

# STOP & GO automatic resetting

Cat. Nos: 4 062 88 / 89



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## 1. DESCRIPTION - USE

STOP & GO motor driven unit is an automatic resetting device for RCBO's (P+N or 2P) and RCCB's (2P).

. STOP & GO automatic resetting main functions are:

- In case of tripping of the associated protection device due to earth leakage or short circuit, the device checks the system to detect the absence of a permanent fault before to reset it.
- In case of transient fault, it automatically resets the electrical circuit.
- In case of permanent fault, (earth leakage or short circuit), it keeps the circuit open by isolating it and notifies the user by a visual signal and, if necessary, by an acoustic signal (connecting it to the fault signalling contact, terminals 17-18 on the downstream terminal-block).

. These functions allow the continuity of operation of the involved circuits.

. Cat. n° 4 062 89 is fitted with a self-test function that allows to test automatically every 56 days (hour and day of test are programmable) that the associated residual current device operates properly.

### Technology:

. DC electric motor with permanent magnets

## 2. PRODUCT RANGE

. **4 062 88:** STOP & GO Standard, it checks the absence of a permanent fault on the system before resetting the associated protection device.

. **4 062 89:** STOP&GO + AUTOTEST, as 4 062 89 + "AUTOTEST" function; it checks automatically every 56 days the correct operation of the RCD associated with the device (day and time of the test can be programmed).

### Width:

. 2 modules (1 module = 17,7mm)

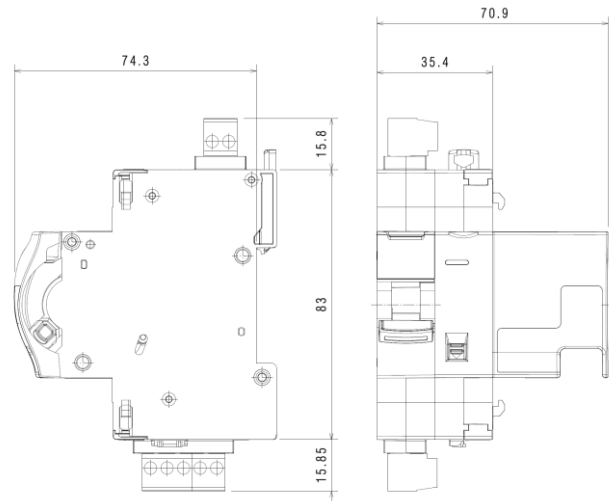
### Rated Voltage/Frequency:

. 230 VAC, 50 / 60 Hz.

### Operating voltages:

- . Min (0,85 x Un): 195,5 VAC
- . Max (1,1 x Un): 253 VAC

## 3. OVERALL DIMENSIONS



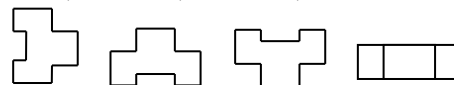
## 4. PREPARATION - CONNECTION

### Fixing:

. On symmetric rail EN/IEC 60715 or DIN 35.

### Operating positions:

. Vertical, Horizontal, backwards, on the side



### Supply:

. Supply Phase and Neutral from the top on the extractable connector.

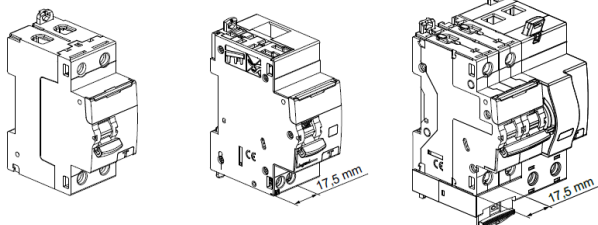
. It is mandatory to connect Phase and Neutral downstream of the associated device and the protection conductor to the connector at the bottom of this device.

STOP & GO will not work correctly if the protection conductor is not connected.

