

Relion® 650 series

Accessories, 650 series IEDs versions 1.0 to 1.3, ANSI Product Guide

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1. Available accessories

Mounting kits

- Mounting kits for space-saving mounting in racks and cubicles and on walls

RHGS cases

- RHGS 6, RHGS 12 and RHGS 30 cases enable mounting of for example Combiflex modules

Test switch module

- Fail-safe testing of IEDs, using test switch RTXP 24
- Time saving while
 - all connections for test are made from the front
 - easy to move between IEDs of the same type

Combiflex modules

- Provide functionality such as lock-out, lock-out reset and external contact re-enforcement
- Supervision

Key switch for settings

- Possibility to lock settings with key switch

Connectors

- Flexible connection of analog and binary signals
 - Screw compression type
 - Terminal blocks suitable for ring-lugs

External resistor unit

- Used with the High impedance differential protection

Injection equipment hardware RXTTE4

- Used with the rotor ground fault protection to inject voltage and current signals to the generator or motor

ESD Field Kit

- Used to make work ESD safe

Power Supply

- Used to supply power to the IED

Configuration and monitoring tools

- Protection and control manager, PCM600, used to
 - configure the IED
 - set parameters
 - monitor the IED and the system
 - visualize and evaluate disturbance recordings

Cable and dust cover

- The cable is used to connect a PC to the RJ45 port on the local human machine interface
- The dust cover protects the RJ45 port

Labels

- Used to label the LEDs

2. Mounting kit for 3U

19" rack mounting for a single IED

Use the 19" rack mounting kit to mount the IED in a standard rack.

The 19" rack mounting kit for 3U housing consists of two mounting brackets with appropriate mounting details for fastening to the case.

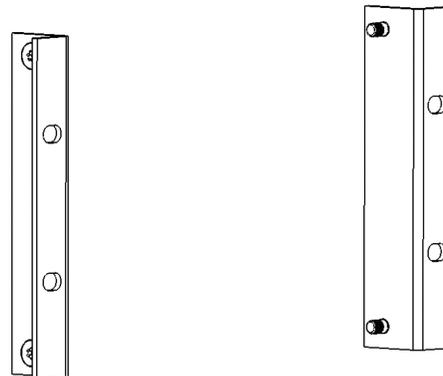


Figure 1. 19" rack mounting panels for 3U housing

3. Mounting kits for 6U

19" rack mounting for a single IED

Use the 19" rack mounting kit for 6U housing to mount the IED in a standard rack.

The 19" rack mounting kit consists of two mounting brackets with appropriate mounting details for fastening to the case.

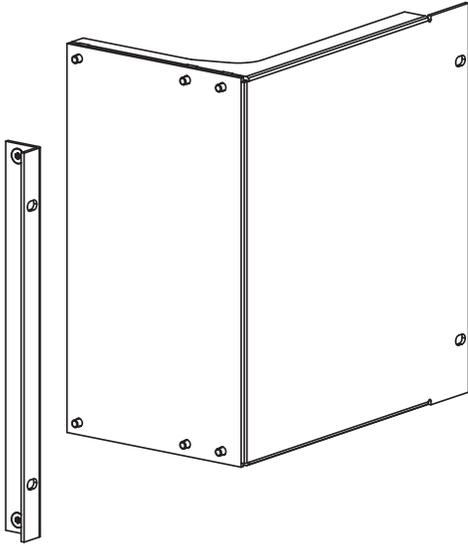


Figure 2. 19" rack mounting panels for 6U housing

Flush mounting

Use the flush mount kit for installation in a panel cut out.

The flush mounting kit for one 6U half 19" housing IED consists of a mounting frame and appropriate mounting details.

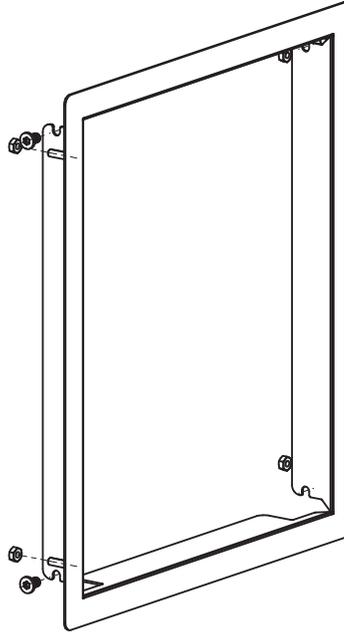


Figure 3. Flush mounting frame

Wall mounting

Use the wall mounting kit for one 6U half 19" housing IED to projection mount the IED on a wall.

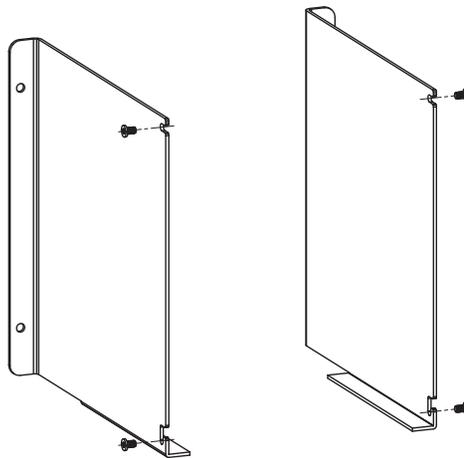


Figure 4. 6U wall mounting brackets

The wall mounting kit consists of an IED bracket pair. Screws and washers for fastening of the brackets to the IED are included, but not wall fasteners.

Wall mounting of IED with detached LHMI display

Use the wall mounting kit for one 6U half 19" housing IED to wall mount the main unit with detached display. An optional cable for connecting to the detached display is not included in the kit.

