


Element Controller 062.8610,-- Installation and set-up Installer manual

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1 Safety information

- ! *During set-up, monitor the vents that are operated by the element controller so that no people, animals or objects become trapped. If that is not possible, ask a colleague to keep an eye on the windows.*
- ! *Do not open the element controller, it does not contain any repairable parts.*
- ! *Do not touch the components and tracks of the element controller. They can be damaged by electrical discharge.*
- ! *Check beforehand that the vents and motors are positioned in accordance with the accompanying instructions.*
- ! *Element Controller has to be connected with a <3 meter cable to the power supply, by a qualified installer and in line with local and national legislations.*

2 Description of the element controller (EC)

2.1 Contents of the package and accessories

Standard parts in package

- Element controller (EC)
- Power cable 24 VDC, 1 metre
- Cable for operating button, 1 metre
- Terminating resistor for R-Bus

Optional hardware, to be ordered separately

- 062.8623 Power supply 24VDC 0.75A
- 062.8612 Mini PCB 4 INPUTS
- 062.8619 Mini PCB 2 OUTPUTS
- 062.8620 Mini PCB KNX-compatible interface*

2.2 Function of the element controller

- The element controller (EC) allows the various motors to work together safely and efficiently to open and close the vents.
- The EC is controlled by means of the operating button or from a building management system, home automation.

2.3 Parts of importance for installation

2.3.1 Connectors and power LED

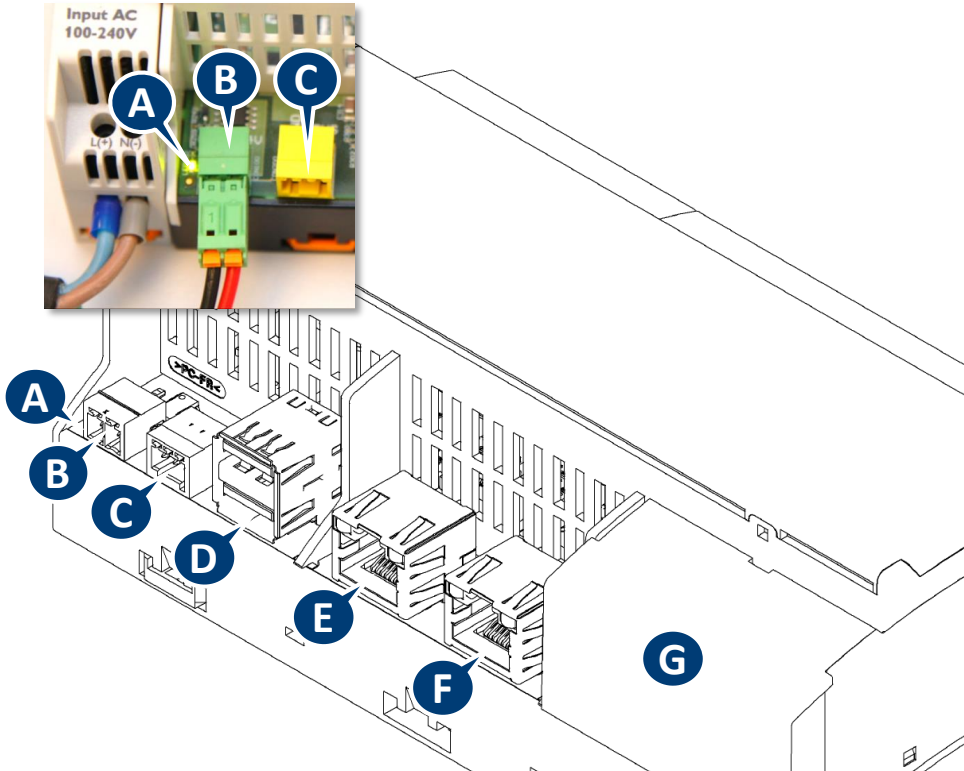


Figure 1

Ref.	Part
A	'Power on' LED
B	Input connector for the power supply
C	R-bus connector to motor(s)
D	USB connectors for software updates
E	Ethernet 1: RJ45 connector to local network for remote installation
F	Ethernet 2: RJ45 connector directly to laptop for set-up
G	See 'Operating elements for set-up' on page 5

2.3.2 Sticker



Figure 2

Ref.	Description
A	Information on sticker:
	Serial number
	Version number
	SSID: identification of the Wi-Fi connection
	Password for the Wi-Fi and to log in
B	QR code

! The sticker contains important information for the configuration. Do not remove it. Take a picture of it in case it becomes illegible.

