



Roto E-Tec Drive

Power Unit and Power Unit Wireless

The concealed drive for windows

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1 General information

1.1 Version history

Version	Date	Changes
v0	01/03/2022	Publication
v1	14/11/2023	Technical data – Output added → <i>from page 24</i> Connection diagram changed → <i>from page 10</i>

1.2 Additional information to be noted

For other mandatory components (locking side, frame components, etc.) and information (target groups, security, maintenance, transport, disposal), see the other applicable document.



INFO

These instructions are incomplete.

The other applicable document for these instructions is:

- IMO_311

Failure to observe this documentation discharges the hardware manufacturer from their liability.

1.3 Target groups

Qualified electrician

The device may only be assembled, installed, commissioned and maintained by suitably trained electricians with the appropriate qualifications.

The electrician must have read and understood this document, as well as the other applicable document, and must follow the instructions.

The qualified electrician must comply with the national regulations that apply in their country (e.g. DIN VDE 0105, EN 50110) with regard to installation, performance testing, repair and maintenance of electrical products and apply them correctly..

End users

The “end users” target group includes all individuals who use the installed windows and / or balcony doors.

Operators

The “operators” target group includes all individuals who operate the Roto E-Tec Drive installed in the window.

1.4 Copyright protection

The contents of this document are copyright-protected. This content can be used when working with the hardware. Any other use is not permitted without written permission of the manufacturer.

2 Security

This manual contains instructions relating to safety. The principal safety information in this chapter includes information and instructions relevant to the safe use or maintaining the safe condition of the product. Warning instructions that relate to handling warn of residual risks and are located before steps that are relevant to safety.

- Follow all of the instructions in order to prevent personal injury and property and environmental damage.

2.1 Specific safety information

Children or persons who do not have the physical, mental or sensory capacity to operate the product safely and carefully are not permitted to use or install the product.

Children must not use the product as a toy.

The product can be used by children aged eight and above and by persons with reduced physical, sensory or mental capacity or by persons with insufficient experience and knowledge provided that they are supervised or have received instruction regarding safe use and potential hazards. Cleaning and user maintenance must not be performed by unsupervised children.

Environmental influences may cause property damage.

Only install the Roto E-Tec Drive | Power Unit and Power Unit Wireless at the listed positions:

- The installation location must be accessible at all times.
- The installation location must not be subject to extreme temperature fluctuations (e.g. direct sunlight, near cooling units, etc.).
- Do not install in moisture-prone rooms or in places with high levels of condensation (e.g. greenhouses).
- Avoid contact with dust and liquids (e.g. oil, chemicals or salt).
- The installation location must not be exposed to vibration or impact.

2.2 Stipulated use

The Roto E-Tec Drive | Power Unit and Power Unit Wireless are used as a connection module for the Roto E-Tec Drive.

The Power Unit and Power Unit Wireless can be connected directly to the household power supply and supply the Roto E-Tec Drive with power via an integrated power supply unit.

Individual or group operating push-buttons can also be installed using cables.

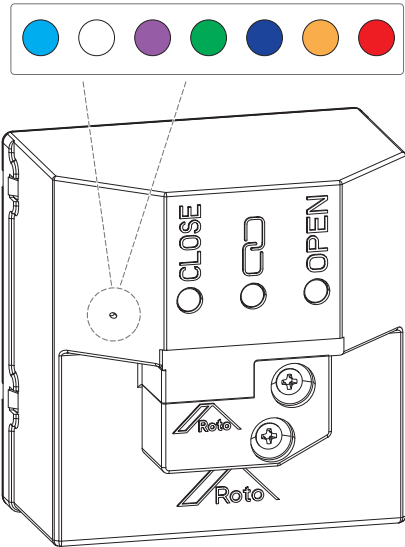
The Wireless version is connected to Smart Home systems (compatible devices available upon request) via EnOcean. In parallel, hand-held transmitters / wireless wall-mounted push-buttons can also be programmed directly on the Roto E-Tec Drive | Power Unit Wireless via EnOcean, doing away with the need for any additional wiring work.

A repeater function can also be activated to extend the range of EnOcean radio signals.



3 Information on the product

3.1 Overview of LED indicators – Roto E-Tec Drive | Power Unit Wireless



LED colour	Status			Meaning
	No repeater	Level 1 repeater	Level 2 repeater	
Turquoise	Lit up	Flashing	Flashing quickly	Establishing a connection with Roto E-Tec Drive.
White	Lit up	Flashing	Flashing quickly	Normal operation (encrypted wireless) ¹⁾
Lilac	Lit up	Flashing	Flashing quickly	Normal operation (unencrypted wireless) ¹⁾
Green	Lit up	Flashing	Flashing quickly	Normal operation of Roto E-Tec Drive with software V5.0
Blue	Lit up	Flashing	Flashing quickly	Programming mode active
Orange	Lit up	Flashing	Flashing quickly	Delete mode active
Red	Lit up			Fault
	Flashing			Reset in progress

¹⁾ With E-Tec Drive (Smart) V6.0 and more recent.

