



TYPE APPROVAL CERTIFICATE
No. ELE063620XP

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>	Medium Voltage Relay
<i>Type</i>	Multifunction Relay
	MVR-200 SERIES
<i>Applicant</i>	DEIF A/S
	Frisenborgvej 33
	DK-7800 Skive
	DENMARK
<i>Manufacturer</i>	DEIF A/S
<i>Place of manufacture</i>	Frisenborgvej 33
	DK-7800 Skive
	DENMARK
<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 **GDANSK** on **September 12, 2020.** *This Certificate is valid until* **September 11, 2025**



RINA Services S.p.A.
Jaroslaw Kondracki

This certificate consists of this page and 1 enclosure



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Multifunction Relay

Description:

The MVR-200 series provides protection, control, measurement and monitoring for medium- and high-voltage applications. Modular hardware construction gives flexibility; functionality can be added or changed at any point. Multi-processor architecture is used to provide accurate protection and measurement.

Application	Model Variant
Feeder	F201; F205; F210; F215; F255
Machine	G215; G257; M210; M215; M255; M257
Transformer	T215; T216; T256; T257
Busbar	V211

Specification

a) Auxiliary supply

- Rated voltage:

Un 24/48V DC +30/-25%

Un 100 to 125V DC +20/-10%

- Power consumption:

20W (210 series)

30W (250 series)

b) Current measurement module

* Phase current inputs

- Rated current: In 5A (configurable 0.A to 10A)

- Frequency measurement range: 6 to 75Hz fundamental, up to 31st harmonics

- Current measurement range: 25 mA to 250 A (RMS)

- Thermal withstand: 30 A continuous, 100 A for 10 s, 500 A for 1 s, 1250 A for 0.01 s

- Burden (50 Hz/60 Hz): <0.1 VA

* Coarse residual current input

- Rated current In: 1 A (configurable 0.2 A to 10 A)

- Frequency measurement range: 6 to 75Hz fundamental, up to 31st harmonics

- Current measurement range: 5 mA to 150 A(RMS)

- Thermal withstand: 25 A continuous, 100 A for 10 s; 500 A for 1 s, 1250 A for 0.01 s

- Burden: (50 Hz/60 Hz) <0.1VA

* Fine residual current input

- Rated current In: 0.2 A (configurable 0.2 A to 10 A)

- Frequency measurement range: 6 to 75Hz fundamental, up to 31st harmonics

- Current measurement range: 1 mA to 75 A (RMS)

- Thermal withstand: 25 A continuous, 100 A for 10 s; 500 A for 1 s, 1250 A for 0.01 s

- Burden: (50 Hz/60 Hz) <0.1 VA

c) Voltage measurement module

- Voltage measuring range: 0.50 to 480.00 V (RMS)

- Frequency measurement range: 6 to 75Hz fundamental, up to 31st harmonics

- Thermal withstand: 630 V RMS continuous

- Burden: (50 Hz/60 Hz) <0.02 VA

d) Additional features and options

- Digital inputs and outputs, Analogue inputs and outputs, Communication ports



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Protection:

Protection	ANSI -Code
Three phase overcurrent protection	50/51
Directional (sensitive) residual overcurrent protection	67N
(Sensitive) Earth-fault protection	50/51N(S)
Overvoltage protection	59
Harmonic overcurrent protection / inrush blocking	50/51h/68
Undervoltage protection	27
Cold-load pick-up block	68
Positive sequence under/overvoltage protection	59P/27P/47
Current unbalance / broken conductor protection	46R/46L/4646
Residual voltage protection	59N
Thermal overload protection (line)	49L
Frequency protection	81 O/U
Cable-end differential protection	87N
Rate of change of frequency	81R
Directional three-phase overcurrent protection	67
Reverse/under/over power protection	32

Test Reports:

EPC 0730-01 MVR 21x series A tests
EPC 0730-01 MVR 25x series A tests
EPC 730-01 MVR 21x series B tests
EPC 730-01 MVR 21x series C tests
EPC 730-01 MVR 25x series B tests
EPC 730-01 MVR 25x series C tests
MVR tests Witnessed BV 2019-09-03
MVR tests Witnessed DNV GL signed 2019-06-25,26
MVR tests witnessed DNV GL signed 2019-01-31

Approval documentation:

MVR-200 Data sheet 4921240605C UK
MVR-200_Operators_manual

GDANSK September 12, 2020

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