

Panel Mounted, Split-core, Open Loop, Hall Effect Current Transducer



The HDT-xxxQ1 panel mounted, split-core, open loop, Hall Effect current transducer is designed for application requiring the measurement of DC current and DC current pulses.

The HDT-xxxQ1 open loop, Hall Effect current transducer design is based upon the principle that a magnetic field applied perpendicular to an electric current will create a proportional Hall voltage perpendicular to the two fields. The technology allows;

- Contactless, non-intrusive current sensing and
- Current sensing of DC current and current pulses.

The Hall Effect technology features high accuracy, high primary to secondary electrical isolation and extended frequency detection bandwidth.

Features:

- Rated Primary: 50A, 100A, 300A, 500A DC
- Measurement Range: 0 to 120% of Rated Primary Current.
- Output Options:
 - A0 – 0 to 20mA
 - A1 – 4 to 20mA
 - V0 – 0 to 5V
 - V1 – 1 to 5V
 - V2 – 0 to 10V
 - V3 – 1 to 10V

Specifications:

- Dielectric withstand voltage between Primary and Secondary: 2,500V_{RMS} @ 50HZ for 1 minute.
- Secondary impedance:
 - A0 & A1 - < 300 Ohms
 - V0, V1, V2, V3 - > 10k Ohms
- Operating Temperature: -25°C to +85°C.
- Opening: 21mm (0.82")

- Supply Voltage: $\pm 12V \dots 15V (\pm 5\%)$.
- Supply Consumption: < 30mA + secondary output
- Construction:
 - Epoxy encapsulated housing.
 - Case material – Nylon, UL flame retardant rating 94 V-0.
- RoHS compliant.



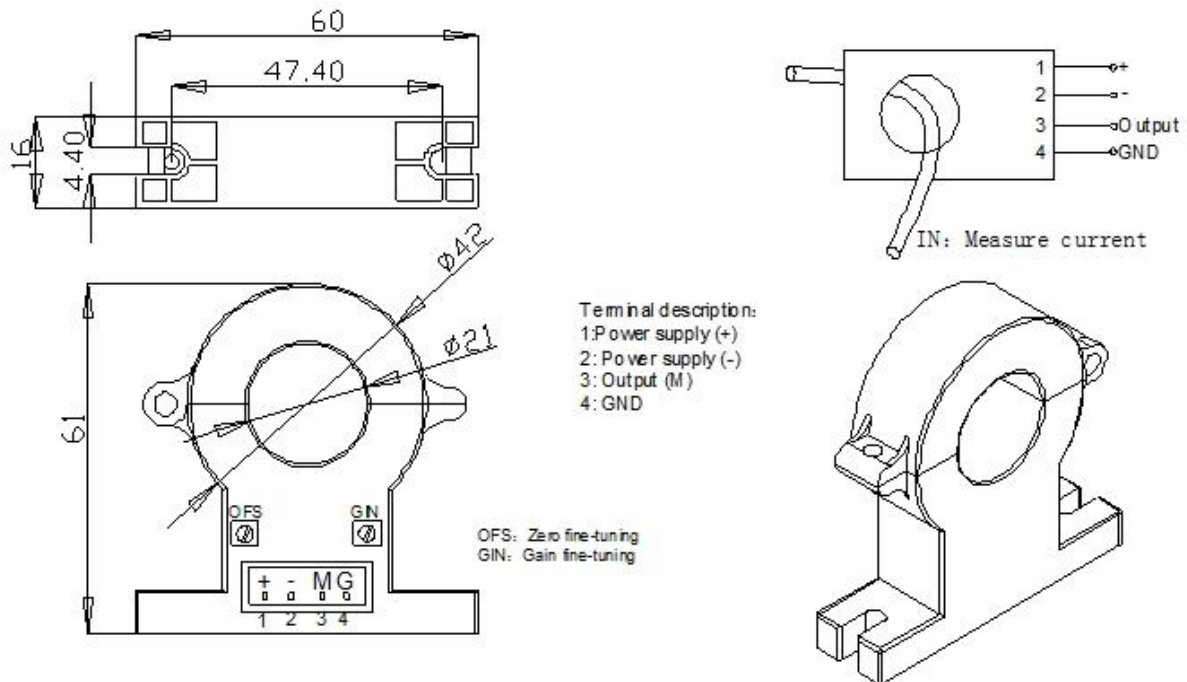
Performance:

- Accuracy: $\pm 1\%$ of $I_{nominal}$ @ 25°C
- Linearity: $\leq 0.5\%$
- Offset Current (@ +25°C, $I_n = 0$):
 - A0 - $\pm 0.2mA$
 - A1 - $4mA \pm 0.2mA$.
 - V0, V1, V2, V3 - $\pm 10mV$
- Temperature Drift: $\pm 0.05\%/^{\circ}C$ maximum (-40 °C to +85 °C)
- Response Time: < 0.35 seconds

Configuration Options:

Model	Rated Current (RMS)	Measurement Range
HDT-50Q1	50A DC	0 to $\pm 60A$
HDT-100Q1	100A DC	0 to $\pm 120A$
HDT-300Q1	300A DC	0 to $\pm 360A$
HDT-500Q1	500A DC	0 to $\pm 600A$

Outline Drawing (mm):



CONNECTION DEFINITIONS:

- **Terminal #1:** Power supply input - +12VDC ...+15VDC
- **Terminal #2:** Power supply input - -12VDC ...-15VDC
- **Terminal #3:** Secondary signal out
- **Terminal #4:** Secondary signal ground/ Power supply return

Custom Hall Effect current transducer designs are available to meet the specific application requirements. For a no obligation technical evaluation, please provide the specific performance requirements to engineering@tichenassociates.com or the address below.