

DSE2160

DSENet® Input / Output Expansion Module

Part Number: 2160-01



Description

The DSE2160 DSENet® Input / Output Expansion Module has been developed for use with the DSEG8600 and DSEM-Series platforms. The DSE2160 extends the host modules input and output capabilities for increased application flexibility. This is achieved by providing an additional 8 inputs, consisting of 2 analogue inputs (both can be configured as digital) and 6 digital inputs (digital input A can be configured as a frequency input, pulse counter or RPM input). The DSE2160 also provides 8 additional digital outputs. All 8 outputs can be individually configured as a digital input, positive switching DC output or a negative switch DC output.

For enhanced communication with the host module, the DSE2160 features a DSENet® port for connection to the DSEG8600 platform and a CAN port for connection to the DSEM-Series platform. A red status LED is provided to easily identify when the DSE2160 is connected to a power source and communicating with the host controller.

Key Features

- 2 analogue inputs (configurable as digital inputs)
- 6 digital inputs
- 8 digital inputs / outputs (configurable as digital inputs, positive switching DC output and negative switching DC output)
- Status LED to indicate Power On and Link Lost
- DSENet® Communication
- CAN Communication

Key Applications



Hospitals



Construction



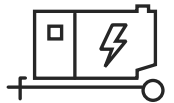
Industrial



Data Centers



Municipal Vehicles



Rental



Telecoms



Agricultural



Hybrid



Product Documentation

Title
DSE2160 Installation Instructions
DSE2160 Operator Manual

Part No.
053-268
057-361

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Specifications	
DC Supply	
Continuous Voltage Rating	8 V to 35 V DC continuous
Cranking Dropouts	Able to survive 0 V for 50 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. LEDs are not maintained during cranking.
Maximum Operating Current	190 mA at 12 V, 90 mA at 24 V
Maximum Standby Current	34 mA at 12 V, 20 mA at 24 V
Analogue Inputs	
Number	2
Configurable as	Negative Switching Digital Input or Resistive Analogue Input
Digital Input Closed Voltage Threshold	Less than 2.1 V
Digital Input Open Voltage Threshold	Greater than 6.6 V
Analogue Measurement Range	0 Ω to 3 kΩ
Analogue Resolution	1 %
Analogue Accuracy	2 %
Digital Inputs	
Number	6
Configurable as	Negative Switching Digital Input or Negative Switching High Frequency Input*
Input Closed Voltage Threshold	Less than 2.1 V
Input Open Voltage Threshold	Greater than 6.6 V
High Frequency Input Range	5 Hz to 10 kHz
Digital Inputs / Outputs	
Number	8
Configurable as	Negative Switching Digital Input, Positive Switching DC Output or Negative Switching DC Output
Digital Input Closed Voltage Threshold	Less than 2.1 V
Digital Input Open Voltage Threshold	Greater than 6.6 V
Positive DC Output Rating	0.5 A at module supply voltage.
Negative DC Output Rating	0.5 A at maximum of 35 V from external supply.
Communications	
DSENet®	Fully isolated
CAN	Fully isolated
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)	120 mm x 75 mm x 31.5 mm / 4.72" x 2.95" x 1.24"
Mounting	
DIN Rail	35 mm
Chassis	2 M4 mounting holes with 108 mm x 63 mm / 4.25" x 2.48" centres

*High Frequency Input is only available on Digital Input A (terminal 17)

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Related Products		
Controllers		
G8600	Parallel Genset Controller with Integral Heater	G8600-01
Programmable Controllers		
DSEM640	Programmable Controller (68 I/O)	M640-01
DSEM643	Programmable Controller (34 I/O)	M643-01
Displays		
DSEM835	3.5" Programmable Display	M835-01
DSEM840	4.3" Programmable Display	M840-01, M840-02
DSEM870	7" Programmable Display	M870-01, M870-02, M870-03 M870-04
DSEM812	12" Programmable Display	M812-01, M812-02, M812-03 M812-04
Expansion Devices		
DSE2130	DSENet® Input Expansion Module	2130-01
DSE2131	DSENet® Ratiometric Input Expansion Module	2131-01
DSE2133	DSENet® RTD/Thermocouple Input Expansion Module	2133-01
DSE2152	DSENet® Analogue Output Expansion Module	2152-01
DSE2157	DSENet® Output Expansion Module	2157-01
DSE2170	DSENet® RTD/Thermocouple/Analogue Output Expansion Module	2170-01
DSE2548	DSENet® LED Output Expansion Module	2548-01

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% RH 48 Hours
BS EN 60068-2-78	Cab Damp Heat Static 40 °C at 93% RH 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	IP21

