

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



• Model 8020-38 Addressable Bus Converter.

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.

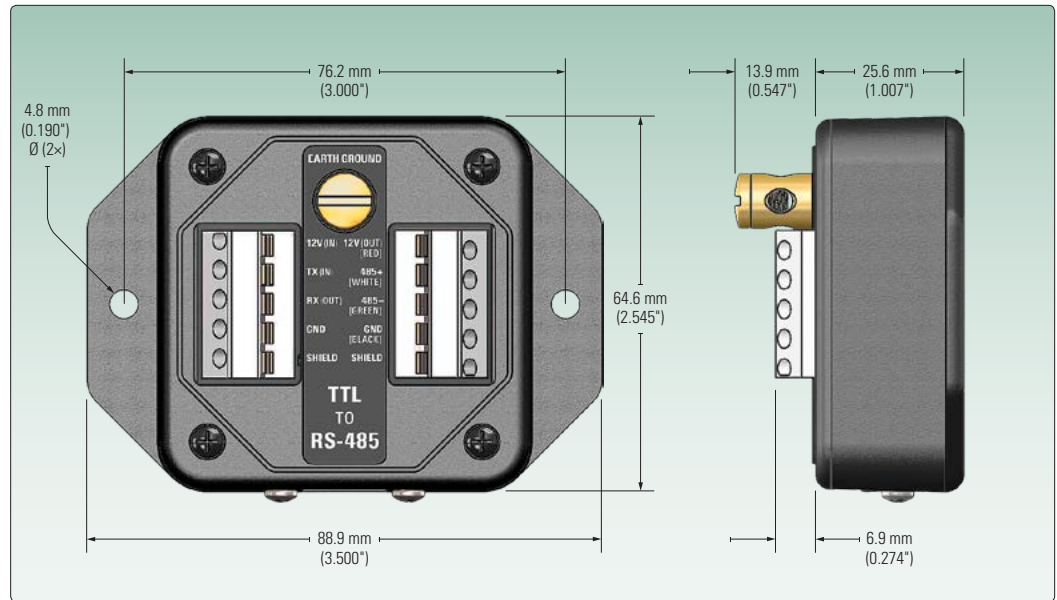
The Addressable Bus Converter acts as a bridge between USB- or TTL-capable readers and **GEOKON** RS-485-enabled sensor strings. The 8020-38 is placed in-line with the system and provides bidirectional signal conversion between USB and RS-485 or between TTL and RS-485.

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 milliamps. 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.



• Model 8020-38 Addressable Bus Converter dimensions.

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).

Technical Specifications

Power Supply Input	USB: 5 Volts DC 500 mA; TTL: 12 Volts DC 500 mA
Power Supply Output	12 Volts DC 200 mA (max)
Sleep Current	500 µA Max (During USB Suspend)
Operating Current	15 mA (max)
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)
Baud Rate	115200 (default setting), 57600, 38400, 19200, 14400, 9600 bps
Enclosure	Black Polycase LP-11FMBT
Operating Temperature	-40 °C to +80 °C
L × W × H	88.9 × 64.6 × 39.5 mm (3.500 × 2.545 × 1.554 in.)