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**Motor driven remote control device  
with automatic resetting**

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Cat. N°(s) :  
F80MR24 – F80MR230

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## 1. DESCRIPTION - USE

- . This motor driven remote control can be associated to
  - Bticino MCBs one module wide per pole, 1P+N in one module or 1P, 2P, 3P, 4P 1 module wide
  - RCBOs up to 63 A
  - RCCBs up to 100 A
- . This remote control allows
  - To open and close the associated device
  - To automatically reset the associated device after a fault trip (overload, short circuit or earth fault) in order to assure a continuity of exploitation
  - To lock the associated product in open position

### Technology :

- . DC electric motor with permanent magnets

## 2. RANGE

- . Cat. N°(s) F80MR24: 24 – 48 V ~/=
- . Cat. N°(s) F80MR230: 230 V ~/=

### Dimensions:

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

### Rated Voltage / Frequency:

- . Cat. N° F80MR24
  - 24 to 48 V ~ 50 / 60 Hz with standard tolerances
  - 24 to 48 V d.c current

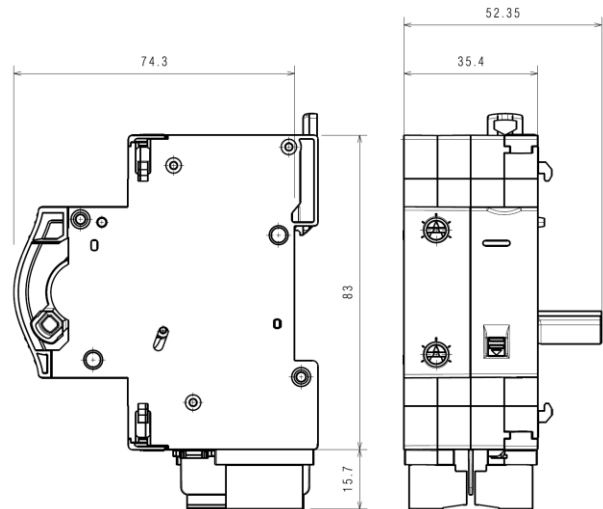
- . Cat. N° F80MR230
  - 230 V ~ 50 / 60 Hz with standard tolerances.
  - 230 V d.c current

### Operating voltages:

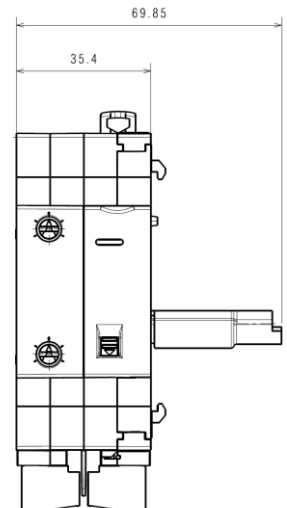
- . Cat. N° F80MR24
  - Minimum (0,85 x Un) : V
  - Maximum (1,1 x Un) : V
- . Cat. N° F80MR230
  - Minimum (0,85 x Un) : 195,5 V
  - Maximum (1,1 x Un) : 253 V

## 3. OVERALL DIMENSIONS

Device with short handle to fit 1 module wide device (1P or 1P+N MCB).



Device with the extension handle to fit two module wide – or more - devices (MCBs 2P, 3P, 3P+N, 4P, RCBOs, RCCBs).



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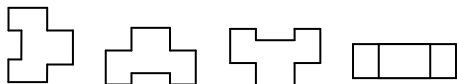
## 4. PREPARATION - CONNECTION

### Fixing:

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

### Operating positions:

- . Vertical, Horizontal, backwards, on the side

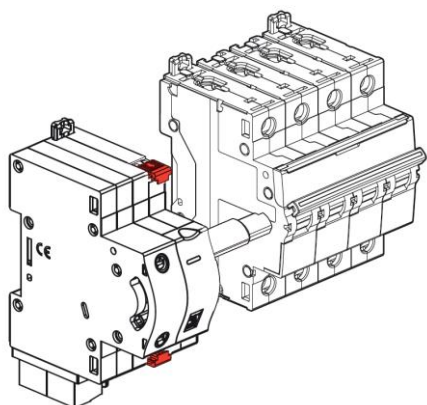


### Supply:

- . Only from the bottom by the removable terminals.

