Current Transducer IT 405-S ULTRASTAB

I_{PN} = 400 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 °C to 85 °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 µs	$\hat{U}_W$	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		

LEM reserves the right to carry out modifications on its transducers, in order to improve them, without prior notice