DEEP SEA ELECTRONICS

DSEG0123 MSC Load Share Interface
Operator Manual

Document Number: 057-348

Author: Ian Roberts

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

Sales Tel: +44 (0) 1723 890099

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

DSEG0123 Operator Manual

Amendments Since Last Publication

Amd. No.	Comments
1	Initial Release

TABLE OF CONTENTS

1 INTRODUCTION

The advent of electronic load share controllers has in some cases meant that existing control systems require expensive updates if additional generating sets are added into the system. This is because many of the ‘newer’ controllers utilise proprietary communication links rather than the traditional analogue load share lines (often called Parallel Lines) used in existing systems.

The DSE 8610 MKII and older load share modules utilise MultiSet Communications (MSC) link to enable load sharing between other Deep Sea Load share modules equipped generators, as well as providing other advanced functionality not available with load share lines.

The G0123 MSC Load Share Lines Interface is designed to allow the Deep Sea Load Share Modules load sharing controller to interface with analogue load share lines on existing systems without the need to replace the existing controls. As the MSC datalink is not used in applications of this type, enhanced features provided by this link are not available. E.g. Dead Bus Arbitration, load demand scheme etc.

The G0123 monitors the load share lines and converts this into digital information. This data is then used by the onboard microprocessor to allow the G0123 to drive load share lines and to communicate on the MSC link with the host DSE Load Share controller.

When communication to the host controller is established successfully the CAN1 LED will light, if communication can’t be established it will extinguish.

2 CONNECTION DESCRIPTION

	Pin No	Description	Cable Size	Notes
	1	DC Plant Supply Input (Negative)	2.5 mm² AWG 13	Connect to ground where applicable.
	2	DC Plant Supply Input (Positive)	2.5 mm² AWG 13	Supplies the module and DC Outputs E, F, G, H, I & J
CAN 1	3	CAN Port H	0.5 mm² AWG 20	Use only 120 Ω CAN or RS485 approved cable
	4	CAN Port L	0.5 mm² AWG 20	Use only 120 Ω CAN or RS485 approved cable
	5	CAN Port Screen	Shield	Use only 120 Ω CAN or RS485 approved cable
kW Share	6	Port Screen	Shield	Use only 120 Ω CAN or RS485 approved cable
	7	Negative	0.5 mm² AWG 20	Use only 120 Ω CAN or RS485 approved cable
	8	Positive	0.5 mm² AWG 20	Use only 120 Ω CAN or RS485 approved cable
kvar Share	9	Port Screen	Shield	Use only 120 Ω CAN or RS485 approved cable
	10	Negative	0.5 mm² AWG 20	Use only 120 Ω CAN or RS485 approved cable
	11	Positive	0.5 mm² AWG 20	Use only 120 Ω CAN or RS485 approved cable
CAN 2	12	Not Connected		
	13	Not Connected		
	14	Not Connected		
	15	Not Connected		
	16	Not Connected		
	17	Not Connected		
	18	Not Connected		

NOTE: CAN 1 does not have an internal termination of 120 Ω therefore a resistor (supplied) MUST be fitted to these terminals.

2.1 USB SLAVE (PC CONFIG SUITE CONFIGURATION) CONNECTOR

NOTE: The USB connection cable between the PC and the module must not be extended beyond 5 m (16 feet). For distances over 5 m, it is possible to use a third-party USB extender. Typically, they extend USB up to 50 m. The supply and support of this type of equipment is outside the scope of Deep Sea Electronics.

CAUTION!: Care must be taken not to overload the PCs USB system by connecting more than the recommended number of USB devices to the PC. For further information, consult your PC supplier.

	Description	Cable Size	Notes
	Socket for connection to PC with DSE Configuration Suite Software	0.5 mm² AWG 20	This is a standard USB type A to type B connector. 

