

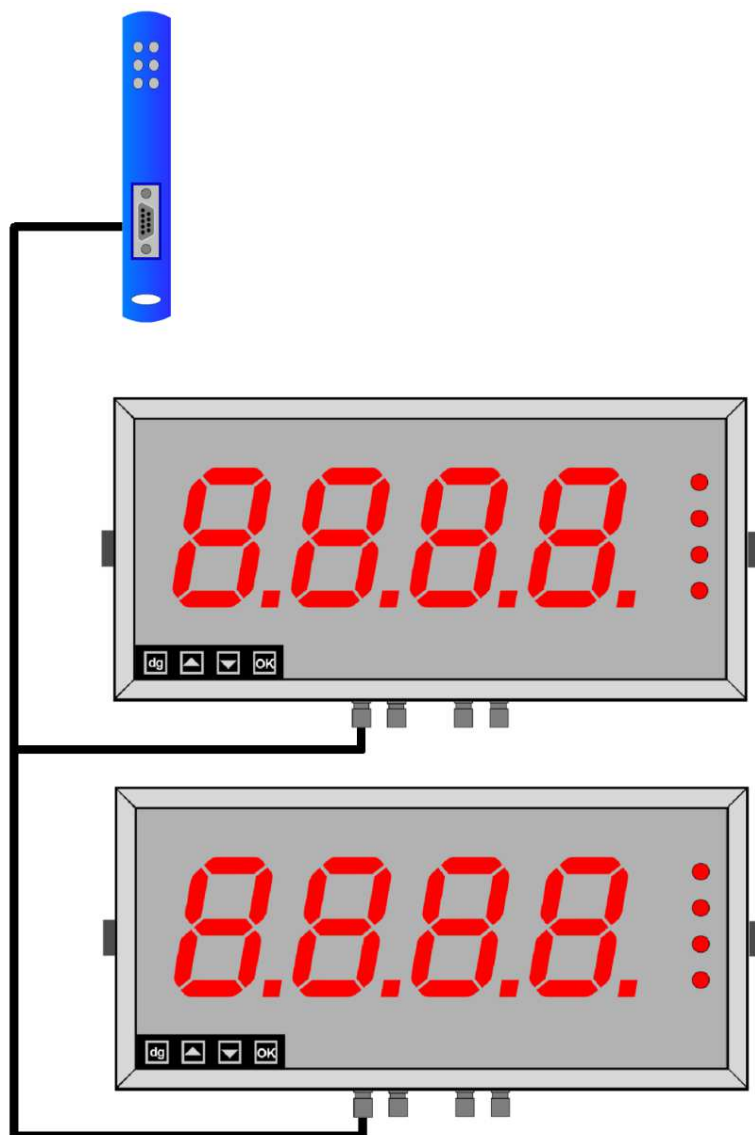
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Quick guide for Anybus subnet with Serial Displays



Connection details and general information
In addition to standard manuals



Revision: 4

Warnings

To ensure the IP rating of this display, all fastening screws must be fitted according to instructions. Failure to do so will void the warranty offered on this product. Any lost / broken fixings need to be reported to the manufacturer so as replacements can be costed and sent. The liability for installation lies with the installer, London Electronics Limited takes no responsibility for death, injury, accident or effect for poor / incorrect installation. London Electronics Limited have quoted to supply the display items and mountings only, a full stability report, risk assessment and structural report should be undertaken by the installer prior to installing the products.

Please carefully read this manual and all warnings. Install the display **ONLY** when you are sure that you've covered all aspects.



Where the product is intended for "UL" installations, removal or addition of option boards is not permitted.



Check that the model number and supply voltage suit your application before you install the display.



Connect the display according to current IEE regulations, IEC61010 & NFPA:70 National Electric Code in USA.



Don't touch any circuitry after you have connected the display, because there may be lethal voltages on the circuit board.



Do not apply power to the display if its case is open.



