

CAPDIS-S2+^(R4)

FAIL-SAFE

Integrated capacitive voltage monitoring system with relay contacts



Fail-Safe-Functions

Voltage detecting system (VDS) for high voltage

Detection of voltage condition in high voltage equipment according to IEC61243-5. Integrated continuous three phase voltage indication.

No battery required, free of maintenance

For voltage detecting and self test no external power supply or battery is required.

Complete isolation monitoring of capacitive divider

Primary and secondary isolation monitoring of capacitive divider. Isolation problems are indicated.

Inherent safety

The CAPDIS-S1+ includes a self test which offers inherent safety; no external test device is required. Self test function according patent DE103 04 396.

The test is activated by the Test-button and does not need any auxiliary supply.

This test allows to distinguish between voltage absence and any device fault. This test is mandatorily for safe detection of voltage absence!

Optional broken signal lead detection.

Adjustable divider for Smart-Grid applications

Secondary part of capacitive divider is adjustable by user. Correct adjustment is important to use Capdis in combination with Smart-Grid Systems (IKI-50, IKI-20a). Six steps to set the correct value are available. In case of a non-correct setting, the mismatch is indicated.

Relay and LED outputs

For remote monitoring of voltage condition two relay contacts are integrated.

The relays are driven by auxiliary voltage. Additionally, two LEDs show the actual relay state.

Integrated 3-phase test point

Acc. to the LR-specification in IEC 61243-5.

The test point can be used for phase comparison and phase sequence test.



Integrated U0-interface

For easy installation of earth-fault direction relay IKI-EDI-W, or partial discharge monitoring.



Integrated interface to CAPDIS-M

For easy retrofit with CAPDIS-M an interface for auxiliary power and relay control is integrated in CAPDIS-S2+

Integrated Y-Interface

To connect Capdis to Smart-Grid Systems like IKI-50 or IKI-20a.



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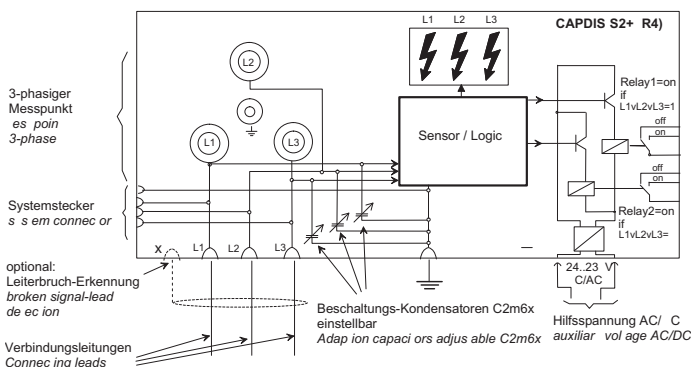
Function and technical data CAPDIS-S2+_R4

universal C2m-Module

Applied standard: IEC 61243-5 (integrated voltage detecting system)

Indication LCD	Indication during normal operation with nominal voltage	Explanation	Indication during bringing into service with nominal voltage	Indication with pressed test button	Relay functions CAPDIS S2+
	Overvoltage	Isolation problem at primary part of divider or $U \gg 1,2xU_n$	$C2m < Min.$	Capdis o.k.	Relay1 and 2: ON at least 1 phase with $U > 1,2 x U_n$ or earth fault (asymmetry)
	Nominal voltage present	Signal ok Isolation ok $U > 0,45xU_n$	$C2m$ correct	internal error	Relay1: ON min. 1 phase with $U \geq 1 x U_n$
	Voltage present	Isolation problem at secondary part of divider $0,1xU_n < U < 0,45xU_n$	$C2m > Max.$	internal error	
	No voltage	Short-circuit at connecting leads $U < 0,1xU_n$	$C2m \gg Max.$	internal error	Relay2: ON min. 1 phase with $U < 1 x U_n$
ERROR		System error	System error	Broken lead (with optional broken lead detection)	Relay1 and 2: OFF Missing auxiliary power, or internal fault, or broken lead detection

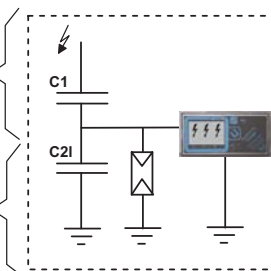
- LEDs: Green LED: Relais2, red LED: Relais1
- Auxiliary voltage: 24 - 230 VAC/DC +/- 10%, Power consumption: < 1 W
- Switching - power of relays: 250 VAC, 5 A / 30 VDC, 5 A / 250 VDC, 0.3 A
- Dimensions: h x w x d = 48 x 96 x 37 mm, Recommended cut: h x w = 45 x 92 mm
- Operating temperature: -25°C to +55°C, Storage temperature: -30°C to +70°C, IP 54
- Connectors for signal leads: fast-on receptacles 4.8 x 0.8 mm
- Required data for order: rated voltage U_N
capacitance of coupling electrode C1
- Part number: 2500422 (CAPDIS-S2+_R4 without signal lead test)
2500423 (CAPDIS-S2+_R4 with signal lead test)
- Universal C2m-Modules: 2501155 Low values (100, 470, 570, 1000, 3300, 4700pF)
2501156 Medium values (330, 2200, 2530, 6800, 10000, 16800pF)
2501157 High Values (330, 2200, 2530, 10000, 22000, 32000pF)



Isolation monitoring of capacitive divider with CAPDIS

CAPDIS überwacht:
CAPDIS observes:

1. Isolationswiderstand Primärteil
Insulation resistance primary side
2. Isolationswiderstand Sekundärteil
Insulation resistance secondary side



- Primärer Isolationsfehler
Primary insulation failure
- Nennspannung
Isolation u. Signal o.k.
Nominal Voltage
Isolation and Signal o.k.
- Sekundärer Isolationsfehler
Secondary insulation failure