



# DEEP SEA ELECTRONICS PLC

## DSE892 SNMP Gateway Manual

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Author : Anthony Manton



Deep Sea Electronics Plc  
Highfield House  
Hunmanby  
North Yorkshire  
YO14 0PH  
ENGLAND

Sales Tel: +44 (0) 1723 892099  
Sales Fax: +44 (0) 1723 893303

E-mail : sales@deepseapl.com  
Website : www.deepseapl.com

## DSE892 SNMP Gateway Hardware Manual

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## Amendments since last publication

Amd. No.	Comments
1	First release
2	Updated user interface. Added SNMP GET/SET and update to SNMPV2c.
2.1	Updated compatibility list.
2.2	Updated compatibility list.
3	Added new SNMP instruments, removed compatibility list.

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.

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# 1 INTRODUCTION

This document details the installation requirements of the DSE892 SNMP Gateway. The manual forms part of the product and should be kept for the entire life of the product. If the product is passed or supplied to another party, ensure that this document is passed to them for reference purposes. This is not a *controlled document*. You will not be automatically informed of updates. Any future updates of this document will be included on the DSE website at [www.deepseapl.com](http://www.deepseapl.com)

DSE892 SNMP Gateway is used to connect with an SNMP V2c Community Based system to give monitoring and control functionality.

DSE892 SNMP Gateway communicates to the connected controller(s), monitoring the instrumentation and operating state. If this data changes, SNMP TRAP information is generated and sent to the SNMP Manager. Additionally emails can be configured to be set to one or two email addresses.

DSE892 SNMP Gateway also supports GET functionality to read information from the host controller and SET functionality to allow the SNMP manager to mimic button presses on the host controller.

Additionally, DSE892 SNMP Gateway contains a protocol conversion function.

For details on configuring the 'host controller' you are referred to the relevant configuration software manual.

## 1.1 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](http://www.deepseapl.com)

<b>DSE Part</b>	<b>Description</b>
053-148	DSE892 installation instructions

## 2 SNMP

Simple Network Management Protocol (SNMP) is an internet standard protocol for managing devices on IP networks. It is used to monitor network-attached devices for conditions that warrant administrative attention.

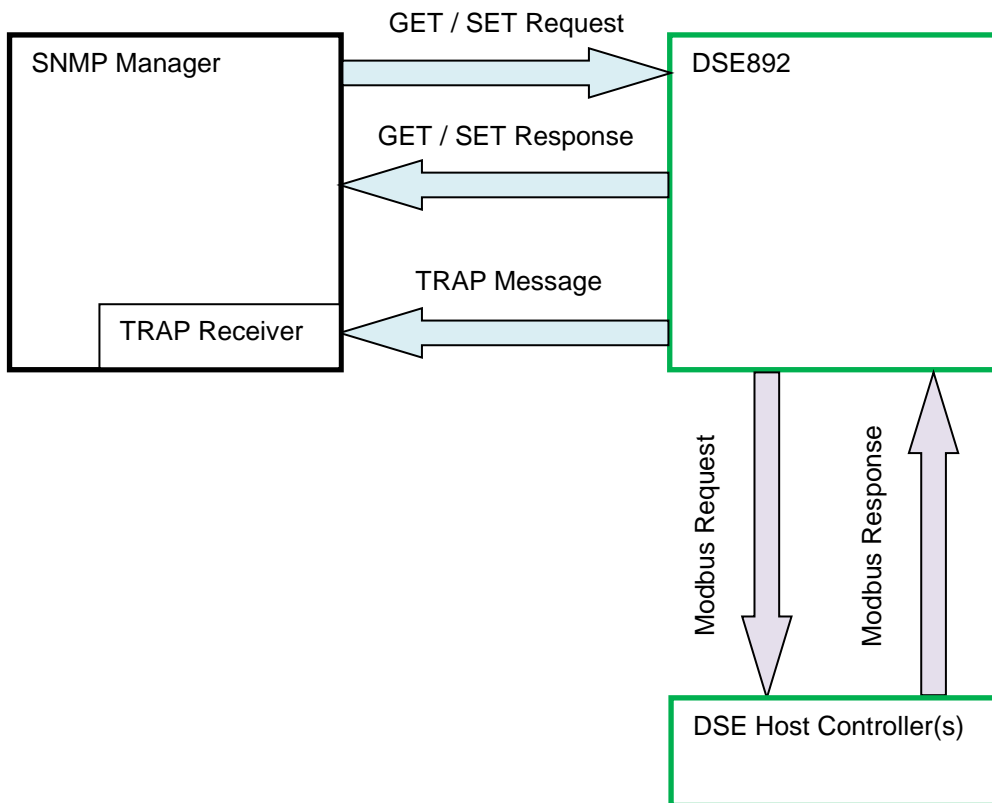
An administrative computer (SNMP manager) monitors one or more DSE892 devices. Each DSE892 monitors a number of DSE controllers using a variety of connection methods (detailed elsewhere in this manual).

Should an 'event' occur, the DSE892 Gateway reports information via SNMP TRAP messages to the manager.

Additionally, the DSE892 responds to GET / SET messages from the SNMP manager to allow the host controller's operating mode to be changed, or instrumentation values to be retrieved.

Many third party SNMP managers exist. DSE do not produce or supply SNMP managers.

### 2.1 PRINCIPLE OF SNMP COMMUNICATION



### 2.2 MIB FILE

SNMP does not specify the type of information and functions supported by the DSE892. This information is contained in the Management Information Base (MIB) file.

### 3 SPECIFICATIONS

#### 3.1 POWER SUPPLY

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 V 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	630 mA at 12 V DC, 315 mA at 24 V DC

#### 3.2 CONFIGURABLE I/O

Number	4 configurable general purpose input / outputs Not currently fitted to the DSE892 – RESERVED for future use.
Rating	TBA

#### 3.3 TERMINAL SPECIFICATION

Connection type	Screw terminal, rising clamp, no internal spring
Min cable size	0.5 mm <sup>2</sup> (AWG 20)
Max cable size	2.5 mm <sup>2</sup> (AWG 14)

#### 3.4 USB HOST CONNECTOR

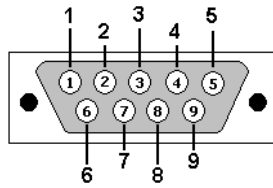
This USB type A socket provides support for connection to one DSE controller.  
Use USB type A to USB type B cable.

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

### 3.5 RS232 CONNECTOR

This socket provides support for connection to one DSE controller.

PIN No	NOTES
1	Received Line Signal Detector (Data Carrier Detect)
2	Received Data
3	Transmit Data
4	Data Terminal Ready
5	Signal Ground
6	Data Set Ready
7	Request To Send
8	Clear To Send
9	Ring Indicator

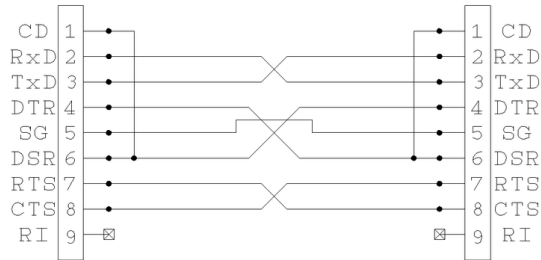


View looking into the male connector on the module

#### 3.5.1 NULL MODEM CABLE WIRING



DSE Controller with RS232



Null Modem Cable



DSE892 Gateway

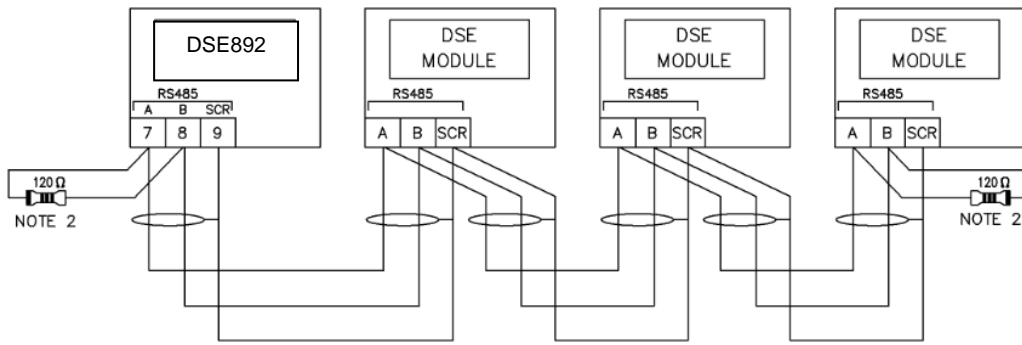


### 3.6 RS485 CONNECTOR

This socket provides support for connection to a maximum of five DSE controllers in a daisy chain RS485 network.

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

PIN No	NOTES
A (-)	Two core screened twisted pair cable. 120 Ω impedance suitable for RS485 use.
B (+)	Recommended cable type - Belden 9841
SCR	Max distance 1200 m (1.2 km) when using Belden 9841 or direct equivalent.



















NOTE 2

A 120 OHM TERMINATION RESISTOR MUST BE FITTED TO THE FIRST AND LAST UNIT ON THE RS485 LINK

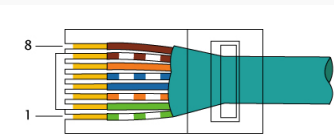
### 3.7 ETHERNET CONNECTOR

The DSE892 Gateway module is fitted with an autosensing ethernet socket. This can be utilised in a number of ways. See section entitled “Typical Connection to DSE controllers”, subsection ” Via Ethernet” for further details.

10baseT/100baseT

Pin	Connection 1 (T568A)	Connection 2 (T568A)
1	 white/green stripe	 white/green stripe
2	 green solid	 green solid
3	 white/orange stripe	 white/orange stripe
4	 blue solid	 blue solid
5	 white/blue stripe	 white/blue stripe
6	 orange solid	 orange solid
7	 white/brown stripe	 white/brown stripe
8	 brown solid	 brown solid

For the advanced Engineer, this cable has both ends terminated as T568A (as shown below) or T568B.

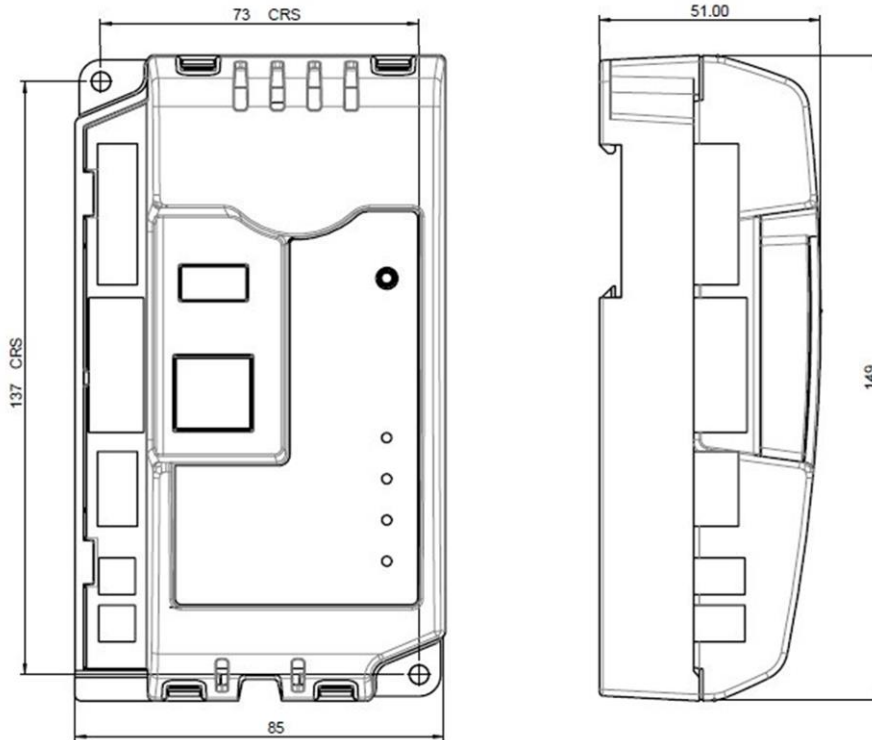


EIA/TIA-568A

**NOTE:** DSE Stock a 2m (2yds) Ethernet Cable – Part number 016-137. Alternatively they can be purchased from any good PC or IT store. As the Gateway is autosensing, either a ‘straight through’ or ‘crossover’ cable can be used. The diagram above shows a ‘straight through’ cable.

