



-power in control

# DEIF A/S

# Type Certificate

4124030052D

Type:	MDR-2 Multi Differential Protection Relay Multi-line 2
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### Technical specifications

Operating temperature	-25 ... 70°C
* Measuring. Current:	-/1 or -/5A AC Consumption max. 0,3VA / phase
* Measuring frequency:	30....70Hz. Nominal Frequency 50/60Hz.
* Auxiliary supply	12/24V d.c. -25/+30%. Consumption: Max. 8W
* Binary input	Optocoupler, bi-directional Input voltage 6....32V DC Input impedance: max. 2,4kΩ
* Relay outputs:	250V AC / 30V DC, 5A (Unit status output: 1A)
* Galvanic separation:	Between AC current to other I/O's: 3250 V AC, 50Hz, 1 minute Between Aux. supply input and status outputs to other I/O's: 500V DC, 1 minute Output relays to other I/O's: 2200V, 50Hz, 1 minute
Current overload:	4 x I <sub>n</sub> continuously 20 x I <sub>n</sub> , 10 sec. (max 75A) 80 x I <sub>n</sub> , 1 sec. (max 300A)



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Type test specifications		Tested according to:
Temperature:	-25...70°C (operating)	IEC 60068-2-1
Accuracy:	$I \leq I_N$ : Class 1.0 $I > I_N$ : 1% $I_N$	IEC 60688 MDR-2 Data sheet.
Climate:	Class HSE -25...+70 °C 95% RH at +55 °C	DIN 40040 IACS UR-E10
Vibration:	3...13.2Hz: $\pm 1\text{mm}_{pp}$ 13.2...100Hz: 0.7g  10...58,1Hz: 0.15 $\text{mm}_{pp}$ 58,1...150Hz: 1,0g  10...150Hz: 2g  3...8.15HZ: 15 $\text{mm}_{pp}$ 8.15...35HZ: 2g	IEC 60068-2-6 & IACS UR E10  IEC 60255-21-1 Response (Class2)  IEC 60255-21-1 Endurance (Class2)  IEC 60255-21-3 Seismic (Class2)
Shock:	Base mounted 10g, 11msec. half sine 30g, 11msec. half sine 50g, 11msec. half sine  Tested with 3 impacts in each direction in all 3 axes. Total 18 impacts per test.	IEC 60255-21-2 Response (Class 2) IEC 60255-21-2 Withstand (Class 2) IEC 60068-2-27, test Ea
Safety:	Installation Cat.III 600V Pollution degree 2	EN 61010-1
EMC:	Light-Industry and industry environment  Ship's general, power distribution zone	EN 61000-6-1/2/3/4 IEC 60255-26 IEC 60533 power distr. zone IACS UR E10 power distr. zone
Materials:	All plastic parts are self-extinguishing to UL94 (V0)	
Protection:	Unit: IP20 Front: IP40 (IP54 with gasket – option L)	IEC/EN 60529

\*) Tested on all units according to specifications. Remaining specifications are tested regularly by test sampling

24<sup>th</sup> September 2015  
DEIF A/S

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