



DEEP SEA ELECTRONICS PLC

DSE857 Configuration Suite PC Software and Operator Manual

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DSE857 USB to Ethernet Convertor Operator Manual

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Amendments Since Last Publication

Amd. No.	Comments
1	Initial release
2	Terminology updated from master/slave to client/servers

Typeface : The typeface used in this document is *Arial*. Care should be taken not to mistake the upper case letter I with the numeral 1. The numeral 1 has a top serif to avoid this confusion

TABLE OF CONTENTS

1	BIBLIOGRAPHY	4
2	DESCRIPTION	4
3	SPECIFICATIONS	5
4	DSE CONFIGURATION SUITE PC SOFTWARE	7
4.1	EDIT CONFIG.....	7
4.1.1	SCREEN LAYOUT.....	7
4.1.2	DSE857 CONFIGURATION.....	7
4.2	UTILISING THE DSE857.....	8
4.2.1	CONNECTING USING DSE CONFIGURATION SUITE PC SOFTWARE.....	8
4.2.2	CONNECTING USING A THIRD PARTY MODBUS CLIENT	8
5	MAINTENANCE, SPARES, REPAIR AND SERVICING.....	9
5.1	WARRANTY	9
5.2	DISPOSAL.....	9
5.2.1	WEEE (WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT).....	9

1 BIBLIOGRAPHY

This document refers to and is referred to by the following DSE publications which can be obtained from the DSE website www.deepseapl.com:

DSE Part	Description
053-169	DSE857 Installation Instructions

2 DESCRIPTION

This manual covers the operation and the **DSE Configuration Suite** for DSE857 USB to RS485 Converter. Separate manuals cover the remaining DSE modules supported by the software.

The DSE857 acts as a modbus RTU server device. Queries from the modbus client are received by the RS485 port, and relayed (Modbus Passthrough) to the DSE controller connected to the USB port. This controller replies to the query which is received by the DSE857 USB port, and returned back to the Modbus RTU client by the DSE857 RS485 port.

The **DSE Configuration Suite** allows the DSE857 module to be connected to a PC. Once connected the various operating parameters within the module can be viewed or edited as required by the engineer.

The DSE Configuration Suite PC Software must only be used by competent, qualified personnel, as changes to the operation of the module may have safety implications on the panel to which it is fitted. The information contained in this manual should be read in conjunction with the information contained in the appropriate module documentation. This manual only details which settings are available and how they may be used.

A separate manual deals with the operation of the individual module (See section entitled *Bibliography* elsewhere in this document).

3 SPECIFICATIONS

3.1 POWER SUPPLY


Parameter	Description
Minimum Supply Voltage	8 V continuous, 4 V for up to 5 minutes.
Cranking Dropouts	Able to survive 0 V for 100 mS providing the supply was at least 8 V before the dropout and recovers to 8 volts afterwards.
Maximum Supply Voltage	32 V continuous (transient protection to 64 V)
Power Up Current	3 A transient inrush at initial power up.
Typical Operating Current	60 mA at 12 V DC, 35 mA at 24V DC

3.2 TERMINAL SPECIFICATION

Parameter	Description
Connection Type	Screw terminal, rising clamp, no internal spring
Min Cable Size	0.5 mm ² (AWG 20)
Max Cable Size	2.5 mm ² (AWG 14)

3.3 USB HOST CONNECTOR

This USB type A socket provides support for connection to one DSE controller. Use USB type A to USB type B cable.

 NOTE: DSE stock a USB suitable cable for this purpose. Part number 016-125.
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3.4 RS485 CONNECTOR

This socket provides support for connection to a modbus client device such as a PC with RS485 port or a Building Management System (BMS), PLC or other modbus client device.

Ensure termination resistors (120Ω) are fitted to the ends of the link as per RS485 standard.

