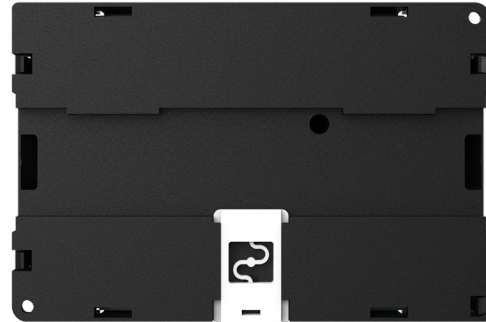


## DSEP100 Mains (Utility) Decoupling Relay

Part Number: P100-01



### Overview

The DSEP100 is a Mains (Utility) Decoupling Relay which is used to protect independent power applications that are connected to a mains (utility)/grid supply. This could include a range of applications that generate power in parallel with the grid e.g. generators that are inverter connected (including renewables) and all types of synchronous and asynchronous generators.

The DSEP100 works by reliably detecting mains (utility)/grid failures and disconnects equipment from the mains (utility) supply in line with relevant country/DNO requirements. The benefit of using a powerful independent mains (utility) decoupling relay, even where inverters are fitted, is to provide a more sophisticated level of protection. The engineering framework dictates the limits/parameters for under and over voltage, under and over frequency, vector-shift and RoCoF protections.

The DSEP100 is fully compliant to world standards including G99/1, G98/1, G59/3, G83/3 and C10/11.

### Key Features

- G99/1, G98/1, G59/3, G83/3 and C10/11 compliant.
- Lockable security tab to prevent configuration changes after commissioning.
- Numerous mains (utility) decoupling functions in one stylish, easy to use device.
- LCD and LED indication for status and fault indication.
- Configurable automatic fault reset function to avoid manual reset by site personnel.
- Configurable to trip one or two breakers.
- A number of common international requirements such as:
  - + Multi-stage voltage and frequency protection.
  - + Phase rotation protection.
  - + Vector shift and RoCoF protection.
  - + Sequence voltage protection, including NVD.
- Perfect for a wide array of paralleling applications such as
  - + Peak lopping/sharing.
  - + Fixed export and base load.
  - + Short term operating reserve (STOR).
  - + No break, seamless or closed transition transfers.
  - + Commercial and domestic power generation.

### Product Documentation

053-149 – DSEP100 Installation Instructions

057-184 – DSEP100 Operator Manual

057-186 – DSEP100 Configuration Suite PC Manual



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## DSEP100 Mains (Utility) Decoupling Relay

Part Number: P100-01

Specifications	
<b>DC Supply</b>	
Continuous Voltage Rating	8 V to 35 V
Cranking Dropouts	Able to survive 0 V for 100 ms, providing supply was at least 10 V before dropout and supply recovers to 8 V. This is achieved without the need for internal batteries.
Maximum Operating Current	360 mA at 12 V, 170 mA at 24 V
Typical Operating Current	115 mA at 12 V, 132 mA at 24 V
<b>AC Supply</b>	
Continuous Voltage Rating	85 V to 305 V
Maximum Operating Current	23 mA at 230 V
Typical Operating Current	14 mA at 230 V
<b>Voltage Measurement</b>	
Measurement Input	3 Phase + Neutral
Voltage Range	15 V to 333 V Phase to Neutral 26 V to 576 V Phase to Phase
Voltage Resolution	1 V
Voltage Accuracy	±1 %
Frequency Range	3.5 Hz to 75 Hz
Frequency Resolution	0.01 Hz
Frequency Accuracy	±0.05 Hz
Phase Accuracy	±0.5 °
<b>Digital Inputs</b>	
Number	5
Type	Negative Switching Digital Input
Closed Voltage Threshold	Less than 2.1 V
Open Voltage Threshold	Greater than 6.6 V
<b>Digital Outputs</b>	
Number	5
Type	Change-Over Volt-Free Contacts
Output Rating	5 A <sub>DC</sub> resistive at 30 V <sub>DC</sub> 8 A <sub>AC</sub> resistive at 250 V <sub>AC</sub>

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## DSEP100 Mains (Utility) Decoupling Relay

Part Number: P100-01

Specifications	
<b>Communications</b>	
<b>USB B</b>	1 Programming Port
<b>Temperature</b>	
<b>Operating Temperature</b>	-30 °C to +70 °C / -22 °F to +158 °F
<b>Storage Temperature</b>	-40 °C to +85 °C / -40 °F to +185 °F
<b>Dimensions</b>	
<b>Overall (W x H x D)</b>	157.0 mm x 105.0 mm x 67.0 mm / 6.18 " x 4.13 " x 2.64 "
<b>Mounting</b>	
<b>Type</b>	DIN Rail or Chassis Mounting
<b>DIN Rail</b>	35 mm
<b>Chassis</b>	2 x M4 mounting holes with 146 mm x 94 mm / 5.75 " x 3.70 " centres

Related Products		
<b>DSEComms</b>		
<b>DSE857</b>	USB to RS485 Communications Device	0857-01

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## DSEP100 Mains (Utility) Decoupling Relay