### 3.8 DIMENSIONS

Overall size	85 mm x 149 mm x 51 mm (3.35" x 5.85" x 2.01")
Weight	120 g (4.23 oz.)
Mounting type	DIN rail or chassis mounting
Din rail type	EN 50022 35 mm type only
Mounting holes	M4 clearance
Mounting hole centres	73 mm x 137 mm (2.89" x 5.39")



Dimensions in mm

### 3.9 APPLICABLE STANDARDS

Minimum Temperature	-30 °C (-22 °F)
Maximum Temperature	+70 °C (158 °F)
Degrees of Protection Provided by Enclosures	IP21
NEMA Rating	Enclosure type 1 (indoor use only)
SNMP	DSE892 Gateway supports SNMP V2c.

In line with our policy of continual development, Deep Sea Electronics, reserve the right to change specification without notice.

## 4 INSTALLATION

The DSE892 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.

### 4.1 USER CONNECTIONS

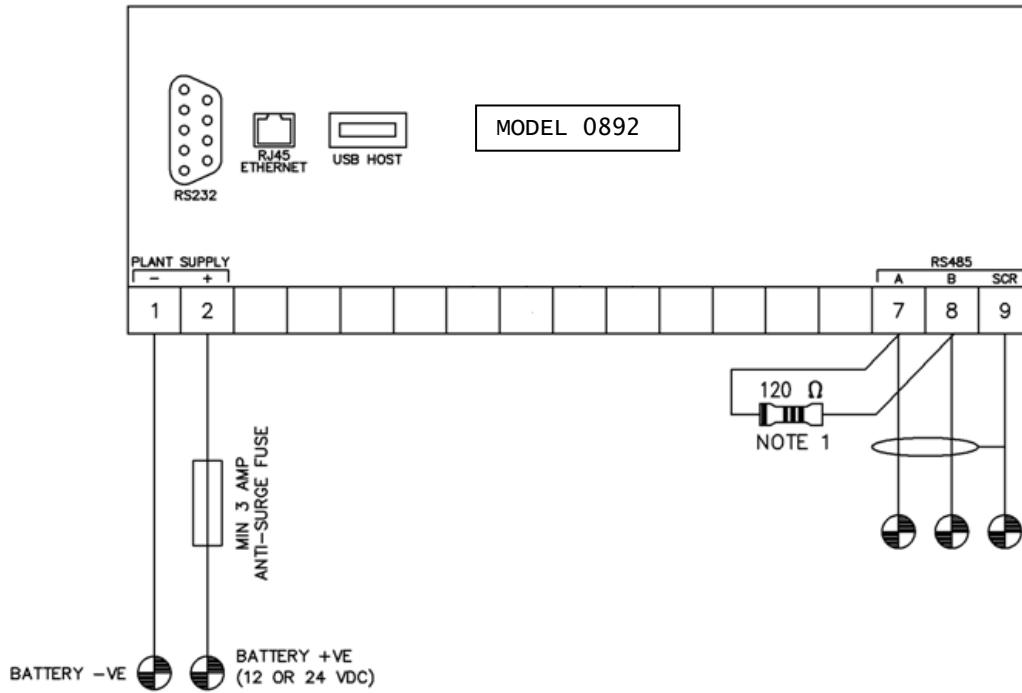
#### 4.1.1 CONNECTOR A – DC SUPPLY AND CONFIGURABLE OUTPUTS

Terminal	Function	Recommended size
1	DC supply negative	1.0 mm <sup>2</sup> (AWG 18)
2	DC supply positive	1.0 mm <sup>2</sup> (AWG 18)
3	RESERVED	
4	RESERVED	
5	RESERVED	
6	RESERVED	

#### 4.1.2 CONNECTOR B – RS485

Terminal	Function	Recommended size
A	RS485 A	0.5 mm <sup>2</sup> (AWG 20)
B	RS485 B	0.5 mm <sup>2</sup> (AWG 20)
SCR	RS485 SCREEN	

## 4.2 TYPICAL WIRING DIAGRAM

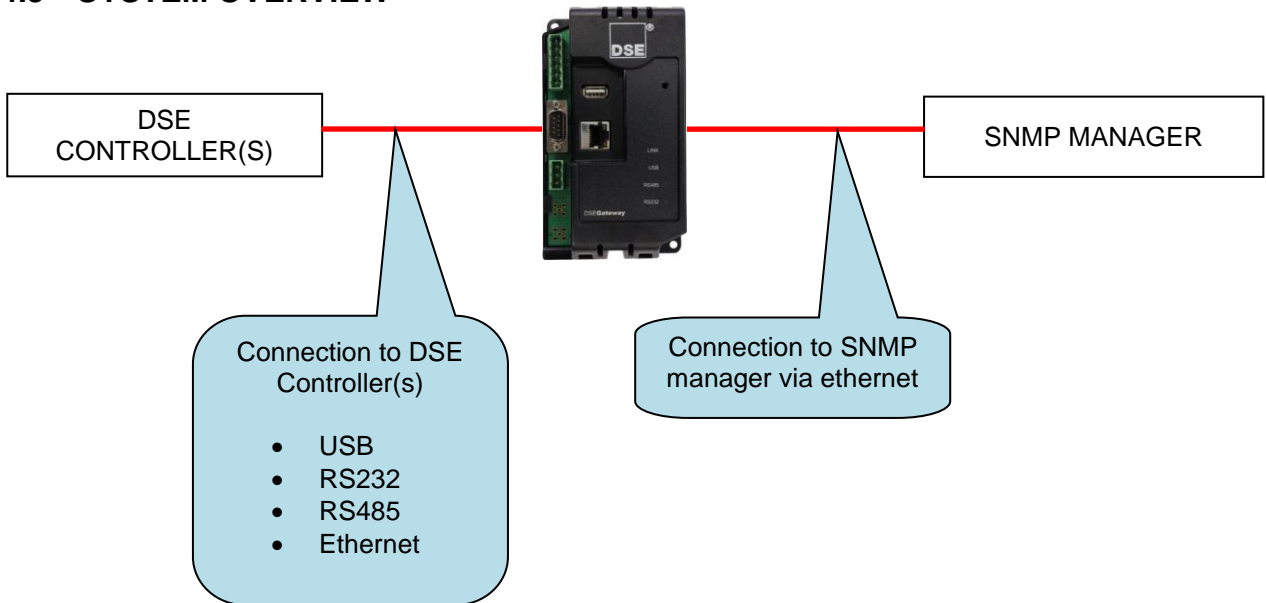


TERMINALS SUITABLE FOR 22-16 AWG (0.6mm<sup>2</sup> - 1.3mm<sup>2</sup>) FIELD WIRING  
TIGHTENING TORQUE = 0.8Nm (7lb-in)

NOTE 1

A 120 OHM TERMINATION RESISTOR MUST BE FITTED IF IT IS THE FIRST OR LAST DEVICE ON AN RS485 LINK

## 4.3 SYSTEM OVERVIEW



## **4.4 TYPICAL CONNECTION TO DSE CONTROLLERS**

This section shows how to connect DSE controllers to the gateway device.


### **4.4.1 ADDING THE CONTROLLER TO THE DSE892**

To ensure newly added controllers are recognised by the DSE892, the following steps must be followed. Failure to do so may result in communications failure, indicated by a RED communications port LED.

- The DSE892 is factory set to accept connection via the USB port. If this is not the port to be used, you must configure the DSE892 for the required port as detailed elsewhere in this document.
- Remove the DC supply from the DSE892 AND the connected controller(s).
- Connect the new controller to the chosen communications port.
- Apply the DC supply to the controller being connected (and any other controllers in the system).
- Reapply the DSE supply to the DSE892 Gateway.

#### 4.4.2 DEVICE COMPATIBILITY

Support for devices is dependant upon the firmware revision of the DSE892.  
Please contact [support@deepseapl.com](mailto:support@deepseapl.com) for the latest compatibility list.

 **NOTE: Support for legacy devices is withdrawn from the DSE892 at regular updates. To check on the possibility of support for legacy devices no longer listed below, please contact [support@deepseapl.com](mailto:support@deepseapl.com).**

 **NOTE: Not all variants are available in all markets.**

 **NOTE: Not all instrumentation is available with all controllers. Refer to the Configuration Suite PC Software manual relevant to your controller for details of supported instrumentation.**

#### 4.4.3 USB (SINGLE CONTROLLER)

USB connection utilises a standard USB A – USB B cable.

**NOTE:** DSE Stock a 2m (2yds) USB Cable DSE Part No 016-125. Alternatively they can be purchased from any good PC or IT store.



#### 4.4.4 RS232 (SINGLE CONTROLLER)

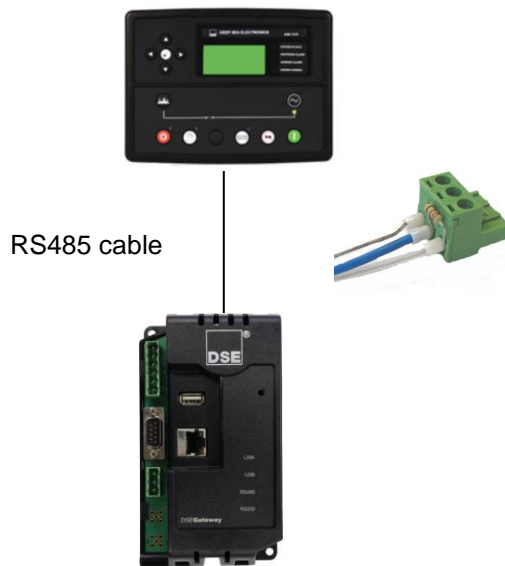
RS232 connection utilises a standard RS232 Null modem (crossover) cable.





#### 4.4.5 RS485 (SINGLE CONTROLLER)

RS485 connection utilises twisted pair RS485 cable with 120Ω termination resistors as per RS485 standard.



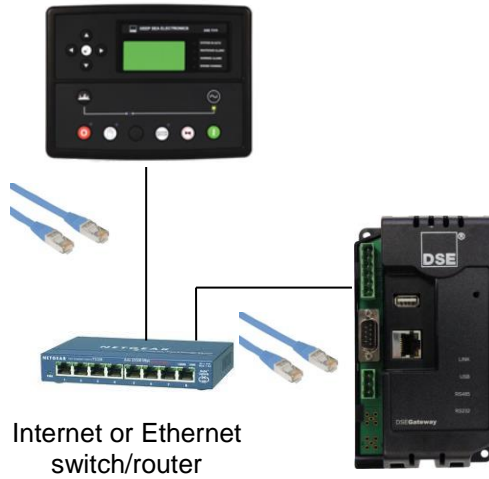
#### 4.4.6 RS485 (MULTIPLE CONTROLLER)

RS485 connection utilises twisted pair RS485 cable with 120Ω termination resistors as per RS485 standard to connect to a maximum of five supported DSE controllers.



