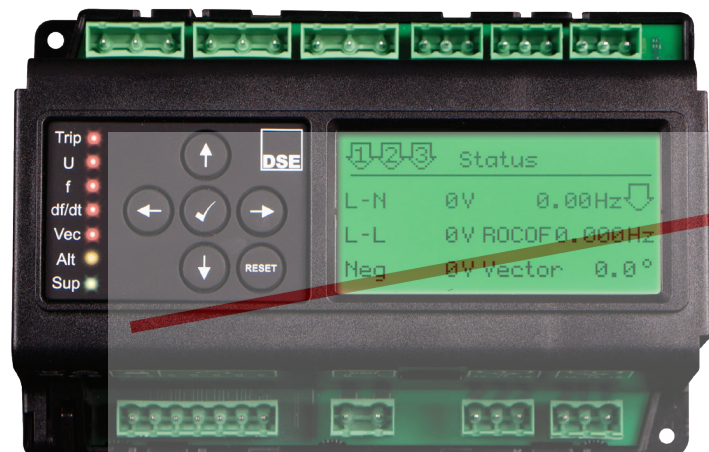


DSEP100

MAINS (UTILITY) DECOUPLING RELAY



**G99/1
G98/1
COMPLIANT**

SPECIFICATION

**DC POWER SUPPLY
CONTINUOUS VOLTAGE RATING**
8 V to 35 V 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.

MAXIMUM OPERATING CURRENT
360 mA at 12 V, 170 mA at 24 V

**AC POWER SUPPLY
CONTINUOUS VOLTAGE RATING**
85 V to 305 V AC (Ph to N)

CONTINUOUS FREQUENCY RATING
3.5 Hz to 75 Hz

MAXIMUM OPERATING CURRENT
58 mA at 110 V AC (Ph to N)
28 mA at 230 V AC (Ph to N)

**MAINS (UTILITY)
VOLTAGE RANGE**
15 V to 333 V AC (Ph to N)
26 V to 576 V AC (Ph to Ph)

FREQUENCY RANGE
3.5 Hz to 75 Hz

OUTPUTS
OUTPUT A, B, C, D & E
Volt-free change-over
5 A at 30 V DC
8 A at 250 V AC

**DIMENSIONS
OVERALL**
157 mm x 95 mm x 67 mm
6.2" x 3.5" x 2.6"

STORAGE TEMPERATURE RANGE
-40 °C to +85 °C
-40 °F to +185 °F

OPERATING TEMPERATURE RANGE
-30 °C to +70 °C
-22 °F to +158 °F

G99 Type Tested Variant
Available to Order
DSEP100-02
Mains (Utility) Decoupling
Relay (G99 Type Tested)

KEY FEATURES

- Available to order in standard and G99 type tested variants
- Used to detect a mains (utility) failure when in parallel with another supply
- Designed to assist with integration with a number of world standards including G99/1, G98/1, G59/3, G83/3 & C10/11
- Two-stage under & over frequency protection
- Five stage under & over voltage protection
- 10 second rolling average over voltage protection
- Voltage asymmetry protection
- Vector shift protection
- 3 separate RoCoF protections
- Incorrect phase sequence protection
- Positive sequence under voltage protection
- Negative sequence over voltage protection
- Zero sequence over voltage protection (NVD protection)
- Lockable security tab to prevent configuration changes after commissioning

ADDITIONAL FEATURES

- Power up in trip position
- Breaker failed to open alarm
- True 3-phase mains (utility) RMS measurement
- MODEBUS communication via RS485 with additional DSE857 interface
- Adjustable parameters by Front Panel Editor (FPE) or by the DSE Configuration Suite PC Software
- SCADA monitoring using DSE Configuration Suite PC Software
- Large, clear display for instrumentation and status indication
- LED & LCD indication for fault status
- Five button menu navigation
- Dedicated alarm reset button
- 5 configurable volt-free changeover relays for simple system integration
- Configurable event log (250)
- Alternate configuration select
- DIN rail mounting

KEY BENEFITS

- G99 type tested variant has protection settings set during the manufacturing process. A number of these are hard coded to maintain G99 compliance and cannot be changed. Others can only be changed by authorised users.
- All mains (utility) decoupling functions in one stylish easy to mount device
- Flexible for all mains (utility) decoupling applications - Can be used to trip one or more breakers
- Configurable automatic reset timer to avoid manual reset by site personnel
- Multi stage trips to suit a number of common international requirements
- Perfect for a wide array of paralleling applications such as:
 - Peak lopping/sharing
 - Fixed export & base load
 - Short Term Operating Reserve (STOR)
 - No break, seamless or closed transition
 - Commercial and domestic local power generation.

RELATED MATERIALS

TITLE

DSEP100 Installation Instructions
DSEP100 Operator Manual
DSEP100 Configuration Suite PC Software Manual

PART NO.

053-149
057-184
057-186

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Deep Sea Electronics Plc maintains a policy of continuous development and reserves the right to change the details shown on this data sheet without prior notice. The contents are intended for guidance only.

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DSEP100

MAINS (UTILITY) DECOUPLING RELAY

**G99/1
G98/1**
COMPLIANT

The DSEP100 Mains (Utility) Decoupling Relay 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.

is to provide a more sophisticated level of protection. The engineering framework dictates the limits/ parameters for under & over voltage, under & over frequency, vector-shift and RoCoF.

The DSEP100-02 variant is fully G99 type tested and has its protection settings set during the manufacturing process. These settings cannot be changed.

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

Fully compliant to world standards including G99/1, G98/1, G59/3, G83/3 & C10/11, the DSEP100 has been intelligently engineered and meets all grid code and RfG changes.

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.
BS EN 60255-26:2013
Measuring relays and protection equipment. Electromagnetic compatibility requirements.

ELECTRICAL SAFETY
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.

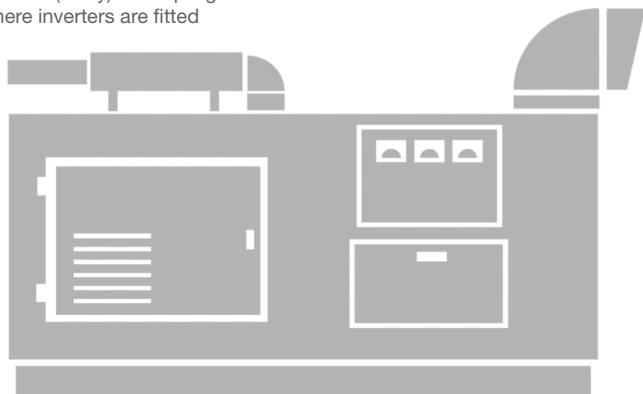
TEMPERATURE
BS EN 60068-2-1
Ab/Ae Cold Test -30 °C
BS EN 60068-2-2
Bb/Be Dry Heat +70 °C

VIBRATION
BS EN 60068-2-6
Ten sweeps in each of three major axes
5 Hz to 8 Hz @ +/-7.5 mm,
8 Hz to 500 Hz @ 2 gn

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

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
IP31



GENSET
PART

COMPREHENSIVE FEATURE LIST TO SUIT A WIDE VARIETY OF MAINS (UTILITY) DECOUPLING APPLICATIONS