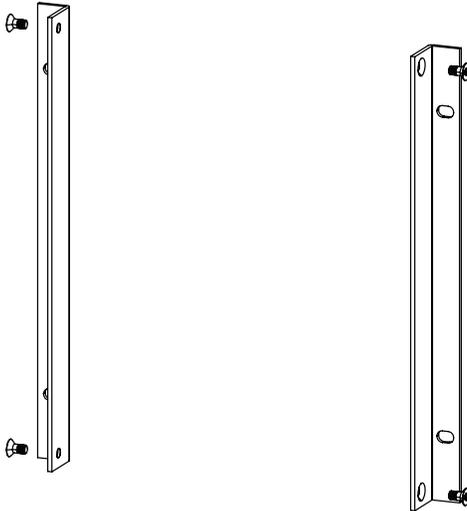


Figure 5. 6U main unit mounting brackets for IED with detached LHMI display

The wall mounting kit consists of an IED bracket pair. Screws and washers for fastening of the brackets to the IED are included, but not wall fasteners.

Rack mounting kit for two IEDs

Use the rack mounting kit to mount two IEDs next to each other.

The rack mounting kit for two 6U half 19" housing IEDs consists of upper mounting bracket, right mounting bracket, lower mounting bracket, left mounting bracket, middle mounting brackets and appropriate screws. The side-by-side mounted units are mounted in a rack or cubicle.

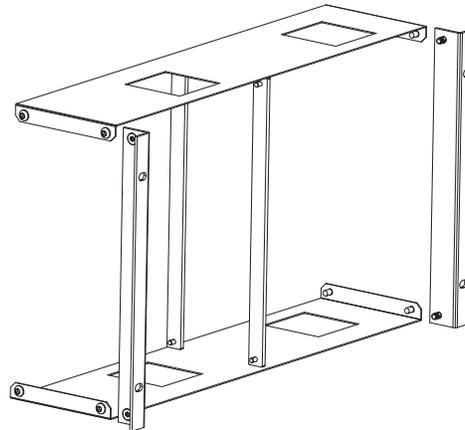
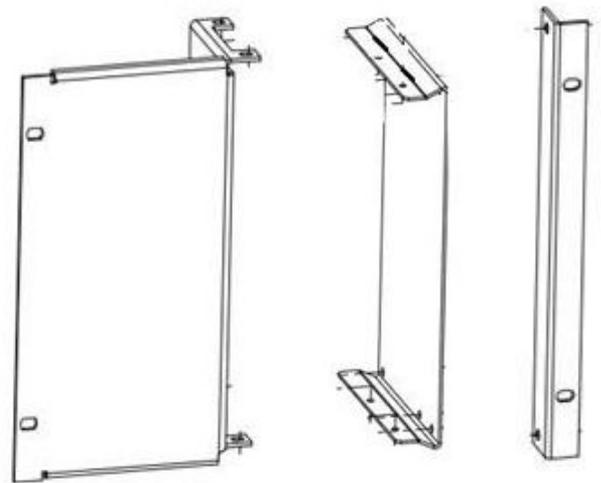


Figure 6. 19" rack mounting kit for two IEDs

Mounting kit for a RHGS 6 case next to an IED

Use the mounting kit to mount a RHGS 6 case next to one 6U half 19" housing IED.



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Figure 7. 6U 1/2 19" housing + RHGS 6 mounting brackets

The mounting kit for mounting a RHGS 6 case next to a 19" housing IED consists of right mounting bracket, middle mounting bracket and left mounting bracket. The side-by-side mounted units are mounted in a rack or cubicle. Screws and washers for fastening of the brackets to the IED are included, but not wall fasteners.

4. RHGS cases

RHGS Cases

Color matched (RAL7035) RHGS cases can be used to mount for example Combiflex modules together with 650 series. See section "Related documents" for reference to more detailed information about dimensions and mounting details for RHGS cases. Please observe that cases in referenced document has a different color.

5. Test switch module

General

The test switch module consists of a RHGS 6 case with a test switch, RTXP 24, and a two-seat Combiflex terminal base mounted. An optional DC-switch occupies one seat if selected.

All connections to the test switch module are made with Combiflex socket leads. Test contacts 1-24 of the test switch

have 20 A Combiflex terminals. The signal contact of the test switch and the Combiflex terminal base have 10 A terminals.

Two versions of the test switch module are available for use with:

- 3U IEDs
- 6U IEDs

The 3U version includes a test switch module and mounting details for 19" rack mounting over or under the IED.

The 6U version includes a test switch module and mounting details for 19" rack mounting of the test switch module side by side with a 6U 1/2 x 19" housing IED.

For more details about the Combitest system and Combiflex system see section "Related documents".