3.5 DIMENSIONS

Parameter	Description
Overall Size	35.0 mm x 96.9 mm x 102.2 mm (1.34" x 3.81" x 4.02")
Mounting Type	DIN rail EN 50022 35 mm type only. Indoor Use Only.
Maximum Ambient Operating Temperature	30 °C to 70 °C (-22 °F to 158 °F)
Weight	140 g (4.9 oz)

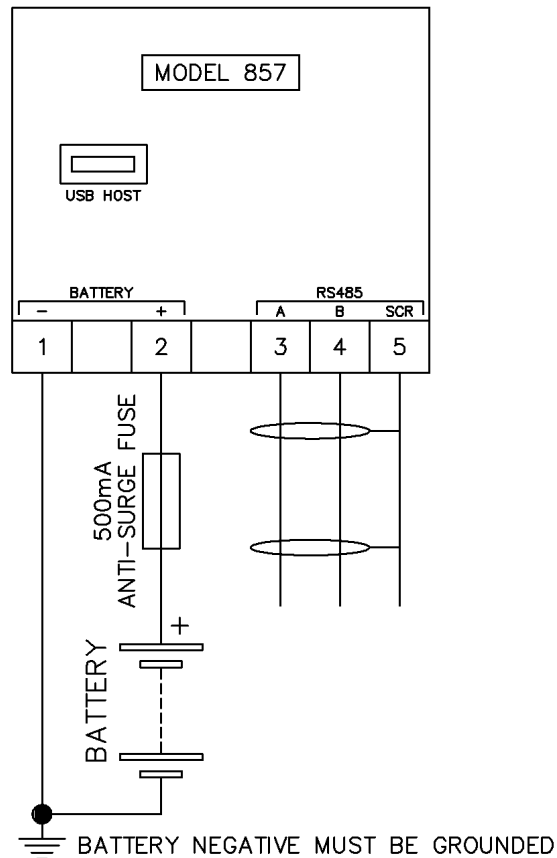
3.6 INSTALLATION

The DSE857 is designed to be mounted within a control panel, either on the panel DIN rail utilising the integral mounts, or chassis mounted, utilising the mounting holes. For dimension and mounting details, see the section entitled *Specification, Dimensions* elsewhere in this document.

3.7 USER CONNECTIONS

Terminal	Function	Recommended size
1	DC Supply Negative	1.0 mm ² (AWG18)
2	DC Supply Positive	1.0 mm ² (AWG18)
3	RS485 A	Two core screened twisted pair cable. 120 Ω impedance suitable for RS485 use. Recommended cable type - Belden 9841 Max distance 1200 m (1.2k m) when using Belden 9841 or direct equivalent. Ensure termination resistors (120 Ω) are fitted to the ends of the link as per RS485 standard.
4	RS485 B	
5	RS485 Screen	

3.8 TYPICAL WIRING DIAGRAM



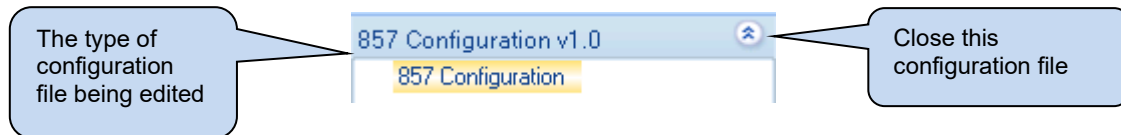
4 DSE CONFIGURATION SUITE PC SOFTWARE

For information in regards to installing and using the DSE Configuration Suite Software please refer to DSE publication: **057-151 DSE Configuration Suite PC Software Installation & Operation Manual** which can be found on our website: www.deepseaelectronics.com.

4.1 EDIT CONFIG

This menu allows module configuration to suit a particular application.

4.1.1 SCREEN LAYOUT



4.1.2 DSE857 CONFIGURATION

This section allows the RS485 port (Modbus Server) to be configured. The DSE857 contains two Modbus Servers, Configuration and Modbus Passthrough.

