

VarioTec-868 DC

e l e r o

28 345.0006



Operating Instructions

Keep the operating instructions in a safe place!

181234001_EN_0918



Translation from the original German version.

All other documents in different languages are translations of the original version.

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1 General information

1.1 Notes on the operating instructions

The content structure is based on the life cycles of the receiver VarioTec-868 DC (hereinafter referred to as "device").

The manufacturer reserves the right to make changes to the specifications stated in these operating instructions at any time. In individual cases, these may be different from the respective design of the device. However, the functional information will not undergo significant changes or become invalid. The current version of the specifications may be requested from the manufacturer at any time. No claims may be asserted against the manufacturer as a result of this. Deviations from text or picture statements are possible and depend on the technical development, features, and accessories of the device. Deviating information on special versions will be explained by the manufacturer in the sales documentation. Other information shall remain unaffected by these provisions.

1.2 Standards and directives

During the design process, the basic health and safety requirements of the applicable laws, Standards and Directives were complied with. The safety is confirmed by the declaration of conformity (see Chapter 6, EC Declaration of Conformity). All safety information in these operating instructions refer to the laws and regulations currently applicable in Germany. All instructions in the operating instructions shall be observed without limitation and at all times. Beside the safety instructions contained in these operating instructions, the provisions for accident prevention, environmental protection and occupational safety, which are applicable for the operating site, must be observed. Provisions and standards for the safety rating can be found in the EC Declaration of Conformity.

1.3 Intended use

The device is designed for central use as a drive controller or as a group controller for comfort control of electric shutters, awnings, blinds, and roller blinds. It is also a radio receiver **elero** ProLine 2 radio transmitters as well as a wired controller for roller shutters and sun protection.

The device may be used only as a **elero** ProLine or Pro-Line 2 radio control in conjunction with **elero** drive motors (blind systems, awnings, and roller blinds systems). The software corresponds to software safety classification A.

The environment for the intended use are residential and commercial areas as well as small businesses.

Further fields of application must be discussed in advance with the manufacturer, **elero** GmbH Antriebstechnik (see Chapter 9, Manufacturer's address).

The operator will be solely responsible for damages resulting from improper use of the device. The manufacturer cannot be held liable for personal or material damages caused by misuse or procedural errors, and by improper operation and commissioning.

Only if used according to the specifications of these operating instructions, safe and proper use and safe operation of the device are guaranteed.

1.4 Foreseeable improper use

A foreseeable improper use is the use in a way that is not intended by the manufacturer or supplier, but which may arise from foreseeable human behavior (e.g., through carelessness or lack of concentration).

1.5 Warranty and liability

As a rule, the general terms and conditions of the manufacturer, (see Chapter 9, Manufacturer's Address), apply. Liability claims for personal or material damages are excluded if they can be attributed to one or more of the following causes:

- ☐ Opening of the device by the customer
- ☐ Improper use of the device
- ☐ Improper installation, Initial start-up, or operation of the device
- ☐ Structural modifications to the device without the written consent of the manufacturer
- ☐ Operation of the device with improperly installed connections, defective safety devices, or improperly installed safeguards
- ☐ Non-observance of the safety provisions and instructions of these operating instructions
- ☐ Non-compliance with / exceeding of the technical specifications

1.6 Customer service of the manufacturer

The device should only be repaired by the manufacturer in case of a failure. The address for shipping to customer service can be found in Chapter 9, Manufacturer's Address.

If you have not purchased the product directly from **elero**, please contact the supplier of the device.

2 Safety

2.1 General safety instructions

The operating instructions contain all safety instructions which must be observed in order to prevent dangers inherent to handling the device in connection with the drives and components to be controlled in the individual life cycles. Safe use of the device can only be ensured if all given safety instructions are observed.

2.2 Safety principles and general obligations of the operator

The device is designed according to state of the art and recognized safety standards and is safe to operate. In the design process of the device, the basic health and safety requirements of the applicable laws, standards, and directives were applied. The safety of the device is confirmed by the EC declaration of conformity.