### Association:

- . On the left of MCBs (P+N, 1P, 2P, 3P et 4P 1 module per pole wide), RCCBs and RCBOs
- . No tool required. Clipped by mean of plastic clamps on the associated device.



### Connection:

- . Terminals protected against direct contact (IP20 device wired).

### Terminal depth :

- . 10 mm.

### Connectable section:

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

### Stripping length recommended:

- . 7 mm.

### Screw head:

- . Slotted, diameter 3.5 mm.

### Tightening torque:

- . Recommended torque 0.4 to 0.5 Nm.

### Tools required:

- . For the terminals: flat screwdriver 3.5 mm.
- . For fixing: flat screwdriver 5.5 mm (6 mm maximum).

## 4. PREPARATION - CONNECTION (continued)

### Lockout:

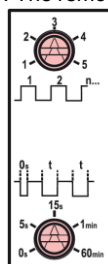
- . By the sliding front face.
  - Sliding front face downward, the associated device is switched into OFF position. In this position, it is impossible to switch it ON manually or automatically
  - Sliding front face upward, the remote control operates.
- . When the sliding front face is in low position, it is possible to lock it by the mean of a  $\Phi 4$ mm padlock. Mechanical and electrical controls are then disabled

### Selector AUTO / MAN:

- . This selector activates or locks the automatic remote control.
- . Positions:
  - AUTO: ability to control the opening and closing of the associated device in automatically or manually
  - MAN: manual control only.
- . Signalling by LED:
  - Green fixed: power on and remote control device in AUTO mode.
  - Green flashing: power on and remote control device in MAN mode.

### Re-closing settings:

- . The remote control module has two settings on the front face:



- 1. Number of closing attempts.

- 2. Temporization between two closing attempts.

- . The first re-closing attempt is always instantaneous (< 300ms).
- . The delay for the following re-closings is set with the lower button.
- . In case of power failure during the re-closing manoeuvres, the number of operations already performed is recorded. When the power is on again, the remaining attempts are operated. The number of operations performed is recorded even if the power failure occurs in conjunction with the tripping of the associated product.
- . After a full cycle of unsuccessful re-closings, the motor driven remote control module locks into fault position.
- . After the disappearance of the fault, the reset is then performed either by an ON command of the motor driven unit or by a manual operation.

### Signalling:

- . Signalling by LED:
  - Green fixed: power on and remote control device in AUTO mode.
  - Green flashing: power on and remote control device in MAN mode.
  - Red flashing: waiting for reset.
  - Red fixed: the device has tripped on fault (overload, short-circuit, residual current fault) or by control auxiliary.
  - Sliding front face downward: LED are switched-off

# Motor driven remote control device with automatic resetting

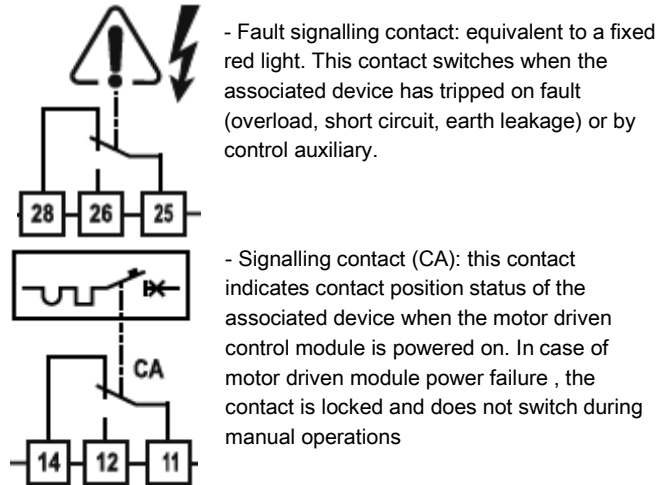
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## 4. PREPARATION - CONNECTION (continued)

