



MAXIFLEX 8VC ISO Module

Model M1431 Individually Isolated 8 way Voltage/Current Input Module.

DATASHEET



FEATURES

- Fits in any MAXIFLEX base I/O slot
- 8 individually Isolated Voltage/Current Inputs
- High interchannel isolation for industrial applications
- Intelligent Module provides direct conversion to either Percentage or direct voltage reading.
- Four Alarm/Trip setpoints per input.
- Removable Terminal Blocks
- Hot Plug-in
- In system automatic module detection

DESCRIPTION The M1431 8VC ISO module provides 8 voltage or current inputs. The inputs are individually galvanically isolated. This intelligent module is software configurable, and allows each input to be configured for a different input type and range.

The input value can be read as either a scaled percentage value to 2 decimal places, or the actual voltage/current input value as a signed integer to 3 decimal places. eg 0.00% to 100.00% or 1.000 to 5.000V. Over-range and under-range inputs are read as -32768 and 32767 respectively.

Current inputs are converted to voltage using an external resistor placed across the input terminals. This allows the plug-in input terminals to be removed without breaking the current loop. The value of resistor used to be configurable in the range 50Ω to 500Ω.

Each input has four software settable alarm/trip setpoints and a deadband value. The status of the alarm/trip signals is available as derived digital inputs

from the module.

With the aid of an accurate DC voltage source and the M1431A calibration software, the module can be field calibrated by the user if required.

The module may be inserted into any I/O slot in a Maxiflex system.

Inputs are terminated on plug-in screw terminals.

The module can be inserted or removed while the system is powered.

Auto-detection capability allows the CPU to recognise the presence of this module in the system.

All configuration and dynamic data are made available to the system CPU through a module Data Interchange Table. The module is configured by writing the appropriate values to this table, and the dynamic values are read by reading from this table.

SPECIFICATIONS

Inputs

| | | |
|---------------------------|------------------------------------|-------------------|
| Quantity | 8 | |
| Standard Voltage ranges | 0-1V; 0-5V; 1-5V; 0-10V; 2-10V | |
| Standard Current ranges | 0-20mA; 4-20mA; 0-50mA; 10-50mA | |
| Input Impedance | 1MΩ (excl. current sense resistor) | |
| Linearity | 0.04% of span max. | |
| Temperature Drift | 100ppm/°C typical | |
| Output Reading | Direct Voltage, Current or % | |
| Input Resolution | 1mV or 1μA | |
| Accuracy: | <u>Input Range</u> | <u>% Accuracy</u> |
| | 0-10V | 0.017% |
| | 2-10V | 0.021% |
| | 0-5V | 0.033% |
| | 1-5V | 0.042% |
| | 0-1V | 0.17% |
| Response Time 10-90% step | Settles to within 3% in 200ms | |

Isolation

| | |
|-----------------------|----------------------------------|
| Input to system logic | 100% tested to 1500Vac rms (60s) |
| Input to Input | 100% tested to 500Vac rms (60s) |
| Insulation resistance | >20MΩ at 500Vdc |

Interference Rejection

| | |
|-----------------|----------------------------|
| CMRR at 50/60Hz | No effect up to 400Vac rms |
| NMRR at 50/60Hz | 50dB |

LED Indication

| | |
|--------|---|
| CPU OK | ON = operating correctly Flashing = Module failure OFF = No Power or module failure |
|--------|---|

Output Termination

| | |
|-------|--|
| Types | Screw clamp Plug-in Terminal Blocks and 20 way ribbon header |
|-------|--|



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| | |
|--------------------------|---|
| Screw Terminal Wire Size | 2.0mm ² maximum For manageable wiring to the module, 0.5 mm ² is recommended with 2mm overall outside diameter |
|--------------------------|---|

Environmental

| | |
|-----------------------|--|
| Operating Temperature | 0°C to +60°C (32°F to +140°F) |
| Storage Temperature | -40°C to +85°C (-40°F to +185°F) |
| Humidity | 5 - 95% max. at 40°C (104°F) non-condensing. |
| Protection | Electronics conformally coated |

