CI/SfB
(32.5) Ro8 (K2)

LORIENT
ASSA ABLOY

WIRING INSTRUCTIONS

TALKB
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TALKBACK DAMPER CONTROL SYSTEM

The Talkback Damper System is designed to monitor and control air transfer grilles (ATGs) within a building, interfacing with the fire alarm system to ensure safety. The Damper Control Monitor (DCM) provides DC power and monitors the status of ATGs.

Wiring Specifications

Cable Requirements:

- A three-core cable is required to connect the DCM to the air transfer grilles.
- Using 1mm² wire provides a ring system with a maximum length of 100 meters. For radial or spurred systems, each leg can be a maximum of 50 meters. These lengths can be increased proportionally with increments in wire cross-sectional area.

Installation Types:

- **Ring System:** Allows up to 16 air transfer grilles to be connected using a 3-core cable arranged in a ring. The maximum length is 100 meters (Diagram A, page 3).
- **Radial/Spurred System:** Maximum length for each leg is 50 meters. A spurred system may limit the number of air transfer grilles connected to a DCM (Diagram B, page 3).

Cable Specifications:

Generally, 1mm² flat twin and earth cable is acceptable. However, it is advisable to check with the local fire officer for compliance with local policies. Fire-resistant cable may be used if it provides at least the same capacity as 1mm² copper wire.

Individual Addressing:

Each air transfer grille has an individual code, requiring a 3-core cable to supply and signal to each unique address. Further information on how to set the address of individual air transfer grilles can be found on page 5.

Installation Guidelines

Qualified Personnel:

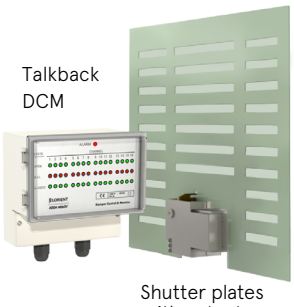
Wiring installations and commissioning should be undertaken by qualified personnel using Lorient wiring, fitting, and commissioning instructions.

Location of DCM:

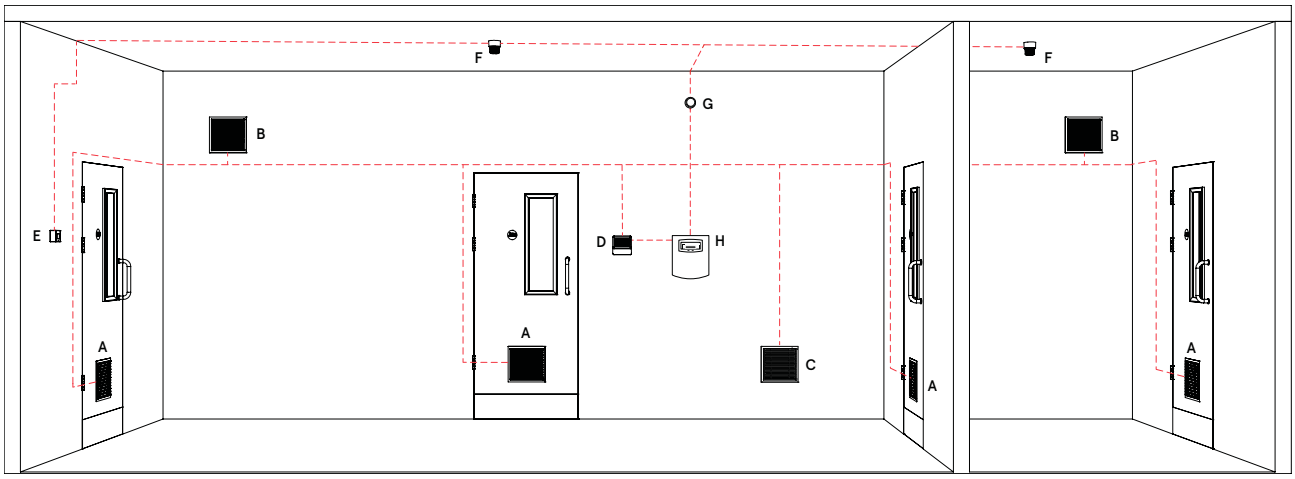
DCMs should be located where they can be routinely viewed. If using an Audio Monitoring System (AMS), it should be positioned where the audio warning can be heard by a responsible member of staff. The AMS does not need to be situated next to the DCM.

