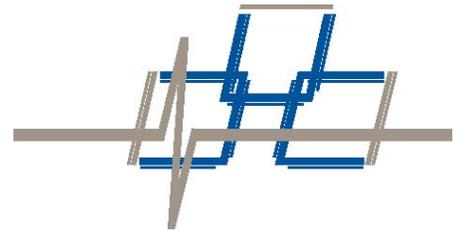


500 Series Optional Accessories

Application Note



© Copyright 2014, **Fiber SenSys**[®] all rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from **Fiber SenSys**[®], **Inc.**, 2925 NW Aloclek Drive, Suite 120, Hillsboro, Oregon 97124, USA.

This manual is provided by **Fiber SenSys Inc.** While reasonable efforts have been taken in the preparation of this material to ensure its accuracy, **Fiber SenSys Inc.** makes no express or implied warranties of any kind with regard to the documentation provided herein. **Fiber SenSys Inc.** reserves the right to revise this publication and to make changes from time to time in the content hereof without obligation of **Fiber SenSys Inc.** to notify any person or organization of such revision or changes.

FD525[™], **FD525R**[™], **OM525**[™], and **RLM525**[™] are trademarks of **Fiber SenSys Inc.**

Fiber SenSys[®] is a registered trademark of **Fiber SenSys Inc.**

Fiber SenSys Inc.
2925 NW Aloclek Dr.
Suite 120
Hillsboro, OR 97124
USA

Tel: 1-503-692-4430
Fax: 1-503-692-4410
info@fibersensys.com
www.fibersensys.com

Contents

1. Introduction	2
2. OM525 Output Module	3
OM525 Output Module Connections and Indicators.....	3
Mounting the OM525 Output Module	5
3. RLM525 Relay Module.....	6
RLM525 Relay Module Connections and Indicators	6
Mounting the RLM525 Relay Module.....	7
4. Specifications.....	9

2. Introduction

This application note describes the specifications, functionality and how to install optional output accessory modules for **Fiber SenSys** Alarm Processing Units (APUs) in the **FD500** series family.

While the **FD525** standalone does have a form C relay output for when the APU detects an alarm, it does not have individual relay contacts for each zone. The **FD525R** also does not have relay outputs for each individual zone. If relays are the preferred method of output for sending alarm messages, then an accessory module can be purchased. There are two available accessory modules: The **RLM525** and **OM525**. The accessory modules act on alarm messages from the APU, activating the relays and indicators corresponding to the affected zones. The accessory modules connect to the CAN bus of the APU via Ethernet cable. They also receive power through the CAN bus port, so this is the only connection required to operate the accessory module.

3. OM525 Output Module

The **OM525** has LED indicators as well as relay outputs for each zone. The **OM525** gives visual insight to the state of the zones and thus the relays via the LEDs. This accessory is recommended for **FD525** standalone APUs that do not have visual indicators for the status of each zone.