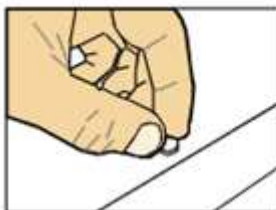
Only adjust on-board switches or connections with the power turned off



Make sure all screw terminals are tight before you switch the meter on.



Only clean the display's case and window with a soft damp cloth. Only lightly dampen with water. Do not use any other solvents.



Rear case screws - please note

The rear panel is held in place with finger-screws, which only need to be gently tightened.

Do not use tools to tighten or loosen the screws, as this could cause damage to the internal threads.

**Safety FirstDon't assume anything..... Always double check.
If in doubt, ask someone who is QUALIFIED to assist you in the subject.**

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Section 1

Serial Slave Display

Anybus Registers to Write

Using the provided configuration file & Display Settings.

The provided example configuration file offers the ability to write to two displays, the first with address 01 and the second with address 02. The following registers to write in the Anybus module for each addressed display are;

Display Address	Registers
01	0x0200, 0x0201, 0x0202, 0x0203, 0x0204, 0x0205, 0x0206, 0x0207, 0x0208, 0x0209
02	0x020A, 0x020B, 0x020C, 0x020D, 0x020E, 0x020F, 0x0210, 0x0211, 0x0212, 0x0213

Display Examples

Using the provided configuration file.

Example 1 – Displaying 123.4

Anybus Registers

The table below shows the Anybus registers to write to, for Display with Address 01. The value of register 0x200 is the most significant character. Data justified right on the display.

Example values are shown to demonstrate the serial output data created and how the Fusion/Intuitive-S displays the subsequent data.

	Variable Data							
Anybus Registers	0x0200	0x0201	0x0202	0x0203	0x0204	0x0205	0x0206	0x0207
Example Values (Bytes)	0x31	0x32	0x33	0x2E	0x34	0x00	0x00	0x00
Example Values (ASCII)	1	2	3	.	4			

Subnet Serial Data Created

The example Anybus program frames your variable data between fixed constants STX, Address and ETX. Using the example values, the following serial data is created on the Anybus subnet.

Serial Format	STX	Address		Variable Data								ETX
				0x0200	0x0201	0x0202	0x0203	0x0204	0x0205	0x0206	0x0207	
Bytes	0x02	0x30	0x31	0x31	0x32	0x33	0x2E	0x34	0x00	0x00	0x00	0x03
ASCII	S_{TX}	0	1	1	2	3	.	4	N_{UL}	N_{UL}	N_{UL}	E_{TX}

Fields	
STX	Start of text
ETX	End of text
Address	Device Address
Variable Data	Data

The Equivalent data can be re-created on Realterm Serial Capture Program with: \x0201123.4x03

Fusion/Intuitive Display



The data will appear on the display as shown left. In this example the data length fits the display.

Example 2 – Displaying 12:34 (option: if colons are available)

Anybus Registers

The table below shows the Anybus registers to write to, for Display with Address 01. The value of register 0x200 is the most significant character. Data justified right on the display.

Example values are shown to demonstrate the serial output data created and how the Fusion/Intuitive-S displays the subsequent data.

	Variable Data							
Anybus Registers	0x0200	0x0201	0x0202	0x0203	0x0204	0x0205	0x0206	0x0207
Example Values (Bytes)	0x31	0x32	0x3A	0x33	0x34	0x00	0x00	0x00
Example Values (ASCII)	1	2	:	3	4			

Subnet Serial Data Created

The example Anybus program frames your variable data between fixed constants STX, Address and ETX. Using the example values, the following serial data is created on the Anybus subnet.

