8.2 Analog Input Module 07 EA 61 R1

4...20 mA, 8 bits, 8 channels, electrically isolated, open-circuit monitoring

The analog input module 07 EA 61 converts input signal currents of 3.5...20 mA into internal binary codes, working with a resolution of 8 bits. At each of the 8 channels the analog process signals are connected with two wires.

The function block ANAI (or ANAI1) within 907 PC 32 evaluates open circuit and converts internal codes corresponding to the range of 4...20 mA.

All 0V terminals marked with (-) are connected together inside the module and form the common reference potential. The analog input circuitry is electrically isolated.

Care has to be taken for correct grounding and shielding of signal cables, sensors and reference potentials. Unused inputs should be short-circuited to improve the noise immunity.

Technical Data

Number of inputs per module	8
Electrical isolation	yes, common reference potential
Nominal insulation voltage, process terminals versus subrack and internal connections:	
acc. VDE 0160	60 V AC
tested with	500 V AC
Input data	
input current range	
0...100 % corresponds to	4...20 mA
open-circuit monitoring, if	
input current < 4 mA, threshold ≈ 3.6 mA	yes, with function block ANAI or ANAI1 within 907 PC 32
hexadecimal representation (see table 8.2.1)	
after hardware conversion	0000...00FF, corresponding to 3.5...20 mA
after conversion with ANAI or ANAI1	0000...0FF0, corresponding to 4...20 mA
hardware conversion, if input current out of range	
input current > 20 mA	00FF
input current < 3.5 mA	0000
input resistance	100 Ω
resolution (1 LSB)	64.8 µA
adjustment inaccuracy on delivery	max. ± 1 % of full scale
inaccuracy caused by resolution	max. ± $^1/_2$ LSB
non-linearity	max. ± $^1/_2$ LSB
temperature coefficient (full scale)	max. ± 2.78 µA/K
Max. permissible input current (destruction limit)	+40 mA, -5 mA
Conversion rate	5 ms
Supply current from internal voltages	
UB1 = 5 V DC	max. 60 mA
UB4 = 24 V DC	max. 70 mA
Power dissipation	max. 1.98 W
Cable length, if cables have been laid parallel	
in cable duct, shielded	max. 50 m
two-core shielded and cross section ≥ 0.5 mm²	max. 200 m
Conductor cross section of process terminals	max. 1.5 mm²
Signalling of the input signals	no signalling
Number of required slots	1 I/O slot
Number of occupied I/O points	128
Configuration identifier in 907 PC 32	EW8

Ability of fitting in subracks	BT			BE-central			BE-remote		
slots, ● = plug-in is possible	NG	ZE	I/O	NG	BV	I/O	NG	BV	I/O
			●			●			●

Weight	470 g
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