

DSE8680 Synchronising Generator Bus Tie Control Module

Part Number: 8680-01



Overview

The DSE8680 module is designed to control a generator bus-tie breaker. The module manages the synchronising and check-sync across the breaker automatically, via the DSE MSC (Multi-set Communications) Link, when opening or closing the bus-tie breaker.

The DSE8680 module has been designed to work with the DSE8610 MKII and DSE8660 MKII load share control modules which support up to sixteen DSE8680s with no DSE8660 MKII or up to two DSE8680s with one to fourteen DSE8660 MKIIs. This provides a standalone, fully integrated solution, without the need for PLC. Given that all communication ports are capable of being active at the same time, the DSE8680 is ideal for a wide variety of demanding load share applications.

Key Features

- Manages synchronising of generators across a bus-tie
- Slip sync synchronising control
- Multi-set communication (MSC) link
- 3-phase bus sensing
- PLC functionality
- Flexible inputs and outputs
- DSENet® expansion support
- PC configuration using DSE Configuration Suite
- Multiple language support
- 4-line high-resolution display
- Manual front panel and automatic control modes
- Rubber sealing gasket (IP65 protection)
- Integrated RS232 and RS485 ports providing Modbus RTU support
- Integrated Ethernet port providing Modbus TCP support
- Data logging of up to 20 parameters

Product Approvals

- + CE
- + UL Listed: Standard - UL 6200:2019

Product Documentation

- 053-082 – DSE8680 Installation Instructions
- 057-130 – DSE8680 Operator Manual
- 057-131 – DSE8680 Configuration Suite PC Manual



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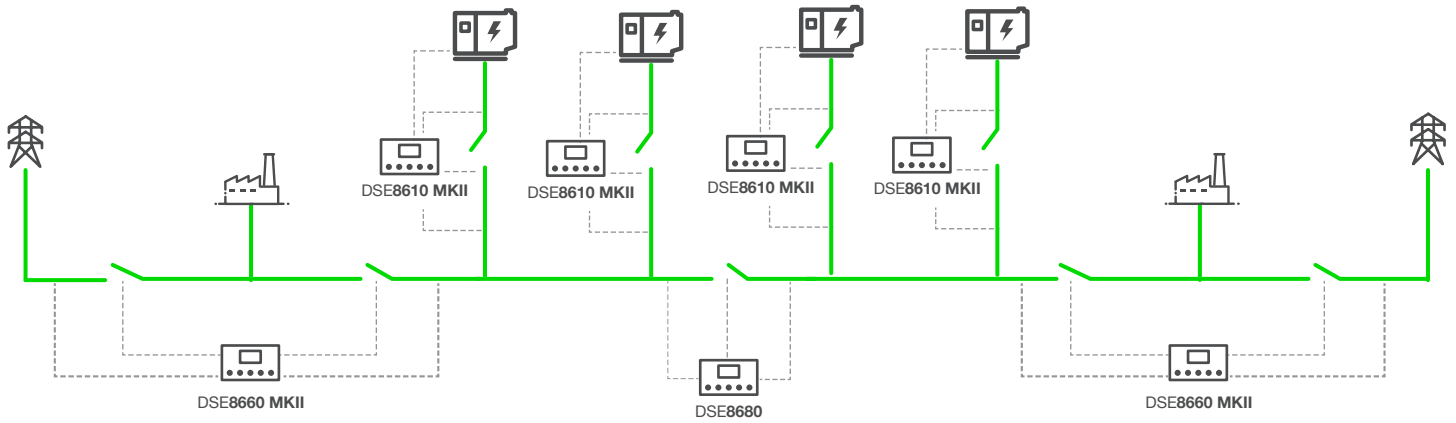
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Typical Application



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Specifications	
DC Supply	
Continuous Voltage Rating	8 V to 35 V 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 or other external requirements.
Maximum Operating Current	210 mA at 24 V 410 mA at 12 V
Maximum Standby Current	150 mA at 24 V 280 mA at 12 V
Voltage Measurement	
Number	2
Measurement Inputs	3 Phase + Neutral Bus 1 and Bus 2
Voltage Range	15 V to 333 V Phase to Neutral 26 V to 576 V Phase to Phase
Frequency Range	3.5 Hz to 75 Hz
Digital Inputs	
Number	11
Type	Negative Switching Digital Input
Closed Voltage Threshold	Less than 2.1 V
Open Voltage Threshold	Greater than 6.6 V
Outputs	
Number	8
Type	1 Normally Open Volt-Free Contact 1 Normally Closed Volt-Free Contact 6 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 Resistive at Module Supply Voltage

