

Split-core DC Current Sensors IDCS16I

The IDCS16I series consists of bidirectional, split-core DC current sensors designed for a variety of applications. These applications include battery monitoring, solar string evaluation, and other systems that utilise DC power.

J&D's DC current sensors incorporate CTid technology and feature an on-board LED for seamless, automatic detection. This LED is useful for identifying the specific CT connected to the sensor port, especially when it is difficult to trace CT leads.

The IDCS16I series is also fully compatible with Sensway IoT meters and requires the use of an eGauge sensor hub.



Key Features

- Rated current: 5A up to 100Amps
- Linearity Error: Better than 2%
- Offset Error: Better than 1.5% of range
- Operating Temperature: -25 °C to 75 °C, 85% RH non-condensing
- Raw Output: ±471mV
- Power Supply: DC +5V ± 5%, 40mA (provided by the eGauge Sensor Hub)
- UL61010-1, EN61010-1 certified

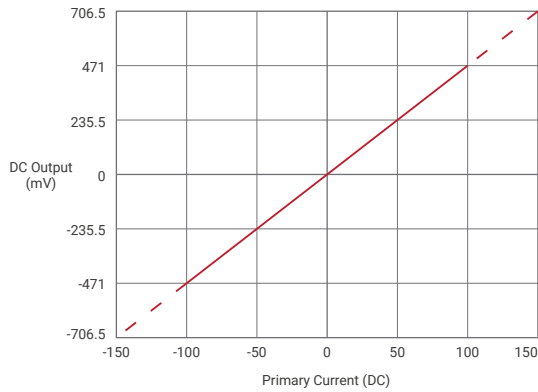
Specification

SPEC	MODEL	IDCS16I-005	IDCS16I-010	IDCS16I-015	IDCS16I-020	IDCS16I-025	IDCS16I-030	IDCS16I-050	IDCS16I-075	IDCS16I-100
Rating Current		5A	10A	15A	20A	25A	30A	50A	75A	100A
Maximum Current		7.5A	15A	22.5A	30A	37.5A	45A	75A	112.5A	150A
Output Voltage		±471mV, 1% at rated current(F.S) RL=10KΩ								
Residual Voltage		Within ±20mV (no load)								
Noise Level		Less than 15 mVp-p(no load)								
Output Linearity		±1% rated current(F.S)								
Hysteresis (FS→0)		Within ±10mV								
Power Supply		DC +5V ±5% 40mA								
di/dt Response Time		2 μ sec (Typ.) at di/dt=F.S/μ sec								
Output voltage temperature coefficient		±0.08% / °C typ								
Residual voltage temperature coefficient		±0.095mV / °C								
Insulation Withstand Voltage		AC 1500V / 1min.								
Insulation Resistance		DC 500V / 500MΩ max								
Operating Condition		-25°C~+75°C, 85% RH non-condensing								
Storage Condition		-35°C~+90°C, 85% RH non-condensing								
Standard lead wire		400mm, 26AWG*4C								

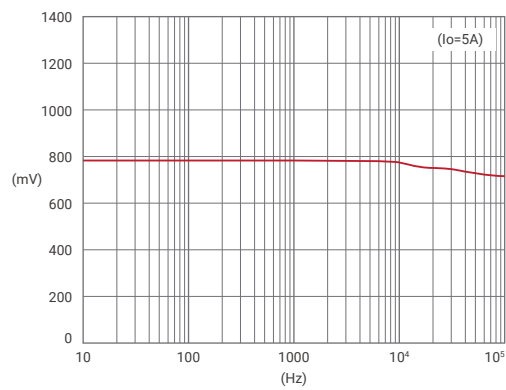
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Graphs

