TOPP
tecnologie del movimento

ORIGINALI

IT

EN

ISTRUZIONI PER L'INSTALLAZIONE E L'USO

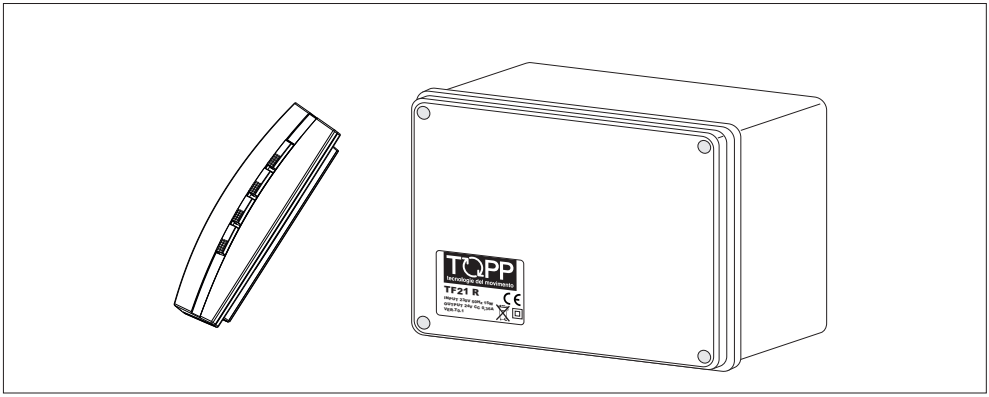
INSTALLATION AND USE INSTRUCTIONS

UNITÀ DI ALIMENTAZIONE E COMANDO MOTORI 24VDC / 230VAC

FEEDING AND CONTROL UNIT FOR 24VDC / 230VAC MOTORS

TF24R
TF44R

TF24R
TF44R



COD. 8P5008	
VER.0.0	REV.11.17

PRIMA DI INSTALLARE E UTILIZZARE L'APPARECCHIO È OBBLIGATORIO CHE L'INSTALLATORE E L'UTILIZZATORE LEGGANO E COMPRENDANO IN TUTTE LE SUE PARTI IL PRESENTE MANUALE.

IL PRESENTE MANUALE È PARTE INTEGRANTE DELL' APPARECCHIO E DEVE OBBLIGATORIAMENTE ESSERE CONSERVATO PER FUTURI RIFERIMENTI FINO ALLA DEMOLIZIONE DELLO STESSO.

BEFORE INSTALLING AND USING THE DEVICE, IT IS COMPULSORY FOR THE INSTALLER AND THE USER TO READ AND UNDERSTANDTHIS MANUAL IN ALL ITS PARTS.

THIS MANUAL IS INTEGRAL PART OF THE DEVICEAND MUST BE PRESERVED FOR FUTUREREFERENCE UNTIL DEMOLITION OF THE SAME.

ORIGINAL

CE

The undersigned, in the name of and behalf of the following company:
Topp S.r.l.
Via Galvani, 59
36066 Sandrigo (VI)
Italia
declares that the electrical device called:

POWER UNIT AND MOTOR DRIVER 24VDC / 230VAC
for windows automation

Type : *TF*
Model: *TF24R/ TF44R*

is in compliance with the following directives (including all applicable amendments):
Radio Equipment Directive (RED) 2014/53/EU
Rohs II Directive 2011/65/EU

and also declares that the following harmonised standards have been applied:
EN 50581:2012
EN 300 220-2 V3.1.1

and the following technical documents:
EN 60335-1:2012 + AC:2014 + A11:2014
EN 62233:2008
EN 55014-1:2006 + A1:2009 + A2:2011
EN 55014-2:2015
EN 61000-6-2:2005
EN 61000-6-3:2007 + A1:2011 + AC:2012
EN 61000-3-2:2014
EN 61000-3-3:2013
EN 301 489-3 V1.6.1

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Signature : .....
Administrator *Matteo Cavalcante*

Date: *Sandrigo, 13/06/2017*

2.1- GENERAL INSTRUCTIONS

BEFORE INSTALLING AND USING THE DEVICE, IT IS COMPULSORY THAT THE INSTALLER AND THE USER CAREFULLY READ AND UNDERSTAND THIS MANUAL IN ALL ITS PARTS.

THIS MANUAL IS INTEGRAL PART OF THE DEVICE AND MUST COMPULSORILY BE PRESERVED FOR FUTURE REFERENCE.

THE MANUFACTURER HAS NO LIABILITY FOR ANY EVENTUAL DAMAGE TO PERSONS, ANIMALS AND THINGS DUE TO THE INOBSERVANCE OF THE STANDARDS DESCRIBED IN THIS MANUAL.

2.2- INSTALLER AND USER

THE DEVICE INSTALLATION CAN BE PERFORMED EXCLUSIVELY BY COMPETENT AND QUALIFIED TECHNICAL PERSONNEL SATISFYING THE PROFESSIONAL AND TECHNICAL REQUIREMENTS FORESEEN BY THE LAWS IN FORCE IN THE COUNTRY OF INSTALLATION.

THIS DEVICE CAN BE USED EXCLUSIVELY BY A USER ACTING IN CONFORMITY WITH THE INSTRUCTIONS CONTAINED IN THIS MANUAL.

2.3- WARRANTY

THE DEVICE WARRANTY EXPIRES, IF ITS USE DOES NOT COMPLY WITH THE INSTRUCTIONS AND PRESCRIPTIONS DESCRIBED IN THIS MANUAL, AS WELL AS IF NON-ORIGINAL COMPONENTS, ACCESSORIES, SPARE PARTS, AND CONTROL SYSTEMS ARE USED (SEE LAST PAGE).

2.4- TECHNICAL ASSISTANCE

For the technical assistance apply to your Dealer or to the Manufacturer.

2.5- RESERVED RIGHTS

The reserved rights on this manual "Installation and use instructions" remain property of the Manufacturer.
Each information herein contained (text, drawings, diagrams, etc.) is reserved.
None part of this manual can be reproduced and disclosed (totally or partially) by any reproduction means (photocopies, microfilms or other) without written authorization of the Manufacturer.

2.6- PERSONNEL DESCRIPTION

THE USERS MUST NOT CARRY OUT OPERATION RESERVED TO THE ASSISTANCE OR TO SPECIALIZED TECHNICIANS. THE MANUFACTURER IS NOT RESPONSIBLE FOR DAMAGES DUE TO THE NOT COMPLIANCE WITH THIS WARNING

Specialized electrician:
the specialized technician must be able to install the feeding unit, to set it working under "maintenance"; he must be qualified for all the electric and mechanic interventios of adjustment and maintenance. He is also able to operate in presence of voltage inside the electric cabinets and shunt boxes.

User:
person able to menage the feeding unit under standard conditions using the suitable control units. Must also be able to operate with the control unit under "maintenance" to make simple ordinary maintenance operations (cleaning).