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Specifications	
Communications	
USB A	1 Data Storage Port
USB B	1 Programming Port
RS485	1 Fully Isolated RS485 port
RS232	1 Modbus RTU Port
MSC	2 Fully Isolated MSC Ports MSC1 - Bus 1 MSC MSC2 - Bus 2 MSC
Ethernet	1 Ethernet port
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)	240.0 mm x 181.0 mm x 41.5 mm / 9.45 " x 7.13 " x 1.63 "
Mounting	
Type	Panel Fascia Mounting
Panel Cut-Out (W x H)	220.0 mm x 160.0 mm / 8.66 " x 6.30 "
Maximum Panel Thickness	8 mm / 0.31"

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Related Products		
DSEGenset®		
DSE8660 MKII	Auto Transfer Switch & Mains (Utility) Control Module	8660-02
DSE8610 MKII	Synchronising & Load Sharing Auto Start Control Module	8610-02
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
Remote Monitoring Control		
DSESCADA	DSE Paralleling SCADA	037-060

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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 60950	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 G _r
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 G _n 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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Bus-Tie Controller	
Pin	Description
1 to 2	DC Supply
3 to 6	Not Applicable
7	Functional Earth
8 to 13	Digital Outputs
15 to 24	Not Applicable
25 to 27	Bus 1 MSC Link
28 to 30	DSENet®
31 to 33	Bus 2 MSC Link
34 to 38	Not Applicable
39 to 40	Normally Closed Volt-Free Output
41 to 42	Normally Open Volt-Free Output
43 to 46	Bus 1 Voltage Sensing
47 to 50	Bus 2 Voltage Sensing
51 to 57	Not Applicable
60 to 70	Digital Inputs

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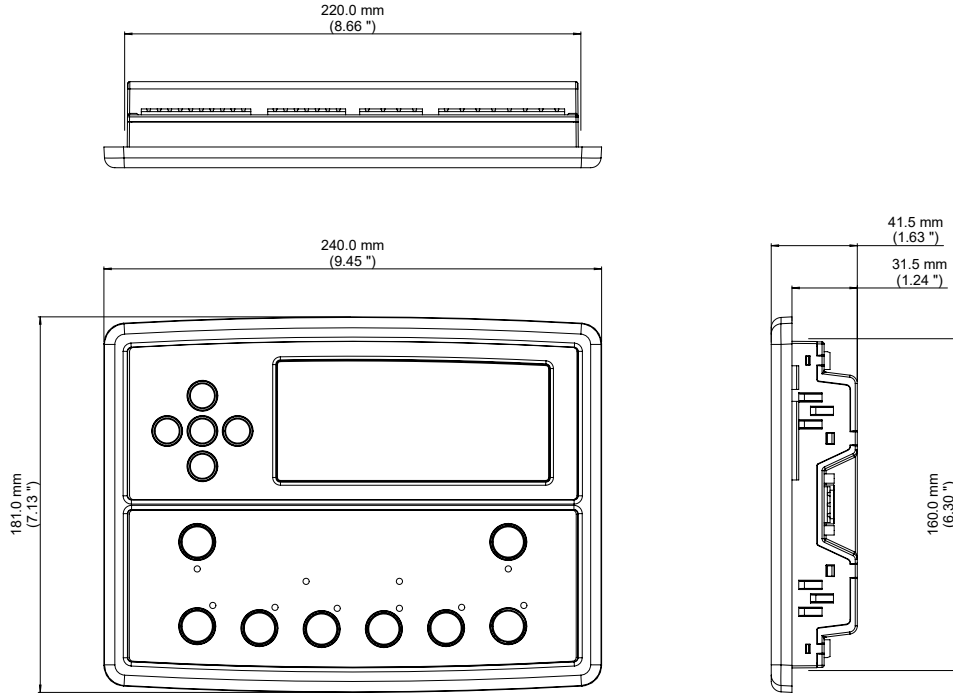
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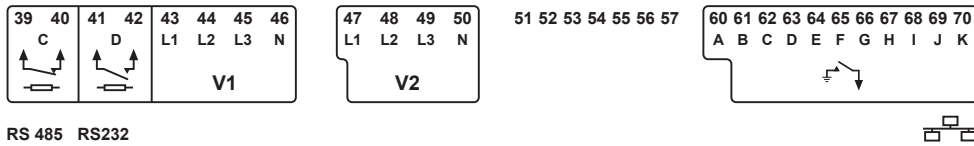
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Technical Drawing



Connection Label



RS 485 RS232



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

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