Loop Powered 4 Channel Input Output Interface

LP4IO

Seamless Integration, Simpler Installation

Protec
A Bosch Company

6000/LP4IO

Protec Fire Detection PLC, Churchill Way
Nelson, Lancashire, BB9 6RT, UK

Manufacturer		
Rated Loop Voltage	18 V - 28 V dc	
Rated Alarm Current	4 mA	
Intended Use	Fire Safety	
Product Standard	EN 54-17:2005 + AC:2007	
	EN 54-18:2005 + AC:2007	

Refer to DEL2238
at support.protec.co.uk

PFD-CPR-0183

RDL0442/3

Monitored Inputs

Relay Outputs

Address LED Status
Input + Output Inactive
Input + Output Active
Input Active
Output Active

Switch 1 2 3 4

ADD 1 ADD 2 ADD 3 ADD 4

LOOP   SCR   SCR

NC   C   NO   NC   C   NO
1   NO   2   C   NO

Smarter System Control

The 6000/LP4IO is an intelligent addressable fire alarm interface that sits directly on a Protec digital addressable loop. It serves as a critical integration point between Protec's current generation fire alarm control panels and other third-party systems. For example: gas detection, lift controls, ventilation, and gas shut-off valves.

The interface features four independent input/output channels, enabling the 6000/LP4IO to interface with a range of third-party products.

When an external system such as a gas detector activates an input, the fire alarm system can respond by triggering corresponding outputs. For example, it can automatically shut off a gas valve to isolate supplies, stop elevators at the designated floor, or initiate extraction systems during a fire scenario.

The 6000/LP4IO monitors the active state of each channel. Inputs or outputs are fully programmable via the DIP switches built into the device. A user can perform specific shutdown or control actions via the 6500's cause and effects matrix or Boolean Logic.

The 6000/LP4IO interface uses the 6000PLUS protocol to report the device status in real time over the addressable loop, allowing seamless integration into the overall fire safety strategy.

Designed for life safety and building integration scenarios, the 6000/LP4IO ensures coordinated responses between the fire alarm system and critical building systems. This enhances both safety and operational control during a fire or emergency event.

Key Features

Controllable Inputs

Each address can be Enabled/Disabled using the on-board switches and can be programmed using the Panel Commissioning Software. Program inputs for various applications include: Activation Delay, and Latching/Non-Latching input

Loop Powered

Powered by the 6000PLUS digital addressable loop, ensuring a low current fully monitored method of operation.

FAST™ Addressing

Make device addressing just as fast as installing. With FAST addressing software it makes commissioning out in the field a simple scan and go.

Fault Monitored

The 6000/LP4IO continuously reports each input or output active status which is identified at the device by the address status LED.

Programmable Outputs

Program outputs for various Applications: Output Fail-safe Operation, Fan Control Reset Mode

1 Device, 4 Channels, Total Control

Designed for flexibility and simplicity, the 6000/LP4IO offers:

4

Input/Output Channels
Each of the four channels can be independently configured as required, making the 6000/LP4IO ideal for a wide range of control and monitoring applications.

3

Fewer Physical Devices
Compared to some legacy solutions, the 6000/LP4IO eliminates the need for multiple separate modules which reduces cabling, mounting requirements, and cost.

2

Product Options
Available with or without our recommended IP rated enclosure.

1

Detection Loop Connection
Use just one Protec detection loop connection for the 6000/LP4IO, and take full advantage of the 6000PLUS Protocol benefits and features such as FAST Commission and RVAV™ address identification.

0

Additional Power Supplies
The 6000/LP4IO is completely loop-powered with no need for an external PSU. This reduces installation complexity and provides a cleaner, more robust solution.