2.7- MAINTENANCE

IN CASE THE FEEDING UNIT HAS ABNORMAL FUNCTIONING CONTACT THE MANUFACTURER.

ANY INTERVENTION ON THE FEEDING UNIT MUST BE CARRIED OUT ONLY AND EXCLUSIVELY BY SPECIALIZED TECHNICIANS QUALIFIED BY THE MANUFACTURIER. TOPP IS NOT RESPONSIBLE FOR ANY INTERVENTION CARRIED OUT BY NOT QUALIFIED PERSONNEL.

The input unit and relevant accessories makes use of components not requiring special periodical or extraordinary maintenance. Under hard work condition (e.g. dirty working environment, frequent running, high thermic jump, etc.) or external installation (to a limited extent to the sensors) it is compulsory to check, at least every 6 month, the system fixing seal and gaskets as well as the wiring and connections condiktion.
With the same time limit , check the control units and accessories (rain and wind sensor) are not damaged or overheated. In particular, as precautionary action, we suggest the replacement in case they start showing wear due to bad weather or sun light exposure (opacity of the coloring and/or external covers deformation, decoloration, opaque spots, checking procedure, there are some malfunctions, contact TOPP assistance service.

3.1- RATING PLATE AND "CE" MARKING

The CE marking certifies the compliance of the machine with the essential safety and health requirements foreseen by the product European Directives.

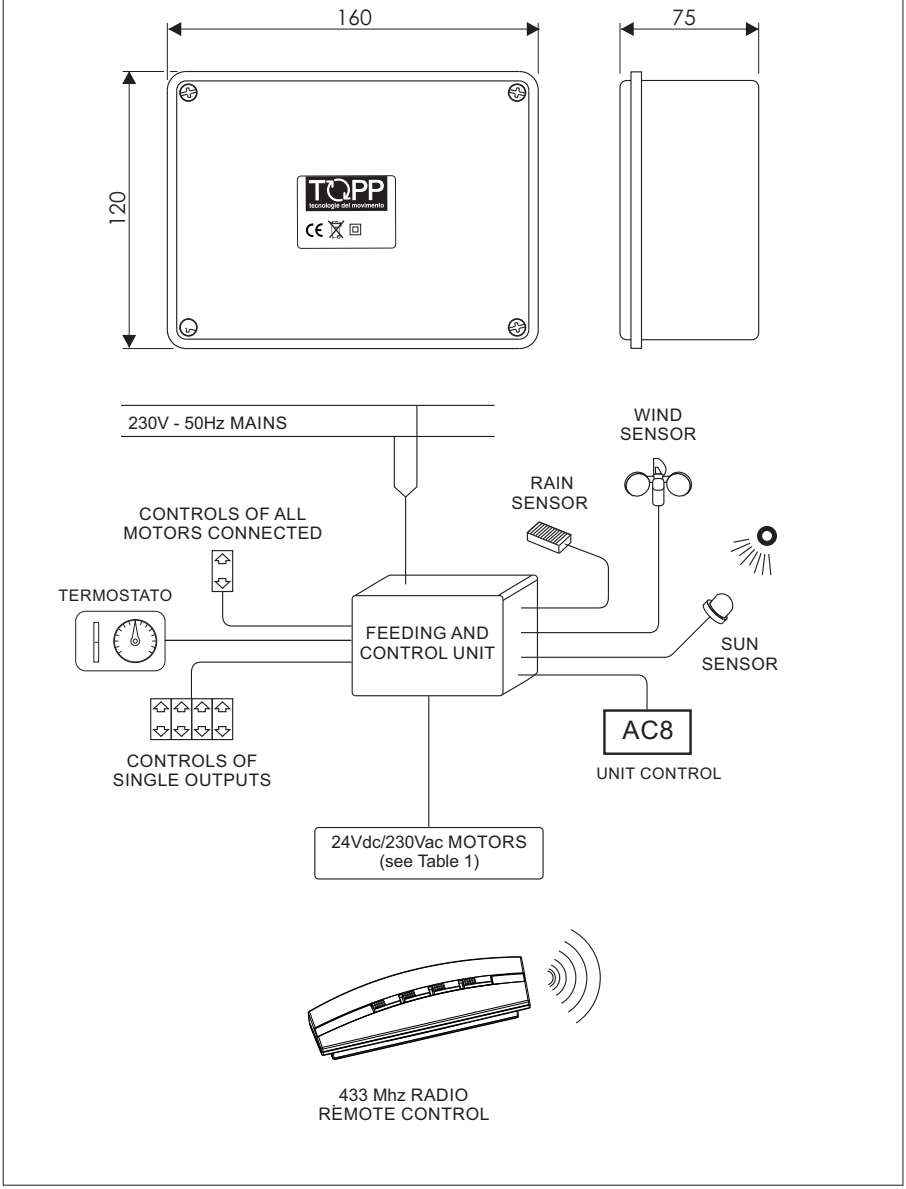
The rating plate is an adhesive plate in polyester, silk-screen printed in black, having the following size: L=36 mm - H=50 mm.

It is applied externally on the device. The plate bears in readable and indelible way the following data:

- logo of the manufacturer
- type and model
- power supply voltage and frequency (V-Hz)
- absorbed electric power P (W)
- output voltage (V) and current (A)
- version
- CE marking
- symbol of RAEE Directive
- symbol of double insulation
- serial number and particolar number

3.2- DENOMINATION OF THE COMPONENTS AND DIMENSIONS

Fig.2 Dimensions in mm



3.3- TECHNICAL DATA

Tab.1 contains the technical data characterising the device.

	TF24/R	TF44/R
Power supply voltage	230 V - 50 Hz	
Output voltage	24 V ⎓	230 V ~
Max. output current	1,35 A	1,3 A
Absorbed power	62 W	300 W
Service	According to the motors connected	
Prearrangement connection to external devices	Wind, rain, brightness sensors, AC8 unit control, thermostat and manual control	
Double electric insulationyes	Class II	
Operating temperature	- 5 ºC + 50 ºC	
Dimensions	**160 x 120 x 75 mm**	
Connectable C20 actuators	4	6 (16*)
Connectable C25 actuators	1 (4*)	4 (16*)
Connectable C30 actuators	1 (4*)	4 (16*)
Connectable C40 actuators	1 (4*)	5 (20*)
Connectable ACK4 actuators	1	4 (16*)
Connectable C130 actuators	4	6 (16*)
Connectable C240 actuators	2	4 (8*)
Connectable SL60 actuators	1 (4*)	4 (16*)
Connectable T50 actuators	1	4 (16*)
Connectable T80 actuators	1	4 (8*)
Gross weight	1,3 kg	

Tab.1

(*) Indicated in brackets maximum quantity of actuators connectable with dip-switch No.7 in OFF position (see page 16, point 9). Motors must be equally located on the four feeding unit inputs

3.4- DESTINATION OF USE

THE DEVICE HAS BEEN DESIGNED AND MANUFACTURED ONLY TO FEED AND CONTROL "ORIGINAL TOPP" MOTORS: WINDOW AUTOMATION ACTUATORS - MOD. C20 - C25 - C30 - C40 - ACK4 - C130 - C240- SL60- T50 - T80.