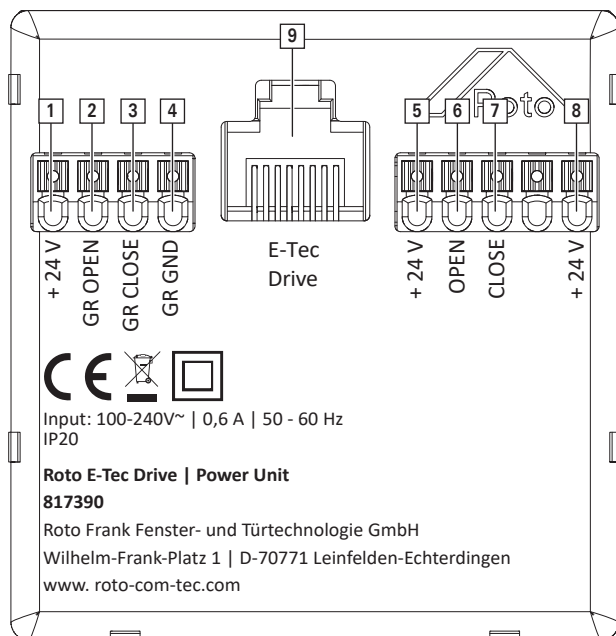
3.2 Compatibility with the E-Tec Drive

Roto E-Tec Drive software	Roto E-Tec Drive Power Unit	Roto E-Tec Drive Power Unit Wireless
V4.0	Yes	No
V5.0	Yes	Yes*
V6.0	Yes	Yes

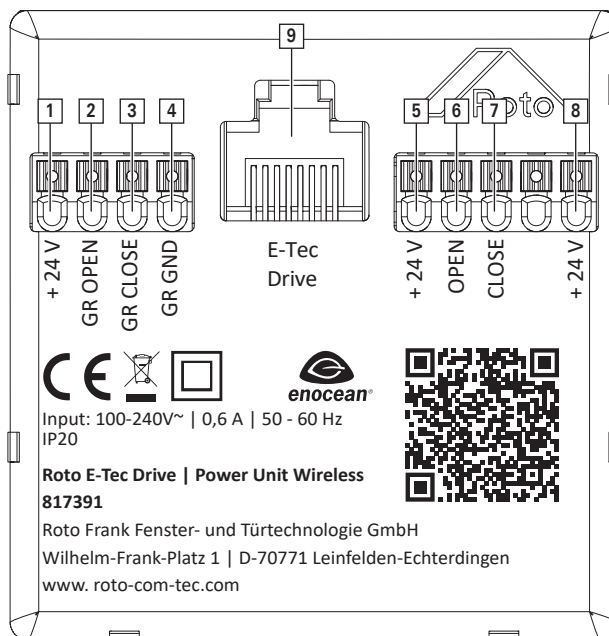
* Control only using external EnOcean wireless operating push-buttons.

3.3 Overview of connecting terminals

Roto E-Tec Drive | Power Unit



Roto E-Tec Drive | Power Unit Wireless



Legend	Description	Function
[1]	+24 V	Power supply for external operating push-buttons
[2]	GR OPEN	Connection for external group operating push-buttons: "Open" command to Roto E-Tec Drive (HIGH active)
[3]	GR CLOSE	Connection for external group operating push-buttons: "Close" command to Roto E-Tec Drive (HIGH active)
[4]	GR GND	Joint earth connection when connecting several Roto E-Tec Drive Power Units via central / group push-buttons
[5]	+ 24 V	Power supply for external operating push-buttons
[6]	OPEN	Connection for external operating push-buttons, open impulse command (HIGH active)
[7]	CLOSE	Connection for external operating push-buttons, close impulse command (HIGH active)
[8]	+ 24 V	Power supply for external operating push-buttons
[9]	RJ45 Roto E-Tec Drive	Connection for Roto E-Tec Drive, RJ45

Terminal wiring

Fixed cables: 0.08 mm² -1.5 mm² / AWG 28-AWG 16

Flexible cables: 0.08 mm² -1.5 mm² / AWG 28-AWG 16



ATTENTION

External voltage may cause property damage.

External voltage causes damage and voids the warranty.

- Terminals must only be supplied with power by the 24 V of the Roto E-Tec Drive | Power Unit and Power Unit Wireless.

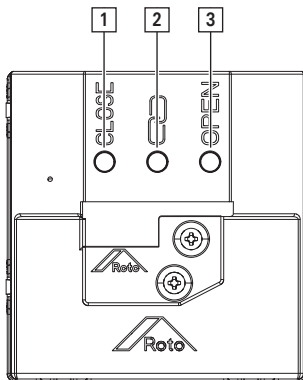


INFO

The mains connector is for test or handover purposes only and is not authorised for continuous operation. The final wiring must be performed by an electrician.



3.4 Overview of operating push-buttons



- [1] CLOSE: closing impulse to Roto E-Tec Drive
- [2]  : CONNECT (only for Roto E-Tec Drive | Power Unit Wireless)
- [3] OPEN: opening impulse to Roto E-Tec Drive



INFO

Operating push-buttons may be damaged if pushed too forcefully.

4 Installation

4.1 Installation



INFO

This installation process applies to both versions.



INFO

The mains connector is for test or handover purposes only and is not authorised for continuous operation. The final wiring must be performed by an electrician.



