



Figure similar

SIPLUS S7-1500 AI 8XU/I HS -40 ... +70 DEGREE C WITH CONFORMAL COATING BASED ON 6ES7531-7NF10-0AB0 . ANALOG INPUT MODULE AI 8 X U/I HS, 16 BITS OF RESOLUTION, ACCURACY 0.3 %; 8 CHANNELS IN GROUPS OF 8; COMMON MODE VOLTAGE APPR. 10V; DIAGNOSIS, PROCESSALARMS; 8 CHANNELS IN 0,125 MS INCL. INFEED ELEMENT, SHIELD CLAMP AND SHIELD TERMINAL

General information	
Product type designation	AI 8xU/I HS
HW functional status	E01
Firmware version	V1.0.0
Product function	
• I&M data	Yes
Engineering with	
• STEP 7 TIA Portal configurable/integrated as of version	V12 / V12
• STEP 7 configurable/integrated as of version	V5.5 / -
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes
Input current	
Current consumption, max.	240 mA; with 24 V DC supply

Encoder supply	
24 V encoder supply	
• Short-circuit protection	Yes
• Output current, max.	53 mA
Power	
Power available from the backplane bus	1.2 W
Power loss	
Power loss, typ.	3.4 W
Analog inputs	
Number of analog inputs	8; > +60 °C max. 4x ±20 mA or 4x ±10 V permissible
• For current measurement	8
• For voltage measurement	8
permissible input voltage for voltage input (destruction limit), max.	28.8 V
permissible input current for current input (destruction limit), max.	40 mA
Input ranges (rated values), voltages	
• 1 V to 5 V	Yes
• Input resistance (1 V to 5 V)	50 kΩ
• -10 V to +10 V	Yes
• Input resistance (-10 V to +10 V)	100 kΩ
• -5 V to +5 V	Yes
• Input resistance (-5 V to +5 V)	50 kΩ
Input ranges (rated values), currents	
• 0 to 20 mA	Yes
• Input resistance (0 to 20 mA)	41 Ω; Plus approx. 42 ohms for overvoltage protection by PTC
• -20 mA to +20 mA	Yes
• Input resistance (-20 mA to +20 mA)	41 Ω; Plus approx. 42 ohms for overvoltage protection by PTC
• 4 mA to 20 mA	Yes
• Input resistance (4 mA to 20 mA)	41 Ω; Plus approx. 42 ohms for overvoltage protection by PTC
Cable length	
• shielded, max.	800 m
Analog value generation for the inputs	
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	16 bit
• Basic execution time of the module (all channels released)	62.5 μs
Smoothing of measured values	
• parameterizable	Yes
• Step: None	Yes

• Step: low	Yes
• Step: Medium	Yes
• Step: High	Yes

Encoder

Connection of signal encoders	
• for voltage measurement	Yes
• for current measurement as 2-wire transducer	Yes
— Burden of 2-wire transmitter, max.	820 Ω
• for current measurement as 4-wire transducer	Yes

Errors/accuracies

Linearity error (relative to input range), (+/-)	0.02 %
Temperature error (relative to input range), (+/-)	0.005 %/K
Crosstalk between the inputs, min.	-60 dB
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.02 %
Operational error limit in overall temperature range	
• Voltage, relative to input range, (+/-)	0.3 %
• Current, relative to input range, (+/-)	0.3 %
Basic error limit (operational limit at 25 °C)	
• Voltage, relative to input range, (+/-)	0.2 %
• Current, relative to input range, (+/-)	0.2 %
Interference voltage suppression for $f = n \times (f_1 \pm 1 \%)$, f_1 = interference frequency	
• Common mode voltage, max.	10 V
• Common mode interference, min.	60 dB; at 400 Hz: 50 dB

Isochronous mode

Isochronous operation (application synchronized up to terminal)	Yes
Filtering and processing time (TCI), min.	80 μs
Bus cycle time (TDP), min.	250 μs
Jitter, max.	1 μs

Interrupts/diagnostics/status information

Diagnostics function	Yes
Alarms	
• Diagnostic alarm	Yes
• Limit value alarm	Yes; two upper and two lower limit values in each case
Diagnostic messages	
• Monitoring the supply voltage	Yes
• Wire-break	Yes; only for 1 ... 5 V and 4 ... 20 mA
• Overflow/underflow	Yes
Diagnostics indication LED	
• Monitoring of the supply voltage (PWR-LED)	Yes; Green LED

• Channel status display	Yes; Green LED
• for channel diagnostics	Yes; Red LED
• for module diagnostics	Yes; Red LED

Potential separation

Potential separation channels

• between the channels	No
• between the channels and backplane bus	Yes
• between the channels and the power supply of the electronics	Yes

Permissible potential difference

between the inputs (UCM)	20 V DC
Between the inputs and MANA (UCM)	10 V DC
between M internally and the inputs	75 V DC/60 V AC

Isolation

Isolation tested with	707 V DC
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Ambient conditions

Ambient temperature during operation

• horizontal installation, min.	-40 °C; = Tmin; Startup @ -25 °C
• horizontal installation, max.	70 °C; = Tmax; > +60 °C max. 4x ±20 mA or 4x ±10 V permissible
• vertical installation, min.	-40 °C; = Tmin; Startup @ -25 °C
• vertical installation, max.	40 °C; = Tmax

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)
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Relative humidity

— With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
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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!

Dimensions

Width	35 mm
Height	147 mm
Depth	129 mm

Weights

Weight, approx.

200 g

last modified:

10/14/2016