3.5- USE LIMITS

The device has been designed and manufactured exclusively for the destination of use given in **par.3.4**, therefore, any other type of use is strictly forbidden in order to assure in any moment the safety of the installer and of the user, as well as the efficiency of the device itself.

IT IS STRICTLY FORBIDDEN TO USE THE DEVICE FOR IMPROPER USES, DIFFERING FROM THE ONE FORESEEN BY THE MANUFACTURER (SEE PAR.3.4).

IT IS STRICTLY FORBIDDEN TO INSTALL THE DEVICE ON THE EXTERNAL SIDE OF THE ROOM SUBJECT TO ATMOSPHERIC AGENTS (RAIN, SNOW, ETC.).

THE USE OF THE DEVICE IN ENVIRONMENTS WITH POTENTIALLY EXPLOSIVE ATMOSPHERE IS STRICTLY FORBIDDEN.

IT IS COMPULSORY TO KEEP THE PACKAGE AND THE DEVICE OUT OF REACH OF CHILDREN.

3.6- PACKAGE

Each standard package of the product (cardboard box) contains:

- No. 1 Feeding and control unit for 24VDC/230VAC motors;
- No. 3 Fairleads (ø 6) for connection cables;
- No. 1 Package with dowels and fastening screws;
- No. 1 Installation and use instructions.

MAKE SURE THAT THE ABOVE DESCRIBED COMPONENTS ARE CONTAINED IN THE PACKAGE, AS WELL AS THAT THE DEVICE HAS NOT BEEN DAMAGED DURING TRANSPORT.

SHOULD ANY ANOMALY BE DETECTED, IT IS FORBIDDEN TO INSTALL THE DEVICE, AND IT IS COMPULSORY TO REQUIRE TECHNICAL ASSISTANCE FROM YOUR DEALER OR THE MANUFACTURER.

THE PACKAGING (PAPER, PLASTIC, ETC.) HAS TO BE DISPOSED ACCORDING TO THE LAWS IN FORCE.

4.1- GENERAL NOTES

THE OPERATIVE PERSONNEL MUST BE AWARE OF THE ACCIDENT RISKS, OF THE SECURITY SYSTEM FOR THE OPERATORS, THE GENERAL RULES TO PREVENT ACCIDENTS PROVIDED BY THE INTERNATIONAL DIRECTIVES AND BY THE LAW IN FORCE IN THE COUNTRY WHERE THE FEEDING UNIT IS USED, THE BEHAVIOUR OF THE OPERATIVE PERSONNEL, IN ANY CASE, MUST BE STRICTLY IN COMPLY WITH THE RULES ON THE ACCIDENT PREVENTION IN FORCE IN THE COUNTRY WHERE THE UNIT IS USED.

DO NOT REMOVE OR CHANGE THE PLATES STICKED BY THE MANUFACTURER ON THE FEEDING UNIT.

IN CASE THE WINDOWS FRAME IS ACCESSIBLE OR INSTALLED TO A HIGH INFERIOR TO 2.5m IF IT CAN BE CONTROLLED BY REMOT CONTROL OR BY USERS NOT QUALIFIED, PROVIDE THE SYSTEM WITH AN EMERGENCY STOP, THAT AUTOMATICALLY INTERVENES TO AVOID THE RISK TO CRUSH OR DRAG PARTS OF THE BODY LOCATED BETWEEN THE MOVING AND THE FIXING PARTS OF THE WINDOW FRAMES.

4.2- PROTECTIONS AGAINST ELECTRIC HAZARD

The device is protected against electric hazard due to direct and indirect contacts.
The protection measures against direct contacts aim at protecting people against hazards due to contact with active parts, usually live parts; while the protection measures against indirect contacts aim at protecting people against hazards due to conducing part, which are usually insulated, but could become live in case of failure (insulation failure).
The adopted protection measures are the following:

1) Insulation of live parts by means of a plastic material body;

2) Enclosure with suitable protection degree;

3) Protection of passive type given by the use of components with double insulation, also called components of class II or with equivalent insulation (it is forbidden to perform the connection to the earthing plant of the devices equipped with double insulation).

4.3- PLATES RELATING TO SAFETY

IT IS FORBIDDEN TO MOVE, DAMAGE OR MAKE LESS VISIBLE THE PLATES RELATED TO THE SECURITY OF THE FEEDING UNIT. THE LACK OF COMPLIANCE WITH THE ABOVE MAY SERIOUSLY DAMAGE PEOPLE OR THINGS.
THE MANUFACTORER IS NOT RESPONSIBLE FOR ANY DEMAGE CAUSED BY THE NOT COMPLIANCE WITH THIS WARNING.

Fig. 3 illustrates the safety plate: this must applied directly to the outside of the actuator or near it and always in a position where it can be seen by the installer and/or operator.

4.4- RESIDUAL RISKS

The device does not have residual risks. The installer and the user are herewith informed that after the actuators have been installed on the window, the automatic enabling of the same can accidentally generate the following residual risk:

Residual risk:
Hazard of squashing or dragging of body parts inserted between the movable and the fix part of the window frame.

Exposure frequency:
Accidental and when the installer or the user decides to perform a wrong voluntary action.

Severity of the damage:
Light lesions (usually reversible).

Adopted measures:

1) Manual control (radio control or push-button): It is compulsory to verify that near the window there are not persons, animals or things whose safety may be accidentally jeopardized. During actuator operation, it is compulsory to be in a safe control position assuring visual control on the window movement.

2) Automatic control (sensors): It is compulsory to place on the window suitable safety signals and/or to install a suitable acoustic/light signaller nearby.
If the movable part of the window is under 2.5 m respect to the floor, it would be advisable to use actuator in according with the EN 60335-2-103 directive or shield the dangerous parts with suitable safety .
In order to assist installers in applying the European regulations and directives regarding the safety and use of the motorized actuator, a special downloadable guide is available from our website www.topp.it.

Fig.3

5.1- GENERAL INSTRUCTIONS

THE DEVICE INSTALLATION CAN BE PERFORMED EXCLUSIVELY BY COMPETENT AND QUALIFIED TECHNICAL PERSONNEL SATISFYING THE PROFESSIONAL AND TECHNICAL REQUIREMENTS FORESEEN BY THE LAWS IN FORCE IN THE COUNTRY OF INSTALLATION.

BEFORE CONNECTING THE MOTORS (ACTUATORS) TO THE FEEDING AND CONTROL UNIT, VERIFY THAT THEY ARE CORRECTLY INSTALLED ON THE FRAMES IN COMPLIANCE WITH THE RELATED "INSTALLATION AND USE INSTRUCTIONS".