### Signalling (continued):

Signalling by integrated contacts:

The two integrated changeover contacts (example: on alarm) enables to monitor device status



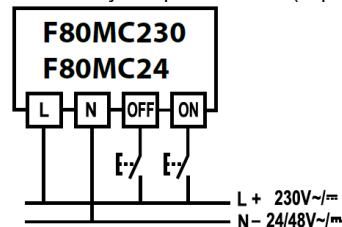
Contacts characteristics:

- IEC/EN 60950
- 230V~, 0,2A
- 24 / 48V, 1A

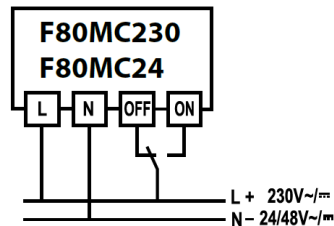
### Control logics of the remote control unit:

The device is fitted with an electronic card. The control pulse must be longer than 100ms. One single pulse is enough for the command. The device can manage the following types of remote control:

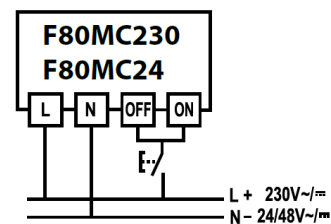
- Control by two push buttons (impulse)



- Control by changeover switch (sustained voltage)



- Control by one single push button (impulse cyclic control)



## 4. PREPARATION - CONNECTION (continued)

### Control logics of the remote control unit: (continued):

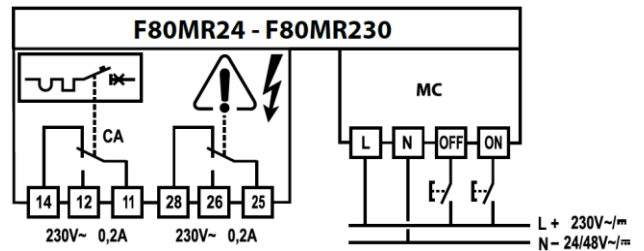
The device doesn't execute any control operation in the following cases

- when controlled by a change-over switch (sustained voltage), if the associated device is manually operated or if it has tripped on default (overload, short-circuit, differential default or tripping by control auxiliary)
- when the power is turn on, the motor driven control module is controlled by a sustained executable control
- when controlled by a change-over switch (sustained voltage), if the selector AUTO / MAN moves from the MAN position to the AUTO position and if the sustained control is different from the status of the associated device.

When controlled by a change-over switch (sustained voltage), it is necessary to wait for at least 1.5 seconds between two commands of the same type.

### Lock of the device in case of tripping on default:

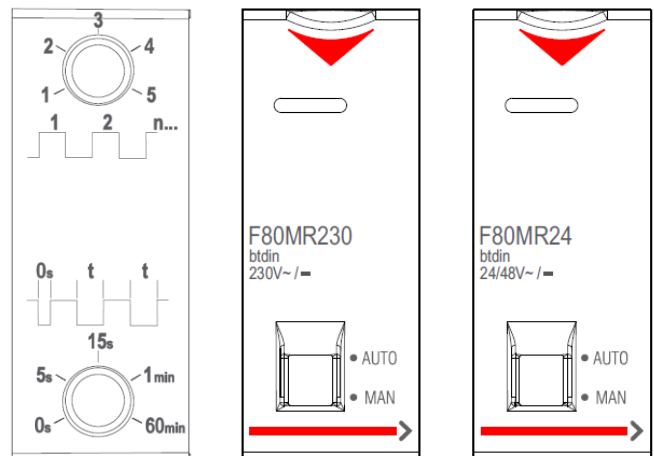
Wiring diagram with fault signalling changeover switch "SD" to prevent the closing in case of fault trip (overload, short-circuit, differential default or tripping by control auxiliary) with auxiliary contact SD



