

**Motor driven remote control  
module DX<sup>3</sup>****Cat. N° (s):**  
F80MC24 - F80MC230 - F80MCH230

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# Motor driven remote control module DX<sup>3</sup>

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F80MC24 - F80MC230 - F80MCH230

## 1. DESCRIPTION - USE

This remote control can be associated to Bticino MCBs, RCBOs RCCBs and Remote trip isolating switches.

This remote control allows to open and close the associated device

### Technology :

. DC electric motor with permanent magnets

## 2. PRODUCT RANGE

### Cat. N. F80MC24 / MC230:

. Motor driven control unit  
. Width = 1 module (17,8 mm)

### Cat. N. F80MCH230:

. Motor driven control unit for devices 1,5 modules par pole  
. Width = 2 modules (35,6 mm)

### Rated Voltage & Frequency:

. F80MC24  
24 ÷ 48 V ~ 50 / 60 Hz with standard tolerances.  
24 ÷ 48 V d.c current  
. F80CM230 / F80CMH230  
230 V ~ - 50 / 60 Hz with standard tolerances.  
230 V d.c current

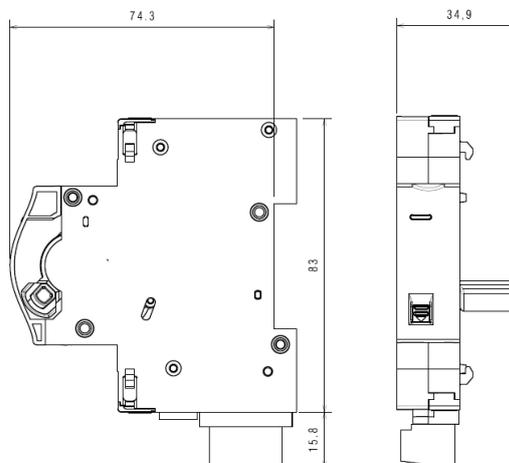
### Operating voltages:

. F80MC24  
Min (0,85 x Un): 20,4 V  
Max (1,1 x Un): 52,8 V  
. F80MC230 / F80MCH230  
Min (0,85 x Un): 195,5 V  
Max (1,1 x Un): 253 V

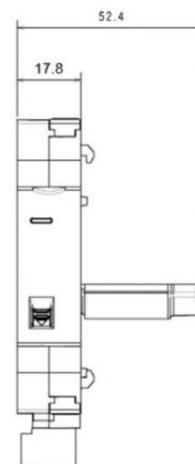
## 3. OVERALL DIMENSIONS

### . F80MC24 / F80MC230

This device is fitted with a short handle for the 1 module wide associated devices (1P or 1P+N).

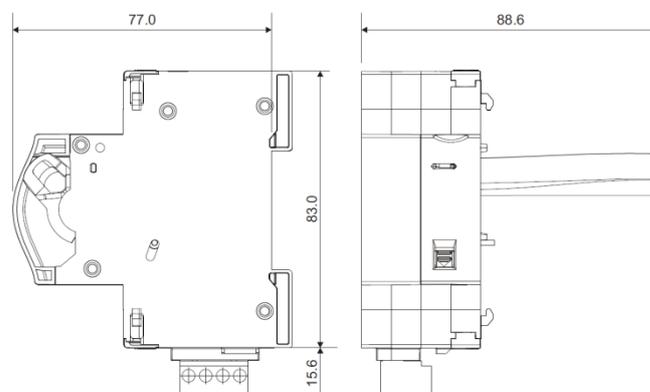


This device is delivered with an extension handle that must be used when it is associated to a devices wider than 1 module such as 2P, 3P, 3P+N, 4P modular devices.



