

Type Approval Certificate



This is to certify that the undernoted product(s) has/have been tested in accordance with the relevant requirements of the GL Type Approval System.

Certificate No. **50 657 - 03 HH**

Company **ABB Oy**
Distribution Automation
P.O. Box 699
65101 Vaasa, FINLAND

Product Description **Digital protection relay**

Type **REF 541, 543, 545 (Feeder Terminals), REM 543, 545 (Machine Terminals)**
RET 541, 543, 545 (Transformer Terminals)

Environmental Category **C**

Technical Data /
Range of Application **Energizing inputs: Current: 0.2A/ 1A/ 5A; Voltage: 100V/ 110V/ 115V/120V**
Sensor: 9.4V RMS, +/- 13.3VDC
Auxiliary power supplies: Input AC: 110/ 120/ 220/ 240V; DC: 24/ 48/ 60/110/125/ 220V
Digital and analogue I/O : RTD/ analogue, Voltage, Current 0...20mA

REF 541/543/545 Protection functions:
ANSI number 50/51/51B, 67, 50N/51N, 67N, 59N, 49F, 59, 27, 81U/81O, 79, 68, 46,
49M/49G/49T, 27/47/59
REM 543/545 Protection functions:
ANSI number 50/51, 67, 51V, 21, 50N/51G, 67N, 59N 32O, 32R/32L, 40, 49M/49G/49T,
46, 59, 27, 27/47/59, 81U/81O, 87G/87M, 87N, 68 48/14/66, 37, 46R, 24, 60, 62BF
RET 541/543/545 Protection functions:
ANSI number 87T, 51, 50/51/51B, 50/51B, 67, 21G, 51N, 50N/51N, 50N, 67N/51N, 67N,
59N, 87N, 49T, 46, 59, 27, 47, 81U/81O, 24, 68, 60, 62BF
Communication ports/interfaces shall be used for monitoring purposes only.
Protection relay not approved for synchronizing.

Test Standard **Regulations for the Performance of Type Tests (2003) IEC: 60255-5(2000), 60255-6(1988), 60255-11(1979), 60255-22-1(1988), 60255-22-2(1996)**

Documents **Test reports: Test summary REF 54_ : 1MRS080792B; Rev.B 16-02-2002**
Test summary REM 54_ : 1MRS080847B; Rev.B 19-02-2001
1MRS 752391-MTI; Nemko Test report 1032178
Statement ABB Letter dated 2007-04-12

Remarks **None**

Valid until **2017-03-01**

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Type Approval Symbol



File No. I.L.02

Hamburg, 2012-03-02

Germanischer Lloyd


Thomas Hartmann


Harald Amberger

This certificate is issued on the basis of "Guidelines for the Performance of Type Approvals Part 1, Procedure".