



**GIOVENZANA  
INTERNATIONAL B.V.**

**60<sup>th</sup>**

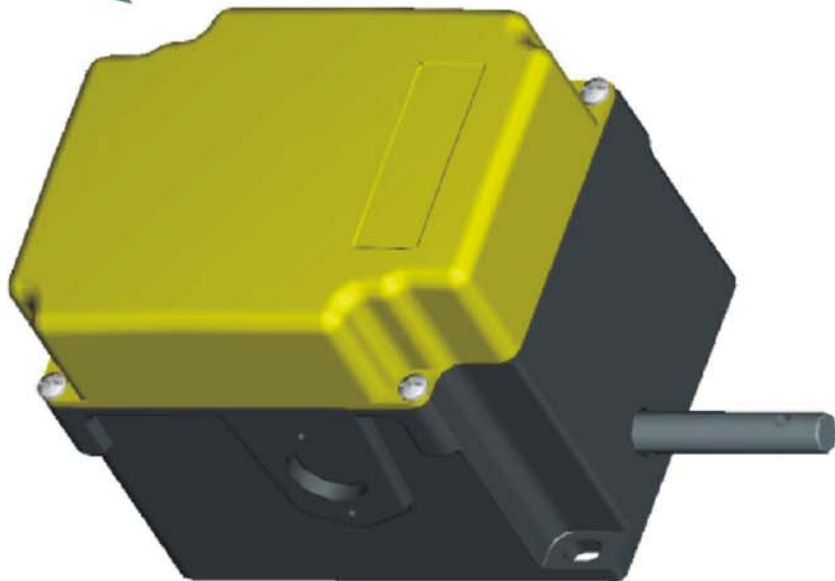


**HANDLING SYSTEM**

**Rotary gear limit switch**

**FGR1**

**NEW**



**HANDLING SYSTEM  
CRANE CONTROL EQUIPMENTS**

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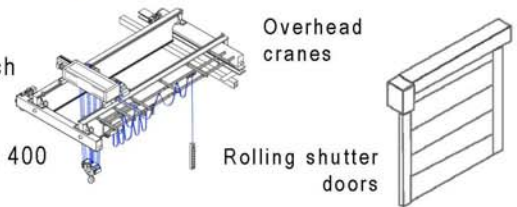


### Product description:

The FGR1 rotary gear limit switch is a device used to control the number of turns or the rotation/direction angle of industrial and building machines. A typical application is the rolling shutter door, overhead cranes or tackles etc. The unit, through a gear system and cams transmission, controls 2,4 or more microswitches so, after a determined number of revolutions, it can prepare the motor to start or stop run. The microswitches have a calibration screw that operates independently on each cam; so it can calibrate the opening and closing of each micro according the functional requirements needed. The system gear transmission allows you to choose different ratios from 012 to 400 and it can be supplied with a linear detector (potentiometer) too.

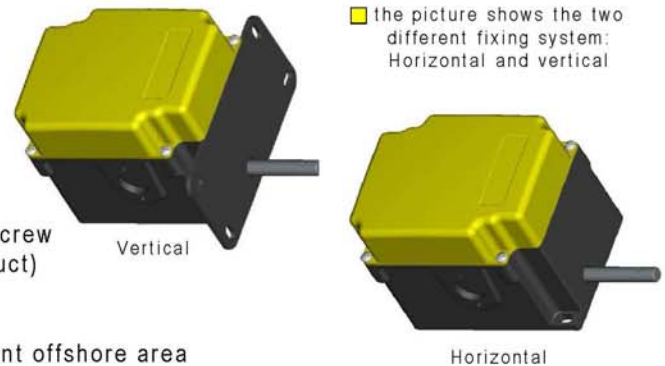
### Rotary gear limit switch

# FGR1



### Why choose Giovenzana's FGR1 limit switch?

- Available in two different fixing systems: horizontal and vertical
- Reduced overall dimensions
- Protection class: IP65
- It can be supplied with a potentiometer: 2.5Ω, 5Ω or 10Ω
- Available in different ratios: 012, 033, 050, 100, 200 and 400
- It can be supplied with double output shaft
- Microswitches:
  - Operating point adjustable with a calibration screw
  - Available with 2, 4 (max. 6 for Customized product)
  - each micro has 1NO+1NC in the same box
  - N.C. contact positive opening  $\oplus$
  - Available in gold plated contacts for micro current offshore area