Serial Format	STX	Address		Variable Data								ETX
				0x0200	0x0201	0x0202	0x0203	0x0204	0x0205	0x0206	0x0207	
Bytes	0x02	0x30	0x31	0x31	0x32	0x3A	0x33	0x34	0x00	0x00	0x00	0x03
ASCII	S_{TX}	0	1	1	2	:	3	4	N_{UL}	N_{UL}	N_{UL}	E_{TX}

Fields	
STX	Start of text
ETX	End of text
Address	Device Address
Variable Data	Data

The Equivalent data can be re-created on Realterm Serial Capture Program with: \x020112:34\x03

Fusion/Intuitive Display



The data will appear on the display as shown left. It is important to remember that the colons must be placed at the right point between characters or they may not appear correctly. If the example was displaying a clock 12:34 (HH:mm), and the minutes are below 9 then a padding of 0 will be required to keep the colons in the correct position e.g. 12:09 or 12:00.

Example 3 – Displaying 123456

Anybus Registers

The table below shows the Anybus registers to write to, for Display with Address 01. The value of register 0x200 is the most significant character. Data justified right on the display.

Example values are shown to demonstrate the serial output data created and how the Fusion/Intuitive-S displays the subsequent data.

	Variable Data							
Anybus Registers	0x0200	0x0201	0x0202	0x0203	0x0204	0x0205	0x0206	0x0207
Example Values (Bytes)	0x31	0x32	0x33	0x34	0x35	0x36	0x00	0x00
Example Values (ASCII)	1	2	3	4	5	6		

Subnet Serial Data Created

The example Anybus program frames your variable data between fixed constants STX, Address and ETX. Using the example values, the following serial data is created on the Anybus subnet.

Serial Format	STX	Address		Variable Data								ETX
				0x0200	0x0201	0x0202	0x0203	0x0204	0x0205	0x0206	0x0207	
Bytes	0x02	0x30	0x31	0x31	0x32	0x33	0x34	0x35	0x36	0x00	0x00	0x03
ASCII	S_{TX}	0	1	1	2	3	4	5	6	N_{UL}	N_{UL}	E_{TX}

Fields	
STX	Start of text
ETX	End of text
Address	Device Address
Variable Data	Data

The Equivalent data can be re-created on Realterm Serial Capture Program with: \x0201123456\x03

Fusion/Intuitive Display



The data will appear on the display as shown left. In this example the data length fits the display.

Example 4 – Data length too long.

Anybus Registers

The table below shows the Anybus registers to write to, for Display with Address 01. The value of register 0x200 is the most significant character. Data justified right on the display.

Example values are shown to demonstrate the serial output data created and how the Fusion/Intuitive-S displays the subsequent data.

	Variable Data							
Anybus Registers	0x0200	0x0201	0x0202	0x0203	0x0204	0x0205	0x0206	0x0207
Example Values (Bytes)	0x31	0x32	0x33	0x34	0x35	0x36	0x37	0x38
Example Values (ASCII)	1	2	3	4	5	6	7	8

Subnet Serial Data Created

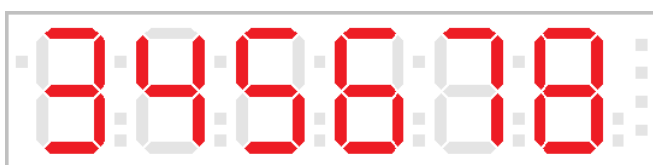
The example Anybus program frames your variable data between fixed constants STX, Address and ETX. Using the example values, the following serial data is created on the Anybus subnet.

Serial Format	STX	Address		Variable Data								ETX
				0x0200	0x0201	0x0202	0x0203	0x0204	0x0205	0x0206	0x0207	
Bytes	0x02	0x30	0x31	0x31	0x32	0x33	0x34	0x35	0x36	0x37	0x38	0x03
ASCII	S_{Tx}	0	1	1	2	3	4	5	6	7	8	E_{Tx}

Fields	
STX	Start of text
ETX	End of text
Address	Device Address
Variable Data	Data

The Equivalent data can be re-created on Realterm Serial Capture Program with: \x020112345678\x03

Fusion/Intuitive Display



The data will appear on the display as shown left. In this example the data length is too long for the display. Register 0x200 and 0x201 values are lost.

