USB-RS485-Pro

Installation & User Guide

Connector	3.5 mm pitch
Driver Software	Microsoft accredited self loading via Internet connection
Direct Connection	
USB internal power rating	1 x Sensor / interface recommend maximum 12V DC @ 75 mA
USB Port	USB Male type A
External Power Connection	
Power Supply	12V DC @ 0 .. 2 Amp Max
Chip Set	FTDI
Operating System Support	Windows XP, 7, 8

Image above shows the USB-RS485-Pro media converter connected to a Windows

Model No. USB-RS485-Pro

Introduction

The USB-RS485-Pro is an isolated RS485 digital network to USB media converter.

The device connects directly onto the USB port of a Microsoft Operating System PC and is used to interface the sensors and interfaces to the computer.

The RS485 network is a low speed, low power simple to install network that is commonly used by local intelligent sensors and interfaces to talk together.

The product is fully integrated to the Q-LOG data acquisition & display software.
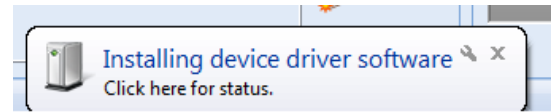
Operations

The USB-RS485-Pro media converter appears in the Windows Operating System as a COM port. This COM port is used by software to pass configuration information or data values from the sensors to the applications software such as Q-LOG.

The status LED indicators illuminate during any data transfer operations.
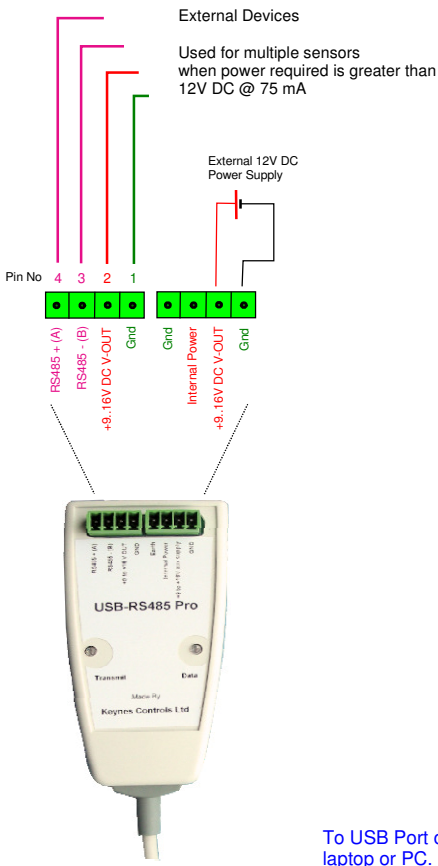
Installation

The following installation procedure is to be used for a Microsoft Windows PC connected to the Internet.

1. Connect the USB-RS485-Pro to the USB port on the PC
2. The PC will show on the task bar 'the message "Loading Device Driver", This message should appear automatically so long as the PC connects to the Internet.
3. The status LED indicators will flash briefly.

Installing device driver software
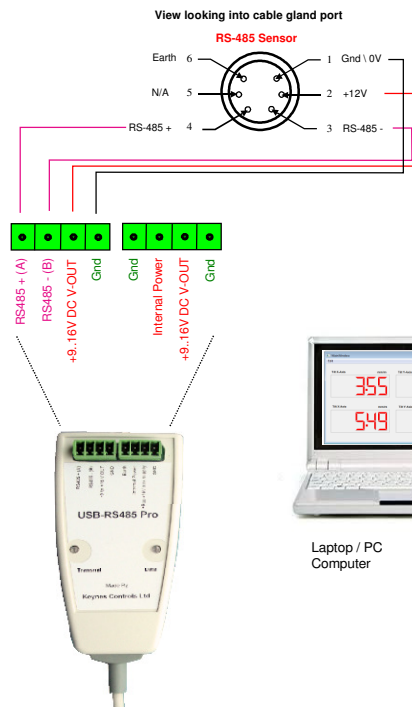Click here for status.

Task bar message during driver installation.

Multiple Sensors or Interface Connection

External Devices

Used for multiple sensors when power required is greater than 12V DC @ 75 mA

External 12V DC Power Supply

Pin No   4   3   2   1

RS485 + (A)
RS485 - (B)
+9..16V DC V-OUT
Gnd

Internal Power
+9..16V DC V-OUT
Gnd

To USB Port on a laptop or PC.

Single Sensors or Interfaces Connection

Keynes Controls recommends the use of the circuit below to connect a single sensor or interface to the media converter.
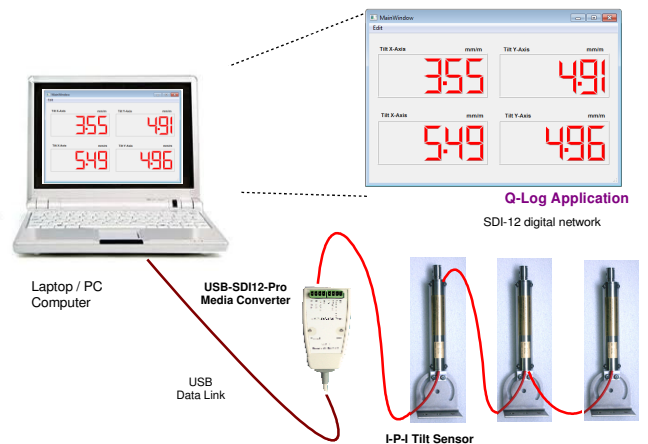
The USB-RS485-Pro can support a number of devices that are directly powered by the interface but the operations can fail should the device be overloaded. A self resetting fuse will prevent damage to the unit.

