

Knowtek 702K-AS

Knowtek DSE702AS Generator Controller Instruction Manual

Model: 702K-AS

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the Knowtek DSE702AS Generator Controller. The DSE702AS is designed to monitor and protect generator engines, offering both manual and automatic start capabilities. It features comprehensive engine monitoring and protection, including low oil pressure, high engine temperature, and overspeed detection.

The controller is equipped with LED indicators for fault conditions and can monitor battery charging via the WL terminal on the charge alternator.

2. KEY FEATURES

- **Manual and Remote Start:** Supports both manual engine start and remote start functionality (for auto-start versions).
- **Engine Monitoring:** Continuously monitors critical engine parameters such as low oil pressure, high engine temperature, and overspeed.
- **Protection Features:** Initiates engine shutdown and illuminates warning LEDs upon detection of fault conditions.
- **Battery Charging Monitoring:** Utilizes the WL terminal for monitoring battery charging status.
- **Auxiliary Shutdown Input:** Includes a user-defined auxiliary input for additional shutdown triggers (manual start version only).
- **Engine Pre-heat:** Integrated engine pre-heat function.
- **LED Indication:** Clear LED indicators on the front panel for status and fault warnings.
- **Wide Voltage Range:** Operates within a DC voltage range of 8 V to 35 V continuous.
- **Cranking Dropout Resilience:** Designed to withstand 0 V for 50 mS during cranking, provided voltage was at least 10 V before dropout and recovers to 5 V.

3. SETUP AND INSTALLATION

Proper installation is crucial for the safe and effective operation of the DSE702AS controller. Ensure all power is

disconnected before beginning installation.

3.1 Panel Mounting

The DSE702AS is designed for front panel mounting. Cut an appropriate opening in the control panel and secure the module using the provided mounting clips.



Figure 1: Front panel of the DSE702AS controller. This image displays the user interface, including the green start button, key switch, and various LED indicators for engine status.

3.2 Wiring Connections

Refer to the wiring diagram for specific connection points. Ensure all connections are secure and correctly polarized. The controller features clearly labeled terminals for inputs and outputs.

- **DC Supply:** Connect the main DC power supply (8V to 35V) to the designated terminals.
- **Engine Sensors:** Connect low oil pressure, high engine temperature, and overspeed sensors to their respective inputs.
- **Charge Alternator:** Connect the WL terminal of the charge alternator to the controller for battery charging monitoring.
- **Outputs:** Connect the START, RUN, and PRE-HEAT outputs to the corresponding engine control circuits. These are solid-state 1.2 A negative grounding terminals.

- **Remote Start Input:** For auto-start versions, connect the remote start signal to the dedicated input.
- **Auxiliary Shutdown Input:** For manual start versions, connect any auxiliary shutdown triggers to this input.



Figure 2: Rear view of the DSE702AS controller. This image shows the green terminal blocks for wiring connections, labeled 1 through 11, and the product label with model number and serial number.

4. OPERATION

4.1 Manual Start

1. Ensure all safety checks are completed on the generator.
2. Insert the key into the key switch on the controller.
3. Turn the key to the "Manual" or "Start" position.
4. Press and hold the green start button (hand icon) until the engine starts.
5. Release the button once the engine is running.

4.2 Automatic Start (Auto Start Version Only)

1. Ensure the controller is in "Auto" mode by turning the key to the "Auto" position. The "AUTO" LED should illuminate.
2. The controller will monitor the remote start input.

- 3. Upon receiving a valid remote start signal, the controller will initiate the engine start sequence automatically.
- 4. The engine will run until the remote start signal is removed or a fault condition occurs.

4.3 Engine Shutdown

- 1. For manual shutdown, turn the key to the "Off" position.
- 2. In auto mode, the engine will shut down automatically when the remote start signal is removed.
- 3. The controller will also initiate an automatic shutdown if a critical fault condition is detected.

5. MONITORING AND PROTECTION

The DSE702AS continuously monitors various engine parameters to ensure safe operation. In the event of a fault, the controller will activate warning LEDs and, for critical faults, initiate an engine shutdown.

LED Indicator	Description	Action
Low Oil Pressure	Indicates engine oil pressure is below safe operating limits.	Engine shutdown.
High Engine Temperature	Indicates engine coolant temperature is above safe operating limits.	Engine shutdown.
Overspeed	Indicates engine RPM has exceeded the maximum safe limit.	Engine shutdown.
Battery Charging Fault	Indicates an issue with the battery charging system (e.g., alternator fault).	Warning LED illuminates.
Auxiliary Shutdown	Indicates an external shutdown signal has been received.	Engine shutdown (manual start version only).

6. MAINTENANCE

The DSE702AS controller is designed for minimal maintenance. However, regular checks are recommended to ensure optimal performance and longevity.

- **Visual Inspection:** Periodically inspect the controller for any signs of physical damage, loose connections, or corrosion.
- **Cleaning:** Keep the front panel clean and free of dust and debris. Use a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Connection Checks:** Ensure all wiring connections to the terminal blocks remain tight and secure.
- **Functionality Test:** Regularly test the engine start and stop functions, and verify that warning LEDs illuminate correctly during simulated fault conditions (if safely possible).

7. TROUBLESHOOTING

This section provides guidance for common issues. For problems not listed here, contact technical support.

Problem	Possible Cause	Solution
---------	----------------	----------

Problem	Possible Cause	Solution
Controller does not power on.	No DC supply, incorrect wiring, blown fuse.	Check DC power connections, verify voltage (8-35V), inspect fuses.
Engine fails to crank.	Low battery voltage, faulty starter motor, wiring issue to START output.	Check battery charge, inspect starter motor, verify START output wiring.
Engine cranks but does not start.	No fuel, no ignition, engine fault (e.g., low oil pressure sensor active).	Check fuel supply, ignition system, and ensure no fault LEDs are active.
Engine shuts down unexpectedly.	Active fault condition (e.g., low oil pressure, high temperature, overspeed).	Observe warning LEDs to identify the fault. Address the underlying engine issue.
Battery charging fault LED is on.	Faulty charge alternator, wiring issue to WL terminal.	Inspect charge alternator, check WL terminal wiring.

8. SPECIFICATIONS

Parameter	Value
Model Number	702K-AS
DC Supply Voltage	8 V to 35 V continuous
Cranking Dropouts	Able to survive 0 V for 50 mS (provided voltage was at least 10 V before dropout and recovers to 5 V)
Output (START, RUN, PRE-HEAT)	Solid state 1.2 A negative grounding terminal
Product Dimensions	3 x 3 x 2 inches (approximately)
Item Weight	6.4 ounces (approximately)
Manufacturer	KNOWTEK

9. WARRANTY AND SUPPORT

For warranty information or technical support, please contact your supplier or the manufacturer directly. Ensure you have your product model number (702K-AS) and any relevant serial numbers ready when seeking assistance.

Manufacturer: KNOWTEK

For further assistance, please visit the [Knowtek Store on Amazon](#).

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

Anonymous

Email

you@example.com

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