

OVERVIEW

The LifeSafety Power NetLinks provide two outputs which can be manually controlled through the browser interface. The NL4 outputs can be used with sensitive trip relays to control single outputs, groups of outputs, or completely separate devices. The control output connector is labeled as "J10" and is located on the top edge of the NetLink board (Figure 1). NLX modules have on-board form-C relays.

This application note will cover wiring and usage of these control outputs.

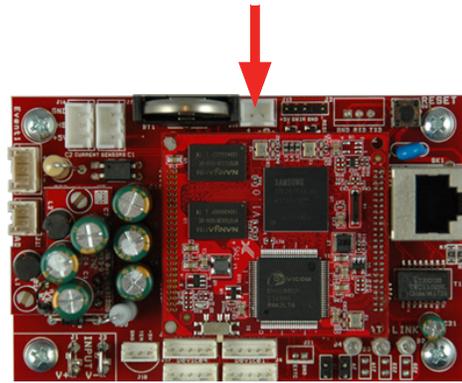


Figure 1 - Control Output Connector

About the Control Outputs

There are two control outputs on each NetLink board, labeled Control 1 and Control 2 on the Home page of the NetLink's browser interface (Figure 2). These outputs may be labeled with an additional label, such as "Access Panel Power Reset" or "Front Door Override", in the Network Module Settings section of the Configure page of the NetLink.

To switch these outputs, click the "on" or "off" radio button of one or both outputs, then click the "Submit" button. The Control 1 and Control 2 status fields will change as appropriate.

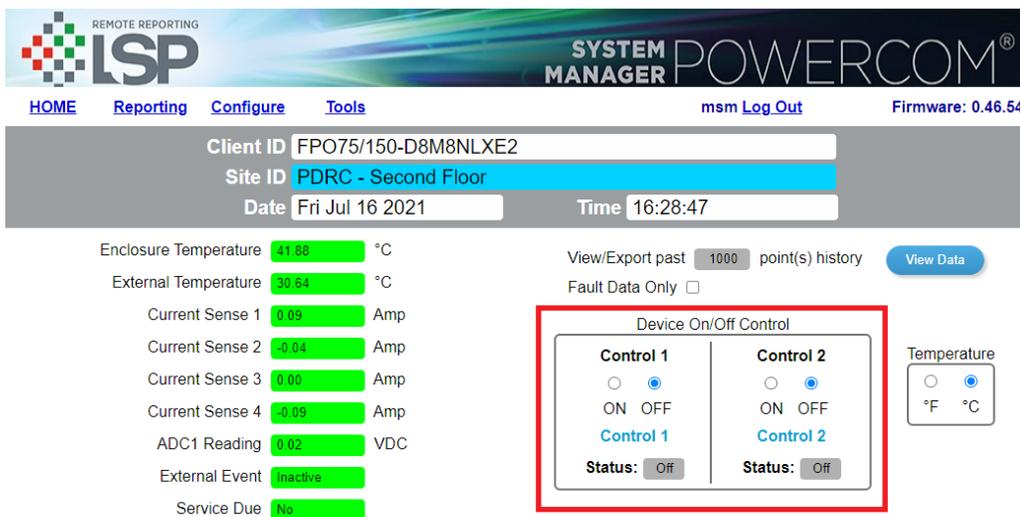


Figure 2
NetLink Home page

The NL4 control output connector is labeled as "J10" and is located near the center of the NetLink board. The cable for this connector is provided in the bag of cables that is included with the NetLink board. To use this connector with external relays, one end of the cable must be cut off (Figure 3).

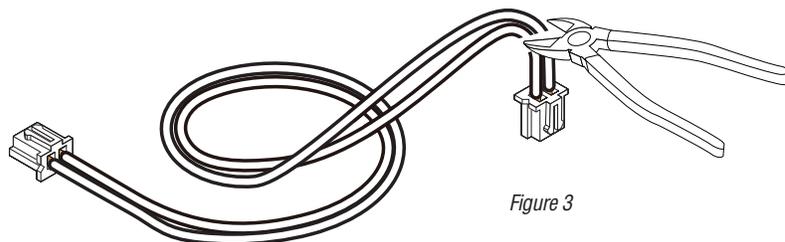
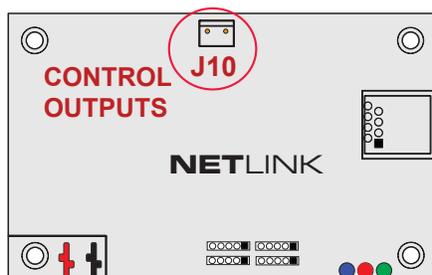


