

Application

Limit switch for aggressive atmospheres: oil and gas industries, power generation...
Devices including 1 or 2 "R" type Microswitches.

- Operating temperature:
 - terminal box with cable gland output: -30 ... +85 °C
 - reticulated synthetic rubber insulated cable output: -30 ... +120 °C
 - PVC insulated cable output: -30 ... +65 °C
- Ratings (220 V a.c. - 50 Hz voltage): 2.5 A.
- Degree of protection: IP66 / IP67.
- Mechanical service life: 100 000 cycles.

Description

Environment sealed limit switch including an encapsulated snap-action switch.

- Painted aluminium alloy casing.
- Stainless steel driving shaft.
- Clockwise or counterclockwise operation design available.
- Rotary arm actuator.
- Mounting holes for M5 screws on 4 sides of the casing.
- Available terminations:
 - sealed terminal box with cable-gland integral with the limit switch,
 - reticulated synthetic rubber Varpen® cable insulated, (conductors 1 mm²) or PVC insulated (conductors 1.5 mm²)

Environmental characteristics

(For other test results, please contact us)

| | |
|-------------------------------|--|
| Salt spray resistance | 96 hours |
| Temperature variations | -40 °C / +70 °C ; 30 min. steps, 5 cycles |
| Mechanical shocks | 50 g - duration 11 ms (pulse shape = 1/2 sinus) 18 shocks (3 / direction, both of 3 orthogonal axis) |
| Sinusoidal vibrations | 10 _500 Hz, 5g in each of 3 orthogonal axis |

Mechanical characteristics

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

| F2 Limit switches | | F20LG1R... | F21LG1R... | F20LG2R... | F21LG2R... |
|-----------------------------------|---------------|-------------|-------------|-------------|-------------|
| Max. operating force | N | 9.0 | 9.0 | 10.0 | 11.0 |
| Min. release force | N | 2.20 | 2.20 | 2.20 | 2.20 |
| Max. pretravel | degree | 15° | 15° | 15° | 15° |
| Max. differential movement | mm | 1.0 ... 3.5 | 1.0 ... 3.5 | 1.0 ... 3.5 | 1.0 ... 3.5 |
| Min. overtravel (1) | degree | 60° | 60° | 60° | 60° |

(1) Do not exceed this value in use

Note: Characteristics recorded with an actuating arm on the limit switch

Electrical characteristics

| Ratings | 30 ... 48 V d.c. | 115 V d.c. | 220 V d.c. | 250 V a.c. - 50 Hz |
|--|--|-------------------|--------------------|--------------------|
| (electrical load on one throw only) | | | | |
| – resistive load | A 2.5 | 1 | 0.4 | 2.5 |
| – inductive load | A 1.8 (L/R ≤ 40 ms) | 0.5 (L/R ≤ 40 ms) | 0.25 (L/R ≤ 25 ms) | 1.5 (cos φ ≥ 0.3) |
| Electrical service life | cycles 100 000 | | | |
| Min. switched current | mA 5 | | | |
| Acceptable overload current without switching | | | | |
| – permanent service | A 9 | | | |
| – for short time | A 60 A (during 100 ms, at ambient temperature) | | | |
| 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) | | | |

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

Among the large number of possible variants, the following ones are offered:

- Devices with connector.
- EDF (French Electricity Supply Board) certified limit switches for nuclear environment use.
- **F5705, F5777** (1-pole) and **F5778, F5779** (2-pole) limit switches with Teflon® insulated cables, for operating temperatures up to 160 °C
- The possibility to include **R** type Microswitches whose breaking capacity = 5 Amperes.
- Low differential movement **F22 / F23** limit switch types.