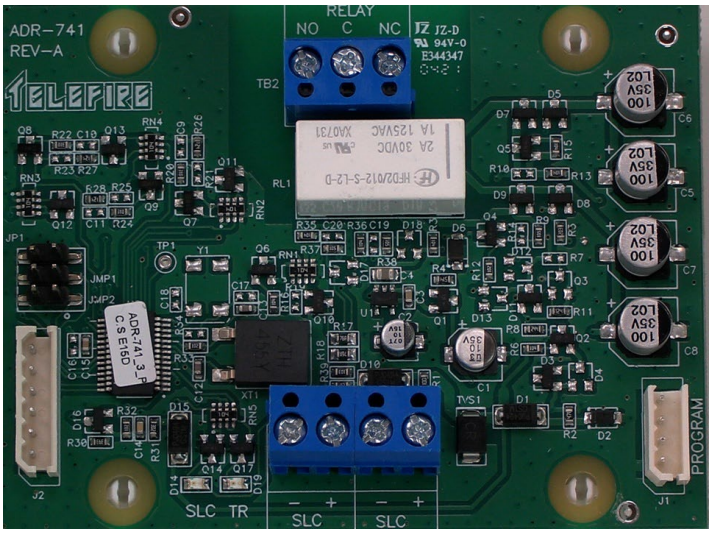
ADR-741

# ADR-741

## Addressable Relay Module

## Technical Manual

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**ADR-741En100.pdf**
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**i** **Note**

The terms “**Trouble**” as used in NFPA 72 guideline and UL standards and “**Fault**” as used in EN 54 standards are used interchangeably throughout this manual.

**i** **Note**

Do not install, operate, and maintain this ADR-741 before fully reading this manual.

# 1 Introduction

The ADR-741 addressable relay module includes a set of dry contact relays for use in cases where it is necessary to perform actions such as electricity disconnect or elevator recall, which are performed via relay.

The addressable device communications line (SLC) is galvanically isolated from the relay.

The ADR-741 occupies a single address. The address is stored in the module's non-volatile memory and can be programmed or verified by using the PROG-4000 Addressable Detector and Accessory Programmer. Please refer to the PROG-4000 Technical Manual for further information.

The ADR-741 includes an onboard indicating LED that flashes when addressed by the control panel and latches on upon activation.

The ADR-741 module is supervised by the control panel and communicates with it via the SLC.

# 2 Compatibility

## 2.1 Control Panels

The ADR-741 is compatible with the full range of Telefire's addressable control panels.

## 2.2 Devices

ADR-741 can be connected to devices that are compatible with the relevant standards, provided that they were approved by the Telefire Fire & Gas Detectors Ltd. and authority having jurisdiction.

# 3 Installation

## 3.1 Pre-Installation Planning

### 3.1.1 Capacity Planning

Ensure that the control panel has a free address for the ADR-741.

### 3.1.2 Cabling Planning – Wire Characteristics' Effect on System Performance

The following table shows the effect of wiring characteristics on system performance:

| Characteristic | Effect on SLC | Effect on IDC |
|---|---|---|
| Electric resistance | Minimal | Minimal |
| Capacitance | High | No affect |
| Inductance | High | Minimal |
| Mechanical Strength | High | High |

**Table 1 Wire Characteristics' Effect on System Performance**

### 3.1.3 Cabling Planning – Signaling Line Circuits (SLC)

The ADR-741 connects to the control panel via a two-wire cable 12 – 18 AWG (cross section of 0.8mm$^2$ to 3.3mm$^2$). Twisted-pair cable is recommended.

| Wire Size | Cross Section ($mm^2$) | Maximum SLC branch length for wire size |
|---|---|---|
| 18 AWG | 0.8 $mm^2$ | 950 m |
| 16 AWG | 1.3 $mm^2$ | 1,520 m |
| 14 AWG | 2.1 $mm^2$ | 2,420 m |
| 12 AWG | 3.3 $mm^2$ | 3,830 m |

**Table 2 Selecting SLC Wires**

*i* **Note**

Notify the operator or the security personnel that the system will be temporary disconnected before adding devices to the control panel.

### 3.1.4 Cabling Planning – Relay Output

*i* **Note**

Relay outputs are not supervised and should be limited to the same room or no farther than 10m.

