

# BeWeather Electronic Control Unit

GB

The procedure remains the same for the downward movement phase.

An electronic control unit integrated into the Wind, Sun and Rain Sensor compartment, for the automation of sun blinds and rolling window shutters, with the possibility of radio control operation for individual and/or centralised control.

- Mod. **(BeWeather 306)** : 306 MHz
- Mod. **(BeWeather 330)** : 330 MHz
- Mod. **(BeWeather 418)** : 418 MHz
- Mod. **BeWeather 433** : 433,92 MHz
- Mod. **BeWeather 433 SET**: "Narrow Band" 433.92 MHz
- Mod. **BeWeather 868** : "Narrow Band" 868.3 MHz

( ) Product intended for those countries where its use is permitted.

## TECHNICAL DATA

- Power supply: 230V~ 50/60Hz 600W Max.
- Motor output : 230V~ 500W Max.
- Operating temperature: -10÷55°C
- Radio receiver : see model
- Compatible radio controls: 12-18 Bit or Rolling Code
- Anemometer sensitivity: 5 ÷ 40 Km/h
- Sun sensor sensitivity: 5 ÷ 40 Klux
- Number of codes that may be stored: 10 Max.
- Packaging dimensions: 240 x 185 x 110 mm.
- Container: PC UL94V-0 (IP54)

## CONNECTION OF CN 1 TERMINAL BOARD

- 1: Earth.
- 2: 230 V line input (Phase).
- 3: 230 V line input (Neutral).
- 4: Upward movement motor output.
- 5: Shared motor output.
- 6: Downward movement motor output.

## INITIAL OPERATING CONDITION

The device can only operate in conjunction with one or more radio controls. There is no radio control code stored in the default factory setting.

## OPERATION USING DIFFERENT MODELS OF RADIO CONTROL

Different models of radio control may be programmed. By storing a code (1 button) a cyclic step-by-step operation (Up-Stop-Down) may be achieved, and by storing two different codes (2 buttons) different commands are produced, one for Up and one for Down. Storing three different codes (3 "BeFree" series buttons) produces three different commands: the first for Up, the second for Stop and the third for Down.

### Operation using a 1-button radio control:

The following type of operation is obtained using a radio control with a single button: the first press controls the upward movement of the shutter until the motor timer stops. The second press controls the downward movement of the shutter. If the button is pressed before the motor stops running, the control unit will stop the shutter moving and the button will need to be pressed again to reactivate the motor in the opposite direction.

### Operation using a 2-button radio control:

By using a radio control with 2 buttons, the following processes may be carried out: the first button ("Up") controls the upward movement, until the motor has stopped running, and the second button ("Down") controls the downward movement of the shutter. If the upward movement is interrupted with another "Up" command, the motor will continue to run in the upward movement direction. If, however, the movement is interrupted with a "Down" command, the control unit will stop the motor.

### Operation using a 3-button radio control (BeFree x1):

The following type of operation is obtained using the BeFree x1 radio control: the (Up) button controls the upward movement until the end of the motor time, the (Stop) button causes all movement to stop and the (Down) button controls the downward movement. If a stop command is sent during the upward or downward movement, the control unit causes this movement to stop. If a command that is in the opposite direction to the current movement is sent during the upward or downward movement, the control unit causes the shutter to change direction.

### Operation using a 3-button radio control (BeFree x3 - X6):

When using the BeFree x3 - x6 radio control, you will obtain the same operation as previously described for the BeFree x1 version; in addition, by using the keys (-) and (+) at the sides of the radio control it is possible to select the UP – STOP – DOWN controls for 3 different types of use (BeFree x3) or for 6 different types of use (BeFree x6). In addition, by using the keys (-) and (+) at the sides of the radio control it is possible to enable and disable the sun sensor (the selection is confirmed by a quick UP / Down movement of the motor).

## INVERSION OF THE ROTATION MOTOR

If you notice that when pressing the UP key on the radio-control the control unit causes the shutter to move upwards instead of downwards, simply repeat the programming procedure pressing the DOWN key instead of the UP key, or invert the motor's Upward movement wire and the Downward movement wire.

