Intro
Delivering automation for Hi-Finity heavy weight sliding windows.
- Slim design with fully concealed motor
- No architectural adaptations needed
- Thermal characteristics of profiles are kept
- Increased comfort with single push button control
- or link with an automation system
- Automatic lock mechanism
Element Controller benefits:

- Easy handling of multiple vents by single control point for multiple motorized vents
- Unified control in home by full integration in Home Automation system
- Pre-defined vents states; door-opening, all-open, wing by wing opening.
- All Hi-Finity sliding windows possible by extensive support of multiple opening types
**Intuitive control** of complex setups; Allow habitants to manipulate vents as they want.

All combinations are possible → controller will stop or return direction of vents automatically when needed.

*based on 2 different speeds manual configured*
**Multiple motors support**

Synchronization need:
- Single control for multiple vents
  - Easy control interface for electricians or BMS
- Collision prevention between heavy moving vents
  - Position based, closed loop, control
- High safety performance
  - Current and position based control per motor
- Easy setup and maintenance
  - Manual PC-less setup or web based guided setup
  - Advanced configuration options

Customers demand is more setups
New catalogue configurations:

### Benefits end-users:
- Safety first: Real time position based anti-collision control
- Intuitive control of multiple sliding vents
- Control per wing or total element

### Benefits fabricator/installer
- Headless setup: dip-switches & manual movements of vents
- Common interface for electricians
  - 3rd party system integration: KNX* or NO/NC contacts
- Installer managed expert view for additional tweaking

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* KNX compatible interface to be launched at later stage

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**Easy setup!**
- Detection multiple motors = correct setup
- Automated calibration = correct lengths
- Automated max-current usage setting = best safety
- +50 setups supported already
- Multiple buttons configurable
# TECHNICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Variants</th>
<th>SLIDE MOTOR 50W</th>
<th>SLIDE MOTOR 70W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating weights vent</td>
<td>100-425kg</td>
<td>425-750kg</td>
</tr>
<tr>
<td>Operating power</td>
<td>24Vdc</td>
<td>3Amps nom – 10Amps peak</td>
</tr>
<tr>
<td>Input buttons</td>
<td>3 configurable button connections</td>
<td>Impulse or Hold To Run</td>
</tr>
<tr>
<td>Lock</td>
<td>Automatic controlled lock</td>
<td></td>
</tr>
<tr>
<td>Moving vent speed</td>
<td>70mm/sec</td>
<td></td>
</tr>
<tr>
<td>Safety</td>
<td>Pressure sensitive, current monitoring</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Current calibration run to optimize sensitivity</td>
<td></td>
</tr>
<tr>
<td>Standards Machine directive</td>
<td>EN 16005</td>
<td>EN 12453</td>
</tr>
<tr>
<td></td>
<td>Element Controller EN 301489-17</td>
<td></td>
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</tbody>
</table>

*ESPE: Electro-sensitive Protective Equipment

** button placed in line of sight of moving vent
ELEMENT CONTROLLER
TECHNICAL DETAILS
Element Controller 062.8610

Configuration
- Dipswitches with pre-configuration of common set-ups
- 2 buttons for setup and service access
- Web-interface for easy configuration and maintenance

Interfaces
- +24Vdc input
- 1x RBus-interface
- 1x input button-interface & LED-output
- Wireless 802.11bgn access point; LAN interface
- Bluetooth 4.1; mobile phone interface
- 2x Ethernet ports; WAN & LAN interface
- 2x USB2.0; future usage

- **Optional daughterboard**
  - 4x additional button-interfaces (INPUTS)
  - 2x output-switch NO/NC (OUTPUT)
  - KNX-interface* (IN/OUT)

- **Product size**
  - DIN rail : 6 Units
  - L&H&W: 161.6mm x 89.7mm x 62.2mm

* KNX compatible interface to be launched at later stage
Element Controller wireless access

1. Press **service button** to activate the wireless access (time restricted access)
2. Search on your device for wifi access point: **Reynaers EC-<serial nr>**
3. **Password** is printed on Element Controller
Element Controller wireless access

1. Set **dip-switches** based on table
2. Press and hold the **setup button** to activate the setup procedure
3. **Move vents** in correct opening order
4. Confirm with **setup button** the configuration
5. Press a **button** on the system when ready to continue the automated setup
Hi-Finity motor (wiring) configurations
Power Supply

