Product Manual

P/N 70-290

IMPULSE RELEASING INTERFACE

Fike

P/N 06-438, Rev. 0
June 2010

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LIST OF EXHIBITS

1.0 ABOUT THIS MANUAL

This manual is intended to be a complete reference for the installation, operation, and service of Fike's Impulse Releasing Interface (P/N 70-290). The information contained in this manual shall be used by factory trained service technicians who are authorized to work on this product. This manual also serves as the Operations Manual for the component.

The first-time installer and/or user should thoroughly read and understand the instructions contained within this manual before using this device. These instructions must be followed to avoid damage to the equipment itself or adverse operating conditions caused by improper installation.

1.1 PRODUCT SUPPORT

If you have a question or encounter a problem not covered in this manual, you should first try to contact the distributor who installed the Fike system. Fike has a worldwide distribution network. Each distributor sells, installs, and services Fike equipment. Look on the back of the cabinet door, there should be a sticker with an indication of the distributor who installed the system. If you can not locate the distributor, please call Fike Customer Service for locating your nearest distributor, or go to our web-site at www.fike.com. If you are unable to contact your installing distributor or you simply do not know who installed the system, you can contact Fike Technical Support at (800) 979-FIKE (3453) for Commercial Products, Monday through Friday, 8:00 am to 4:30 pm CST.

1.2 SAFETY INFORMATION

Important safety admonishments are used throughout this manual to warn of possible hazards to persons or equipment.

WARNING

Warnings are used to indicate the presence of a hazard which will or may cause personal injury or death, or loss of service if safety instructions are not followed or if the hazard is not avoided.

Caution

Cautions are used to indicate the presence of a hazard which will or may cause damage to the equipment if safety instructions are not followed or if the hazard is not avoided.

Note: Provides information on installation, operation, maintenance, performance or general tips that are important but not hazardous to anything or anyone.

1.3 DOCUMENT HISTORY

Document Title: Impulse Releasing Interface, Product Manual

Document Reorder Number: 06-438

Revision	Section	Date	Reason for Change
0	All Sections	06/2010	Initial Release

2.0 PRODUCT OVERVIEW

The Impulse Releasing Interface (P/N 70-290) is designed to provide an interface between the supervised releasing circuit(s) of a non Fike releasing panel (approved for suppression releasing service) and Fike's Impulse Valve Operator (IVO). The IVO is the mechanism that is used to release the fire suppressant agent from a Fike impulse valve container.

The IRI comes pre-assembled from the factory and includes all of the components shown in Exhibit 1 below.