Commissioning:

A completed wiring diagram for each installed system should be provided to the building operator after commissioning, indicating the location of each air transfer grille and its DCM address.



TYPICAL INSTALLATION OF THE LORIENT TALKBACK SYSTEM



A: Door mounted fire & smoke air transfer grilles
B: End of duct fire & smoke air transfer grilles
C: Wall mounted fire & smoke air transfer grilles
D: Power and monitor unit
E: Fire point
F: Smoke sensors
G: Fire alarm
H: Fire alarm panel

Fire Alarm Connection Options

Option 1:

- The DCM sends its own signal to a "0" volt contact on the alarm panel. In an alarm condition, the normally closed contact opens and breaks the signal, instructing all shutters to close.

Option 2:

- A 24-volt signal generated by the fire alarm panel is used. In normal conditions, the signal is live, but it ceases in an alarm condition, triggering the DCM to instruct the shutters to close.

Operation

Normal Conditions:

Shutters within the air transfer grilles will be in the open state, and the top row of green lights on the DCM will be illuminated, indicating compliance with the open instruction.

Testing:

During auto-cycling or manual testing, the fire alarm panel's normal interface signal to the DCM is interrupted. A red warning light flashes, and the DCM instructs the shutters to close. The bottom row of green lights will indicate the closing instruction, and if all shutters close, the corresponding green lights remain illuminated.

Fault Indication:

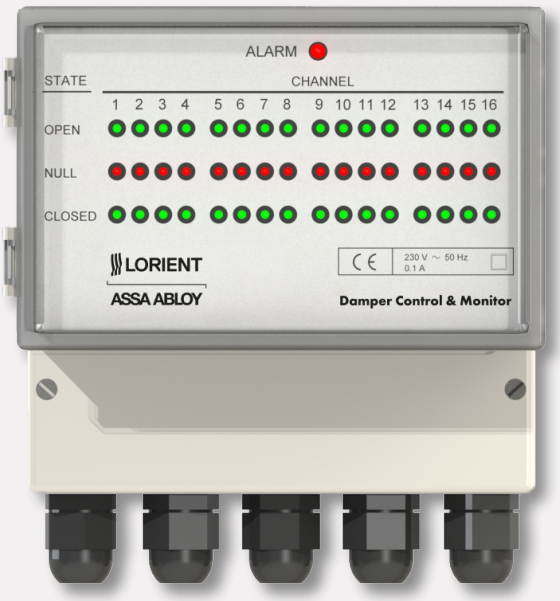
If any green lights are replaced by red lights after approximately 20 seconds, it indicates a fault with those air transfer grilles. The DCM interrogates each actuator in turn and receives responses to confirm their status.

Manual Testing:

Manual testing can be conducted by disconnecting the alarm interface wiring and using the rotary test switch shown in Diagram C (page 5).

Fail-Safe Operation:

If an actuator does not receive a signal from the DCM within 10 seconds, it will assume a fault or alarm and close the shutters as a fail-safe measure.



Talkback Damper Control Monitor (DCM)

Damper Control Monitor (DCM) Features

Physical Specifications:

- **Dimensions:** 165w x 155h x 125d mm.
- Clear vision panel in the upper section.
- Screw-fixed panel for wiring connections in the lower section.

Display Panel:

Contains 3 horizontal rows of 16 LEDs

- **Top row (green):** Indicates ATGs are open as commanded.
- **Bottom row (green):** Indicates ATGs are closed as commanded during a test cycle.
- **Middle row (red):** Indicates a fault or unconnected channel.

Interfacing with Fire Alarm Panels:

- **Method A:** Use a spare 24-volt DC signal output from the alarm panel.
- **Method B:** A signal generated by the DCM is passed through a normally closed "no volt" contact on the alarm panel.

Initial Powering Up:

Converts a 230-volt AC supply to a clean 12.8-volt DC output. Each ATG actuator is instructed to open according to its address, taking approximately 10 seconds to cycle through all 16 channels.