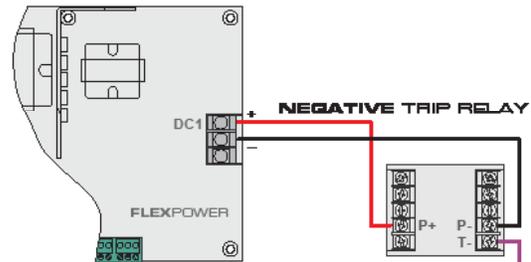
Figure 3

About the Control Outputs - continued

The NL4 control outputs are low-current (50mA maximum) open collector outputs. These outputs do not provide voltage, but switch from an "open" state to a "ground" state. Due to the limited current capability of these outputs, they must be used with a sensitive trip relay, ideally a negative trip relay. The LifeSafety Power RB relay series provides both positive and negative trip inputs and is ideal for use with the NetLink control outputs (ensure the jumper on the relay is set for position 2). Any relay used must be common grounded with the NetLink for proper operation - powering the relay from an FPO power supply monitored by the NetLink will accomplish this.

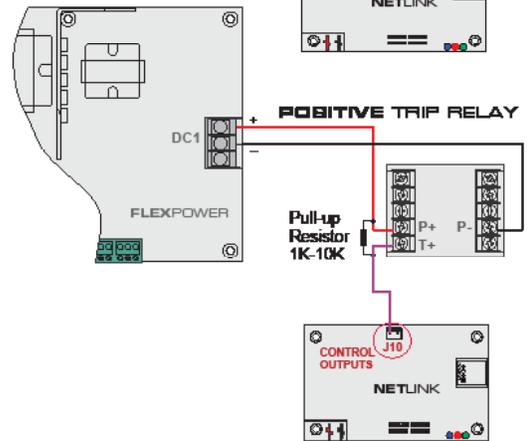
USING A NEGATIVE TRIP RELAY

Wiring the control outputs for use with a negative trip relay is the easiest method, as no additional components are needed. When using a negative trip relay, the relay will be powered when the control output is ON and unpowered when the control output is OFF.



USING A POSITIVE TRIP RELAY

When using a positive trip relay, an additional pull-up resistor is needed. Use of the resistor is imperative - without it, the relay may not trip reliably. If the resistor is replaced with a short or a piece of wire, the NetLink can be damaged. The value of the resistor required will depend on the relay model used. For the LifeSafety Power RB relay series, any resistor between 1K and 10K will work.



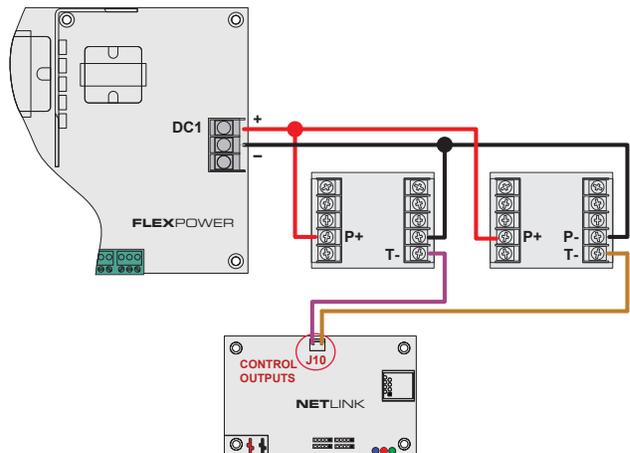
When using a positive trip relay, the relay will be powered when the control output is OFF and unpowered when the control output is ON. Note that this is the reverse of the negative trip operation.

Examples

The following examples all show wiring with an NL4 and using an RB Series relay using the negative trip input. If using a positive trip relay, add the pull-up resistor as shown above. If using an NLX, the RB relay contacts can be substituted with the NLX contacts.