THE DEVICE HAS TO BE PLACED WITHIN THE ROOM IN A SUITABLE POSITION ACCORDING TO THE DISTANCE OF THE MOTORS (ACTUATORS) TO BE CONTROLLED IN COMPLIANCE WITH THE SAFETY CONDITIONS FORESEEN BY THE LAWS IN FORCE IN THE COUNTRY OF USE.

THE FOLLOWING INSTRUCTIONS, TO EASE UNDERSTANDING, REFER TO A FEEDING AND CONTROL UNIT CALLED TF FOR FOUR MOTORS, SINCE THE ONE FOR ONE SINGLE MOTOR HAS A SIMILAR OPERATION.

5.2- INSTALLATION OF THE SENSORS

THE INSTALLATION OF THE SENSORS FOR WIND, RAIN, SNOW, ETC. HAS TO BE PERFORMED OUTSIDE THE BUILDING, PREFERABLY ON THE ROOF OR IN A SIMILAR POSITION.

1) The **rain sensor** has to be placed with an inclination of 5°÷10° with reference to the horizon and in such a position as not to have shields against rain fall (the positioning under trees or close to walls shall be avoided since this alters the natural meteorological event);

2) The **wind sensor** shall be located far from hindrances, which influence the wind flow (gutters, trees, walls, etc.);

3) The **brightness sensor (sun)** has to be placed in such a position as to assure the same intensity of light perceived on the windows on which are installed the motors (actuators) fed and controlled by the feeding unit.

5.3- INSTALLATION OF THE POWER SUPPLY UNIT

BEFORE INSTALLING THE FEEDING UNIT PERFORM THE CORRECT INSTALLATION OF THE SENSORS (SEE PAR.5.2) AND THE WIRING OF THE CONNECTION WIRES OF THE SAME.

1) Open the package **(par.3.6)** and extract the various components;

2) Select the input position on the feeding unit of the sensor wires and mark the related drilling points devices as shown on pictures 4 and 5.At this stage it is important to secure cables by cable ties in the appropriate fasteners (see fig. 4-5) placing them as far as possible from the transformer as shown in the figures.The electric connection of the control units has to be carried out so as to divide the cables in 230V and 24V. It is suggested to follow one of the next 3 application ways taking the TF24 unit as an example.According to the 1st method, each cable should pass through cable glands type PG7 (see fig. 4 for a correct wiring of the control unit). In this case, provide for holes having 13 mm diameter and 20 mm far one from the other.

The 2nd method provides for separate raceways and integral with the box (cables do not have to be accessible). In this case, provide for holes having 16 mm diameter for the cables at 230V and having 20 mm diameter for the cables at 24V. Then use loglines with suitable diameters(see fig. 5 for a correct wiring of the control unit).

The 3rd method consists in drilling holes having 10 mm diameter following the instructions given in fig. 4 and mounting the cable glands included in the standard supply. **It is advisable to follow this technique only when cables are not at all accessible or subject to torsion or traction.**

3) Open the cover of the feeding unit container;

IN THE COVER OF THE VERSION TF24R IT IS INSTALLED THE ELECTRONIC CARD THAT IS CONNECTED BY THREE WIRES TO THE POWER TRANSFORMER. PAY UTMOST CARE NOT TO DAMAGE THE ELECTRIC CONNECTIONS OR THE CONNECTION TO THE TERMINALS.

4) Using a suitable drill, perform holes having a diameter of 3.5 mm on the two impressions prearranged for the fastening screws located on the bottom of the container;

It is suggested to select them diagonally to each other avoiding the ones close to the transformer;

5) With a suitable drill, perform in the container holes in according with type of application decided,how showed at the **point 2**;

6) Place the container in the pre-selected position and through the holes having 3.5 mm diameter mark with a pencil the drilling points on the installation support (wall or other) of the feeding unit. Check the perfect horizontal and vertical alignment;

7) With a suitable drill, perform holes having a diameter corresponding to the dowels and to the screws included in the standard supply;

8) Mount the container of the feeding unit and tighten the screws definitively;

9) Introduce the cables into the appropriate holes, then fasten the lugs or the loglines according to the chosen type of installation.Prearrange the wires of the sensors and of the motors to be connected placing them suitably in order to perform a correct ordered and functional electric connection;At this stage it is important to secure cables by cable ties in the appropriate fasteners (see fig. 4-5) placing them as far as possible from the transformer as shown in the figures.

10) Perform the electric connections in compliance with the provisions of **par. 5.8** and with reference to the wiring diagram corresponding to the purchased feeding unit model;

11) Close the box making sure that the 4 screws on the cover are properly fastened

12) Perform the final test, verifying the correct tripping of the sensors according to the prescriptions of the following paragraph.

5.4- TRIPPING OF THE SENSORS

- In order to let the **rain sensor** trip, it is sufficient to touch with a finger for some second the sensitive part (there is not hazard of electric shock since the device is protected and works at low voltage).
- In order to let the **wind sensor** trip, let the fan rotate for at least 5 seconds.
- In order to let the **brightness (sun) sensor** trip, it is sufficient to cover it with a cloth and then to uncover it. The cloth shall preferably have a dark colour. Perform the tripping adjustment according to the prescriptions of the following paragraph.

5.5- TECHNICAL INFORMATION ON OPERATION

The control unit **TF** can operate the connected motors (actuators) manually or automatically by means of the sensors connected to it.

For the manual operation, it is necessary to connect temporarily the feeding unit to a manual push-button:Bipolar switch button with central OFF position, with biased-off switch;(also called "with man present"), or the control occurs by means of 433MHz radio control .

5.6- AUTOMATIC OPERATION WITH PREDEFINED LOGIC

The automatic operation follows a predefined logic.

1) When an atmospheric event of rain or wind beyond the pre-set limits occurs, the feeding unit closes automatically the connected windows independently from the control status. In other words, the automatic command takes priority on any other command given.

2) The automatic closing command due to wind or rain is enabled for 1 minute.
After the closing command due to wind, all manual commands are inhibited for 6 minutes.

3) The forced manual re-opening is allowed also with enabled rain sensor.
After 10 minutes (approx.) from the opening command, if the sensor is still wet, the windows close; while if it is dry, they remain open.