Continuous Monitoring:

An interrogatory signal is passed every 10 seconds from the DCM to each ATG actuator, ensuring continuous status updates.

Simulated Alarms:

Conducted manually using the rotary test switch or automatically every 24 hours during the auto-cycle.

TALKBACK DAMPER CONTROL SYSTEM

SCHEMATIC WIRING INSTALLATIONS

DIAGRAM A:
Ringed wiring installation

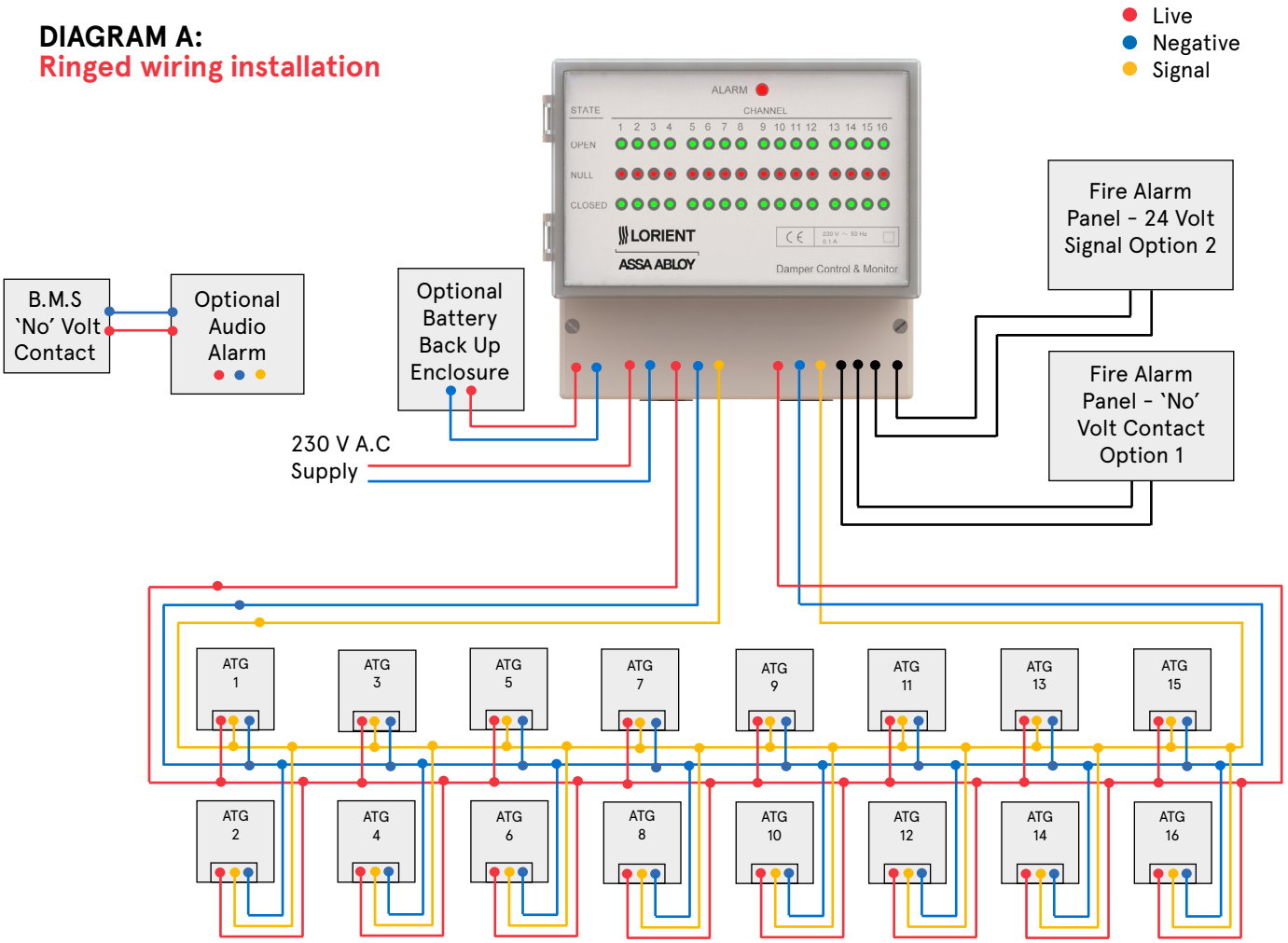
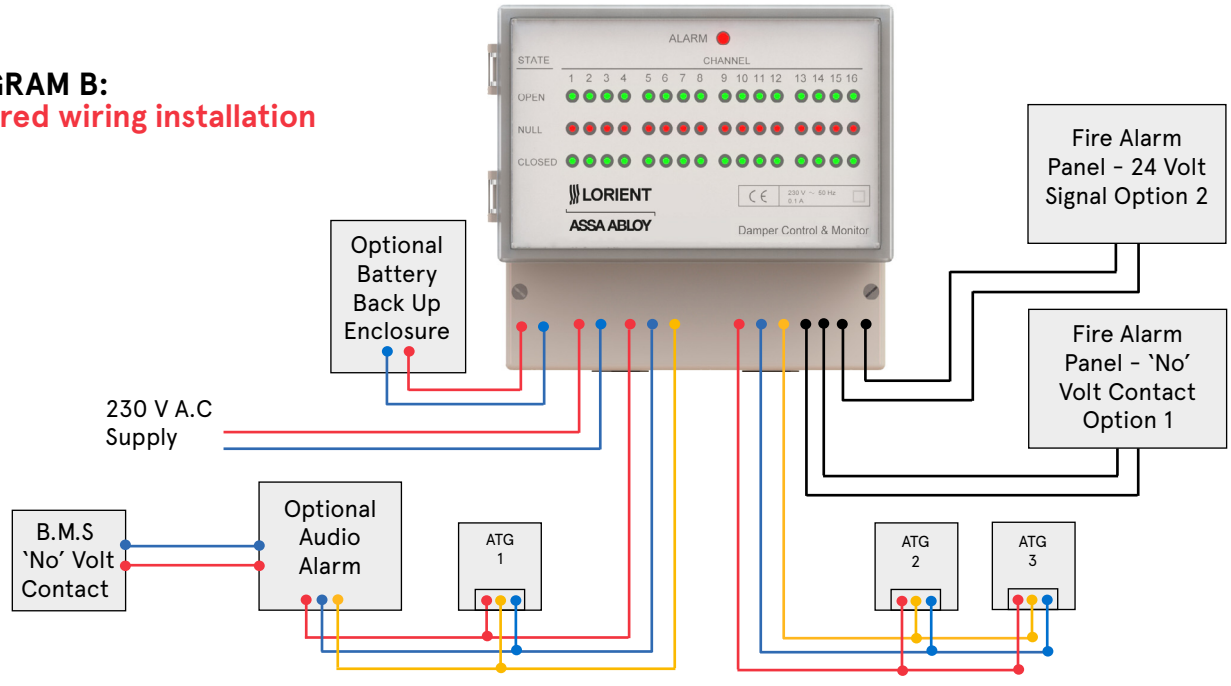
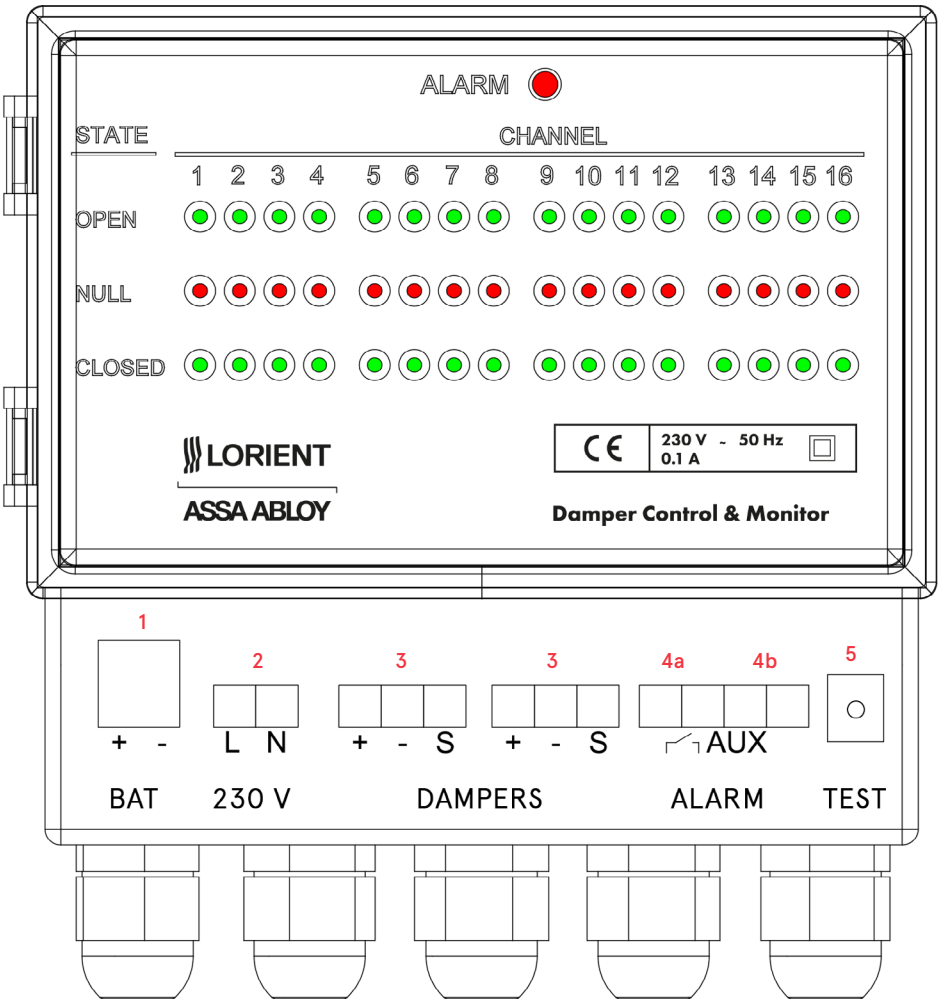