### GENERAL CHARACTERISTICS

- Markings:  $\text{CE}$
- Self extinguish thermoplastic housing V0 UL 94
- IP65 IEC/EN 60529
- Steel driving shaft (anti oxidation treatment)
- Contact cams in thermoplastic self-lubricating material
- Micrometric adjustment screws in brass material
- Cable entry: M20 or M16 cable glands (maximum 4) (options)
- Ambient temperature: operating -25° +70°C  
storage -30° +70° C
- Weight: 0.76kg

### ELECTRICAL CHARACTERISTICS microswitch

- According to IEC/EN 61058-1, UL1054
- Certifications:  $\text{cULus}$
- Conformity to the standards: EN 60204-1; EN 60947-1; EN 60947-5-1
- Rated insulation voltage [Ui] 250 V
- Rated thermal current [Ith] 6 A
- Positive opening contacts  $\oplus$
- Contact blocks 1NC+1NO changeover
- Release force: min. 0.4N
- Actuating force: max. 2.25N
- Terminal leads: blade quickconnect 6.3x1 or 6.3x2.5 DIN 46247
- Operating Temperature: -40°C ÷ +85°C
- Protection class IP40 (IP00 terminals) according to EN60529



### Giovenzana's system codification:

- Simple
- Clear
- Fast

The FGR1 system codification adopt a very clear codification: each digit block identify a specific function. The code provides all the information which can be used in order to specify each customization.

### Rotary gear limit switch

# FGR1

Codification:

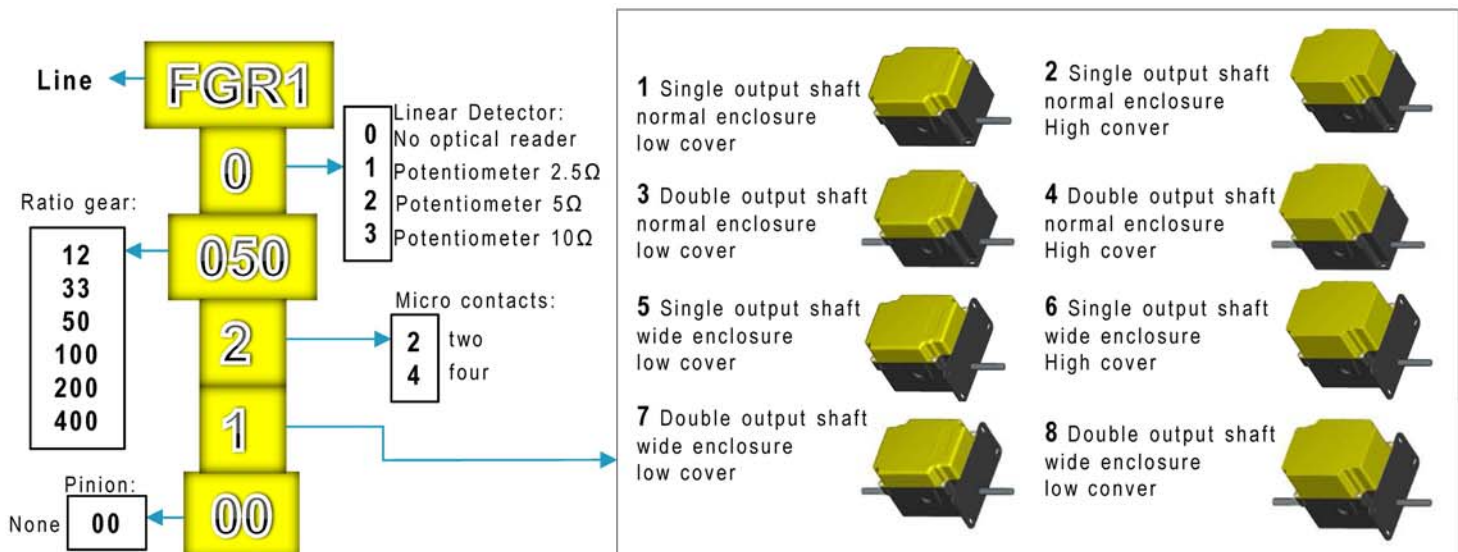
FGR1

0

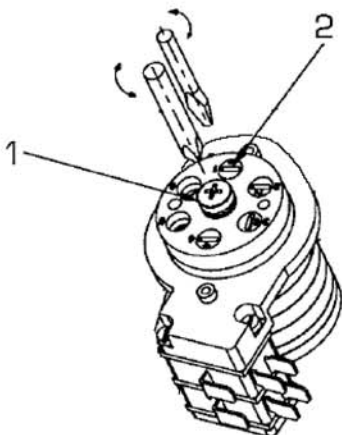
050

2

1



### Microswitch's system calibration:



The microswitches have a calibration screw that operates independently on each cam; so it can calibrate the opening and closing of each micro according to the functional requirements needed:

- Loosen the main screws "1"
- Adjust clockwise or anti-clockwise, through a small blade screwdriver, the screws "2" to calibrate each cam (\*)
- Tighten the main screw "1"

Thanks to a Giovenzana's system gear, the calibration of each cam is really micrometric!

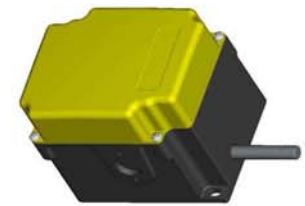
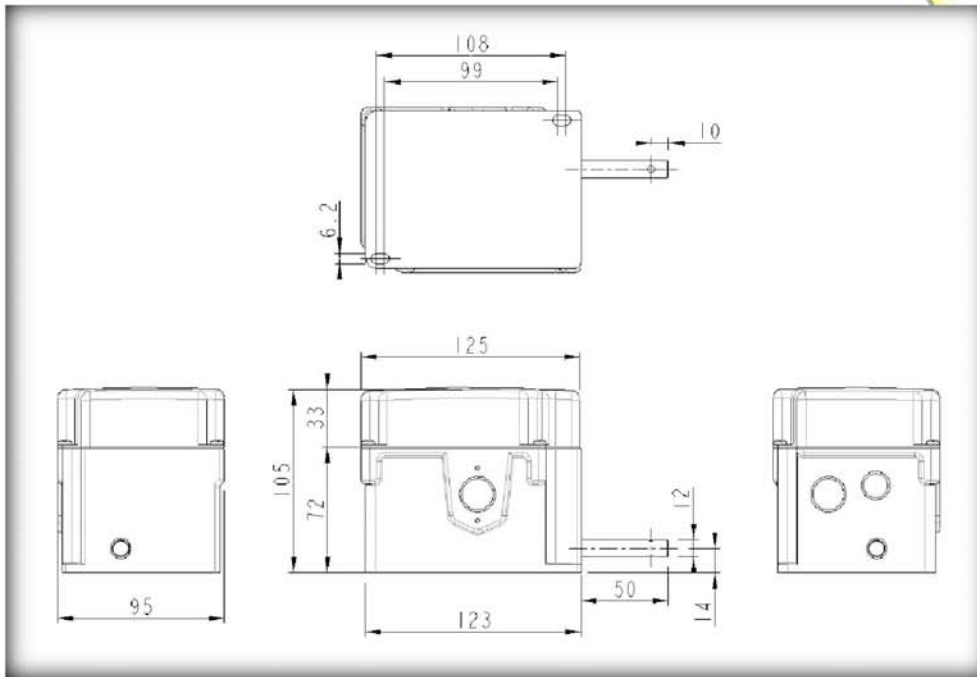
(\*) Standard cam range: 10°. Different cam's shapes available for Customized requirements



### Dimensions and Fixing holes:

### Rotary gear limit switch

# FGR1



Horizontal fixing  
with 2-4 contacts

Vertical fixing with  
More than 4 contacts