4) The value referred to the wind speed can be calibrated by acting on the DIP-Switch

housed on the electronic card. The feeding unit starts to work when the wind speed exceeds the value set in the programmed “DIP-Switch”;
The programming codes are given in **Tab.2:**

Tab.2

Speed	DIP-switch N.1	N.2	N.3
5 km/h - (2,083 Hz)	OFF	OFF	OFF
10 km/h - (4,167 Hz)	ON	OFF	OFF
15 km/h - (6,250 Hz)	OFF	ON	OFF
20 km/h - (8,333 Hz)	ON	ON	OFF
25 km/h - (10,417 Hz)	OFF	OFF	ON
30 km/h - (12,500 Hz)	ON	OFF	ON
35 km/h - (14,583 Hz)	OFF	ON	ON
40 km/h - (16,667 Hz)	ON	ON	ON

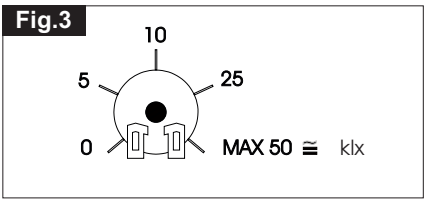
5) The sun or brightness sensor enables by means of the “DIP-switch” **No.6** that has to be in **OFF** position;

Function	DIP-Sw. No.6
Brightness sensor enabled (wind/rain sensors outputs M5-M6 disabled)	OFF
Brightness sensor disabled (wind/rain sensors outputs M5-M6 enabled)	ON

Tab.3

6) The brightness (sun) sensor trips any time that the light intensity value exceeds the programmed threshold and remains at those values for at least 10 consecutive minutes. The tripping threshold is adjusted by acting on the **Trimmer RT1 (Fig.3)** placed on the electronic card of the control unit. The trimmer adjusts from **0** (darkness) to about **50 klx** (shining sun and clear midday sky) with intermediate progressive values; (see diagram given here below). The exceeding of the threshold set on the trimmer generates an OPEN/CLOSE command to the motors connected to the outputs **M5** and **M6** (motors **No.3** and **No.4**);

Fig.3



7) The brightness (sun) sensor requires to disable the controls of the rain and wind sensors for the outputs **M5** and **M6** by means of the "DIP-switch" **No.6**, which has to be on **"OFF"** position. The brightness sensor can have two opposite functions;
To select the wished function, it is necessary to act on the "DIP- switch" **No.4** placed on the electronic card programming it as follows:

Function	Position of DIP-switch No.4
If the OPEN (+ light) threshold is exceeded	ON
If the CLOSE (+ light) threshold is exceeded	OFF

Tab.4

8) By programming the "DIP-switch" **No.5**, it is possible to modify the type of control.
When the "DIP-switch" is programmed on "AUTOMATIC" mode, radio control or remote control operates on a step by step system basis (open, stop, close, stop, etc.),while the control by manual push button works with the operating system step by step with two contacts. When it is programmed on "MAN PRESENT" mode, only the manual push-button is enabled. This choice of indirect safety excludes consequently all commands coming from radio control and remote control.To vary this function, set the following programming:

Function	Position of DIP-switch No.5
Automatic	OFF
Man present	ON

Tab.5

9) By programming the "Dip-switch" No. 7 it is possible, only for a general actuators command, to set the activation times of the relays that control the motors (this function is necessary to increase the number of connectable actuators).

Function	Position Dip-switch N.7
1 second delay between 2 consecutive command.	ON
1 minute delay between 2 consecutive command.	OFF

Tab.6

10) "Dip-Switch" No. 8 must be programmed when a thermostat is connected to the control unit (in this case, the controller provides a hysteresis of 5 min. over the general opening and closing controls).
Important note: if you want to activate dip-switch No. 5, it has to be in automatic mode (OFF).Once it has been activated, the thermostat controls all the outputs; in any case, you can still control them also manually (via remote control or push-button). The thermostat regains control over the actuators operated manually when it gives a new command contrary to what had been previously given by the remote control (or push-button).

Function	Position Dip-switch N.8
Thermostat enabled.	ON
Thermostat disabled.	OFF

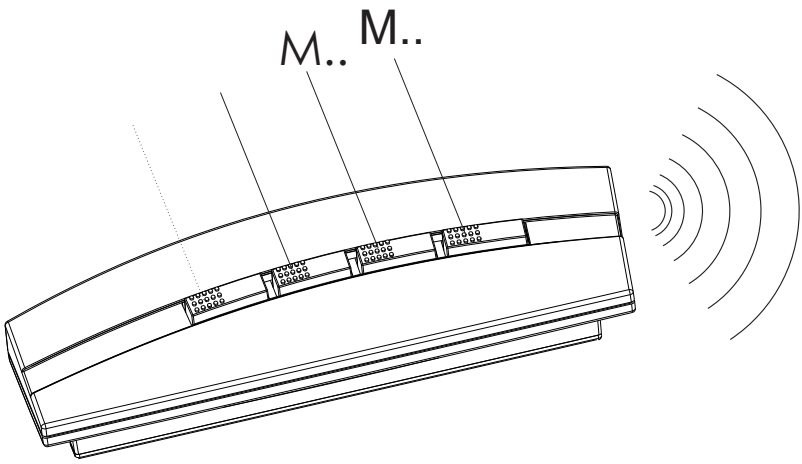
Tab.7

5.7- PROGRAMMING OF 433 Mhz RADIO REMOTE CONTROL MOD. TR8/F33.

THIS CHAPTER DESCRIBES THE PROGRAMMING OF THE "433 Mhz. RADIO REMOTE CONTROL" MOD.TR8/F33.

The green LED **DL1** blinks every time the receiver within the feeding unit receives a valid code from the radio control, even if it has not been programmed. In this way, it is possible to have more information on the possible malfunctions of the system.

Given that the used coding is with variable code, each remote control sends a signal that is different from all the others. Therefore, the receiver must be able to recognise the enabled remote controls.
To each push-button corresponds an **M** output:



To enable a remote control proceed as follows:

- Press **SP2** until the RED LED **DL2** lights.
  Then release it.
- Press any key of the remote control that you wish to enable.
  When the receiver receives the signal from the remote control, the LED **DL2** switches off.
- Press again, a second time, the key of the remote control.
  The LED **DL2** blinks for a while to indicate that the remote control has been programmed.
- Repeat the steps described above for each remote control that you wish to enable.

THE PROGRAMMING PHASE ENDS, IF THE RECEIVER DOES NOT RECEIVE ANY VALID CODE WITHIN 30 SECONDS.

THE RECEIVER CAN STORE UP TO 6 REMOTE CONTROLS. AN EVENTUAL SEVENTH REMOTE CONTROL WILL NOT BE ACCEPTED.

DURING THE PROGRAMMING PHASE, MOVE THE REMOTE CONTROL AWAY FROM THE RECEIVER OF AT LEAST 1.5 METERS.

5.7.1- PROGRAMMING RESET

Should you wish to delete all programmed remote controls, press the key **SP2** on the electronic card of the control unit until the LED **DL2**, which has in the meanwhile switched on, does not start to blink. At this point, all remote controls previously stored in the receivers have been deleted. The deletion lasts about 8 seconds.

5.8- ELECTRICAL CONNECTIONS

THE ELECTRIC CONNECTION OF THE ACTUATOR CAN BE PERFORMED ONLY BY COMPETENT AND QUALIFIED TECHNICAL PERSONNEL SATISFYING THE TECHNICAL AND PROFESSIONAL REQUIREMENTS FORESEEN BY THE LAW IN FORCE IN THE COUNTRY OF INSTALLATION ISSUING TO THE CUSTOMER A DECLARATION OF CONFORMITY FOR THE CONNECTION AND/OR THE PLANT PERFORMED.