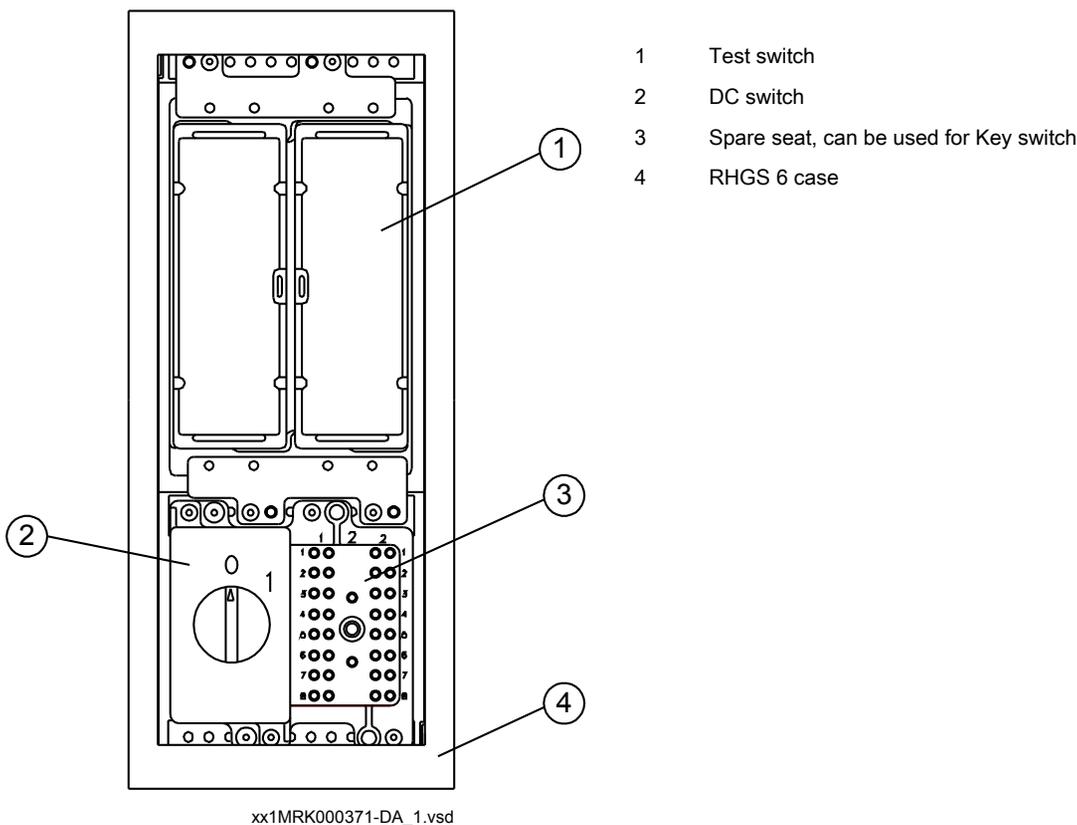


Figure 8. Example of a test switch module

Test switch

The test switch, RTXP 24, is used to make it possible to test an IED in a failsafe way. Inserting a test-plug handle into the test switch automatically makes all preparations for test in the proper sequence. Blocked trip circuits, shortcircuited CT's, opened voltage circuits makes the IED terminals available for secondary injection test.

6. Key switch for settings

The key switch for lock-out of settings via the local human machine interface is used to prevent unwanted changes of settings. The switch locks the settings via a binary input.

The key switch is of one seat Combiflex type. To install it, a case including a Combiflex terminal base is needed. One possibility is to install the key switch in the same case as the test switch.

7. Combiflex modules

Auxiliary relays

Auxiliary relays can be used together with the IED to provide functionality such as lock-out, lock-out reset or external contact re-enforcement

When the contact rating of the IED is insufficient, it is recommended to use RXME 1 as a contact re-enforcement. The RXME 1 is then activated from an IED contact which is set up to be activated together with the IED contacts tripping the breaker. The contact of the RXME 1 is connected in parallel, to take over the breaker trip coil current. This gives an efficient solution and means no time delay at tripping. See figure 9.

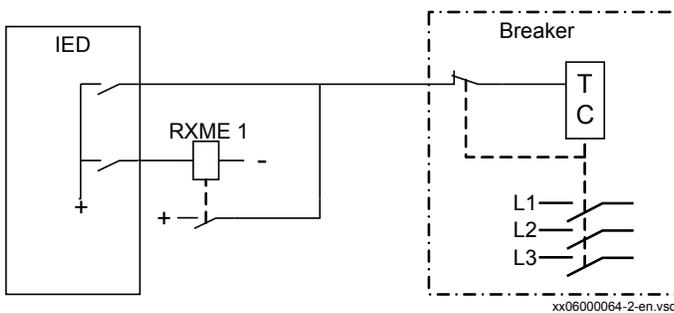


Figure 9. RXME 1 used as a trip contact re-enforcement

When single pole tripping is used one RXME 1 is required per phase and of course per subsystem in redundant systems.

Lock-out can be arranged with RXMD 1 remanence relay activated from binary outputs on IED and possible other

DC-switch

The DC-switch is optional in the test switch module and are used to switch the DC-supply of the IED ON/OFF.

The DC-switch is of one seat Combiflex type and needs a Combiflex terminal base to be mounted.

protection relays required to activate lock-out, see figure 10. The contact of RXMD 1 is connected to open the closing circuit to the breaker closing coil. Another contact can be used to light-up a lamp push button to have indication of the lock-out and then reset with the push-button. It is recommended to avoid trip contact latching as this will mean problem for example with trip circuit supervision and further at failing breaker, mean that the trip coil is burnt and the trip coil DC supply is tripped. The most important is to prevent that the breaker is closed at persistent faults.

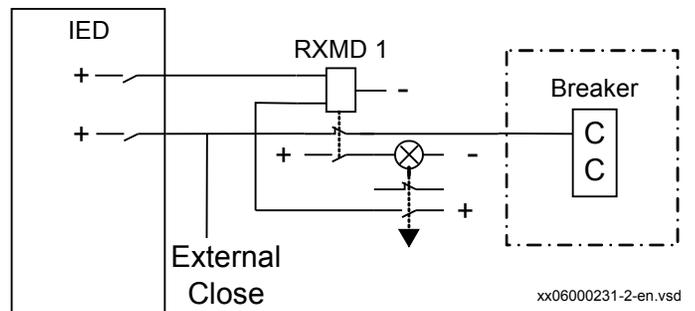


Figure 10. Lock-out using a RXMD 1 relay

For ordering codes see section “[Related documents](#)” for reference to more detailed information.

