UniStream® Uni-I/O™ Module

Technical Specifications
UIA-0800NH

This guide provides specifications for Unitronics' Uni-I/O™ module UIA-0800NH. This module comprises:

- 8 analog inputs, 12 bit, supports HART protocol

Uni-I/O modules are compatible with UniStream family of Programmable Logic Controllers. They may be either snapped onto the back of a UniStream HMI Panel next to a CPU-for-Panel to create an all-in-one HMI + PLC controller, or installed on a standard DIN Rail using a Local Expansion Adapter.

Installation Guides are available in the Unitronics Technical Library at www.unitronicsplc.com

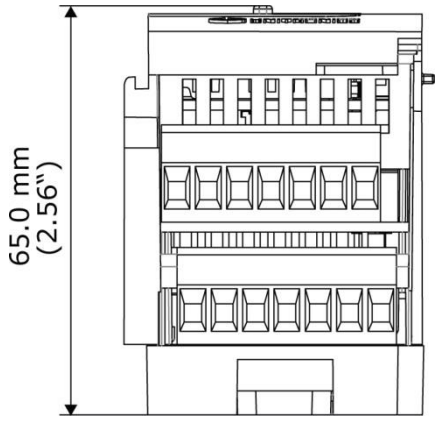
<table>
<tr><th colspan="6">Analog Inputs</th></tr>
<tr><td>Number of inputs</td><td colspan="5">8</td></tr>
<tr><td>Input range (1) (2)</td><td>Input Type</td><td>Nominal Values</td><td>Over-range Values</td><td colspan="2">Overflow Values</td></tr>
<tr><td></td><td>0 ÷ 20mA</td><td>0 ≤ Iin ≤ 20mA</td><td>20 < Iin ≤ 20.3mA</td><td colspan="2">Iin > 20.3mA</td></tr>
<tr><td>Absolute maximum rating</td><td colspan="5">±30mA (Current)</td></tr>
<tr><td>Isolation</td><td colspan="5">None</td></tr>
<tr><td>Conversion method</td><td colspan="5">Successive approximation</td></tr>
<tr><td>Resolution</td><td colspan="5">12 bits</td></tr>
<tr><td>Accuracy
(25°C / -20°C to 55°C)</td><td colspan="5">±0.5% / ±0.7% of full scale (Current)</td></tr>
<tr><td>Input impedence</td><td colspan="5">251Ω (Current)</td></tr>
<tr><td>Noise rejection</td><td colspan="5">10Hz, 50Hz, 60Hz, 200Hz</td></tr>
<tr><td>Step response (3)
(0 to 100% of final value)</td><td>Smoothing</td><td colspan="4">Noise Rejection Frequency</td></tr>
<tr><td></td><td>200Hz</td><td>60Hz</td><td>50Hz</td><td>10Hz</td></tr>
<tr><td></td><td>None</td><td>48ms</td><td>67ms</td><td>70ms</td><td>150ms</td></tr>
<tr><td></td><td>Weak</td><td>63ms</td><td>117ms</td><td>130ms</td><td>450ms</td></tr>
<tr><td></td><td>Medium</td><td>83ms</td><td>184ms</td><td>210ms</td><td>850ms</td></tr>
<tr><td></td><td>Strong</td><td>123ms</td><td>317ms</td><td>370ms</td><td>1650ms</td></tr>
<tr><td>Update time (3)</td><td colspan="3">Noise Rejection Frequency</td><td colspan="2">Update Time</td></tr>
<tr><td></td><td colspan="3">200Hz</td><td colspan="2">2.5ms</td></tr>
<tr><td></td><td colspan="3">60Hz</td><td colspan="2">8.33ms</td></tr>
<tr><td></td><td colspan="3">50Hz</td><td colspan="2">10ms</td></tr>
<tr><td></td><td colspan="3">10Hz</td><td colspan="2">50ms</td></tr>
<tr><td>Operational signal range (signal + common mode)</td><td colspan="5">Current mode – IxI: -1V ÷ 5.4V ; CMx: -1V ÷ 0.4V
(x=0,1,2 or 3)</td></tr>
<tr><td>Common mode rejection</td><td colspan="5">30dB @ 10Hz, 50Hz, 60Hz or 200Hz noise rejection mode</td></tr>
<tr><td>Normal mode rejection</td><td colspan="5">60dB @ 10Hz, 50Hz or 60Hz noise rejection mode
45dB @ 200Hz noise rejection mode</td></tr>
<tr><td>Cable</td><td colspan="5">Shielded twisted pair</td></tr>
<tr><td>Diagnostics (4)</td><td colspan="5">Analog input overflow</td></tr>
</table>