Compact, efficient, and fully loop-powered, the 6000/LP4IO streamlines installation and reduces hardware while enhancing control. Making the 6000/LP4IO an ideal choice for seamless third-party system integration.
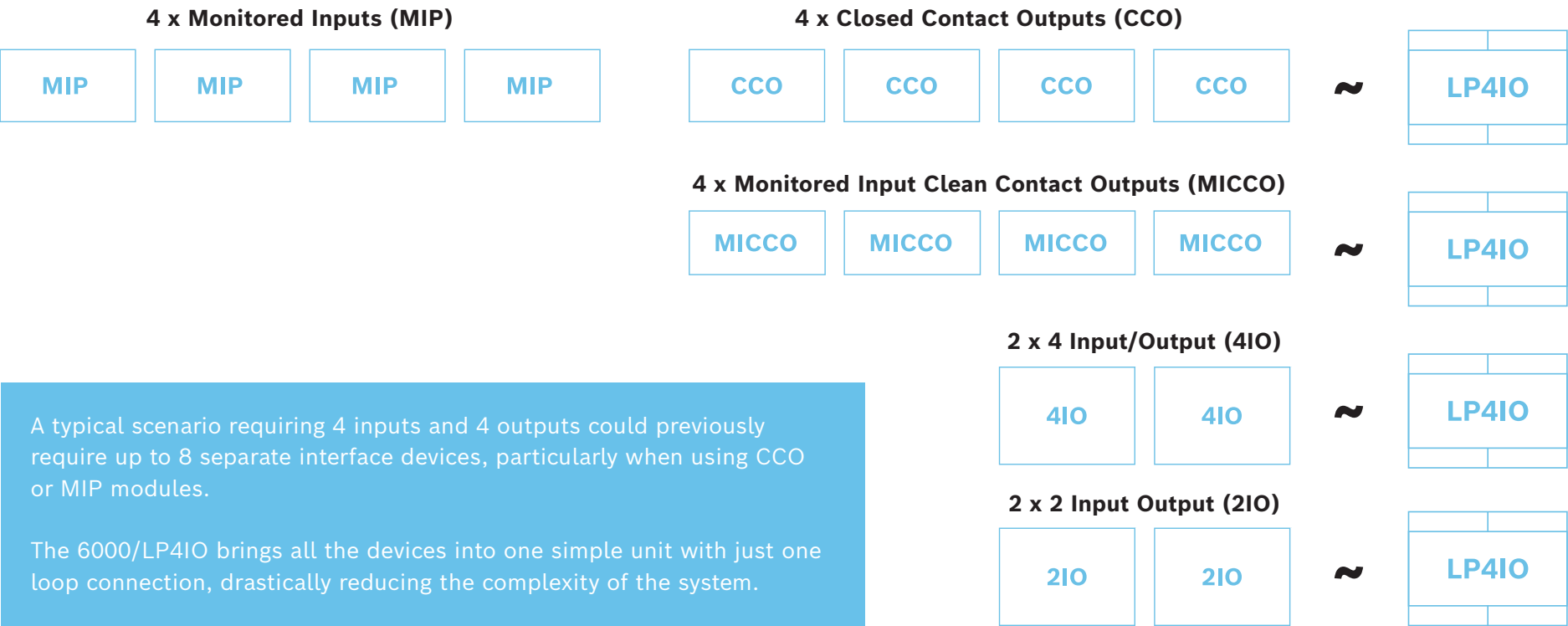
Smarter System Control

Modern fire safety systems often require complex integration with third-party equipment such as gas detection, lift controls, HVAC systems, or plant shutdown mechanisms. Meeting common integration demands has meant using multiple interface units which adds complexity, increases installation time, and consumes valuable system capacity.

Available with or without our recommended IP enclosure, and fully powered via the detection loop, the 6000/LP4IO offers flexible deployment across a wide range of applications. Whether triggering a gas shutoff valve, monitoring water leak detection, or initiating HVAC (Heating Ventilation Air Conditioning) systems, the 6000/LP4IO delivers reliable, programmable performance in a streamlined form factor.
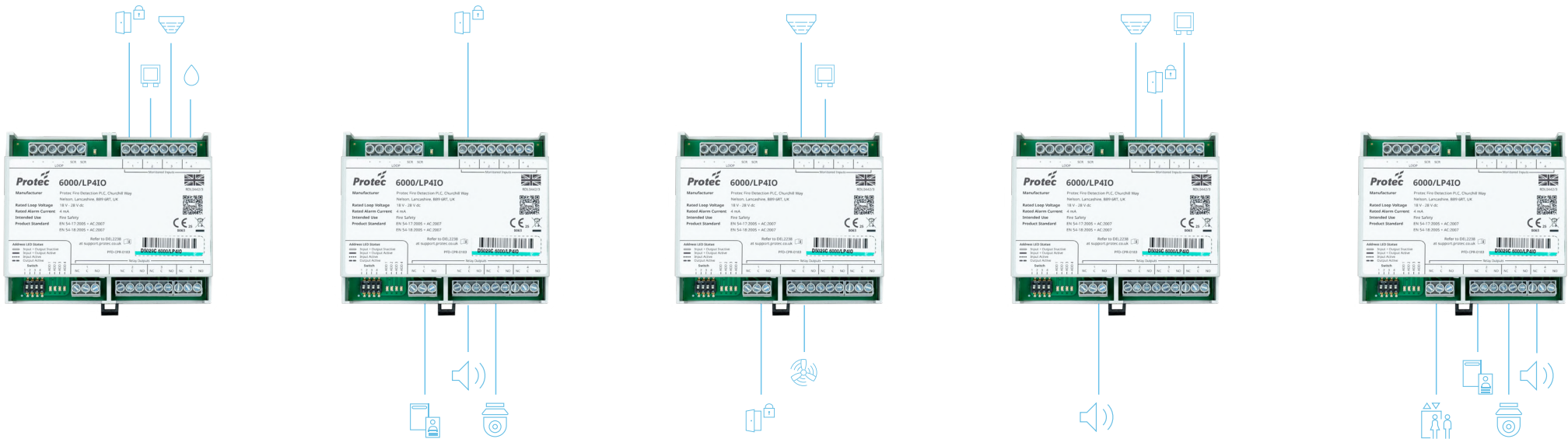
The 6000/LP4IO loop-powered, multi-function input/output interface module simplifies third-party integration by consolidating up to four radial interfaces into a single intelligent device. Designed for efficiency and flexibility, it drastically reduces the hardware footprint needed on site without compromising performance.

