

Datakom DSD-080

Datakom DSD-080 Earthquake Shutdown Panel with Battery

User Manual

Model: DSD-080 | Brand: Datakom

1. INTRODUCTION

The Datakom DSD-080 Seismic Security Panel is designed to monitor seismic motions indicative of a strong earthquake. Upon detection, it provides relay output signals to shut down critical installations such as natural gas and LPG systems, generators, and elevators, thereby reducing potential damage. The unit features a graphical display screen that shows the current system status.

The DSD-080 incorporates highly sensitive triple-axis seismic sensors and is designed for maintenance-free operation with self-test capabilities. Its earthquake sensing specifications conform to ANSI 241.80 (1981), ASCE 25-97, and TS-12884 (2002) standards.

Operating on mains power, the DSD-080 includes an internal 24V/1.2Ah battery for backup, providing automatic battery charging and ensuring continued operation during power failures. In low battery conditions, the unit activates audible and visible alarms.

2. IMPORTANT SAFETY INFORMATION

VERY IMPORTANT: This Datakom item is not sold for usage in USA and Canada.

Early sensing time is dependent on the distance of the unit from the seismic epicenter. Generally, a 1-second early warning time is possible for every 8 kilometers. For example, if the earthquake epicenter is 40 km away, a 5-second early warning may be provided before the arrival of destructive S (secondary) waves.

Due to its high sensitivity, the early warning system may generate false alarms. For instance, a small magnitude earthquake might be detected as the P (primary) waves of a stronger earthquake.

3. PRODUCT OVERVIEW



Figure 3.1: Front view of the Datakom DSD-080 panel, showing the display, operational indicators, and control buttons.

The DSD-080 features a clear graphical display for system status and indicators for operational status, battery health (OK/Low), and mains failure. Control buttons are provided for navigation and reset functions.

4. FEATURES

- Wide operating voltage range (85-305VAC)
- Conforms to international earthquake standards
- Triple-axis motion detection
- Automatic self-test function
- Internal audible warning system
- Internal 24V battery for backup power
- 5 programmable relay outputs (5A capacity)
- Visual indicators for battery status
- Wide operating temperature range (-10°C to +70°C)
- Suitable for 1-3 phase gasoline and diesel gensets
- Designed for front panel mounting

- Survives cranking dropouts
- Generator protection, built-in alarms and warnings

5. SETUP AND INSTALLATION

5.1 Connection Diagram

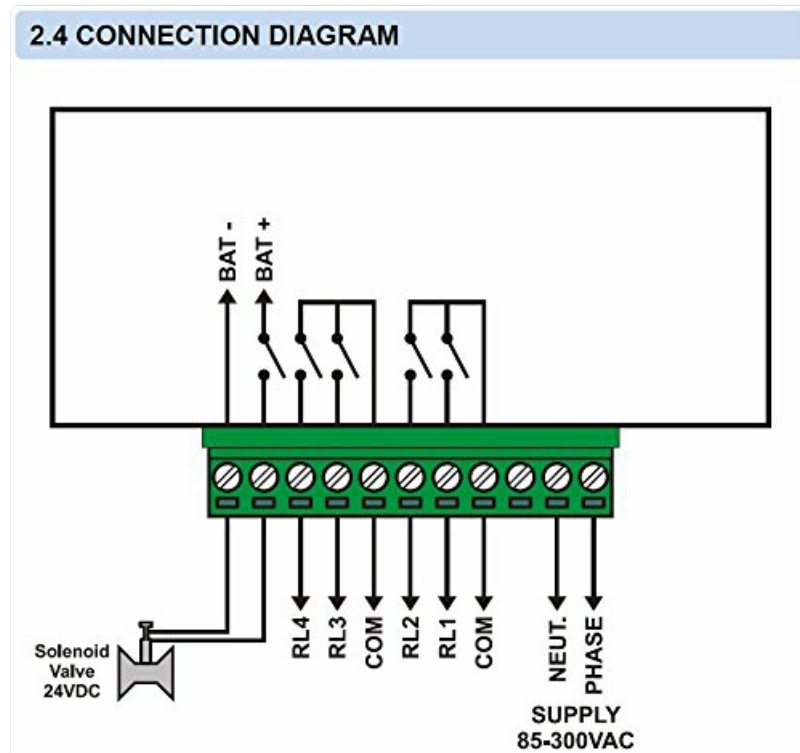


Figure 5.1: Wiring diagram for the DSD-080, illustrating power supply, battery, relay outputs, and solenoid valve connections.

The DSD-080 requires connection to a power supply (85-300VAC) and its internal battery. It provides multiple relay outputs (RL1-RL4) and common terminals (COM) for connecting to external devices such as solenoid valves (e.g., 24VDC solenoid valve shown). Ensure all connections are made securely and according to local electrical codes.

5.2 Mounting

The unit is designed for front panel mounting. Ensure adequate space for ventilation and access to connections. Refer to the product dimensions in the specifications section for precise cutout requirements.

6. OPERATING INSTRUCTIONS

6.1 Power On

Once all connections are made and power is supplied, the unit will perform an automatic self-test. The display will show system status, and indicators will illuminate accordingly.

6.2 Status Indicators

- **OPERATIONAL:** Indicates the unit is functioning correctly.
- **BATTERY OK:** Indicates the internal battery is charged and healthy.
- **LOW BATTERY:** Indicates the internal battery charge is low.
- **MAINS FAILURE:** Indicates loss of primary power supply.

6.3 Reset Function

The **RESET** button on the front panel can be used to clear alarms or initiate a self-test. Press and hold the button as instructed by the on-screen prompts or for specific troubleshooting scenarios.

