

TRANSFORMER RECTIFIERS

Residual voltage compensating unit

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German Cathodic Protection



Residual voltage compensating unit for insulating flanges Type: RVCU-01

The problem of corrosion inside insulating flanges is well known. It is caused by the potential difference between the two flange sides, for example, where oil, gas or water wells and connected flowlines are cathodically protected by two separate systems because of different required current densities. The residual voltage compensating unit has been developed to eliminate such potential differences at insulating flanges without reducing the efficiency of the cathodic protection system.

Specification

	RVCU-01 (Residual Voltage)	RVCU-01 (Potential)
Input resistance R_i	25 kOhm	650 kOhm
Output resistance R_o	1 kOhm	1 kOhm
Input voltage U_i	± 10 mV... ± 5 V	0...-5 V
Output voltage U_o	$U_{min}^{1)}...$ 10 V	$U_{min}^{1)}...$ 10 V
AC input	230 V, 50 Hz	230 V, 50 Hz
Operating temp. range	-25 °C / +85 °C	-25 °C / +85 °C
Permanent input protection	240 V rms	240 V rms
Permanent separation voltage	1 500 V rms	1 500 V rms
Transient protection	acc. to IEEE-472	acc. to IEEE-472
Interference rejection	160 dB	160 dB
Amplifier mode :		
Input voltage U_i	± 10 mV... ± 5 V	± 5 V
Output voltage U_o	± 5 V	± 5 V
Gain	max. 500	max. 1
Accuracy	± 0.05 %	± 0.05 %
	± 10 μ V RTI	± 0.2 mV RTI
Linearity	± 0.02 %	± 0.02 %
Drift	± 1 μ V (Offset U_i)	± 20 μ V (Offset U_i)
	± 20 μ V (Offset U_o)	± 20 μ V (Offset U_o)

¹⁾ is determined through basic current setting



Characteristics

- automatic control without system deviation
- insulating flange compensation to zero
- accurate potential control by potential grading
- non-oscillating control characteristics
- negligible electromagnetic interference
- high input protection
- galvanic separation between input and output

