SM2 MODULE OF ANALOG INPUTS

LUMEL

- Conversion of standard signals and temperature into RS-485 / MODBUS in 4 channels
- Programmable measurement characteristic
- Fixing on a TS35 rail
- Mathematical functions realized between channels and on channels
- 2 programmable OC outputs
- Full galvanic separation between inputs.

CE

EXAMPLE OF APPLICATION

HMI

SCADA

RS-485 MODBUS

SM1
2 x 0...10 V
or
2 x 0...20 mA
2 x Pt100

SM2
4 x 0...10 V
or
4 x 0...20 mA
4 x Pt100
2 x OC

SM3
2 x binary input
2 x impulses

SM4
4 x relay (output)
8 x OC (output)

SM5
8 x binary output
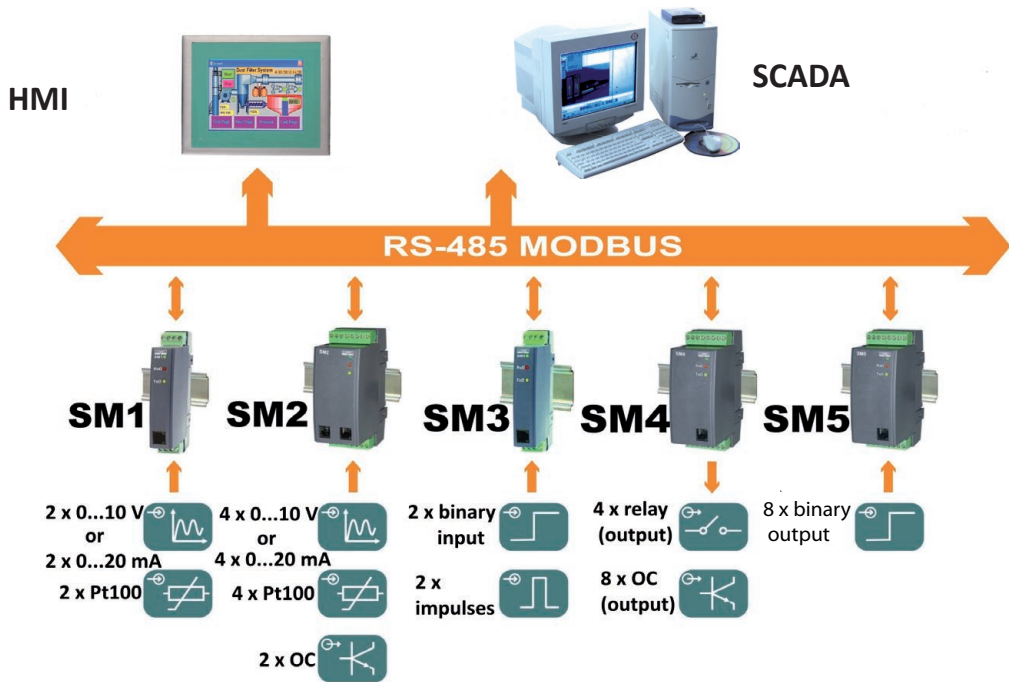
EXTERNAL FEATURES

Overall dimensions	45 x 120 x 100 mm	
Weight	< 0.3 kg	
Protection grade	IP40	from terminal side: IP20

DIGITAL INTERFACE

Interface type	Transmission protocol	Modes	Baud rate
RS-485	Modbus RTU	8N2,8E1,8O1,8N1	2400; 4800; 9600; 19.2 k;
	Modbus ASCII	8N1, 7E1, 7O1	38.4 k; 57.6 k; 115 k bit/s

INPUTS

Input type	Range	Error
Temperature	-200...850 °C	0.1%
Current	0/4...20 mA	0.1%
Voltage	0...10 V	0.1%
Resistance	0...400 Ω	0.1%