INFO

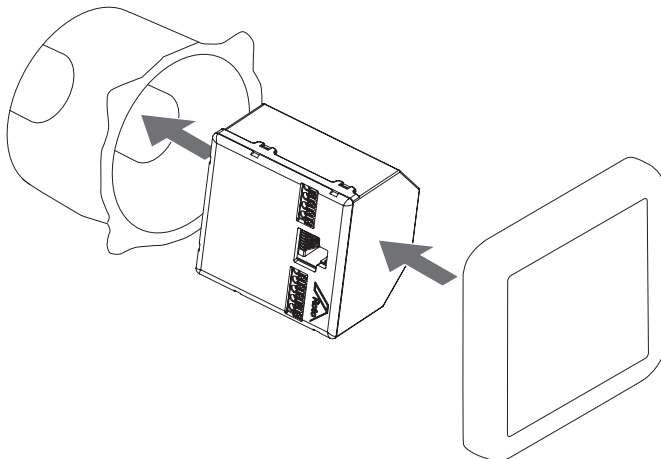
Use a double-deep flush-mounted box (depth of > 60 mm).

Lay the lines separately for the primary and secondary circuit, maintaining an 8 mm clearance.

Terminal wiring

Fixed cables: 0.08 mm² -1.5 mm² / AWG 28-AWG 16

Flexible cables: 0.08 mm² -1.5 mm² / AWG 28-AWG 16



DANGER

Risk of death caused by electric shock!

Current can lead to fatal injuries.

- ▶ Take extra care when handling live components.
- ▶ De-energise the device before starting work (switch off the fuse) and check that no voltage is present.
- ▶ Only an electrician may connect the Power Unit or Power Unit Wireless to the mains voltage.
- ▶ Observe and comply with the respective national regulations (in Germany VDE 0100 and others).

1. Switch off the fuse. Check that there is no voltage.
2. Insert the Roto E-Tec Drive cable for the Power Unit or Power Unit Wireless into the RJ45 socket.
3. Wire the push-button in accordance with the connection diagram.

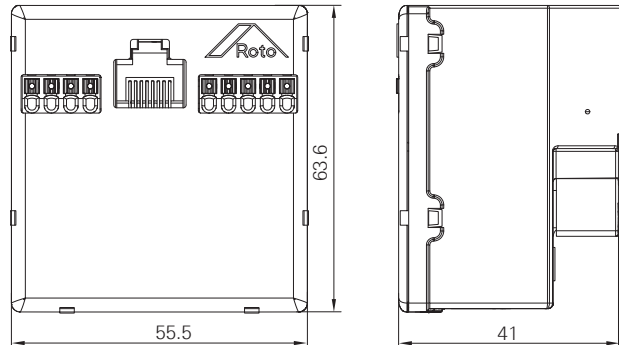


4. Remove the mains connector and connect the corresponding lines in the flush-mounted box to terminals L and N, beneath the cap.
5. Place the Power Unit or Power Unit Wireless in the double-deep flush-mounted box.
Ensure that the connection cables are not bent.



INFO

Recommendation: use a blank cover, do not plaster over. Ensure that the Power Unit or Power Unit Wireless can be accessed freely.



6. Switch on the fuse.



INFO

Patch in a two-pin circuit breaker which corresponds to overvoltage category II.



INFO

Maintain a minimum air gap of 8 mm between the primary and secondary lines to ensure that the products comply with the characteristics of protection class II.

A minimum air gap of 8 mm must also be maintained between the primary lines and surrounding metal components.



INFO

Only install the Power Unit or Power Unit Wireless indoors. The electrician must ensure that end users cannot access live components.

5 Connection diagram

The following diagrams are non-binding application examples.

These are only intended to provide guidance for customers and do not represent customer-specific solutions.

Proper operation is the responsibility of the customer.

The customer is obligated to ensure safe installation, use, maintenance and operation. The customer is furthermore obligated to ensure that the equipment is only installed by a qualified electrician; failure to do so may result in a risk of fire or risk of electric shock.

Compliance with the applicable standards and provisions must be ensured at all times; the installation company of the system bears full responsibility for this.

The system must not be operated if compliance with the applicable standards and provisions cannot be ensured.

No guarantee is given for the application examples provided. Roto Frank Fenster- und Türtechnologie GmbH shall assume no liability for damage caused by use of the application examples, unless we are obligated to bear liability in accordance with legal provisions in cases of wilful intent.



INFO

Installation and maintenance work may only be carried out by a company specialising in electrical systems. There is a risk of death when using a mains voltage of 230 V (or 120 V). Only carry out work when the power supply is disconnected.



INFO

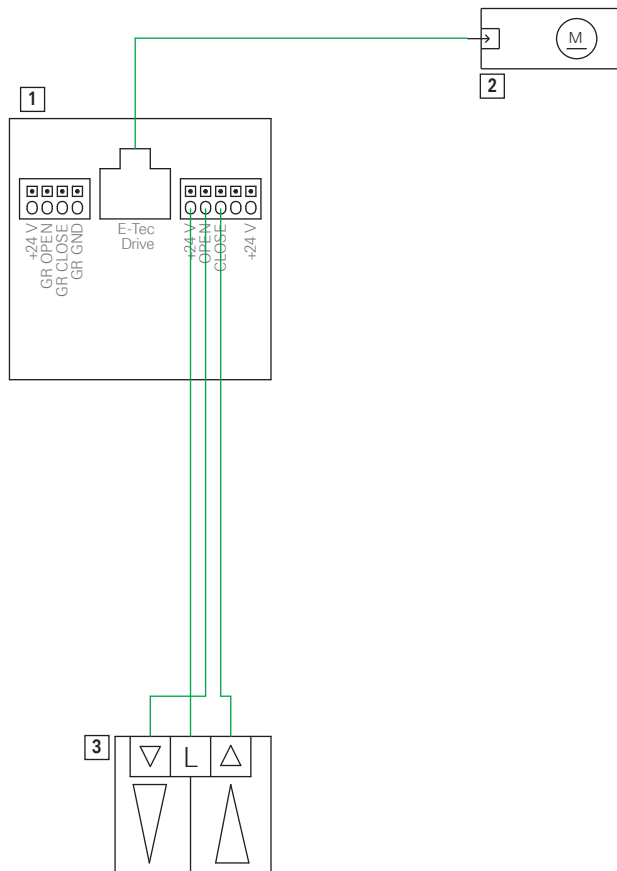
Using one of the application circuits shown may cause the risk situation on the machine to change. In this case, another risk assessment must be carried out and additional protection measures may have to be taken.