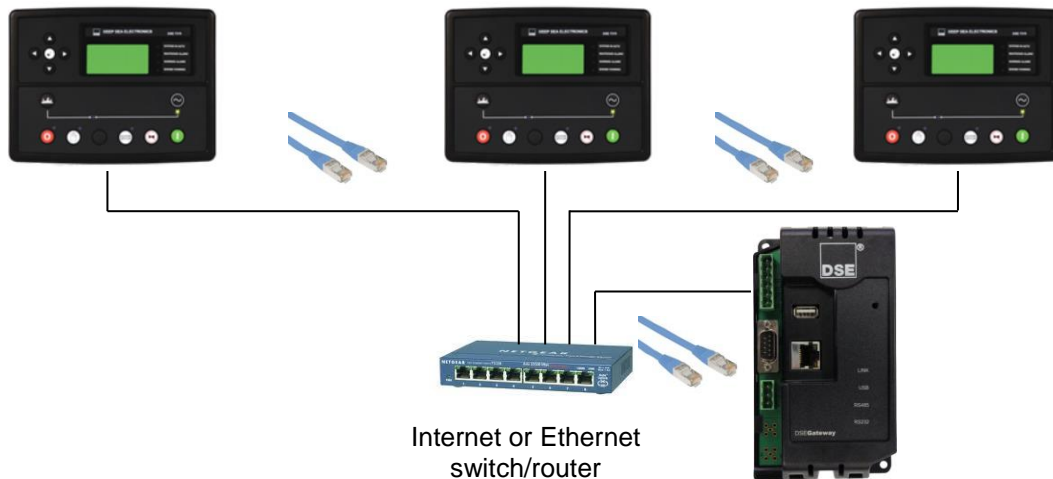
#### 4.4.7 ETHERNET (SINGLE CONTROLLER)

Ethernet connection utilises a standard Ethernet cable with RJ45 connectors. You must use a multiport network router as the DSE892 requires an Ethernet connection to communicate with the SNMP manager.



#### 4.4.8 ETHERNET (MULTIPLE CONTROLLER)

Ethernet connection utilises a standard Ethernet cable with RJ45 connectors to connect with a maximum of five supported DSE controllers.



### 4.5 TYPICAL CONNECTION TO SNMP MANAGEMENT SYSTEM

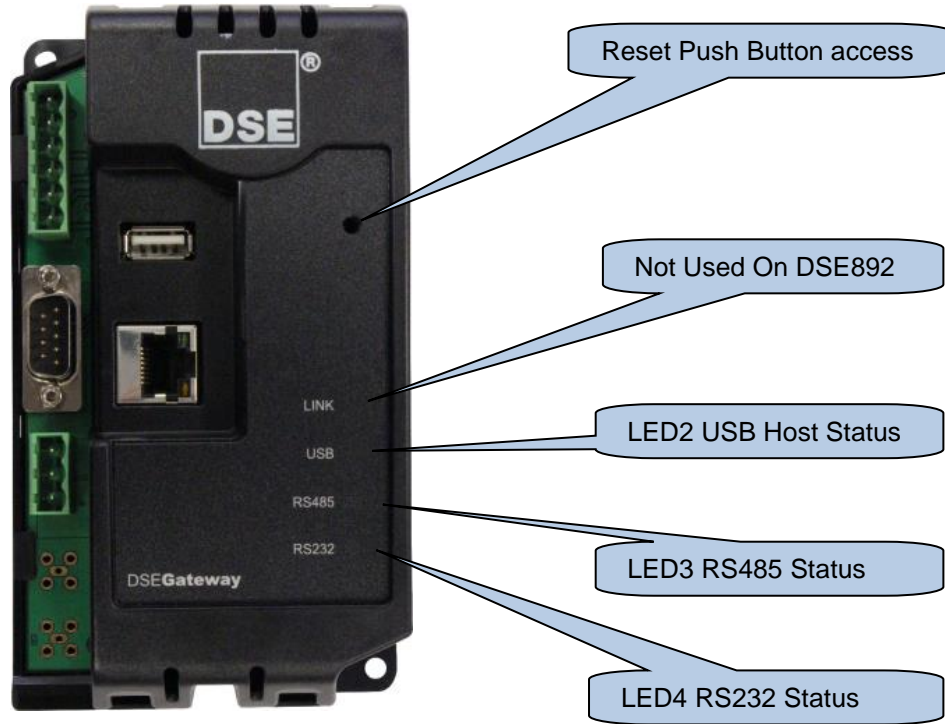
The DSE892 gateway communicates with third party SNMP systems conforming to SNMP V2c specification.

This connection is via Ethernet (or internet).

## 5 CONTROLS AND INDICATIONS

### 5.1 RESET PUSHBUTTON

The reset push button, accessible by removing the front cover or via the small hole and by using an insulated narrow point, is provided to set the device back to factory settings.



Press and hold the button to activate the reset sequence :

1. Press and HOLD the reset pushbutton.
2. All LEDs light YELLOW for a short time.
3. All LEDs extinguish for a short time.
4. LEDs illuminate one at a time – LED4, LED3, LED2, LED1.
5. All LEDs illuminate YELLOW.
6. Reset has completed and the reset push button can be released.

Once reset, the Gateway must be reconfigured

It's factory set IP address is *192.168.1.100*. Username: *Admin*, Password *Password1234*

### 5.2 LED INDICATIONS

LED	Function	Colour	Action
1	Server Status	RED	No connection to host server
		GREEN	Connected to host server
2	USB Host Status	RED	Bad Data
		GREEN	Data transfer OK
3	RS485 Status	RED	Bad Data
		GREEN	Data transfer OK
4	RS232 Status	RED	Bad Data
		GREEN	Data transfer OK

## **6 SETUP**

The DSE892 is setup using a PC with web browser and a 'straight through' or 'crossover' network cable.

### **6.1 BROWSER COMPATIBILITY**

#### **6.1.1 GOOGLE CHROME**

The management pages are optimised for Google Chrome web browser.

#### **6.1.2 INTERNET EXPLORER**

The management pages are optimised for Internet Explorer 10 and above.

#### **6.1.3 MOZILLA FIREFOX**

The management pages are optimised for Mozilla Firefox.

#### **6.1.4 SMARTPHONE BROWSERS**

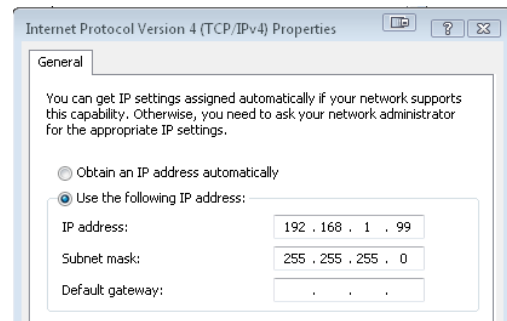
While not designed specifically to work with Smartphone webbrowsers, The management pages are work with any mobile browser fully compatible with Google Chrome, Internet Explorer10+ or Mozilla Firefox.

## 7 CONNECTING TO THE GATEWAY MANAGEMENT PAGES

You may wish to consult your company IT department before making changes to your PC network settings.

Connect the DSE892 ethernet port directly to your PC Ethernet port.  
You can use either a 'straight through' or 'crossover' network cable.

Set the PC IP address as shown.

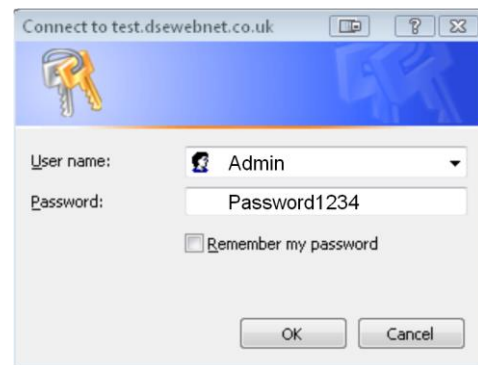


Using Google Chrome, Microsoft Internet Explorer or Mozilla Firefox, enter the IP address of the gateway.



Enter the username and password of the Gateway:

**NOTE: Username and Password are both CASE SENSITIVE.**



Factory Settings

IP Address	Username	Password
192.168.1.100	Admin	Password1234

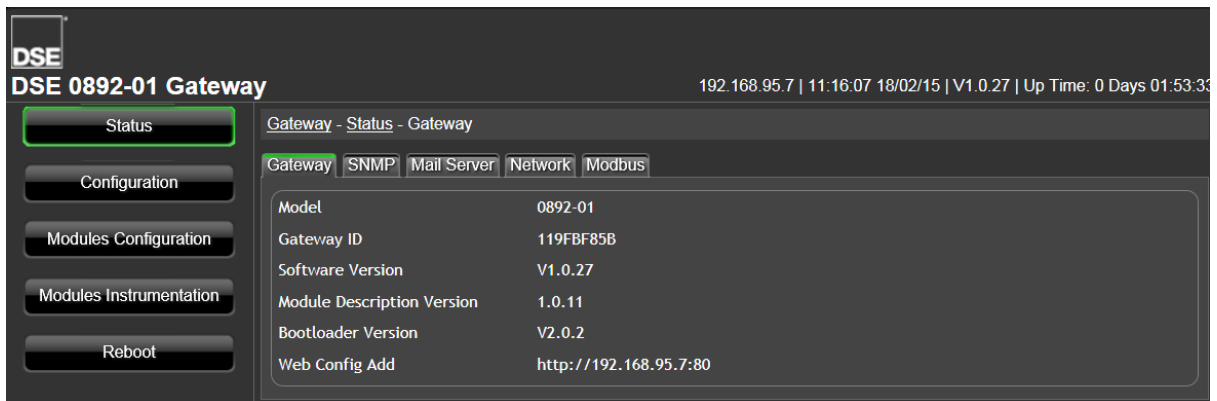
## 7.1 STATUS

The Status pages show information that can be used for diagnostics and give a level of confidence that the system is working as expected.

Along with DSE892 physical information, the displays also indicate the state of the various communication ports in use.

For details of configuration the parameters, see the section entitled Configuration elsewhere in this document.

### 7.1.1 GATEWAY



Parameter	Description
Model	Model Number of the DSEGateway
Gateway ID	Unique USB ID of the DSEGateway
Software Version Module Description Version Bootloader Version	The current firmware versions of the connected DSEGateway
Web Config Add	The address that these status and configuration pages are accessible on.