Part Number: P100-01

Environmental Testing Standards	
<b>Electro-Magnetic Compatibility</b>	
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
BS EN 60255-26:2013	Measuring relays and protection equipment. Electromagnetic compatibility requirements.
<b>Electrical Safety</b>	
BS EN 60950	Safety of Information Technology Equipment, including Electrical Business Equipment.
BS EN 60255-1:2010	Measuring relays and protection equipment. Common requirements.
BS EN 60255-27:2014	Measuring relays and protection equipment. Product safety requirements.
<b>Temperature</b>	
BS EN 60068-2-1	Ab/Ae Cold Test -30 °C
BS EN 60068-2-2	Bb/Be Dry Heat +70 °C
<b>Vibration</b>	
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
<b>Humidity</b>	
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
<b>Shock</b>	
BS EN 60068-2-27	Three shocks in each of three major axes 15 Gn in 11 ms
<b>Degrees of Protection Provided by Enclosures</b>	
BS EN 60529	IP31

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## DSEP100 Mains (Utility) Decoupling Relay

Part Number: P100-01

Terminal Description	
Pin	Description
1 to 2	DC Supply
3 to 7	Digital Inputs
8 to 9	AC Supply
10 to 15	2 Change-Over Volt-Free Output Contacts
16 to 24	Mains (Utility) Voltage Sensing
25 to 33	3 Change-Over Volt-Free Output Contacts

### Product Documentation

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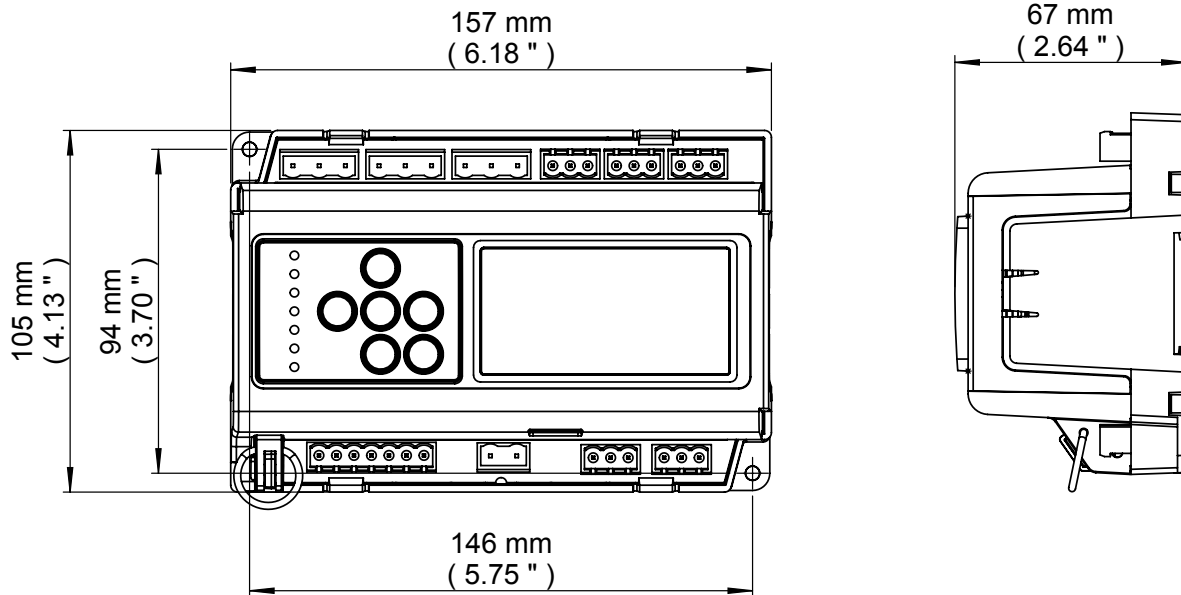
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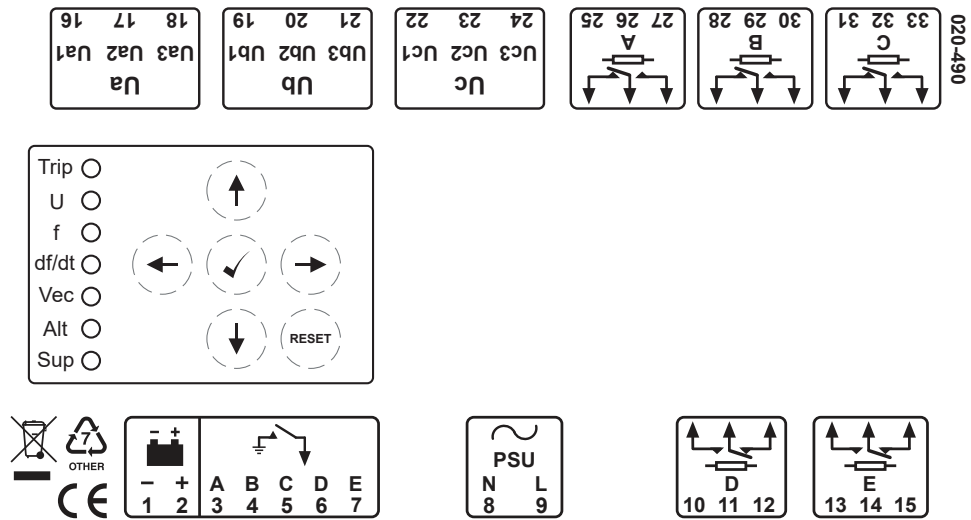
**DSEP100 Mains (Utility) Decoupling Relay**

Part Number: P100-01

Technical Drawing



Connection Label



Product Documentation

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