6.4 Earthquake Detection

Upon detecting seismic activity exceeding the programmed threshold, the unit will activate its audible warning, illuminate relevant indicators, and trigger the programmable relay outputs to shut down connected systems.

7. MAINTENANCE

The DSD-080 is designed to be maintenance-free. However, regular checks are recommended to ensure optimal performance:

- **Visual Inspection:** Periodically inspect the unit for any physical damage, loose connections, or signs of wear.
- **Battery Check:** Monitor the 'BATTERY OK' and 'LOW BATTERY' indicators. While the unit has automatic charging, prolonged 'LOW BATTERY' status may indicate a battery issue.
- **Cleaning:** Keep the front panel and display clean using a soft, dry cloth. Avoid abrasive cleaners or solvents.
- **Functionality Test:** If possible and safe, periodically test the system's response to simulated seismic events or use the self-test function if available through the menu.

8. TROUBLESHOOTING

- **Unit Not Powering On:** Check the main power supply connection (85-305VAC) and ensure it is live. Verify the internal battery is connected and charged.
- **'MAINS FAILURE' Indicator On:** Confirm the main power supply is active. If power is present, check the wiring to the unit.
- **'LOW BATTERY' Indicator On:** Allow time for the internal battery to charge. If the indicator persists, the battery may need replacement or there could be an issue with the charging circuit.
- **False Alarms:** Review the 'IMPORTANT NOTICE' section regarding sensitivity. Ensure the unit is mounted securely and not subject to non-seismic vibrations.
- **Relays Not Activating:** Check the programming of the relay outputs. Verify connections to the external devices.

For issues not resolved by these steps, please contact Datakom support.

9. TECHNICAL SPECIFICATIONS

Category	Specification
Operating Voltage	85 to 305VAC
Supply Power	4W maximum
Battery Charge Voltage	27.5VDC (+/-0.2V)
Battery Charge Current	100mA, maximum
Low Battery Voltage Limit	22V (+/- 0.3V)
Current Drain from Battery	10mA max from 24VDC (all relays passive); Additional 6mA for each energized relay
Battery Capacity	24VDC, 1.2Ah
Operation from Battery	>24 hours (typically 72 hours)
Self Test	At power-on and reset
Switching	5 relay outputs (5A / 30VDC / 250VAC)
Audible Warning	90dB 1m buzzer
Operating Temperature Range	-10 to +70 °C
Relative Humidity	%10 to %90 (non-condensing)
Weight	1900 grams (approximately)
Dimensions (W x H x D)	192 x 120 x 65mm
Sensor Specifications	
Sensor Type	Triple axis polysilicon semiconductor acceleration sensor
Sensor Operating Limits	±2g
Sensor Failure Limit	More than 50g
Accelerating Threshold	TS12884, ANSI Z21.80 (1981), ASCE 25-97
Detection Delay	0.5s, maximum
Frequency Range	0.5Hz to 25Hz

10. SUPPORT AND CONTACT INFORMATION

For technical assistance, inquiries, or further information regarding the Datakom DSD-080 Earthquake Shutdown Panel, please contact:

DATAKOM Electronics Ltd.

Tel: +90-216 4668460

Fax: +90-216 3646565

E-mail: datakom@datakom.com.tr

Related Documents - DSD-080

	DPR-02 Voltage Protection Relay (Line to Neutral) - Datakom The Datakom DPR-02 is a three-phase voltage protection relay for line-to-neutral applications. It protects against over-voltage, under-voltage, and phase rotation issues in distribution substations, generators, motors, transformers, and compensation systems. Features include adjustable voltage limits, trip and reset delays, and phase sequence protection.
	H510B Dancing Lights Aromatherapy Humidifier User Manual User manual for the H510B Dancing Lights Aromatherapy Humidifier, detailing mist settings, light functions, Bluetooth connectivity, maintenance, troubleshooting, and specifications. Includes FCC compliance information.
	Whynter 0.8 Quart Compact Personal Automatic Ice Cream Maker Instruction Manual Comprehensive instruction manual for the Whynter ICM-080-TL, ICM-080-HP, and ICM-080-LH compact personal automatic ice cream makers. This guide covers product features, essential safety precautions, installation and operation steps, delicious recipes, troubleshooting tips, cleaning instructions, and warranty information.
	Nuki Door Sensor: Installation & Setup Guide Comprehensive guide for installing and setting up the Nuki Door Sensor. Learn how to integrate it with your Nuki Smart Lock for enhanced home security and smart functionality.
	Laserliner AquaPro Automatic Rotation Laser with Slope Function - User Manual Comprehensive user manual for the Laserliner AquaPro automatic rotation laser. Features include self-levelling, slope mode, vertical alignment, and detailed safety and calibration instructions.
	Gustard X26III DAC Network Streamer User Manual Comprehensive user manual for the Gustard X26III DAC Network Streamer, covering setup, operation, specifications, and troubleshooting for optimal audio performance.



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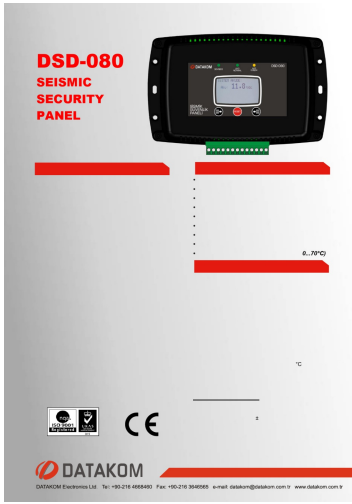


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