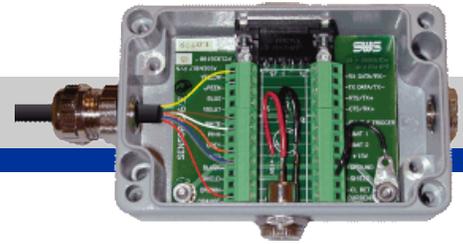


AR1000 sensor- Connectivity Guide



Quick Connectivity Guide

This document will assist users of the AR1000 laser distance sensor (with RS 232) with the proper wiring of the sensor to the Acuity Connectivity Kit (part number AQ700000X). This Connectivity kit is designed as a generic interface box to supply the proper DC voltage and simple serial connections to the Acuity sensor. All current documentation for Acuity products can be downloaded from www.acuitylaser.com.

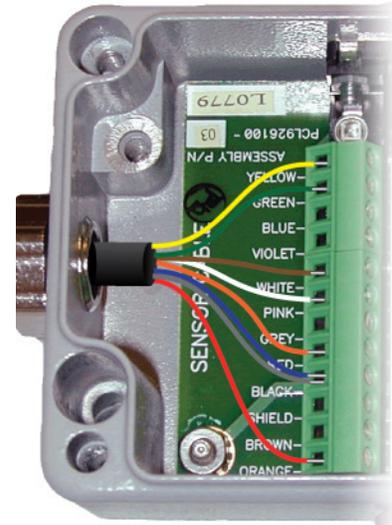
Step 1 - Cable Gland

Remove the cover of the Connectivity Kit by loosening the four corner screws. Remove the cable strain relief nut and gland rubber seal from the Connectivity Kit. Slide the metal strain relief nut over the end of the AR1000 cable, followed by the rubber seal. Note the orientation and sequence of these parts. Bunch together the individual wire leads and pass them through the hole in the Connectivity kit. Slide the rubber seal into the gland and tighten the strain relief nut around the cable jacket. Be sure to pass enough cable through so that the individual wire leads can reach the terminal strip.

Step 2 - Wire Connections

The color labels near the terminal blocks are not correct for the AR1000 wire leads. Follow this step precisely for proper connections. Make the following connections:

AR1000 wire color	Connectivity kit label	Function (RS422)	PIn #
YELLOW	YELLOW	RxD (RX-)	3
GREEN	GREEN	TxD (RX+)	2
WHITE	PINK	Alarm	
BROWN	WHITE	Trigger	
ORANGE	RED	Supply Voltage	
BLUE	BLACK	Ground	
GRAY	BLACK	Ground	5
RED	ORANGE	Current Loop out	
BLACK	VIOLET	(TX-)	7
VIOLET	BLUE	(TX+)	8



Step 3 - Establish Serial Communication

Attach the serial cable to the connectivity kit and to a PC serial port. Plug the AC power adapter into an outlet. Communicate with the sensor with either the AR1000 Demo and Configuration Program (from www.acuitylaser.com) or use Windows XP® HyperTerminal (*Start > All Programs > Accessories > Communications > HyperTerminal*). Start a HyperTerminal session. After naming the connection and choosing an icon, choose the COM port that the AR1000 is connected to. In the next configuration screen, set to 9600 baud, 8 bits, no parity, 1 stop bit, flow control: NONE.

Step 4 - Begin Measuring Distances

Enter the *Distance Tracking Mode* by typing DT<ENTER>. Aim the AR1000 sensor at a target surface. Never aim the laser at the eye! Note the distance readings on the screen of the HyperTerminal session are reported in meters. To change the measurement units to alternate units, modify the Scale Factor configuration by the multiple of that unit per meter. For example, to change the units of the distance readings to inches, type SF39.37<ENTER>. Use the *AutoStart* function to configure the sensor to startup in the same mode each time. See the manual for the syntax of the *AutoStart* command. The AR1000 is able to output a 4 to 20 mA analog signal to correspond to the endpoints of a set measurement window. Consult the AR1000 User's Manual for instructions on configuring the analog output.

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