OM525 Output Module Connections and Indicators

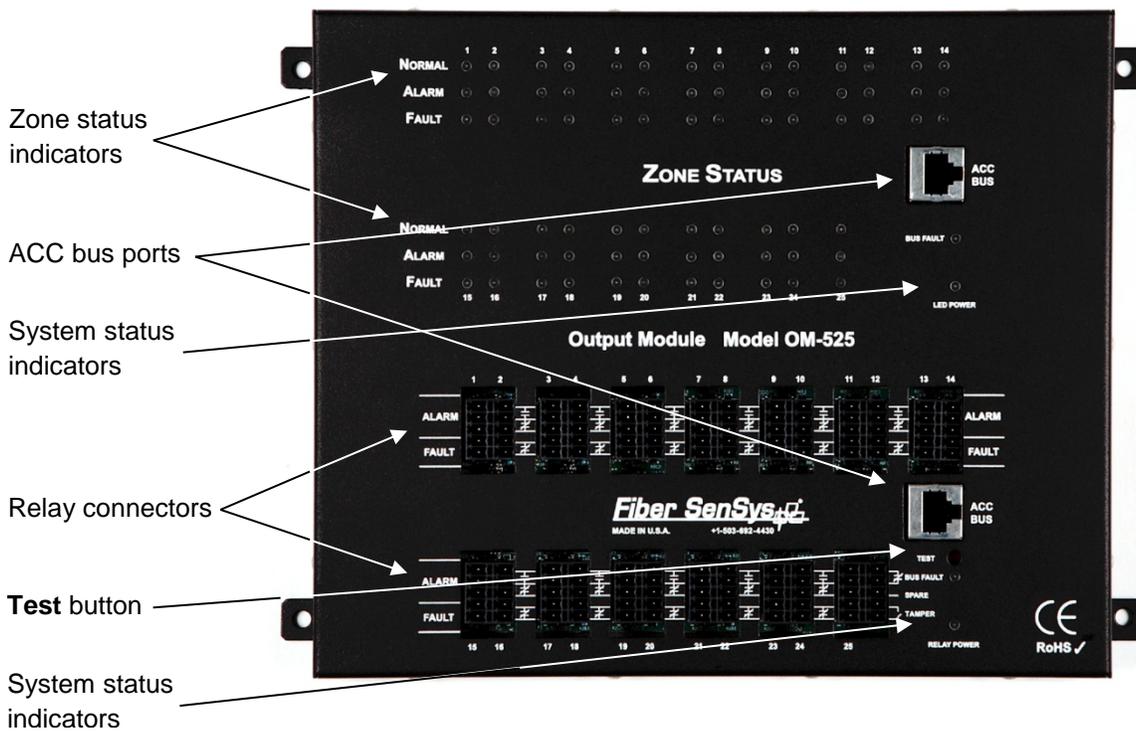


Figure 1. OM525 output module, top view

The **OM525** output module has the following control, connectors, and indicators on the top of the unit:

- **Test**

Pushing the **Test** button performs a self-test, which causes the APU to temporarily activate all relays and LEDs to their alarm or fault states. When the button is released, all relays and LEDs resume normal communication of zone conditions.

The **Test** button is recessed so it cannot be inadvertently pushed. The **Test** button can be pressed using a small screwdriver or similar tool.

- **System status indicators**

LED indicators show accessory bus fault and power status for both relays and relay indicators. The fault LEDs are red and the power LEDs are green.

- **ACC bus port**

Two RJ45 controller-area network (CAN) accessory bus ports are provided, for communication to and from the APU, and to provide power to the **OM525**. Use either port to connect to the **FD525** APU.

- **Relay connectors**

25 relay connectors, one per zone, are provided for integration with head-end equipment. Each connector provides access to both alarm and fault status for one zone. Table 2-2 lists the pin assignments.

Table 1. Relay connector pin assignments

Pin	Description
1	Alarm relay normally open contact
2	Alarm relay common contact
3	Alarm relay normally closed contact
4	Fault relay contact A, normally closed
5	Fault relay contact B

The (unnumbered) accessory connector provides access to fault status for the accessory bus and a tamper input. The normally closed accessory bus fault relay opens if there is a fault in the CAN bus connection to the APU. If there is a tamper switch on any enclosure where the **OM525** is installed, the leads of the tamper switch can be connected to the tamper input pins. When the normally closed tamper circuit opens, the APU alarm relay activates and remains activated until the circuit closes again or the tamper feature is disabled. Table 2-3 lists the pin assignments.

Table 2. Accessory connector pin assignments

Pin	Description
1	Accessory bus fault relay contact A, normally closed
2	Accessory bus fault relay contact B
3	Spare (not connected)
4	Tamper input, normally closed
5	Tamper input return

- **Zone status indicators**

Three LED status indicators for each zone in the system show zone status: Normal (green), Alarm (red), and Fault (yellow). Alarm and Fault LEDs both light when there is a fault in a zone.

Mounting the OM525 Output Module

There are four sheet-metal tabs on the APU for wall mounting. These tabs are drilled to accept 10-32 screws. The **OM525** output module must be mounted within 25 feet of the attached **FD525** APU, since that is the maximum length of the accessory bus cable.

The **OM525** comes with contacts for connecting a tamper switch input (refer to table 2 above). If the **OM525** is to be mounted in a NEMA enclosure, the use of a tamper switch is strongly recommended.

4. RLM525 Relay Module

The **RLM525** only has relay outputs for each zone. This accessory is recommended for **FD525R** APUs that already come with LED indicators on the front panel for each zone that provide visual indicators for the status of each zone.

