



# OPERATOR INTERFACE PRODUCTS APPLICATION NOTE

Subject: The difference between *sink* and *source* circuits

AN# 1109

Date: April 11, 2002

Name: Wayne Patterson

Page: 1 of 3

Description: A description of the difference between *sink* and *source* inputs and the difference between *sink* and *source* outputs.

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## Affected Products:

- Flex Network Modules for GLC Series

## Problem:

What is the difference between sink and source inputs? What is the difference between sink and source outputs?

## Solution:

*Sink* and *source* refer to the direction of current flow between an I/O point on an I/O module and the connected device. It is only relevant for DC circuits with positive and negative polarities since current flows both directions in an AC circuit. It is important to select a sink or source I/O module based on the devices that you are going to connect. If the incorrect type module is selected, your circuit will not function properly. *Sink* (NPN) inputs are most common in United States, and *source* (PNP) outputs are the most common in the United States.

Check the documentation for the device that you are going to connect in order to determine whether it is a *sink* or *source* device.

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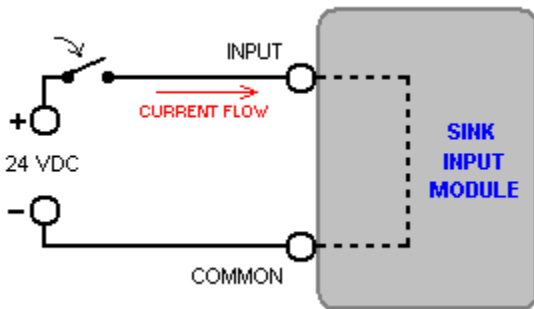
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Page: 2 of 3

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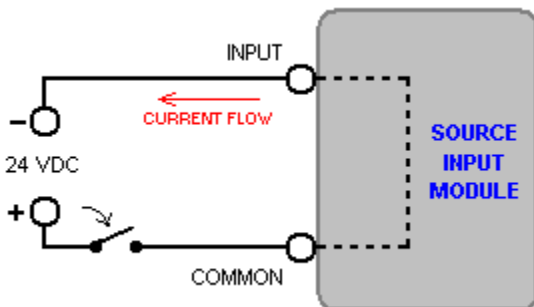
Description: A description of the difference between *sink* and *source* Inputs and the difference between *sink* and *source* Outputs.

## Sink Input



For a sink input module, the current flow is from the connected device to the input.

## Source Input



For a source input module, the current flow is from the input to the connected device.

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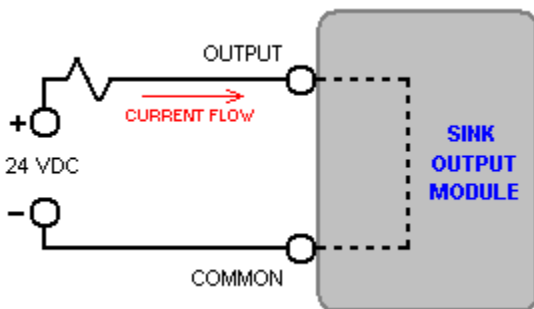
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Page: 3 of 3

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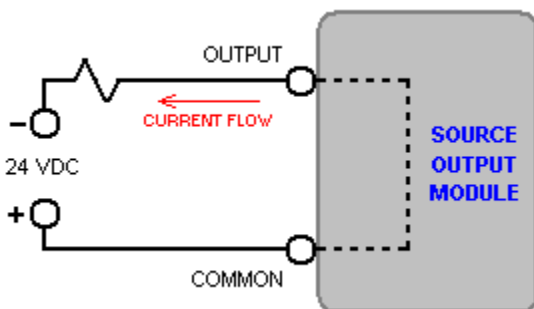
Description: A description of the difference between *sink* and *source* Inputs and the difference between *sink* and *source* Outputs.

## Sink Output



For a sink output module, the current flow is from the connected device to the output.

## Source Output



For a source output module, the current flow is from the output to the connected device.