2.3.3 Operating elements for set-up

LEDs

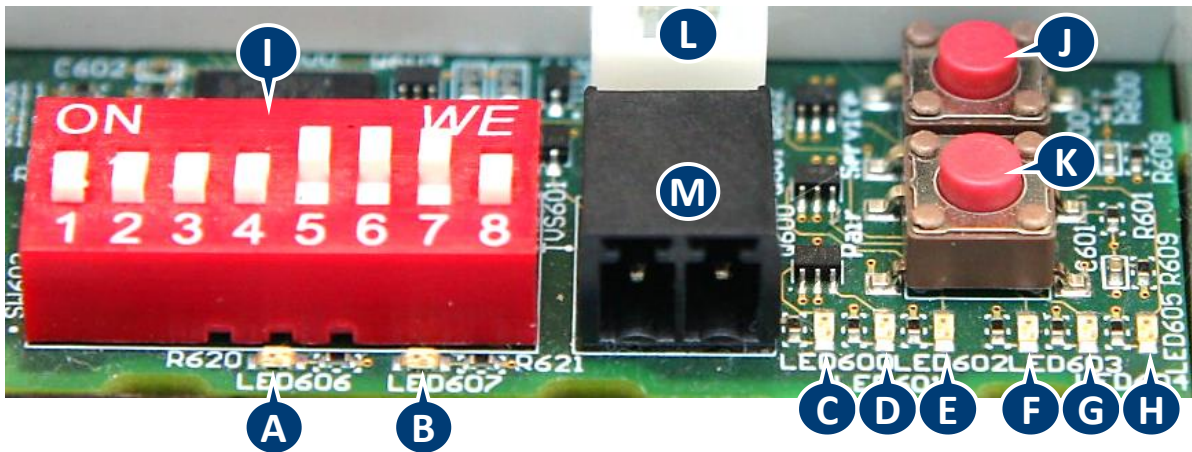


Figure 3

Ref.	LED	Colour	Function
A	606	Red	Provide information on the progress of any update. See 'Software update' on p. 11.
B	607	Red	
C	600	Green	Feedback during the set-up procedure: <ul style="list-style-type: none"> Flashing: set-up in progress Solid: ready
D	601	Yellow	Feedback during the set-up procedure: <ul style="list-style-type: none"> Flashing: start set-up Solid: set-up confirmed
E	602	Red	Feedback during the set-up procedure: <ul style="list-style-type: none"> Flashing: the EC is not configured (factory setting) Solid: the EC is configured
F	603	Green	Connection of the EC to a laptop or tablet: <ul style="list-style-type: none"> Solid: the EC is in service mode, Wi-Fi and ethernet connection are active Off: the EC is in operation mode, Wi-Fi and ethernet connection are not active
G	604	Yellow	No function
H	605	Red	Flashes intermittently during internal read/write activity

Buttons and connectors

Ref.	Element	Function
I	DIP switches	Setting the configuration. <ul style="list-style-type: none"> • Top (ON) = 1 • Bottom = 0 • When delivered, all DIP switches are at 0 <p>Example For a corner installation with three motors (as in Figure 3) the DIP switches are set as follows: 0 0 0 0 1 1 1 0</p>
J	SERVICE button	Switches from operation mode to service mode and vice versa. In service mode the Wi-Fi and ethernet connections are active.
K	SET-UP button	Button for performing set-up: <ul style="list-style-type: none"> • Each press of the button moves the set-up procedure forward one step. • If the button remains pressed for more than 5 seconds, set-up is stopped and restarted
L	LED connector	<ul style="list-style-type: none"> • Connection for LED • The LED can also be built into the operating button.
M	Operating button connector	Connection for the operating button or cable to a normally open relay contact of the building management system.

3 Installation and set-up

3.1 Set-up

The installation procedure consists of:

- physical installation; and
- set-up

There are two options as regards set-up:

Type of set-up	Method	Application
Manual set-up	Only with the DIP switches, feedback from the LEDs	Suitable for basic functions
Via PC or tablet	The PC or tablet is connected to the EC via a cable or Wi-Fi.	Additional functions possible

3.1.1 Physical installation

Place of installation

! *The EC is a complex electronic component that must be handled with the necessary care.*

- ! Install the EC in a dry environment in a splashproof switch box IP53 or more, with DIN rail and at least 9 free U-modules.
- ! Make the EC inaccessible to unauthorised persons.
- ! Use the cables provided. Do not shorten or extend the cables yourself.

Procedure

- ▲1 Place the EC and the 24 VDC power supply in the switch box.
 - ! Finish with cover plates so that the electronic circuits cannot be touched.
- ▲2 Connect the power cable with the green connector (A).