Logic Power Consumption

| | |
|-------------------------|---------------------|
| From Logic Power Supply | 300mA max from 5Vdc |
|-------------------------|---------------------|

Auto Identification Codes

| | |
|-----------|----|
| Module ID | 48 |
| Scan Code | 41 |

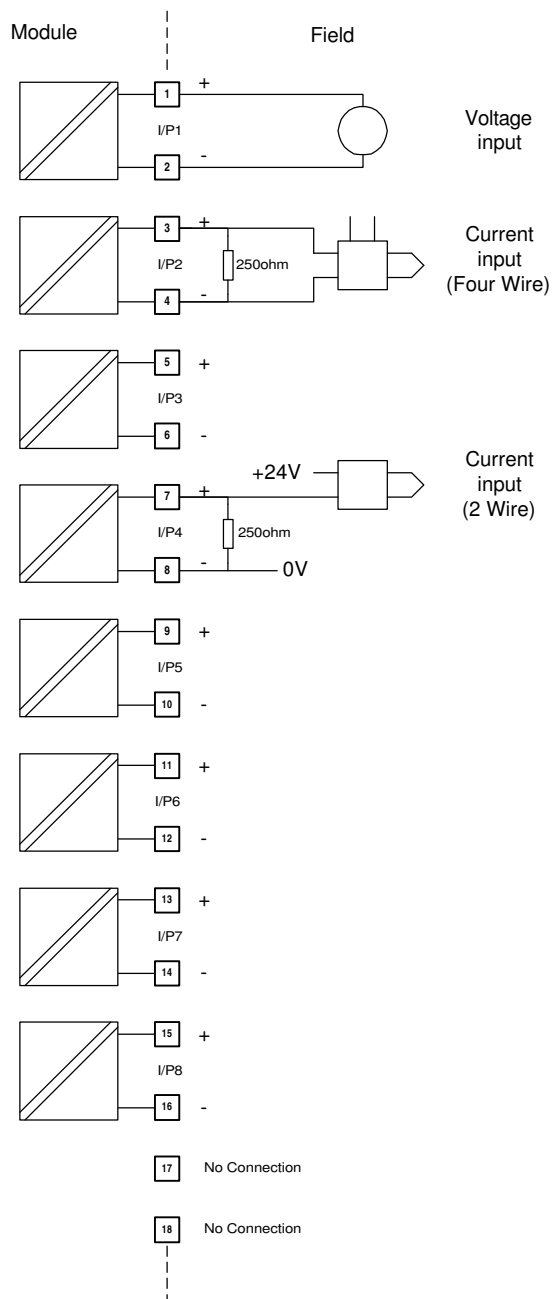
Mass

| | |
|---------------------|---------------|
| Excluding Packaging | 420g (14.7oz) |
| Including Packaging | 505g (17.8oz) |

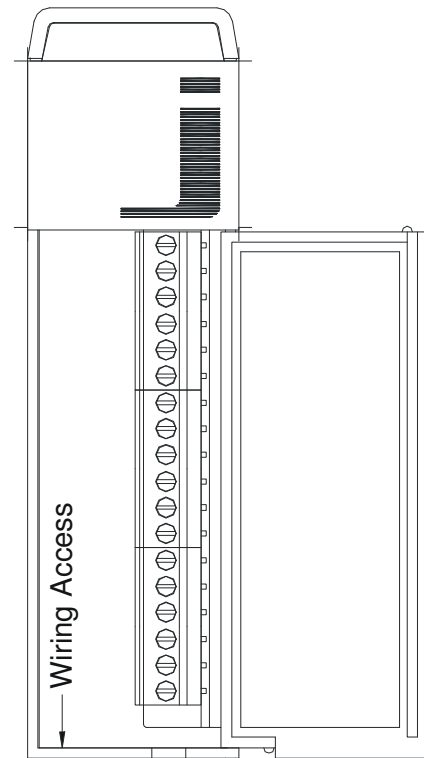
Ordering Information

| Description | Order Code |
|-------------------------|------------|
| Maxiflex 8VC ISO Module | M1431A |

ELECTRICAL CONNECTION



MECHANICAL CONFIGURATION



Note: Module shown with door open.