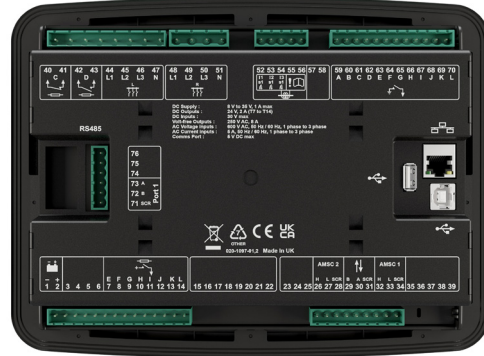




DSEG8680 Bus-Tie Controller

Part Number: G8680-01



The DSEG8680 Bus-Tie controller is designed to work with the DSEG8660 and DSEG8600 (configured for use as a multi-set controller, mains (utility) controller or group controller) to provide control solutions for complicated system design. The DSEG8680 is configurable for use as a bus-tie controller or load switch controller. This enables the controller to use the AMSC (Advanced Multi-Set Communications) link to synchronise two bus segments together within a DSEG8xxx system and allow them to operate in parallel.

Key Features

- 2 module applications in one product (bus-tie and load switch)
- Flexible bus segments
- Advanced multi-set communication (AMSC) link with optional redundancy
- Shared virtual inputs, outputs and data via AMSC
- Advanced PLC functionality including multi-purpose PIDs
- Flexible inputs and outputs
- DSENet® expansion support
- PC configuration using DSE Configuration Suite
- Multiple language support
- 4-line back-lit LCD
- IP65 with supplied sealing gasket
- RS485 port providing Modbus RTU support
- Integrated Ethernet port providing Modbus TCP and SNMP v2C support
- Data logging for up to 20 parameters
- Manual front panel and automatic control modes

Product Documentation

- 053-254 – DSEG8680 Installation Instructions
- 057-327 – DSEG8680 Operator Manual
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DEEP SEA ELECTRONICS UK
T: +44 (0) 1723 890099
E: sales@deepseaelectronics.com
W: www.deepseaelectronics.com

DEEP SEA ELECTRONICS USA
T: +1 (815) 316 8706
E: usasales@deepseaelectronics.com
W: www.deepseaelectronics.com

DEEP SEA ELECTRONICS UAE
T: +971 (0) 45910819
E: uaesales@deepseaelectronics.com
W: www.deepseaelectronics.com

DEEP SEA ELECTRONICS INDIA
T: +91 20 68195900
E: sales@deepseaelectronics.com
W: www.deepseaelectronics.com



