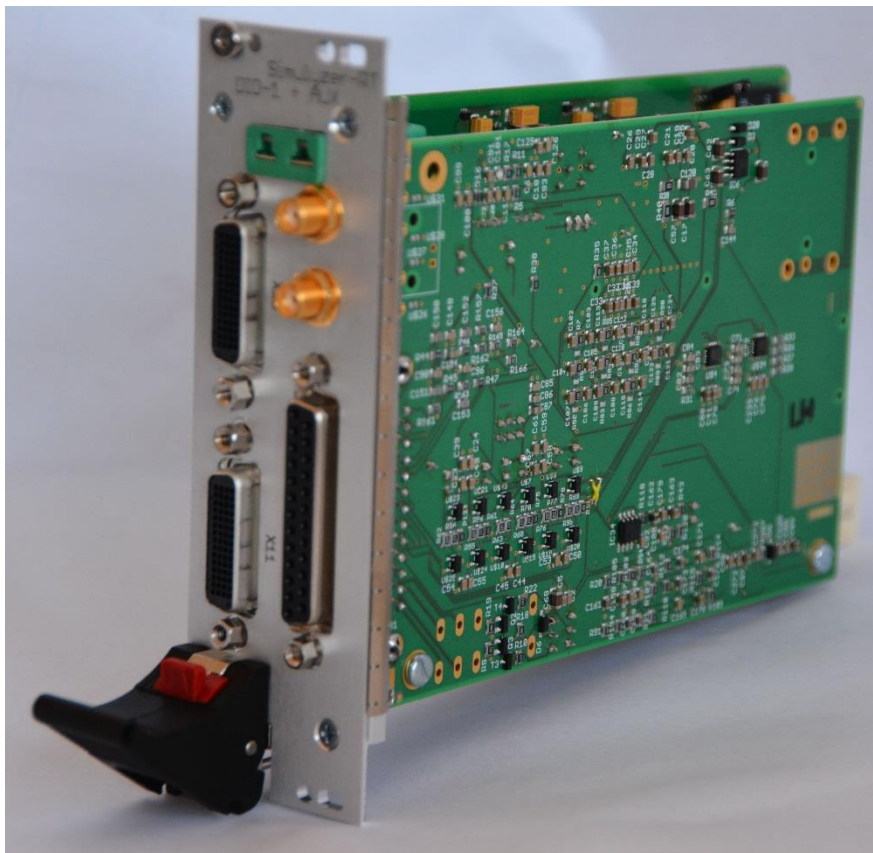


Simulyzer-RT Aux-Addon-Card



RT Aux-Addon-card in combination with RT DIO-1 card

Hardware version	1.1
Dokumentation version:	1.1
Created:	(1.0) 01.01.2015
	(1.1) 10.10.2021 Company information edited
Order no.:	1.1020 + DIO-1 card 1.1002

Safety instructions

To avoid damages to persons and devices the following safety instructions have to be noticed!

- Only qualified personnel are allowed to handle this device!
- Before any handling within the device the current supply has to be switched off!
- During operation the device have to be positioned, that enough air condition is supplied and no small parts can get into the ventilation slots.
- In case of any trouble the system has to be switched de-energized!
- The declared environmental conditions and max. voltage ranges have to be observed!
- To warranty the device remove all dust and dirt in periodically intervals.
- Make sure that the ventilation slots are unobstructed!

Intended Use:

The Simulyzer-RT Aux-Addon-Card is engineered as an additional card to a RT-DIO-1 card. It enables additional in- and outputs, the injection of two reference signals, two relay contacts and the connection of a thermal element.

- The device is only permitted to use for the intended use.
Any other use results the deletion of the guarantee!

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1. Technical data

	Symbol	Typ	Min	Max	Note
Supply voltage	U_{Supp}	12 V	11.4 V	12.6 V	
Current consumption	I_{Supp}				Without sensors
2 analog inputs 0V to +5V via SMA connector	100k sample/s (10 μ s sample distance). Input resistance 100kOhm, optional 500Ohm				
4 analog inputs 0V to +10V	100k sample/s (10 μ s sample distance). Input resistance 100kOhm				
Sampling rate all other measurements	10k sample/s (100 μ s sample distance)				
4 analog outputs	0V...5V				
4 digital outputs	3.3V or 5V TTL level				
4 digital inputs	3.3V (5V tolerant) TTL level				
2 Relay make contact	Resilient with 24V / 2A				
Measurement of a thermal element Typ K	-58° F ... 302° F (-50°C to ...150°C)				
Operating temperature	32° F ... 104°F (0°C ... 40°C)				
Rel. Humidity	Max. 85% not condensed				
Weight	In combination with RT DIO-1 card				
Dimension	As Additional-plug on card to an euroformat basic card RT-DIO-1 4 U + additional 4 U Aux-Addon				
Standard specifications	EN 61326-1, EN 61000-6-2, EN 61000-6-3				

