ADDRESSABLE BUS CONVERTER

GEOKON®

MODEL 8020-38



Model 8020-38 Addressable Bus Converter.

APPLICATIONS

The Model 8020-38 Addressable Bus Converter provides an interface between GEOKON Addressable Sensor Strings and a variety of systems, including:

- Personal computers
- Programmable logic controllers
- Dataloggers

OPERATING PRINCIPLE

The Model 8020-38 Addressable Bus Converter provides the means to interface GEOKON Addressable Sensor Strings with a variety of systems, including personal computers, programmable logic controllers and dataloggers.

The Addressable Bus Converter acts as a bridge between USB- or TTL-capable readers and GEOKON RS-485-enabled sensor strings. The 8020-38 is placed in-line with the system and provides bidirectional signal conversion between USB and RS-485 or between TTL and RS-485.

ADVANTAGES AND LIMITATIONS

When connected to a computer via the USB port, the Addressable Bus Converter is powered from the USB 5 volt bus. It then generates its own 12 volt supply for the RS-485 bus, which is used to power the sensor string.

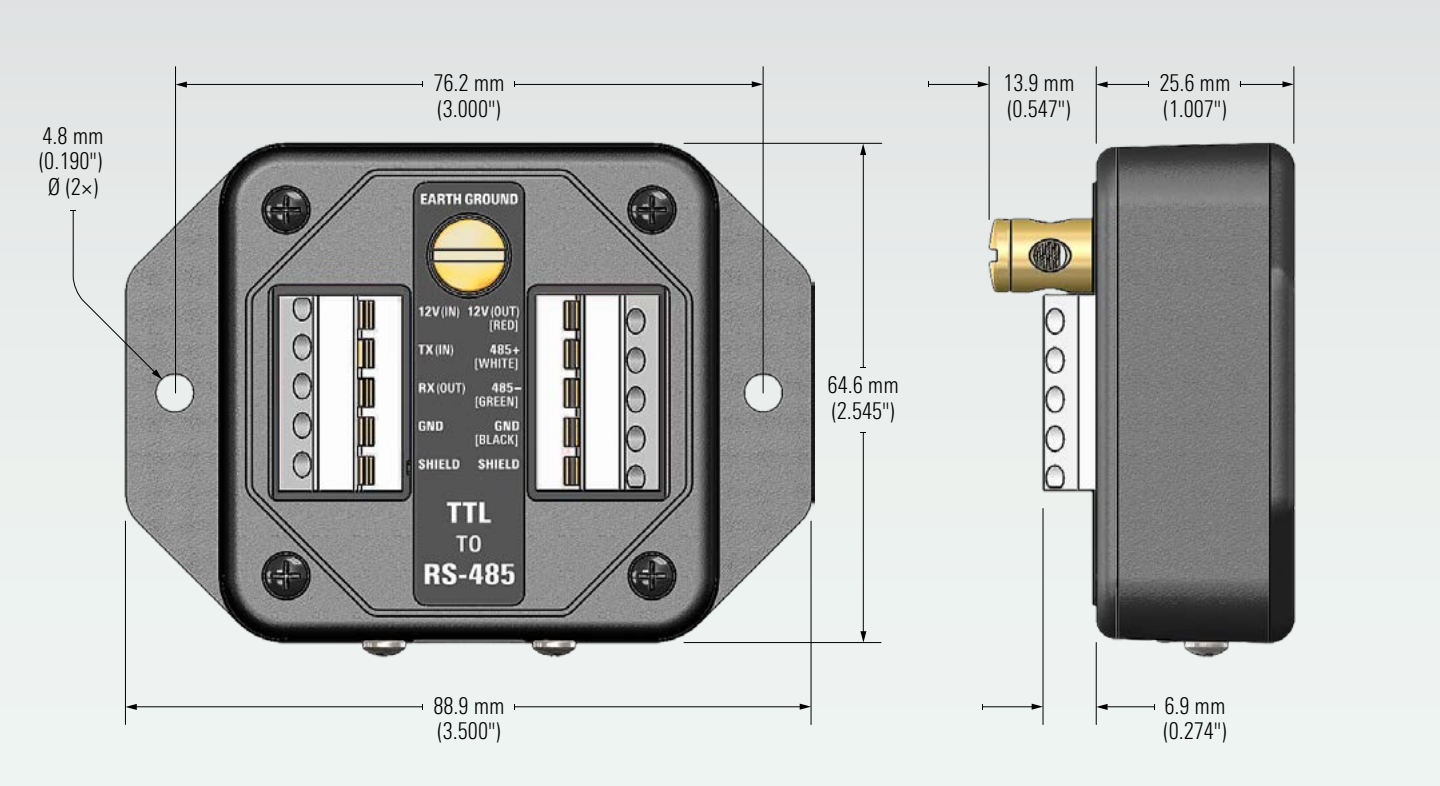
When the Converter is connected via a TTL port, it must be powered from an external 12 volt DC power supply capable of sourcing at least 500 mA. In the case that the Addressable Bus Converter is connected to both USB and TTL simultaneously, the USB host is preferred.

The entire converter is packaged in a rugged ABS plastic case and incorporates a variety of safety features, including high voltage surge suppression, electrostatic discharge protection, and a heavy-duty earth ground lug.

COMMUNICATIONS

The Addressable Bus Converter will accept communication with the host over USB version 1.0 and higher, 5-volt TTL, or inverted 5-volt TTL. If the host requires the TTL signals to be inverted, the "INV TTL" switch on the PCB must be set to the "ON" position.

Communication with GEOKON Addressable Sensor Strings is performed over a half-duplex RS-485 connection using the Modbus® RTU protocol. The Addressable Bus Converter is designed for use with the GEOKON Addressable String systems and has user-resettable baud rates between 9600 bits per second and 115.2 kilobits per second (i.e. the default factory setting).



Model 8020-38 Addressable Bus Converter dimensions.

TECHNICAL SPECIFICATIONS

Power Supply Input	USB: 5 Volts DC 500 mA TTL: 12 Volts DC 500 mA	Interface	RS-485 (half-duplex, two-wire differential); USB 1.0 to USB 3.1; 5 V TTL (single-ended); 5 V TTL (single-ended, inverted)
Power Supply Output	12 Volts DC 150 mA (max)	Baud Rate	115200 (default setting), 57600, 38400, 19200, 14400, 9600 bps
Sleep Current	500 µA Max (During USB Suspend)	Operating Temperature	–40 °C to +80 °C
Operating Current	15 mA (max)	Enclosure	Black Polycase LP-11FMBT 88.9 × 64.6 × 39.5 mm (3.500 × 2.545 × 1.554 in.)

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