



CMR Electrical Ltd
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DLD16 16-Zone Central Alarm Panel

Able to communicate with up to 16 DLD250 distance to leak sensors



Standard Features

- Can interface with 1 - 16 distance to leak sensors (Type: DLD250)
- 60x45mm colour TFT touch screen display with back light
- The status of all fitted zones is displayed on touch screen
- Onboard audible warning device to alert local operators of a problem
- Alarm latched until Mute is operated, providing indication of transient water leaks.
- Common Alarm, New Alarm, Common Fault & Power Fault output relay contacts to BMS
- RS485 communications to DL250 sensors
- Each sensor has an independent zone alarm/fault relay for integration with a BMS or other system.
- System Information Button Showing: Total Number of Zones, Last Water Alarm, Last Offline Event, and Last Fault Event
- Power to all DLD250 sensors is provided from the alarm unit and booster units if required
- DLD250 sensors have back lit display to show the distance to a leak from the sensor

Optional Equipment

- Motorised ball valves to turn off the water supply when a leak is detected
- SMS System to send a text message when an alarm is raised
- Remote beacon or mutable sounder beacon
- Individual alarm relays allowing the status of each zone to be displayed on a BMS system
- Modbus TCP
- Battery backup and power fault output relay to BMS

Manufacturer of Specialist Electronic Equipment

CMR Electrical Ltd

Company Registration No. 4769129

VAT Registration No. 810881636



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The DLD16 has been designed to continuously monitor a number of areas for water leaks using water detection cable. Consisting of a central alarm unit and a number of sensors, areas to be monitored can be over 500m away from the alarm unit with the DLD250 sensor having up to 250m of detection cable per sensor.

For a complete system overview and detailed information on sensor operation, please refer to the DLD250 Manual.

System Description

The DLD16 Water Leak Detection System is designed to monitor up to 16 individual DLD250 leak detection sensors. Each sensor communicates with the DLD16 alarm panel and reports its status, including water leak alarms, sensor faults, or disconnection conditions.

The DLD16 alarm panel incorporates:

- New Alarm relay
- Common Alarm relay
- Common Fault relay
- Internal audible warning device

Each DLD250 sensor continuously reports its current alarm and fault status to the DLD16 via an RS485 communication network. The status of each zone is displayed on the DLD16 main screen.

In addition to communicating with the alarm panel, DLD250 sensors contain individual alarm and fault relays for local status indication. Sensors can also be fitted with an optional automatic water shut-off valve, allowing the water supply serving the protected area to be isolated automatically when a leak is detected.

Sensor Connections

Sensors are powered and communicate using standard Cat 6 Ethernet cables fitted with RJ45 connectors. The cable carries both power and data communications between the DLD16 and connected sensors.

Pre-manufactured interface cables with RJ45 connectors at both ends are supplied to allow sensors to be connected in a daisy-chain configuration from one sensor to the next.

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Leak Alarm Operation

When a water leak is detected by any connected sensor, the DLD16 will identify and display the affected zone in alarm.

At the same time:

- The New Alarm relay will operate.
- The Common Alarm relay will operate.
- The internal audible warning device will sound.
- The optional remote sounder/beacon will activate (if fitted).
- The optional SMS text messaging system will send an alarm notification (if fitted).
- The optional individual BMS relay for the affected zone will operate (if fitted).

Alarm Acknowledgement

Pressing the Mute button acknowledges the alarm and will:

- Silence the internal audible warning device.
- Return the display to the normal operating screen.
- Continue to display "ALARM" next to the affected zone number.
- De-energise the New Alarm relay.
- Leave the Common Alarm relay energised until the alarm condition is cleared.
- Silence the optional remote sounder while leaving the beacon flashing (if fitted).

Leak Location Indication

The DLD250 sensor provides a distance-to-leak indication, allowing maintenance personnel to locate the leak more quickly.

By attending the sensor reporting the alarm (for example, Zone 5), the distance to the leak can be viewed in metres.

Important: The displayed distance is measured from the sensor itself and not from the DLD16 alarm panel.

For further information on leak location functionality, refer to the DLD250 Manual.

Automatic System Reset

Once the source of the leak has been addressed and all water has been removed from the sensor, the system will automatically return to normal operation, provided that the alarm has been acknowledged using the Mute button.

No manual reset is required.

Fault Monitoring

The DLD16 continuously supervises all connected sensors and communication circuits.

The system will identify and report:

- Sensor disconnection
- Sensor communication failures
- Sensor faults

Any fault condition will be displayed on the DLD16, allowing maintenance personnel to quickly identify and rectify the issue.



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Each system can include up to 16 DLD250 sensors. Each DLD250 supports between 20 and 250 metres of detection cable and connects to the DLD16 alarm unit using pre-made Cat6 cables with RJ45 connectors that carry both power and data.

Specification

Housing Type	ABS, colour light grey similar to RAL7035 rated at (IP50) H180 mm x W180 mm x D80 mm
Mounting	Wall, flush or surface
Access into housing	Bottom or bottom back
Alarm unit size	180mm wide x 180mm high x 80mm deep
Input power	50/60 Hz single phase 230VAC +10% - 6%
Burden	< 13VA
Power termination	Internal 3way terminal block
Voltage to sensor	Bi-directional 5VDC
Voltage to outstations	24VDC
Connections to sensor	Cable fitted with RJ45 connectors
New Alarm output contacts	Changeover contacts rated at 1amp 230VAC/DC
Common Alarm output contacts	Changeover contacts rated at 1amp 230VAC/DC
Common Fault output contacts	Changeover contacts rated at 1amp 230VAC/DC
Individual Alarm output contacts	Changeover contacts rated at 1amp 30VAC/DC
Display	60x45mm colour TFT touch screen with back light
Communication to DLD250 sensors	Cat6 cable with RJ45 connector at each end
Maximum zones and sensors	16 zones and a maximum of 16 x DLD250 sensors

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