, 6.552.202, 6.552.203, 6.552.210.
Main compliance or performance equivalences with **MIL-PRF-8805** standard requirements.

Environmental characteristics

(For other test results, please contact us **)**

Salt spray resistance	96 h
Humidity	93% relative humidity, +40 °C duration 168 hours (7 days)
Mechanical shocks resistance	50g - duration 11ms (pulse shape = $^1/_2$ sinus) 18 shocks (3/direction, both of 3 orthogonal axis)
Sinusoidal vibrations resistance	10 _ 2000 Hz, 10 g in each of 3 orthogonal axis
Pressure stress	5 bars absolute

Mechanical characteristics

Characteristics according to the actuating point (arrow) indicated on dimension drawings.

Hermetically sealed Microswitches		**RLDV... / RLDF50... R5LDV... / R5LDF50...**	**RLDGV... / RLDGF50... R5LDGF50...**	**RP32F50... R5P32F50...**	**RP32GF... R5P32GF...**
Max. operating force	**N**	8.75	7.50	9.0	9.0
Min. release force	**N**	0.6 x Operating force	0.6 x Operating force	0.5 x Operating force	0.5 x Operating force
Pretravel max.	**mm**	1.50	1.70	1.70	1.70
Max. differential movement	**mm**	0.50	0.60	0.60	0.60
Min. overtravel (1)	**mm**	0.40	0.50	2.5	3.0
Max. full overtravel authorised force	**N**	18	15	–	–

(1) Do not exceed this value in use

Electrical characteristics

Ratings (electrical load on one throw only)			**30 ... 48 V d.c.**	**115 V d.c.**	**220 V a.c. - 50 Hz**
Version 2.5 A	– resistive load	**A**	3	1	2.5
	– inductive load	**A**	1.8 A (L/R ≤ 40 ms)	0.5 A (L/R ≤ 40 ms)	1.5 A (Cos φ ≥ 0.3)
Version 5 A	– resistive loadif	**A**	–	3	5
	– inductive load	**A**	–	0.5 A (L/R ≤ 40 ms)	2.5 A (Cos φ ≥ 0.3)
Electrical service life		**cycles**	100 000	100 000	100 000
Min. switched current		**mA**	5	5	5
Changeover time		**ms**	≤ 15	≤ 15	≤ 15
Contact resistance		**mΩ**	≤ 50 mΩ under 6 V d.c. – 100 mA according to MIL-S-8805 (As new, wires or cable not included)		
Dielectric strength (50 Hz - 1 mn)					
– between terminals		**V a.c.**	500		
– between all terminals and earth (ground)		V a.c.	1500		
Insulation resistance		MΩ	≥ 100 MΩ under 500 V d.c. (at 23 °C with < 80 % relative humidity)		

PETERCEM

Specific Products - Contact us for more information ; data sheet on request

Many standard products (with "**-R6**", "**-R8**" or "**-R9**" termination) are compliant with nuclear environment use. Insulating material of used leadwires accept 850 kGy (85.10^6 rad) irradiation integrated dose.

In most cases, these devices are included in EDF (French Electricity Supply Board) certified limit switches. They have passed number of specific and severe tests.

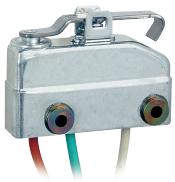
Ordering details

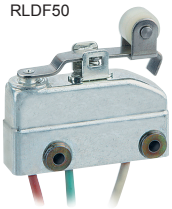
Standard leadwire length = 0.5 m ; other length on request.
Rated breaking capacity (220 V - 50 Hz)

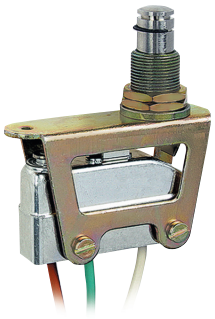
A.	Terminals	P/N	Weight (1 piece) kg
Microswitch with lever actuator			
2.5	Screw terminals	**RLDV**	0.035
		RLDV-1	0.035
	Wired terminals	**RLDF50**	0.065
		RLDF50-1	0.065
5	Screw terminals	**R5LDV**	0.035
		R5LDV-1	0.035
	Wired terminals	**R5LDF50**	0.065
		R5LDF50-1	0.065
Microswitch with roller lever actuator			
2.5	Screw terminals	**RLDGV**	0.040
		RLDGV-1	0.040
	Wired terminals	**RLDGF50**	0.070
		RLDGF50-1	0.070
5	Wired terminals	**R5LDGF50**	0.070
		R5LDGF50-1	0.070
Microswitch with telescopic plunger actuator; M12 threaded bushing			
2.5	Wired terminals	**RP32F50**	0.110
		RP32F50-1	0.110
5	Wired terminals	**R5P32F50**	0.110
		R5P32F50-1	0.110
Microswitch with telescopic roller plunger actuator; M12 threaded bushing			
2.5	Wired terminals	**RP32GF50**	0.120
		RP32GF50-1	0.120
5	Wired terminals	**R5P32GF50**	0.120
		R5P32GF50-1	0.120

