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# Relion® BIO-Tester 610-611-615-620

## Quick operation guide



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## Conformity

This product complies with the directive of the Council of the European Communities on the approximation of the laws of the Member States concerning electrical equipment for use within specified voltage limits (Low-voltage directive 2014/35/EU). This conformity is the result of partial Safety Approval tests conducted by the third party testing laboratory SGS Fimko Oy in accordance with essential safety requirements as defined in the safety standards EN 61010-1: 2010/ A1:2019, IEC 61010-1: 2010 + AMD1:2016, EN IEC 61010-2-030: 2021, and IEC 61010-2-030: 2017.

# Safety information



Dangerous voltages can occur on the connectors, even though the auxiliary voltage has been disconnected.



Non-observance can result in death, personal injury or substantial property damage.



Only trained and qualified persons are allowed to connect and operate Relion® BIO-Tester 610-611-615-620.



National and local electrical safety regulations must always be followed.



The necessary and required earthing connections must be made according to the product guidelines and regulations.



When the withdrawable module has been detached from the case, do not touch the inside of the case. The relay case internals may contain high voltage potential and touching these may cause personal injury.



The protection relay contains components which are sensitive to electrostatic discharge. Unnecessary touching of electronic components must therefore be avoided.



Whenever changes are made in the protection relay, measures should be taken to avoid inadvertent tripping.



The information icon alerts the reader of important facts and conditions.

# 1. BIO-Tester overview



Figure 1: Relion® BIO-Tester 610-611-615-620 in a waterproof case and cables

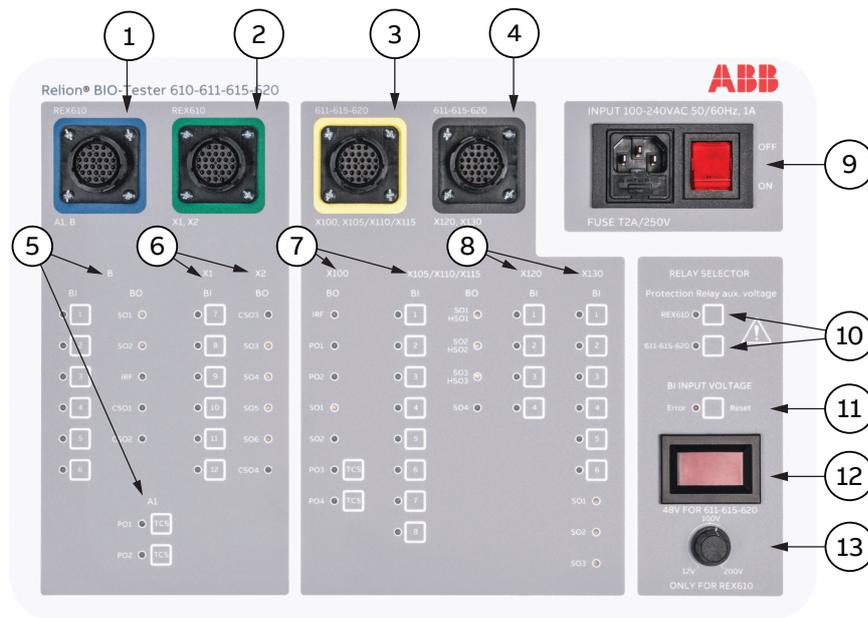


Figure 2: Relion® BIO-Tester 610-611-615-620 front view and cables

1. REX610 A1 and B connector, cable
2. REX610 X1 and X2 connector, cable
3. 611-615-620 X100 and X105/X110/X115 connector
4. 611-615-620 X120 and X130 connector, cable and connector terminal set
5. REX610 A1 and B test switches and indication LEDs
6. REX610 X1 and X2 test switches and indication LEDs
7. 611-615-620 X100 and X105/X110/X115 test switches and indication LEDs
8. 611-615-620 X120 and X130 test switches and indication LEDs
9. Main power switch and main's wall plug connector, cable
10. Protection relay's auxiliary power supply selection: REX610 or 611-615-620
11. Error LED for indication of BI fault and RESET button for deactivation
12. Screen for displaying the selected binary input supply voltage
13. Potentiometer for selecting the correct binary input supply voltage value of REX610

## 2. Preparations

Refer to the local safety rules and regulations before starting any operations with Relion® BIO-Tester 610-611-615-620. Read this Quick operation guide together with the Relion® BIO-Tester 610-611-615-620 User manual.



