Luqeeg DSE4510

Luqeeg DSE4510 Generator Controller User Manual

Model: DSE4510

1. Introduction

The Luqeeg DSE4510 is a compact, self-starting generator controller designed for comprehensive monitoring and control of generator sets. It features a backlit graphic LCD display, real-time clock, and power-saving mode, supporting various engine types and communication protocols like J1939-75 and CAN alarm. This manual provides essential information for the safe and effective installation, operation, and maintenance of your DSE4510 controller.

2. Safety Information

Please read and understand all safety instructions before installation and operation.

- **Professional Installation:** Installation, connection, and inspection must be carried out by personnel with professional knowledge and qualifications. Improper installation can lead to serious injury or equipment damage.
- **Avoid Contact During Operation:** In the running state, please do not touch the controller or connected components to avoid dangerous electrical accidents.
- **Electrical Hazard:** Always disconnect power before performing any installation, maintenance, or inspection procedures.

3. Package Contents

Upon unpacking, please verify that all items listed below are present and undamaged:

- 1 x Luqeeg DSE4510 Generator Set Controller
- 4 x Mounting Screws
- 1 x User Manual (this document)



Image: The four mounting screws included with the controller.

4. Product Overview

The DSE4510 controller offers advanced features for generator management:

- **Compact Design:** A stand-alone self-starting controller providing complete monitoring.
- **Display:** Largest backlit graphic LCD display in its class, showing alarm information (ordinary alarms, electrical trips, shutdowns).
- **Engine Compatibility:** Supports gas and gasoline EFI and non-EFI engines, including Tier4. Fuel and start output can be customized when connected to EFI.
- **Monitoring Capabilities:** Unit/load current detection, 3 engine maintenance indications, engine speed, engine run time, engine warm-up, engine start idle and stop idle control, battery voltage monitoring, 3-phase generator detection, 3-phase mains detection (up to 600V LL system), unit/load force monitoring (KW, KVA, KVAr, pf), cumulative power monitoring (KWh, KVAh, KVArh).
- **Customization:** Customizable power failure self-start mode, remote start input, 4 custom DC outputs, 3 custom analog/digital inputs, 4 custom digital inputs, self-defined hierarchical load output.
- **Event Logging:** Real-time clock for accurate event recording and 50 event records.
- **Protection:** Generator controller with overload protection.
- **Environmental Rating:** IP65 grade (with gasket) for better performance.



Image: Front panel of the DSE4510 controller, showing the LCD screen and control buttons.

5. Setup and Installation

Proper installation is crucial for the reliable operation of the DSE4510 controller. Ensure all safety precautions are followed.

5.1 Mounting

The controller is designed for panel mounting. Use the provided mounting screws to secure the unit into a suitable enclosure or panel cutout. Ensure the gasket is properly seated to achieve the IP65 rating.

5.2 Wiring Connections

The DSE4510 features clearly labeled terminals for various connections. Refer to the wiring diagram specific to your generator set and application. Key connections include:

- **DC Supply:** 8-35V, 0.5A Max
- **DC Outputs:** 30V, 5A (3-4) 2A (6-9) 30V Max
- **AC Voltage Inputs:** 600Vac, 50/60Hz, 1-3 ph
- **AC Current Inputs:** 5A, 50/60Hz, 1-3 ph
- **Charge Alternator:** 30V, 2.5W Max
- **Magnetic Pickup:** 70V, 10kHz Max
- **Comms Port:** 5V Max (USB)
- Custom analog/digital inputs and digital inputs.



Image: Rear view of the DSE4510 controller, detailing the various terminal connections.



Image: The DSE4510 controller installed on a generator, illustrating a typical setup.

6. Operating Instructions

The DSE4510 controller is designed for user-friendly operation with its intuitive LCD display and control buttons.

6.1 Control Buttons

- **Start Button (Green 'I'):** Initiates the generator start sequence.
- **Stop Button (Red 'O'):** Stops the generator.
- **Auto Button:** Engages or disengages the automatic start/stop mode. In auto mode, the controller will manage the generator based on configured parameters (e.g., mains failure).
- **Navigation Buttons (Up/Down Arrows):** Used to scroll through display screens and menu options.

6.2 LCD Display

The backlit graphic LCD display provides real-time information about the generator's status, measurements, and alarms. It can show:

- Generator voltage (L1N, L2N, L3N)
- Engine status indicators
- Alarm messages (e.g., overload, low battery voltage)
- Operational parameters (KW, KVA, KVAr, pf, KWh, KVAh, KVArh)

6.3 Automatic Operation

When in 'Auto' mode, the controller continuously monitors the mains supply. In the event of a mains failure, the controller will automatically start the generator, transfer the load, and then shut down the generator and transfer the load back to the mains once power is restored. This mode can be customized.

7. Parameter Configuration

The DSE4510 allows for flexible parameter configuration to suit various applications.

- **Front Panel Editing:** Basic parameters can be edited directly on the front panel using the navigation buttons and display.
- **PC Software:** For advanced configuration and comprehensive parameter editing, the controller can be connected to a PC using compatible software. This allows for detailed customization of inputs, outputs, alarm thresholds, and operational logic.
- **Two Sets of Parameters:** The controller supports two sets of parameters, offering flexibility for different operational scenarios.

8. Maintenance

Regular maintenance ensures the longevity and reliable performance of your DSE4510 controller.

- **Cleaning:** Keep the controller's display and buttons clean using a soft, dry cloth. Avoid abrasive cleaners or solvents.
- **Connections:** Periodically check all wiring connections for tightness and signs of corrosion. Ensure all terminals are securely fastened.
- **Firmware Updates:** Check the manufacturer's website for any available firmware updates that may improve performance or add features.
- **Environmental Conditions:** Ensure the operating environment remains within the specified temperature and humidity ranges to prevent damage.

9. Troubleshooting

This section provides guidance for common issues. For complex problems, consult a qualified technician.

9.1 Common Issues and Solutions

- **Controller Not Powering On:**
  Check: DC power supply connections and voltage. Ensure the battery is charged and connected correctly.
- **Generator Fails to Start:**
  Check: Fuel level, engine oil level, battery voltage, and starter motor connections. Verify all safety shutdowns are clear. Review alarm messages on the LCD.
- **Incorrect Readings on Display:**
  Check: Sensor connections (e.g., voltage, current, oil pressure, temperature). Ensure calibration settings are correct if applicable.
- **Alarms Triggering Unexpectedly:**
  Check: Parameter settings for alarm thresholds. Inspect the associated sensors and wiring for faults.
- **Communication Issues with PC Software:**
  Check: USB cable connection, driver installation, and software compatibility.

10. Specifications

Feature	Specification
Model	DSE4510
Manufacturer	Luqeeg
Package Dimensions	6.85 x 5.04 x 2.56 inches
Item Weight	11.3 ounces
DC Supply	8-35V, 0.5A Max
AC Voltage Inputs	600Vac, 50/60Hz, 1-3 ph
AC Current Inputs	5A, 50/60Hz, 1-3 ph
Protection Rating	IP65 (with gasket)

11. Warranty and Support

For warranty information, technical support, or service inquiries, please refer to the contact details provided with your purchase documentation or visit the official Luqeeg website. Keep your purchase receipt as proof of purchase.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

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After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question