BEFORE PERFORMING THE ELECTRIC CONNECTION OF THE FEEDING UNIT, VERIFY THE CORRECT INSTALLATION OF THE MOTORS (ACTUATORS).

THE MAINS TO WHICH THE FEEDING UNIT IS CONNECTED MUST COMPLY WITH THE REQUIREMENTS OF THE LAWS IN FORCE IN THE COUNTRY OF INSTALLATION, AS WELL AS SATISFY THE TECHNICAL FEATURES GIVEN IN TAB.1 AND THE RATING PLATE (PAR.3.1).

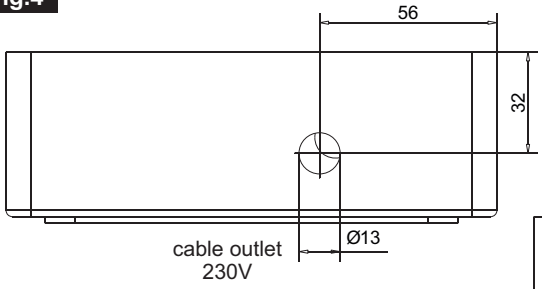
THE SECTION OF THE MAINS CABLES MUST BE PROPERLY SIZED ACCORDING TO THE ABSORBED ELECTRIC POWER (SEE RATING PLATE AND "CE" MARKING).

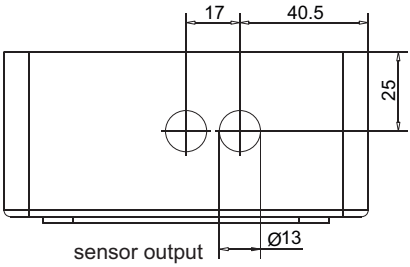
ANY TYPE OF ELECTRIC MATERIAL (PLUG, CABLE, TERMINALS, ETC.) USED FOR THE CONNECTION MUST BE SUITABLE FOR THE USE, WITH "CE" MARKING, AND COMPLYING WITH THE REQUIREMENTS FORESEEN BY THE LAWS IN FORCE IN THE COUNTRY OF INSTALLATION.

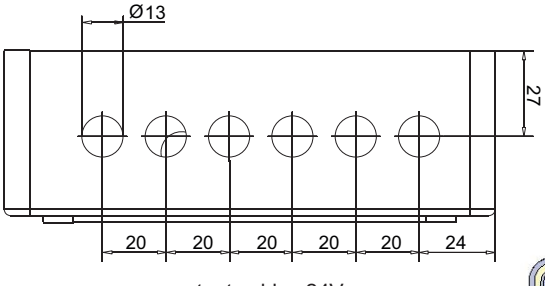
TO GUARANTEE AN EFFICACIOUS SEPARATION OF THE POWER ELECTRIC SYSTEM IT IS COMPULSORY TO INSTALL AT THE SOURCE OF THE MACHINE A SWITCH (BUTTON) BIPOLAR QUALITY APPROVED WITH A CONTACT OPERING OF AT LEAST 3mm.

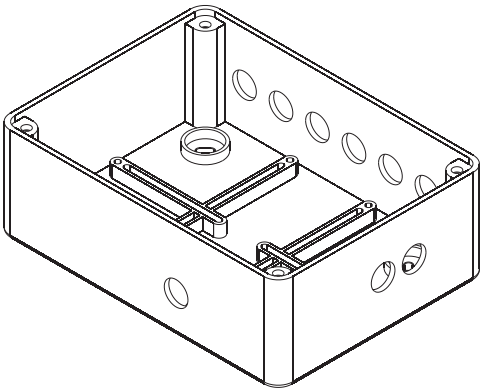
THE FEEDING AND CONTROL UNITS MOD.TF24R CAN BE SUPPLIED ALSO BY A 24V DC EXTERNAL SOURCE BY MEANS OF THE "ORIGINAL TOPP" FEEDER MOD. AL/TF WITH BUFFER BATTERIES. IN THIS CASE, THE CONNECTION HAS TO BE PERFORMED ON THE SUITABLE TERMINAL BOARD (M2) OF THE ELECTRONIC CARD OF THE FEEDING AND CONTROL UNIT.