The auxiliary supply voltage of the protection relay under the test needs to be switched off before the preparation.



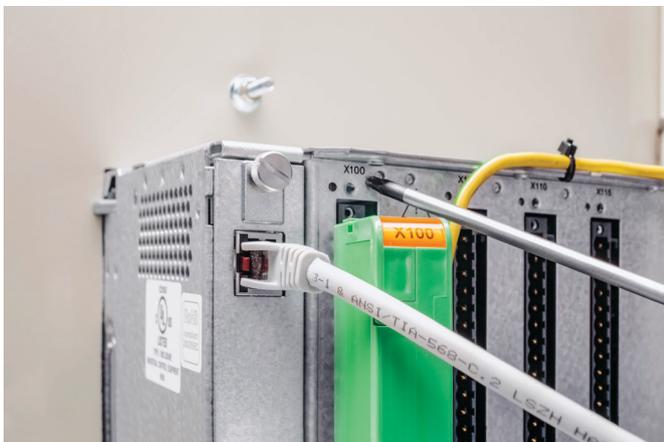
After the auxiliary supply voltage of the protection relay has been switched off, it is possible to start the preparations. Remove the PSM secondary wiring connector terminals and all the BIO module's secondary wiring connector terminals from the relay that is under the test.

Loosen the protective earth screw on the protection relay but DO NOT remove the existing earth lead. Connect the separate earth protection lead of BIO-Tester to the protective earth pin of the protection relay.



REX610 does not have a separate earth protection lead of BIO-Tester. The functional earth is physically part of the connector terminal A pin 4.

REX610 has also has its own connector cables.



Follow the connector label when connecting the connector cables between the BIO-Tester and the protection relay.



Connect the correct connector cables between the BIO-Tester and the protection relay that is under the test by following the connector labels.

For 620 series relays the same connector cable is intended to use for connection terminals X105, X110 and X115.



Do not connect both BIO0005 and BIO0007 connectors to the relay at the same time. Connecting both at the same time will lead to wrong operation of the BIO-Tester indications LEDs.



Depending on the relay, the X120 AIM module is provided with either 0, 3 or 4 binary inputs. The number of binary inputs can be checked from the configuration and connection diagram.

If the X120 AIM module is provided with binary inputs, testing requires the use of connector terminals and connector cables. Check the order of connector terminals by following the labels.



Connect the connector cables to the connector terminals by following the connector labels.



Check that the order of connector terminals and connector cables is correct by following the connector labels and color coding.





After successful testing:

- Switch off the power supply. Ensure the de-energized state of the protection relay under testing and the BIO-Tester.
- Remove all test connector cables and put them back inside the BIO-Tester case.
- Connect all secondary wiring connector terminals back to the protection relays. Ensure the correctness and tightness of connectors.
- Switch on the auxiliary supply voltages of the protection relay.
- Restore all the settings according to recommended settings chart and follow the site testing and commissioning guidelines before energizing the feeder.

## 4. Ordering data

**Table 1: Order codes for Relion® BIO-Tester 610-611-615-620 and accessories**

Item	Order number
Relion® BIO-Tester 610-611-615-620 in a waterproof case includes,	2RCA054097
<ul style="list-style-type: none"> <li>• Power supply cable</li> <li>• BIO-Tester REX610 A1, B cable</li> <li>• BIO-Tester REX610 X1, X2 cable</li> <li>• BIO-Tester 611-615-620 X100, X105/X110/X115 cable</li> <li>• BIO-Tester 611-615-620 X120, X130 cable</li> <li>• BIO-Tester 611-615-620 X120 connector terminal set (4 red + 2 black)</li> </ul>	
<b>Spare parts</b>	
• Power supply cable	2RCA050928
• BIO-Tester REX610 A1, B cable	2RCA054082
• BIO-Tester REX610 X1, X2 cable	2RCA054084
• BIO-Tester 611-615-620 X100, X105/X110/X115 cable	2RCA054085
• BIO-Tester 611-615-620 X120, X130 cable	2RCA054086
• BIO-Tester 611-615-620 X120 connector terminal set (4 red + 2 black)	2RCA054117

### Additional information

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