

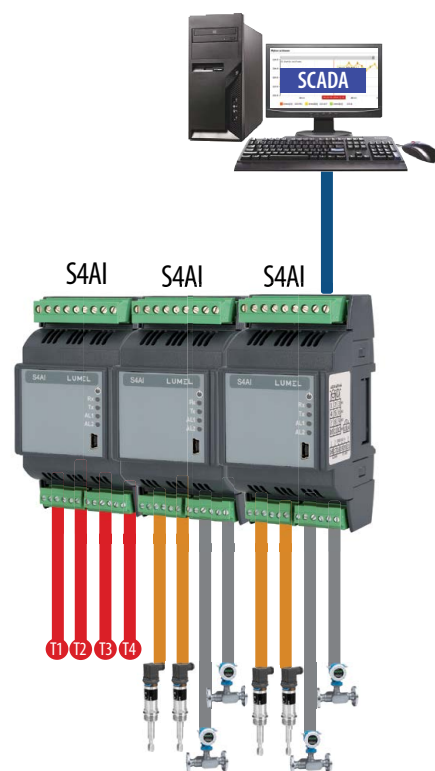
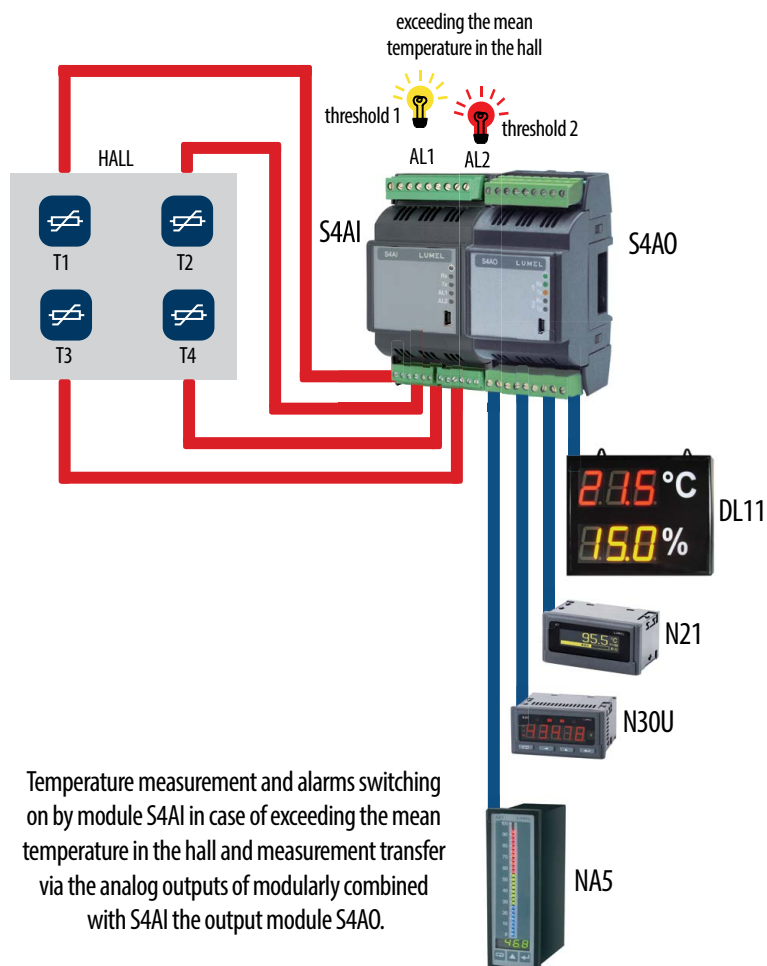