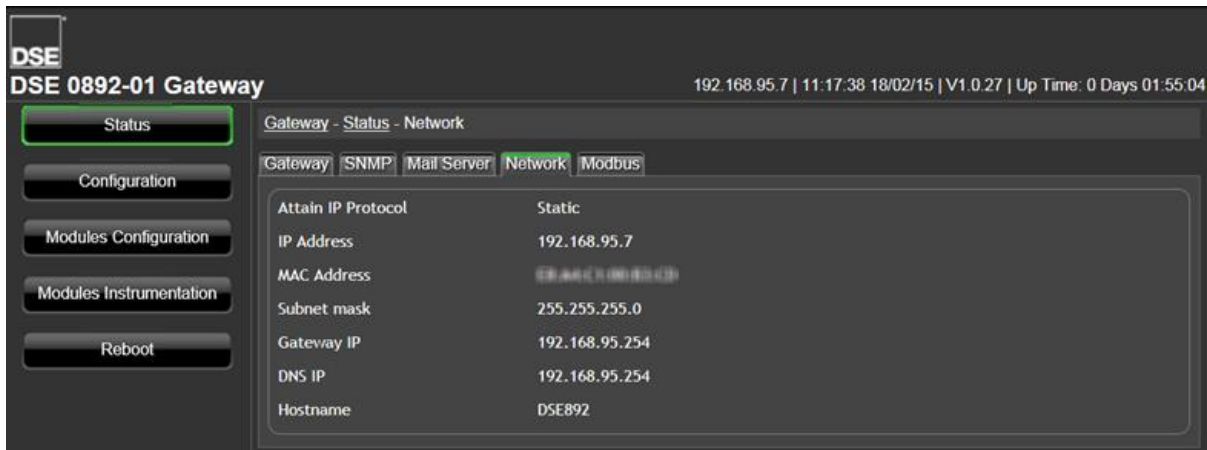
### 7.1.2 SNMP

Parameter	Description
IP	IP address of the configured SNMP Manager. SNMP Trap messages are sent to this address.
Port	Port Number that SNMP TRAP messages are sent to. SNMP GET and SNMP SET use the port one below this number.  Example. <b>Port:</b> 162. SNMP Trap uses Port 162 SNMP GET and SNMP SET uses Port 161

### 7.1.3 MAIL SERVER

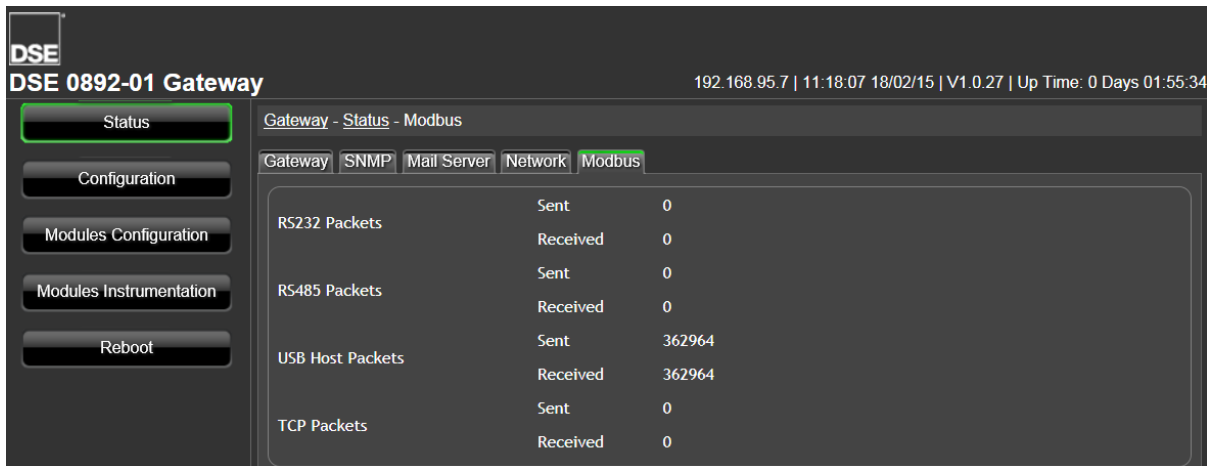
Parameter	Description
Server	IP address of the configured SMTP Server. This is the address of the email server
Port	Port number of the configured SMTP Server.

### 7.1.4 NETWORK



Parameter	Description
Attain IP Protocol	Type of IP address (Static or Dynamic)
IP Address	Shows the currently used network settings of the DSEGateway
MAC Address	
Subnet Mask	
Gateway IP	
DNS IP	
Hostname	

### 7.1.5 MODBUS



Parameter	Description
Packets Sent	Shows the number of data request packets sent to the connected Host Controllers.
Packets Received	Shows the number of data request packets received from the connected Host Controllers. <i>Received</i> should increase everytime that <i>Sent</i> increases to show that the connected Host Controller(s) is/are communicating correctly.



## 7.2 CONFIGURATION

Ensure you consult with the IT/Network manager of the site that the DSE892 is connected to before making any changes to these settings.

### 7.2.1 NETWORK

The screenshot shows the 'Gateway - Configuration - Network' page for 'DSE 0892-01 Gateway'. The interface includes a sidebar with buttons for 'Status', 'Configuration', 'Modules Configuration', 'Modules Instrumentation', and 'Reboot'. The main area displays the following configuration parameters:

Parameter	Value
DHCP Enabled	<input type="checkbox"/>
Static IP	192.168.95.7
Subnet Mask	255.255.255.0
Gateway IP	192.168.95.254
DNS IP	192.168.95.254
Hostname	DSE892
WebConfig Port	80

A 'Save' button is located at the bottom right of the configuration area.

Parameter	Description
DHCP Enabled	<input checked="" type="checkbox"/> = The Gateway requests network settings from a DHCP server. <input type="checkbox"/> = The Gateway's network settings must be entered manually.  DHCP is usually only chosen when the DHCP server is configured to <i>bind</i> a specific IP address to the MAC Address of the DSE892. This allows the SNMP manager to be easily configured with the IP address of the DSE892.
Static IP	(Factory setting 192.168.1.100)
Subnet mask	(Factory setting 255.255.255.0)
Gateway IP	IP address of the internet router that the DSE892 is connected to.
DNS IP	IP address of the Domain Name Service. Usually this is the same as the Gateway IP.
Hostname	Hostname of the device. Used to identify the Gateway on the network. Give this a meaningful name to assist the network IT manager to recognise the device on the network!
WebConfig Port	The port number that these configuration pages are served on.

### 7.2.2 SNMP

Ensure you consult with the IT/Network manager of the site that the DSE892 is connected to before making any changes to these settings.

The screenshot shows the web interface for the DSE 0892-01 Gateway. The page title is "Gateway - Configuration - SNMP". On the left, there is a navigation menu with buttons for "Status", "Configuration" (highlighted), "Modules Configuration", "Modules Instrumentation", and "Reboot". The main content area has tabs for "Network", "SNMP", "E-Mail", "Time", "Login", and "Filesystem". Under the "SNMP" tab, there are four input fields: "IP" (192.168.95.9), "Port" (162), "Get password" (masked with dots), and "Set password" (masked with dots). Each field has a help icon (question mark) to its right. A "Save" button is located at the bottom right of the configuration area. The top right of the page displays the IP address 192.168.95.7, the time 11:19:35, the date 18/02/15, the version V1.0.27, and the uptime 0 Days 01:57:01.

Parameter	Description
IP	The IPV4 network location of the SNMP manager.
Port	
Get password	The SNMP <i>Read Community String</i> .(Factory setting <i>public</i> )
Set password	The SNMP <i>Write Community String</i> . (Factory setting <i>private</i> )

### 7.2.3 E-MAIL

DSE892 is capable of sending an email to one or two addresses upon detection of an event in the managed devices.

Ensure you consult with the IT/Network manager of the site that the DSE892 is connected to before making any changes to these settings.

The screenshot shows the 'DSE 0892-01 Gateway' configuration interface. The 'E-Mail' tab is active. The configuration fields are as follows:

- Recipient A:** Name: Alan Jones, Email: alan.jones@domain.com
- Recipient B:** Name: (blank), Email: (blank)
- Sender:** Name: 892 test, Email: test@domain.com
- Server:** smtp.domain.com
- Port:** 587
- Domain:** domain.com
- Enable authentication:**
- Username:** test@domain.com
- Password:** (masked with dots)

Buttons for 'Save' and 'Test' are located at the bottom of the configuration area.

Parameter	Description
Recipient A Recipient B	Name and email address of the recipients. Where only one email is required, leave Name and Email blank for one recipient.
Sender	The Name and Email address that the email will appear to have been sent from.
Server	Network address of the SMTP server used to send emails.
Port	Which network TCP port is used to send SMTP emails. Typically port 587 is used for SMTP. Some legacy systems may still be configured to 25.
Domain	The network Domain Name where the DSE892 is part of a Domain system.
Require authentication	<input checked="" type="checkbox"/> = The SMTP server requires a username and password for access. <input type="checkbox"/> = The SMTP server does not require authentication.
Username Password	Username and Password for the SMTP server (when required).
Send Test	Click to send a test email to the configured recipients.

### 7.2.4 TIME

Parameter	Description
24h Format	<input checked="" type="checkbox"/> = Clock is displayed in 24 hr format <input type="checkbox"/> = Clock is displayed in 12 hr format
Period	<i>am</i> or <i>pm</i> (when 24h Format is not selected)
Date / Time	Set the date and time local to the site.
Get Time	Gets the time from the PC and enters this into the Date and Time boxes above
Save	Sends the values entered to the DSE892 Gateway.

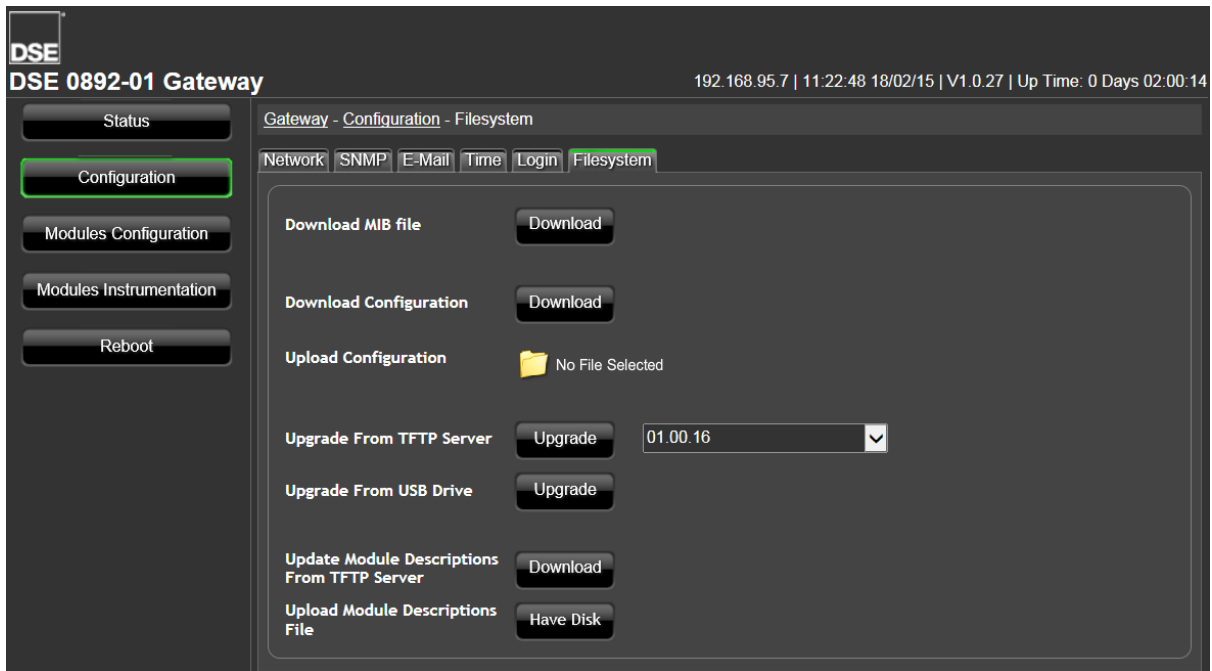
### 7.2.5 LOGIN

This page allows the Username and Password of the DSE892 Gateway to be changed to suit user requirements.