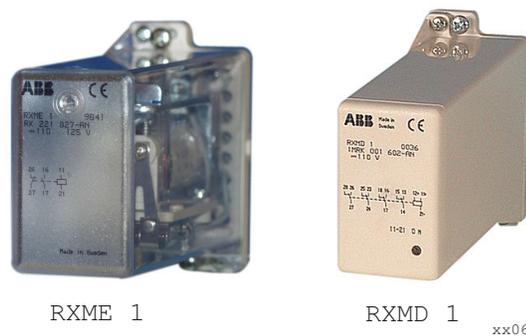


Figure 11. RXME 1 and RXMD 1 relays

Push button and selector switch

The push button is available with or without pilot lamp and with one or two buttons. It is used to reset the lock-out relays when an external independent lock-out and lock-out indications is required. The push button unit can also be used as a local selector of Auto-Reclose operation when this is required to be done locally as well as through communication.

The selector switch is available with two or three fixed positions and with different contact combinations. Selector switch can e.g. be used as Local/Remote selector or as a local selector of Auto-Reclose operation. See section [“Related documents”](#) for reference to more detailed information.



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Figure 12. Push button and selector switch

Supervision relay

The relay RXEM1 can be used to detect for example loss of DC voltage supply or to detect open circuits. A typical application is continuous supervision of a circuit breaker trip circuit, including the breaker coil. See section [“Related documents”](#) for reference to more detailed information.



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Figure 13. Supervision relay RXEM1

8. Connectors

The connectors are used for analog signals and binary in- and output signals.

Connectors for analog signals

The connectors have an automatic short-circuit mechanism for the current terminals. Therefore, detaching the connector from the unit will not open the secondary circuit of the CT which otherwise could cause dangerously high voltages.

Screw compression type

Each terminal for CTs/VTs is dimensioned for one 10 AWG wire or for two wires of maximum 12 AWG.

To help connecting the current and voltage inputs, the connector pair is marked with symbols. For a current input, the connector pair forms a circle. In the case of a voltage input, the connector pair forms two half-circles.

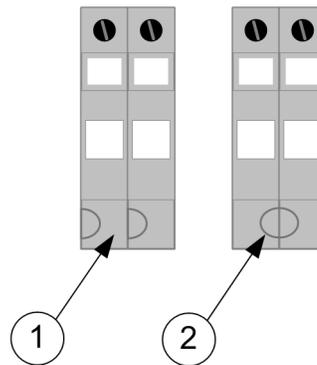


Figure 14. CT/VT connector symbols

- 1 VT symbol
- 2 CT symbol

Ring-lug type

The maximum outside diameter for the M4 ring-lug type analog input terminals is 0,35 in.



See the connection diagrams for information on the analog input module variant included in a particular configured IED.

Overview Analog input connectors

Table 1. Overview Analog input connectors – Transformer – AIM/TRM-variant

Terminal	1-2	3-4	5-6	7-8	9-10	1-2	3-4	5-6	7-8	9-10
Transformer	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10
TRM/AIM Variant										
4I+1I / 5U	CT	CT	CT	CT	CTs	VT	VT	VT	VT	VT
Screw compression	1KHL380069R0001					1KHL380066R0001				
Ring-lug	1KHL380069R0002					1KHL380066R0002				
6I / 4U	CT	CT	CT	CT	CT	CT	VT	VT	VT	VT
Screw compression	1KHL380069R0001					1KHL380062R0001				
Ring-lug	1KHL380069R0002					1KHL380062R0002				
8I / 2U 1)	CT	CT	CT	CT	CT	CT	CT	CT	VT	VT
Screw compression	1KHL380069R0001					1KHL380063R0001				
Ring-lug	1KHL380069R0002					1KHL380063R0002				
4I / 6U 1)	CT	CT	CT	CT	VT	VT	VT	VT	VT	VT
Screw compression	1KHL380064R0001					1KHL380066R0001				

Table 1. Overview Analog input connectors — Transformer — AIM/TRM-variant, continued

Ring-lug	1KHL380064R0002	1KHL380066R0002
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CTs : Current Transducer (Sensitive) for 0,1 A / 0,5 A
 1) TRM only

Connectors for binary signals
Screw compression type

Each signal connector terminal is connected with one 14 AWG wire or for two wires of maximum 16 AWG.

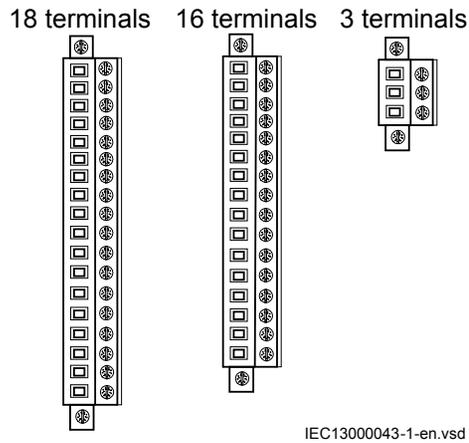
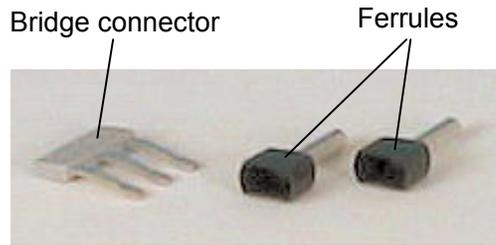


Figure 15. Signal connectors, screw compression type

Use the ferrules to connect two wires to the same terminal point of a connector of screw compression type. Note that 15 AWG is the maximum dimension allowed on these wires. A special crimping tool from Phoenix is needed to apply the Phoenix ferrule to the wires. Use the bridge connector to jumper terminal points in a connector.



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Figure 16.

Ring-lug type

Use ring-lugs to connect the wire to terminal points of a connector of ring-lug type. Select ring-lugs suitable to wiring dimension and size of terminal point.

The maximum outside diameter for the M3 ring-lug type signal terminals is 0,31 in.