Any information relating to safety are based on the currently valid regulations of the European Union. In other countries, it must be ensured by the operator that the applicable laws and state regulations are followed.

In addition to the safety instructions in these operating instructions, the general regulations for accident prevention and environmental protection must be observed and adhered to.

The device is to be used only in technically flawless state as well as in accordance with the requirements, conscious of risk and in compliance with the operating instructions. The device is designed for use as described in chapter "Intended Use." In case of improper use, threats to life and limb of the user or third parties or damage to the device or other property may occur. Accidents or near accidents when using the device, resulting, or potentially resulting, in personal injury and/or damage to the environment, shall be reported immediately to the manufacturers directly.

All safety precautions listed in the operating instructions and on the device must be observed. In addition to these safety instructions, the operator shall ensure that all national and international regulations in force in the country of use, as well as other binding regulations for occupational safety, accident prevention, and environmental protection are met. All work on the device must be carried out by trained, safety-trained, and authorized personnel.

2.3 Requirements for personnel

- ☐ Any person who is assigned to work with the device must have read and understood the complete operating instructions before performing the relevant work. This is true even if the person has already worked with such device or has been trained for it.
- ☐ All persons may only carry out work according to their qualifications. The responsibilities of the respective personnel must be clearly defined.
- ☐ Any personnel who have been assigned to work with the device must not have any physical restrictions that temporarily or permanently restrict his attention and judgment (e.g., due to fatigue).
- ☐ The handling of the device and all assembly, disassembly, and cleaning work by minors or persons under the influence of alcohol, drugs, or medication is not permitted.
- ☐ The product may be used by children aged 8 years and older and persons with reduced physical, sensory, or mental capabilities or lack of experience and knowledge if they are supervised or trained in the safe use of the product and understand the resulting risks. Children may not play with the product.

2.4 Safety instructions for technical condition

- ☐ If danger to persons or changes are recognized in operating behavior, the device must be immediately taken out of service and the incident reported to the operator.
- ☐ No changes to, additions to, or modifications of the device should be performed without prior approval by the manufacturer.

2.5 Safety Instructions for operation

- ☐ The user of the device is required to verify the safe and proper condition of the device prior to first use.
- ☐ The same applies during the operation of the product at regular time intervals which must be specified by the operator. The operator is responsible for the verification before initial operation.

3 Product description

The VarioTec-868 DC is not only an easy-to-use radio receiver, but also a wired controller for roller shutters and sun protection.

The data communication is unidirectional or bidirectional (compatible with the **elero** ProLine 2 product line).

The environment for the intended use are residential and commercial areas as well as small businesses.

The main features are supported by the settings for

- ☐ a maximum of 16 transmitters for unidirectional or bidirectional communication between transmitters and receiver(s)

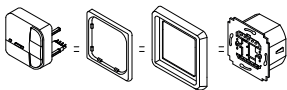
Make sure that the device does not come into contact with water. Moisture or contact with water may cause malfunctions.

3.1 Scope of delivery

- ☐ Control panel
- ☐ ProLine adapter frame
- ☐ Power supply
- ☐ Cable bridge
- ☐ Operating instructions

3.2 Description of the device and operation

Description of the device



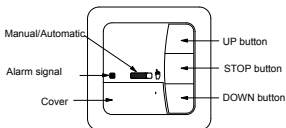
from left to right

Control panel

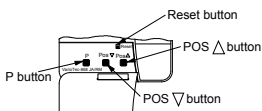
First adapter frame:
not included, optional
for installation in stan-
dard switch programs