#### Factory Settings

Username	Password
Admin	Password1234

## 7.2.6 FILE SYSTEM



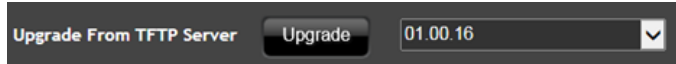
Parameter	Description
Download MIB file	Creates the DSE892 Gateway's MIB file. This file is used to configure the SNMP Manager.
Download Configuration	Creates a backup file of the Gateway's configuration.
Upload Configuration	Allows the Gateway to be reconfigured using a previously save Configuration file.
Upgrade firmware from TFTP Server	See section entitled <i>Firmware Upgrade by TFTP</i> for full description.
Upgrade firmware from USB Drive	See section entitled <i>Firmware Upgrade by USB Memory Stick</i> for full description.
Update Module Descriptions From TFTP Server	When available this allows the latest version of Module Description files to be downloaded from the DSE server. These files instruct the DSE892 about supported features on each DSE controller type.
Upload Module Descriptions File	Occasionally it may be necessary to update the Module Description Files from media supplied by DSE Technical Support Staff.

### 7.2.6.1 FIRMWARE UPGRADE BY TFTP

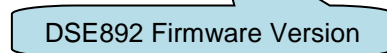
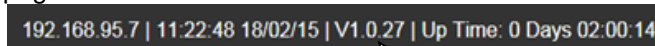
When available, firmware upgrade files are available by *Over The Air* updates from Deep Sea Electronics TFTP site.

To do this :

- Ensure your DSE892 SNMP Gateway is correctly configured to access the internet via an external router. The DHCP is not configured, this requires correct DNS entries in the *System Settings | IP* section of the DSE892 configuration.
- Select the required version number from the 'drop down' list box and press the *Upgrade* button.



- The DSE892 connects to the TFTP server and begins the update. The status LEDs on the DSE892 will alternate to show the download is in progress. This may take several minutes.
- When complete, all LEDs illuminate yellow for one second after which the DSE892 will restart and resume normal operation.
- The version number of the DSE892 firmware is located at the top right of the management pages.



### 7.2.6.2 FIRMWARE UPGRADE BY USB MEMORY STICK

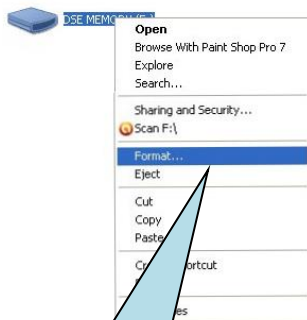
When available, firmware upgrade files are available from Deep Sea Electronics PLC website [www.deepseapl.com](http://www.deepseapl.com).

To do this you will need :

- Firmware update filed from DSE. This file must be called 0892-01.bin
- USB flash memory stick formatted to *FAT*.

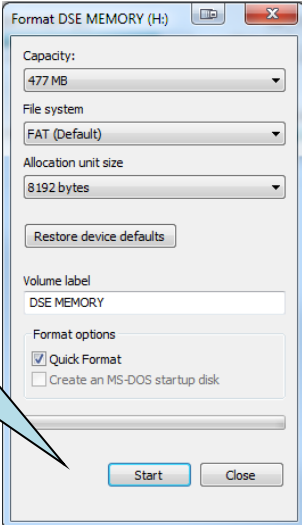
To Format a USB stick to the FAT File System :

- Insert memory stick into PC USB port.
- Browse to *Computer* in Windows Explorer. Identify the memory stick, Right Click the device and select *Format*.
- Select FAT and click *Start*



Right Click *context menu* of USB flasm memory device

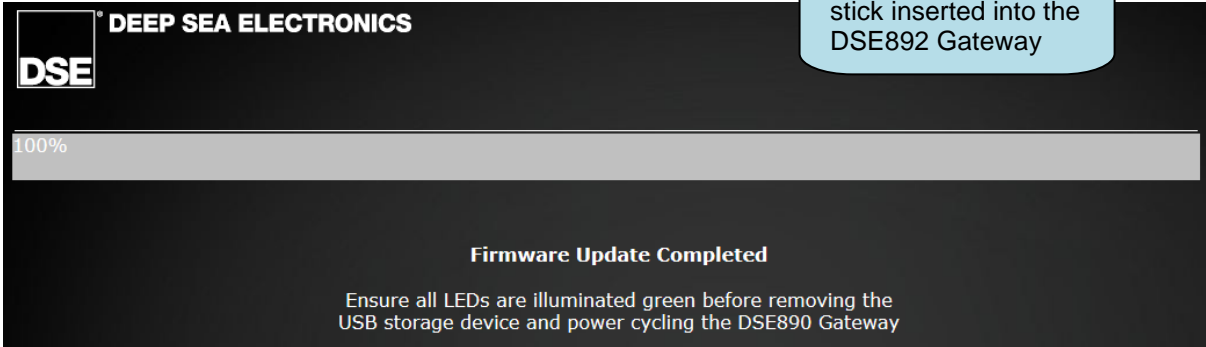
Format tool for USB flash memory. Ensure you have selected the correct disk before clicking *Start!*



- Copy the firmware upgrade file onto the USB flash memory stick and insert this into the 'USB Host' socket of the DSE892 Gateway.
- Once inserted, click the **Upgrade** button. The module is restarted and the upgrade process begins. The PC screen shows the progress of the upgrade.
- Once complete, Check that all the LEDs are illuminated on the DSE892. This shows that the updgrade is successful.
- Next, remove the USB memory device and remove the DC power from the DSE892. Wait a few seconds, then reapply DSE power.



USB flash memory stick inserted into the DSE892 Gateway



### 7.2.6.3 REBOOT NOW

Some operations require the gateway to be rebooted (restarted).  
Examples of this are :

- Changes to the DSE892 *Username* or *Security Code*
- Changes to the *IP Setup* or *SNMP Setup*

Where this is required, the message *Please Reboot to Apply Changes* appears under the navigation menu as shown to the left.  
Press *Reboot Now* to restart the device.

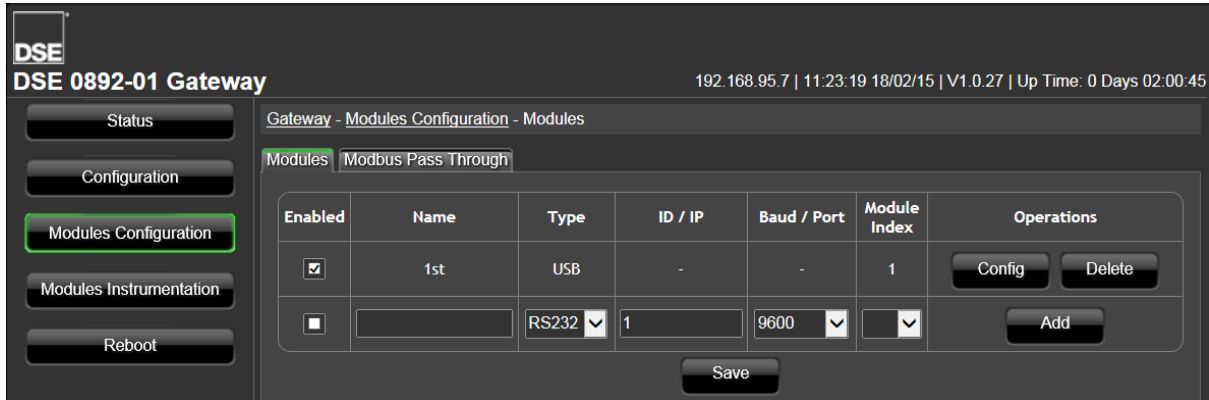
The PC screen shows a progress bar as this process is undertaken.



### 7.3 MODULES CONFIGURATION

This page is used to configure the DSE892 Gateway's connections to DSE controllers. Each connected controller has an entry in the table to configure which of the Gateway's ports are used for connection to that specific module.

Multiple ports are able to be used at the same for complete flexibility of connection.



Parameter	Description
Enabled	Allows the user to activate or deactivate a connection. Ensure any unused entries in the table are de-activate. Additionally any controllers no longer communicating with the Gateway must be de-activated for correct operation of the remaining connections.  <input checked="" type="checkbox"/> = Connection is active. <input type="checkbox"/> = Connection is disabled.
Name	Use a meaningful name for each connected controller. For example you could use the generator name. Example : Volvo TAD9 Genset2  Once entered, this name is used to create a new page to configure what the Gateway is to monitor in this application.
Type	Used to select which of the Gateway's ports are used for connection to this controller.  <b>RS232</b> <b>RS485</b> <b>Ethernet</b> <b>USB</b>
ID/IP	When Port is set to <i>Ethernet</i> – IP address of the connected controller. When Port is set to <i>RS232/RS485</i> – Modbus Slave ID (Address) of the connected controller. When Port is set to <i>USB</i> , this item is not available.
Baud/Port	When Port is set to <i>Ethernet</i> – TCP port to use for Modbus (usually 502 where a single controller is connected to the Ethernet port of the Gateway) When Port is set to <i>RS232/RS485</i> – Baud rate of the selected port. When Port is set to <i>USB</i> , this item is not available.
Module Index	Reference number of the connection.
Operations	<b>Config:</b> Click to access the configuration pages for this connection. <b>Delete:</b> Click to delete this connection. <b>Add:</b> Click to add a new connection.

### 7.3.1 MODULE PAGE

Each connection configured on the *Modbus Passthrough* page has its own configuration page as detailed below. The *Name* of the connection is used to give a meaningful name to the *Module Configuration Page*.

#### 7.3.1.1 MODULE EVENTS

**NOTE:** For details of supported Events in the host controller refer to the relevant DSE Configuration Suite PC Software Manual.

The Module Events page allows the user to select which of the event types are used to generate an SNMP TRAP and/or email notification.

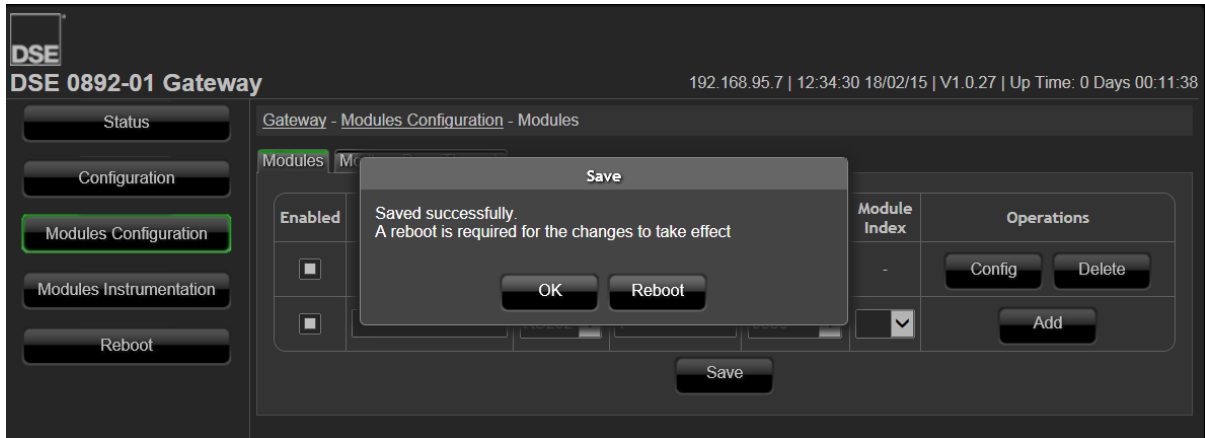
The screenshot shows the DSE Gateway web interface. The top header displays 'DSE 0892-01 Gateway' and system information: '192.168.1.100 | 10:08:24 22/11/16 | V2.0.26 | Up Time: 0 Days 00:02:12'. The breadcrumb trail is 'Gateway - Modules Configuration - Modules - Configure Module'. The 'Modules' tab is active, showing 'Modbus Pass Through'. The 'Module Events' sub-tab is selected, displaying a table with columns for 'Event', 'SNMP Trap', 'E-Mail Recipient 1', and 'E-Mail Recipient 2'. All events in the table have checkboxes checked in all three columns. At the bottom of the table are 'Save' and 'Back' buttons.