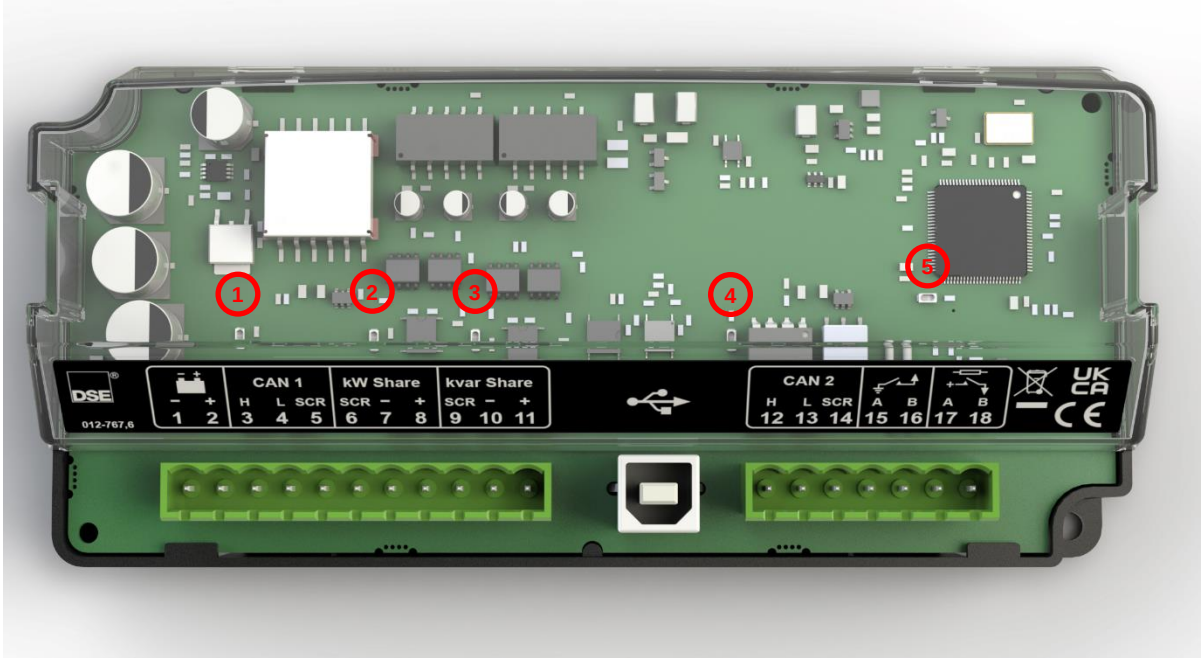
3 SETTINGS

To allow connection to the load sharing lines of a wide variety of manufacturers, the G0123 interface is configurable using Config Suite. See document 057-349 entitled *DSEG0123 MSC Configuration Suite PC Software Manual* for further information.