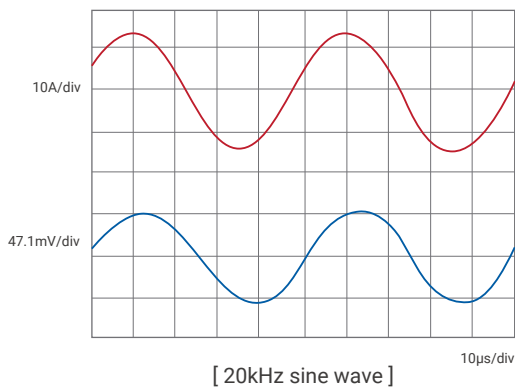
Output Voltage Characteristic



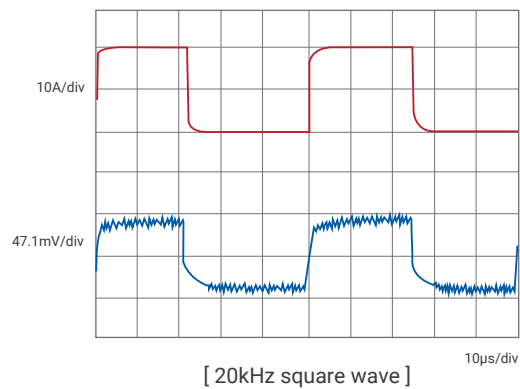
Frequency Characteristic



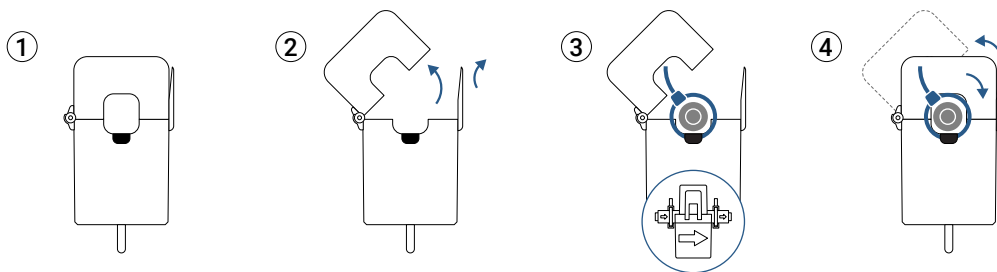
Output Wave-1



Output Wave-2

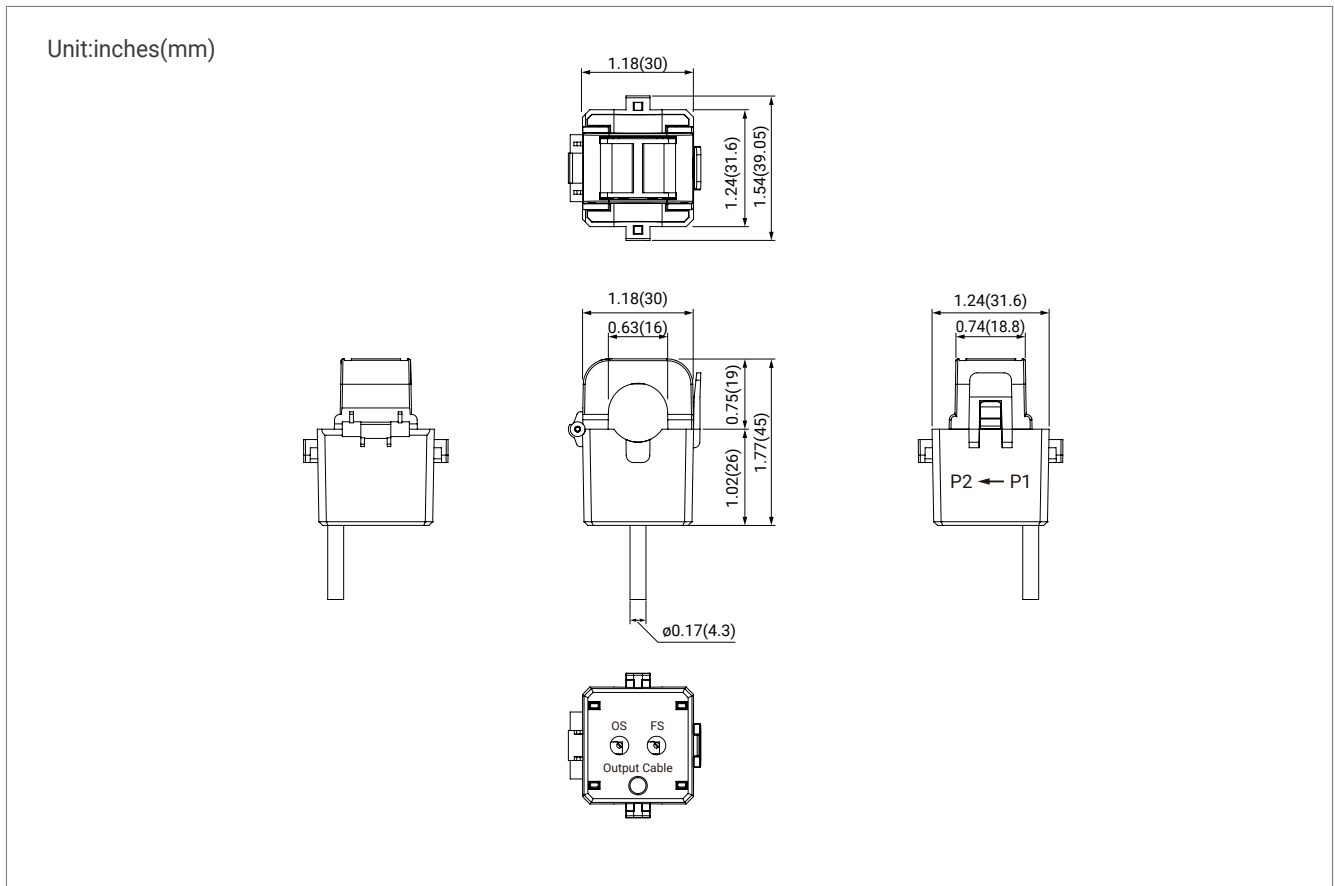


How to use

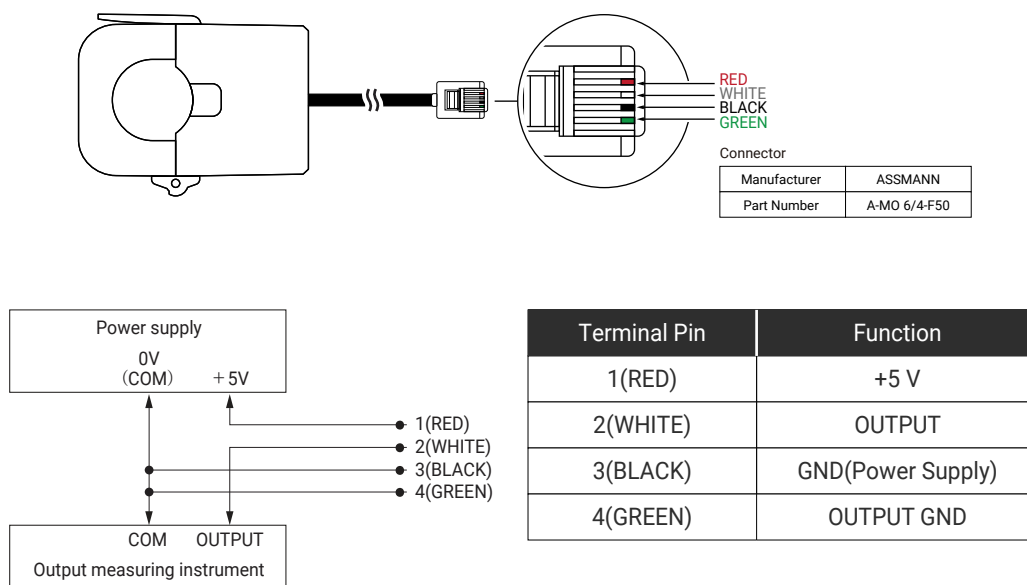


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Dimensions IDCS16I

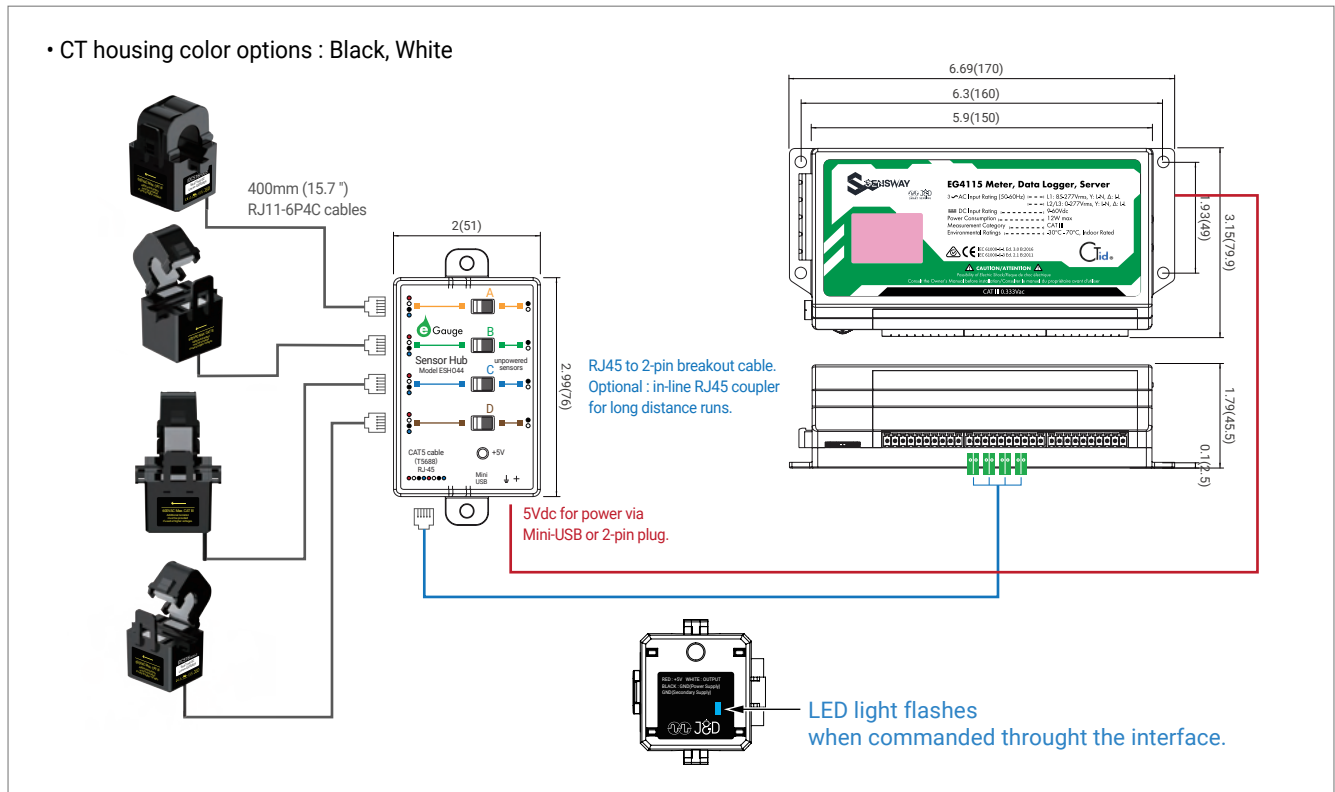


Connection Diagram



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Powered Sensor Wiring Program



Safety & Danger Notes



The J&D CTs are UL/EN 61010-1, CE, RoHS compliant and certified, are also conformed up to Pollution degree 2, 600Vac CAT III rated devices.

Please be sure that Failure to follow these instructions can result in serious injury and/or cause damage. The transducer shall be used in electric/electronic equipment in accordance with the operating instructions of all related systems and component manufacturers with respect to applicable standards and safety requirements.

Follow corresponding national regulations and safe electrical work practices.

This equipment must only be installed and serviced by qualified personnel. And the qualified personnel is one who has skills and knowledge related to the construction and operation of this electrical equipment and installations, and has received safety training to recognize and avoid the hazards involved. In addition, the installation and maintenance shall be done with the main power supply disconnected except if there are no hazardous live parts in or in close proximity to the system and if the applicable national regulations are fully observed.



When operating the transducer, there may be dangerous active voltages (e.g. primary conductor) in certain parts of the module. Users should make sure to take all necessary steps to protect against electric shock. The transducer is a built-in device containing conductive parts that are inaccessible after installation.

Therefore, a protective enclosure or additional insulation barrier is necessary.

Safe and trouble-free operation of this converter can only be guaranteed if transport, storage and installation are carried out correctly and operation and maintenance are carried out carefully.

Remark

- I_o is positive when I_p flows in the direction of the arrow. (o : output, p : primary current)
- Temperature of the primary conductor should not exceed 100°C(212°F).
- Dynamic performances (di/dt and delay time) are the best with a single bar when the primary hole is completely filled.