Event	SNMP Trap	E-Mail Recipient 1	E-Mail Recipient 2
Control mode change	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Restart	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Mains Fail	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Mains Return	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Shutdown Alarm	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Electrical Trip Alarm	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Warning Alarm	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Expansion Shutdown	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Expansion Trip	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Expansion Warning	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ECU Code	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Generator Start	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Generator Stop	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Fuel Level	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Fuel Monitoring	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Source Status	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Parameter	Description
Event	For details of supported Events in your connected controller you are referred to the relevant DSE Configuration Suite PC Software Manual.
SNMP Trap	<input type="checkbox"/> = This event will not generate an SNMP trap. <input checked="" type="checkbox"/> = Where supported by the connected controller's event log, the Gateway generates an SNMP TRAP message upon activation of this event.
E-Mail Recipient 1 E-Mail Recipient 2	<input type="checkbox"/> = This event will not be sent to the email address. <input checked="" type="checkbox"/> = Where supported by the connected controller's event log, the Gateway sends an email to the specified address(es) upon activation of this event.
Save	Click to save the changes.
Back	Click to close this window and go back to the Modules configuration page. Ensure you've saved any changes if required.

## Connecting to the Gateway Management Pages

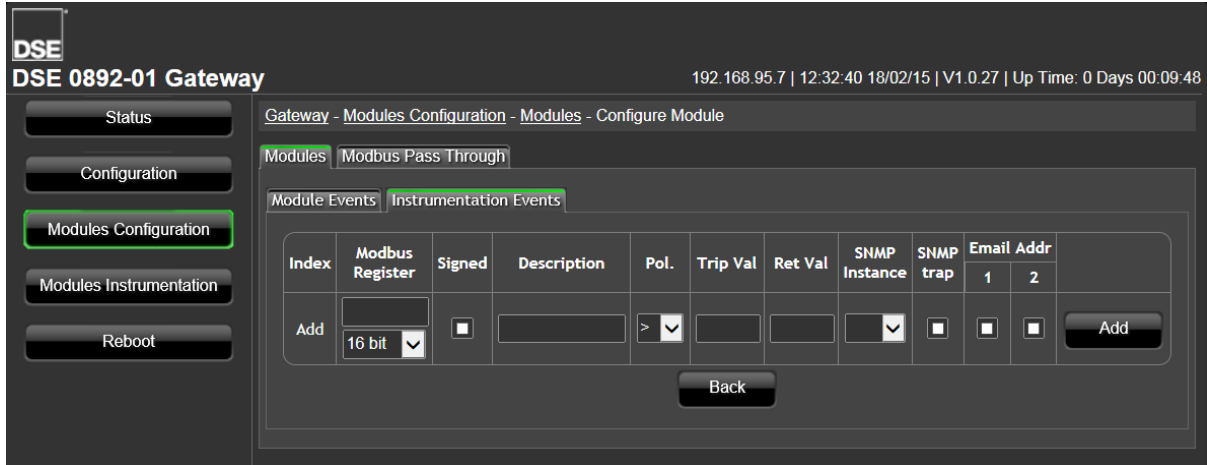
After changes are made to the Module Events settings, the DSE892 requires rebooting for the changes to take effect.



Button	Description
OK	Accept the notification and continue making changes. You must reboot manually later before the changes take effect.
Reboot	Accept the notification and reboot the DSE892 immediately. This process takes a short while after which the changes take effect.

**7.3.1.2 INSTRUMENTATION EVENTS**

This section allows the monitoring of instrumentation values within the connected controller. When the values meet the configured condition, an action is made by the Gateway. Instruments added are also available to be read using SNMP GET. For further details, see the section entitled SNMP GET elsewhere in this document.



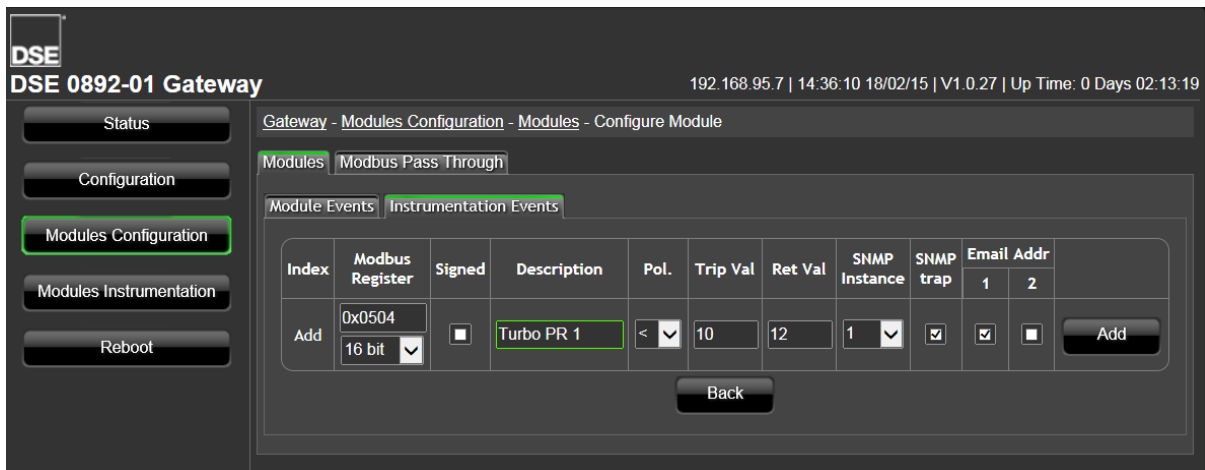
Parameter	Description
Index	Reference number of the related Instrumentation Event.
Modbus Register	The modbus address of the register (instrument) being monitored and the size of the register to read (16bit or 32bit).  For details of available registers you are referred to the DSE Gencomm Document, available upon request from support@deepseapl.com.  The specified registered is read using Modbus Function Code 3 (Read Multiple Holding Registers).
Signed	Select whether the value being read is <i>Signed</i> or <i>Unsigned</i> . This information is obtained from the Gencomm Document.
Description	Give the value a meaningful name. For example this could be the name of the instrument in the connected controller (ie Oil Pressure)
Pol. Trip Val Ret Val	When Pol. Is set to :  >: When the value rises past the Trip Val setting, the configured actions are taken. The Value must fall below the Ret Val setting before the condition is considered to be back to normal.  <: When the value falls below the Trip Val setting, the configured actions are taken. The Value must rise above the Ret Val setting before the condition is considered to be back to normal.
SNMP Instance	Index of the dseCustomInstrument. For example <i>SNMP Instance: 4</i> assigns this instrument value to dseCustomInstrument4 and allows this value to be read using SNMP GET.
SNMP Trap	<input type="checkbox"/> = This event is not monitored by the Gateway device. <input checked="" type="checkbox"/> = Where supported by the connected controller's event log, the Gateway generates an SNMP TRAP message upon activation of this event.
E-Mail Add 1 E-Mail Add 2	<input type="checkbox"/> = This event is not monitored by the Gateway device. <input checked="" type="checkbox"/> = Where supported by the connected controller's event log, the Gateway sends an email to the specified address(es) upon activation of this event.
Delete	Deletes this entry from the table of monitored addresses.
Add	Adds a new entry to the table of monitored addresses.

Example

From the DSEGencomm protocol document, the following shows the location of the “Turbo Pressure 1” instrument which is read from the CAN ECU of engines that support this feature. This is taken from *Page 5 – Extended Instrumentation*.

Register offset	Name	Minimum value	Maximum value	Scaling factor	Units	Bits/ Sign
0	Coolant pressure 1	0	10000	1	KPa	16
1	Coolant pressure 2	0	10000	1	KPa	16
2	Fuel pressure 1	0	10000	1	KPa	16
3	Fuel pressure 2	0	10000	1	KPa	16
4	Turbo pressure 1	0	10000	1	KPa	16
5	Turbo pressure 2	0	10000	1	KPa	16
6	Inlet manifold temperature 1	-50	10000	1	Degrees C	16 S
7	Inlet manifold temperature 2	-50	10000	1	Degrees C	16 S

In modbus, Page 5, Register offset 4 is translated to the hexadecimal value of 0504. This is entered into the *Modbus Register* field as *0x0504* (the “0x” representing that it is a Hexadecimal value).



Modbus address 0x0504, a value consisting of a single 16 bit unsigned register is monitored. This has been given a description of “Turbo PR 1”. When the value falls below the *Trip Val* setting, of 10 an SNMP trap is generated, and an email sent to Recipient1. The Value must rise above the *Ret Val* setting of 12 before the condition is considered to be back to normal. The value *SNMP Instance* of 1 allows an SNMP manager to use GET functionality to read *dseCustomInstrument 1*. This has added *Turbo Pressure 1* to the list of readable parameters. Up to twenty such custom instruments are able to be added. For further details, see section entitled SNMP GET elsewhere in this document.

## 7.4 MODBUS PASSTHROUGH

**NOTE:** This section is only used when setting up the DSEGateway® to operate as a communications protocol convertor. This section must be left with no entries if using the DSEGateway® purely as an SNMP or email notification system.

This page is used to configure the DSEGateway® as a Modbus Gateway to allow conversion across the various ports.

It can be used for example to set *USB* as a modbus master to connect to any DSE controller fitted with a USB port and supporting the DSE Configuration Suite SCADA function.

Index	Slave			Master (To module)			Add
	Port	ID / IP	Baud / Port	Port	ID / IP	Baud / Port	
Add	RS232	1	9600	RS232	1	9600	

SLAVE (Settings of the DSEGateway®port this is connected to the monitoring device)

Parameter	Description
Port	The incoming port of the DSEGateway® <i>RS232</i> <i>RS485</i> <i>Ethernet</i> <i>USB</i>
ID	Modbus slave address of the selected DSEGateway®port
Baud / Port	When Port is set to <i>Ethernet</i> – TCP port to use for Modbus (usually 502) When Port is set to <i>RS232/RS485</i> – Baud rate of the selected port.

MASTER (To module) (Settings of the DSEGateway® port that is used to connect to the DSE controller)

Parameter	Description
Port	The outgoing port of the DSEGateway® <i>RS232</i> <i>RS485</i> <i>Ethernet</i> <i>USB</i>
ID / IP	When Port is set to <i>RS232</i> or <i>RS485</i> - Modbus slave address of the connected DSE controller When Port is set to <i>Ethernet</i> – IP Address of the connected DSE controller
TCP Port/Serial Baud	When Port is set to <i>Ethernet</i> – TCP port to use for Modbus (usually 502) When Port is set to <i>RS232/RS485</i> – Baud rate of the selected controller.

7.4.1 EXAMPLE OF MODBUS GATEWAY SETTINGS.

Index	Slave			Master (To module)			
	Port	ID / IP	Baud / Port	Port	ID / IP	Baud / Port	
1	TCP	-	502	USB	1	-	Delete
2	TCP	-	503	RS485	2	115200	Delete
3	TCP	-	5040	RS232	10	115200	Delete
Add	RS232	1	9600	RS232	1	9600	Add

Index 1 is receiving modbus requests from the external monitoring system on Ethernet, TCP Port 502. This is being transferred to the DSE controller via the USB Host port on the DSEGateway®

Index 2 is receiving modbus requests from the external monitoring system on Ethernet, TCP Port 503. This is being transferred to the DSE controller via the RS485 port on the DSEGateway® using slave ID 2, baud rate 115200.