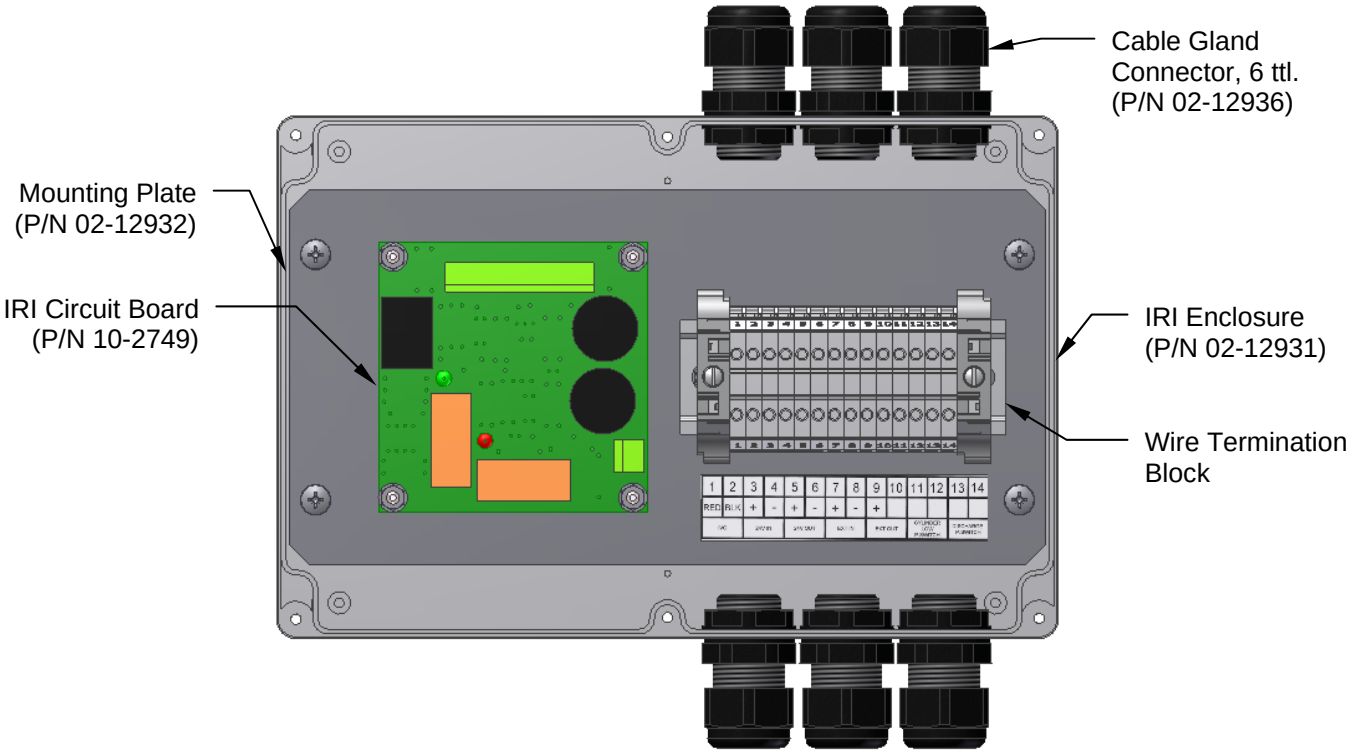

Exhibit 1: IRI Assembly Shown With Cover Removed

Enclosure Dimensions: 240 mm W x 160 mm H x 90 mm D
Enclosure IP Rating: IP65

2.1 RELEASING CIRCUIT LIMITATIONS

The total number of IRI modules that can be connected to the host control panel's releasing circuit varies depending upon the voltage supplied by the control panel to the releasing circuit. Exhibit 2 below shows the maximum number of IRI modules that can be connected to the circuit based on the supplied panel voltage.

Number of IRI	Minimum Circuit Voltage
1	17.8 VDC
2	18.8 VDC
3	19.8 VDC
4	20.8 VDC

Exhibit 2: IRI Quantity Limitations

2.2 IRI CIRCUIT BOARD SPECIFICATIONS

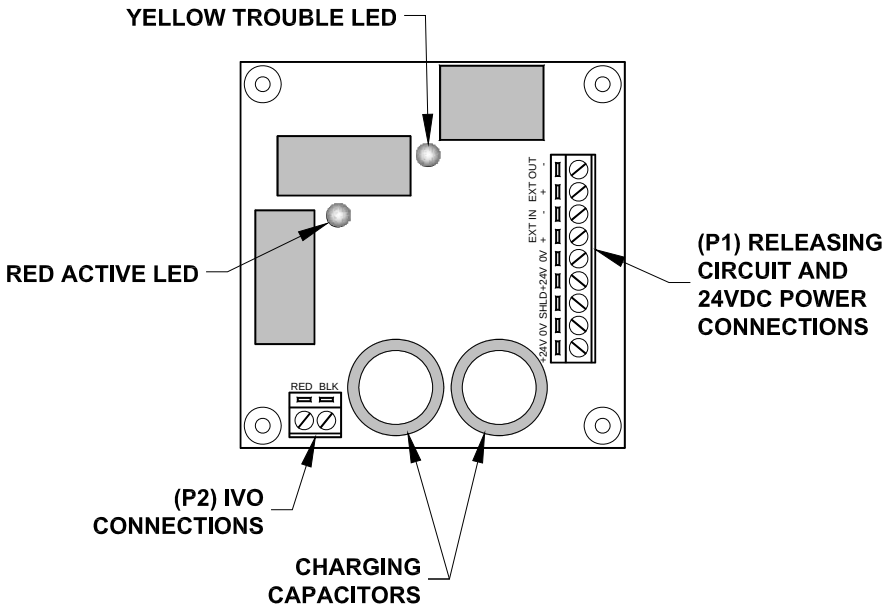

Exhibit 3: Impulse Releasing Interface Circuit Board

Power Input (Vdc):	17.8 V to 30 V
Current Consumption:	+24V Supervisory 22.0 mA (during capacitor charging, 60 sec. or less) 2.0 mA (after capacitor is charged) -24V Activated: 57.0 mA (both LEDs active)
Temperature:	0°C to 54.4°C, 93% maximum humidity
Module Wiring:	All IRI connections (P1 and P2) are supervised and power-limited.
Compatible Actuation Devices:	02-12728, Impulse Valve Operator (IVO)

3.0 OPERATION

The IRI circuit board utilizes the 24 VDC current supplied by the host control panel to charge the two capacitors on the IRI. Upon activation of the panel's releasing circuit, the relays on the IRI module transfer causing the stored energy in the capacitors to be released to the Impulse Valve Operator; thus activating the suppression system valve.

