

EMCtools

Current Sensor fiber optic current sensor



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Introduction and use:

The EMCtools Current Sensor-Set offers new possibilities in automotive EMC susceptibility tests.

It provides a galvanic insulated DC current measurement for DUT supervision or failure detection. High rated measurement current and extreme low voltage drop come together with high resolution and good accuracy. The measurement head has been tested for field strength of >270V/m.

The built in battery allows measurement in pos. or neg. battery line. It can be recharged by connecting it to a USB connector of any available PC or notebook.

The current data is transferred to the control unit using a standard simplex fiber optic F-SMA cable.

The control unit displays the current on a display. A trigger signal can be generated to trigger Oscilloscopes or to control the susceptibility test depending on various current situations.

A CAN-bus interface provides the measured current permanently or when triggered on HS-CAN or LS-CAN. CAN-bus, CAN-speed and CAN-identifier can be set individually.

The measured current data is also available via USB.

A built in USB to CAN interface can be used to send EMC related data like test frequency or field strength etc. to CAN bus.

All settings and options can be made locally using a menu rotary switch or via remote commands (USB).

Settings are stored in non volatile memory.

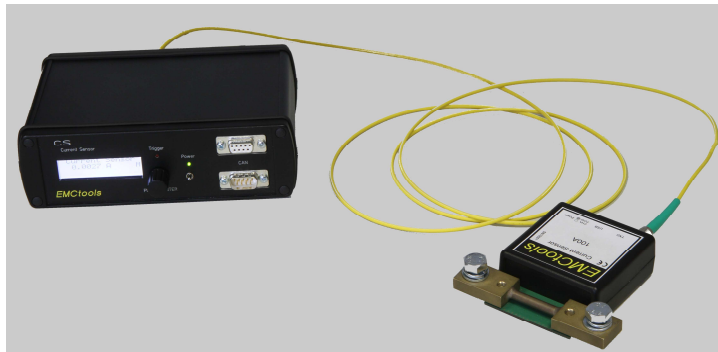


Photo: typical setup

Technical data:

Current Sensor head:

Rated current:	1A version:	1A	(1.16A in overrange)
	10A version:	10A	(11.6A in overrange)
	100A version:	100A	(116A in overrange)
Voltage drop:	60mV for rated current		
Resolution:	1A version:	10µA	(1µA in moving mean mode)
	10A version:	100µA	(10µA in moving mean mode)
	100A version:	1mA	(100µA in moving mean mode)
Accuracy:	0.5% +/- 3 digits (normal mode resolution, 23°C±1K)		
Power supply	rechargeable Li-Ion battery (internal)		
Battery life:	>24h		
Connector electrical:	USB (f) connector – only for charging		
	M8 screws for current measurement		
Connector optical:	Standard F-SMA for multimode fiber (50/125µm or 62.5/125µm)		
Max. cable length:	>200m		
Sampling rate:	6 samples per second		
Ambient temperature:	storage/operation: -10 – 50°C (14 - 122°F)		
Size:	98 x 100 x 28 mm (l x w x h)		
Weight:	approx. 220g		

Control unit:

Power supply:	DC power jack, 7 – 15V DC, max. 0.5A, or via USB
Connector electrical:	USB (f) connector – data connection to PC or Notebook
Connector optical:	Standard F-SMA
Trigger output:	TTL signal, active high, BNC (f) connector
Trigger impulse:	10ms – 99.99s
Trigger on:	current value (< >), current window (within, outside)
CAN Bus:	High Speed CAN acc. ISO 11898-2 – Low Speed CAN acc. ISO 11898-3 (ISO 11519-2).
CAN bus baudrate:	HS-CAN: 33.3k, 50k, 62.5k, 75k, 83.3k, 100k, 125k, 200k, 250k, 500k, 800k, 1M LS-CAN: 33.3k, 50k, 62.5k, 75k, 83.3k, 100k, 125k
CAN connector:	1 pcs 9-pin Sub-D (f), 1 pcs 9-pin Sub-D (m) - all signals passed through
CAN bus interface:	CAN interface USB-> CAN for sending test related data to CAN bus
Bus-Impedance:	no load – high impedance
Setting:	options are set with menu rotary switch dialog or via USB and terminal program
Ambient temperature:	storage/operation: -10 – 50°C (14 - 122°F)
Size:	154 x 172 x 59 mm (l x w x h)
Weight:	approx. 630g

Delivered devices of the system and accessories:

- 1 pcs EMCtools Current Sensor (1A or 10A or 100A)
- 1 pcs control unit
- 1 pcs manual
- 1 pcs plug in power supply
- 1 pcs USB-cable
- 1 pcs Data-CD with drivers CANoe® database and manual