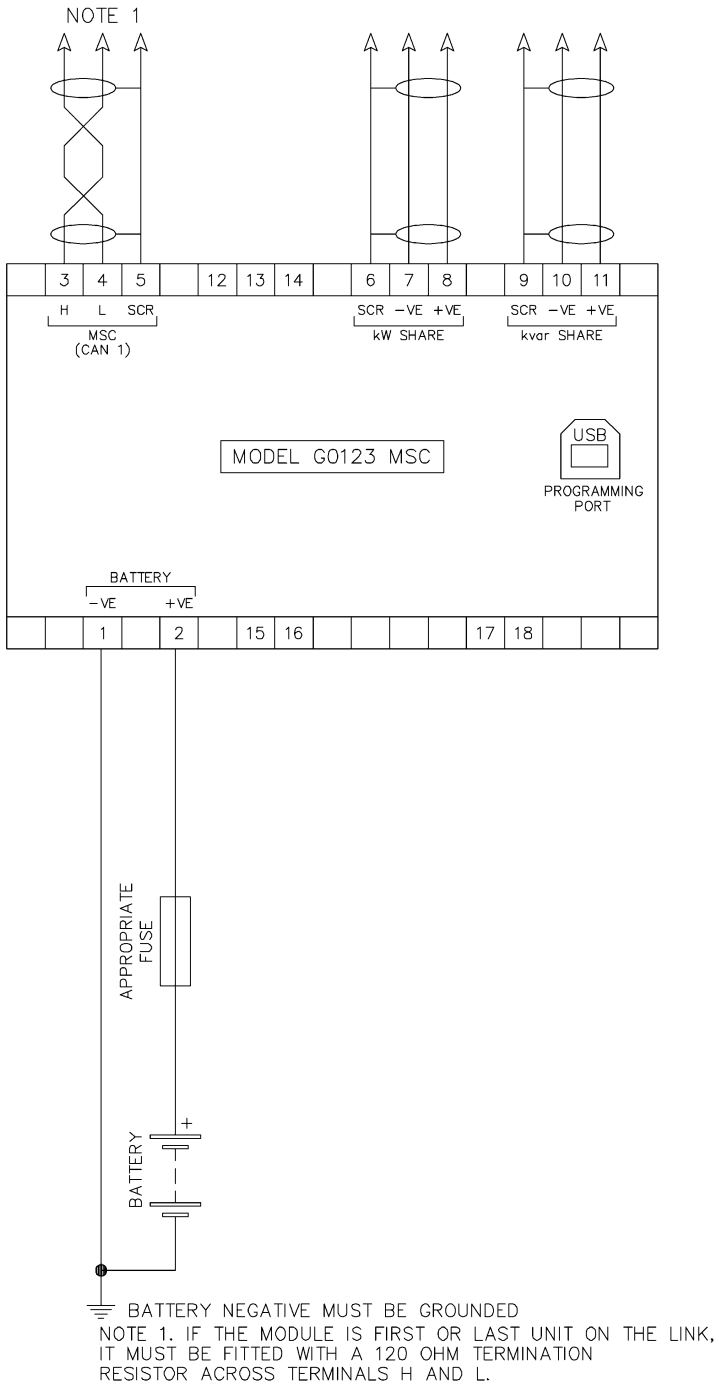
4 INDICATIONS

There are several LED's on the Load Sharing Interface to indicate the status of the G0123 MSC module.

Position	Indication	Colour	Description
1	CAN 1	Green	Off – Not communicating with a Gen on the link Steady – Communicating correctly with a Gen on the link
2	kW Share	Green	Off – Disconnected from power share lines. Steady – Connected to power share lines.
3	kvar Share	Green	Off – Disconnected from var share lines. Steady – Connected to var share lines.
4	CAN 2	Green	Not used, always off.
5	Fault	Red	Off – No fault Rapid flashing – Internal fault