Ground fault detection for the IRI module is performed by the releasing circuit connection to the host control panel (if applicable). The IRI module supervises the Impulse Valve Operator wiring for opens and shorts.

3.1 MODULE LEDs

The IRI is equipped with a red and yellow LED. The red LED, when illuminated, provides positive indication that the IRI is in the active (discharge) state or that the field wiring has been installed incorrectly (polarity reversal). The yellow LED, when illuminated, provides indication of an open or short on the IVO circuit.

4.0 MOUNTING

The IRI should not be installed until the installation of the associated detection and control system and suppression system has been completed and both are ready for testing. The IRI enclosure should be mounted on a dry, flat, vibration free surface. It should be mounted in an accessible location near the suppression container it serves.

To install the enclosure, follow these steps:

⚠ CAUTION

The IRI circuit board contains static sensitive components. Handle the electronics by the edges only and avoid touching the integrated components. Always ground yourself with a proper wrist strap before handling the module(s). If the installer is properly grounded at all times, damage due to static discharge will not occur. If the module requires repair or return to Fike, it must be shipped in an anti-static bag.

1. Remove the IRI enclosure cover.
2. Mount the IRI enclosure to the wall with suitable anchors using the pre-drilled mounting holes, as shown in Exhibit 4.

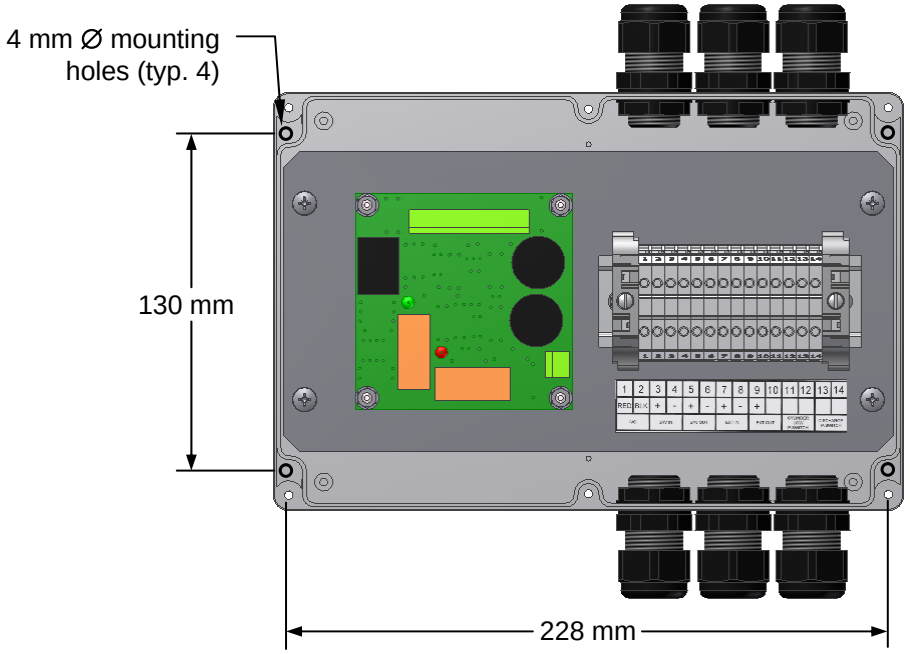

Exhibit 4: Enclosure Mounting

5.0 WIRING

The IRI circuit board is pre-wired to the termination block provided, as shown in Exhibit 5. No field connections are to be made to the IRI card. All connections for field wiring shall be made to the wire termination block provided on the IRI mounting plate. The terminals are capable of accepting wires of up to 2.5 mm^2 CSA.

Note: All field wiring shall be completed with the host control panel powered down.

To wire the IRI, follow these steps:

1. Pull field wiring into the enclosure using the cable gland connections provided in the top and bottom of the enclosure (6 total).
2. Clear the enclosure of all debris before proceeding to the next step.
3. Connect field wiring to the wire termination block, as shown in Exhibit 5, paying close attention to correct wiring polarity.