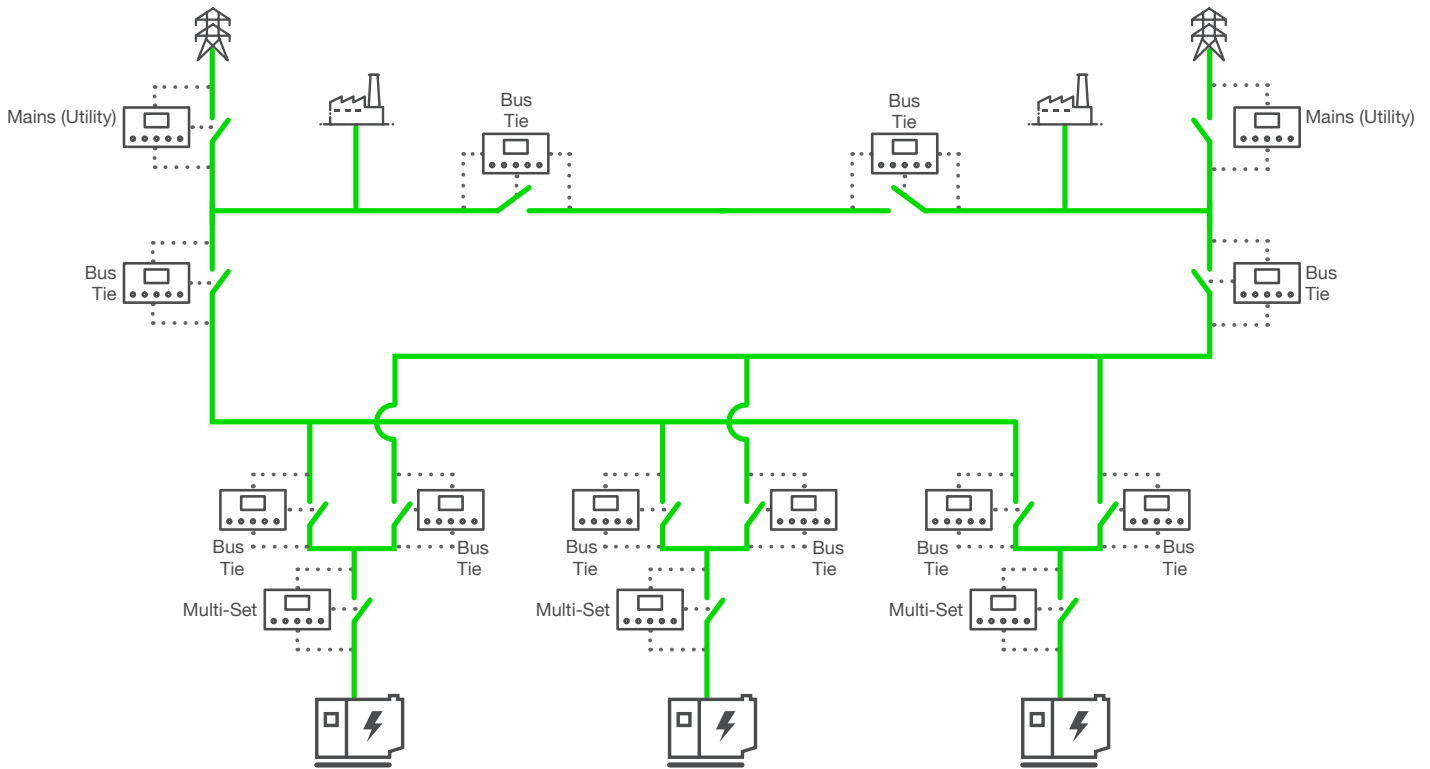
DSEG8680 Bus-Tie Controller

Part Number: G8680-01

Bus-Tie Controller Key Features*

- 3 phase sensing either side of the bus-tie with protection
- Ability to connect and disconnect two different bus segments within a DSEG8xxx system
- Synchronising control over either side of the bus
- Power ramping control after bus-tie closure and before bus-tie opening
- Configurable conditions to allow bus-tie closure based on if the buses are live or dead

Typical Application



*When used with additional DSEG8xxx controllers

Product Documentation

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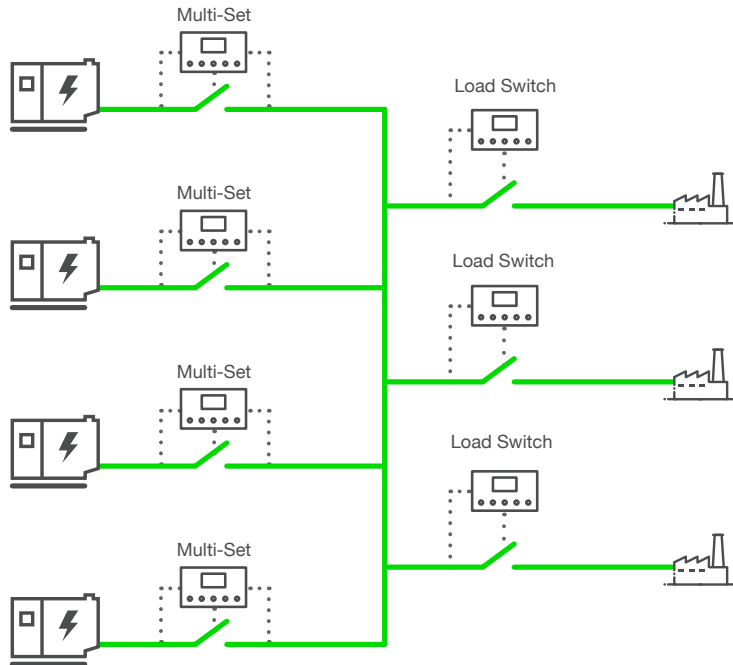
DSEG8680 Bus-Tie Controller

Part Number: G8680-01

Load Switch Controller Key Features*

- Checks to ensure minimum system power capacity has been attained using the AMSC link before closing load switch

