DS 2000 – 1st customer shipment November 2013

A contact free flux gate based current measurement sensor – 2000A$_{rms}$

DS 2000 is member of the large housing sensor family.

- 2000A rms - 3000A peak
- Maximum gain error DC to 500Hz - 0.01%
- Operating temperature from -40 to +85 deg Celsius
- Turns ratio 1:1500
- Aperture size is 68 mm
- Danisense advanced sensor protection circuit “ASPC”
- Available with
    - Current output in LEMO connector
    - Voltage output in BNC connector
      (Specifications currently being tested)

The sensor is a flux gate based sensor and does have an intrinsic measurement error of less than 0.5 ppm of full scale and is build in a ruggedized aluminum housing for optimal shielding against external noise and optimal cooling.

CE RoHS 2011/65/EU

Parameter	Unit	Min	Typ	Max	Comment
Primary current, rms	A			2000	
Primary current peak	A			3000	
Turns ratio					1:1500
Load resistance	Ω	0		1	Used on the secondary side
Power supply	V	±14.25		±15,75	Current requirement is secondary current + 100mA
Overall accuracy at Nominal current	%		0,01		Primary current DC Temperature -40 to 85 deg celcius
Gain error - DC to 500Hz - 500Hz to 1kHz - 1kHz to 10kHz	%			 0,01 0,05 3	
Induced into primary	uVrms	0		5	DC-100kHz
Offset	ppm	0		10	
Linearity	ppm			1	
Output noise (DC-100kHz)	ppm			3	