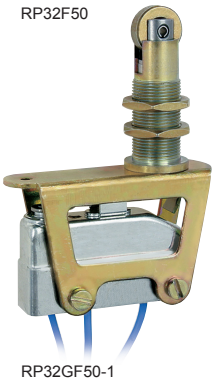
Reminder: On above table, **R...-1** product codes refer to extended temperature range devices.


RLDV

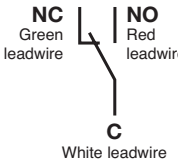

RLDF50


RLDGF50


RP32F50

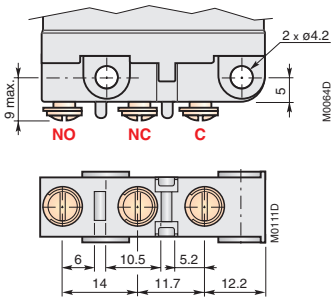

RP32GF50-1

Circuit diagram

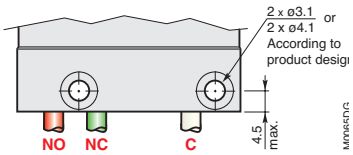


Connection

- **M3 Screw terminals** - Recommended tightening torque: 0.6 to 1 Nm

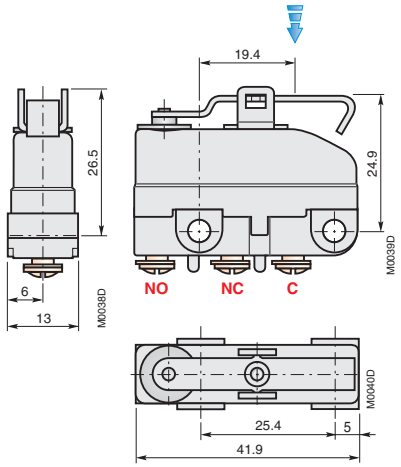


- **Wired terminals**

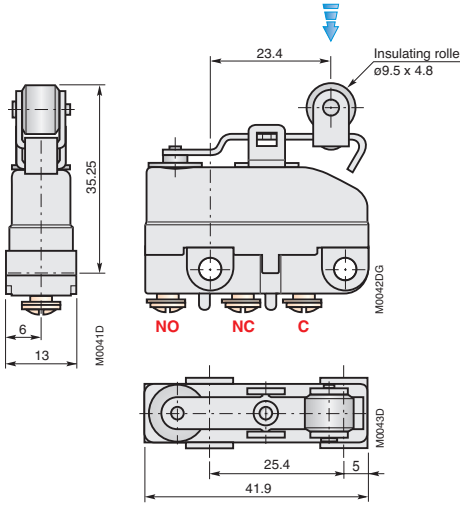


Dimensions

RLDV, RLDV-1, R5LDV, R5LDV-1
Mounting holes for M4 screws
Recommended tightening torque: 1.6 to 2 Nm

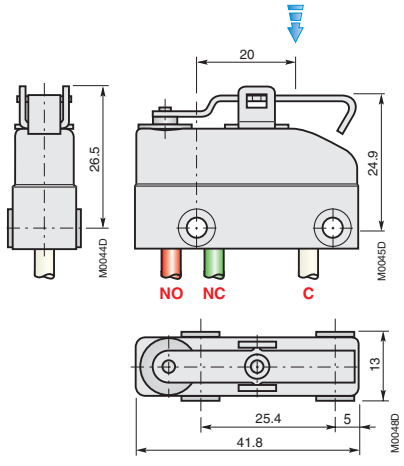


RLDGV, RLDGV-1
Mounting holes for M4 screws
Recommended tightening torque: 1.6 to 2 Nm



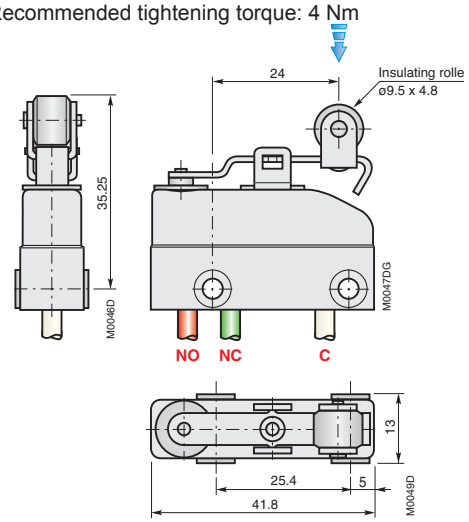
RLDF50, R5LDF50
Mounting holes for M3 screws.
Recommended tightening torque: 2 Nm.

