D7039

Fire Systems

BOSCH

Notices

Use these instructions to install the D7039 Multiplex Expansion Module in a fire system supervised by a D7024 Fire Alarm Control Panel (FACP).

Install, test, and maintain the D7039 according to these instructions, NFPA 72, local codes, and the Authority Having Jurisdiction (AHJ).

> ⚡ Follow the procedures in this document to avoid personal injury and damage to the equipment. Failure to follow these procedures can cause the D7039 to not operate properly. Bosch is not responsible for improperly installed, tested, or maintained devices.
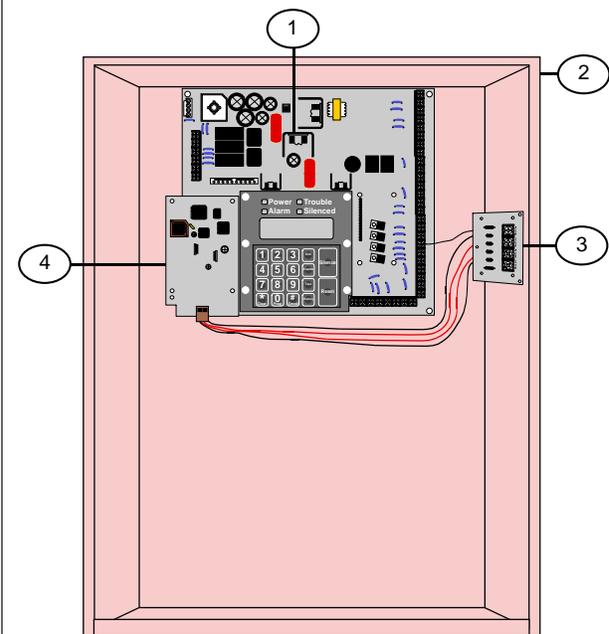
> ☑ For the D7039 with ROM version 1.04 to operate properly, the D7024 FACP must be running version 2.05 or later firmware.

1.0 Description

The D7039 (*Figure 1*) connects directly to the FACP for either two Class B multiplex buses or one Class A multiplex bus that allows up to 247 remote points.

Figure 1: D7039 Module Location

1 - D7024 Control Board
2 - Enclosure
3 - I/O module for the D7039
4 - D7039 Module

> ☑ When configured for Class A operation, the D7039 can only support Addresses 9 through 128.

2.0 Installation

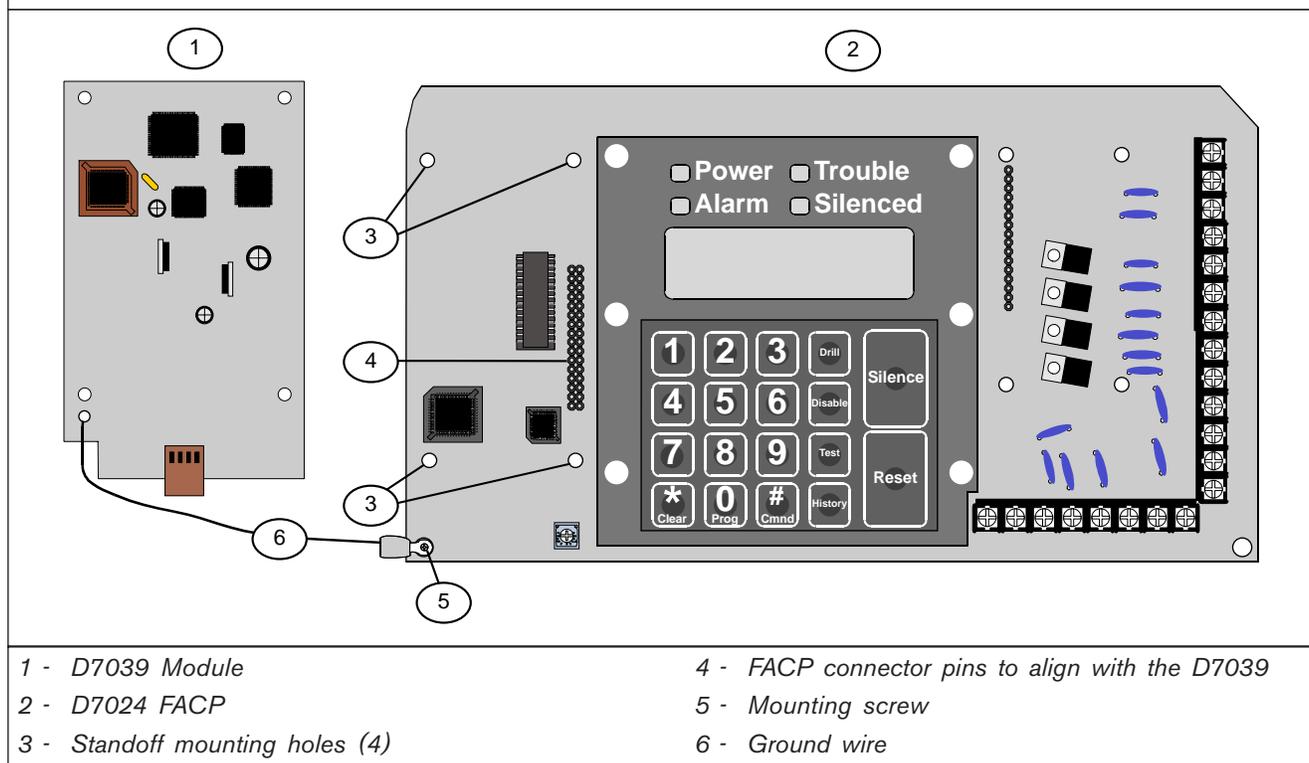⚠ Failure to follow the mounting instructions in this document can damage the FACP.

