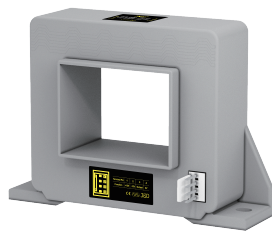


Split-Core Current Transducer IDCS-D

IDCSXXD series, the DC/AC solid-core current sensor, an open-loop technology applied, measures pulsating currents with a galvanic insulation between primary and secondary circuits and has a good stability of error in low current and external vibration or shock.



Features

- Design optimized for busbar installation. J&D's calculated design fit into the busbar and this compact design is optimize so that space is not wasted when installed on the equipment.
- A wide range of current measurements is possible and high accuracy is guaranteed.
- Isolation measurement CATIII
- Insulating plastic case recognized under UL94-V0
- Complied with CE and RoHSIII

Applications

- Energy Storage System (ESS)
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Renewable energy inverters :
Solar farm inverters, Windmill inverters
- Battery supplied applications
- Converters for DC motor drives
- AC variable speed drives
- Servo motor drives

Advantages

- Low power consumption with high accuracy
- High immunity to external vibration and shock
- Optimized design for busbar installation
- No insertion losses
- DC immunity

Specification

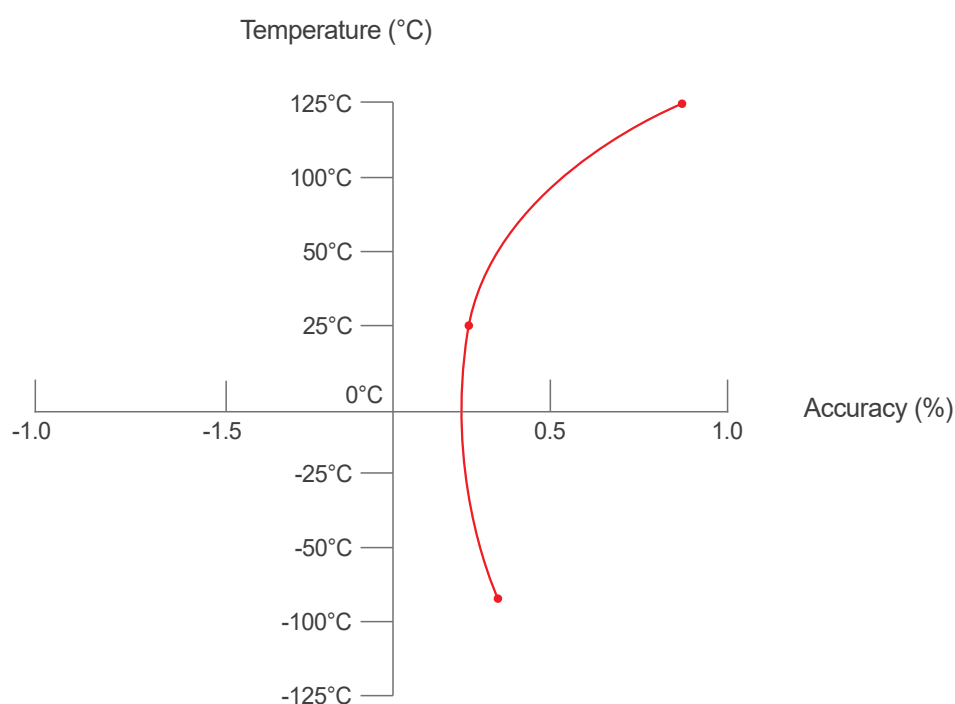
SPEC \ MODEL	IDCS-D W1000	IDCS-D 1500	IDCS-D 2000	IDCS-D 2500	IDCS-D 3000	IDCS-D 4000	IDCS-D 5000
Rating Current	±1000	±1500	±2000	±2500	±3000	±4000	±5000
Saturation Current	±1500	±2250	±3000	±3750	±4500	±6000	±7500
Output Voltage	±4 V, 0.5% at rated current(F.S) RL=10KΩ						
Offset Voltage	±20 mV						
Output Linearity	±0.5% rated current						
Power Supply	±15V (±5%)						
di/dt Response Time	7 μ sec (Typ.) at di/dt=F.S/μ sec						
Output temperature character	±0.1% / °C(Typ.)						
Offset voltage temperature coefficient	±1mV / °C(Typ.)						
Hysteresis error	25mV(IF-F.S) Less than 25mV						
Insulation Withstand Voltage	AC 4000V / 1min.						
Insulation Resistance	DC 500V / 500MΩ max						
Operating Condition	-10°C~+70°C						
Storage Condition	-25°C~+85°C						
Frequency bandwidth	0~50 kHz						

