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AC/DC & DC/DC

Opto-Isolators

RINGWAY OPTO-ISOLATORS

DESCRIPTION:

The Ringway ISOPLC Series of Opto-Isolators are designed to allow the isolated monitoring of low voltage AC signals (100-250V) or Extra low voltage DC (24-50V) signals using standard DC PLC inputs. The isolators work by switching their output to the PLC on while an input signal is present. The Isolator output to the PLC may be wired as either a sourcing or sinking output (refer to connection diagrams). Visual indication of the output status is provided by an LED on the front of the module, which illuminates when the output is on. The LED is wired in series with the current path of the output to the PLC which greatly reduces the possibility of false indication, a failure common to other general purpose isolators. The PLC monitoring voltage is isolated from the input via full galvanic isolation (UL1577 5000VAC, 1min.).

All modules are suitable for switching standard PLC DC voltage inputs with ratings from 12VDC to 50VDC @ 20mA.

This range of isolators are mounted in compact 60 x 58 x 20 mm DIN Rail mount enclosures.

ORDERING INFORMATION	
INPUT	**PART No.**
100-250V AC	**ISOPLC01**
24-50V DC	**ISOPLC02**
100-250v AC with delay	**ISOPLC03**
24-50V DC with delay	**ISOPLC04**

FEATURES:

- **Simple**, **robust** and **functional**.
- **Flexible** input voltage range.
- **Quick**, **easy** & **safe** way of monitoring AC and DC points into DC PLC inputs.
- **LED Indicator** provides visual **status** feedback.
- **LED Indicator** wired in series with output to PLC **reduces false status indication** failures modes, common to other general purpose isolators.

APPLICATIONS:

The Ringway ISOPLC Series Isolators allows for the easy connection and or monitoring of circuits with a low voltage (safe) DC PLC input.

ISOPLC03 and ISOPLC04 have a delayed reaction which makes them less susceptible to the effects of "glitches" and "brown-outs". It is the users' responsibility to clearly understand which option is to be used for each application.

Applications include:

- Monitoring control circuit voltage into PLC for detection of control voltage failure and / or cross-interlocking of system faults.
- Retro-fit monitoring and/or control to older circuits where it is not easy or economically viable to convert to DC control.

BRIEF TECHNICAL SPECIFICATION

Type	**ISOPLC01[1]**			**ISOPLC02**		
Nominal Input Range	100 to 250VAC			24 to 50VDC		
Output Range	12 to 50Vdc, 20mA max. (sinking or sourcing – see connection diagrams)					
Galvanic Isolation	5,000Vac for 1 minute, R.H. ≤ 60%					
Operating Temperature	-20 → +75 °C					
Output Load (PLC Input)	**24V, 8mA**	**24V, 20mA**	**48V, 4.1mA**	**24V, 8mA**	**24V, 20mA**	**48V, 4.1mA**
Min voltage for On state (design limit)[2]	12.6VAC	13.9VAC	10VAC	4.3VDC	4.7VDC	3.6VDC
Typical Switch Threshold[3]	11VAC	12.7VAC	9.2VAC	3VDC	3.5VDC	3VDC
Typical Output On Delay[4]	320us	800us	520us	3.5ms	2.4ms	16.5ms
Typical Output Off Delay[5]	20ms	21ms	26ms	20ms	20/14ms[6]	16.5ms

Type	**ISOPLC03[1]**			**ISOPLC04**		
Nominal Input Range	100 to 250VAC with delay			24 to 50VDC with delay		
Output Range	12 to 50Vdc, 20mA max. (sinking or sourcing – see connection diagrams)					
Galvanic Isolation	5,000Vac for 1 minute, R.H. ≤ 60%					
Operating Temperature	-20 → +75 °C					
Output Load (PLC Input)	**24V, 8mA**	**24V, 20mA**	**48V, 4.1mA**	**24V, 8mA**	**24V, 20mA**	**48V, 4.1mA**
Min voltage for On state (design limit)[2]	19.7VAC	17VAC	20VAC	3.36VDC	3.87VDC	3.2VDC
Typical Switch Threshold[3]	12.6VAC	15.2VAC	12VAC	2.86VDC	3.07VDC	2.75VDC
Typical Output On Delay[4]	1700ms	1920ms	1420ms	1750ms	1150ms	2300ms
Typical Output Off Delay[5]	380ms	360ms	280ms	500ms	600ms	550ms

[1] All ISOPLC01 and ISOPLC03 specifications at 50Hz

[2] Calculated minimum input voltage to ensure PLC input ON, at the nominated load @ 25°C

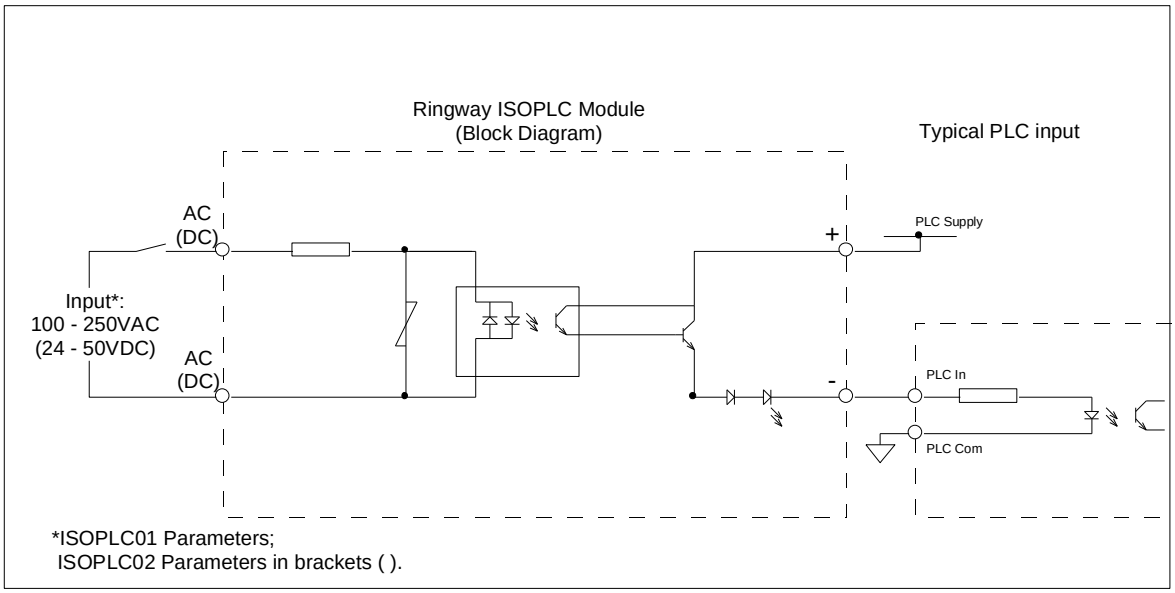
[3] Measured device switch over threshold, at the nominated load @ 25°C

[4] Output on delay is the time the output remains off once the input has risen above the Typical Switch Threshold voltage

[5] Output off delay is the hold-up time (time output remains above 5V for 24V PLC input, 10V for 48V PLC input) while the input has dropped below the Typical Switch Threshold voltage

[6] Output off delay based on 5VDC/10VDC PLC input thresholds respectively

Ringway ISOPLC Module wired as Sourcing output to PLC



Ringway ISOPLC Module wired in Open Collector Configuration