RLM525 Relay Module Connections and Indicators

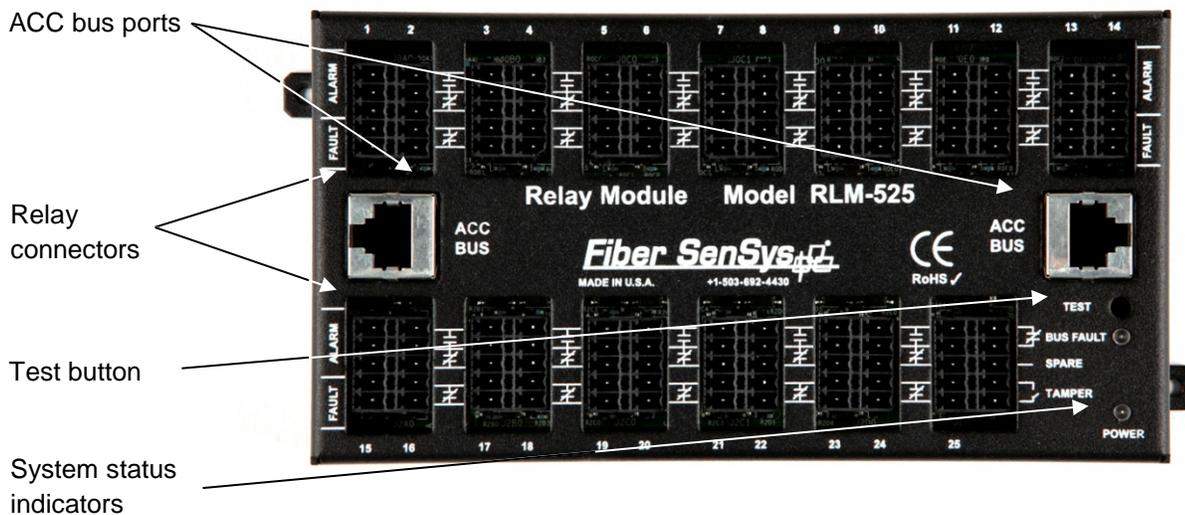


Figure 2. RLM525 relay module, top view

The **RLM525** relay module has the following control, connectors, and indicators on the top of the unit:

- **Test**

Pushing the **Test** button performs a self-test, which causes the APU to temporarily activate all relays and LEDs to their alarm or fault states. When the button is released, all relays and LEDs resume normal communication of zone conditions.

The **Test** button is recessed so it cannot be pushed inadvertently. The **Test** button can be pressed using a small screwdriver or similar tool.

- **System status indicators**

LED indicators show accessory bus fault and power status. The fault LED is red, and the power LED is green.

- **ACC bus port**

Two RJ45 controller-area network (CAN) accessory bus ports are provided, for communication to and from the APU, and to provide power to the **RLM525**. Use either port to connect to the **FD525R** APU.

- **Relay connectors**

25 relay connectors, one per zone, are provided for integration with head-end equipment. Each connector provides access to both alarm and fault status for one zone. Table 2-4 lists the pin assignments.

Table 3. Relay connector pin assignments

Pin	Description
1	Alarm relay normally open contact
2	Alarm relay common contact
3	Alarm relay normally closed contact
4	Fault relay contact A, normally closed
5	Fault relay contact B

The (unnumbered) accessory connector provides access to fault status for the accessory bus and a tamper input. The normally closed accessory bus fault relay opens if there is a fault in the CAN bus connection to the APU. If there is a tamper switch on any enclosure where the **RLM525** is installed, the leads can be connected to the tamper switch to the tamper input pins. When the normally closed tamper circuit opens, the APU alarm relay activates and remains activated until the circuit closes again or the tamper feature is disabled. Table 2-5 lists the pin assignments.

Table 4. Accessory connector pin assignments

Pin	Description
1	Accessory bus fault relay contact A, normally closed
2	Accessory bus fault relay contact B
3	Spare (not connected)
4	Tamper input, normally closed
5	Tamper input return

Mounting the RLM525 Relay Module

There are two sheet-metal tabs on the **RLM525** module which provide for attachment to the back of the **FD525R** APU. These tabs are drilled to accept 4-40 screws. However, the **RLM525** may be mounted on any handy surface up to 25 feet away, since the accessory bus cable that connects to the APU may be up to 25 feet long. In particular, it may be advantageous to mount the **RLM525** close to the head end, since there are many connections between those two units, but only one cable between the **RLM525** and the APU.

The **RLM525** comes with contacts for connecting a tamper switch input (refer to the table 4 above). If the **RLM525** is to be mounted in a NEMA enclosure, the use of a tamper switch is strongly recommended.

5. Specifications

Table 5. OM525 Output Module Specifications

Electrical	
Voltage	6 to 28 VDC
Maximum power	3.75 W at 25° C
Relay wiring	24 to 16 AWG
Relay contacts	100 mA, 24 VDC non-inductive
Contact isolation	125 VAC
Communication ports	ACC Bus
ACC Bus cable	Shielded Cat 5 Ethernet cable
Max. total ACC Bus cable length from APU	7.62 m (25 ft.)
Tamper switch contacts	Min. external switch ratings 5 VDC @ 1 mA
Operating temperature	-40° C to 70° C (-40° to 158° F)
Dimensions with mounting ears and connectors	26.80 cm [10.55in] Width 20.10 cm [7.91in] Length 3.81 cm [1.50in] Height

Table 6. RLM525 Relay Module Specifications

Electrical	
Voltage	6 to 28 VDC
Maximum power	2.0 W at 25° C
Relay wiring	24 to 16 AWG
Relay contacts	100 mA, 24 VDC non-inductive
Contact isolation	125 VAC
Communication ports	ACC Bus
ACC Bus cable	Shielded Cat 5 Ethernet cable
Max. total ACC Bus cable length from APU	7.62 m (25 ft.)
Tamper switch contacts	Min. external switch ratings 5 VDC @ 1 mA
Operating temperature	-40° C to 70° C (-40° to 158° F)
Dimensions with mounting ears and connectors	8.80 cm [3.50in] Length 18.67 cm [7.35in] Width 3.81 cm [1.50in] Height