

Current Transducer IT 405-S ULTRASTAB

$I_{PN} = 400 \text{ A}$

For ultra-high precision measurement of current: DC, AC, pulsed..., with galvanic separation between primary and secondary.



Features

- Wide operating temperature range of $-40 \text{ }^{\circ}\text{C}$ to $85 \text{ }^{\circ}\text{C}$
- Closed loop (compensated) current transducer using an extremely accurate zero flux detector
- Electrostatic shield between primary and secondary circuit
- 9-pin D-Sub male secondary connector
- Optically insulated output (photocoupler type) indicates transducer state
- LED indicator confirms normal operation.

Advantages

- Very high accuracy
- Excellent linearity
- Extremely low temperature drift
- Wide frequency bandwidth
- High immunity to external fields
- No insertion losses
- Low noise on output signal
- Low noise feedback to primary conductor.

Applications

- Feed back element in high performance gradient amplifiers for MRI
- Feedback element in high-precision, high-stability power supplies
- Calibration unit
- Energy measurement
- Medical equipment.

Standards

- EN 61000-6-2: 2005
- EN 61000-6-3: 2007
- EN 61010-1: 2010.

Application Domains

- Industrial
- Laboratory
- Medical.

Insulation coordination

Parameter	Symbol	Unit	Value	Comment
Rated insulation rms voltage, basic insulation	U_b	V	1600	IEC 61010-1 conditions - over voltage cat III - pollution degree 2
Rated insulation rms voltage, reinforced insulation	U_b	V	300	IEC 61010-1 conditions - over voltage cat III - pollution degree 2
Rated insulation rms voltage, basic insulation	U_b	V	1000	EN 50178 conditions - over voltage cat III - pollution degree 2
Rated insulation rms voltage, reinforced insulation	U_b	V	600	EN 50178 conditions - over voltage cat III - pollution degree 2
Rms voltage for AC insulation test, 50/60 Hz, 1 min	U_d	kV	4.6	Between primary and secondary + shield
Insulation voltage between secondary and shield		V DC	200	Between secondary and shield
Insulation voltage between secondary status output		V DC	500	Between secondary and status output
Impulse withstand voltage 1.2/50 μ s	\hat{U}_w	kV	8.5	
Clearance (pri. - sec.)	d_{Cl}	mm	9	Shortest distance through air
Creepage distance (pri. - sec.)	d_{Cp}	mm	9	Shortest path along device body
Comparative tracking index	CTI		600	

If insulated cable is used for the primary circuit, the voltage category could be improved with the following table (for single insulation) (IEC 61010-1 standard):

Cable insulated (primary)	Category
HAR03	1750 V CAT III
HAR05	1850 V CAT III
HAR07	1950 V CAT III

Environmental and mechanical characteristics

Parameter	Symbol	Unit	Min	Typ	Max	Comment
Ambient operating temperature	T_A	°C	-40		85	
Ambient storage temperature	T_S	°C	-40		85	
Relative humidity	RH	%	20		80	Non-condensing
Dimensions						See drawing page 6
Mass	m	kg		1.08		