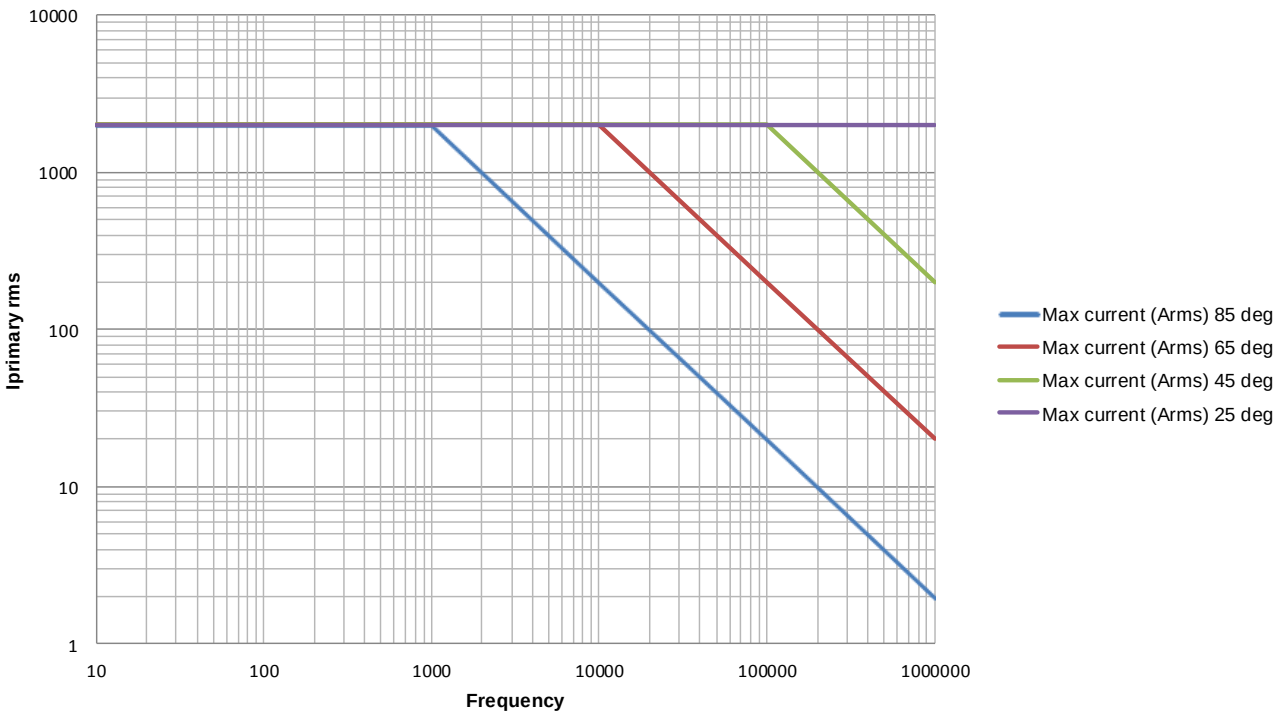
Absolute maximum ratings

Parameter	Unit	Min	Typ	Max	Comment
Primary	kA			10	* Maximum 100ms
Power supply	V			±16,5	
Current in calibration winding	mA			100mA	

Environment and mechanical characteristics

Parameter	Unit	Min	Typ	Max	Comment
Ambient operating temperature	°C	-40		85	
Storage temperature	°C	-40		85	
Mass	Kg		4,5		
Standards	EN 61326-1 EMC EN 61010-1:2010 Safety				

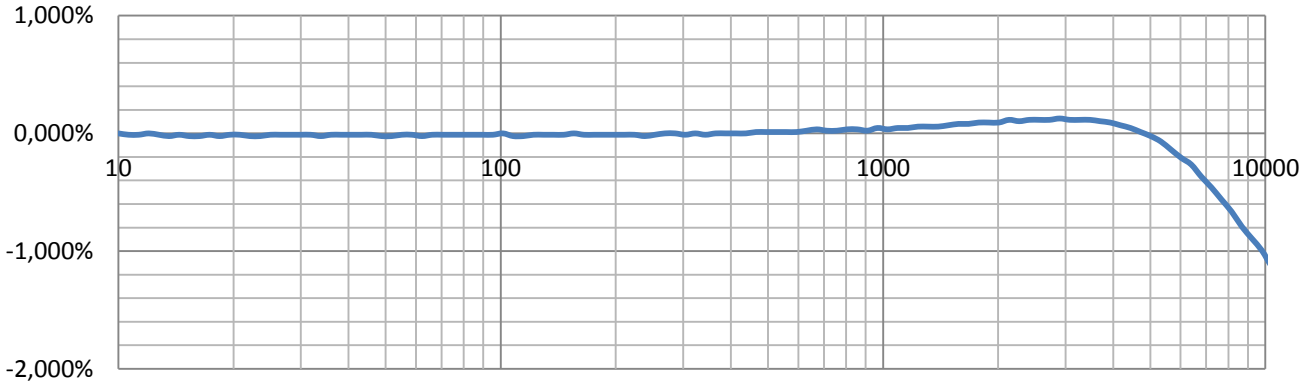
Temperature derating with Iprimary$_{rms}$, ambient temperature and frequency