If additional control units are used, it must be ensured that they comply with the requirements of EN 60335-1 and EN 60335-2-103.

The following basic circuits are used as examples.



5.1 Operating push-button



[1] Roto E-Tec Drive | Power Unit and Power Unit Wireless

[2] Roto E-Tec Drive

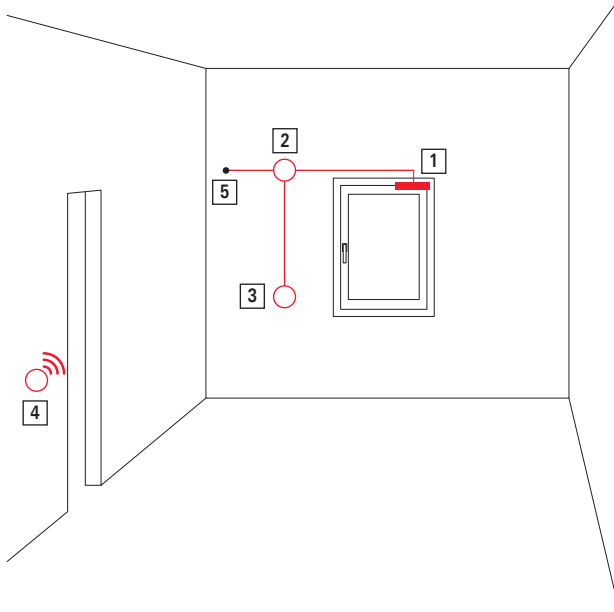
[3] Operating push-button



INFO Push-button

The push-buttons must not be mutually interlocked (reset).

Example



- [1] Roto E-Tec Drive
- [2] Roto E-Tec Drive | Power Unit and Power Unit Wireless
- [3] Operating push-button
- [4] Roto E-Tec Drive wireless operating push-button | Power Unit Wireless
- [5] 230 V

Hand-held transmitters / wireless wall-mounted push-buttons

Hand-held transmitters / wireless wall-mounted push-buttons must meet the following requirements:

- EnOcean radio, European frequency (868 MHz)

EnOcean hand-held transmitters / wireless push-buttons must support one of the following EEPs:

- F6-02-01 EnOcean wireless push-button, PTM210 / PTM215 (unidirectional)
- D2-03-00 EnOcean wireless push-button, PTM215 (unidirectional)
- D2-03-0A EnOcean button (unidirectional)

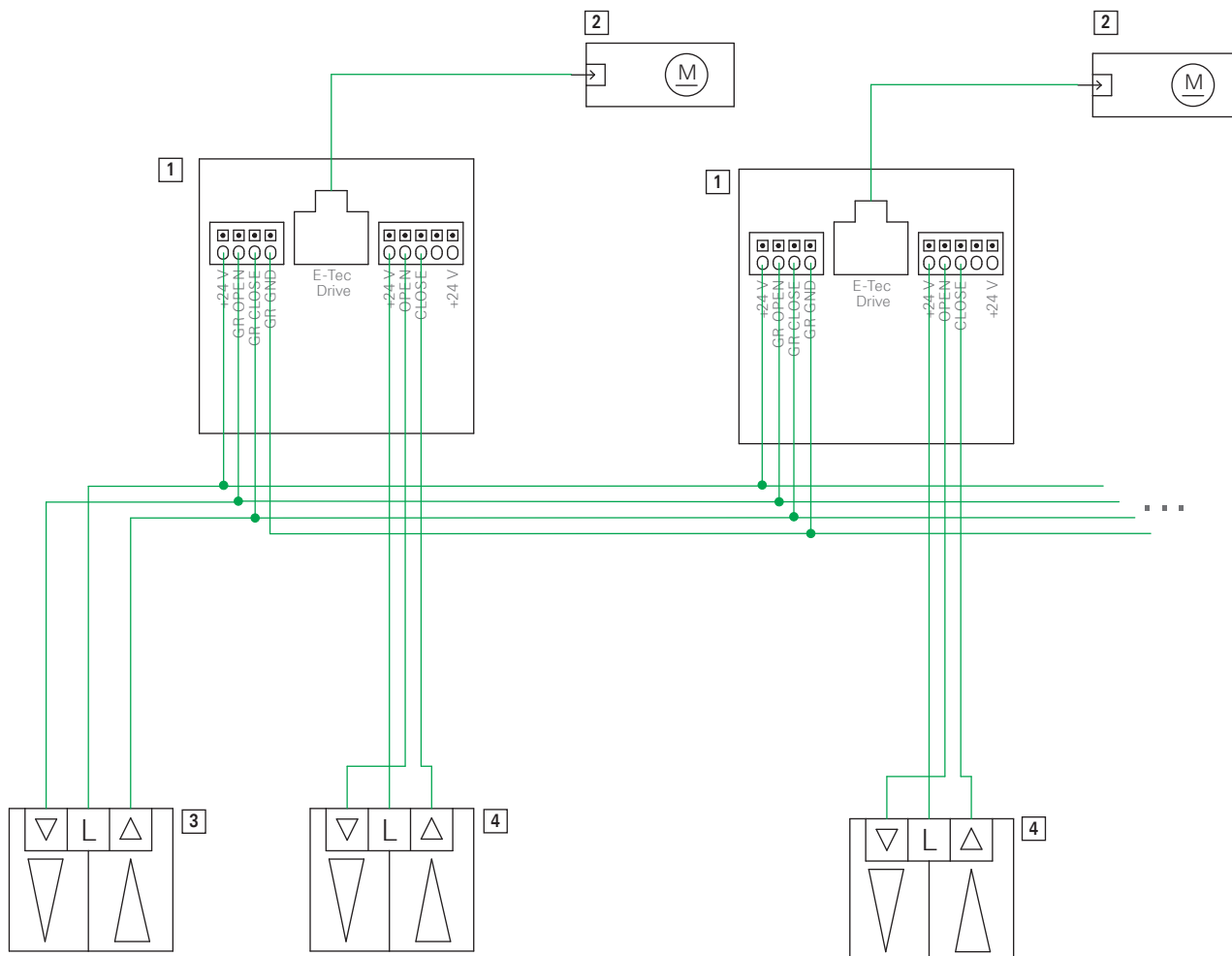
Further compatible radio transmitters can be found at the following link:

DE: [Produkte "Enabled by EnOcean" \(enocean-alliance.org\)](https://www.enocean-alliance.org/de/produkte)

EN: [Products "Enabled by EnOcean" \(enocean-alliance.org\)](https://www.enocean-alliance.org/en/products)



5.2 Group circuit operating push-button



[1] Roto E-Tec Drive | Power Unit or Power Unit Wireless

[2] Roto E-Tec Drive

[3] Group operating push-button

[4] Operating push-button



INFO Push-button

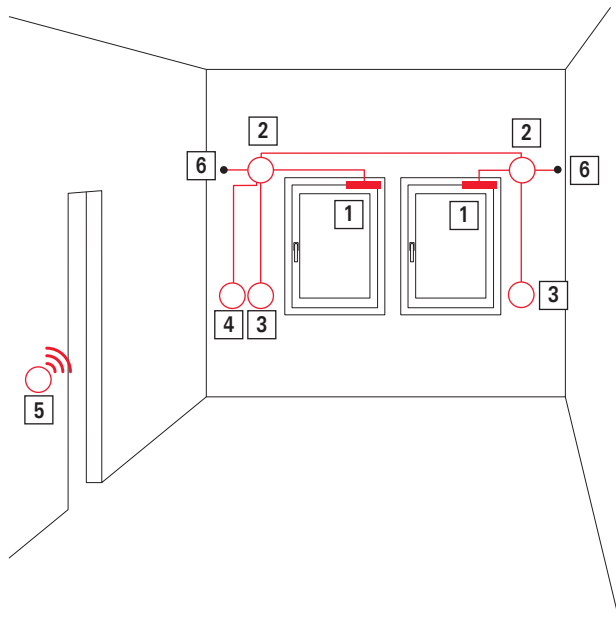
The push-buttons must not be mutually interlocked (reset).



INFO

Establish the earth connection between individual Roto E-Tec Drive | Power Units via GR GND.

Example



- [1] Roto E-Tec Drive
- [2] Roto E-Tec Drive | Power Unit or Power Unit Wireless
- [3] Operating push-button
- [4] Group operating push-button
- [5] Roto E-Tec Drive wireless operating push-button | Power Unit Wireless
- [6] 230 V



INFO

One wireless operating push-button can be programmed in one or more Roto E-Tec Drive | Power Units Wireless.



INFO

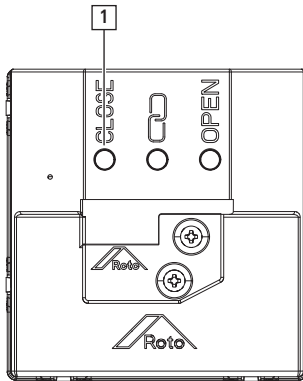
Up to five compatible EnOcean devices can be programmed in one Roto E-Tec Drive | Power Unit Wireless.