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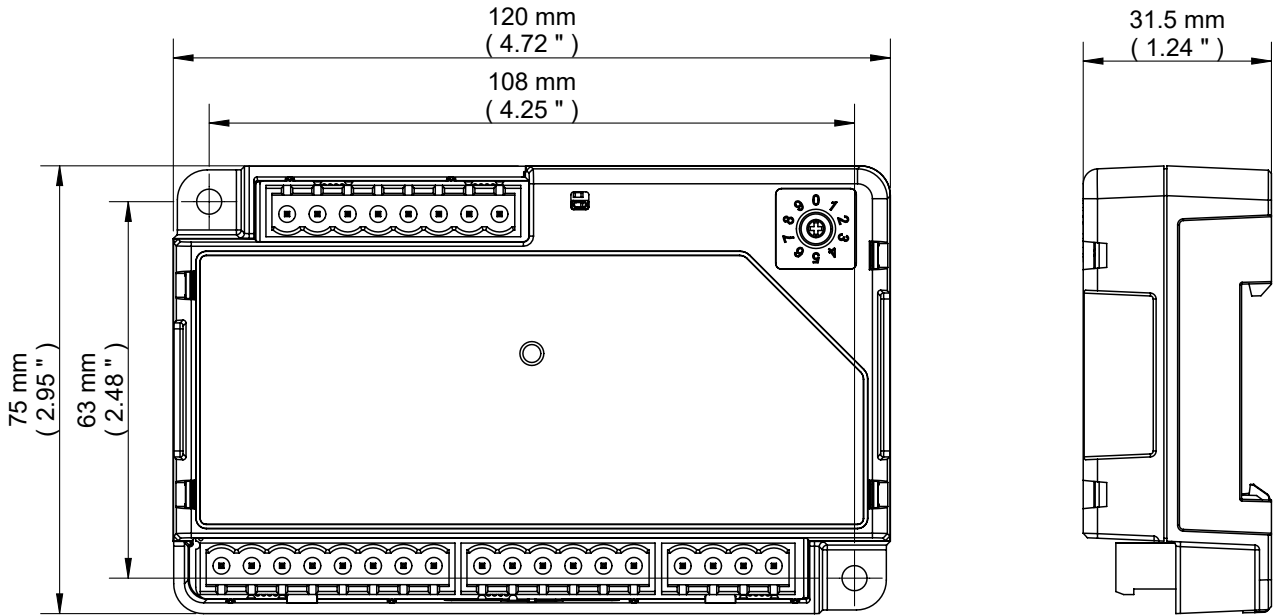
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PIN Out Description	
PIN	DESCRIPTION
1 to 2	DC Supply
3 to 5	DSENet®
6 to 8	CAN
9 to 16	Digital Input / Output
17 to 22	Digital Input
23 to 26	Analogue Input

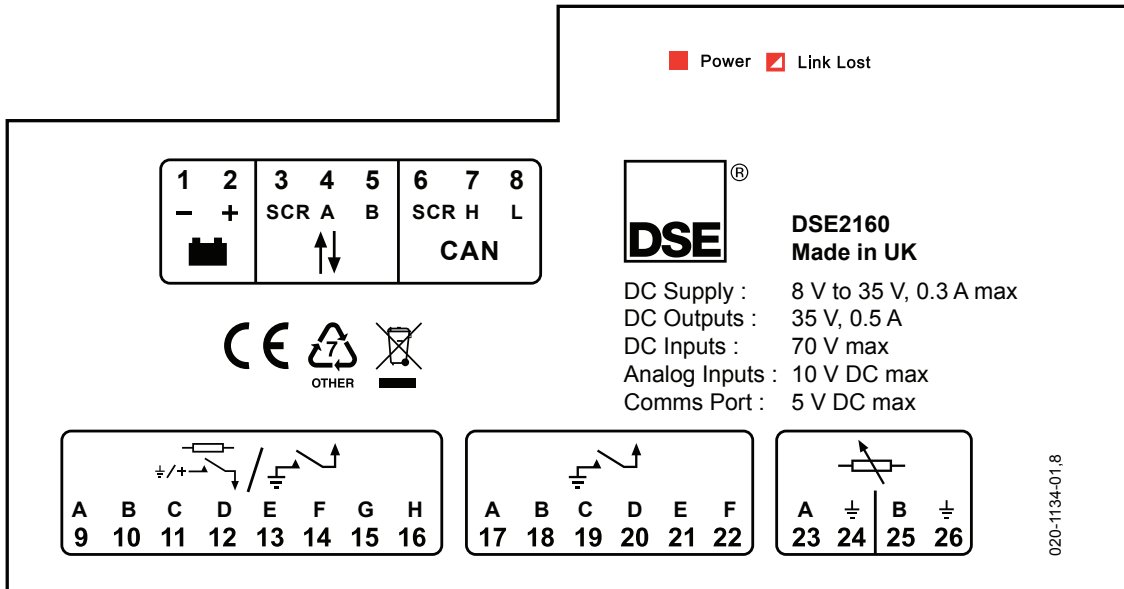
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Technical Drawing



Connection Diagram



Refer to PIN out description table for connection information