2. Measurement accuracy

2.1. Time base

The time base is the time base of the combined periphery card and has typically the following dates:

Test conditions: Environmental temperature 68° to 79°F						
Num	Evaluation	Symbol	Typ	Max	Unit	Note
1	Accuracy time base	$\Delta f/f$	± 30	± 50	ppm	-
2	Aging time base	$\Delta f/f_A$	± 5		ppm/year	-
3	Temperature drift of the time base	$\Delta f/f_T$	± 0.3	± 0.7	ppm/K	-

2.2. Measurement of the 4x analog inputs (0..10V, 100kOhm, 100k samples/s)

Test conditions: Environmental temperature 68° to 79°F						
Num	Evaluation	Symbol	Typ	Max	Unit	Note
4	Accuracy of the measured voltage	U_{mea}	± 0.1	± 0.15	% of scfin 5 V	
5	Aging of the measured voltage	U_{A-meas}		± 0.05	%/year	
6	Resolution of the measured voltage		16		Bit	0..65535
			0,076293945		mV/LSB	

2.3. Generation of the analog output voltage

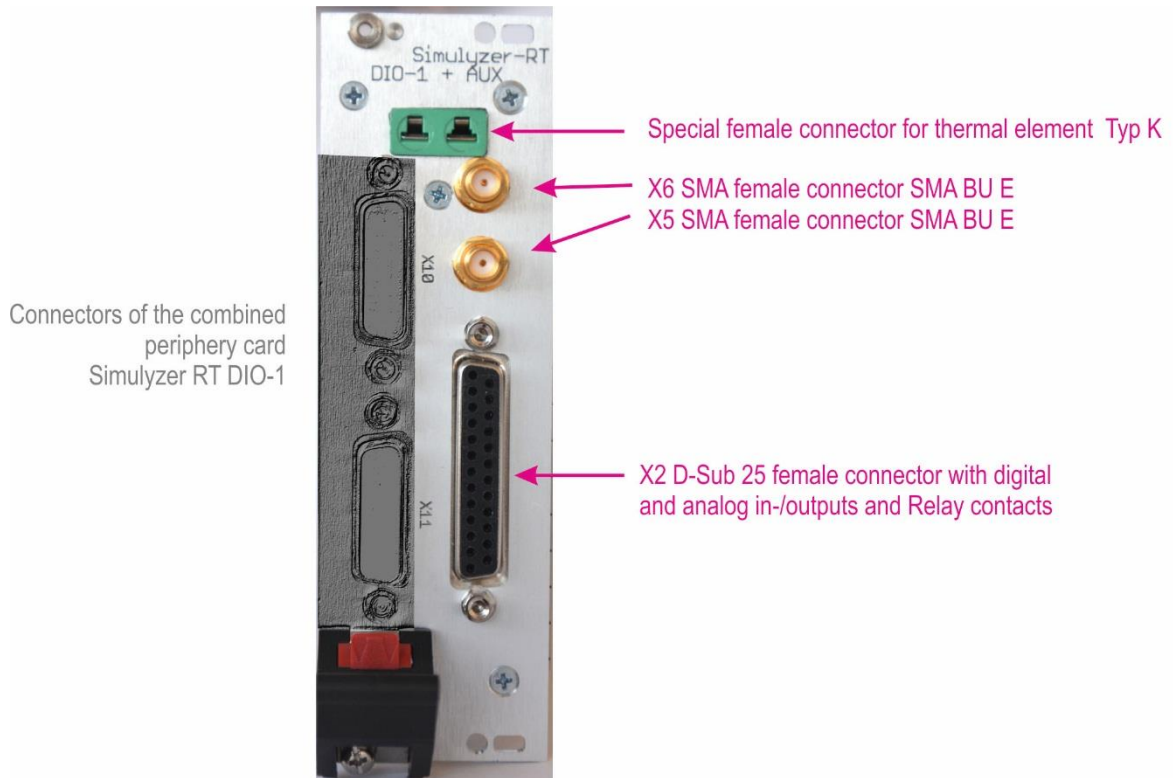
Test conditions: Environmental temperature 68° to 79°F						
Num	Evaluation	Symbol	Typ	Max	Unit	Note
7	Accuracy of the generated voltage	U_{mea}	± 0.1	± 0.15	% of scfin 5 V	
8	Aging of the generated voltage	U_{A-meas}		± 0.05	%/year	
9	Resolution of the generated voltage		16		Bit	0..65535
			0,076293945		mV/LSB	