### . F80MCH230

Control module for associated devices of 1,5 modules / pole width (2P, 3P, 4P)



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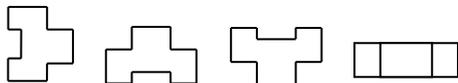
## 4. PREPARATION - CONNECTION

### Fixing:

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

### Operating positions:

. Vertical, Horizontal, backwards, on the side



### Supply:

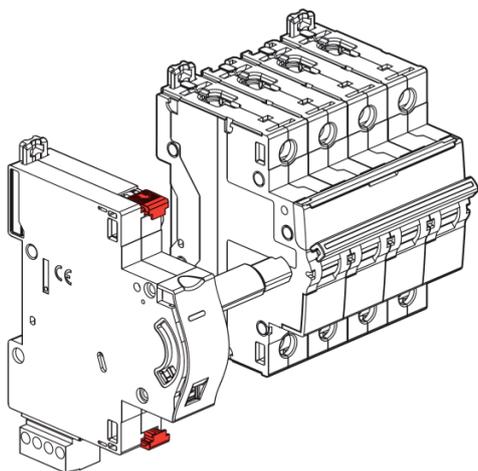
. From the bottom by the removable terminals.

### Association:

. **F80MC24 / MC230:** On the left of MCBs (P+N, 1P, 2P, 3P et 4P 1 module per pole wide), RCCBs, RCBs and Remote trip isolating switches (up to 63A, 1 module per pole wide).

. **F80MCH230:** On the left of MCBs (2P, 3P and 4P 1,5 modules per pole wide) and Remote trip isolating switches (up to 125A, 1,5 modules per pole wide).

. No tool required. Clipped to the associated device by mean of plastic clamps.



### Connection:

. Terminals protected against accidental contact (IP20, wired device).

### Depth of terminals:

. 10 mm.

### Connectable section:

	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>

### Stripping length recommended:

. 7 mm.

### Screw head:

. Slotted, diameter 3.5 mm.

### Recommended tightening torque:

. 0.4 ÷ 0.5 Nm.

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

### Tools required:

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

### 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.

### Selector AUTO / MAN:

. The selector enables and disables the automatic remote control.

. Positions:

- AUTO: possibility to automatically or manually control tripping and re-setting.
- MAN: manual control only.

. Signalling by LED:

- Green fixed: associated device "power on" and "remote control" in AUTO mode.
- Green flashing: remote control in MAN mode.

### Signalling:

. Signalling by LED:

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

### Operating:

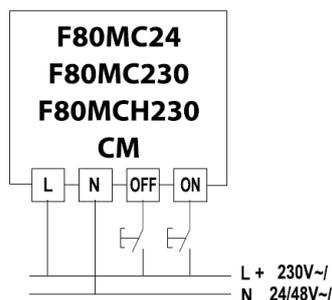
. After tripping of the associated device, perform a manual re-closing or a re-closing by the motor driven control unit.

### Control logics of the motor driven control unit:

. The device is fitted with an electronic card. The control pulse must be superior to 100ms. Only one pulse is sufficient for the command.

The device can manage the following commands types:

- Control by push button (impulse):

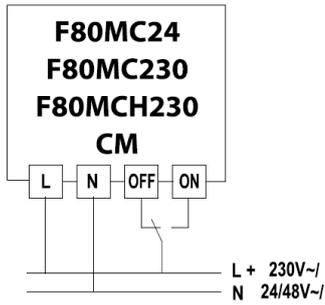


# Motor driven remote control module DX<sup>3</sup>

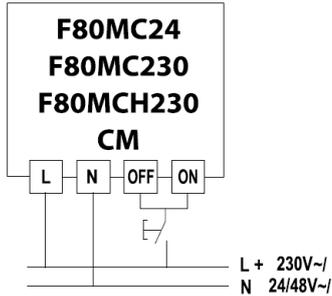
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## 4. PREPARATION – CONNECTION (continued)

- Control by changeover switch (sustained voltage)



- Cyclic control by push-button (impulse)

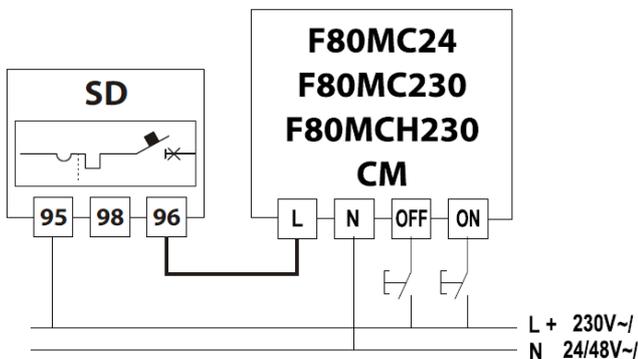


. The device doesn't execute any control operation in the following cases

- 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.