## GROUP OR GENERAL CENTRALISATION

It is also possible to enter two identical codes ( buttons ) from one radio control onto all the control units or a group of them which are situated at a maximum distance of 20 metres from the point of command, in order to obtain general or partial motion of more than one automation.

## ANEMOMETER OPERATION

The electronic control unit will cause the sun shade to move upwards every time the wind exceeds the selected threshold.

## SUN SENSOR OPERATION

The electronic control unit controls the downward movement of the sun shade after 5 minutes during which the brightness is greater than the threshold selected using the VR1 trimmer and displayed when the SUN LED lights up; it also controls the upward movement of the shade after 5 minutes during which the brightness is below the selected threshold.

### Sun sensitivity adjustment ( 5 ÷ 40 Klux )

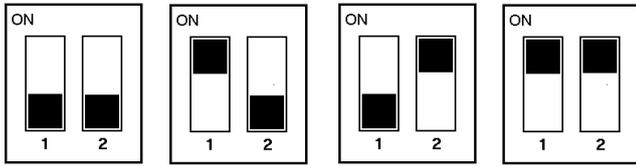
The control unit allows you to adjust the sensitivity of the Sun Sensor using the VR1 trimmer. When the SUN LED lights up on the control unit, this indicates that the intensity of the sun exceeds the selected threshold; this enables you to use the current light conditions as a reference when setting the desired value.

## RAIN SENSOR OPERATION

The electronic control unit will cause the sun shade to move upwards as soon as the sensitive part of the rain sensor gets wet with water as displayed when the RAIN LED lights up.

## OPERATION PRINCIPLES

SW1 SW1 SW1 SW1



Step-by-step P/P + Aut Sensors    User Present    Sensor Test

**1) Step-by-step (Dip 1 and 2 OFF)**

The electronic control unit has a cyclic "Step-by-Step" logic, whose operation depends on the type of radio control associated with it (see operation with radio control with 1-2-3 buttons).

**2) Step-by-step + Aut. Sensors (Dip 1 ON and Dip 2 OFF)**

The electronic control unit allows the "Step-by-Step" operation as described above, with the addition of the automatic control of the Wind and Rain sensors. After the activation of one of the two sensors, once the disturbance is over, the electronic control unit controls the downward movement of the sun shade after 5 minutes.

**3) Manually-controlled (Dip 1 OFF and Dip 2 ON)**

Using the radio control the "User present" operating mode can be obtained, i.e. the control must be constantly enabled so that the blind or shutter can be moved as necessary. The movement stops when the control is released.

**4) Sensor Test (Dip 1 and 2 ON)**

The electronic control unit allows to check the sensor operation and the correct rotation direction upon installation; we advise that you place the shade in intermediate position in order to verify the confirmation movements during the tests.

Warning: after you have tested the sensors, restore the Dip 1 and 2 in the desired operation mode.

**Anemometer** : manually turn the Anemometer blades; at the same time, the control unit will cause an upward movement lasting 5 seconds.

**Sun sensor** : turn the VR1 trimmer as far as possible in a clockwise direction (in the + position); at the same time, the control unit will cause the SUN LED to light up and there will be a downward movement lasting 5 seconds. Turn the VR1 trimmer in an anticlockwise direction (in the - position); at the same time, the control unit will cause the SUN LED to switch off and there will be an upward movement lasting 5 seconds.

**Rain sensor** : get the sensitive part of the Rain Sensor wet; at the same time, the control unit will cause the RAIN LED to light up and there will be an upward movement lasting 5 seconds. When you have completed the test, make sure you have dried the sensitive part of the rain sensor before using the control unit in the normal operation mode.

**PROGRAMMING BUTTONS AND INDICATOR LEDES**

**SEL button:** selects the type of function to store; selection is indicated by the LED flashing. The desired function can be selected by pressing the button repeatedly. The selected function remains active for 15 seconds (flashing LED) following which the control unit returns to its original status.