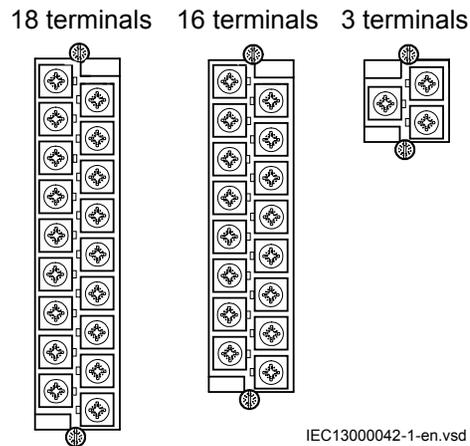


Figure 17. Signal connectors, ring-lug type

9. External resistor unit

External resistor unit

The high impedance resistor unit is used with the high impedance differential protection. It is available as one phase unit or three phase unit.

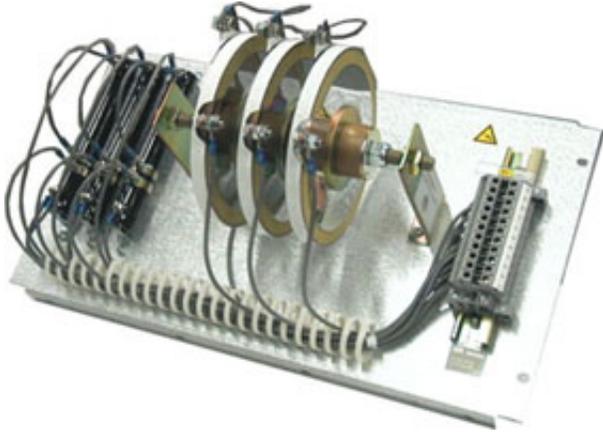


Figure 18. High impedance resistor unit, three phase

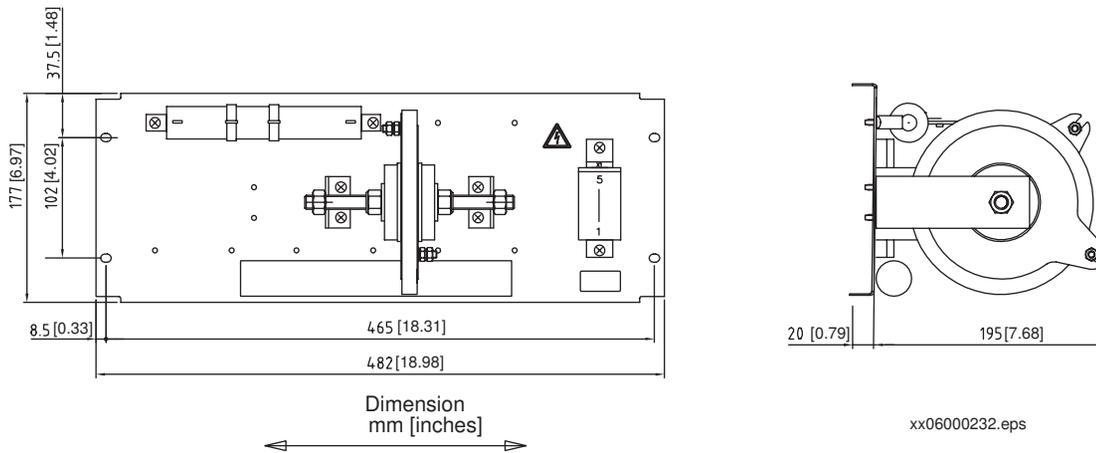


Figure 19. Dimension drawing of a one phase high impedance resistor unit

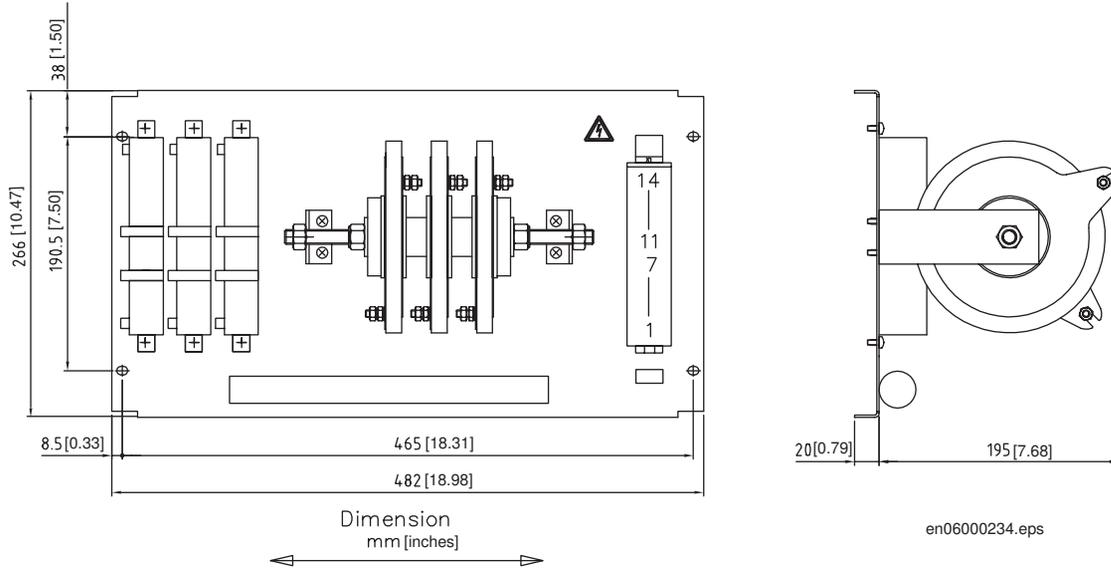


Figure 20. Dimension drawing of a three phase high impedance resistor unit

WARNING! USE EXTREME CAUTION!

Dangerously high voltages might be present on this equipment, especially on the plate with resistors. Do any maintenance ONLY

if the primary object protected with this equipment is de-energized. If required by national law or standard, enclose the plate with resistors with a protective cover or install in a separate box.