Example: Based on interfacing 24V Input and Output third party systems

4 x Monitored Inputs (MIP)

| MIP | MIP | MIP | MIP |

4 x Closed Contact Outputs (CCO)

| CCO | CCO | CCO | CCO | ~ | LP4IO |

4 x Monitored Input Clean Contact Outputs (MICCO)

| MICCO | MICCO | MICCO | MICCO | ~ | LP4IO |

2 x 4 Input/Output (4IO)

| 4IO | 4IO | ~ | LP4IO |

2 x 2 Input Output (2IO)

| 2IO | 2IO | ~ | LP4IO |

A typical scenario requiring 4 inputs and 4 outputs could previously require up to 8 separate interface devices, particularly when using CCO or MIP modules.

The 6000/LP4IO brings all the devices into one simple unit with just one loop connection, drastically reducing the complexity of the system.

Typical Applications

The 6000/LP4IO's configurable inputs and outputs allow seamless integration with third-party systems, enabling automatic responses during emergencies. Inputs can receive signals from devices like gas or water leak detection, while outputs can trigger actions such as gas shut-off, fan control, or lift grounding. This ensures faster, automated safety responses without manual intervention, reducing risk and enhancing protection. This means smarter, safer buildings with fewer components and simpler, more cost-effective installations for the end user.

Example Third-Party Systems

Audio System	Access Controlled Doors	Lockdown Systems	Water Leak Detection
Fan Control	CCTV	Third Party Detection	
Lifts	Gas Shut Off	Gas Detection	

Useful Information

In support of the 6000/LP4IO's introduction to the Protec addressable interface portfolio, all key product information has been consolidated into a single, comprehensive resource. The following overview is intended to facilitate evaluation of the 6000/LP4IO's features and assist in determining its suitability for specific application requirements.

At launch, the 6000/LP4IO is compatible with the 6500 fire alarm control panel (Compatibility with the 6100 panel will be available following the planned future software update.)

Only a 6500 fire alarm control panel updated to version P5.4 software or later can be used with the 6000/LP4IO. Latest software for the 6500 can be found at support.protec.co.uk

The 6000/LP4IO can only be used to switch 24V dc and must not be used to switch 230V ac.

The clean contact outputs are rated for up to 1 Amp maximum at 30V dc (non-inductive).

The 6000/LP4IO features 4 addressable input / output channels, allowing it to simultaneously support 4 inputs and 4 outputs.

The 6000/LP4IO must not be used to trigger the release of gas extinguishing systems.

The output contacts are designed for resistive loads and should be used for signalling purposes only.
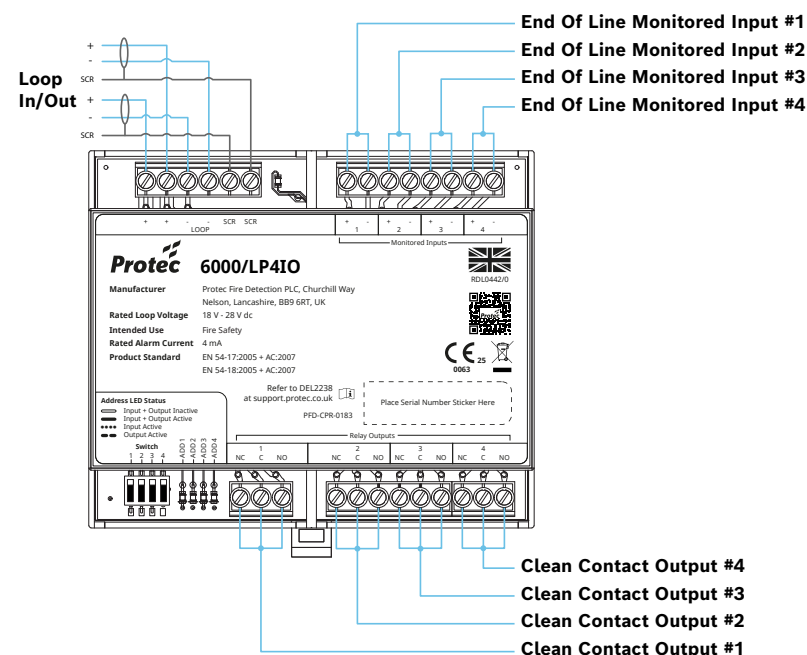
The 6000/LP4IO is not suitable for switching power to devices such as sounders.

This 6000/LP4IO input is a Low-Voltage monitored input and is not suitable for conventional detectors.

Each 6000/LP4IO address can be Enabled/Disabled using the on-board switches and can be programmed using the Panel Commissioning software which includes:
- 14s input activation delay
- Latching/Non-latching input
- Output Fail-safe Operation
- Fan Control Reset Mode

For further technical installation information please refer to DEL2238 found at support.protec.co.uk

Loop Protocol	6000/6000PLUS
Loop Isolator Fitted	Yes
Loop Voltage Range	18V dc - 28V dc Peak Loop
Loop Quiescent Current (24V Peak Loop)	0.7mA Average
Loop Alarm Current	4mA Average, 12.5mA Peak
Standards/Approvals	EN54 - 17 & 18, CE

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