

# V-MON

## VEHICLE MONITORING DEVICE

The Forman **VMMS Vehicle Multi-Message System** helps to ensure safe running of buses and coaches by providing audio messages and alerts to drivers about the devices it monitors.

There have been occasions when the Forman VMMS connections *accidentally* come loose, stopping it from working properly. The Forman V-MON Vehicle Monitoring Device is designed to monitor the status of the Forman VMMS and alert if issues which may impede its proper functioning arise.

The Forman V-MON links directly into the Forman VMMS speaker and the smoke detector circuits to monitor their status. If the V-MON unit detects that the speaker is disconnected or the power supply to the smoke alarm falls below the specified threshold, an alert is issued to the driver to prompt resolution.



### Speaker Monitoring

The V-MON will alert the driver if the speaker is disconnected, continuing until the speaker is reconnected.



### Smoke Alarm Monitoring

If the power supply to the smoke detector drops below 18 V, an alert is issued to the driver.



### Anti-Tamper Alert

The Forman V-MON offers a choice of anti-tamper alerts, including a buzzer and LED indicator.

## How Does V-MON Work?

The Vehicle Monitoring Device works by connecting into the circuit for the speaker and the smoke detector. Dependant on operator preference, the V-MON can be fitted with either an LED indicator, buzzer or relay coil to alert the driver if a device is tampered with.

### Speaker Monitoring

The V-MON is connected directly to the speaker coil. It applies small bias currents to the two speaker lines. When the speaker is connected, these biases are shorted through the speaker coil, so almost no difference in voltage is detected between each line.

If the speaker is disconnected, the lines aren't shorted, and a different voltage can be measured on each line. The V-MON detects the difference and alerts the driver that the speaker is disconnected. The device will continue to alert for a further 10 seconds after the speaker is reconnected to avoid false reconnection signals.

### Smoke Alarm Detection

The Vehicle Monitoring Device connects to the smoke detector power supply. The unit will alert if the power supply drops below 18 V. To avoid false alerts, there is a 2-seconds filtering mechanism.

## Forman Vehicle Monitoring Device Sample Layout

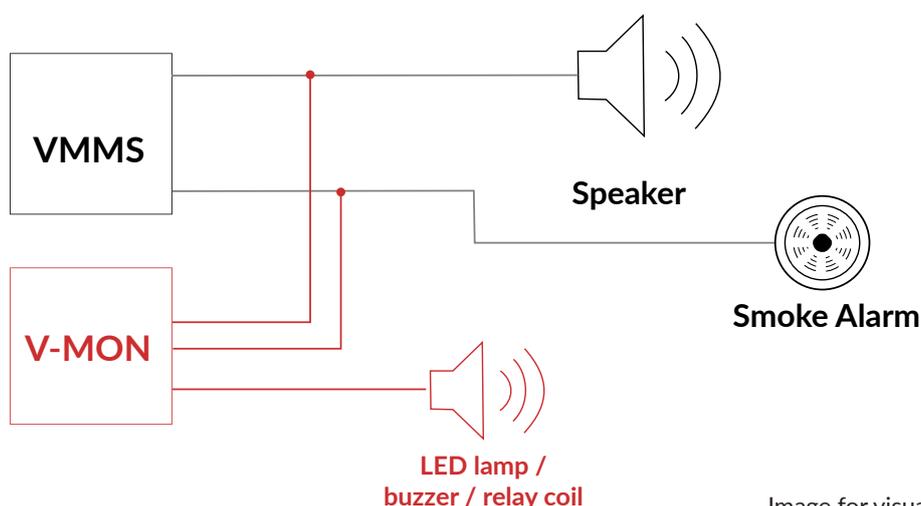


Image for visual representation only.

## V-MON Key Technical Specification

Operating Voltage Range	15 V to 30 V
Maximum Alert Output Load	2.4 W (100 mA at 24 V)
Speaker Line Difference Threshold	0.5 V (equates to a line load of 6 Kohm)
Maximum Speaker Impedance	100 ohm
Smoke Alarm Supply Threshold	18 V

For the complete technical specification and operating instructions, please contact Forman Vehicle Services.

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