## 5. GENERAL CHARACTERISTICS

### Front side marking:

By permanent ink pad printing



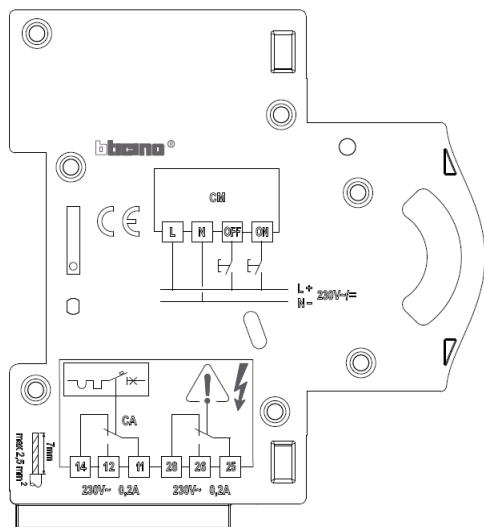
# Motor driven remote control device with automatic resetting

Cat. N°(s) : F80MR24 – F80MR230

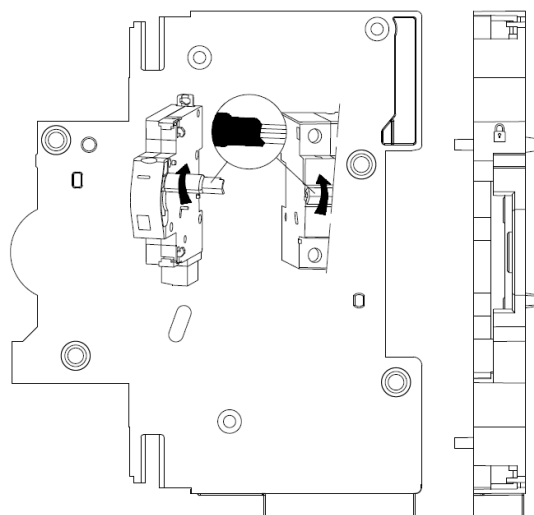
## 5. GENERAL CHARACTERISTICS (continued)

### Lateral side marking:

- . By laser.
- left side



right side



### Pulse rated voltage:

- .  $U_{imp} = 4 \text{ kV}$

### Insulation rated voltage:

- .  $U_i = 500 \text{ V}$

### Pollution degree:

- . 2 according to IEC/EN 60898-1.

### Dielectric strength:

- . 2500 V

### Mechanical endurance:

- . 20000 operations.

## 5. GENERAL CHARACTERISTICS (continued)

### Electrical endurance:

- . According to the standards of the associated protection device.

### Switching frequency:

- . 120 operations per hour (30 seconds between two successive operations)

### Enclosure material:

- . 20% glass-fiber reinforced polycarbonate
- . Characteristics of this material: self extinguishing, heat and fire resistant according to EN 60898-1, glow-wire test at 960°C for external parts made of insulating material necessary to retain in position current-carrying parts and parts of protective circuit (650°C for all other external parts made of insulating material).

### Average weight:

- . 0,157 kg.

### Volume when packed:

- . 1,20 dm<sup>3</sup>. Device packed by one

### Ambient operating temperature:

- . Min. = - 5 °C Max. = + 60 °C.

### Ambient storage temperature:

- . Min. = - 25 °C Max. = + 60 °C.

### Protection class:

- . Protection index of terminals against solid and liquid bodies: IP 20 (according to IEC 529, EN 60529).
- . Protection index of the box against solid and liquid bodies: IP 40 (according to IEC 529, EN 60529).
- . Protection index against mechanical shocks: IK 02 (according to EN 50102).

### Resistance to sinusoidal vibrations:

- . According to IEC 60068-2-6.
- . Axis : x, y, z.
- . Frequency range: 5÷100 Hz ; duration 90 minutes
- . Displacement (5÷13,2 Hz) : 1mm
- . Acceleration (13,2÷100 Hz) : 0,7g ( $g=9,81 \text{ m/s}^2$ ).

