

Datasheet



RIO 210 Expansion I/O Unit

Part#: 1006462

Rev. April 2013

Interfaces

Section	Ch.	Cond.	Min	Typ	Max	Unit	Comment
Power Supply	1		18	24	32	VDC	
Switch Input	6	low=0-2 high=8-32	-	24	-	VDC	Optocoupled
0-5 V Input	8	-	-28V	0-5	28	V	Accuracy: +/- 0.5% of range
Thermistor Input *	8	-	0	170 - 33650	∞	Ω	Accuracy: +/- 2.0% of range
Config. 24V Output	2	-	-	24	-	V	Typical: Power Supply - 0.5V
Config. Relay Output	2	-	0	-	1	A	Potential free
Thermocouple type K	2	0-40 mV	-5	-	5	V	Max 5V between TC terminals
RIO Link Connection	1	-	-	19 200	-	baud	Modbus RTU

* See separate page for thermistor vs temperature values

Measurements and Weight

Section	Weight	Width	Height	Depth	Unit	Comment
Size	-	185	105	45	mm	
Weight	900	-	-	-	g	

Environmental

Section	Condition	Min	Typ	Max	Unit	Comment
Vibration	Operational	-	0.7	-	g	IEC 60068-2-6 Fc
Dry Heat	Operational	-	-	70	C	IEC 60068-2-2 Bb/Bd
Damp Heat, cyclic	Cyclic 20-55-20	-	-	-	C	IEC 60068-2-30 Db
	Humidity 95%	-	-	-	-	
Low Temperature	Duration	-	-	48	hours	
	Operational	5	-	-	C	IEC 60068-2-1 Ab/Ad
High Voltage	Duration	-	-	2	hours	
	Not powered	-	-	548	Vrms	Voltage applied between <i>clamped</i> supply and shield.
Fast low-energy Transients/bursts	Operational	-	-	1	minute	
		-	-	-	-	IEC 61000-4-4
		-	-	2	kV	24 VDC supply lines, 5 kHz
Slow high-energy Transients/surges	Operational	-	-	1	kV	Signal lines, 5 kHz
		-	-	-	-	IEC 61000-4-5
		-	-	0.5	kV	24 VDC supply lines
Electrostatic Discharge, ESD	Operational	-	-	1	kV	Signal lines
		-	-	-	-	IEC 61000-4-2
		-	-	8	kV	Air
		-	-	6	kV	Contact

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EMC

Section	Condition	Min	Typ	Max	Unit	Comment
Conducted emission	Operational	-	-	-	-	CISPR 16-1-1 / 16-1-2 / 16-2-1
Radiated emission	Operational	-	-	-	-	Quasi-peak at 3m:
		150	-	300	kHz	80-50 dB μ V/m
		0.3	-	300	MHz	50-34 dB μ V/m
		30	-	156	MHz	54 dB μ V/m
		156	-	165	MHz	24 dB μ V/m
165	-	2 000	MHz	54 dB μ V/m		
Radio frequency Immunity	Operational	-	-	10	Vrms	IEC 61000-4-6
Radiated electric Immunity	Operational	80	-	2 000	MHz	IEC 61000-4-3 10 V/m, 80 % AM, 1 kHz

Resistance vs Temperature for Thermistor channels

Resistance & Resistance Tolerance vs. Temperature					
Temperature		Resistance (Ohms)			
C	F	R Nominal	Tol. (+/- %)	R Min.	R Max.
0	32	33650	8.8	30700	36600
25	77	10000	7.0	9304	10700
50	122	3509	7.0	3263	3754
60	140	2401	7.0	2232	2569
70	158	1678	7.0	1560	1795
80	176	1195	7.0	1111	1278
85	185	1015	7.0	943.0	1086
90	194	865.5	2.1	847.3	883.7
95	203	741.2	2.1	725.0	756.0
100	212	637.1	1.65	626.6	647.6
105	221	549.8	1.65	541.0	559.0
110	230	476.3	1.65	468.0	484.0
115	239	414.0	1.65	407.0	421.0
120	248	361.1	1.65	355.0	367.0
125	257	316.1	1.65	311.0	321.0
130	266	277.5	1.65	273.0	282.0
135	275	244.4	1.65	240.0	248.0
140	284	215.9	1.65	212.0	219.0
145	293	191.2	1.65	188.0	194.0
150	302	169.8	3.9	163.2	176.4

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Validity of Information

Data valid at revision date. Auto-Maskin reserves the right to make improvements and changes of specification at any time.

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Svein Arild Hagnæss, Marine Dept.

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