## 4. PREPARATION - CONNECTION (continued):

### List of possible associations:

- . 2P RCCBs
- . 2P RCBOs (2 poles protected or P+N, 1 pole protected)
- . 2P MCBs (2 poles protected or P+N, 1 pole protected)

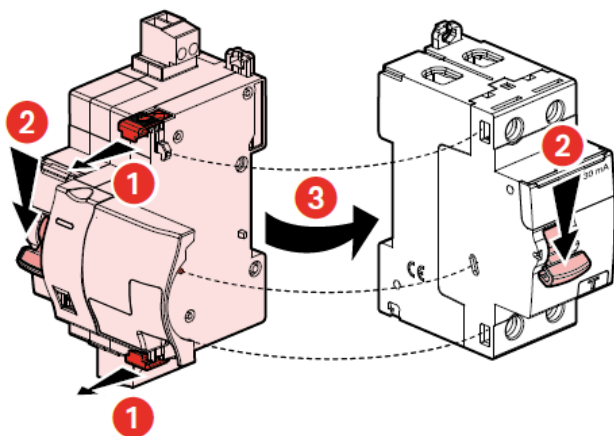


	1P+N ≤ DX <sup>3</sup> 10000	1P+N ≤ DX <sup>3</sup> 10000
	B 32 A ≤ I <sub>n</sub> ≤ 63 A	32 A ≤ I <sub>n</sub> ≤ 63 A
	C 16 A ≤ I <sub>n</sub> ≤ 63 A	16 A ≤ I <sub>n</sub> ≤ 63 A
	D 8 A ≤ I <sub>n</sub> ≤ 63 A	8 A ≤ I <sub>n</sub> ≤ 63 A

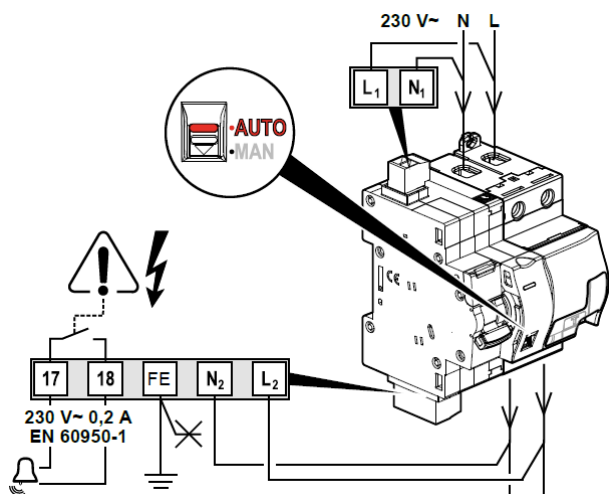
16 A ≤ I<sub>n</sub> ≤ 100 A

### Association:

- . To be fitted to the left of MCB's DX<sup>3</sup> ≤ 10000A (P+N, 2P - 1 module per pole wide), RCCB's DX<sup>3</sup> 2P and RCBO's DX<sup>3</sup> ≤ 10 000A (P+N et 2P ≤ 63A)
- . No tool required. Clipped to the associated device by mean of plastic clamps.



### Wiring diagram:



## 4. PREPARATION - CONNECTION (continued):

### Functional ground:

- . The STOP & GO performs earth leakage measurements taking the local earth of the system as a reference (wired to the "FE" terminal of the downstream terminal-block).

### Protection of the STOP&GO:

- . It is not necessary to install specific protections upstream of the STOP & GO because the device is self-protected

### Connection:

- . Terminals protected against accidental contact (IP20, wired devices).

### Terminals:

- . Terminal depth: 8 mm.
- . Stripping length: 8 mm

### Screw head:

- . Slotted, diameter 3.5 mm

### Recommended tightening torque:

- . 0,4 ÷ 0,5 Nm.

### Recommended tools:

- . Flat screwdriver 3,5 mm.
- . For fixing: flat screwdriver 5.5 mm (6 mm maximum).

### Conductor type:

- . Copper cables

	Without ferrule	With ferrule
Rigid cable	1 x 2,5 mm <sup>2</sup> 2 x 1,5 mm <sup>2</sup>	-
Flexible cable	1 x 2,5 mm <sup>2</sup> 2 x 1,5 mm <sup>2</sup>	1 x 2,5 mm <sup>2</sup> 2 x 1,5 mm <sup>2</sup>

## 4. PREPARATION - CONNECTION *(continued)*

### On site information displayed by the STOP & GO:

#### STOP & GO lockout:

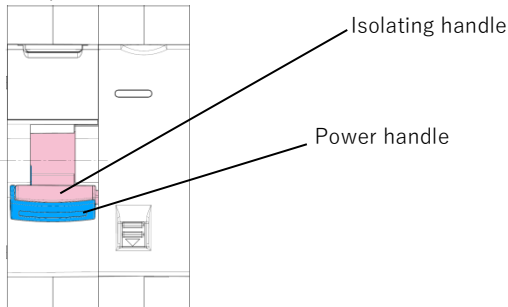
- . By the sliding front face.
- Sliding front face downward: the associated device goes into OFF position and manual or automatic closing operations are disabled.
- Sliding front face upward: the device is operating.
- . Lockout by padlock  $\Phi$  4mm, only when the sliding front face is down.
- Then mechanical and electrical controls are not possible.