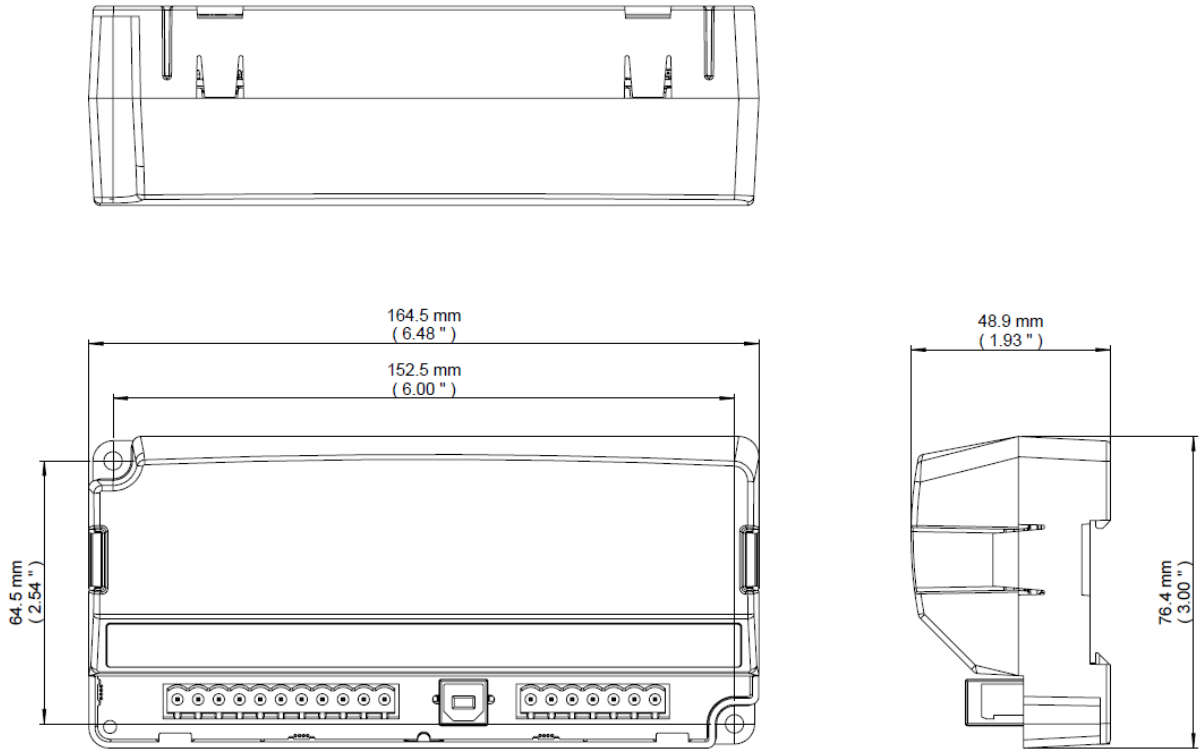
4.1 TYPICAL WIRING DIAGRAM



NOTE: kw share and kvar share lines must not be left floating, the voltage between terminals 6 and 9 and terminal 1 must remain within the specified common mode range.

5 CASE DIMENSIONS

164.5mm x 76.4mm x 48.9mm
(6.87” x 3.00” x 1.93”)



6 SPECIFICATION

DC Supply	8V - 35 DC continuous
Cranking dropouts	Able to survive 0 V for 100mS assuming initial voltage of >10V dc for at least 2s prior to the crank request and returning to >5 vdc after crank event.
Max. current (operating and standby)	Max Current 12V = 180mA 24V = 100mA
MEASUREMENT COMMON MODE RANGE (FROM TERMINALS 6 AND 9 TO TERMINAL 1)	+/-20V
Dimensions	164.5mm x 76.4mm x 48.9mm (6.87” x 3.00” x 1.93”)
Mounting	DIN Rail mounted housing**.**
Electromagnetic compatibility	EN61000-6-4 (Emissions for Industrial Environments) EN61000-6-2 (Immunity for Industrial Environments).
Electrical safety	BS EN 61010 - Safety requirements for electrical equipment for measurement, control, and laboratory use. BS EN 61010-1:2010 Part 1: General requirements BS EN 61010-2-030:2010 Part 2-030: Particular requirements for testing and measuring circuits BS EN 61010-2-201:2018 Part 2-201: Particular requirements for control equipment
Cold temperature	BS EN 60068-2-1 to -40 ^{o}C
Hot temperature	BS EN 60068-2-2 to +80 ^{o}C
Humidity	BS EN 60068-2-30 Db Damp Heat Cyclic 20/55 °C @ 95% RH 48 Hours BS EN 60068-2-78 Cab Damp Heat Static 40 °C @ 93% RH 48 Hours
Vibration	BS EN60068-2-6 10 sweeps at 1 octave/minute in each of 3 major axes. 5Hz to 8Hz @ +/-7.5mm constant displacement 8Hz to 500Hz @ 2gn constant acceleration
Shock	BS EN 60068-2-27 3 Half sine shocks in each of 3 major axes 15gn amplitude, 11mS duration

This page is intentionally left blank