2.4. Measurement of the thermal element Typ K (-58°F ... +302°F, 10 samples/s)

Test conditions: Environmental temperature 68° to 79°F						
Num	Evaluation	Symbol	Typ	Max	Unit	Note
10	Accuracy of the measured temperature	U_{mea}	± 1.0	± 2.0	% of scfin 200°C	
11	Aging of the measured temperature	U_{A-meas}		± 0.05	%/year	
12	Resolution of the measured temperature		12		Bit	0..4096
			0,048828125		°C/LSB	

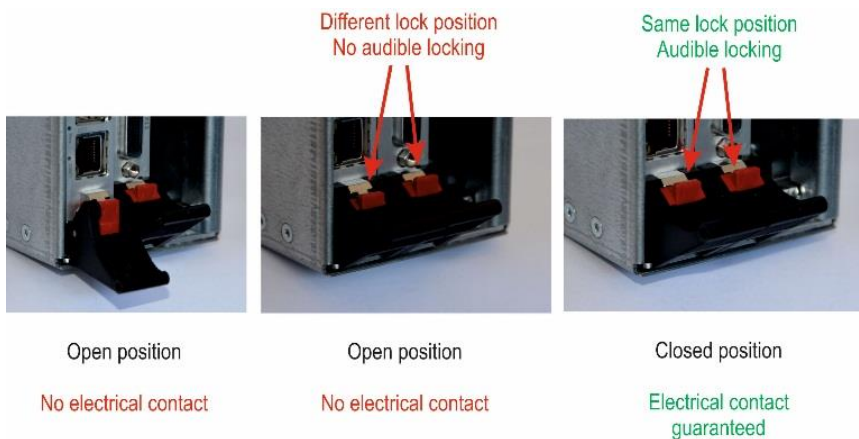
3. Connections:

- **Connection periphery card:**
60 pin connector with 12V supply voltage, 3.3V supply and 19 logic pins
- **Connections front:**



4. Handling the ejection lever of the chassis

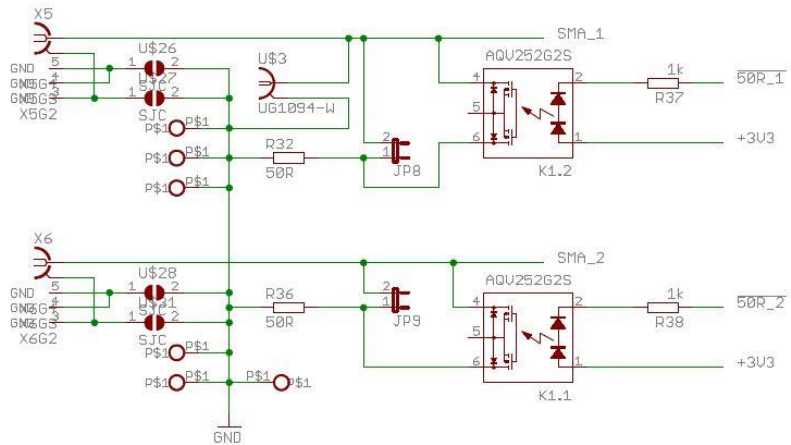
Pay attention that the ejection lever of the plug-in card is arrested correctly. Only the correct position guarantees a justly connection of the bus system and the power supply!



5. Connection diagram

X2 – 25 pin. Sub-D female connector : **X5/X6-SMA-female connector:**

X2-1	Ana_1_in
X2-2	Ana_3_in
X2-3	GND common
X2-4	Ana_2_out
X2-5	Ana_4_out
X2-6	Dig_1_in
X2-7	Dig_3_in
X2-8	n.c.
X2-9	Dig_2_out
X2-10	Dig_4_out
X2-11	GND common
X2-12	Kont_1_in
X2-13	Kont_2_in
X2-14	Ana_2_in
X2-15	Ana_4_in
X2-16	Ana_1_out
X2-17	Ana_3_out
X2-18	GND common
X2-19	Dig_2_in
X2-20	Dig_4_in
X2-21	Dig_1_out
X2-22	Dig_3_out
X2-23	n.c.
X2-24	Kont_1_out
X2-25	Kont_2_out
X2-G	Shield



6. More information and tutorials

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