#### Display of the device status and the status of the contacts of the associated device:

- . By handle marking:
- "O-Off": white on a green background = device switched-off and contacts opened.
- "I-On": white on a red background = device powered-on and contacts closed.

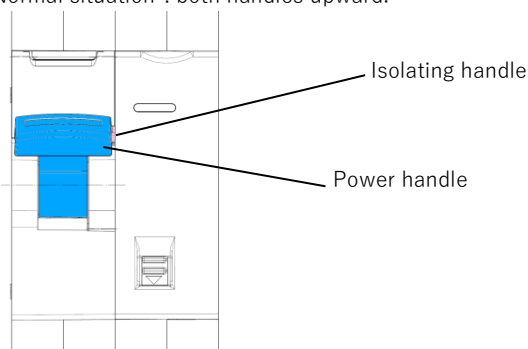
#### Device handle status:

- . The handle of the STOP & GO, consists of two parts:
  - an "isolating" handle
  - a "power" handle



. When the isolating handle is lowered, is guaranteed the galvanic isolation "upstream/downstream"

- . Operation sequences:
  - "Normal situation": both handles upward.

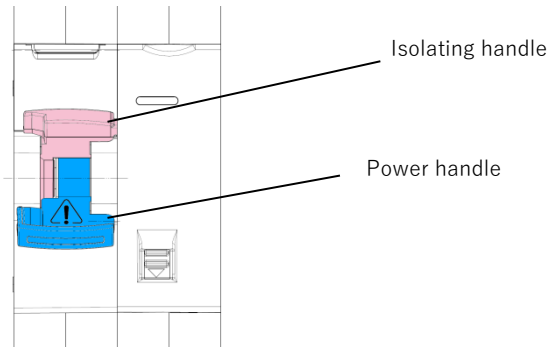


## 4. PREPARATION - CONNECTION *(continued)*

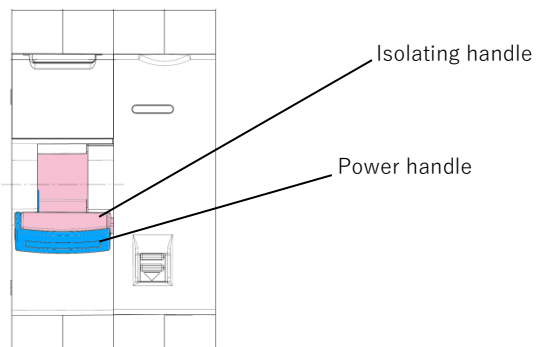
### On site information displayed by the STOP & GO *(continued)*:

#### Device handle status *(continued)*:

- . Operation sequences *(continued)*:
  - In case of an "Unwanted tripping" of the associated device and during the verification of the state of the electric circuit:
    - the power handle is down.
    - the isolating handle is up.



- If the STOP & GO detects a permanent fault after a tripping of the associated device, the isolating handle goes down (after 24 hours on the PLUS version), and the block signalling contact is activated



- If the STOP & GO doesn't detect a permanent fault, it returns to normal operation (reset of the associated device): both handles are upward.

**ATTENTION:** STOP & GO carries-out three reclosing attempts.

#### Re-closing cycle:

- . Re-Closing cycle length: Between 2 and 3 sec.
- . Before performing reclosing attempt, in addition to the fault checks on the system, the device verifies that there are no residual voltages downstream (e.g. Inverters with large capacitors). If the voltage downstream persists, the system shuts down and does not restore

#### Lockout condition:

There are two conditions that bring the STOP & GO into the lockout condition:

##### 1) Number of reclosing attempts

In automatic mode, the device enters the lockout condition if, after each of the three automatic reclosing attempts, the circuit breaker trips again within 6 seconds. The attempt count is reset at any time the associated device remains closed for more than 6 seconds.

## 4. PREPARATION - CONNECTION *(continued)*

### Lockout condition *(continued)*:

#### 2) Permanent fault

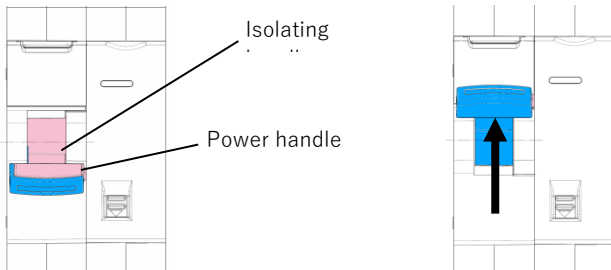
The STOP & GO considers "Permanent" a fault if, after tripping of the associated device (plausible temporary fault), the checks carried out by the STOP & GO still report a fault due to short circuit or earth leakage.