Second adapter frame:
ProLine adapter frame
for single installation

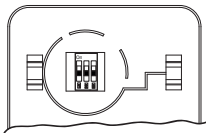
power supply



Operating unit
General view
closed



Operating unit
Detail view
under the cover flap



Operating unit rear
Coding switches 1 to 3

Fig. 1 Device Views

Functional Elements

- ☐ Emergency signal indicator light (LED):
See Fig. 5, "LED Status and Explanation"
- ☐ Sliding switch **Auto/Manual**:
In "Auto" position, automatic drive commands are executed (control signals via group control inputs).
In "Manual" position, only manual drive commands and emergency signals are executed. Switching of the operating mode "Auto/Manual" by a hand-held transmitter is ignored. Switching is possible only with the slide switch on the device.
However, the current Auto/Manual state is always shown on any programmed bidirectional hand-held transmitter.
- ☐ Button **UP**: upward or inward movement
- ☐ Button **DOWN/CLOSE**: downward or outward movement
- ☐ Button **STOP**: stop movement
- ☐ Button **P** (under the cover flap):
Simulation of a power supply interruption;
is required for programming a transmitter.
- ☐ Button **Pos Down arrow** (under the cover flap):
Programming an Intermediate Position,
Deleting an Intermediate Position.
- ☐ Button **Pos Up arrow** (under the cover flap):
Programming a Ventilation/Turning Position,
Deleting a Ventilation/Turning Position.

- ☐ Button reset (under the cover flap, recessed):
Deleting an intermediate position / Ventilation position /
Turning position. Press with a pointed object.
- ☐ Code switch:
See Fig. 2, "Settings code switch."

3.3 Connection and initial start-up

WARNING!

Danger to life due to faulty electrical connection.



Risk of electric shock.

- The installation must be carried out by professional electrician!
- Connecting the power supply into an appropriate 230 Volt AC wall-flush box (if possible deep design, switching junction box/cavity wall box) must be performed by an authorized electrician in outer conductor L (phase) and neutral conductor N.
- The voltage to the control inputs (terminals 1 to 6) must be laid separately from the mains supply (230V)

The device controls the drive manually or by external drive commands. Manual operation is possible at any time.



Avoid installation in the following locations; otherwise the radio range may be affected:

- ☐ In a junction box or a metal case.
- ☐ In the immediate vicinity of large metal objects.
- ☐ On the ground (or close to the ground).
- ☐ The minimum distance to other **elero** radio transmitters or radio receivers must be 20 cm.

NOTE

- Observe the applicable electrical regulations!
- Installation according to local circumstances.
- Connect the power supply and the devices to be controlled according to the wiring plan (see Chapters 3.3.4 and 3.3.5).



- Risk of damage or destruction of VarioTec-868 DC or any other existing control units by faulty control.
- Damage to the blind from incorrect running direction: The assignment of the running direction UP/DOWN must be verified after the electrical connection has been established.
- Engage control unit carefully in the power supply via the four guides (insert or pull out in parallel).

Can be integrated in different switch programs with "adapter frame for ProLine control units," available separately.

Important:

Before switching the operating mode blind drive/tube drive on the code switch 3, delete all programmed channels (see Fig. 2, Settings of the code switches).

The current switch position of the slide switch "Auto/Manual" on the VarioTec-868 DC is displayed on any programmed bidirectional hand-held transmitter.



The function of the current switch position of the switch Auto/Manual on the VarioTec-868 DC overrides any possible different setting on a programmed hand-held transmitter.

Connection types:

Drive control unit or group control unit.

For the connection with other control units, use a shielded control cable, 0.8 mm, or a telephone cable, JY-ST 0.6 mm, for both connection types.

The design for an **elero** control unit can be found in the **elero** controller catalog.