### Blocking of the device in case of tripping on default

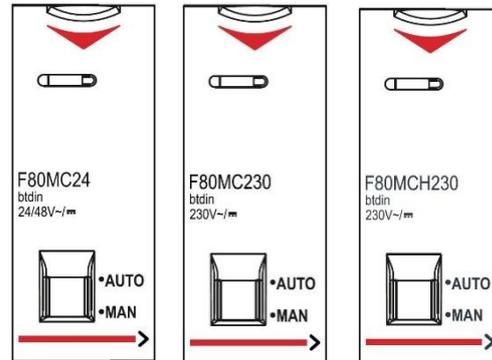
Wiring diagram with fault signalling changeover switch "SD" to prevent the closing in case of fault trip (overload, short-circuit, residual current default or tripping by control auxiliary).



## 5. GENERAL CHARACTERISTICS

### Front side marking:

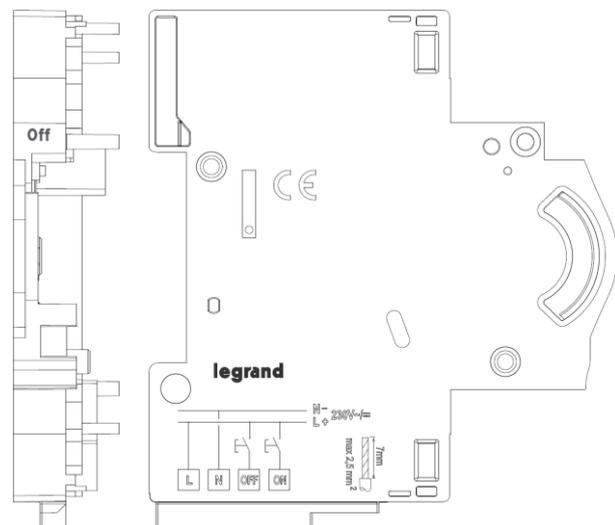
. By permanent pad printing



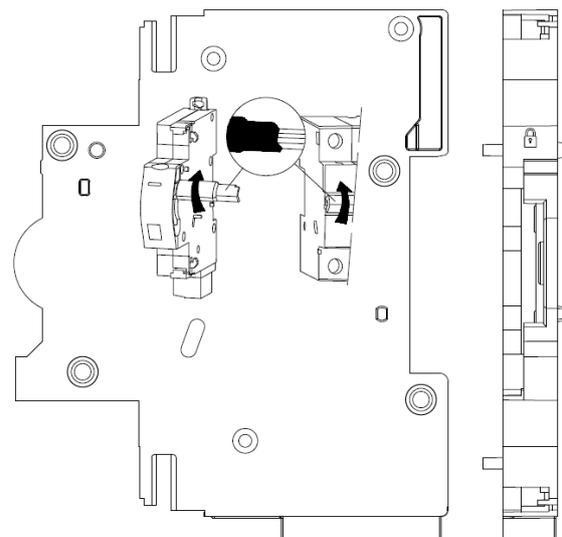
### Lateral side marking:

. By laser.

left side



right side



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## 5. GENERAL CHARACTERISTICS *(continued)*

### Pulse rated voltage:

. U<sub>imp</sub> = 4 kV

### Insulation rated voltage:

. U<sub>i</sub> = 500 V

### Pollution degree :

. 2 according to IEC/EN 60898-1.

### Dielectric strength:

. 2500 V

### Mechanical endurance:

. 20000 operations.

### Electrical endurance:

. In accordance with the standard of the associated protection device.

### Switching frequency:

. 120 operations per hour (30 seconds between two 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 per pole:

. F80MC24 / F80MC230: 0,105 kg.  
. F80MCH230: 0,194 kg

### Volume when packed:

. F80MC24 / F80MC230: 1 dm<sup>3</sup>.  
. F80MCH230: 1,365 dm<sup>3</sup>.

### 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 and NF C 20-010).  
. Protection index of the case against solid and liquid bodies:  
IP 40 (according to IEC 529, EN 60529 and NF C 20-010).

### 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): 1 mm  
. Acceleration (13.2 ÷ 100 Hz): 0.7g (g = 9.81 m/s<sup>2</sup>).