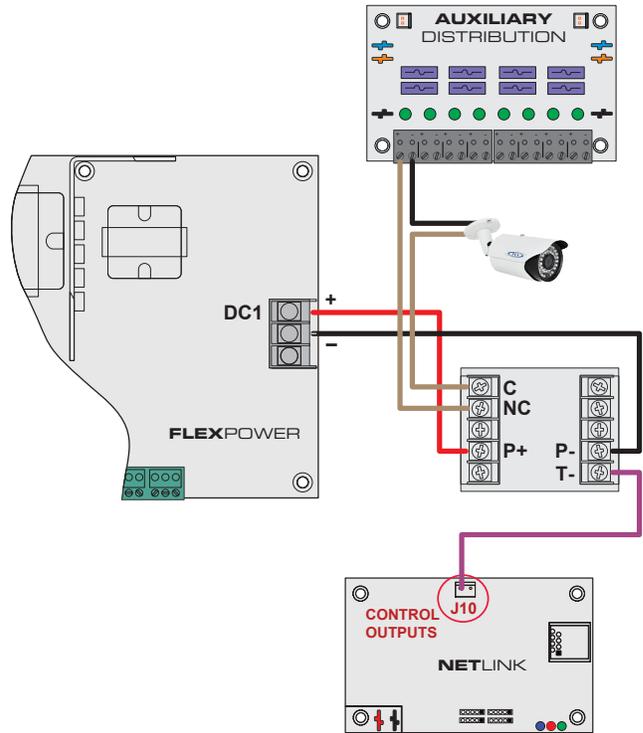
TWO NETWORK CONTROLLED GENERAL PURPOSE RELAY OUTPUTS

This example shows two relays being controlled by the control outputs for general usage. These relays may be used to control any device accepting a switch or relay input, or can be used to switch power to devices such as lighting, fans, motors, etc.



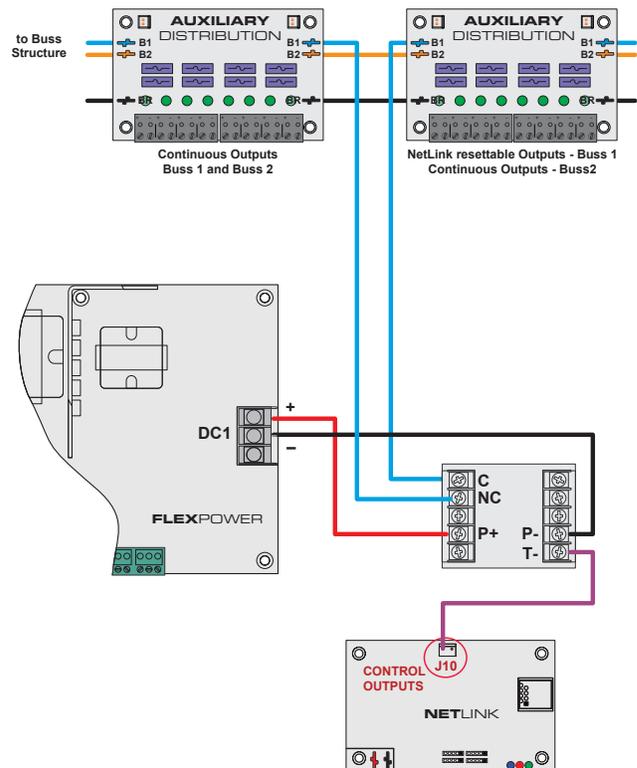
REMOTE POWER CYCLE OF A SINGLE DEVICE

In this example, a single device may be remotely power cycled with the control output - in this case, an IP camera that periodically freezes. The second control output may be used to control a second device.



REMOTE POWER CYCLE ALL DEVICES

The relay can also be inserted into the main buss wiring of an FPO power supply system to allow switching of all devices. The relay can be connected immediately after the power supply for switching all devices, or further down the chain for switching only some devices.

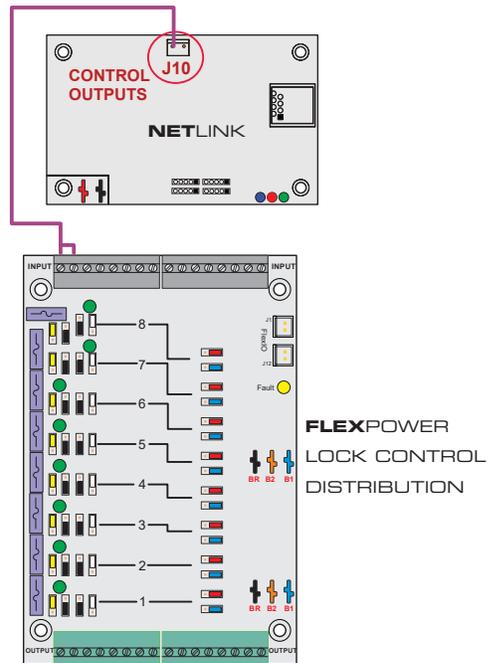


OTHER USES

Since the control outputs are open collector outputs, they can be used in other applications requiring an open collector providing the current is below 50mA. Ensure the device being controlled is common grounded with the NetLink.