🚫 The D7039 and D7024 have static sensitive components and must be handled with care. Follow the anti-static procedures when handling these modules.

☑ Before installing the D7039 Module, remove all AC and battery power to the FACP.

1. If the D7024 is already installed in an enclosure, remove it.
2. Place the FACP on a flat surface with the component side facing up (*Item 2* in *Figure 2*).
3. Insert the four plastic standoffs in the mounting holes (*Item 3* in *Figure 2*) without bending or flexing the FACP.
4. Align the standoff tabs so they do not touch the module components.
5. Firmly press the standoffs into the board, allowing the ears to expand out.
6. Mount the D7039 on the standoffs, ensuring the FACP connector pins (*Item 4* in *Figure 2*) are properly aligned.
7. Install the FACP in the enclosure.
8. Use the mounting screw (*Item 5* in *Figure 2*) to secure the D7039's ground wire (*Item 6* in *Figure 2)* to the FACP.

Figure 2: Mounting the D7039 on the D7024

1 - D7039 Module
2 - D7024 FACP
3 - Standoff mounting holes (4)
4 - FACP connector pins to align with the D7039
5 - Mounting screw
6 - Ground wire

9. Mount the D7039 I/O Module (*Item 1* in *Figure 3*) in the FACP enclosure (*Item 2* in *Figure 3*) using the mounting holes in the enclosure (*Item 3* in *Figure 3*).

10. Connect the yellow and green earth ground wire from the I/O module to the earth ground terminal on the FACP control board (*Item 4* in *Figure 3*).

Figure 3:   Installing the Input-Output Module
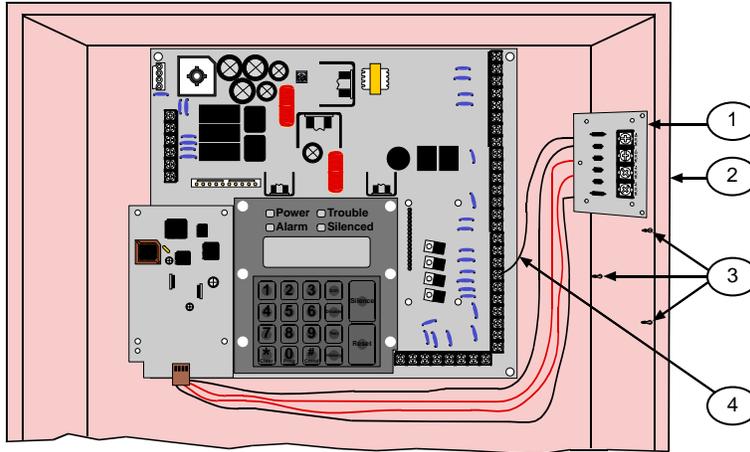
| 1 - | I/O module | 3 - | Holes (3) and standoffs (3) to mount the I/O module |
| 2 - | Enclosure | 4 - | I/O module earth ground wire to the D7024 ⏚ terminal connection |

3.0   Wiring

1. Connect the D7039 multiplex loop using up to 3800 ft (1170 m) of 18 AWG (1.0 mm^2) or 5950 ft (1810 m) of 16 AWG (1.5 mm^2) wire (*Figure 4*). Do not use shielded wire.