OUTPUTS

Output type	Properties	Remarks
Digital interface	RS-485	Modbus ASCII/RTU

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RATED OPERATING CONDITIONS

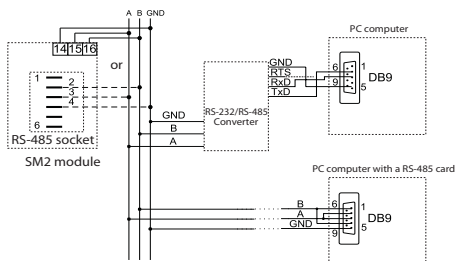|		
Supply voltage	85...253 V a.c./d.c. (40...400 Hz) or d.c. 20...50 V a.c./d.c. (40...400 Hz) or d.c.	Input power: ≤ 4 VA
Temperature	ambient: -10...23...55°C	
Relative humidity	< 95%	
Operating position	on a TS35 rail	
External magnetic field	< 400 A/m	

SAFETY AND COMPABILITY REQUIREMENTS

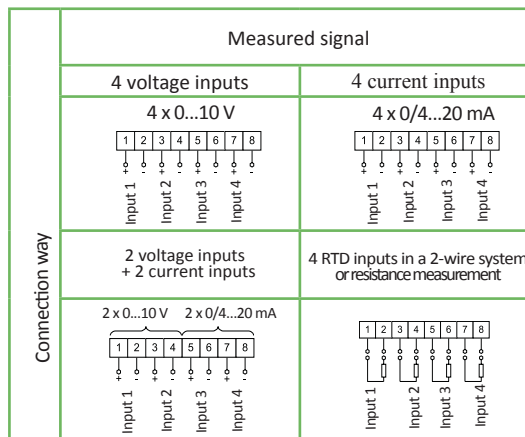|		
Electromagnetic compability	Noise immunity	acc. to EN 61000-6-2
	Noise emissions	acc. to EN 61000-6-4
Isolation between circuits		acc. to EN 61010-1
Pollution level	2	
Installation category	III	
Maximum phase-to-earth operating voltage	Supply: 300 V, input 50 V, Output: 50 V	
Altitude a.s.l.	2000 m	

CONNECTION DIAGRAMS
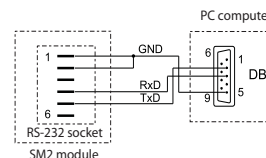
Connection way of external signals

Connection way of input signals

Measured signal	
4 voltage inputs	4 current inputs
4 x 0...10 V	4 x 0/4...20 mA
Input 1 Input 2 Input 3 Input 4	Input 1 Input 2 Input 3 Input 4
2 voltage inputs + 2 current inputs	4 RTD inputs in a 2-wire system or resistance measurement
2 x 0...10 V 2 x 0/4...20 mA	
Input 1 Input 2 Input 3 Input 4	Input 1 Input 2 Input 3 Input 4

Connection way of the RS-485 interface

Connection way of the RS-232 interface

ORDERING

Module of analog inputs - SM2		XX	X	X
Input signal :				
4 voltage inputs	0...10 V	00		
4 current inputs	0/4...20 mA	01		
2 voltage inputs + 2 current inputs	0...10 V+0/4...20 mA	02		
4 resistance inputs 0...400 Ω or Pt100		03		
Supply:				
85...253 V a.c./d.c.			1	
20...50 V a.c./d.c.			2	
Acceptance tests:				
without additional quality inspection requirements				8
with an extra quality inspection certificate				7
other quality requirements *				X

* after agreeing with the manufacturer

Ordering example:

The code **SM2 - 01 1 8** means:

SM2 - module of SM2 type

01 - 4 current inputs: 0/4...20 mA

1 - supply: 85...253 V a.c./d.c.

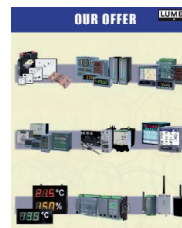**8** - without additional quality inspection requirements