The checks are carried out within 2-3 seconds; if a fault is detected the device disconnects immediately (the isolating handle is lowered).

**Note:** It will be necessary to manually reset the STOP & GO after having the electrical system checked by qualified personnel.

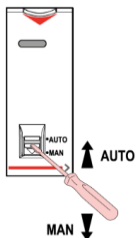
### Resetting by the STOP & GO handle:

When the permanent fault has disappeared, the reset of the STOP & GO and of the associated device is carried by the STOP & GO Handle (one-piece assembly of two handles: isolating and power)



### Selector AUTO / MAN:

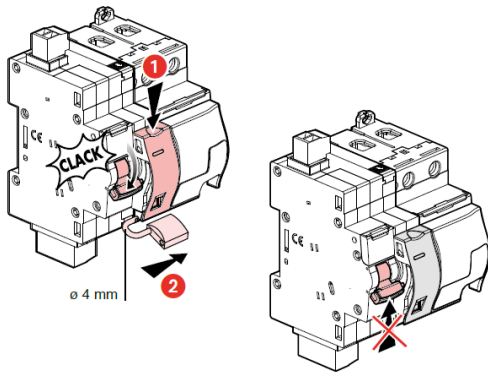
. Enables and disables the automatic resetting of the STOP & GO.



. Possible states:

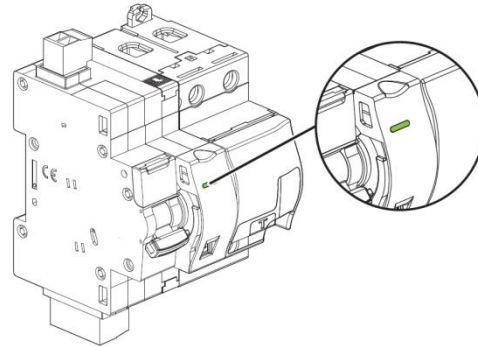
- AUTO: allows the automatic resetting of the STOP & GO.
- MAN: on-site manual control only by the handle of the Stop & go (isolating and power handles together)

**Note:** in case of on-site maintenance, to put the selector on MAN is not enough. Lowering the sliding faceplate and using a padlock makes maintenance safe.



## 4. PREPARATION - CONNECTION *(continued)*

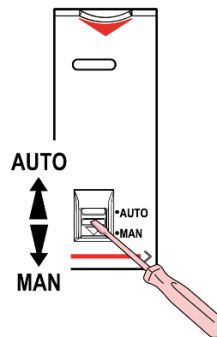
### Signalling Led:



Possible states:

Led colour	State	Meaning
red	Fast blinking	Waiting for reset after a tripping of the associated protection device
	Steady	STOP & GO has detected a permanent fault in the system after a trip (overload, short circuit, differential fault or residual voltage downstream). Automatic resetting is disabled
green	Fast blinking	Stop&Go in MAN mode.
	Steady	"Normal situation": STOP & GO is powered and in "AUTO" mode. Automatic resetting is enabled.
yellow	Fast blinking	Only for AUTOTEST version. Indication that the associated protection device has not tripped following a Residual current test performed by the STOP & GO ( $I\Delta > 30\text{mA}$ ).
grey	Switched-off	STOP & GO not supplied or sliding front face downward

### Programming AUTOTEST function (cat.no 4 062 89):



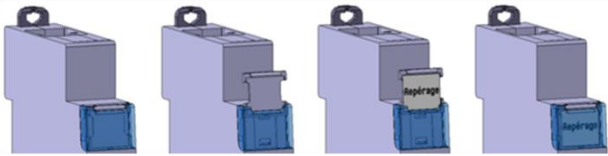
. After connecting item 4 062 89 to 230V ~ network, move the handle to the ON position, then move the selector from the "AUTO" position to the "MAN" position, and back again to the "AUTO" position.

The first residual current test is instantaneous, while the following ones will be performed every 56 days (8 weeks), but 8 hours after the programming procedure has been performed.