- Disconnect power supply
- Remove the covers of the two connector panels (guard caps) at the power supply by sliding them to the side.
- Connect the power supply according to wiring diagram as a drive control unit or group control unit
- Replace the covers of the two connector panels at the power supply
- Connect power supply to switch box
- Check and, if necessary, adjust the settings of the code switches on the control unit
- Insert device control units in the frame and insert it in the device power supply without the red PIN protector
- Restore power supply
- Check functions

3.3.1 Settings of code switches

Code switches			
	1 Emergency signal	2 Connection type	3 Application
Top ("ON")	off	Group control unit	venetian blind
bottom	on	Drive control unit	Tube motor (roller blind or awning)

Fig. 2 Settings of code switches

Default: All 3 code switches in bottom position

3.3.2 Emergency signal on

- Code switch 1 in bottom position
- Signals from the connected wired external sensors are considered.

3.3.3 Emergency signal off

- Code switch 1 in top position
- Signals from the connected wired external sensors are ignored.

3.3.4 Connection as a drive control unit

- Code switch 2 in bottom position:
Standard connection type with factory preset
- The drive is connected directly to the device
- Use enclosed cable bridge according to wiring diagram

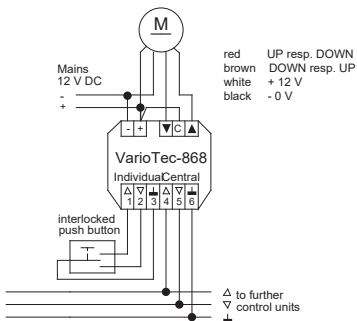


Fig. 3 Connection as a drive control unit

3.3.5 Connection as a group control unit

- Code switch 2 in top position
- Control multiple drives at the same time
- Additional group control units and drive control units may be connected (see examples in **elero** Control Catalog)

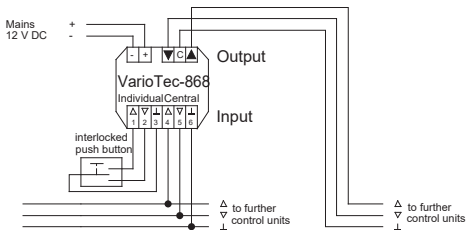


Fig. 4 Connection as a group control unit

3.3.6 Application for roller blind or awning

- Code switch 3 in bottom position
- If the intermediate position is programmed, it is approached (important for applications roller blind or awning), but not the ventilation position, turning position, fabric stretching position.

3.3.7 Application for venetian blind

- Code switch 3 in top position
- When using venetian blinds and the turning position is programmed the blind slats are also turned when approaching the intermediate position

3.3.8 Explanation of LED display

LED Status and explanation	
flashes green three times	Program intermediate position / ventilation position Delete intermediate position / ventilation position Reset button
flashes green once	Shows readiness for programming (required for programming a transmitter) Delete all programmed transmitters
lights red	Emergency signal present (if switch signal is present on at least one central control input for more than 5 seconds)
lights orange	Wind alarm active Glass breakage (signal from elero Lumo)
lights up red first, then green	When voltage is applied

Fig. 5 Explanation of LED display

3.4 Radio systems

3.4.1 Unidirectional radio system

A unidirectional radio system transmits radio signals to radio receivers. However, unlike in a bidirectional radio system, the radio receiver cannot send any message back to the transmitter. It is also not possible to transmit radio signals from the radio receiver to radio receiver.

3.4.2 Bidirectional radio system and routing

A bidirectional radio system transmits radio signals to a radio receiver and enables feedback from the radio receiver to the transmitter. The radio signal can be sent directly to the target receiver. If this is not possible, the radio signal will be routed via other bidirectional participants until it reaches the target receiver. The target receiver carries out the command and sends a confirmation back to the transmitter. The prerequisite for a bidirectional radio transmission is hence the radio transmitting capability as well as the radio reception capability of all participating components.

3.5 Programming

3.5.1 Programming the transmitter

A maximum of 16 transmitters can be programmed

The transmitter programmed first determines the radio system (unidirectional or bidirectional).

Before you are able to programme a sensor transmitter, you will need to programme a wall or hand held remote into the receiver.

1. After a power interruption or if the **P** button is pressed on the VarioTec-868 DC, it is ready to be programmed for 5 minutes. The LED flashes green once.
2. Program individual transmitters to the VarioTec-868 DC according to the transmitter instructions.