DIAGRAM B:
Spurred wiring installation



TALKBACK DAMPER CONTROL SYSTEM

DIAGRAM C:
Connections within Talkback Damper Control Monitor (DCM)



1. Optional battery backup
2. Mains supply 230 V A.C
3. Supply & signal to dampers - 12.8 V D.C

Alarm interface options:

4a. Connect to '0' volt normally closed contact on fire panel

4b. Connect to normally on 24 volt signal from fire panel if available

5. Test switch.

How to set the address on an air transfer grille:

To set the addresses on the air transfer grilles for connection to the Talkback Damper Control Monitor (DCM), follow these steps:

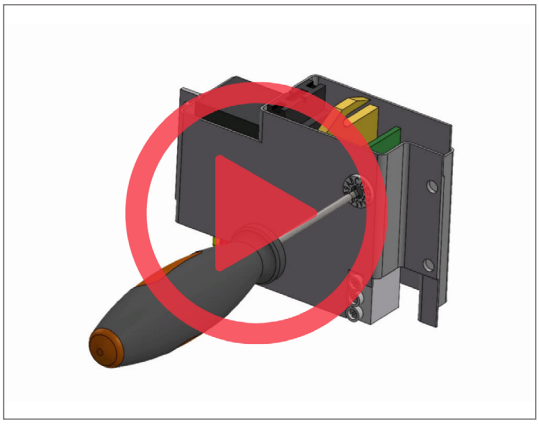
1. Ensure Unique Addresses:
Each DCM should have unique addresses for each air transfer grille (e.g., 1 x no.1, 1 x no.2, 1 x no.3, etc.).

2. Tools Needed:
You will need a small flat-bladed screwdriver.

3. Setting the Address:

- Locate the rotary switch on the actuator of the air transfer grille.
- Use the screwdriver to turn the rotary switch to the desired address. The switch is labelled 1-9, with letters A-O representing numbers 10-16 (e.g., A equals 10, B equals 11, C equals 12, etc.).

Before Connecting to Mains Supply: Ensure that the address is set on the actuator before connecting the system to the mains supply to avoid any conflicts or issues.