## 4. PREPARATION - CONNECTION *(continued)*

### Labelling:

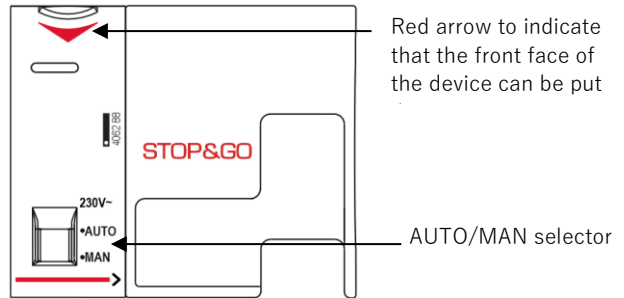
. Circuit identification by way of a label inserted in the label holder situated on the front of the STOP & GO.



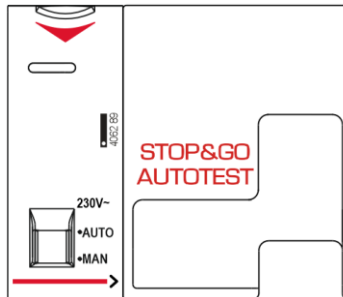
## 5. GENERAL CHARACTERISTICS

### Front side marking:

. By permanent pad printing  
. 4 062 88

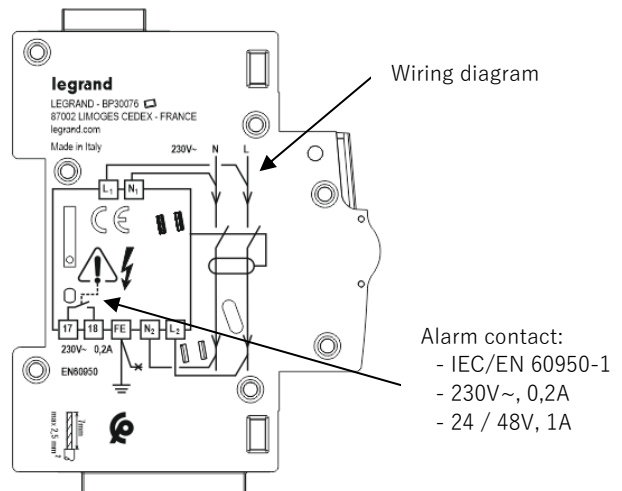


. 4 062 89



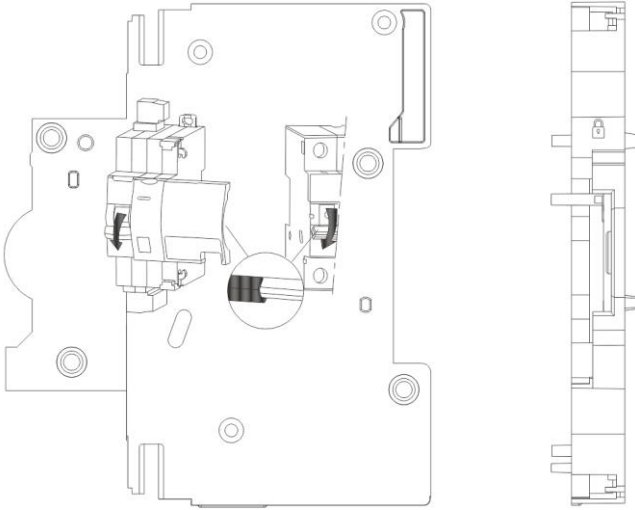
### Lateral side marking:

. By laser.  
left side



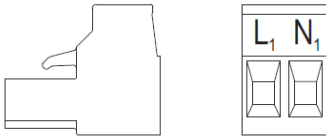
## 5. GENERAL CHARACTERISTICS

**Lateral side marking** *(continued)*:  
right side

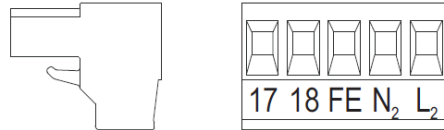


### Terminals marking:

. Upstream terminal-block: by permanent ink pad printing.



. Downstream terminal-block: by permanent ink pad printing.



### Characteristics of the fault detection:

- . Rd0 (operating rated resistance between the live parts and the earth): 50 kΩ
- . Rd (non-operating rated resistance between the live parts and the earth): 100 kΩ
- . Rcc0 (operating rated resistance between the live parts): 1,5 Ω
- . Rcc (non-operating rated resistance between the live parts): 2,5 Ω

**Note:** The STOP & GO can be used in TT and TN earth systems

### Impulse withstand voltage:

. Uimp: 4 kV

### Insulation rated voltage:

. Ui: 400 V

### Pollution degree:

. 2 according to IEC/EN 60898-1.