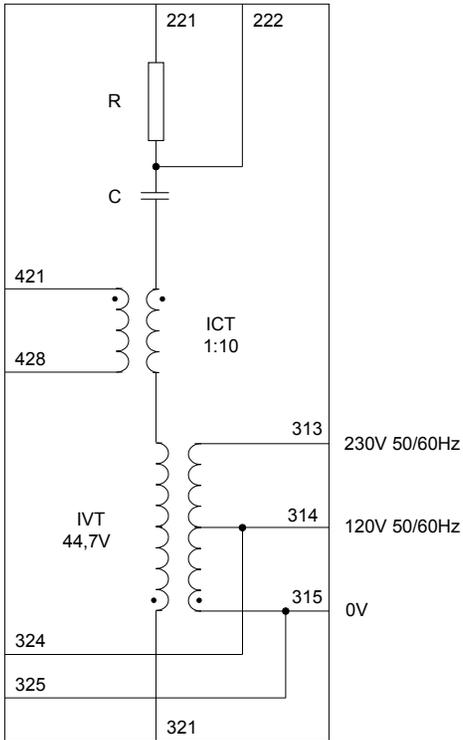
10. Voltage injection unit RXTTE4

Voltage injection unit RXTTE4

The COMBIFLEX voltage injection unit RXTTE4 is used for rotor ground fault protection applications. The RXTTE 4 contains a voltage transformer with a primary winding for connection to 120 or 230 V, 50 or 60 Hz supply voltage. From the secondary winding of this internal voltage transformer approximately 40 V AC is injected via series capacitors and resistors into the rotor circuit. The injected voltage and current are fed to one voltage input and one current input on the IED.

In order to mount injection unit RXTTE4 some COMBIFLEX accessories are required; RX4 terminal base, 10A and 20A contact sockets and Crimping tool. See section ["Related documents"](#) for more detailed information.

RXTTE4



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Rotor ground fault protection can be integrated in the IED among all other protection functions typically required for generator protection. How this is achieved by using COMBIFLEX injection unit RXTTE4 is described in Instruction 1MRG001910.

Figure 21. Voltage injection unit RXTTE4 with its main internal components

Table 2. Rotor ground fault protection (64R) based on Ground fault functions (SDEPSDE, EF5PTOC) and RXTTE4

Function	Range or value
For machines with:	
• rated field voltage up to	350 V DC
• static exciter with rated supply voltage up to	700 V 50/60 Hz
Supply voltage 120 or 230 V	50/60 Hz
Operate ground fault resistance value	Approx. 1–20 kΩ
Influence of harmonics in the DC field voltage	Negligible influence of 50 V, 150 Hz or 50 V, 300 Hz
Permitted leakage capacitance	(1–5) μF
Permitted shaft grounding resistance	Maximum 200 Ω
Protective resistor	220 Ω, 100 W, plate 135 x 160 mm

External resistor for RXTTE4

The external resistor is used when either there is a need to minimize physical exposure of the field circuit or when high harmonic content of the total injection current can cause overheating of the built-in RXTTE4 resistor. The external resistor is delivered mounted on an insulated plate with overall dimensions; Height = 6,2 in, Width = 5,31 in, suitable for wall mounting, see [figure 22](#). It actually consists of two resistors (R1 and R2) which are on delivery connected in series. It is possible to order two different types of the external resistor. The first type (ordering number RK795102-AD) has exactly the same ohmic value of 220Ω as the internal RXTTE4 resistor. It shall be used in cases where only physical exposure of the field circuit shall be limited. The second type (ordering number RK795102-AB) has different ohmic value than internal RXTTE4 resistor. It shall be used in installations where current with high harmonic content is pushed back onto the RXTTE4 injection unit by the rotor circuit

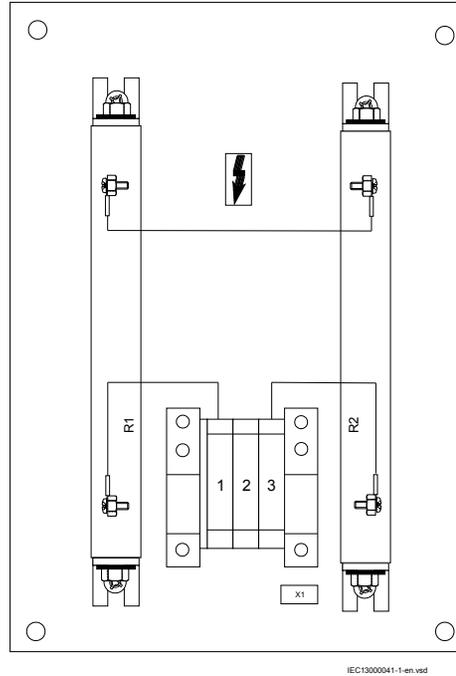


Figure 22. External resistor mounted on a plate

11. ESD Field Kit

Introduction

The ESD Field Kit provides a complete portable ESD safe workstation when working in the field.



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12. Power Supply

Portable Power Supply

The portable Power Supply provides the IED with power. This can be used at education or demonstration of the IED.

Power Cable

For use with the portable Power Supply.

13. Configuration and monitoring tools

PCM600

Use PCM600 through all stages of a project, from engineering, configuring and parameter setting to testing, commissioning, documentation and maintenance. Use PCM600 to adjust the default configuration, or to make a new configuration. For more information about PCM600 visit www.abb.com/substationautomation.

14. Cable and dust cover

Front communication

The front connection cable is used to connect a PC to the RJ45 port on the local human machine interface. The cable is a standard crossed-over ethernet cable (RJ45 connectors).

Dust cover

The dust cover is used to protect the RJ45 connector on the local human machine interface.

