Monitoring device Type 8538

for insulated rail joints, overvoltage protectors, etc.

8538

Description

The potential monitoring device Type 8538 operates as a remote reporting device and monitors the electrical isolation of insulated rail joints, overvoltage protectors and similar devices depending on the voltage.

Due to the high input resistance (approx 1 MΩ) and the high overvoltage strength, this device is particularly suitable for monitoring the isolation between train earth and tunnel earth, and train earth and water earth. The device can be applied to monitoring of separate train earths, e.g. insulated rail joints on tracks, separate tunnel earths, e.g. on long cells, for functional monitoring of overvoltage protectors and much more.

If the monitored insulation point displays low resistance, e.g. due to short-circuit, impermissible connections, closing of an overvoltage protector or similar, and this fault persists for longer than the selected response time, the relay output is open. The reporting relay operates as a closed-circuit current relay, so that supply voltage failure is also reported. After rectifying the fault, the reporting relay is automatically reset within a few seconds.

Function

As a result of stray currents from the operation of electric railways, potential differences develop between large, isolated installation components. The size of these potential differences, their frequencies and temporal history depend on a variety of factors such as structural conditions, operations, etc. The potential monitoring device HR-8538 monitors these potential differences and their temporal history. If these potential differences are constantly reduced to a value below the selected threshold value for the period of the pre-selected response time, the potential-free changeover contact of the output relay issues a report, otherwise timing begins again.

Commissioning

The potential monitoring device is connected to the electrically isolated parts to be monitored (e.g. BE and WE) and the operating voltage applied. The teaching in procedure is started by pressing the „PROG“ key. The yellow diode glows during teaching in. When the yellow diode goes out the device is operating. Teaching in takes less than 30 sec. The parameters are permanently saved until further programming takes place and are also retained in case of a power cut. The desired response time can be set using the two-key selector switch. Temporary alteration of the response time can also be used to reset a report.
Please see the complete range of brochures for further monitoring devices.

Technical Data

Dimensions	W/H/D 100/70/115 mm
Housing	ABS / Polycarbonate
Mounting	2 bores according to template, Top hat rail according to DIN EN 50022
Protective device	Casing: IP 40; Terminals IP: 10
Ambient temp.	-20° C to + 60° C
Connections	2 x 2.5 mm^2 solid according to DIN 46288 or 2 x 1.5 mm^2 with sleeve
Supply terminal	18 (PE); terminal 19 (N); terminal 20 (L)
Supply voltage	AC 230 V +10/-15 % (48 - 62 Hz); approx. 3 VA DC 19.2 V - 80 V; terminal 19 (L-); terminal 20 (L+); approx. 1.5 W
Measurement input	Terminal 12 (BE), terminal 14 (WE)
Input resistance	Approx. 1 MΩ.
Input voltage	Max. 900 V continuous
Relay output	Terminal 1, 2, 3 (1 u, potential-.free)
Response time	Dependent on position of selector switch Position 0 60 sec., Positions 1 to 9 = displayed number x 12 h
Contact ass.	AC 250 V / 4 A cosφ > 0.7 DC 120 V / 1 A resistive load
Displays	By means of LED's; see reverse 1 yellow LED for relay closed (normal operating) 1 yellow LED for teaching in phase 1 red LED for faults 1 red LED for warning
Times	Teaching in phase < 30 sec.
Test voltage	4 $kV_{eff.}$
Accessories	Protective casing (IP 65) for external fitting

Ordering Information

Type	Order No.
85380 (AC Version)	**220100**
85381 (DC-Version)	**220101**

Special designs, complete installations, protective casings with additional terminals, etc. on request

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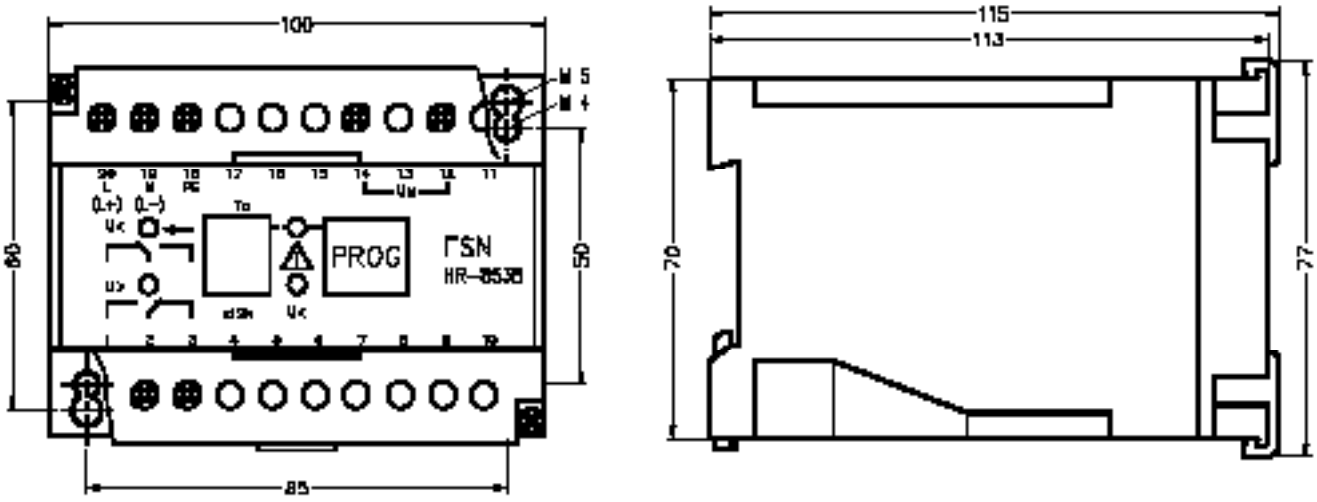

HR–8538

Status – display

yellow	red	red	Prog yellow	Status	
●				Relay closed	[U>]
	●			Relay open	[U<]
		●		Voltage level fallen short of	[U<]
			●	Teaching in mode	