View looking into cable gland port

RS-485 Sensor

Earth	6		1	Gnd \ 0V
N/A	5		2	+12V
RS-485 +	4		3	RS-485 -

RS485 + (A)
RS485 - (B)
+9..16V DC V-OUT
Gnd

Internal Power
+9..16V DC V-OUT
Gnd

The USB-RS485-Pro is integrated into the free **Q-LOG** Data Acquisition & Display package which is provided by Keynes Controls for use with the companies range of intelligent sensors & interfaces.

Additional details can be found at:

http://www.aquabat.net/QLOGFree/qlogv2.html

Tilt X-Axis mm/m   Tilt Y-Axis mm/m
3·55   4·91
Tilt X-Axis mm/m   Tilt Y-Axis mm/m
5·49   4·96

Q-Log Application

SDI-12 digital network

Laptop / PC Computer

USB-SDI12-Pro Media Converter
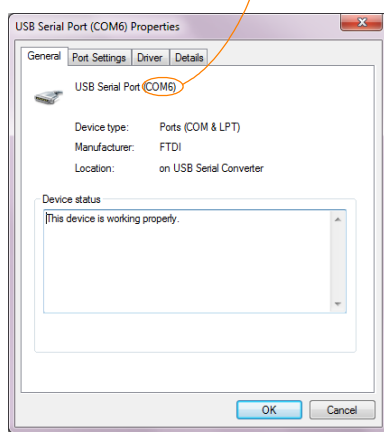
USB Data Link

I-P-I Tilt Sensor

Identifying the USB-RS485-Pro Comm Port

The following section details how to determine the Comm Port number associated with the USB-RS485-Pro media converter within the Microsoft Windows Operating system
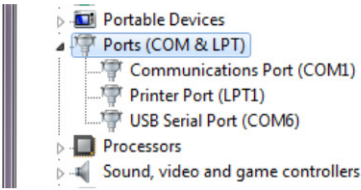
COM 6 is shown identified by the operating system as being in use

COM 6: This is the port number used in the Q-Log setup to identify the media converter dongle port.

The dongle converts the USB port to a serial port for use with the sensors. The USB media converter is identified in the Windows operating system as a COMM port.

To find out which port is being used by the USB dongle go to:

Control Panel → System → Device Manager

There are minor differences in the screens that appear when accessing the Device Manager Window from the different versions of the operating system, however they all show devices identified similar to the image below:

This image is taken from the 'Properties' tab of the driver for the USB dongle.

The window shows the dongle installed and operating correctly.
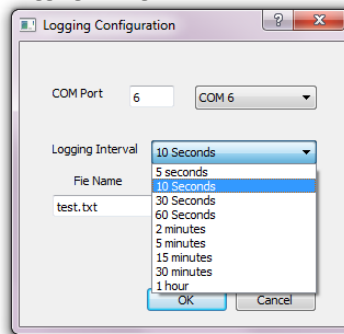
Com Port Selection & Sample Rate Selection
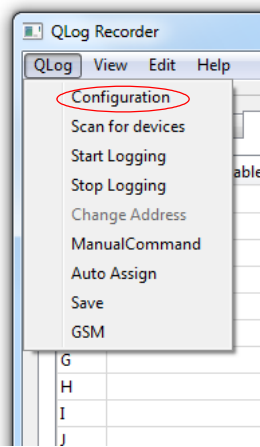
Select the 'Configuration' menu option
And the 'Logging Configuration' Window will appear.

Enter the 'Com Port' number for the USB media converter being used.

COM Port Selection

Sample Rate

Data Log Filename & location

Network Type
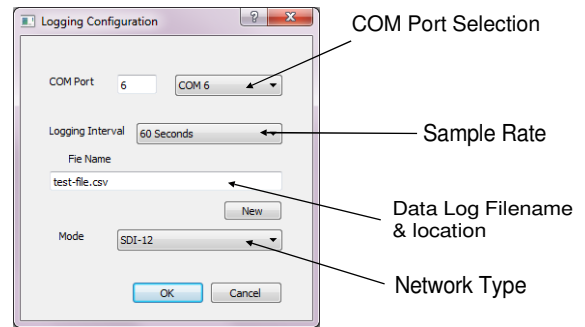
Logging Configuration Window

Logging Time Period

Q-LOG Data Acquisitionn & Display Software

Q-Log is the Keynes Controls Data Recording and Display software and has been designed solely for use with intelligent sensors. The software operates as a stand-alone package and uses the Keynes Controls RS485 and RS-485 media converters for communications to the sensors.

This software has been developed by Keynes Controls with the aim of ensuring data integrity and to remove where possible the Users requirement to understand programming techniques.

Q-Log gives the User a simple Windows environment for setting up and using intelligent sensors supporting the RS485 or RS-485 digital communications interface. Data is stored into a log file in CSV format for simply examination by a spreadsheet for uploading into a database. A series of panel meters and trend plots can be configured to display real-time results.