

# RTL-1

The RTL-1 is a device that allows analog or resistive signals to be converted to a CANBUS message. The RTL-1 can also provide a resistance output to existing analog gauges.

The input/output parameters and CAN messaging can all be customized using the RTL configurator software package.



# Controls Integration

## Features and Options

- ◆ Input signal may be configured as a resistance sensor for various gauges or as a 0-5V analog input with 12-bit resolution
- ◆ ANA+ is a 5V output that may be used to power sensors up to 50mA; it has thermal and short circuit protection
- ◆ Output resistance ranges from 10 - 265  $\Omega$
- ◆ Controls Integration is able to supply custom harnesses to connect this device to other components and harnesses on the application

Controls Integration can make recommendations and/or supply additional sensors to work in conjunction with this device.

## Benefits

- ◆ Simple installation
- ◆ With resistance based sensors it is typically difficult to "tap" into the signal to feed it into a CAN bus system. This device solves that by taking in the resistance signal and outputting the same signal to feed the original destination like a dash cluster while putting the same information on the CAN bus
- ◆ Very useful for adding telematics to an older piece of equipment
- ◆ Built-in troubleshooting and error reporting

## Custom and Specialty Applications

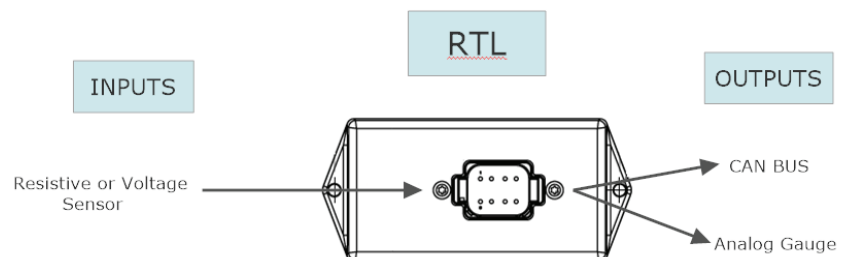
- ◆ The RTL-1 is designed with a micro control unit. Upon request, special controls/functionality can be employed based on analog inputs such as a thermostatic control, PID, etc.

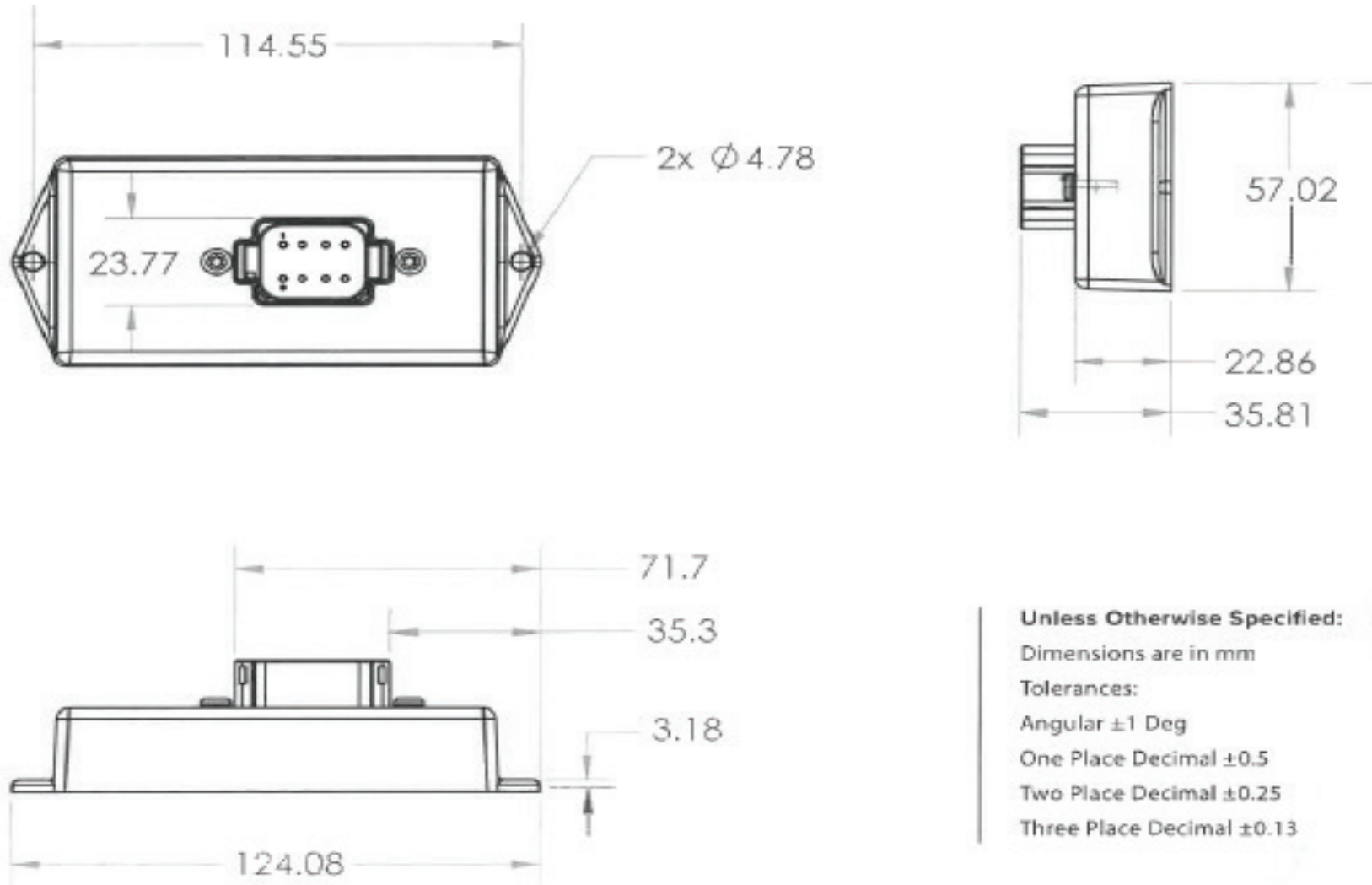
## Electrical Specifications

- ◆ Working Voltage Range: 7-27 VDC (Ambient Temperature Derate above 15V)
- ◆ Analog Input Resolution: 12-bit
- ◆ Analog Input Voltage Range: 0-5V
- ◆ Input Resistance Measurement Range: 10 - 1000 $\Omega$
- ◆ Input Resistance Measurement: voltage divider with pull up to internal 5V power supply
- ◆ Output Resistance Range: 10 - 265 $\Omega$
- ◆ Output Resistance Resolution: 1 $\Omega$
- ◆ Output Resistance Current Limit: 1/16 Watt
- ◆ Protection: Reverse Polarity Protection

## Environmental Specifications

- ◆ Operating Temperature: -40 $^{\circ}$ C to +85 $^{\circ}$ C (-40 $^{\circ}$ C to +125 $^{\circ}$ C upon application review)
- ◆ Storage Temperature: -40 $^{\circ}$ C to +125 $^{\circ}$ C
- ◆ IP Rating: IP67





**Unless Otherwise Specified:**  
 Dimensions are in mm  
 Tolerances:  
 Angular  $\pm 1$  Deg  
 One Place Decimal  $\pm 0.5$   
 Two Place Decimal  $\pm 0.25$   
 Three Place Decimal  $\pm 0.13$

### Connector and Pinout

Mating Connector-Deutsch DT06-08SA (or equivalent)

Input Signal (Resistive or 0-5V input)	1	8	ANA+
Resistance Output Signal	2	7	ANA-
		6	B-
		5	B+