Split-Core Current Transducer IDCS-D

Installation Guidelines

- The busbar shall not touch the product. The temperature of the primary conductor shall not exceed 100 °C.
- Excluding the mounting surface, a clearance distance of at least 1 cm shall be maintained around the product.
- Product reliability is defined around the rated value. Using the product outside will affect the reliability of the product and shorten its lifespan. The spacing and distance defined in the "insulation" section are obtained with a distance of 3 mm between the primary bar and the right edge of the through opening (connector side).

Graphs1: Accuracy vs Current



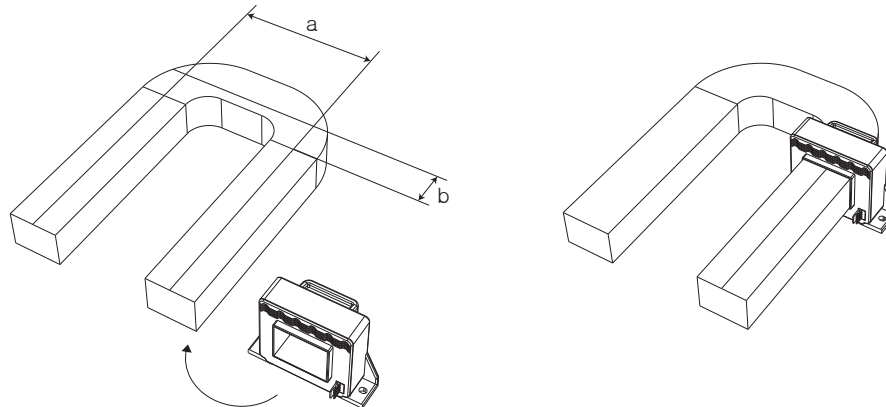
- IDCS-D is an advanced product that guarantees high accuracy at high and low temperatures.
- The product also ensures the accuracy of the graph above, regardless of magnetic field.

Power supply

- Other companies: Unipolar power supply (2.5V within $\pm 20\text{mV}$) Therefore, the actual power supply is only available on the + voltage side.
- J&D: Unipolar power supply (0 to $\pm 5\text{V}$) Therefore, in reality, - ~ + power supply can be used.
-> In other words, customers can more easily calibrate over a wide range. This is only possible through the innovative technology of J&D Electronics. between the primary bar and the right edge of the through opening (connector side).

Split-Core Current Transducer IDCS-D

How to use



Install the solid-core CT through the opening side of the primary conductor. CT should be installed inside the U-shaped busbar as close as possible (3mm). Tests are performed with minimum distances from the back section (a) et return section (b), which is the most disturbing case.

Dimensions IDCS-D (in mm)

IDCS-D

Terminal pin1	U_{ref} (IN/Out)
Terminal pin2	Output
Terminal pin3	0 V
Terminal pin4	+5 V

1. U_{ref} (IN/Out)
 2. Output
 3. 0 V
 4. +5 V

Split-Core Current Transducer IDCS-D

Safety

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

- V_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 75°C(167°F).
- Dynamic performances (di/dt and delay time) are the best with a single bar when the primary hole is completely filled.
- By hysteresis of core, offset drift occurs proportionally to the over-current higher than rating value.
- The output value fluctuates upon the various factors, so it is recommended to use the current range higher than 5% of the rated current.
- Do not use the product over the maximum current continuously.

Attention

Contact areas (air gap) must be kept clean (particle free) to ensure proper performance.