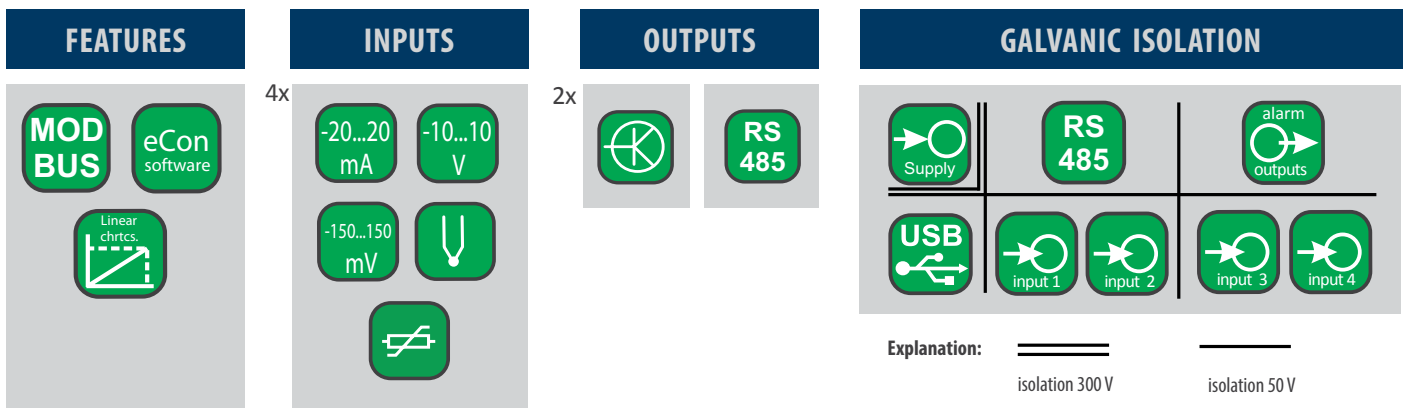
S4AI - MODULE OF ANALOG INPUTS

- Processing 4 analog signals (standard signals, resistance thermometers, thermocouples) to RS-485 Modbus.
- Programmable individual characteristics of the inputs.
- Operation in Modbus Slave mode.
- Possible connection via the internal RS-485.
- Two programmable alarm outputs.
- Mathematical functions: addition, subtraction, multiplication, division, average, minimum, maximum.
- Two virtual measurement channels to perform mathematical functions on the channels or between the measurement channels.
- Programmable operating time counters.
- To be mounted on TS35 rail in typical installation cabinets.
- Galvanic isolation between inputs divided into 2 groups of 2 inputs
- Possible configuration via USB (power supply of the module is not required).



EXAMPLE OF APPLICATION





TECHNICAL DATA

INPUTS

Input type	Range	Internal resistance	Basic error	Sensor current	Maximum wire resistance
Voltage input	-12...-10...0...10...12 V	> 1 MΩ	0.1 % of range	-	-
Current input	-24...-20...0...20...24 mA	10 Ω ±1%	0.1 % of range	-	-
Pt100 sensor input	-200 °C...850 °C	-	0.1 % of range	300 μA ±2%	< 20 Ω
Pt500 sensor input	-200 °C...850 °C	-	0.1 % of range	300 μA ±2%	< 20 Ω
Pt1000 sensor input	-200 °C...850 °C	-	0.1 % of range	300 μA ±2%	< 20 Ω
Voltage input (shunt)	-180...-150...0...150...180 mV	> 50 kΩ	0.1 % of range	-	-
Thermocouple J input	-210 °C...1200 °C	-	0.1 % of range	-	-
Thermocouple K input	-250 °C...1372 °C	-	0.1 % of range	-	-
Thermocouple S input	-50 °C...1768 °C	-	0.1 % of range	-	-

OUTPUTS

Output type	Remarks
Alarm output	logic, maximat output current: 20 mA, off state: 0 V, on state: 5 V acc. to TTL levels acc. to EIA JESD12-6

DIGITAL INTERFACE

Interface type	Transmission protocol	Remarks
RS-485	Modbus RTU 8N2, 8E1, 8O1, 8N1 Address 1..247	baud rate: 1.2, 2.4, 4.8, 9.6, 19.2, 38.4, 57.6, 115.2 kbit/s,
USB (for configuration)	Modbus RTU 8N2, 1.1 / 2.0	baud rate: 115.2 kbps

EXTERNAL FEATURES

Overall dimensions	53 x 110 x 60,5 mm
Weight	0.2 kg
Protection grade	from frontal side: IP50 from terminal side: IP00