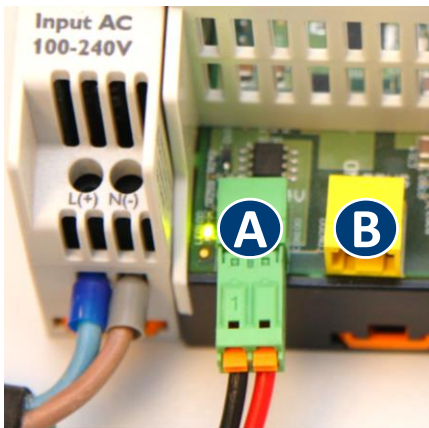


Figure 4

- ▲3 Connect the motors (M1, M2, etc.) in cascade with each other and with the EC via the yellow RBus connector (B) and the cables provided.

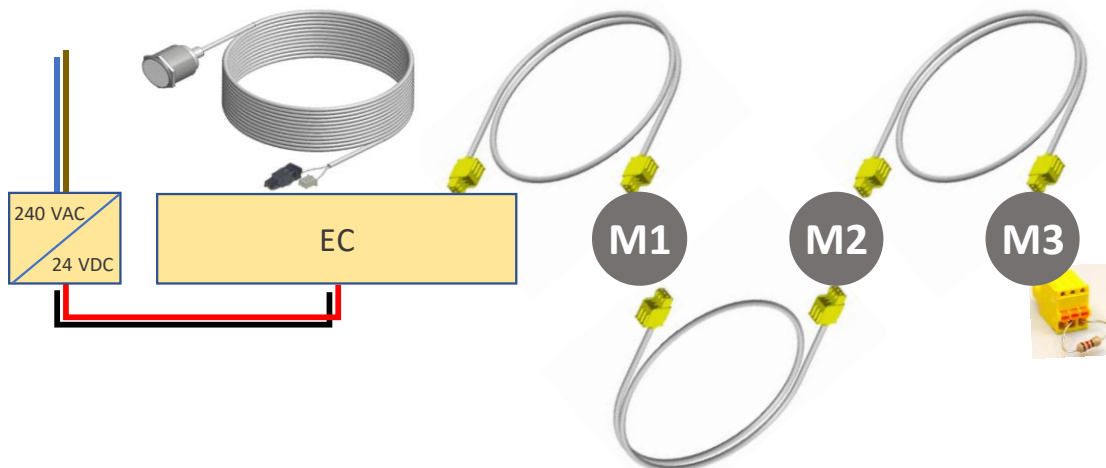


Figure 5 – Example of a cascade circuit of 3 motors and terminating resistor and an operating button with LED

- ▲4 Place the terminating resistor on the last motor in the series.
- ▲5 Connect the operating button or the cable to the building management system with the black connector (A).

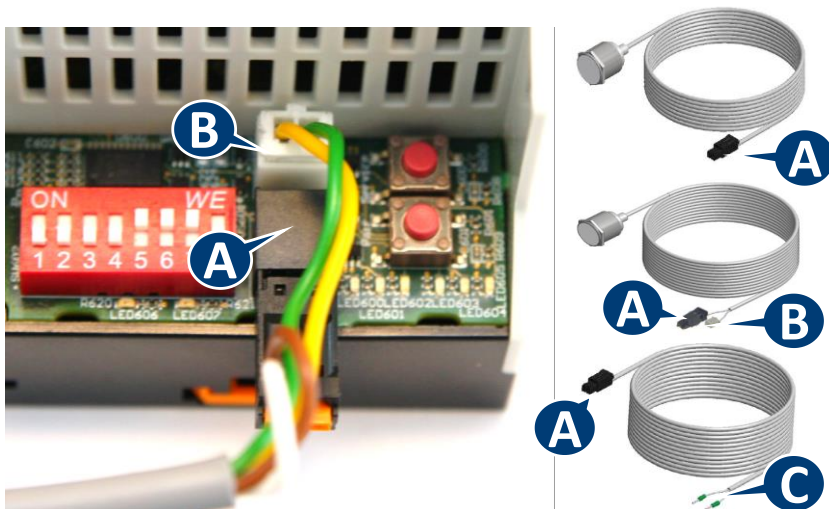


Figure 6

- If the operating button has an LED, connect the LED with the white connector (B).
- In the case of a building management system, the other end of the cable (C) must be connected with a normally open relay contact.

▲6 Switch on the 24 VDC power supply.

The red LED 602 flashes. This indicates that the controller is working but has not yet been configured.

3.1.2 Configuration

▲1 Set the type of window using the DIP switches.