**SET button:** programmes the function that has been selected using the SEL. Key.

**Indicator LEDs**

LED on: option stored.

LED off: option not stored.

Flashing LED: option selected.

----- MAIN MENU -----		
Reference LED	LED Off	LED On
1) CODE	No code	TX Pgm code
2) T. MOT.	Motor time 2 minutes	Pgm motor time
3) WIND SPEED	Wind safety 25 km/h	Pgm. Wind safety

4) SUN SENSOR	Sun sensor = OFF	Sun sensor = ON
5) RAIN SENSOR	Rain sensor = OFF	Rain sensor = ON
6) SUN	Sun Presence = No	Sun Presence = Yes
7) RAIN	Rain Presence = No	Rain Presence = Yes
8) R. HEAT	R. Heat = No	R. Heat = Yes

**1) CODE ( Radio control programming )**

**Programming using a 1- or 2-button radio control:**

To programme the transmission codes in the radio control, proceed as follows: press the SEL key; the CODE LED begins to flash. Send the first preselected code using the relevant radio control at the same time; when the CODE LED begins to flash rapidly send the second code to be stored. The CODE LED will remain lit and the programming will be complete. If the second code is not sent within 10 seconds the control unit exits the programming stage, selecting the function using a single button on the radio control. If you have stored 10 codes and you repeat the programming operation, all the indicator LEDs will start flashing extremely rapidly to indicate that no more codes can be stored.

**Programming using a 3 button radio control from the "Be-Free" series.**

The control unit allows you to store the whole "BeFree" radio-control by programming only the UP button.

To programme the "BeFree" radio-control codes, follow this procedure: press the SEL key; the CODE LED begins to flash. Press the UP key of the desired radio control at the same time; at that moment, the CODE LED will remain lit and programming will be complete. If all of the possible 10 radio control codes have been stored and you repeat the programming operation, all indicator LEDs will start flashing very rapidly to indicate that no new codes can be stored.

**Deleting the codes** To delete all transmission codes stored in the memory, proceed as follows: press the SEL button; the CODE LED starts flashing. Then press the SET button; the CODE LED switches off and the procedure is complete.

**2) T. MOT. ( Motor Timer Programming )**

The control unit comes with a motor power supply time of two minutes (T. MOT. LED OFF).

The motor time must be programmed when the shutter is down and in the following way:

Press the SEL key until the T. MOT LED key flashes, then hold down the SET key; the shutter will begin to move upwards. Once the desired position has been reached, release the SET key – at this very moment, the motor time will be stored and the T. MOT LED will remain lit.

If you are using an automation which has a stop limit, we recommend that you set a time which exceeds the stop limit of the shutter by a few seconds.

If you want unlimited motor time, perform the same programming procedure, holding down the SET key for less than two seconds; the T. MOT LED will remain lit and the unlimited time function will be set. The operation may be repeated if a mistake is made during programming.

**3) WIND ( Wind Safety Threshold Programming )**

**Displaying the programmed wind threshold**

The wind safety threshold may be displayed in the following way: use the SEL key to navigate to the WIND LED position; the LED will double-flash the same number of times as the stored wind safety threshold (each WIND LED double-flash corresponds to an increase of 5 km/h), (for example: 5 WIND LED flashes = 25 km/h).

**Wind safety threshold selection from 5 to 40 km/h**

The control unit comes with a default wind safety threshold setting of 25 km/h (WIND LED OFF).

The wind safety threshold may be programmed in the following way: use the SEL key to navigate to WIND LED, then press the SET key to start the programming procedure: At the same time

the WIND LED will begin to double-flash (each double-flash of the WIND LED corresponds to an increase of 5 km/h); press the SET key once the desired threshold has been reached – at this moment, the selected value will be stored and the WIND LED will remain lit (*for example: 5 WIND LED double-flashes = 25 km/h*).

The operation may be repeated if a mistake is made during programming.

