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METEOROLOGICAL SENSORS ● VISIBLY BETTER

Serial Communication Interface Unit – BA.000
Operation and Installation Instructions

1. Overview

The Serial Communications Interface Unit (SCIU) provides a convenient method of connecting serial RS422 or RS485 devices to a PC computer using the computer's USB port. The RS422/RS485 connections of the SCIU are electrically isolated from the USB port to protect the computer against damage by electrical spikes and surges on the serial communication lines. An isolated 5V power output derived from the USB port is provided to power low power devices.

Industry standard software drivers are used by the SCIU allowing plug and play operation in most cases. The drivers allow the SCIU to appear as a virtual comms port in Windows operating systems.

2. Installation

Open the enclosure by gently pulling the sides of the top cover out and up.

Selecting RS422 or RS485
- For RS422 operation fit the link to the RS422 position on jumper J2
- For RS485 operation fit the link to the RS485 position on jumper J2

Receiver Termination Resistor
- To terminate the receive connection with 120Ω fit the link across the two TERM pins of J3

RS485 Two Wire Operation
- For RS485 two wire operation fit the links horizontally across the two sets of 2-WIRE pins of J3

Bias Resistors
- To bias the receiver inputs in two or four wire configurations fit the links horizontally across the two sets of BIAS pins of J3.

Serial Cable Connection
Remove 60mm (2.4") of the outer cable insulation and screen and strip the individual wire insulation back 7mm (0.28"). Cut off any screen or drain wire if it is not required at this end. If the screen is to be connected at the SCIU end of the link, connect the screen to the 0V terminal.

Pass the prepared cable through the cable gland. Connect the wires to the connector terminals as shown in the table below.

SCIU Board Marking	Signal	Pair
Rx+	Received by SCIU +	Pair 1
Rx-	Received by SCIU -	
Tx-	Transmitted by SCIU -	Pair 2
Tx+	Transmitted by SCIU +	
5V	5 V Supply out	
0V	Communications and 5 V supply Ground	

Gently tighten the gland nut to securely grip the cable. Reassemble the SCIU by sliding the top cover down over the base. Make sure to orientate the cover so that the marking "POWER" on the side of the cover is at the cable gland end.

Insert the USB cable into the SCIU and connect to the computer.

3.   Software Drivers

When using a Windows operating system computer that is connected to the internet the correct drivers should be automatically installed.

If required, SCIU software drivers for Windows, Linux and Mac OS X operating systems can be downloaded from the following website: https://www.ftdichip.com/Drivers/VCP.htm

4.   Indicators

There are two communication link indicators and one power indicator on the sides of the SCIU enclosure.

The communications link TX and RX indicators will illuminate when data is transmitted and received. Unless there is constant data the indicators may be difficult to see in bright conditions.

The power indicator illuminates when the SCIU is connected to a USB port and the operating system has established a connection to the SCIU.

5.   Specifications

Power:
- USB port powered

Serial Port:
- RS422 or RS485 selectable by jumper. 4 wire connection
- Baud rate from 300 to 115,200

USB Port:
- USB 2.0 Full speed compatible
- Type B connector
- 1m Type A to Type B cable supplied

Isolation:
- Transient 2.75 kV
- Working 250 Vac

Environmental:
- Operating temperature 0°C to +50°C
- IP rating: IP50   Indoor use only

Serial Port Connection:
- Cable diameters from 3.5mm (0.14") to 7mm (0.28")
- Wire size from $0.14mm^2$ (26AWG) to $2.4mm^2$ (14AWG)

5 Volt Supply:
- Isolated from USB port
- 5 V +/- 0.4 V
- Maximum current 100 mA

Certification:
- CE Marked
- RoHS Compliant

6.   Help and Support

For technical support please contact Biral using any of the following:

Telephone: +44 (0)1275 397708
Email: enquiries@biral.com
Postal: Biral, Unit 8 Harbour Road
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                   Bristol, BS20 7BL
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