Index 3 is receiving modbus requests from the external monitoring system on Ethernet, TCP Port 504. This is being transferred to the DSE controller via the RS232 port on the DSEGateway® using slave ID 10, baud rate 115200.

**NOTE:** RS485 is a single master system. This means that you must only create one entry for RS485 in the Slave column. Each entry in the Master column must communicate with controllers with unique Slave Id's.

**NOTE:** RS232 is a single master, single slave system. This means that you must only create one entry for the RS232 in the Master and Slave columns.

**NOTE:** Where multiple Ethernet connections are configured, each must utilise a unique port number.

## 7.5 MODULE INSTRUMENTATION

Give status of the configured connections.

Each connection also has a detailed instrumentation page (shown overleaf). The name of each page is taken from the name of the connection in the Modbus Passthrough page.

**DSE 0892-01 Gateway** 192.168.95.7 | 11-24-10 18/02/15 | V1.0.27 | Up Time: 0 Days 02:01:37

Gateway - Modules Instrumentation - Modules

Modules

Index	Name	Type	Module	USB ID	Status	View
1	1st	USB	7320	131B242EFC	<span style="color: green;">●</span>	View

### 7.5.1 DETAILED INSTRUMENTATION

**NOTE:** Only functions supported by the connected controller is shown. For a list of instrumentation and control mode buttons, you are referred to the relevant controller's Operator Manual available from [www.deepseapl.com](http://www.deepseapl.com)

**DSE 0892-01 Gateway** 192.168.1.100 | 16-15-13 26/02/15 | V1.0.27 | Up Time: 0 Days 00:46:23

Gateway - Modules Instrumentation - Modules - 7320

Modules

Utility Breaker — Gen. Breaker —  
 Utility Available — Gen. Available —

Generator

	L1-L2	L2-L3	L3-L1	L1	L2	L3	IE	Total
V	377.8	379.6	397.9	229	208.5	229.6		
Frequency	52.4			208	206	208	0	
kW				15.175	13.178	14.745		43.098
kVA				47.646	43.008	47.8		138.454
kVAr				45.772	41.349	45.895		133.016
pf				0.31	0.3	0.3		0.31

Utility

	L1-L2	L2-L3	L3-L1	L1	L2	L3	Total
V	420.4	421.2	423.3	244.6	242.8	242.7	
Frequency	52.4						

Engine

- Engine Speed: 1572 RPM
- Oil Pressure: 551 KPa
- Coolant Temperature: 64 °C
- Fuel Level: 66 %
- Charge Alternator: 10.3 V
- Engine Battery: 11.8 V
- Engine Starts: 65
- Engine Hours: 4h 21m

Supervisor State: Run Not Loaded  
 Engine/Generator: Running  
 Main State: Mains OK  
 Load Switching State: Closed to Mains

Accumulated  
 kWh: 47.4  
 kVAh: 108  
 kVAh: 88.7



## 8 SNMP GET

**NOTE:** It is strongly recommended that the user creates a new *Read Community String* to ensure security.

**NOTE:** Reading an instrument that is not supported by the host controller returns ' NULL'.

DSE892 supports SNMP GET functionality (SNMP Version V2c). The Read Community String must be correctly entered into the SNMP Manager.

Parameter	Factory Setting
Read Community String	<i>public</i>
Port number	161 (one below the SNMP Trap Port number configured in the DSE892)

This allows a set of information to be retrieved from the host DSE controller. The Instrumentation available is dependant upon the specification of the host controller along with configuration of the custom instruments within the DSE892.

SNMP WALK feature is supported, allowing the SNMP manager to retrieve a list of values able to be retrieved.

The following information is provided as follows under *enterprises.dseVendor.dseProduct* in the SNMP manager.

Information List	Description
dseEventSection	Description of the event TRAP
dseInstrumentsSection.InstrumentTable	A predefined list of commonly required instruments
dseInstrumentsSection.CustomInstrumentTable	A list containing the user configured <i>Custom Instruments</i> in the DSE892 configuration
controlTable	The current selected host controller operation mode
keypressTable	Provided to allow control mode changes on the host controller. For details, see section entitled "SNMP SET" elsewhere in this document

SNMP GET and SNMP GETNEXT may then be used to retrieve the required information.

### 8.1 CONTROLTABLE

The following instrumentation is available via the SNMP GET functionality.

Not all module types support all operating modes. Refer to the host controller Operator Manual and for details of supported operating modes.

Instrument	Description	Units
Mode	Index of Operating Mode (0-7)	0: Stop
Mode Text	Text description of Mode	1: Auto 2: Manual 3: Test on Load 4: Auto with Manual Restore (Prohibit Return) 5: User Configuration 6: Test off Load 7: Off Mode

## 8.2 INSTRUMENTTABLE

The following instrumentation is available via the SNMP GET functionality. Not all module types support all instrumentation. Refer to the host controller Operator Manual and the host controller configuration for details of supported instruments.

Instrument	Description	Units
oilPressure	Engine Oil Pressure	kPa
coolantTemp	Coolant Temperature	°C
fuelLevel	Fuel Level	%
batteryVolts	Battery Volts	0.1 V DC
engineSpeed	Engine Speed	RPM
genL1Volts	Generator L1 Volts	V AC
genL2Volts	Generator L2 Volts	V AC
genL3Volts	Generator L3 Volts	V AC
genL1Current	Generator L1 Current	A
genL2Current	Generator L2 Current	A
genL3Current	Generator L3 Current	A
genL1Watts	Generator L1 Watts	W
genL2Watts	Generator L2 Watts	W
genL3Watts	Generator L3 Watts	W
oilTemp	Oil Temperature	°C
altVolts	Charge Alternator Volts	0.1 V DC
genFreq	Generator Frequency	0.1 Hz
genL1L2Volts	Generator L1-L2 Volts	V AC
genL2L3Volts	Generator L2-L3 Volts	V AC
genL3L1Volts	Generator L3-L1 Volts	V AC
genECurrent	Generator Earth Current	A
mainsFreq	Mains Frequency	0.1 Hz
mainsL1Volts	Mains L1 Volts	V AC
mainsL2Volts	Mains L2 Volts	V AC
mainsL3Volts	Mains L3 Volts	V AC
mainsL1L2Volts	Mains L1-L2 Volts	V AC
mainsL2L3Volts	Mains L2-L3 Volts	V AC
mainsL3L1Volts	Mains L3-L1 Volts	V AC
mainsL1Current	Mains L1 Current	A
mainsL2Current	Mains L2 Current	A
mainsL3Current	Mains L3 Current	A
mainsECurrent	Mains Earth Current	A
mainsL1Watts	Mains L1 Watts	W
mainsL2Watts	Mains L2 Watts	W
mainsL3Watts	Mains L3 Watts	W
busFreq	Bus Frequency	0.1 Hz
busL1Volts	Bus L1 Volts	V AC
busL2Volts	Bus L2 Volts	V AC
busL3Volts	Bus L3 Volts	V AC
busL1L2Volts	Bus L1-L2 Volts	V AC
busL2L3Volts	Bus L2-L3 Volts	V AC
busL3L1Volts	Bus L3-L1 Volts	V AC
busL1Current	Bus L1 Current	A
busL2Current	Bus L2 Current	A
busL3Current	Bus L3 Current	A
busECurrent	Bus Earth Current	A
busL1Watts	Bus L1 Watts	W
busL2Watts	Bus L2 Watts	W
busL3Watts	Bus L3 Watts	W

SNMP GET

Instrument	Description	Units
canLink	CAN Link Status	0: Link OK 1: Link Lost 2: Link Unknown
genWattsTotal	Generator Total Watts	W
genL1VA	Generator L1 VA	VA
genL2VA	Generator L2 VA	VA
genL3VA	Generator L3 VA	VA
genTotalVA	Generator Total VA	VA
genL1VAr	Generator L1 var	var
genL2VAr	Generator L2 var	var
genL3VAr	Generator L3 var	var
genTotalVAr	Generator Total var	var
genPowerFactorL1	Generator L1 Power Factor	-1 to +1
genPowerFactorL2	Generator L2 Power Factor	-1 to +1
genPowerFactorL3	Generator L3 Power Factor	-1 to +1
genAvgPowerFactor	Generator Average Power Factor	-1 to +1
mainsTotalWatts	Mains Total Watts	W
mainsL1VA	Mains L1 VA	VA
mainsL2VA	Mains L2 VA	VA
mainsL3VA	Mains L3 VA	VA
mainsTotalVA	Mains Total VA	VA
mainsL1VAr	Mains L1 var	var
mainsL2VAr	Mains L2 var	var
mainsL3VAr	Mains L3 var	var
mainsTotalVAr	Mains Total var	var
mainsPowerFactorL1	Mains L1 Power Factor	-1 to +1
mainsPowerFactorL2	Mains L2 Power Factor	-1 to +1
mainsPowerFactorL3	Mains enerator L3 Power Factor	-1 to +1
mainsAvgPowerFactor	Mains Average Power Factor	-1 to +1
busTotalWatts	Bus Total Watts	W
busL1VA	Bus L1 VA	VA
busL2VA	Bus L2 VA	VA
busL3VA	Bus L3 VA	VA
busTotalVA	Bus Total VA	VA
busL1VAr	Bus L1 var	var
busL2VAr	Bus L2 var	var
busL3VAr	Bus L3 var	var
busTotalVAr	Bus Total var	var
busPowerFactorL1	Bus L1 Power Factor	-1 to +1
busPowerFactorL2	Bus L2 Power Factor	-1 to +1
busPowerFactorL3	Bus enerator L3 Power Factor	-1 to +1
busAvgPowerFactor	Bus Average Power Factor	-1 to +1
engHours	Engine Running Hours	seconds
genAccKW	Generator kW h	0.1 kW h
genAccKVA	Generator kV A h	0.1 kV A h
genAccKVAR	Generator kvar h	0.1 kvar h
startAttempts	Number of Start Attempts	Start Attempts
mainsAccKW	Mains kW h	0.1 kW h
mainsAccKVA	Mains kV A h	0.1 kV A h
mainsAccKVAR	Mains kvar h	0.1 kvar h
busAccKW	Bus kW h	0.1 kW h
busAccKVA	Bus kV A h	0.1 kV A h