### Overvoltage category:

. III

### Dielectric strength:

. 2500 V

## 5. GENERAL CHARACTERISTICS *(continued)*

### Mechanical endurance:

. 20000 operations.

### Electrical endurance:

. In accordance with the requirements of the standards of the associated protection device.

### Plastic materials:

- . Self-extinguishing polycarbonate.
- . Heat and fire resistant according to IEC/EN 60695-2-12, glow-wire test at 960° C.
- . Classification UL 94 / IECEN 60695-11-10: V1

### Ambient operating temperature:

. Min. = - 5 ° C / Max. = + 60 ° C.

### Ambient storage temperature:

. Min. = - 25 ° C / Max. = + 60 ° C.

### Protection Index:

- . Protection index of terminals against direct contacts: IP2X (IEC/EN 60529).
- . Protection index of terminals against solid and liquid bodies (wired device): IP 20 (IEC/EN 60529).
- . Protection index of the front face against solid and liquid bodies: IP 40 (IEC/EN 60529).
- . Class II, front panel with faceplate.

### Resistance to sinusoidal vibrations:

- . According to IEC 60068-2-6.
- . Axis: x, y, z.
- . Frequency range: 5 ÷ 100 Hz; duration 90 min.
- . Displacement (5 ÷ 13.2 Hz): 1mm
- . Acceleration (13.2 ÷ 100 Hz): 0.7g (g=9.81 m/s<sup>2</sup>).

### Average weight per device:

. 0,174 kg.

### Volume when packed:

. 1,20 dm<sup>3</sup>.

### Consumption:

- . Values at 230 VAC.
- Standby power consumption: <1,5 VA
- Maximum power consumption during resetting: <20 VA rms for 0,7 sec. (peak <80VA)

## 6. CONFORMITIES AND APPROVALS

### Compliance to standards:

- . Compliance with Directive on electromagnetic compatibility (EMC) n° 2014/30/EU
- . Compliance with low voltage directive n° 2014/35/EU.
- . EN 50557:2011, Requirements for automatic reclosing devices (ARDs) for circuit breakers-RCBOs-RCCBs for household and similar use
- . Legrand devices can be used under the conditions of use as defined by IEC / EN 60947.
- . Performance of the devices can be affected by particular types of climates: dry heat, dry cold, humid heat, salt spray atmosphere.

### Environment respect – Compliance with EU directives:

- . Compliance with Directive 2011/65/EU known as “RoHS 2” on the restriction of the use of certain hazardous substances in electrical and electronic equipment.
- . Compliance with REACH regulation: at the date of the publication of this document no substance from the candidate list is present in these products.

### Plastic materials:

- . Halogens-free plastic materials.
- . Marking of parts according to ISO 11469 and ISO 1043.

### Packaging:

- . Design and manufacture of packaging compliant to decree 98-638 of the 20/07/98 and also to directive 94/62/CE

## 7. AUXILIARIES AND ACCESSORIES

### Signalling auxiliaries:

- . Auxiliary contact (½ module – cat n° 4 062 58).
- . Fault signalling changeover switch (½ module – cat n° 4 062 60).
- . Auxiliary contact modifiable in default signal (½ module – cat n° 4 062 62).
- . Auxiliary contact + fault signalling switch - can be modified to 2 auxiliary contacts (1 module - cat n° 4 062 66).
- . Electronic EMS CX<sup>3</sup> Auxiliary contact + Fault signalling (½ module – cat n° 4 149 29)

### Control auxiliaries:

- . It is forbidden to associate control auxiliaries (cat. n° 4 062 7x / 8x) to motor driven control module with integrated automatic resetting.

### Possible combinations with signalling auxiliaries:

- . Auxiliaries are clipped on the left side of the STOP & GO unit
- . Two signalling auxiliaries max. (cat. n° 4 062 58 / 60 / 62 / 66, 4 149 29).
- . If two signalling auxiliaries are associated to a same motor driven control unit, the 1 module auxiliary (cat n° 4 062 66) must be located to the left of the ½ module wide auxiliary (cat. n° 4 062 58 / 60 / 62, 4 149 29).

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		4 062 58 / 60 / 62 / 66 4 149 29	4 062 88 / 89
	4 062.58 / 60 / 62 4 149 29	4 062 58 / 60 / 62 4 149 29	4 062 88 / 89
	4 062 58 / 60 / 62 / 66 4 149 29	4 062 66	4 062 88 / 89