3. For correct assignment of the UP key to the upward drive direction and the DOWN/CLOSE key to the downward drive direction:
On the transmitter to be programmed, press the **UP** button immediately after the start of an upward movement (1 second maximum).
The blind stops briefly, travels further, stops and then travels in the downwards direction.
4. On the transmitter to be programmed, press the **DOWN/CLOSE** button immediately after the start of a downward movement (1 second maximum).
The blind will stop. The channel of the transmitter has been programmed.

3.5.2 Deleting the transmitter

Deleting a single transmitter:

Refer to the instructions for the respective transmitter.

Deleting all programmed transmitters:

Press the **UP+DOWN/CLOSE+STOP+P** buttons simultaneously for more than 6 seconds. The LED flashes green once.

You can also delete all programmed transmitters with a programmed hand-held transmitter .

3.5.3 Special blind positions

- ☐ Intermediate position (regardless of application, roller shutters, awnings, or blinds):
Blind at any position between the upper and lower end position
- ☐ Ventilation position when using roller shutters:
Vents open
- ☐ Turn position when using blinds:
Turns the blind slats by brief travel in the opposite direction
- ☐ Fabric stretching position when using awnings:
Fabric taut

3.5.4 Programming intermediate position

Requirement:

The blind is in the upper end position.

1. Press and hold the **Pos down arrow** button.
2. In addition, press the **DOWN/CLOSE** button until the desired intermediate position is reached. You can correct the position with the **UP** button.
3. Release the **Pos down arrow** button.
The intermediate position is now saved.
The LED flashes green three times.

You can also program the intermediate position with a programmed hand-held transmitter.

3.5.5 Programming ventilation position / Turn position / Fabric stretching position

Requirement:

The blind is in the bottom end position.

1. Press and hold the **Pos Up Arrow** button.
2. In addition, press the **UP** button until the desired ventilation position / turn position / fabric stretching position is reached. You can correct the position with the **DOWN/CLOSE** button.
3. Release the **Pos Up Arrow** button.
The ventilation position / turn position / fabric stretching position is now saved.
The LED flashes green three times.

You can also program the ventilation position / turn position / fabric stretching position with a programmed hand-held transmitter.

3.5.6 Approaching the intermediate position

Requirement:

The intermediate position is programmed.

The intermediate position can be approached only from the top end position.

1. Press the **DOWN/CLOSE** button twice briefly.
The blind travels to the stored intermediate position.

If no intermediate position has been programmed, the blind travels to the lower end position.

Important:

When using blinds and the turning position is programmed the blind slats are also turned.

If no turning position is programmed, the blind stops at the intermediate position with closed blind slats.

You can also approach the intermediate position with a programmed hand-held transmitter.

3.5.7 Approaching ventilation position / Turn position / Fabric stretching position

Requirement:

The ventilation position / turn position / fabric stretching position is programmed.

The turning position can be approached only from the bottom end position.

1. Press the **UP** button twice briefly.
The blind travels to the stored turning position.

You can also approach the ventilation position / turn position / fabric stretching position with a programmed hand-held transmitter.



If you wish to trigger the intermediate position for different receivers simultaneously, these receivers must be programmed on the same channel.

3.5.8 Deleting the intermediate position

1. Press the **Pos down arrow** button for more than 5 seconds or the reset button.
The intermediate position is now deleted.
The LED flashes green three times.

You can also delete the intermediate position with a programmed hand-held transmitter.

3.5.9 Deleting the Ventilation position / Turn position / Fabric stretching position

1. Press the **Pos up arrow button** for more than 5 seconds or the reset button.
The ventilation position / turn position / fabric stretching position is now deleted.
The LED flashes green three times.

You can also delete the ventilation position / turn position / fabric stretching position with a programmed hand-held transmitter.

4 Technical specifications

All the information in this chapter refers to an ambient temperature of 20 °C (± 5 °C).