RLDF50-1, R5LDF50-1
Mounting holes for M4 screws.
Recommended tightening torque: 4 Nm.



RLDGF50, R5LDGF50
Mounting holes for M3 screws.
Recommended tightening torque: 2 Nm

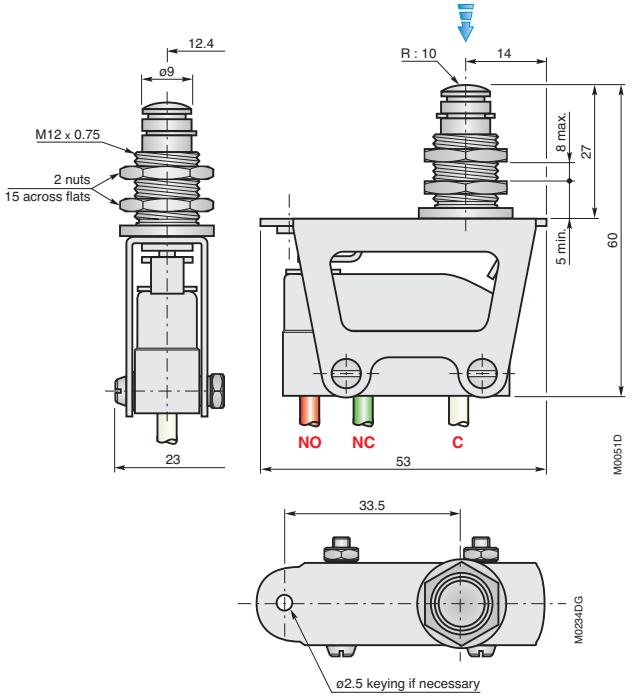
RLDGF50-1, R5LDGF50-1
Mounting holes for M4 screws.
Recommended tightening torque: 4 Nm



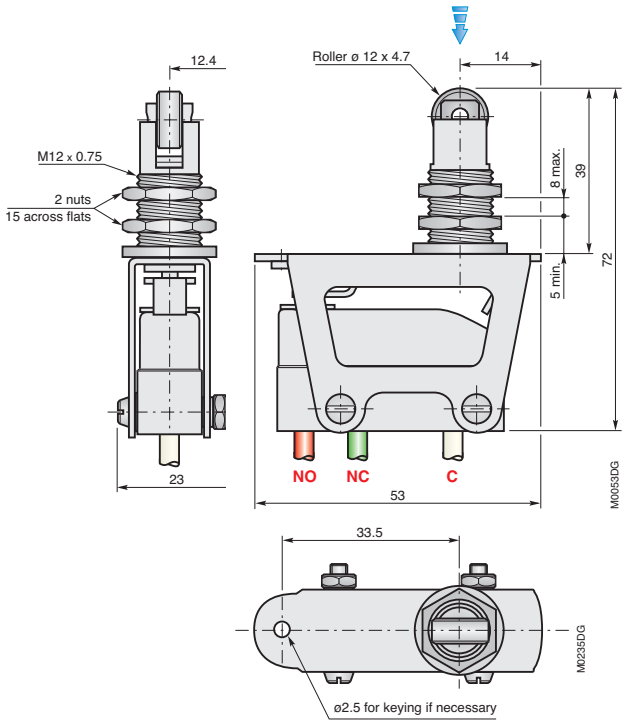
General mounting instruction FPTM 88017 on request

Dimensions (continued)

RP32F50, RP32F50-1, R5P32F50, R5P32F50-1
Panel mounting by threaded bushing and nuts. Panel hole (recommended) Ø 13 $^{+\ 0.2\ /\ 0}$
M12 nuts recommended tightening torque: 5 Nm



RP32GF50, RP32GF50-1, R5P32GF50, R5P32GF50-1
Panel mounting by threaded bushing and nuts. Panel hole (recommended) Ø 13 $^{+0.2\ /\ 0}$
M12 nuts recommended tightening torque: 5 Nm.



General mounting instruction FPTM 88017 on request