



SYSTEMS M200

INTERFACE MODULES

M263: OPTO-ISOLATOR MODULE (THREE-SECTION)

- Three independent optical isolators (1500 VRMS)
- 10-30 VDC differential inputs
- 10-30 VDC differential outputs
- 1.5K ohm Input impedance per input
- 50 milliamp current drive capability per output
- LED status indication for each section
- Can be used to: convert different DC voltage levels, convert sinking-to-sourcing or sourcing-to-sinking, convert 120VAC to 10-30VDC
- Removable Field Wiring Connector
- Standard 3" x 3" x 1" DIN Rail Mountable Module



General Description

The M263 consists of three identical independent 10-30VDC optical isolators. A typical optical isolator section consists of a differential 10-30VDC input with a differential 10-30VDC signal level output. The input is optically isolated from the output (isolation up to 1500 VRMS) as well as each section is completely isolated from any other section. Since both the input and output is true differential, they can be connected for either differential, sinking (true low), or sourcing (true high) operation. Each section contains an LED located in the input portion of the isolator to indicate the "on" status of the input.

The input is "on" when the voltage between (-) terminal and (+) terminal is greater than 10 volts. The maximum allowed input voltage is 30VDC. The impedance of the input is 1.5K ohms and contains a reverse bias diode which allows the input to be driven negative as well. This allows the M263, with the use of 10K, 5W resistor in series with the input, to be used as a 120VAC to 10-30VDC converter operating in a half-wave rectified mode. The output consists of a darlington NPN optical isolator transistor with a 50 milliamp signal level drive capability (PLC inputs, etc). When the input

General Description (cont'd)

is “on”, the output transistor is saturated “on” with a low output impedance (less than 10 ohms) and “on” voltage of no more than 1.75 volts. When the input is “off”, the output transistor is “off” in an open collector, high impedance (greater than 1M ohm) mode. Note that the output is a true open collector output, no internal pull-up or pull-down is provided.

The propagation delay of the M263 (both “off”-to-

“on” and “on”-to-“off”) is 75 microseconds (max). Typically applications include: converting DC voltage levels, isolating DC voltage signals, converting sinking-to-sourcing, converting sourcing-to-sinking, converting 120VAC signals to 10-30VDC signals. Note that the M263 is for signal level conversion and is not suitable for solid-state relay applications (e.g. driving solenoids, etc).

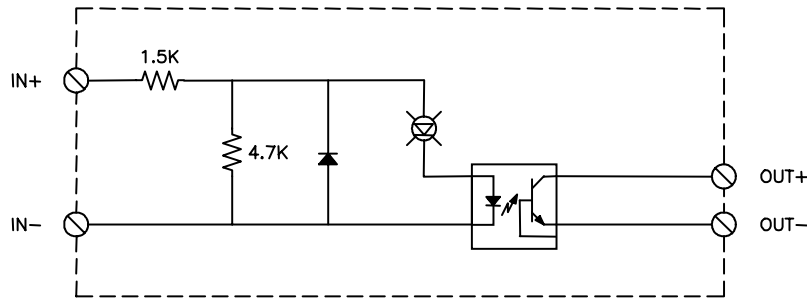


Figure 1
Typical M263 Circuit

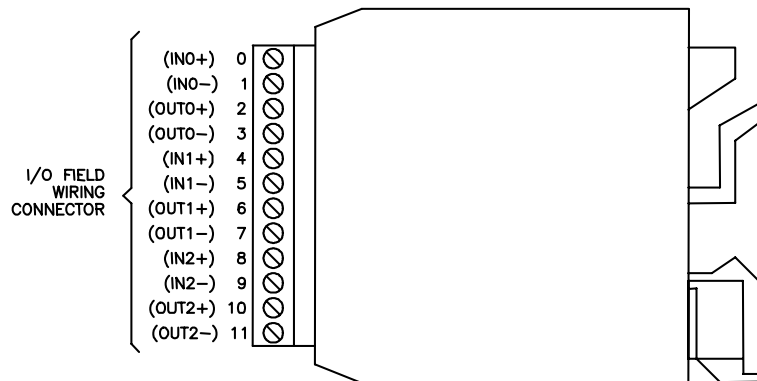


Figure 2
Connector Pin-Out



M263: OPTO-ISOLATOR MODULE
(THREE-SECTION)

Specifications

Module Size:

Length:	3.25"
Height:	3.75"
Width:	1.00"

Number of sections:

three

Typical Input Section:

V _{in} (on-min):	10.0 volts
V _{in} (on-max):	30.0 volts
V _{in} (off-min):	5.0 volts
Input Impedance:	1.5K ohms
Input Current (max):	20 milliamps at V _{in} =30volts
Input to Output Optical Isolation:	1500 Vrms
Input Configuration:	Can be wired for Sourcing, Sinking, or Differential

Typical Output Section:

V _{out} (on-max):	1.75 volts
V _{out} (off-max):	30 volts
Output "On" Current (max):	50 milliamps
Output "Off" Leakage Current (max):	10 microamps
Output Type:	Open Collector NPN Darlington
Output Configuration:	Can be wired for Sourcing, Sinking, or Differential
Propagation Delay (max)"	75 microseconds

Temperature Ranges:

Storage:	0 to 85 degrees C
Operating:	0 to 60 degrees C

Relative Humidity:

5 to 95% non-condensing