- The red LED 602, figure 3 LED-E, flashes
- The types of window can be found on the website or with the motor..

▲2 Close all vents before continuing with the set-up.

3.1.3 Manual set-up

- Manual set-up uses the DIP switches and the SET-UP button.
- You can exit the procedure at any time by pressing the SET-UP button for at least 5 seconds until the yellow LED 601, figure 3 LED-D, flashes.

▲1 Briefly press the set-up button.

- The yellow LED 601, figure 3 LED-D, on the EC flashes.
- You will hear the motor locks open.
- The green LEDs on the motors flash according to this pattern:



Figure 7

▲2 Open the vents in the right order of opening priority.

- At the same time, check that all vents move smoothly.
- The LED of each motor must flash according to this pattern:



Figure 8

! Restart the procedure if not all motor LEDs respond correctly.

▲3 Return to the Element Controller and press the SET-UP button.

- The yellow LED 601, figure 3 LED-D, lights up solid for 3 seconds and then starts flashing again.
- After a while the green LED 600, figure 3 LED-C, lights up. The EC is ready for calibration.

! If the red LED 602, figure 3 LED-E, lights up, something has gone wrong. Restart the procedure by pressing the SET-UP button for 5 seconds; see step 3.1.3

▲4 Check there is no obstacle that could block the windows.

▲5 Press the operating button for 1 second.

- The vent open and close automatically at slow speed.
- The vent then open and close automatically at full speed.
- While the windows are moving, the green LEDs on the motors flash according to this pattern:



Figure 9

▲6 Wait until all motors have stopped.

- This may take several minutes.
- When the procedure is complete, the green LEDs of all motors flash according to this pattern:



Figure 10

- The operating button is now active in normal operation mode.
- The yellow LED on the EC lights up solid.

▲7 Test the function of the operating button.

- Press button for first time: vent opens
- Press button a second time: vent stops
- Press button a third time: vent closes.
- There are also other modes. See the manual for the motors or via the tablet or laptop.

3.1.4 Set-up via tablet or laptop

▲1 Go to the EC and press the SERVICE button for 1 second.

- The green LED 603, figure 3 LED-F, lights up solid.
- You can connect the EC to the tablet or PC via Wi-Fi (step 2a) or directly with a UTP cable (step 2b).

▲2a Connection via Wi-Fi:

- Find the SSID that appears on the sticker in the list of Wi-Fi connections on your tablet or laptop.
- Log in to the Wi-Fi with the password printed on the sticker (Figure 2 on p. 4)

▲2b Connection via UTP cable:

Connect the laptop directly with port 'ETHERNET 2 LAN' of the EC (F on Figure 1, p. 4).

- ▲3 Go to <http://setup-ec.reynaers.com>

The following screen appears:

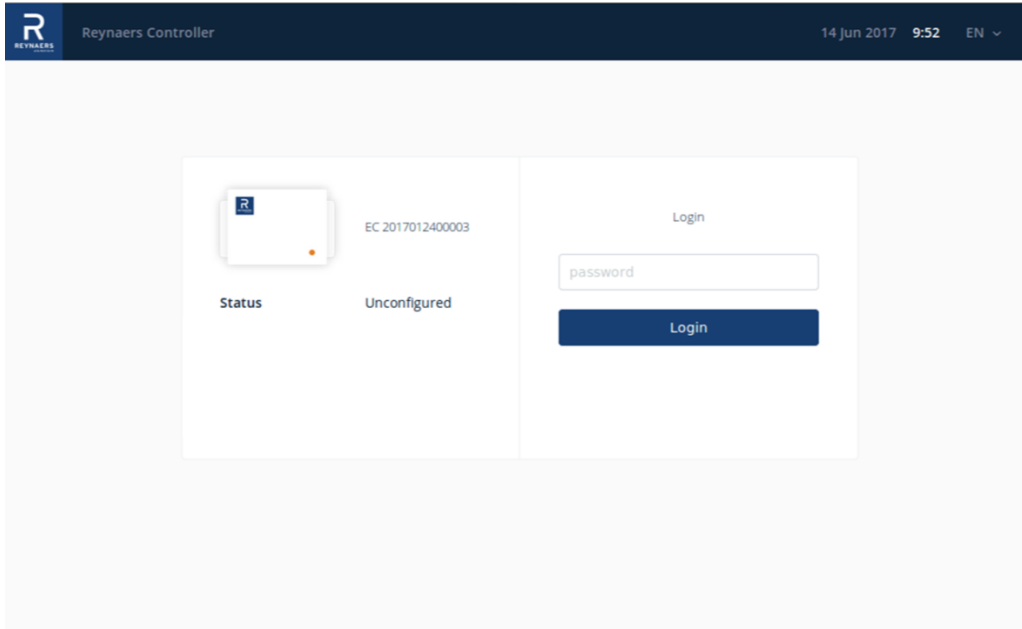


Figure 11

- ▲4 Enter the password that is printed on the sticker (Figure 2 on p. 4) and click 'Login'.
The following screen appears:

