

# DC Input Modules

| F3-16ND3F DC Fast Response Input <---> |  |
|--|--|
| <b>Inputs per Module</b>               | 16 sink/source (jumper selectable sink/source)*                        |
| <b>Commons per Module</b>              | 2 (internally connected)   |
| <b>Input Voltage Range</b>             | 5VDC TTL and CMOS, 12-24VDC (jumper selectable)*                       |
| <b>Input Voltage Supplied</b>          | Internal (used with sinking loads) External (used with sourcing loads) |
| <b>Peak Voltage</b>                    | 100VDC (35VDC Continuous)  |
| <b>AC Frequency</b>                    | N/A  |
| <b>ON Voltage Level</b>                | 3.5-5VDC @ 5VDC<br>10-24VDC @ 12-24VDC                                 |
| <b>OFF Voltage Level</b>               | 0-1.5VDC @ 5VDC<br>0-4VDC @ 12-24VDC                                   |
| <b>Base Power Required</b>             | 9V 148mA max<br>24V 69mA max   |
| <b>Input Current</b>                   | 1mA @ 5VDC<br>3mA @ 12-24VDC   |
| <b>Input Impedance</b>                 | 4.7K   |
| <b>OFF to ON Response</b>              | 1ms  |
| <b>ON to OFF Response</b>              | 1ms  |
| <b>Maximum Input Rate</b>              | 500Hz  |
| <b>Minimum ON Current</b>              | 0.4mA @ 5VDC<br>0.9mA @ 12-24VDC                                       |
| <b>Maximum OFF Current</b>             | 0.8mA @ 5VDC<br>2.2mA @ 12-24VDC                                       |
| <b>Terminal Type</b>                   | Removable  |
| <b>Status Indicators</b>               | Logic side   |
| <b>Weight</b>                          | 5.4oz. (153g)  |

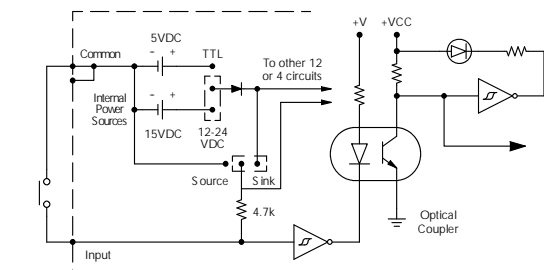
## Selection of operating mode

The DC power is provided by the rack power supply to sense the state of the inputs when jumpers are installed for sinking type signals. Sinking type inputs are turned ON by switching the input circuit to common. Source type input signals assume the ON state until the input device provides the voltage to turn the input OFF.

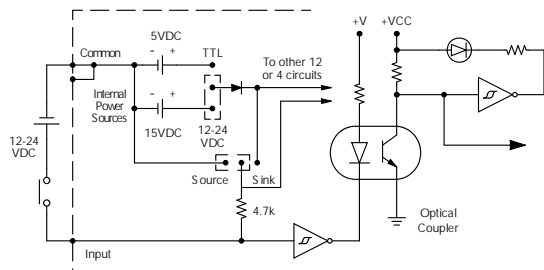
The mode of operation, either 5 VDC or 12-24 VDC sink or source, for each group of circuits is determined by the position of jumper plugs on pins that are located on the bottom edge of the circuit board. There are four sets of pins (3 pins in each set), with two sets for each group of inputs. The first two sets of pins are used to configure the first 12 inputs (e.g. 0 to 7 and 100 to 103) and are labeled 12 CIRCUITS. Above the first set of pins are the labels 12/24 V and 5 V. Above the second set of pins are the labels SINK and SRC (source). To select an operating mode for the first 12 circuits, place a jumper on the two pins nearest the appropriate labels. For example, to select 24 VDC Sink input operation for the first 12 inputs, place a jumper on the two pins labeled 12/24 V and on the two pins labeled SINK. The last two sets of pins are used to configure the last 4 inputs (eg. 104 to 107) and are labeled four CIRCUITS. The operating mode selected for the last group of four inputs can be different than the mode chosen for the first group of 12 inputs. Correct module operation required that each set of three pins have a jumper installed (four jumpers total).

**\*NOTE: When a group of inputs is used with TTL logic, select the SINK operating mode for that group. "Standard" TTL can sink several milliamps but can source less than 1 mA.**

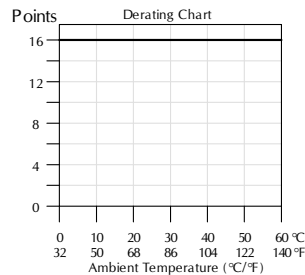
See the Terminal Blocks & Wiring section in this catalog for part numbers of ZIPLinks cables and terminal blocks compatible with this module.



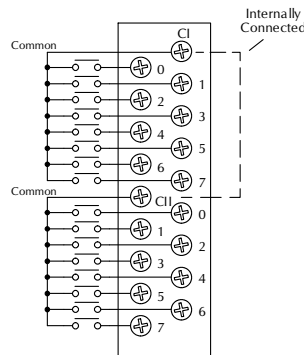
Jumper selected for 12-24VDC, sinking load configuration



Jumper selected for sourcing load configuration. An external power supply must be used in this configuration.



\* 12 Inputs are jumper selectable for 5VDC/12-24VDC and Sink Load/Source Load  
4 Inputs are jumper selectable for 5VDC/12-24VDC and Sink Load/Source Load



Sinking Load Configuration