IO/COM Bus	
Bus current consumption	85mA maximum

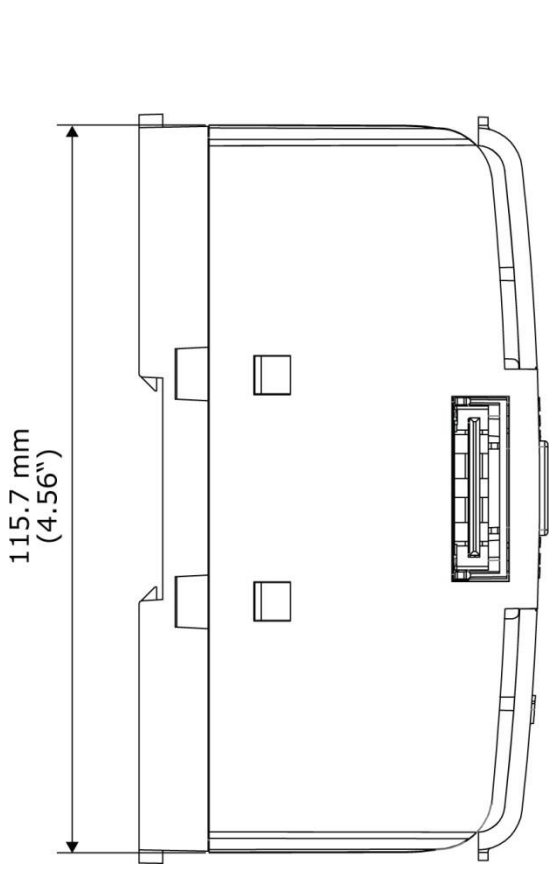
LED Indications			
Input LEDs	Red	On: Input value is in Overflow	
Status LED	A triple color LED. Indications are as follows:		
	Color	LED State	Status
	Green	On	Operating normally
		Slow blink	Boot
		Rapid blink	OS initialization
	Green/Red	Slow blink	Configuration mismatch
	Red	On	Supply voltage is low or missing
		Slow blink	No IO exchange
		Rapid blink	Communication error
	Orange	Rapid Blink	OS Upgrade

Environmental	
Protection	IP20, NEMA1
Operating temperature	-20°C to 55°C (-4°F to 131°F)
Storage temperature	-30°C to 70°C (-22°F to 158°F)
Relative Humidity (RH)	5% to 95% (non-condensing)
Operating altitude	2,000 m (6,562 ft)
Shock	IEC 60068-2-27, 15G, 11ms duration
Vibration	IEC 60068-2-6, 5Hz to 8.4Hz, 3.5mm constant amplitude, 8.4Hz to 150Hz, 1G acceleration

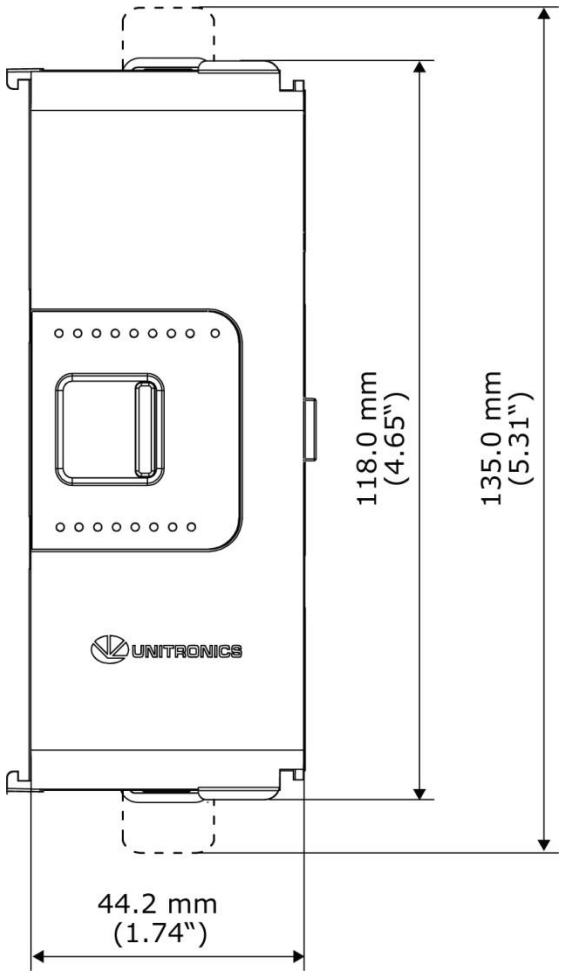
Dimensions	
Weight	0.13 Kg (0.286 lb)
Size	Refer to the images below



Top View



Side View



Front View

Notes:

1. The 4-20mA input option is implemented using 0-20mA input range.
2. The UIA-0800NH measures values that are up to 1.5% higher than the nominal input range (i.e. Input Over-range). Note that when the input overflow occurs, it is indicated in the corresponding system tag while the input value is registered as the maximum permissible value. The Over-range values can reach up to 20.3mA, and any input current higher than that will still register as 20.3mA while the Overflow system tag is turned on.
3. Step response and update time are independent of the number of channels that are used.
4. See LED Indications Table above for description of the relevant indications. Note that the diagnostics results are also indicated in the system tags and can be observed through the UniApps™ or the online state of the UniLogic™.

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