We use a specific power supply motor:
- $U_n$ (Nominal voltage) 24 Volts DC
- $I_n$ (Nominal current) = 3 A
- $I_p$ (Peak current) = 10A
- Switching mode power supply
- With integrated protection systems for overload, overvoltage, overheating and short-circuit.
- Stable output with limited ripple

We strongly recommend to install a battery backup to guarantee the good functionality.
- Working in combination with above power supplies only
- 1 UPS can have 2 power supplies (and motors) connected
  - Use a diode to protect the power supplies (connection module)

We use a specific power supply Element Controller:
- $U_n$ 24Volts DC
- $I_n$ = 0.75A
ELECTRICAL CABLES | CABLES OVERVIEW

Push button cables:
062.8219 (10m)
062.8222 (10m)
062.8547 (10m)

Power cable:
062.8217 (10m)

RBus cable:
062.8580 (0.5m)
062.8548 (5m)
062.8574 (10m)
062.8575 (15m)

Lock cable:
062.8546 (5m)

Cable can be easiest installed during motor assembly in factory.

Element Controller
Power cable : 062.8621 (1m)
Push button cable : 062.8622 (1m)
**POWER AND BUTTON CABLE DETAILS**

### Power cable:
- Colour codes to connect cables
  - DC Power cable (green connector)
    - GND: BLACK (pin 1)
    - +24V DC: RED (pin 2)
  Default cable length is 10m.
  To extend the cable for >10m, we recommend to replace the cable with a new cable with higher wire sections: 1,5mm² - 2,5mm² depending on the length of the cable.
  - In order to calculate the section you can use this formula
    \[ A = 0,0175 \times L \times 2,5 \]
    - A: section in mm²
    - 0,0175: Cu resistance parameter
    - L: distance between power and motor
    - 2,5: fixed parameter
  - Minimum is 1mm²
  - Exact voltage drop depends also on power supply conditions
  - In general you can use:
    - 1mm² → 20m max
    - 1,5mm² → 30m max
    - 2,5mm² → 50m max
  - Keep cables as short as possible and no loops.

### Button cable:
- Colour codes to connect cables
  - Push button (black connector)
    - Input: WHITE
    - GND: BROWN
  Default cable length is 10m.
  To extend the cable for >10m, default 0.34mm² can be used within acceptable distances.

### Lock cable:
- Colour codes to connect cables
  - Lock cable (grey connector)
    - +24V DC: GREEN (RED om lock) pin 1
    - GND: BROWN (BLACK on lock) pin 2
    - Feedback: WHITE pin 3
    - Input: YELLOW pin 4
  Default cable length is 5m.
  To extend the cable for >5m, there’re no specific needs to increase the wire. Connect multiple cables to each other.

See electrical manual for more details
RBus cable

- RBus makes bi-directional communication of the Reynaers devices (closed loop)
- Synchronization between Reynaers motors
- Element Controller makes connection to external devices possible:
  - Smartphone App
  - IO-contacts (potential free)
  - Home automation systems or other intelligent devices

- RBus pre-mounted cables with yellow specific 3-pin connector
  - 062.8580 : 0.5m
  - 062.8548 : 5m
  - 062.8574 : 10m
  - 062.8575 : 15m

- Cable specifications are: Digi AES-EBU cable of 110 Ohm with 1 twisted pair + one free wire
  - Our as alternative CAT6 will work

- The system is a **daisy chained** link, this means the devices are coupled in a line structure with 120Ohm terminator
  - Tree structure isn't allowed
To controller: 2 external buttons operation or KNX:
- open-stop-close vent1 (pulse or HTR)
- open-stop-close vent2 (pulse or HTR)
MOTORIZED HIFINITY | XX(X) via BMS : 3 motors

1  2  3

Lock cable 062.8546.--
Lock cable 0.05m 062.8580.--
Lock cable 5m 062.8548.--

Connector max 1.5mm²

Power cable 062.8217.--

RBUs cable 0.05m 062.8580.--
RBUs cable 5m 062.8548.--
RBUs cable 15m 062.8575.--

Element Controller 062.8610.--
& KNX-interface 062.8620.--
Or input-interface 062.8612.--

To controller: 2 external buttons operation or KNX:
open-stop-close vent1&2 (pulse or HTR)
open-stop-close vent3 (pulse or HTR)
THANK YOU