



TYPE APPROVAL CERTIFICATE
No. **ELE152217XG**

This is to certify that the product below is found to be in compliance with the applicable requirement of the RINA type approval system.

<i>Description</i>	Measuring and protection units for electrical generators
<i>Type</i>	REx 615 and REx 630 series
<i>Applicant</i>	ABB OY - Medium Voltage Products Muottitie 2 A 65320 Vaasa FINLAND
<i>Manufacturer</i>	ABB OY - Medium Voltage Products
<i>Place of manufacture</i>	Muottitie 2 A 65320 Vaasa FINLAND
<i>Reference standards</i>	Rules for the classification of ships.- Part C - Machinery, systems and fire protection. - Ch.3, Sect. 6, Table 1.

Issued in **HAMBURG** on **December 6, 2017**. This Certificate is valid until **December 5, 2022**



RINA Services S.p.A.
Giuseppe Russo

This certificate consists of this page and 1 enclosure



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REx 615 and REx 630 series

Product description:

The REx 615 and REx 630 series are management relays for protection, control, measurement and supervision in utility and industrial power distribution systems. The graphical display can show customizable single-line diagrams (SLD). The REx 615 and REx 630 series are characterized by functional scalability and flexible configurability.

Types:

RED615: Line Differential Protection and Control
 REF615, REF630: Feeder Protection and Control
 REG630: Generator Protection and Control
 REM615, REM630: Motor Protection and Control
 RET615, RET630: Transformer Protection and Control
 REU615: Voltage Protection and Control

Electrical data:

615 series	630 series
Power Supply Uaux nominal: 100, 110, 120, 220, 240V AC 50/60Hz 24, 30, 48, 60, 110, 125, 220, 250V DC	Power Supply Uaux nominal: 100, 110, 120, 220, 240V AC 50/60Hz 48, 60, 110, 125, 220, 250V DC
Uaux variation: 38...110% of Un (38...264 V AC) 50...120% of Un (12...300 V DC)	Uaux variation: 85...110% of Un (85...264 V AC) 80...120% of Un (38,4...300 V DC)
Energizing Inputs	Energizing Inputs
Rated frequency: 50/60 Hz Rated current In: 0.2/1 A 1/5A Thermal withstand capability • Continuously 4A • For 1s 100A Input impedance <100mOhm <20mOhm	Rated frequency: 50/60Hz Rated current In: 0.1/0.5A 1/5 A Thermal withstand capability • Continuously 4A 20A • For 1 s 100A 500A • For 10 s 25 A 100A Input impedance <100mOhm <20mOhm
Rated voltage 60...210V AC Voltage withstand: • Continuously 240V AC • For 10s 360V AC Burden at rated voltage <0,05VA	Rated voltage 100V AC/ 110V AC/ 115V AC/ 120V AC Voltage withstand: • Continuously 425V AC • For 10 s 450V AC Burden at rated voltage <0,05VA
Current sensor input 75mV...2812,5 mV Voltage sensor input 6 kV...30kV	not supported
Binary inputs: Operating range ±20% of the rated voltage Rated voltage 24...250 V DC	Binary inputs: Operating range Maximum input voltage 300V DC Rated voltage 24...250 V DC
Signal output: Rated voltage 250V AC/DC Continuous contact carry 5A Make and carry for 3.0s / 0.5s 15A / 30A	Signal output: Rated voltage 250 V AC/DC Continuous contact carry 5A Make and carry for 3.0s / 0.5s 10A / 15A
not supported	mA outputs: Output range -20mA...+20mA Operation accuracy ±0.2mA

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REx 615 and REx 630 series

Main protection functions:

615 series	RED615	REF615	-	REM615	RET615	REU615
630 series	-	REF630	REG630	REM630	RET630	-
Three-phase non-directional overcurrent protection	X	X	X	X	X	X
Three-phase directional overcurrent protection	-	X	X	-	-	-
Non-directional earth-fault protection	X	X	X	X	X	-
Directional earth-fault protection	X	X	X	X	-	-
Three-phase overvoltage protection	-	X	X	-	X	X
Three-phase undervoltage protection	-	X	X	X	X	X
Frequency protection	-	X	X	-	-	X
Three-phase inrush current detection	-	X	-	-	-	-
Motor load jam protection	-	-	-	X	-	-
Motor startup supervision	-	-	-	X	-	-
Transformer differential protection for two-winding transformers	-	-	-	-	X	-
Residual overvoltage protection	-	-	-	-	-	X
Line differential protection	X	-	-	-	-	-
Phase discontinuity protection	X	-	-	-	-	-
Stabilized differential protection	-	-	X	-	-	-
Reverse power/directional overpower protection	-	-	X	-	-	-

Further supported protection functions according manufacturer documentation

Documents:

- 1MRS756382 Rev. E; 1MRS756508 Rev. E; 1MRS756824 Rev. E; 1MRS756825 Rev. F; 1MRS756887 Rev. M; 1MRS757640 Rev. B; - RED615_1MRS756489 K, 5.0 FP1 dated 2016; REF615_1MRS756381 N, 5.0 FP1 dated 2016;
- REG615_1MRS 758278 A, 5.0 FP1 dated 2016; REM615_1MRS756902 H, 5.0 FP1 dated 2016;
- RET615_1MRS756898 K, 5.0 FP1 dated 2016; REU615_1MRS757062 H, 5.0 FP1 dated 2016;
- REV615_1MRS757951 C, 5.0 FP1 dated 2016;

Test Reports:

- ABB Oy: - 1MRS081892 Rev. G dated 29.10.2015; 1MRS081960 Rev. A dated 10.12.2010;
- Intertek Semko AB: - 1708538STO-001 ED. 2 dated 2017-09-21;
- KEMA Nederland B.V.: - 09-1015 dated 28 August 2009; 09-1016 dated 28 August 2009; 09-1017 dated 28 August 2009;
- Nemko Oy: - 204526B dated 23.03.2012;
- SGS Fimko Oy: - 277029-1 dated 08.09.2014; 277552-1 dated 06.10.2014;
- VTT Expert Services Ltd.: - VTT-S-02672-11 dated April 28, 2011; VTT-S-02673-11 dated April 20,2011;
- VTT-S-03681-14 dated August 22, 2014;

Remarks:

- REG630 only in conjunction with separate check synchronizer.

HAMBURG December 6, 2017