6 Operation

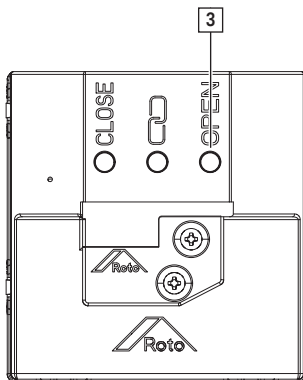
6.1 Roto E-Tec Drive | Power Unit

6.1.1 Close operating push-button



Press once: sends closing impulse to Roto E-Tec Drive

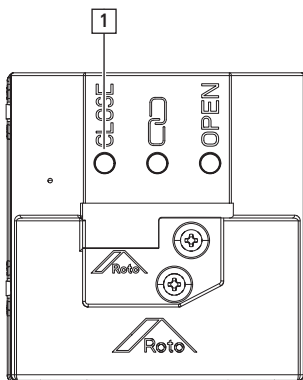
6.1.2 Open operating push-button



Press once: sends opening impulse to Roto E-Tec Drive

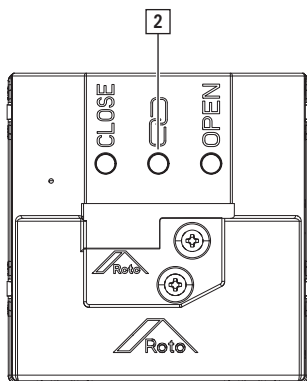
6.2 Roto E-Tec Drive | Power Unit Wireless

6.2.1 Close operating push-button



Press once: sends closing impulse to Roto E-Tec Drive

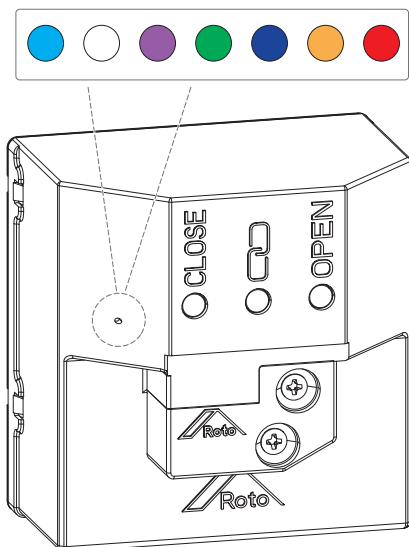
6.2.2 Connect operating push-button



EnOcean radio units

Press once	Programming mode. This mode is active for one minute. The LED lights up blue.
Press twice	Delete mode. This mode is active for one minute. The LED lights up orange.
Press three times	Switch between encrypted and unencrypted communication.
Press four times	Change the EnOcean repeater level → <i>from page 19</i>
Press and hold for ten seconds	Reset / factory settings

Overview of LEDs



LED colour	Status			Meaning
	No repeater	Level 1 repeater	Level 2 repeater	
Turquoise	Lit up	Flashing	Flashing quickly	Establishing a connection with Roto E-Tec Drive.
White	Lit up	Flashing	Flashing quickly	Normal operation (encrypted wireless) ¹⁾
Lilac	Lit up	Flashing	Flashing quickly	Normal operation (unencrypted wireless) ¹⁾
Green	Lit up	Flashing	Flashing quickly	Normal operation of Roto E-Tec Drive with software V5.0
Blue	Lit up	Flashing	Flashing quickly	Programming mode active
Orange	Lit up	Flashing	Flashing quickly	Delete mode active
Red	Lit up			Fault
	Flashing			Reset in progress

¹⁾ With E-Tec Drive (Smart) V6.0 and more recent.



6.2.2.1 Repeater mode – Roto E-Tec Drive | Power Unit Wireless

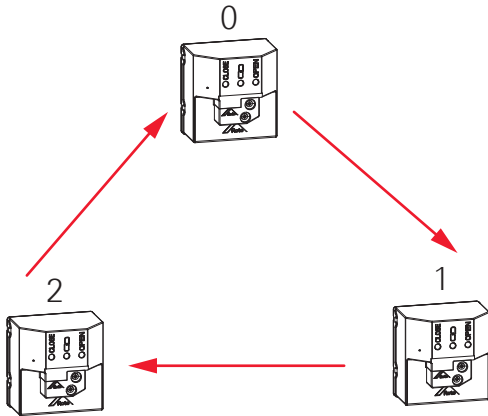
There are three levels for setting the repeater function for extending the range of EnOcean radio signals.

Level 0 Repeater mode is deactivated

Level 1 Any EnOcean radio telegram that has not yet been repeated is received and sent again.

Level 2 Any EnOcean radio telegram that has not yet been repeated, or an EnOcean radio telegram that has already been repeated once, is received and sent again.

The repeater is set to Level 0 during initial installation or after a reset.



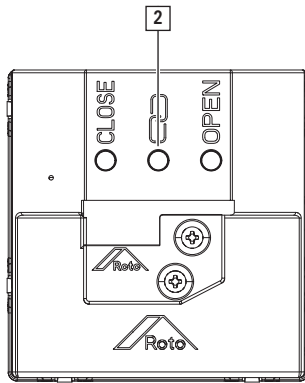
You can find information on planning a radio network online at: www.enocean.com (range planning for EnOcean radio systems).

Operation

Roto E-Tec Drive | Power Unit Wireless

Connect operating push-button

6.2.2.2 Programming



INFO

Up to five EnOcean **U**nique **R**adio **I**dentifiers (EURIDs) can be programmed at the same time.

Up to five EnOcean wireless push-buttons are available for operating an E-Tec Drive at the same time.



INFO

Do not activate any other EnOcean devices during the programming process.

If the LED of the Roto E-Tec Drive | Power Unit Wireless is still lit up blue after pressing the “Connect” push-button, the programming process has to be repeated.