**4) SUN SENSOR ( Sun Sensor ON/OFF )**

**Enabling the Sun Sensor**

The control unit comes with the Sun Sensor disabled (SUN SENSOR LED OFF).

The Sun Sensor may be enabled in the following way: press the SEL key until the SUN SENSOR LED flashes, then press the SET key briefly; at this moment the SUN SENSOR LED remains lit and the Sun Sensor will be enabled. Repeat the operation to disable the Sun Sensor.

**Enabling the Sun Sensor using a 3-button radio control (BeFree x3 - X6):**

The Sun Sensor may be enabled in the following way: hold down the (+) key on the radio control that was programmed previously for 5 seconds; at the same time the control unit will cause the shutter to move Up/Down for 1 second to confirm that the Sun Sensor has been enabled, and the SUN SENSOR LED will remain lit. Repeat the operation to disable the Sun Sensor by following the same procedure, but instead holding down the (-) key for 5 seconds.

**5) RAIN SENSOR ( Rain Sensor ON/OFF )**

**Disabling the Rain Sensor**

The control unit comes with the Rain Sensor enabled (RAIN SENSOR LED ON).

The Rain Sensor may be disabled in the following way: press the SEL key until the RAIN SENSOR LED flashes, then press the SET key briefly; at this moment the RAIN SENSOR LED switches off and the Rain Sensor will be disabled. You can repeat the operation to enable the Rain Sensor.

**EXTENDED MENU**

The control unit is supplied by the manufacturer with the option of selecting only the functions listed in the main menu.

To enable the functions of the extended menu proceed as follows: press the SET key and hold for 5 seconds; the SUN, RAIN and R. HEAT LEDs will flash and the user has 30 seconds within which to select the functions of the extended menu using the SEL and SET keys. After another 30 seconds the control unit returns to the main menu.

----- EXTENDED MENU -----		
Reference LED	LED Off	LED On
A) CODE	remote PGM = OFF	remote PGM = ON
B) T. MOT.	Aut. movement lock = OFF	Aut. movement lock = ON
C) WIND SPEED	Safety upward = OFF	Safety upward = ON
D) SUN SENSOR	RAIN inversion = OFF	RAIN inversion = ON
E) RAIN SENSOR	Aut. movements 5 min.	Aut. Movements 10 min.
C) SUN	Flashing beacon ON/OFF	
C) RAIN	Flashing beacon ON/OFF	
G) R. HEAT	Flashing beacon ON/OFF	

**A) CODE**

**(Remote programming of radio control):**

The control unit allows the transmission code to be programmed by remote, without using the SEL key.

To programme the transmission code remotely, proceed as follows: send the radio control code continuously for more than 10 seconds and the control unit will enter the programming

mode as described above for the CODE LED in the main menu.

The control unit is supplied by the manufacturer with remote programming of the transmission code not enabled; to enable the function proceed as follows: check that the extended menu is enabled (SUN, RAIN and R. HEAT LEDs flash), using the “SEL” key navigate to CODE LED when flashing and press the “SET” key: the CODE LED lights up permanently and programming is completed. Repeat the operation to restore the previous configuration.

**B) T. MOT. (Automatic movement lock):**

The control unit enables the prevention of Automatic movements (Up / Down sun blind movements on the Sun Sensor command or Automatic Sensors function), so that if a Stop command is sent from a radio control during the movement, the control unit momentarily locks the Automatic movements until a new Up or Down command is sent. The control unit is supplied by the manufacturer with the Automatic Movement Lock disabled; to enable the function proceed as follows: check that the extended menu is enabled (SUN, RAIN and R. HEAT LEDs flash), using the “SEL” key navigate to T. MOT. LED when flashing and press the “SET” key: the T. MOT. LED lights up permanently and programming is completed. Repeat the operation to restore the previous configuration.