Display Settings

For Fusion or Intuitive Serial Slave Displays, RS232/RS485
 Follow recommended setting when using provided configuration file.

Set1
Digit

Set2
Max/Min

Output
Reset

Alarms
OK

OFF

Lockouts: off - off
Long Press: Set1 & Set2 (3 Seconds) Circuit board ON

00:00:00:00	Display Address. From 00 to FF, choose 00 if you do not need addressing. Recommended 01.
00:50:00:02	Start Character Recommended 02. Otherwise 00 if no defined start character
00:00:00:03	End Character Recommended 03, otherwise 0d is carriage return
00:6A:00:00	Baud rate
00:96:00:00	Choose a baud rate to suit the sender. Recommended 9600.
00:00:00:01	Data format 8n1 = 8 bits, no parity, 1 stop bit. (Recommended)
00:00:00:05	Time to reply (mS) Recommended 05.
00:00:00:00	Time between characters (mS) Recommended 00.
00:00:00:00	Timeout (Sec) If data lost display shows -----. Recommended 00.
00:5A:00:00	Data Start Position Recommended 00.
00:00:00:00	Data Length Recommended 00, no defined length.
00:00:00:00	Decimal point position Fixed (dpF) or Automatic (dpA)

Set1
Digit

Set2
Max/Min

Output
Reset

Alarms
OK

Press to accept

Wiring Diagram – Anybus RS485 Subnet

For Fusion Large Displays

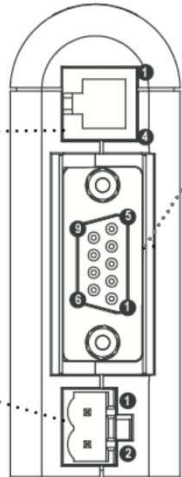
Bottom View

PC Connector:

- 1. GND
- 2. GND
- 3. RS232 Rx
- 4. RS232 Tx

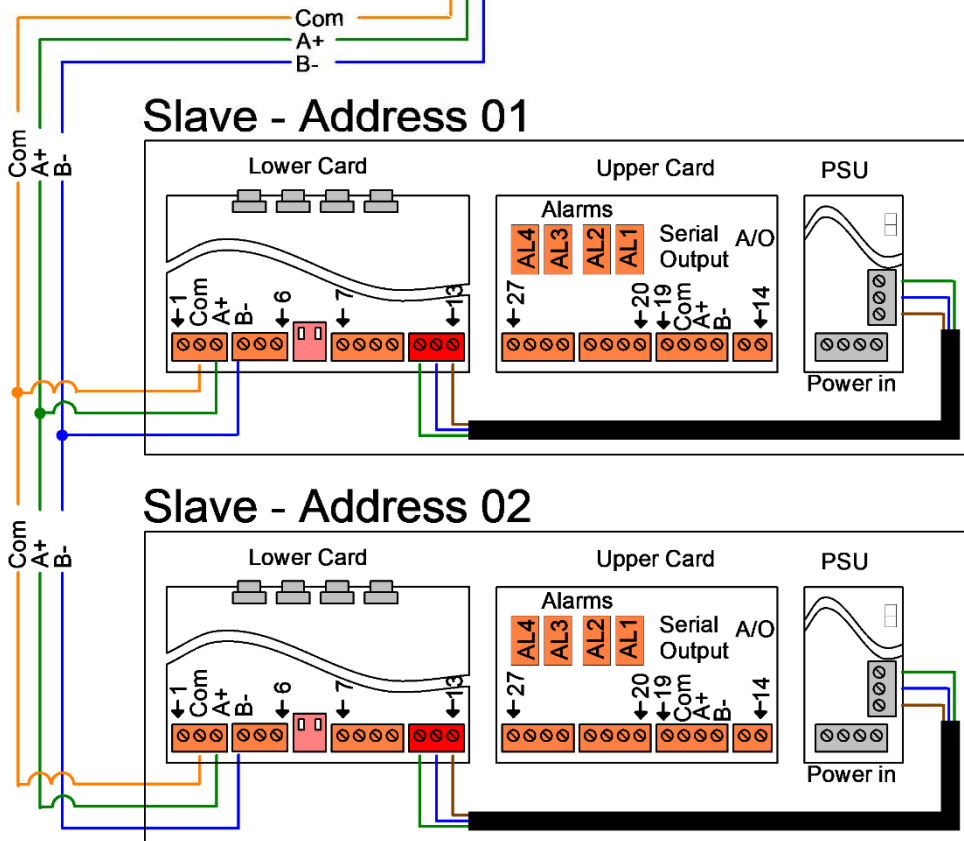
Power:

- 1. +24 V DC
- 2. GND



Subnetwork Connector

Pin no.	Description
1	+5V OUT
2	RS232 Rx
3	RS232 Tx
4	NC
5	Signal GND
6	RS422 Rx+
7	RS422 Rx-
8	RS485+ / RS422 Tx+
9	RS485- / RS422 Tx-



Biasing links B&C should be used, see Fusion-S manual for connection details.

Wiring Diagram – Anybus RS485 Subnet

For Intuitive Panel meter series INT2-S4 & INT4-S4

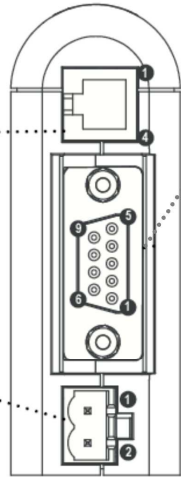
Bottom View

PC Connector:

- 1. GND
- 2. GND
- 3. RS232 Rx
- 4. RS232 Tx

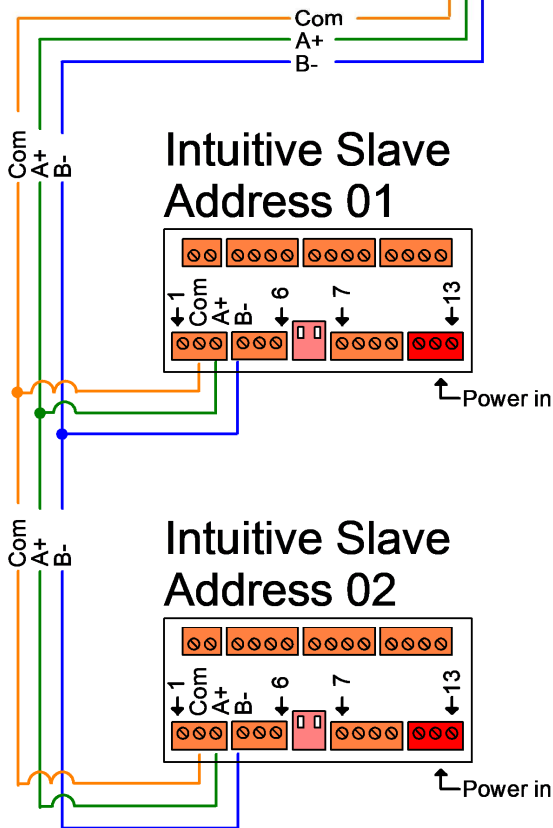
Power:

- 1. +24 V DC
- 2. GND



Subnetwork Connector

Pin no.	Description
1	+5V OUT
2	RS232 Rx
3	RS232 Tx
4	NC
5	Signal GND
6	RS422 Rx+
7	RS422 Rx-
8	RS485+ / RS422 Tx+
9	RS485- / RS422 Tx-



Biassing links B&C should be used, see intuitive-S manual for connection details.