Addresses:

Options shown:	1 2 3 4 5 6 7 8 9 A B C D E F O
Equates to:	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

MAINTENANCE

Maintenance

Air Transfer Grille Maintenance:

- If a fault develops on any air transfer grille, remove the cover grille or intumescent fire grille to expose the shutter plates and actuator.
- Examine wiring connections for looseness and refit or tighten as necessary.
- Check shutter plates for jamming due to distortion or debris. Clean plates using a paint brush if debris is present.
- Do not remove the actuator from the shutter plate assembly or dismantle the shutter plate assembly.
- Contact the manufacturer if the problem cannot be resolved. If all shutters fail to operate and only red lights are illuminated, refer to the Lorient fault finding chart.

Duct Mounted Damper Maintenance:

- If a fault develops on a cassette type smoke containment damper, remove the cassette retaining screw to slide the shutter assembly from the damper housing.
- Remove shields from the actuator, check for debris, and clean if necessary. Check and tighten or refit actuator wiring connections as needed.
- Do not remove the actuator from the shutter plate assembly or dismantle the shutter plate assembly.
- Contact the manufacturer if the problem cannot be resolved. If all shutters fail to operate and only red lights are illuminated, refer to the Lorient fault finding chart.

General Maintenance:

- The auto-cycling feature of the Talkback system typically prevents dust and debris accumulation. However, if debris regularly accumulates in ATGs, it indicates poor air quality within the building, which should be addressed as a health issue.
- For dampers in ventilation ducts, persistent debris accumulation suggests ineffective in-line filtration, which should be investigated.

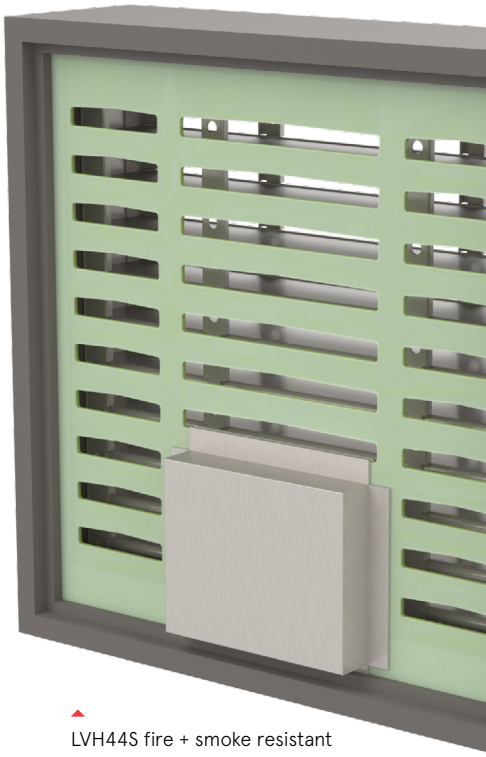
Standards and Testing

BS 9999 Compliance:

BS 9999 provides a best practice framework for fire safety, including standards for the definition, maintenance, and testing of fire dampers. It states that all fire dampers should meet the criteria of fire resistance for a stated period of time and that:

'Arrangements should be made for all fire dampers to be tested by a competent person on completion of the installation and at least annually, and to be repaired or replaced immediately if found to be faulty. Spring-operated fire dampers should be tested annually and fire dampers situated in dust-laden and similar atmospheres should be tested much more frequently, at periods suited to the degree of pollution.'*

Within the context of VH001 guidance document, "tested" means the demonstration of the operational function of the damper.



LVH44S fire + smoke resistant air transfer grille

Commissioning and maintenance

We offer a professional and expert commissioning service for fire and smoke air transfer grilles.

We check and test the installation and components of Lorient fire and smoke air transfer grilles; and issue a fully detailed service report, highlighting status and compliance.

Our comprehensive service covers a number of factors, including:

- Checking the system is installed as per Lorient recommendations and is compliant with test evidence.
- Checking the full functionality of the system, which can be coupled with witness testing to demonstrate functionality and compliance if required.
- Providing documented evidence that the system is functioning as per requirements.
- Providing documented installation detail, which can be used in off-site support and/or included in site handover.
- Reducing delays caused by improper installation which require technical support.

Please contact our Testing + Technical Services team for pricing and further information on **+44 (0)1626 834252** or email **technical@lorientuk.com**

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