857 Configuration

RS485 Port Configuration

Baud Rate 19200 ▾

857 Configuration Server ID ▲ 10 ▼

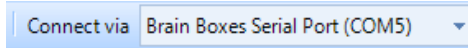
Modbus Passthrough Server ID ▲ 11 ▼

Parameter	Description
Baud Rate	Factory Setting: 19200 Baud rate of the RS485 port.
857 Configuration Server ID	Factory Setting: 10 The Modbus Server ID of the DSE857 RS485 port for Configuration. This is the Server ID that is used by the DSE Configuration Suite PC Software for configuration of the DSE857.
Modbus Passthrough Server ID	Factory Setting: 11 The Modbus Server ID of the DSE857 RS485 port for <i>Modbus Passthrough</i> . This is the Server ID that is used. by the Modbus Client device used to query the DSE controller connected to the DSE857 USB port. Modbus Requests sent to this address are relayed (Passthrough) to the DSE controller connected to the USB port.

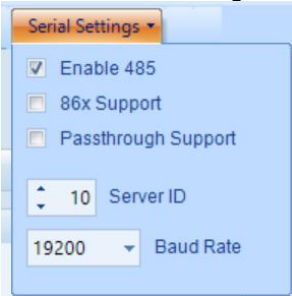
4.2 UTILISING THE DSE857

4.2.1 CONNECTING USING DSE CONFIGURATION SUITE PC SOFTWARE

To connect to a module via RS485, select the comport from the *Connect Via* list, for example:



Then click *Serial Settings* to configure the RS485 Port:



Parameter	Description
Enable 485	Select <input checked="" type="checkbox"/> to enable RS485 communications to the DSE857.
86x Support	Select <input type="checkbox"/> when using the DSE857.
Server ID	This must be set to the <i>857 Configuration Server ID</i> setting in the DSE857 to be communicated with.
Baud Rate	This must be set to the <i>Baud Rate</i> setting of the DSE857 to be communicated with.

DSE Configuration Suite is now correctly configured to communicate with the DSE Controller connected to the DSE857 USB port.

For information in regards to setting up the DSE controller connected to the DSE857 USB port, refer to the relevant Configuration Suite PC Software Manual which can be found on our website: www.deepseapl.com.

4.2.2 CONNECTING USING A THIRD PARTY MODBUS CLIENT

The DSE857 RS485 port is a modbus RTU Server. There are two modbus Server IDs associated with the port as detailed in the section entitled *DSE857 Configuration* elsewhere in this document.

The Modbus Client must be configured to communicated with the *Modbus Passthrough Server ID* of the DSE857.

Modbus queries from the client are received by this port, and relayed (Modbus Passthrough) to the DSE controller connected by USB to the DSE857.

This controller replies to the query which is received by the DSE857 USB port, and return back to the Modbus RTU client by the DSE857 RS485 port.

The host DSE controller has addressable registers as defined in the DSEGencomm Document.

This and other DSEGencomm training documents are available from DSE Technical Support upon request from support@deepseaelectronics.com.

DSE Part Number	Document Name	Description
056-080	Modbus.pdf	Describes the different types of Modbus.
056-078	DSEGencomm.pptx	Training Presentation about Modbus on DSE products.
056-079	Gencomm Status.pptx	Training Presentation about alternative ways to read status information from the DSE controller.
056-051	Gencomm Control Keys	Training Document describing how to control the DSE module using Modbus.
056-076	Gencomm Alarms	Describes how to read alarm status information from the DSE controller.
N/A	Gencomm	Describes the DSE controller's modbus register mapping.

5 MAINTENANCE, SPARES, REPAIR AND SERVICING

The module is designed to be *Fit and Forget*. As such, there are no user serviceable parts. In the case of malfunction you should contact your original equipment supplier (OEM).

If you require additional plugs from DSE, please contact our Sales department using the part numbers below.

Terminal	Description	Part No.
1-5	5 way 5.08mm	007-445
USB	USB A to USB B (DSE857 to host controller)	016-125

5.1 WARRANTY

DSE provides limited warranty to the equipment purchaser at the point of sale. For full details of any applicable warranty, you are referred to your original equipment supplier (OEM).

5.2 DISPOSAL

5.2.1 WEEE (WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT)

If you use electrical and electronic equipment you must store, collect, treat, recycle and dispose of WEEE separately from your other waste.



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