### Maximum power consumption:

- . <20VA rms (<80VA peak)

### Standby power consumption:

- . <1,5VA

### Maximum activation time:

- <0,5s to open or close the contacts of the associated device
- <1s to complete the operation (opening and closing)

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## 6. COMPLIANCE AND APPROVALS

### Compliance to standards :

- . CEE guidelines : 73/23/CEE + 93/68/CEE
- . Electromagnetic compatibility: EN 61543
- . Legrand devices can be used under the conditions of use as defined by IEC / EN 60947.

### Environment respect – Compliance with CEE directives:

- . Compliance with Directive 2002/95/EC of 27.1.2003 called "RoHS" provides the banishment of hazardous substances such as lead, mercury, cadmium, hexavalent chromium, brominated flame retardants polybrominated biphenyls (PBB) and polybrominated diphenylethers (PBDE) from 1 July 2006
- . Compliance with Directives 91/338/CEE of 18/06/91 and decree 94-647 of 27/07/04.
- . Compliance with Directives 73/23/CEE and 93/68/CEE (DBT).
- . Compliance with Directives 83/336/CEE, 92/31/CEE and 93/68/CEE (CEM).

### Plastic materials :

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

### Packaging:

- . Design and manufacture of packaging in accordance with decree 98-638 of 20.07.1998 and Directive 94/62/EC.

## 7. AUXILIARIES AND ACCESSORIES

### Signalling auxiliaries:





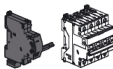
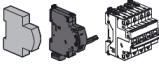
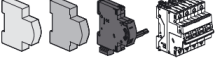
- . Auxiliary change over switch (½ module - cat.n° F80CA05, 1 module – cat.n° F80CA).
- . Auxiliary changeover switch - can be modified to a fault signalling switch ( ½ module - cat.n° F80RC05, 1 module - cat.n° F80CR).
- . Auxiliary changeover switch + fault signalling switch - can be modified to 2 auxiliary changeover switches (½ module - cat.n° F80CR05, 1 module - ref. F80CR).

### Control auxiliaries:

It is imperative to not associate control auxiliaries (cat. nos F80STx, F80SVx, F80SVEx, F80SVP) to motor driven control module with automatic resetting.

### Possible combinations with the signalling auxiliaries:

- . Auxiliaries are clipped on the left of the motor driven modules.
- . Two signalling auxiliaries maximum (cat. nos F80CA / CR / RC / CA05 / CR05 / RC05).
- . If two auxiliaries are fitted to motor driven remote control unit, the control auxiliary 1 module wide (cat. nos F80CA / CR / RC) must be fitted to the left of the auxiliary ½ module wide (cat. nos F80CA05 / CR05 / RC05).

				
			F80MC230/F80MC24 F80MR230/F80MR24 F80MCH230	
		F80... CA/CR/RC/CA05/ CR05/RC05	F80MC230/F80MC24 F80MR230/F80MR24 F80MCH230	
	F80... CA05/CR05/RC05/ST1/ST2/ SV1/SV2/SVP SVE1+F80B/SVE2+F80B	F80... CA05/CR05/RC05	F80MC24 F80MC230	
	F80... CA05/CR05/RC05/CA/CR/RC/ ST1/ST2/SV1/SV2/SVP SVE1+F80B/SVE2+F80B	F80... CA/CR/RC		
	F80... CA05/CR05/RC05	F80... CA05/CR05/RC05	F80MCH230	
	F80... CA05/CR05/ RC05/CA/CR/RC/ ST1/ST2/SV1/SV2/SVP SVE1+F80B/SVE2+F80B	F80... CA/CR/RC		
	F80... CA05/CR05/RC05	F80... CA05/CR05/RC05	F80MR230 F80MR24	
	F80... CA/CR/RC/CA05/CR05/RC05	F80... CA/CR/RC		