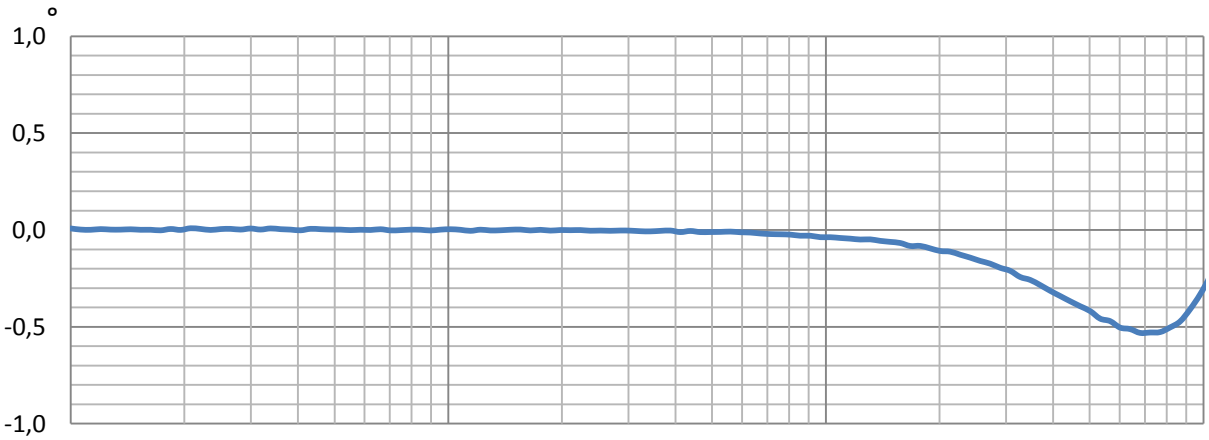


Accuracy data

Parameter	Unit	Min	Typ	Max	Comment
Gain error - DC to 500Hz - 500Hz to 1kHz - 1kHz to 10kHz	%			 0,01 0,05 3	
Phase error - DC to 500Hz - 500Hz to 1kHz - 1kHz to 10kHz	Degree			 0,01 0,1 1	

Gain / Phase (typical)





Isolation characteristics

Parameter	Unit	Min
Rated isolation voltage rms, reinforced isolation IEC 61010-1 standard and with following conditions - Overvoltage category II - Pollution degree 2	V	1600
Rms voltage for AC isolation test, 50/60 Hz, 1 min - Between primary and (secondary and shield) - Between secondary and shield	kV	 9,8 0,2
Impulse withstand voltage	kV	20
Creepage distance	mm	22
Comparative Tracking Index	CTI	600

Danisense advanced protection circuit “ASPC”

Developed to protect your sensor from fault conditions typically harmful to flux-gate Sensors. Protection against damage to the electronics in the following situations.

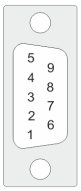
1. Large primary AC(and DC) current are applied without the sensor powered.
2. Sudden disconnection of burden resistor while measuring large AC(and DC) currents.
3. Very large AC currents above the absolute maximum rating will however still be measured at lower accuracy.

Package content

- Sensor specific test report with CE certificate of conformance
  - Offset error
  - Gain / Phase analysis 10Hz-10kHz
  - Noise DC-100kHz
- Sensor

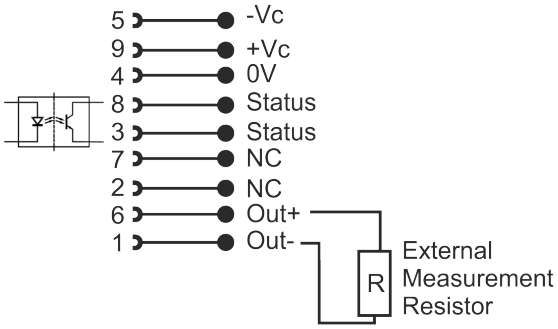
Connection diagram

Standard DSUB-9 current output

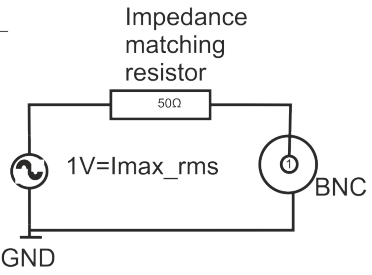


When sensor is operating in normal condition the status pins are shorted.

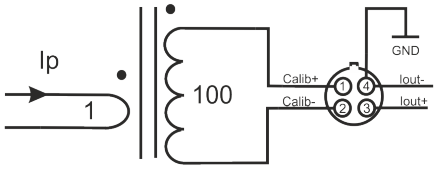
Status pin properties.
- Forward direction pin 8 to pin 3
- Maximum forward current 10mA
- Maximum forward voltage 60V
- Maximum reverse voltage 5V



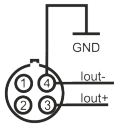
Voltage output in BNC connector



Calibration winding and current output in 4-pin LEMO



Current output in 4-pin LEMO connector



Options and ordering information

Product Description	Part Name	Part Number
DS 2000 with current output in 4-pin LEMO connector	DS2000ILLA	XX
DS 2000 with voltage output in BNC connector	DS2000UBLA	XX
DS 2000 with calibration winding and current output in 4-pin LEMO	DS2000CLLA	XX

Part Name

DS XXXX Y Z MA

Max Current RMS

L = LEMO type
B = BNC
D = 9 pin DSUB

I = current
U = Voltage
C = Calibration & current

Mechanical dimensions (in mm)