## 5. GENERAL CHARACTERISTICS *(continued)*

### Maximum power consumption in closing:

. 230V:  
20VA rms pour 0,7sec  
. 24Va.c.:  
20VA rms pour 0,7sec  
. 48Va.c.:  
24VA rms pour 0,7sec  
. 24Vd.c.:  
17W rms pour 0,7sec  
. 48Vd.c.:  
7,5W rms pour 0,7sec

### Maximum power consumption in closing (peak):

. 230V: 0,3A  
. 24Va.c.: 2A  
. 48Va.c.: 2,5A  
. 24Vd.c.: 1,5A  
. 48Vd.c.: 0,6A

### Maximum power consumption in opening:

. 230V:  
20VA rms pour 0,3sec  
. 24Va.c.:  
25VA rms pour 0,3sec  
. 48Va.c.:  
32VA rms pour 0,3sec  
. 24Vd.c.:  
8,5W rms pour 0,3sec  
. 48Vd.c.:  
7W rms pour 0,3sec

### Maximum power consumption in opening (peak):

. 230V: 0,3A  
. 24Va.c.: 2A  
. 48Va.c.: 2,5A  
. 24Vd.c.: 1,5A  
. 48Vd.c.: 0,6A

### Standby power consumption:

. 230V = 1,5VA  
. 24Va.c. = 1,2VA  
. 48Va.c. = 1,5VA  
. 24Vd.c. = 0,6W  
. 48Vd.c. = 0,75W

### Maximum activation time:

< 0.5 s to open or close contacts  
< 1 s to complete the operation (opening and closing)

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## 6. COMPLIANCE AND APPROVALS

### Compliance with 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.

## 7. AUXILIARIES AND ACCESSORIES

### Signalling auxiliaries:

- . Auxiliary contact (1 module – ref. F80CA).
- . Fault signalling changeover switch (½ module – ref. F80CR05).
- . Auxiliary contact modifiable in default signal (½ module – ref. F80RC05, 1 module – ref. F80RC).
- . Auxiliary contact + fault signalling switch - can be modified into 2 auxiliary contacts (1 module - ref. F80CR).

### Control auxiliaries:

- . It is compulsory to fit a signalling auxiliary between the motor driven control unit and control auxiliaries.
- . Shunt release (1 module - ref. . F80ST1/2).
- . Under voltage release (1 module - ref. F80SV1/2).
- . Autonomous shunt trip for NC push-button (1 module - ref.. F80SVE1/2).
- . Power Overvoltage Protection “POP” (1 module - ref. F80SVP).
- . Autonomous shunt trip for NC push-button + associated battery (1.5 modules - ref. SVE1/2+F80B1).

### Possible combinations with auxiliaries:

- . Auxiliaries are clipped on the left of the motor driven control module.
- . Maximum number of auxiliaries: 2.
- . Maximum number of signalling auxiliaries: 2.
- . Maximum number of control auxiliary: 1.
- . If signalling and control auxiliaries are associated on the same circuit breaker, the control auxiliary must be placed to the left of the signalling auxiliary.
- . It is compulsory to fit a signalling auxiliary between the motor driven control unit and control auxiliaries.

			F80MC230/F80MC24 F80MR230/F80MR24 F80MCH230	
		F80... BCR/CA/CR/RC/ CA05/ CR05/RC05	F80MC230/F80MC24 F80MR230/F80MR24 F80MCH230	
	F80... BCR/CA05/CR05/RC05/ST1/ST2/ SV1/SV2/SVP SVE1+F80B1/SVE2+F80B1	F80... BCR/CA05/CR05/RC05	F80MC24 F80MC230	
	F80... BCR/CA05/CR05/RC05/CA/CR/RC/ ST1/ST2/SV1/SV2/SVP SVE1+F80B1/SVE2+F80B1	F80... CA/CR/RC		
	F80... BCR/CA05/CR05/RC05	F80... BCR/CA05/CR05/RC05	F80MCH230	
	F80... BCR/CA05/CR05/RC05/CA/CR/RC	F80... CA/CR/RC		
	F80... BCR/CA05/CR05/RC05	F80... BCR/CA05/CR05/RC05	F80MR230 F80MR24	
	F80... BCR/CA/CR/RC/CA05/CR05/RC05	F80... CA/CR/RC		