Smart Home Gateway

1. Switch the Smart Home Gateway to programming mode.
2. Press the “Connect” push-button once.

Window sensor

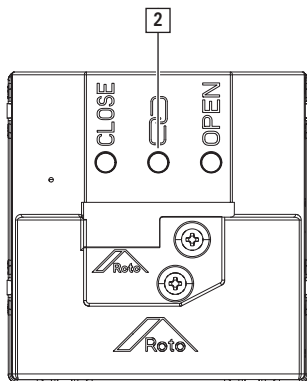
1. Switch the Roto E-Tec Drive | Power Unit Wireless to programming mode.
Press the “Connect” push-button once. The mode is active for one minute. The LED lights up blue.
2. Switch the window sensor to programming mode in accordance with the device manufacturer’s instructions.
The window sensor is programmed directly in the Roto E-Tec Drive | Power Unit Wireless.
3. The LED of the Roto E-Tec Drive | Power Unit Wireless switches to the colour of the set operating mode.

EnOcean wireless push-buttons

1. Switch the Roto E-Tec Drive | Power Unit Wireless to programming mode.
Press the “Connect” push-button once. The mode is active for one minute. The LED lights up blue.
2. Switch the wireless push-button to programming mode in accordance with the device manufacturer’s instructions.
The wireless push-button is programmed directly in the Roto E-Tec Drive | Power Unit Wireless.
3. The LED of the Roto E-Tec Drive | Power Unit Wireless switches to the colour of the set operating mode.



6.2.2.3 Deletion



Smart Home Gateway

1. Remove the Roto E-Tec Drive | Power Unit Wireless via the app.
2. The Smart Home Gateway sends a UTE teach-in deletion request to the Roto E-Tec Drive | Power Unit Wireless. The Roto E-Tec Drive | Power Unit Wireless deletes the Smart Home Gateway.

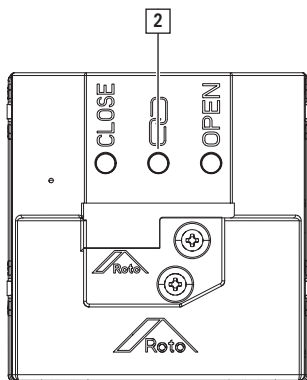
Window sensor

1. Switch the Roto E-Tec Drive | Power Unit Wireless to delete mode.
Press the "Connect" push-button twice. The mode is active for one minute. The LED lights up orange.
2. The next programming telegram from a known EnOcean device is deleted.
3. The LED of the Roto E-Tec Drive | Power Unit Wireless switches to the colour of the set operating mode.

EnOcean wireless push-buttons

1. Switch the Roto E-Tec Drive | Power Unit Wireless to delete mode.
Press the "Connect" push-button twice. The mode is active for one minute. The LED lights up orange.
2. The next programming telegram from a known EnOcean device is deleted.
3. The LED of the Roto E-Tec Drive | Power Unit Wireless switches to the colour of the set operating mode.

6.2.2.4 Reset / factory settings



Press and hold the "Connect" push-button [1] for ten seconds.

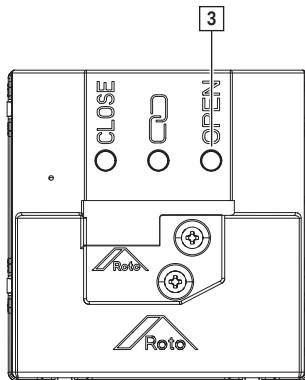
⇒ The LED flashes red.

Operation

Roto E-Tec Drive | Power Unit Wireless

Open operating push-button

6.2.3 Open operating push-button



Press once: sends opening impulse to Roto E-Tec Drive



7 Disposal

7.1 Electronic waste

Disposal of electronic waste in accordance with the legal regulations in the individual countries, e.g. in accordance with EU directives (2002/95/EC: Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment, RoHs and 2002/96/EC: Requirements for the take-back and recycling of waste electrical and electronic equipment (WEEE)).

According to the Federal Electrical and Electronic Equipment Act (ElektroG) in Germany, waste electronic equipment must not be disposed of in household waste; it must be taken to an appropriate disposal site.



8 Technical data

8.1 Roto E-Tec Drive | Power Unit

Technical data	
Power supply	100 – 240 V AC, 50 – 60 Hz, 0.6 A
Output	24 V DC, 0.63 A
Dimensions (L x W x H)	55.5 x 63.6 x 41 mm
Ambient conditions	
Operating temperature	0 °C to + 60 °C
Relative air humidity	20 – 90%
Colour	RAL 7035 (Light grey)
IP rating	IP20
Conformity	
Approval	CE, EMC Directive (2014/30/EU), Low Voltage Directive (LVD) (2014/35/EU), RoHS Directive (2011/65/EU).

8.2 Roto E-Tec Drive | Power Unit Wireless

Technical data	
Power supply	100 – 240 V AC, 50 – 60 Hz, 0.6 A
Output	24 V DC, 0.63 A
Dimensions (L x W x H)	55.5 x 63.6 x 41 mm
Radio transmitter	
Radio frequency	868.3 MHz, ASK modulation
Protocol / standard	EnOcean Radio Protocol version 1, lead market Europe
Encryption	32-bit rolling code (RLC), 4-byte AES / UTE teach-in telegram
Ambient conditions	
Operating temperature	0 °C to + 60 °C
Relative air humidity	20 – 90%
Colour	RAL 7035 (Light grey)
IP rating	IP20
Radio range	
Without obstacles	Up to 300 m (open areas)
Buildings	10 to 30 m
Conformity	
Approval	CE, Radio Equipment Directive (RED) (2014/53/EU), RoHS Directive (2011/65/EU).