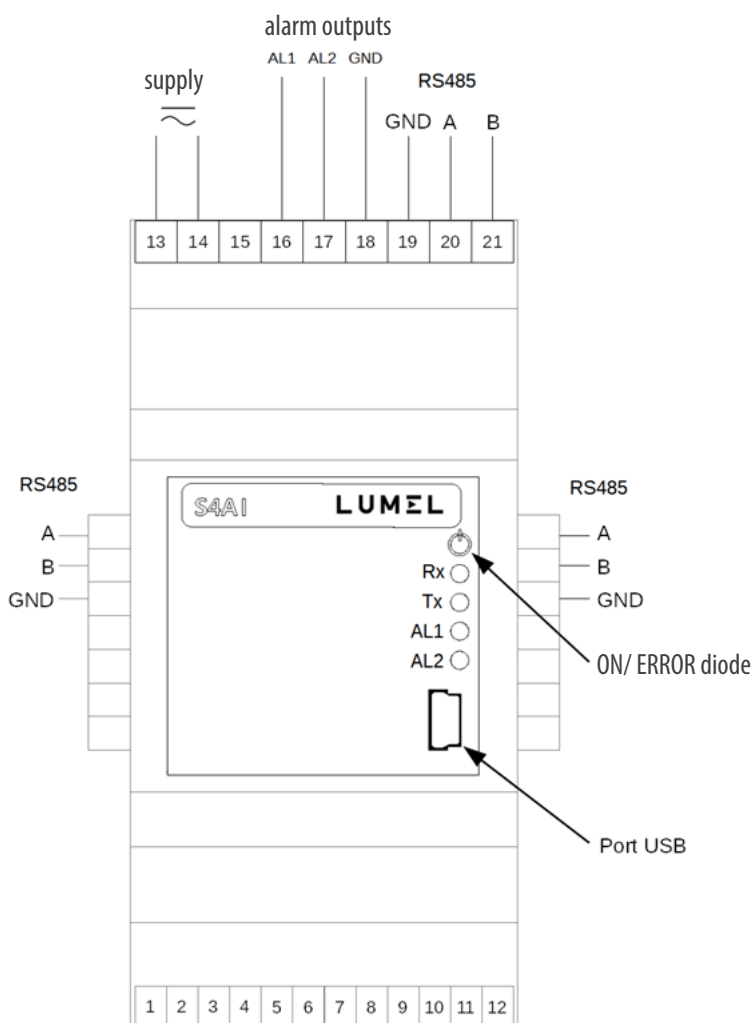
RATED OPERATING CONDITIONS

Supply voltage	85...253 V a.c. 40...400 Hz; 90...300 V d.c. 20...40 V a.c. 40...400 Hz, 20...60 V d.c.	power consumption ≤ 3 VA
Preheating time	30 min.	
Ambient temperature	-10...23...55°C	
Humidity	< 95%	inadmissible condensation
Operating position	vertical	
External magnetic field	0...40...400 A/m	

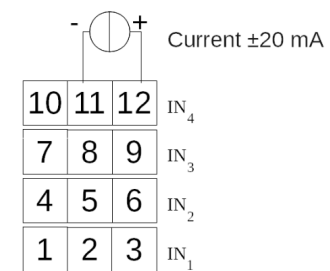
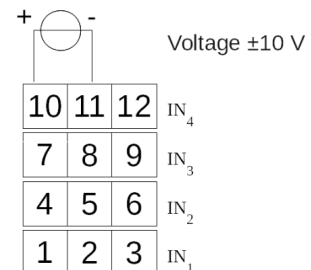
SAFETY AND COMPABILITY REQUIREMENTS

Electromagnetic compatibility	noise immunity	acc. to EN 61000-6-2
	noise emissions	acc. to EN 61000-6-4
Isolation between circuits	basic	acc. to EN 61010-1
Polution level	2	acc. to EN 61010-1
Installation category	III	acc. to EN 61010-1
Maximal phase-to-earth voltage	<ul style="list-style-type: none"> for supplying circuits 300 V for other circuits 50 V 	acc. to EN 61010-1
Altitude a.s.l.	< 2000 m	acc. to EN 61010-1

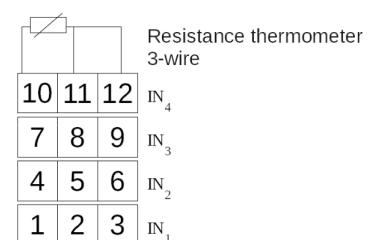
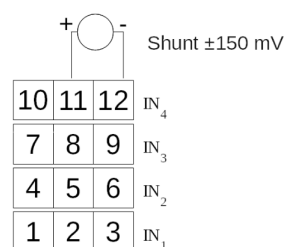
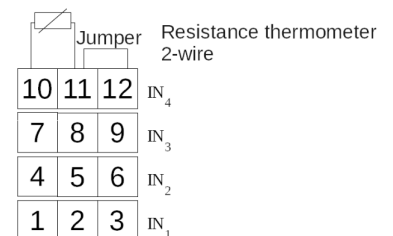
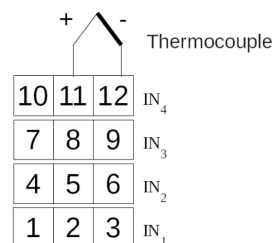
CONNECTION DIAGRAMS



Electrical connection of S4AI module



version with inputs $\pm 10\text{ V}$, $\pm 20\text{ mA}$



version with inputs Pt100, Pt500, Pt1000, thermocouples JKS, $\pm 150\text{ mV}$

ORDERING CODE

Module of analog outputs S4AI -	X	X	XX	X	X
Inputs:					
4 programmable analog inputs: $\pm 10\text{ V} - \pm 20\text{ mA}$	1				
4 programmable analog inputs: Pt100, Pt500, Pt1000, J, K, S, $\pm 150\text{ mV}$	2				
acc.to customer's request*	X				
Supply voltage:					
85...253 V a.c. , 90...300 V d.c.		1			
20...40 V a.c. , 20...60 V d.c.		2			
Version:					
standard			00		
custom-made*			XX		
Language:					
Polish				P	
English				E	
other*				X	
Acceptance tests:					
without additional quality requirements					0
with an extra quality inspection certificate					1
acc.to customer's request					X

Order example:

The code **S4AI-1100E0** means:

- S4AI** – module S4AI,
- 1** – 4 analog inputs: $\pm 10\text{ V} - \pm 20\text{ mA}$,
- 1** – 85..253 V a.c. / d.c.
- 00** – standard version,
- E** – user's manual in English,
- 0** – without additional quality requirements.

* only after agreeing with the manufacturer

SEE ALSO:



S4AO - modul of 4 analog outputs



N30U - programmable digital meter of temp., resistance and standard signals



N25 - configurable digital indicator



N21 - temperature and d.c. standard signals universal digital meter with OLED



N43 - Rail mounted 3-phase power network meter N43



free **eCON** software

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