SNMP GET

Instrument	Description	Units
busAcckVAr	Bus kVar h	0.1 kVar h
dcPlantBattCharge	DC Plant Battery Charge State	0.1%
dcPlantBattDischarge	DC Plant Battery Discharge State	0.1%
dcVoltage	DC Voltage	0.1 V
dcLoadCurrent	DC Load Current	0.1 A
dcPlantBattCurrent	DC Plant Battery Current	0.1 A
dcTotalCurrent	DC Total Current	0.1 A
dcPlantBattCycles	DC Plant Battery Cycles	Cycles
dcChargeMode	DC Charge Mode	
dcPlantBattTemp	DC Plant Battery Temperature	°C
dcBattCycleState	DC Battery Cycle State	
dcChargerCurrent	DC Charger Current	0.1 A
dcPlantBattRunTime	Plant Battery Run Time	Hours
dcChargerWatts	DC Charger Watts	W
dcLoadWatts	DC Load Watts	W
dcBatteryWatts	DC Battery Watts	W
dcTotalWatts	DC Total Watts	W
loadKwh	Load KW hours	0.1 kW h
battChargingKwh	Battery Charging KW hours	0.1 kW h
battDischargingKwh	Battery Discharging KW hours	0.1 kW h
s2Kwh	S2 Positive kW Hours	0.1 kW h
s2Kva	S2 kVA Hours	0.1 kVA h
s2Kvar	S2 kVAr Hours	0.1 kVAr h
s1Kwh	S1 Positive kW Hours	0.1 kW h
s1Kva	S1 kVA Hours	0.1 kVA h
s1Kvar	S1 kVAr Hours	0.1 kVAr h
s1Frequency	S1 Frequency	0.1 Hz
s1L1Volts	S1 L1-N Voltage	0.1 V
s1L2Volts	S1 L2-N Voltage	0.1 V
s1L3Volts	S1 L3-N Voltage	0.1 V
s1L1L2Volts	S1 L1-L2 Voltage	0.1 V
s1L2L3Volts	S1 L2-L3 Voltage	0.1 V
s1L3L1Volts	S1 L3-L1 Voltage	0.1 V
s1L1Current	S1 L1 Current	0.1 A
s1L2Current	S1 L2 Current	0.1 A
s1L3Current	S1 L3 Current	0.1 A
s1EarthCurrent	S1 Earth Current	0.1 A
s1L1Watts	S1 L1 Watts	0.001 kW
s1L2Watts	S1 L2 Watts	0.001 kW
s1L3Watts	S1 L3 Watts	0.001 kW
s1CurrentLagLead	S1 Current Lag/Lead	pf
s2Frequency	S2 Frequency	Hz
s2L1Volts	S2 L1-N Voltage	0.1 V
s2L2Volts	S2 L2-N Voltage	0.1 V
s2L3Volts	S2 L3-N Voltage	0.1 V
s2L1L2Volts	S2 L1-L2 Voltage	0.1 V
s2L2L3Volts	S2 L2-L3 Voltage	0.1 V
s2L3L1Volts	S2 L3-L1 Voltage	0.1 V
s2L1Current	S2 L1 Current	0.1 A
s2L2Current	S2 L2 Current	0.1 A
s2L3Current	S2 L3 Current	0.1 A
s2EarthCurrent	S2 Earth Current	0.1 A

SNMP GET

Instrument	Description	Units
s2L1Watts	S2 L1 Watts	0.001 kW
s2L2Watts	S2 L2 Watts	0.001 kW
s2L3Watts	S2 L3 Watts	0.001 kW
s2CurrentLagLead	S2 Current Lag/Lead	0.1 pf
s2TotalWatts	S2 Total Watts	0.001 kW
s2L1Va	S2 L1 VA	0.001 kVA
s2L2Va	S2 L2 VA	0.001 kVA
s2L3Va	S2 L3 VA	0.001 kVA
s2TotalVa	S2 Total VA	0.001 kVA
s2L1Var	S2 L1 VAr	0.001 kVAr
s2L2Var	S2 L2 VAr	0.001 kVAr
s2L3Var	S2 L3 VAr	0.001 kVAr
s2TotalVar	S2 Total VAr	0.001 kVAr
s2L1PowerFactor	S2 Power Factor L1	0.01 pf
s2L2PowerFactor	S2 Power Factor L2	0.01 pf
s2L3PowerFactor	S2 Power Factor L3	0.01 pf
s2AveragePowerFactor	S2 Average Power Factor	0.01 pf
s2PercentFullPower	S2 Percentage of Full Power	0.1 %
s2PercentFullVar	S2 Percentage of Full VAr	0.1 %
s1TotalWatts	S1 Total Watts	0.001 kW
s1L1Va	S1 L1 VA	0.001 kVA
s1L2Va	S1 L2 VA	0.001 kVA
s1L3Va	S1 L3 VA	0.001 kVA
s1TotalVa	S1 Total VA	0.001 kVA
s1L1Var	S1 L1 VAr	0.001 kVAr
s1L2Var	S1 L2 VAr	0.001 kVAr
s1L3Var	S1 L3 VAr	0.001 kVAr
s1TotalVar	S1 Total kVAr	0.001 kVAr
s1L1PowerFactor	S1 Power Factor L1	0.01 pf
s1L2PowerFactor	S1 Power Factor L2	0.01 pf
s1L3PowerFactor	S1 Power Factor L3	0.01 pf
s1AveragePowerFactor	S1 Average Power Factor	0.01 pf
s1PercentFullPower	S1 Percentage of Full Power	0.1 %
s1PercentFullVar	S1 Percentage of Full VAr	0.1 %
s2L1LeadLag	S2 L1 Lead/Lag	pf
s2L2LeadLag	S2 L2 Lead/Lag	pf
s2L3LeadLag	S2 L3 Lead/Lag	pf
s2TotalLeadLag	S2 Total Lead/Lag	pf
s2L1PercentFullPower	S2 L1 Percentage of Full Power	0.1 %
s2L2PercentFullPower	S2 L2 Percentage of Full Power	0.1 %
s2L3PercentFullPower	S2 L3 Percentage of Full Power	0.1 %
s1L1LeadLag	S1 L1 Lead/Lag	pf
s1L2LeadLag	S1 L2 Lead/Lag	pf
s1L3LeadLag	S1 L3 Lead/Lag	pf
s1TotalLeadLag	S1 Total Lead/Lag	pf

## 9 SNMP SET

**NOTE:** It is strongly recommended that the user creates a new *Write Community String* to ensure security.

DSE892 supports SNMP SET functionality (SNMP Version V2c). The Write Community String must be correctly entered into the SNMP Manager.

Parameter	Factory Setting
Write Community String	<i>private</i>
Port number	161 (one below the SNMP Trap Port number configured in the DSE892).

This allows the SNMP manager to send control commands to the host DSE controller. A controller's support of a command is dependant upon the controller type.

### 9.1 KEYPRESSTABLE

The command (chosen from the list below) is written to *enterprises.dseVendor.dseProduct.dseInstrumentSection.keypressTable.dseKeypressEntry.keypress* in the SNMP manager.

SNMP SET Value	Description
ACT_ON	Simulates pressing the controller <i>Start</i> button
ACT_MAN	Simulates pressing the controller <i>Manual</i> button
ACT_TEST	Simulates pressing the controller <i>Test</i> button
ACT_AUTO	Simulates pressing the controller <i>Auto</i> button
ACT_OFF	Simulates pressing the controller <i>Stop/Reset</i> button
ACT_GEN	Simulates pressing the controller <i>Transfer to Generator</i> button
ACT_MAINS	Simulates pressing the controller <i>Transfer to Mains</i> button
ACT_BUZZ	Simulates pressing the controller <i>Mute</i> button
ACT_S1	Simulates pressing the controller <i>Transfer to S1</i> button
ACT_S2	Simulates pressing the controller <i>Transfer to S2</i> button
NO_ACT	No action. Sometimes useful to check that the module is responding, without it actually performing an operation

## 10 FAULT DIAGNOSIS

Nature of Problem	Suggestion
Factory settings	IP Address : 192.168.1.100 Web Management Pages Port : 80 Username : Admin (case sensitive) Password : Password1234 (case sensitive)
I've forgotten my password and/or IP address	Press and hold the reset pushbutton. All LEDs illuminate yellow, then cycle and finally illuminate yellow again. Now release the button. The Gateway is now set back to factory settings.
Management pages cannot be accessed via remote connection	The factory set LAN IP address is 192.168.100. Management pages are accessible via web browser on port 80. Check router and firewall settings are configured correctly to match this information. Remember that accessing the DSE892 remotely from the WAN (Ethernet) will require you to enter the IP address of the broadband router into the PC browser. For easier trouble shooting, connect the DSE892 directly to a PC Ethernet port.
Management pages cannot be accessed via direct connection to PC	Check network connections. Check network settings. Ensure PC is on the same subnet as the DSE892. Default IP address of the Gateway is 192.168.1.100 – Set your PC to 192.168.1.99 then enter http://192.168.1.100 into your browser.
Communication port LEDs are flashing GREEN	This is normal. The ports flash green when data is successfully received from the connected controller.
Port LEDs illuminate RED for a few seconds at power up of the DSE892.	During the startup sequence, the status LED illuminate RED. This is normal and if port setup and connections are correct, change to GREEN once communication is underway.
Multiple LEDs remain RED	This means that at least one of the configured communications ports is not receiving data from the connected controller. Check all configured connections as for LED1, LED2 and LED3 detailed below.
LED1 – RS232 LED remains RED	This means RS232 communications is not successful. Check baud rate and slave ID settings of the DSE892 and connected controller. Check RS232 wiring is <i>Null Modem (crossover)</i> type. Max length of RS232 cable is 15m.
LED2 – RS485 LED remains RED	This means RS485 communications is not successful. Check baud rate and slave ID settings of the DSE892 and all connected controllers. Check RS485 cable is the correct type (recommended Belden 9841) with termination resistors correctly fitted at each end of the cable. Max length of RS485 cable is 1.2km where correct cable and termination resistors are fitted.


Nature of Problem	Suggestion
LED3 – USB LED remains RED	<ul style="list-style-type: none"> <li>• This means USB communications is not successful. Check settings of the DSE892.</li> <li>• Check USB cable is USB A to USB B type cable.</li> <li>• Maximum length of USB cable is 6 m unless third party powered USB extender is used.</li> </ul>
LED4 - LINK LED remains OFF	<ul style="list-style-type: none"> <li>• LINK LED only illuminates during <i>Factory Reset</i> and firmware update procedure. At all other times, the LED remains OFF.</li> </ul>
None of the SNMP operations are working (TRAP, GET, SET)	<ul style="list-style-type: none"> <li>• Ensure the SNMP manager is configured to SNMP V2c.</li> <li>• Check that the DSE892 network settings are correct (verify with the IT manager of the network it is connected to).</li> <li>• Check that any firewall between the DSE892 and the SNMP Manager is configured to allow through the traffic on the selected SNMP port and the port number below this if using GET and/or SET.</li> </ul>
SNMP Traps are not being received by the SNMP Manager	<ul style="list-style-type: none"> <li>• Check that any firewall between the DSE892 and the SNMP Manager is configured to allow through the traffic on the selected SNMP port.</li> <li>• Check that the DSE892 is set to send TRAP messages to the correct IP address of the SNMP Manager.</li> <li>• Check that the DSE892 network settings are correct (verify with the IT manager of the network it is connected to).</li> </ul>
SNMP GET is not working	<ul style="list-style-type: none"> <li>• Check the SNMP manager is configured with the correct <i>Read Community String</i>. This is the DSE892 GET Password.</li> <li>• Check the Port number. SNMP GET uses one port below the SNMP Trap Port.</li> <li>• For example if the DSE892 is configured to use port 162 for TRAP, GET uses port 161.</li> </ul>
SNMP SET is not working	<ul style="list-style-type: none"> <li>• Check the SNMP manager is configured with the correct <i>Write Community String</i>. This is the DSE892 SET Password.</li> <li>• Check the Port number. SNMP SET uses one port below the SNMP Trap Port.</li> <li>• For example if the DSE892 is configured to use port 162 for TRAP, SET uses port 161.</li> </ul>



## 11 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.

Module Terminal Designation	Description	Part No.
1-6	 6 way 5.08mm	007-446
A B SCR	3 way 5.08mm	007-174

If you require antennae or USB cables, please contact our Sales department using the part numbers below.

Connection	Description	Part No.
USB	USB A to USB B (DSE892 to host controller)	016-125

### 11.1 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).

### 11.2 DISPOSAL

#### 11.2.1 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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