## 3.2 Installation

### 3.2.1 ADR-741 Configuration

Assign the module's address prior to installation by using the PROG-4000 Addressable Detector and Accessory Programmer. Please refer to the PROG-4000 manual for additional details.

Mount AIB-800 on a clean firm surface and install the ADR-741 module in it.

### 3.2.2 Configuring the ADR-7000/3000

Configure the module as "**Sounder**", "**Lamp**", or "**Supervisory Out**", as appropriate, in the ADR-7000/3000.

Program the relay's activation matrix. Configure the activation delay and define the output as "**Silenced**" or "**Non-Silenced**" as required.

Please refer to the ADR-7000/3000 technical manual for a detailed description of programming and configuration.

### 3.2.3 Mounting the module

The module should be installed in a closed location. Avoid exposure to outdoor environment to prevent high humidity or dust or air pollution.

Mount the module to a solid wall so it will have comfortable access to connecting the cables from the input and output devices and maintenance personnel for ongoing operations and in a location where it is possible to supervise and clearly see the display and indicators.

### 3.2.4 Connecting the Relay

Connect the relay as required

**Note**

Measure the wiring to ensure there are no shorts before connecting the wiring to the control panel.

Connecting or adding inputs, outputs, and extinguishing devices shall be done when all power to the control power is disconnected (AC and batteries disconnected).

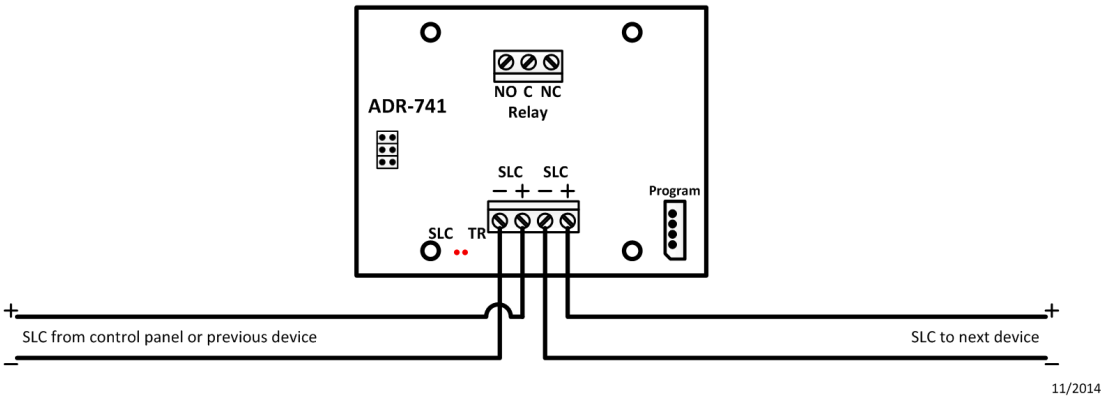


**Figure 1 SLC Connection**

## 3.3 Post-Installation

Test the module to ensure that it operates properly and verify that it is included in the appropriate matrices as specified by the planning consultant.

## 3.4 Documentation

Mark the module's addresses on a label that is easily visible. Indicate its purpose (for example, "Elevator Recall").

# 4 Troubleshooting

The ADR-741 unit includes an indicator LED that flashes on each system communication request to one of the module's addresses. When the relay is activated, the LED will latch on.

The LCD display on the control panel and remote annunciators will indicate a detailed error message.

# 5 Specification

| | |
|---|---|
| Module PCB dimensions (W / H) | 65 / 86 mm |
| AIB-800 dimensions (W / H / D) | 167 / 125 / 33 mm |
| Weight | 60 gr. |
| Operating Temperature range | -10°C – +60°C (14°F – 140°F) |
| Relative Humidity Range | 10% – 93% non-condensing |
| Maximum current consumption (SLC) | 280µA (quiescence mode)<br>3.2mA (Alarm) |
| SLC Voltage | 21V, modulated |
| Maximum Current Consumption | 280µA (quiescence mode)<br>3.2mA (Alarm) |
| Local Indication | Local red LED |

**All values are nominal. Specifications are subject to change without prior notice**

# 6 Certification

Telefire's ADR-741 Addressable Relay Module has the following approvals:

- EN 54 Approved
- UL 864 Edition 9 Approved
- GOST Compliant
- IS 1220 Approved
- CE Marked