

SIPLUS S7-1200 SM 1231 8AI WITH CONFORMAL COATING
 BASEDON 6ES7231-4HF32-0XB0 . ANALOG INPUT SM 1231, 8 AI,
 +/-10V, +/-5V, +/-2.5V, OR 0-20MA/4-20 MA, 12 BIT + VORZ. OR
 (13BIT ADC)

Supply voltage

Rated value (DC)

- 24 V DC

Yes

Input current

Current consumption, typ.

45 mA

from backplane bus 5 V DC, typ.

90 mA

Power loss

Power loss, typ.

1.5 W

Analog inputs

Number of analog inputs

8; Current or voltage differential inputs

permissible input voltage for current input
(destruction limit), max.

± 35 V

permissible input voltage for voltage input
(destruction limit), max.

35 V

permissible input current for voltage input
(destruction limit), max.

40 mA

permissible input current for current input (destruction
limit), max.

40 mA

Cycle time (all channels) max.

625 μ s

Input ranges

- Voltage

Yes; ± 10 V, ± 5 V, ± 2.5 V

- Current

Yes; 4 to 20 mA, 0 to 20 mA

- Thermocouple

No

- Resistance thermometer

No

- Resistance

Yes

Input ranges (rated values), voltages

- -10 V to +10 V

Yes

- Input resistance (-10 V to +10 V)

≥ 9 MOhm

- -2.5 V to +2.5 V

Yes

- Input resistance (-2.5 V to +2.5 V)

≥ 9 MOhm

- -5 V to +5 V

Yes

- Input resistance (-5 V to +5 V)

≥ 9 MOhm

Input ranges (rated values), currents

• 0 to 20 mA	Yes
• Input resistance (0 to 20 mA)	280 Ω
Thermocouple (TC)	
Temperature compensation	
— parameterizable	No

Analog value generation

Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	12 bit; + sign
• Integration time, parameterizable	Yes
• Interference voltage suppression for interference frequency f1 in Hz	40 dB, DC to 60 V for interference frequency 50 / 60 Hz
Smoothing of measured values	
• parameterizable	Yes
• Step: None	Yes
• Step: low	Yes
• Step: Medium	Yes
• Step: High	Yes

Errors/accuracies

Temperature error (relative to input range), (+/-)	25 °C ±0.1%, to 55 °C ±0.2% total measurement range
Basic error limit (operational limit at 25 °C)	
• Voltage, relative to input area, (+/-)	0.1 %
• Current, relative to input area, (+/-)	0.1 %
Interference voltage suppression for $f = n \times (f1 \pm 1 \%)$, f1 = interference frequency	
• Common mode voltage, max.	12 V

Interrupts/diagnostics/status information

Alarms	Yes
Diagnostic functions	Yes
Alarms	
• Diagnostic alarm	Yes
Diagnostic messages	
• Monitoring the supply voltage	Yes
• Wire-break	Yes
Diagnostics indication LED	
• for status of the inputs	Yes
• for maintenance	Yes

Degree and class of protection

Degree of protection acc. to EN 60529	
• IP20	Yes

Standards, approvals, certificates

CE mark	Yes
Ambient conditions	
Free fall	
• Fall height, max.	0.3 m; five times, in dispatch package
Ambient temperature during operation	
• min.	-20 °C; = Tmin; Startup @ 0 °C
• max.	60 °C; = Tmax
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Air pressure acc. to IEC 60068-2-13	
• Storage/transport, min.	660 hPa
• Storage/transport, max.	1 080 hPa
Relative humidity	
• permissible range (without condensation) at 25 °C	95 %
Extended ambient conditions	
• relative to ambient temperature-atmospheric pressure-installation altitude	Tmin ... Tmax at 1080 hPa ... 795 hPa (-1000 m ... +2000 m) // Tmin ... (Tmax - 10K) at 795 hPa ... 658 hPa (+2000 m ... +3500 m) // Tmin ... (Tmax - 20K) at 658 hPa ... 540 hPa (+3500 m ... +5000 m)
Relative humidity	
— With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Resistance	
— against biologically active substances / conformity with EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna). The supplied connector covers must remain on the unused interfaces during operation!
— against chemically active substances / conformity with EN 60721-3-3	Yes; Class 3C4 (RH < 75%) incl. salt spray according to EN 60068-2-52 (degree of severity 3). The supplied connector covers must remain on the unused interfaces during operation!
— against mechanically active substances / conformity with EN 60721-3-3	Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!
Connection method	
required front connector	Yes
Mechanics/material	
Enclosure material (front)	
• Plastic	Yes
Dimensions	
Width	45 mm
Height	100 mm
Depth	75 mm

Weights

Weight, approx.

180 g

last modified:

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