Typical Application



*When used with additional DSEG8xxx controllers

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DSEG8680 Bus-Tie Controller

Part Number: G8680-01

Specifications	
DC Supply	
Continuous Voltage Rating	8 V to 35 V DC continuous
Cranking Dropouts	Able to survive 0 V for 100 ms, providing supply was at least 10 V before dropout and supply recovers to 5 V. This is achieved without the need for internal batteries. Backlight will not be maintained during cranking.
Maximum Operating Current	530 mA at 12 V, 280 mA at 24 V
Maximum Standby Current	320 mA at 12 V, 120 mA at 24 V
Voltage Measurement	
Number	2
Measurement Inputs	3 Phase + Neutral
Voltage Range	15 V to 415 V Phase to Neutral 25 V to 719 V Phase to Phase
Frequency Range	3.5 Hz to 75 Hz
Current Transformer Measurement	
Number	4
Measurement Inputs	3 Phase with Earth Fault
Current Range	0 A to 1 A 0 A to 5 A
Digital Inputs	
Number	12
Type	Negative Switching Digital Input
Closed Voltage Threshold	Less than 2.1 V
Open Voltage Threshold	Greater than 6.6 V
Digital Outputs	
Number	10
Type	1 Normally Open Volt-Free Contact 1 Normally Closed Volt-Free Contact 8 Positive Switching DC Output
Volt-Free Contact Output Rating	5 A _{DC} resistive at 30 V _{DC} 8 A _{AC} resistive at 250 V _{AC}
Positive DC Output Rating	2 A _{DC} at module supply voltage

Product Documentation

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 W: www.deepseaelectronics.com

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DSE G8680 Bus-Tie Controller

Part Number: G8680-01

Specifications	
Communications	
USB A	1 Data Storage Port
USB B	1 Programming Port
DSENet®	1 Expansion Port
RS485	1 Fully Isolated RS485 Port
Ethernet	1 10/100 Ethernet Port
AMSC	2 Fully Isolated Ports AMSC 1 - AMSC Link AMSC 2 - Redundant AMSC Link
Temperature	
Operating Temperature	-30 °C to +70 °C / -22 °F to +158 °F
Storage Temperature	-40 °C to +85 °C / -40 °F to +185 °F
Dimensions	
Overall (W x H x D)	250 mm x 189 mm x 50.5 mm / 9.85 " x 7.43 " x 1.99 "
Mounting	
Type	Panel Fascia Mounting
Panel Cut-Out (W x H)	220 mm x 160 mm / 8.66 " x 6.30 "
Maximum Panel Thickness	8 mm / 0.31"

Product Documentation

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DSEG8680 Bus-Tie Controller

Part Number: G8680-01

Related Products		
DSEgenset®		
DSEG8900	7" Colour Parallel Genset Controller	G8900-01
DSEG8660	Mains (Utility) Controller	G8660-01
DSEG8600	Parallel Genset Controller with Integral Heater	G8600-01
DSEG8015	15" Panel PC with DSE SCADA	G8015-01
DSENet®		
DSE2548	DSENet® LED Output Expansion Module	2548-01
DSE2157	DSENet® Output Expansion Module	2157-01
DSE2152	DSENet® Analogue Output Expansion Module	2152-01
DSE2133	DSENet® RTD/Thermocouple Input Expansion Module	2133-01
DSE2131	DSENet® Ratiometric Input Expansion Module	2131-01
DSE2130	DSENet® Input Expansion Module	2130-01
DSEWebNet®		
DSE890 MKII	DSEWebNet® Gateway	0890-04
Remote Monitoring Control		
DSE SCADA	G8 Series SCADA	037-060

Product Documentation

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DSEG8680 Bus-Tie Controller

Part Number: G8680-01

Environmental Testing Standards	
Electro-Magnetic Compatibility	
BS EN 61000-6-2	EMC Generic Immunity Standard for the Industrial Environment
BS EN 61000-6-4	EMC Generic Emission Standard for the Industrial Environment
Electrical Safety	
BS EN 61010	Safety of Information Technology Equipment, including Electrical Business Equipment
Temperature	
BS EN 60068-2-1	Ab/Ae Cold Test -30 °C
BS EN 60068-2-2	Bb/Be Dry Heat +70 °C
Vibration	
BS EN 60068-2-6	Ten sweeps in each of three major axes 5 Hz to 8 Hz at ±7.5 mm, 8 Hz to 500 Hz at 2 Gn
Humidity	
BS EN 60068-2-30	Db Damp Heat Cyclic 20/55 °C at 95% Relative Humidity 48 Hours
BS EN 60068-2-78	Cab Damp Heat Static 40 °C at 93% Relative Humidity 48 Hours
Shock	
BS EN 60068-2-27	Three shocks in each of three major axes 15 Gn in 11 ms
Degrees of Protection Provided by Enclosures	
BS EN 60529	IP65 - From the front of the module when installed into a control panel with supplied gasket