Technical specifications VarioTec-868 DC	
Power supply	12 V DC SELV
Power supply to the control unit via power supply unit	5 V DC max. 0.5 A
Rated surge voltage	4 kV
Switching current	5 A / 250 V AC at $\cos \varphi = 1$

Technical specifications VarioTec-868 DC	
Realized limit ELV	SELV: 8 V at the terminals 1 to 6
Switching contact at contact output	Potential free, can turn SELV or any outer conductor
Power consumption/standby	0.5 W (typical)
Operation effect	Type 1B
Degree of pollution	2
Ingress protection	IP20
Protection class (control unit) with proper installation	II
Software Safety classification	A
Ambient temperature [°C]	0 ... 45
Radio frequency [MHz] (band)	869,525
Mounting type	Flush mount housing dia. 58 mm wall installation surface-mounted in corresponding AP housing
Weight [g]	140
Dimensions (WxHxD) [mm]	85 x 85 x 53
Maximum number of transmitters	16
Conformity	CE
Article number	28 345.0006

Fig. 6 Technical Specifications VarioTec-868 DC

5 Cleaning and maintaining the device

NOTE

Risk of damage

Improper cleaning can damage the VarioTec-868 DC.

- ☐ Clean the device surface with a soft, clean, and dry cloth only.
- ☐ Do not use cleaning agents and solvents.
- ☐ Keep the device dry.
- ☐ Do not use the device in dusty or dirty environments.
- ☐ Do not attempt to open the device other than as described in the operating instructions.
- ☐ Unauthorized modifications may damage the device and violate regulations governing radio devices.
- ☐ Do not drop device or subject it to knocks or blows. Do not shake device. Rough handling may damage circuit boards and mechanical parts inside the device.
- ☐ Keep device away from magnets or magnetic fields.

6 EC declaration of conformity

elero hereby declares that radio system VarioTec-868 DC is in compliance with Directive 2014/53/EU. The full text of the EU Declaration of Conformity is available at the following Internet address:
www.elero.de/downloads-service/

7 Troubleshooting

Fault	Cause	Remedy
Drive does not run	Incorrect connection	Check connection
Drive runs in the wrong direction	Incorrect connection. Directions are programmed incorrectly.	Check connection. Delete transmitter and program correctly
VarioTec-868 DC does not perform any external commands	<ol style="list-style-type: none">1. The sliding switch is not set to "Manual"2. Emergency signal is active	<ol style="list-style-type: none">1. Set the sliding switch to "Auto"2. Wait until emergency signal stops or eliminate it
Drive does not run, Transmission signal indicator light of programmed transmitter lights up	<ol style="list-style-type: none">1. The receiver is outside radio range.2. Transmitter is not programmed to receiver	<ol style="list-style-type: none">1. Reduce distance from the receiver2. Program the transmitter

Fig. 7 Troubleshooting VarioTec-868 DC

8 Repair

Please contact your dealer if you have any questions.

Please always provide the following information:

- ☐ Article number and article description on the type plate
- ☐ Type of fault
- ☐ Previous and unusual events
- ☐ Surrounding circumstances
- ☐ Own presumption

9 Manufacturer's address

elero GmbH
Maybachstr. 30
73278 Schlierbach
GERMANY

www.elero.com

Please visit our website if you require a contact outside Germany.

10 Disposal /

Notes on protection of the environment



Since coming into force of the European Directive 2002/96/EC and 2006/66/EC in national law, the following applies:

Electrical and electronic equipment as well as batteries must not be disposed of in the household garbage. The consumer is legally obliged to return electrical and electronic equipment and batteries at the end of their life to the established public collection points or the point of sale. Details are regulated by the respective national laws.



The symbol on the product, the operating instructions or the package serves as an alert to these provisions. By recycling, material recycling or other forms of utilizing of old devices or batteries, you make an important contribution to protecting our environment.