Fig.4


56
32
cable outlet
230V
Ø13


17
40.5
25
sensor output
cables
Ø13


Ø13
27
20
20
20
20
20
24
output cables 24V



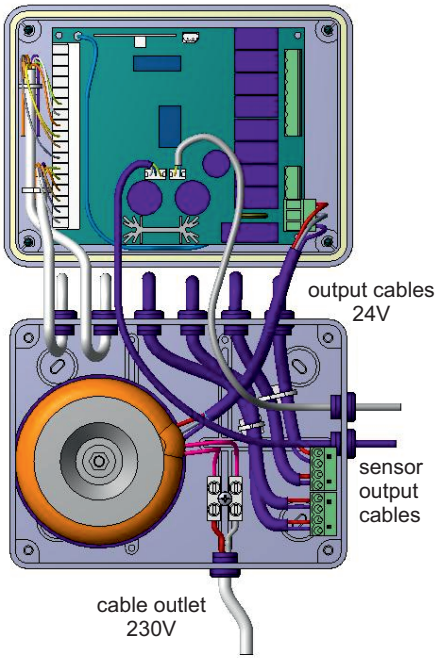
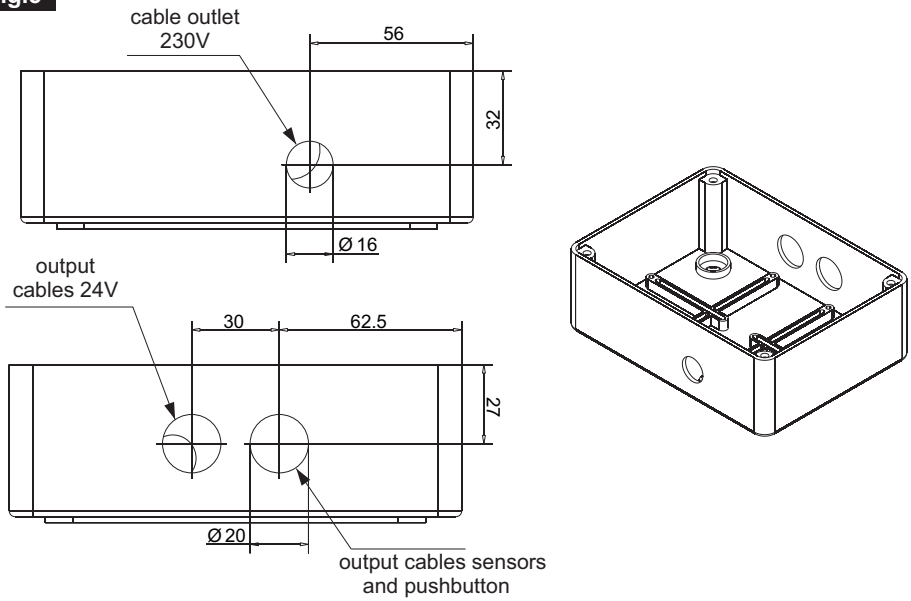
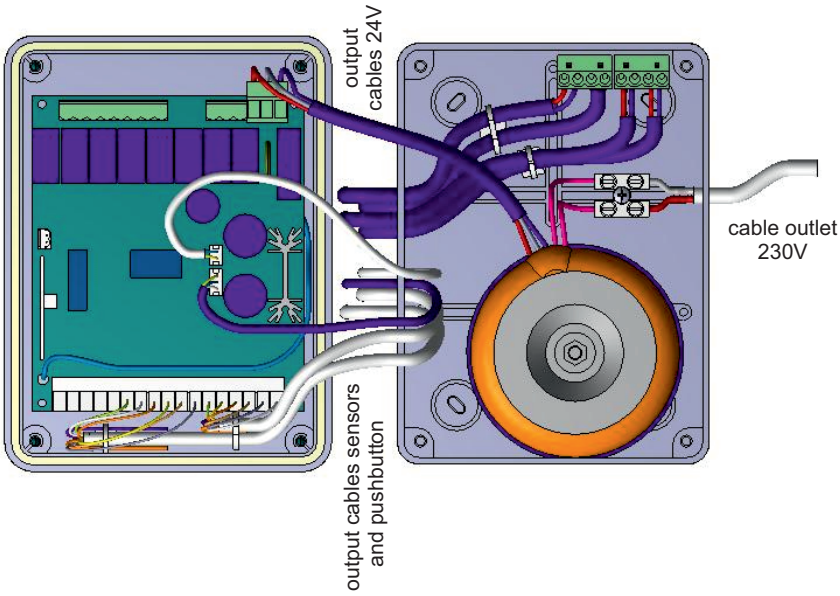
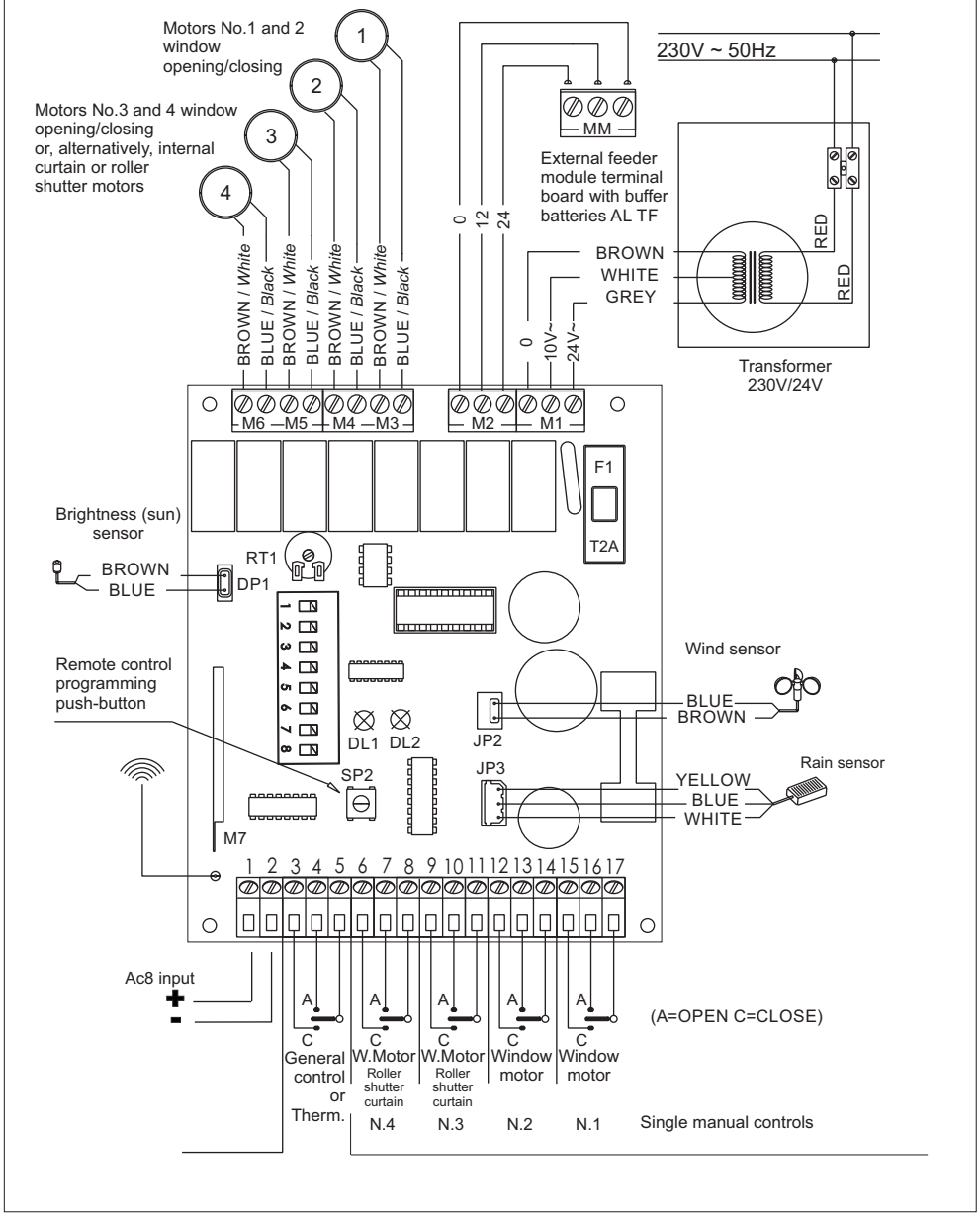