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DSEG8680 Bus-Tie Controller

Part Number: G8680-01

Mains (Utility) Controller	
Pin	Description
1 to 2	DC Supply
3 to 6	Not Applicable
6 to 14	Positive Switching DC Output
15 to 25	Not Applicable
26 to 28	Redundant AMSC Link
29 to 31	DSENet®
32 to 34	AMSC Link
35 to 39	Not Applicable
40 to 41	Normally Closed Volt-Free Output Contact
42 to 43	Normally Open Volt-Free Output Contact
44 to 47	Left Bus Voltage Sensing
48 to 51	Right Bus Voltage Sensing
52 to 56	Bus Current Sensing
57 to 58	Not Applicable
59 to 70	Digital Inputs
71 to 73	RS485
74 to 76	Not Applicable

Product Documentation

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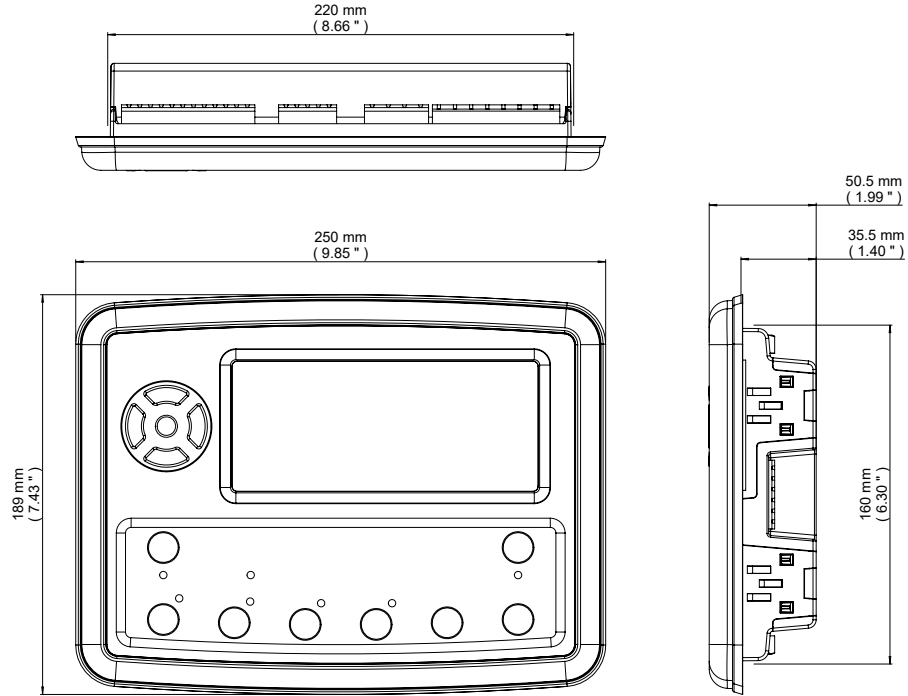
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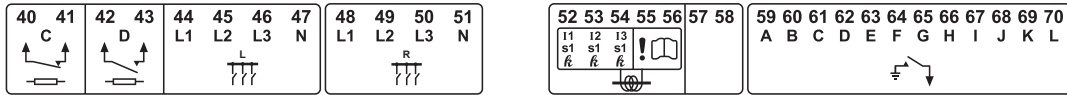
DSEG8680 Bus-Tie Controller

Part Number: G8680-01

Technical Drawing

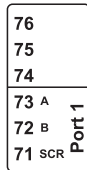


Connection Label



RS485

DC Supply : 8 V to 35 V, 1 A max
 DC Outputs : 24 V, 2 A (T7 to T14)
 DC Inputs : 30 V max
 Volt-free Outputs : 250 V AC, 8 A
 AC Voltage inputs : 600 V AC, 50 Hz / 60 Hz, 1 phase to 3 phase
 AC Current inputs : 5 A, 50 Hz / 60 Hz, 1 phase to 3 phase
 Comms Port : 5 V DC max



Refer to PIN out description charts for connection information on the operating mode controller is configured for.

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