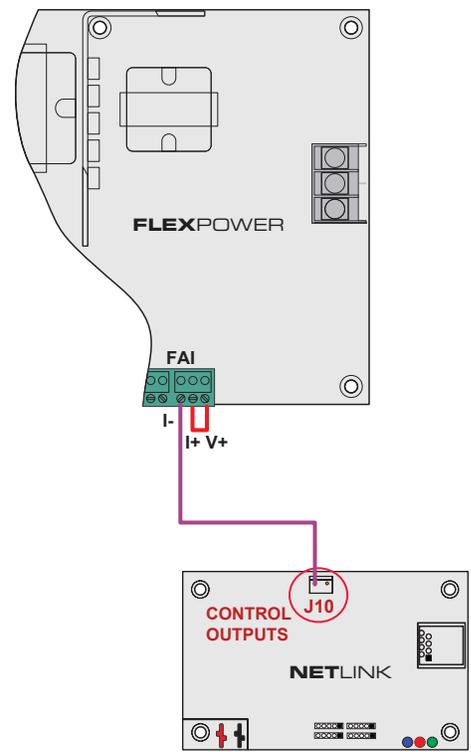
CONTROLLING A C8 INPUT

The control output may be used to directly control an input on a C8 board if the input is configured as a standard open collector input.



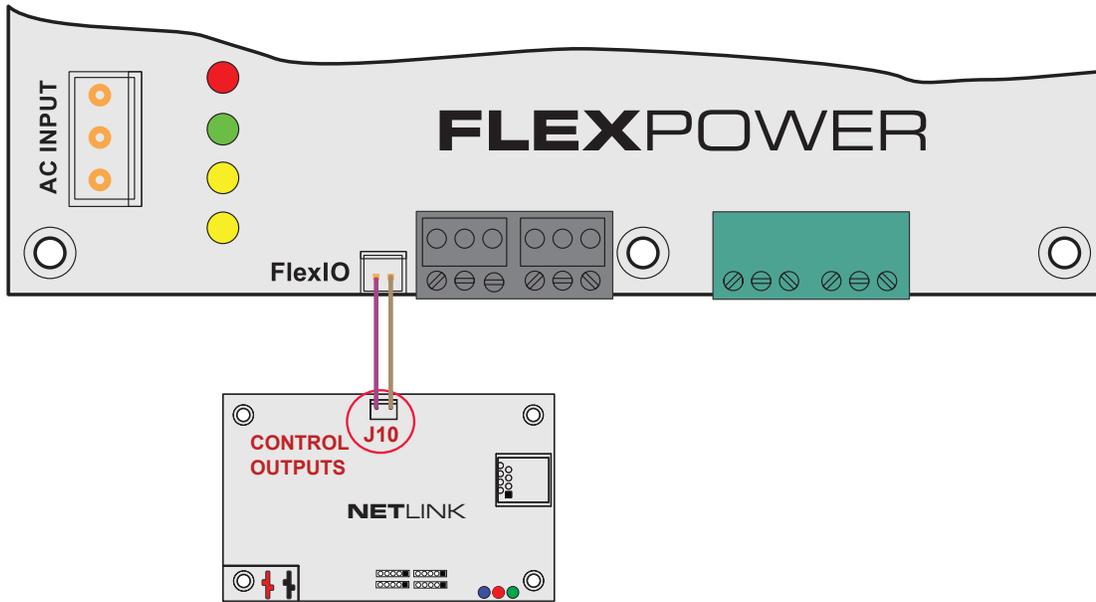
CONTROLLING THE FAI INPUT OF AN FPO POWER SUPPLY

Just as with the C8 input, the control outputs can be used to control the FAI input of an FPO power supply.



CONTROLLING THE FLEXIO LINES

You may have noticed that the cable for the control outputs uses the same connector as the FlexIO cables on the FPO Power Supply System. Normally, this connection would not be made. However, if you plug an intact cable between the control outputs of the NetLink and an open FlexIO connector in the system, you can remotely cause a system fault or simulate a fire alarm. This can be used for testing or demonstration purposes.



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