15. Ordering

Mounting accessories

Name	For case size	Quantity	Article number
19" rack mounting kit for a single IED	3U	<input type="checkbox"/>	1KHL400352R0001
	6U	<input type="checkbox"/>	1KHL400239R0001
Wall mounting kit for one 6U half 19" housing IED	6U	<input type="checkbox"/>	1KHL400200R0001
Wall mounting kit for one 6U half 19" housing IED main unit with detached display	6U	<input type="checkbox"/>	1KHL400317R001
Flush mounting kit for one 6U half 19" housing IED	6U	<input type="checkbox"/>	1KHL400228R0001
Rack mounting kit for two 6U half 19" housing IEDs	6U	<input type="checkbox"/>	1KHL400240R0001
Mounting kit for a RHGS 6 next to one 6U half 19" housing IED	6U	<input type="checkbox"/>	1MRK002420-GA

Note: All kits are complete including screws for attaching the mounting details to the IED

Optional cables for detached display module (only for 6U versions)

	Quantity:	Article number
LHMI cable (1m)	<input type="checkbox"/>	1KHL380031R0100
LHMI cable (2m)	<input type="checkbox"/>	1KHL380031R0200
LHMI cable (3m)	<input type="checkbox"/>	1KHL380031R0300
LHMI cable (4m)	<input type="checkbox"/>	1KHL380031R0400
LHMI cable (5m)	<input type="checkbox"/>	1KHL380031R0500

RHGS Cases

RHGS 6 with door, size 6Ux1/4, color RAL 7035	Quantity: <input type="checkbox"/>	1MRK 000 315- AG
RHGS 12 with door, size 6Ux1/2, color RAL 7035	Quantity: <input type="checkbox"/>	1MRK 000 315- BH
RHGS 30 with door, size 6Ux1/1, color RAL 7035	Quantity: <input type="checkbox"/>	1MRK 000 315- BB

Test switch module

Selection of a RTPX test switch for each ordered test switch module is required. See Selection guide for recommendations. Please refer to section "[Related documents](#)".

Test switch module RTXP 24 for 3U

Quantity:

Article number

1MRK 000 371-HA

Test switch module RTXP 24 for 6U

Quantity:

1MRK 000 371-GA

Selection guide

Product	Product version	Variant	Analog configuration		Type of earthing		Article number
			TRM	AIM			
REB 650	ALL	A03	6I + 4U	6I + 4U	Internal neutral	<input type="checkbox"/>	RK 926 315-CA
REC 650	ALL	A01	5I + 5U	-	Internal neutral	<input type="checkbox"/>	RK 926 315-AF
					External neutral	<input type="checkbox"/>	RK 926 315-AY
	ALL	A02	5I + 5U	-	Internal neutral	<input type="checkbox"/>	RK 926 315-AF
					External neutral	<input type="checkbox"/>	RK 926 315-AY
	1.0 and 1.1	A07	6I + 4U	-	Internal neutral	<input type="checkbox"/>	RK 926 315-CP
					External neutral	<input type="checkbox"/>	RK 926 315-CD
1.2 and 1.3	A07	4I + 6U	-	Internal neutral	<input type="checkbox"/>	RK 926 315-BB	
				External neutral	<input type="checkbox"/>	RK 926 315-AW	
REG 650	ALL	B01	5I + 5U	6I + 4U	Internal neutral	<input type="checkbox"/>	RK 926 315-BX
	ALL	B05	5I + 5U	6I + 4U	External neutral	<input type="checkbox"/>	RK 926 315-BX

Product	Product version	Variant	Analog configuration		Type of earthing		Article number	
			TRM	AIM				
REL 650	ALL	A01	5I + 5U	-	Internal neutral	<input type="checkbox"/>	RK 926 315-AF	
					External neutral	<input type="checkbox"/>	RK 926 315-AY	
	1.0 and 1.1	A05	5I + 5U	-	Internal neutral	<input type="checkbox"/>	RK 926 315-AF	
					External neutral	<input type="checkbox"/>	RK 926 315-AY	
	ALL	A11	5I + 5U	-	Internal neutral	<input type="checkbox"/>	RK 926 315-AF	
					External neutral	<input type="checkbox"/>	RK 926 315-AY	
	1.2 and 1.3	B01	5I + 5U	5I + 5U	Internal neutral	<input type="checkbox"/>	RK 926 315-AM	
					External neutral 1)	<input type="checkbox"/>	RK 926 315-DB	
	REQ 650	ALL	A01	5I + 5U	-	Internal neutral	<input type="checkbox"/>	RK 926 315-AF
						External neutral	<input type="checkbox"/>	RK 926 315-AY
		ALL	A11	5I + 5U	-	Internal neutral	<input type="checkbox"/>	RK 926 315-AF
						External neutral	<input type="checkbox"/>	RK 926 315-AY
ALL		B11	5I + 5U	-	Internal neutral	<input type="checkbox"/>	RK 926 315-AF	
					External neutral	<input type="checkbox"/>	RK 926 315-AY	
RET 650		ALL	A01	8I + 2U	-	Internal neutral	<input type="checkbox"/>	RK 926 315-BD
		ALL	A05	6I + 4U	6I + 4U	Internal neutral	<input type="checkbox"/>	RK 926 315-CZ
		ALL	A07	6I + 4U	-	Internal neutral	<input type="checkbox"/>	RK 926 315-CP

1) Note: With this solution there are no test points on the test switch for trip commands. Separate test switch for just binary signals of type RK 926 315-AS can be added if required.

On/off switch for the DC-supply

Quantity: RK 795 017-AA

Labels with symbols for RTXP 24

Quantity: 1MRK 000 132-53

Note: Leads with 20 A Combiflex socket on one end and insulation stripped on the other end must be used to connect the test switch to the terminal. To connect the signal contact of the test switch and the DC switch, leads with 10 A Combiflex socket on one end must be used.