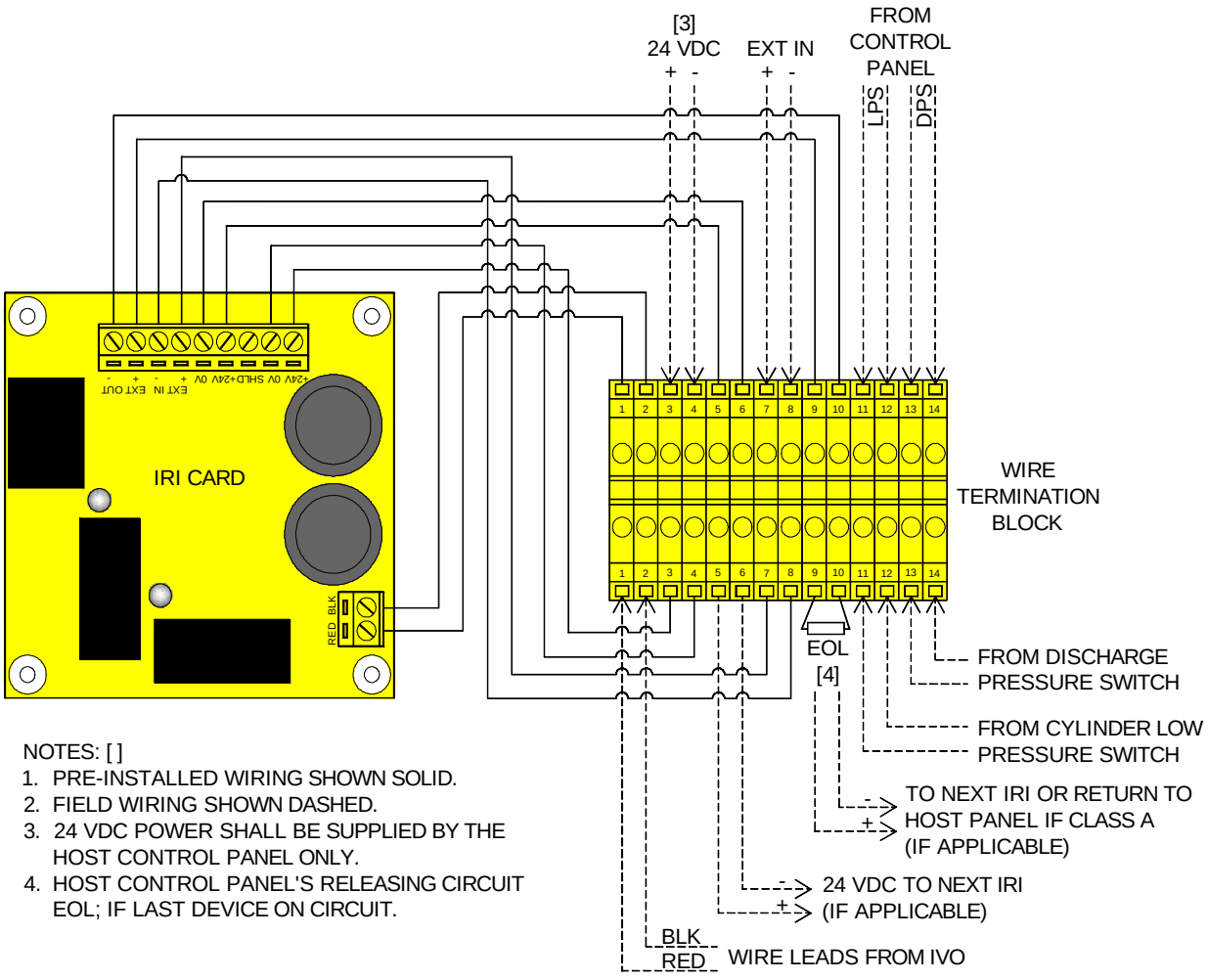

Exhibit 5: IRI Field Wiring

WARNING

Before proceeding to the next step, make sure that the IVO's are *NOT* connected to the suppression containers.

4. Apply power to the host releasing panel. With power applied, both the red and yellow LEDs on the IRM should *NOT* illuminated. If the yellow Trouble LED is illuminated, check for an open or short on the IVO circuit, or if the releasing panel is in Trouble, check for an open or short condition on the EXT OUT wiring. If the red Active LED is illuminated, check for proper wiring polarity between the releasing circuit and the IRI. Correct all problems before proceeding.

WARNING

If the red LED on the IRI is illuminated after power is applied to the releasing panel, do *NOT* attempt to connect the IVO to the suppression container. This may cause accidental release of the suppression agent.

5. Perform acceptance testing.

6.0 ACCEPTANCE TESTING

Testing of the system should only be carried out by trained personnel and must be done with all IVO's disconnected from the suppression containers to ensure that accidental discharge of the extinguishant agent is avoided.