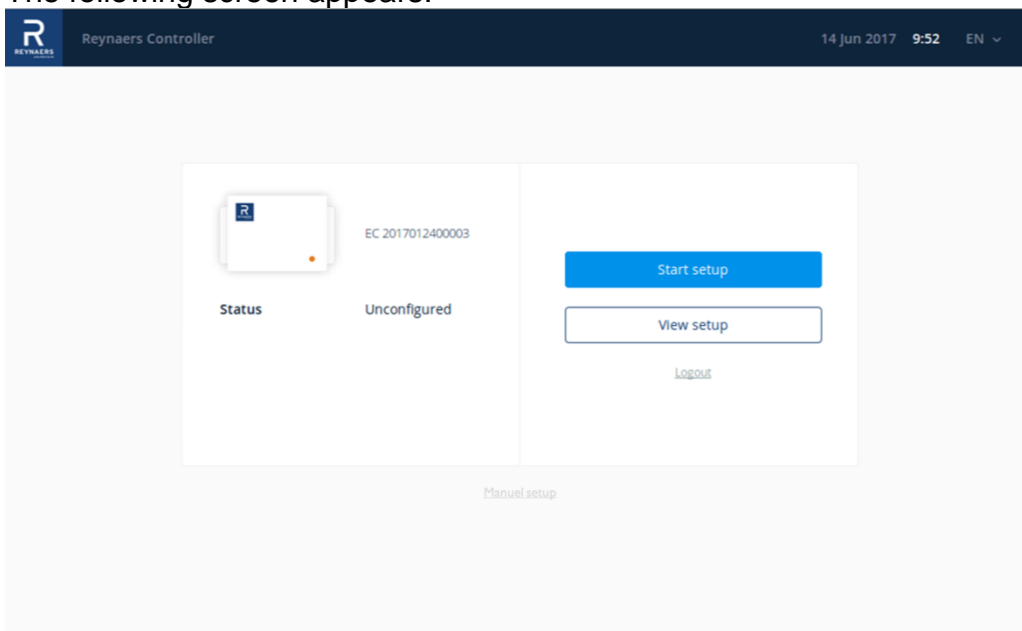


Figure 12

- ▲5 Follow the instructions on the screens.
- ▲6 In due course press the SERVICE button again to switch the EC back to normal operation mode.

3.2 Software update

Remove the power cable from figure 1 connector B.

Insert the USB stick with the most recent version of the software into one of the USB ports.

Keep the SERVICE button pressed while reconnecting the power cable.

The upgrade will now take place automatically as follows:

- 1** The red LED 606, figure 3 LED-A, flashes.
The EC is searching for the file on the USB stick.
- 2** LED 606, figure 3 LED-A, flashes and LED 607, figure 3 LED-B, lights up solid.
The software is downloading.
- 3** LED 607, figure 3 LED-B, flashes.
The upgrade is in progress.
- 4** Both LEDs light up briefly.
The EC is restarting.
- 5** Both LEDs are off.
Normal status.

! *Both LEDs should therefore never light up in normal conditions.*

4 Solving problems

Problem	Possible cause(s)	Solution
Motors do not respond	Cables not properly connected	Check the cables
	Terminating resistor not connected	Place the terminating resistor on the last motor in the series
	The red LED 602 is flashing. The EC is not configured.	Run through the set-up procedure.
	The yellow LED 602 is flashing. The EC is in set-up mode.	Run through the set-up procedure to the end.
	The green LED 603 lights up. The EC is in service mode.	Press the SET-UP button so that the green LED 603 goes out.

5 Technical specifications

Power input: 24 V DC, 0.75A

Physical Dimensions electrical cabinet: 9 units, 161mm

Environmental Operating temperature: 0° to 40° C (32° to 104° F)



Operating humidity: 90% maximum relative humidity, noncondensing
Regulatory compliance designed to conform to the following standards: CE EN301489-17
Interface specifications ethernet: 10or100BASE-Tx, RJ-45
Wireless interface: 2.4GHz, 5GHz, 802.11abgn with WPA2 security, BT BLE 4.1
USB interface: USB2.0 hub
RBus output
Button input with LED feedback

For more information visit:
<http://setup-ec.reynaers.com/>