output cables
24V
sensor
output
cables
cable outlet
230V

Fig.5

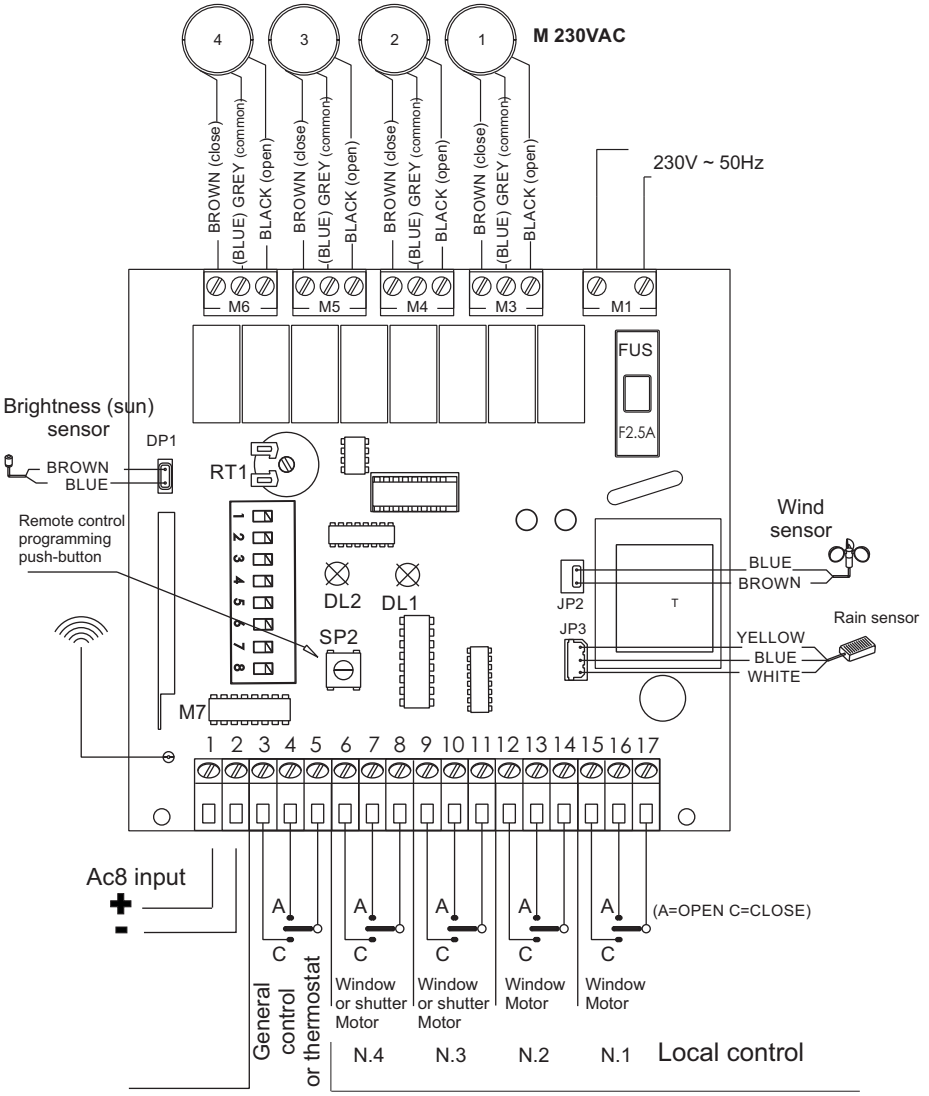

cable outlet
230V
56
32
Ø 16
output
cables 24V
30
62.5
27
Ø 20
output cables sensors
and pushbutton


output
cables 24V
cable outlet
230V
output cables sensors
and pushbutton

Wiring diagram Mod. TF24R



Wiring diagram Mod. TF44R



6.1- USE OF THE DEVICE

THIS FEEDING UNIT CAN BE USED EXCLUSIVELY BY A USER ACTING IN CONFORMITY WITH THE INSTRUCTIONS CONTAINED IN THIS MANUAL.

BEFORE USING THIS FEEDING UNIT, THE USER MUST CAREFULLY READ AND UNDERSTAND THIS HANDBOOK IN ALL ITS PART.

BEFORE ENABLING IN MANUAL MODE (RADIO CONTROL, AND PUSH-BUTTON) THE MOTORS (ACTUATORS) CONNECTED TO THE FEEDING UNIT, THE USER MUST VERIFY THAT NEAR AND/OR UNDER THE WINDOW THERE ARE NOT ANY PERSONS, ANIMALS AND THINGS WHOSE SAFETY MAY BE ACCIDENTALLY JEOPARDIZED (SEE PAR.4.2). MOREOVER, THE USER MUST BE IN A SAFE CONTROL POSITION ASSURING THE VISUAL CONTROL OF THE WINDOW MOVEMENT.

THE FUNCTION EFFICIENCY AND THE RATED PERFORMANCE OF THE ACTUATOR, OF THE WINDOW FRAME ON WHICH IT IS INSTALLED AND OF THE ELECTRIC EQUIPMENT MUST BE VERIFIED STEADILY IN TIME BY PERFORMING, WHEN NECESSARY, INTERVENTIONS OF ROUTINE AND SUPPLEMENTARY MAINTENANCE ASSURING THE OPERATION CONDITIONS IN COMPLIANCE WITH THE SAFETY REGULATIONS.

ALL ABOVE MENTIONED MAINTENANCE INTERVENTIONS MAY BE PERFORMED EXCLUSIVELY BY TECHNICAL COMPETENT AND QUALIFIED TECHNICAL PERSONNEL SATISFYING THE TECHNICAL AND PROFESSIONAL REQUIREMENTS FORESEEN BY THE LAW IN FORCE IN THE COUNTRY OF INSTALLATION.

SHOULD THE BUILDING IN WHICH THE DEVICE IS INSTALLED BE LEFT UNATTENDED, IT IS COMPULSORILY TO CLOSE THE AUTOMATED WINDOW FRAMES IN ORDER TO AVOID ANY EVENTUAL OPERATION ANOMALY CAUSED BY MAINS FAILURES AND/OR FAILURES OF THE RAIN AND WIND SENSORS (e.g.: UNFORESEEN METEOROLOGICAL EVENTS).

7- DEMOLITION TF24R/44R

7.1- GENERAL INSTRUCTIONS

THE DEMOLITION OF THE FEEDING UNIT MUST OCCUR IN COMPLIANCE WITH THE LAWS IN FORCE ON ENVIRONMENT PROTECTION.

DIFFERENTIATE THE PARTS MAKING UP THE FEEDING UNIT ACCORDING TO THEIR DIFFERENT MATERIAL TYPE (PLASTIC, ALUMINIUM, ETC.).

- SPARE PARTS AND ACCESSORIES UPON REQUEST TF24R/44R

8.1- GENERAL INSTRUCTIONS

THE USE OF "NON-ORIGINAL" SPARE PARTS AND ACCESSORIES WHICH MAY ENDANGER THE SAFETY AND THE EFFICIENCY OF THE FEEDING UNIT IS FORBIDDEN. THIS ACTION SHALL INVOLVE THE WARRANTY EXPIRATION.

ORIGINAL SPARE PARTS AND ACCESSORIES HAVE TO BE REQUESTED EXCLUSIVELY TO YOUR DEALER OR TO THE MANUFACTURER STATING TYPE, MODEL, SERIAL NUMBER, AND YEAR OF CONSTRUCTION OF THE FEEDING UNIT.

8.2- ACCESSORIES UPON REQUEST

- No. 1 Wind sensor to detect wind speed;
- No. 1 Rain sensor to detect rain;
- No. 1 433 MHZ Radio control ;
- No.1 Brightness sensor to detect the variations of sun light.

TOPP S.r.l.
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