EnOcean Equipment Profile (EEP)

EnOcean Equipment Profile (EEP)	Description
D2-06-20	Bidirectional communication with a Smart Home Gateway
A5-14-01	Roto Com-Tec Sensor Basic (unidirectional)
A5-14-09	Roto Com-Tec Sensor Comfort (unidirectional)
A5-14-0A	Roto Com-Tec Sensor Comfort S (unidirectional)
D5-00-01	EnOcean contact sensor (unidirectional)
F6-02-01	EnOcean wireless push-button, PTM210 / PTM215 (unidirectional)
D2-03-00	EnOcean wireless push-button, PTM215 (unidirectional)
D2-03-0A	EnOcean button (unidirectional)



INFO

The EnOcean radio modules with a frequency of 868.3 MHz comply with the Radio Equipment Directive 2014/53/EU (RED) and are permitted to be operated in all EU countries, Switzerland, Türkiye and Norway.

9 Additional information

9.1 Declaration of Conformity

9.1.1 Roto E-Tec Drive | Power Unit



german made



Roto
Window & Door
Technology

EU-Konformitätserklärung
EU Declaration of Conformity

Hersteller:
manufacturer: **Roto Frank Fenster- und Türtechnologie GmbH**
Wilhelm-Frank-Platz 1
D-70771 Leinfelden-Echterdingen

Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller.
This declaration of conformity is issued under the sole responsibility of the manufacturer.

Produkt-/ Typbezeichnung:
name of product/ type: **ET DRV POWER UNIT CON SET** [817390]
E-TEC DRIVE POWER UNIT CONNECTION SET

Seriennummer, Baujahr:
serial number, year of manufacture: **siehe Typenschild**
according to identification plate

Die Gegenstände dieser Erklärung erfüllen die einschlägigen, nachstehend benannten Harmonisierungsrechtsvorschriften der Union.
The items addressed by this declaration satisfy the relevant harmonization legislation of the European Union.

EU-Richtlinie EU Directive	Norm Standard
2014/30/EU EMV-Richtlinie EMC-Directive	EN 60730-1:2016 EN IEC 61000-3-2:2019 EN 61000-3-3:2013
2014/35/EU Niederspannungsrichtlinie Low Voltage Directive (LVD)	IEC 60335-1:2010 EN 60335-1:2012 + AC:2014 + A11:2014 + A13:2017 + A1:2019 + A2:2019 + A14:2019
2011/65/EU RoHS II	EN 50581:2012
1907/2006 REACH	

Leinfelden-Echterdingen, 30.09.2021

Ort, Datum
place, date



opa. Hartmut Schmitt
Direktor Produktinnovation
VP Product Innovation

EU-DOC E-Tec Drive Power Unit - 817390 V1.0.docx



9.1.2 Roto E-Tec Drive | Power Unit Wireless

german made


Window & Door
Technology

EU-Konformitätserklärung
EU Declaration of Conformity

Hersteller:
manufacturer:

Roto Frank Fenster- und Türtechnologie GmbH
Wilhelm-Frank-Platz 1
D-70771 Leinfelden-Echterdingen

Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller.
This declaration of conformity is issued under the sole responsibility of the manufacturer.

Produkt-/ Typbezeichnung:
name of product/ type:

ET DRV POWER UNIT WL CON SET [817391]
E-TEC DRIVE POWER UNIT WIRELESS CONNECTION SET

Seriennummer, Baujahr
serial number, year of manufacture:

siehe Typenschild
according to identification plate

Die Gegenstände dieser Erklärung erfüllen die einschlägigen, nachstehend benannten Harmonisierungsrechtsvorschriften der Union.
The items addressed by this declaration satisfy the relevant harmonization legislation of the European Union.

EU-Richtlinie EU Directive	Norm Standard
2014/53/EU Funkanlagenrichtlinie Radio Equipment Directive (RED)	Radio (RED Art. 3.2): ETSI EN 300 220-2 V3.1.1 (2016-11) ETSI EN 300 328 V2.2.2 (2019-07) EMC/AVO - Safety/Health (RED Art. 3.1 a+b): ETSI EG 203 367 V1.1.1 (2016-06) ETSI EN 301 489-1 V2.2.3 (2019-11) EN IEC 61000-3-2:2019 EN 61000-3-3:2013 EN 60730-1:2016 EN 60335-1:2010 EN 60335-1:2012 + AC:2014 + A11:2014 + A13:2017 + A1:2019 + A2:2019 + A14:2019
2011/65/EU RoHS II	EN 50581:2012
1907/2008 REACH	

Leinfelden-Echterdingen, 30.09.2021


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VP Product Innovation

Ort, Datum
place, date

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**Für alle Herausforderungen.
Beschlagsysteme aus einer Hand.**

Window

Beschlagsysteme für Fenster und Fenstertüren

Sliding

Beschlagsysteme für große Schiebefenster und Schiebetüren

Door

Aufeinander abgestimmte Beschlagtechnologie rund um die Tür

Equipment

Ergänzende Technik für Fenster und Türen



Standortfinder