Key switch for settings

Key switch for lock-out of settings via LCD-HMI

Quantity: 1MRK 000 611-A

Note: To connect the key switch, leads with 10 A Combiflex socket on one end must be used.

Combiflex modules

Auxiliary relays	See related documents
Push button and selector switch	See related documents
Supervision relay	See related documents

Connectors

Screw compression type

Analog input connector	1I+4V, 1 pc	Quantity:	<input type="checkbox"/>	1KHL380062R0001
Analog input connector	3I+2V, 1 pc	Quantity:	<input type="checkbox"/>	1KHL380063R0001
Analog input connector	4I+1V, 1 pc	Quantity:	<input type="checkbox"/>	1KHL380064R0001
Analog input connector	5V, 1 pc	Quantity:	<input type="checkbox"/>	1KHL380066R0001
Analog input connector	5I, 1 pc	Quantity:	<input type="checkbox"/>	1KHL380069R0001
Signal connector	18 terminals, 1 pc	Quantity:	<input type="checkbox"/>	1KHL380032R0001
Signal connector	16 terminals, 1 pc	Quantity:	<input type="checkbox"/>	1KHL380083R0001
Signal connector	3 terminals, 1 pc	Quantity:	<input type="checkbox"/>	1KHL380033R0001
Bridge connector	For 2 terminals, 1 pc	Quantity:	<input type="checkbox"/>	1MKC 840 002-1

Bridge connector	For 3 terminals, 1 pc	Quantity:	<input type="checkbox"/>	1MKC 840 002-2
Bridge connector	For 4 terminals, 1 pc	Quantity:	<input type="checkbox"/>	1MKC 840 002-3
Ferrule	For 2 x 1.5 mm ² conductors in screw compression terminal, 1 pc	Quantity:	<input type="checkbox"/>	1MKC 840 003-4
Ring-lug type				
Analog input connector	1I+4V, 1 pc	Quantity:	<input type="checkbox"/>	1KHL380062R0002
Analog input connector	3I+2V, 1 pc	Quantity:	<input type="checkbox"/>	1KHL380063R0002
Analog input connector	4I+1V, 1 pc	Quantity:	<input type="checkbox"/>	1KHL380064R0002
Analog input connector	5V, 1 pc	Quantity:	<input type="checkbox"/>	1KHL380066R0002
Analog input connector	5I, 1 pc	Quantity:	<input type="checkbox"/>	1KHL380069R0002
Signal connector	18 terminals, 1 pc	Quantity:	<input type="checkbox"/>	1KHL380051R0001
Signal connector	16 terminals, 1 pc	Quantity:	<input type="checkbox"/>	1KHL380087R0001
Signal connector	3 terminals, 1 pc	Quantity:	<input type="checkbox"/>	1KHL380055R0001

External resistor unit

High impedance resistor unit 1-ph with resistor and voltage dependent resistor for 20-100V operating voltage	Quantity:	<input type="checkbox"/>	RK 795 101-MA
High impedance resistor unit 3-ph with resistor and voltage dependent resistor for 20-100V operating voltage	Quantity:	<input type="checkbox"/>	RK 795 101-MB
High impedance resistor unit 1-ph with resistor and voltage dependent resistor for 100-400V operating voltage	Quantity:	<input type="checkbox"/>	RK 795 101-CB
High impedance resistor unit 3-ph with resistor and voltage dependent resistor for 100-400V operating voltage	Quantity:	<input type="checkbox"/>	RK 795 101-DC

External interface units for Rotor ground fault protection

Injection unit for Rotor ground fault protection (RXTTE 4)	Quantity:	<input type="checkbox"/>	1MRK 002 108-BA
Protective resistor on plate. R1 = 100 Ω , R2 = 120 Ω	Quantity:	<input type="checkbox"/>	RK 795 102-AD
Protective resistor on plate. R1 = 560 Ω , R2 = 560 Ω	Quantity:	<input type="checkbox"/>	RK 795 102-AB

ESD Field kit

ESD Field kit	Quantity:	<input type="checkbox"/>	1MRK 001 938-A
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Power Supply

Power Supply Unit Input voltage: 90-264 V~, 47-63 Hz Output voltage: 48 V= Max. output current: 2,5 A Output power: 135 W max Switch frequency: 65 kHz	Quantity:	<input type="checkbox"/>	1MRK 001 665-FA
Power Cable 2m	Quantity:	<input type="checkbox"/>	1MRK 001 665-EA

Configuration and monitoring tools

PCM600	See related documents
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Labels

LED Label special paper A4, 1 pc

Quantity:

1MRK 002 038-CA

LED Label special paper Letter, 1 pc

Quantity:

1MRK 002 038-DA

Cable and dust cover

Front connection cable

Quantity:

1MRK 001 665-CA

Dust cover LHMI (RJ45)

Quantity:

1MKC 890 000-1

16. Related documents

Combiflex, connection and installation components	1MRK 513 003-BEN
Combitest	1MRK 512 001-BEN
Auxiliary, signalling and tripping relays	1MRK 508 015-BEN
Auxiliary relays	1MRK 508 006-BEN
Bistable relays	1MRK 508 017-BEN
Push button and selector switch	1MRK 513 016-BEN
Supervision relay	1MRK 508 024-BEN
PCM600	1MRS756448
REB650 Product guide	1MRK 505 290-BEN
REC650 Product guide	1MRK 511 289-BEN
REG650 Product guide	1MRK 502 050-BEN
REL650 Product guide	1MRK 506 337-BEN
RET650 Product guide	1MRK 504 137-BEN
REQ650 Product guide	1MRK 505 294-BEN
Rotor ground fault protection with injection unit RTTXE4	1MRG001910

Contact us

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