> Do not use shielded wire. Twisted pair is acceptable, but is not recommended.

Figure 4:   Connecting the Mux Class "A" and Class "B"
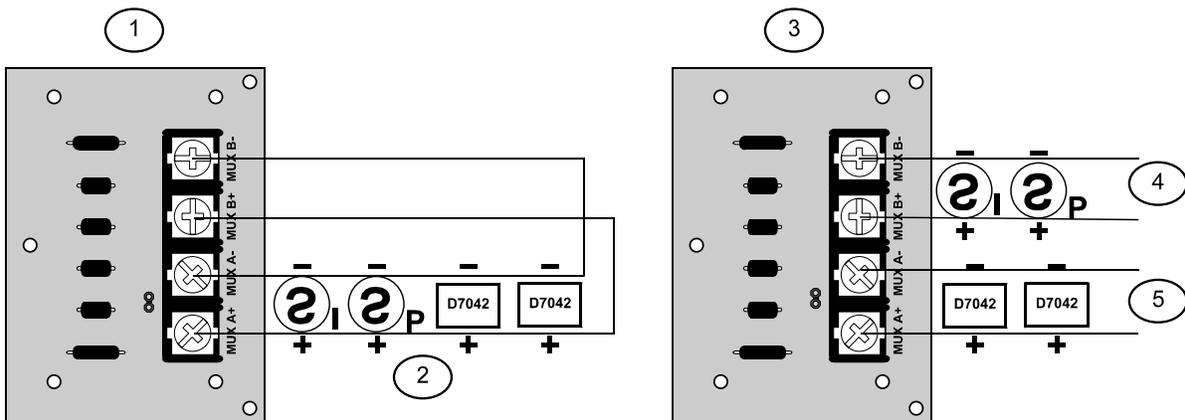
1 -	I/O module for the D7039, wired Class "A"	4 -	Mux B Addresses 129 through 255
2 -	Class "A" Addresses 9 through 128	5 -	Mux A Addresses 9 through 128
3 -	I/O module for the D7039, wired Class "B"		

Note: All terminals are supervised.

You can configure the D7039 with a single fault tolerant Class "A" loop or as a pair of supervised Class "B" loops. When configured as a Class "A" loop and installed on a D7024 Control Panel before Lot #100, the D7039 implements a Style 4.5 signaling line circuit (SLC). When installed on a D7024 Control Panel Lot #100 or later, the D7039 implements Style 6 SLC. Refer to the *D7024 Operation and Installation Guide* (P/N: 31499) for programming.

When configured as a Class "B" loop and installed on a D7024 Control Panel before Lot #100, the D7039 implements a Style 3.5 SLC. When installed on a D7024 Control Panel Lot #100 or later, the D7039 implements a Style 4 SLC. Refer to the *D7024 Operation and Installation Guide* (P/N: 31499) for programming.

2. Measure loop resistance by shorting the end of the farthest device in Class "B" (*Figure 5*) or shorting the return wire in Class "A" (*Figure 6*) and reading the total resistance of all wires associated with the loop.

Figure 5: Measuring Class "B" Loop Resistance

1 - 50 Ω maximum	2 - Mux bus wires	3 - Clip lead

3. Ensure the loop is disconnected from the D7039 Module.

Figure 6: Measuring Class "A" Loop Resistance

1 - 50 Ω maximum	2 - Mux bus wires	3 - Clip lead

4.0   Specifications

Table 1: Specifications	
Input Voltage	24 VDC nominal from FACP
Current Draw, Standby and Alarm	150 mA maximum
Current Draw Load	100 mA maximum for each bus
Maximum Bus Voltage	8.5 V to 13 V
Maximum Wiring Resistance	50 Ω, Class A (Style 6) or Class B (Style 4) SLC
Environment	Indoor/dry
Note: All Mux Bus terminals are power-limited and supervised.	

Notes

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