**C) WIND ( Safety Upward Movement ) :**

The control unit is supplied by the manufacturer with the Safety upward movement function disabled; if you wish to enable the function, in such a way that after 12 hours of inactivity of the Wind Sensor the control unit automatically control the safety upward movement, proceed as follows: check that the extended menu is enabled (SUN, RAIN and R. HEAT LEDs flash), using the “SEL” key navigate to WIND LED when flashing and press the “SET” key: the WIND LED lights up permanently and programming is completed. Repeat the operation to restore the previous configuration.

**D) SUN SENSOR ( Rain control movement inversion ) :**

The control unit is supplied by the manufacturer with the Rain Control = Upward Movement Control association, that is to say when the rain sensor detects the rain, the control unit controls the upward movement. If you wish that the control unit controls the downward movement when rain is detected by the rain sensor, proceed as follows: check that the extended menu is enabled (SUN, RAIN and R. HEAT LEDs flash), using the “SEL” key navigate to SUN SENSOR LED when flashing and press the “SET” key: the SUN SENSOR LED lights up permanently and programming is completed. Repeat the operation to restore the previous configuration.

**E) RAIN SENSOR (Automatic sensor action Time) :**

The control unit is supplied by the manufacturer with the Automatic sensor action Time of 4 minutes; if you wish to set 10 minutes to reduce the motor movements, proceed as follows: check that the extended menu is enabled (SUN, RAIN and R. HEAT LEDs flash), using the “SEL” key navigate to RAIN SENSOR LED when flashing and press the “SET” key: the RAIN SENSOR LED lights up permanently and programming is completed. Repeat the operation to restore the previous configuration.

**RESET**

To reset the default configuration of the control unit, press the SEL and SET buttons simultaneously; all indicator LEDs will switch on and then off again immediately.

## FOR THE INSTALLER – IMPORTANT

- The BeWeather control unit must be permanently connected to the power supply network and is not equipped with any type of 230 V a/c electric line sectioning device. The installer is responsible for installing a sectioning device in the system. An omnipolar switch with overheating category III must be installed. It must be positioned in such a way that it is protected against accidental closures.
- For connections (power supply and outlet contact) we recommend the use of flexible wires with an insulating sheath in harmonised polychloroprene (H05RN-F). The wires should have a minimum cross-section of 0.75 mm<sup>2</sup>.
- Fasten the connection cables using the cable clamp supplied with the product kit.
- Handle the control unit with care during the installation process and make sure that all components are properly assembled. Pay particular attention to the ceramic plate and the flat connection cable. When closing the box again, it must fold back on itself normally.
- It is very important to establish an exact location so that the product is exposed to weather conditions it can control.
- Fix the device to the wall using the screws and rawplugs supplied with the product, in the correct position (see figure below).
- Make sure that the control unit remains tilted at approximately 45 degrees (Fixing area at the top, round end of the box at the bottom).
- Do not paint or varnish the sensitive surface of the control unit.
- The dirt which accumulates on the surface of the rain sensor restricts its sensitivity: we therefore recommend that it is cleaned once or twice a year using a damp cloth, after the electricity supply has been disconnected.
- Connect the earth wire of the motor to the earth wire of the electrical system using the special terminal on the control unit, as illustrated in the connection diagram.
- For the radio receiver to operate correctly when two or more control units are used, we recommend that you install the devices at least 3 metres away from each other.

## FOR THE USER - IMPORTANT

- The device should not be used by children or by individuals with reduced physical or psychological abilities unless supervision is provided or instruction given on how to operate it.
- Do not let children play with the device; keep radio controls out of their reach.
- CAUTION: Keep this instruction manual in a safe place and adhere to the important safety instructions contained within it. Non-adherence to these instructions may lead to property damage and serious accidents.
- Examine the system frequently to check for any signs of damage. Do not use the device if it needs to be repaired.

### Warning

All operations which require the casing to be opened (such as wire connection, programming, etc.) must be carried out during installation, by skilled staff only. For any other procedure which requires the casing to be opened again (re-programming, repairs or site modifications), please contact the technical assistance service.

hereby declares that the below products:

### BeWeather Series

conform to the specifications in the Directives R&TTE 99/5/EC, EMC 2004/108/EC, LVD 2006/95/EC.