1. Prior to commencing testing, ensure that the panel is clear of any troubles and the red and yellow LEDs on each IRI card are not illuminated.
2. Temporarily disconnect the Impulse Valve Operator wires (Red and Black) from the field wiring terminal strip and verify that the yellow trouble LED on the IRI card illuminates and that a trouble signal is received by the host releasing control panel.
3. Temporarily remove the releasing circuit end-of-line from field wiring terminal on the last IRI or disconnect the return wire leg on the last IRI and verify that a Trouble signal is received by the host control panel.
4. Using either a Manual Release or the detection method of the releasing panel, initiate the Release mode.
5. Verify that the red LED on the IRI illuminates and the piston on the Impulse Valve Operator extends, indicating IVO activation.
6. Reset the host control panel and verify that the red LED on IRI goes out.
7. Reset the Impulse Valve Operator as detailed on the Impulse Valve component sheet, P/N 06-540-1-9.
8. Verify that the host control panel does not activate the IRI during any state other than Release.

7.0 ARMING/DISARMING THE SYSTEM

STOP WARNING

If there are ground faults present on the host releasing system (control panel), do *NOT* connect the Impulse Valve Operator to the suppression container. Doing so could result in accidental agent discharge.

To Arm the system:

1. After the system has been fully tested and restored to Normal operation, make sure each IVO has been reset (piston retracted). Refer to the instructions provided on the Impulse Valve Operator component sheet, P/N 06-540-1-9.

STOP WARNING

The IVO must be reset after a system discharge and container refill. Do not attempt to connect the IVO to the container with the actuator pin in the extended (fired) position.

2. Connect the Impulse Valve Operator to the suppression container as detailed on the Impulse Valve Operator component sheet, P/N 06-540-1-9.

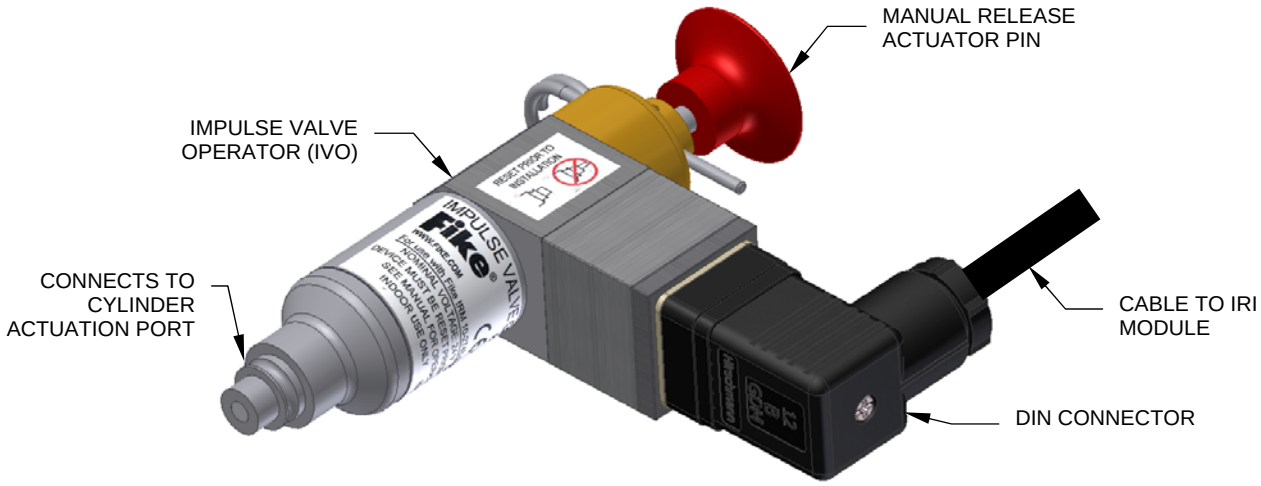

Exhibit 6: Connecting the Impulse Operator to the Container

Note: A discharge pressure switch (P/N 02-9635) must be installed on the discharge piping for each IVO container equipped with a manual release actuator (required by LPCB).

To Disarm the system:

1. Disconnect the Impulse Valve Operator from the suppression container as detailed on the Impulse Valve Operator component sheet, P/N 06-540-1-9.

8.0 INSPECTIONS AND TESTING

The suppression system(s) shall be inspected and tested in accordance with the requirements of EN 15004 / ISO 14520. Inspection and testing shall be performed by the system installer or an approved maintenance company who has been trained in the proper operation and testing of the system. Any defects should be recorded and reported immediately to the person responsible for routine testing.

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