

SIPLUS S7-1500, ANALOG OUTPUT MODULE AQ 8 X U/I HS 16 BITS OF RESOLUTION, ACCURACY 0.3 %, 8CHANNELS IN GROUPS OF 8, DIAGNOSIS, SUBSTITUTE VALUE 8 CHANNELS IN 0.125 MS INCL. INFEEED ELEMENT, SHIELD CLAMP AND -40 ... +70 DEGREE C WITH CONFORMAL COATING BASED ON 6ES7532-5HF00-0AB0 SHIELD TERMINAL

General information	
Product type designation	AQ 8xU/I HS
Product function	
• I&M data	Yes; I&M0 to I&M3
CiR - Configuration in RUN	
Reparameterization possible in RUN	Yes
Calibration possible in RUN	Yes
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Input current	
Current consumption, max.	260 mA; with 24 V DC supply
Power	
Power available from the backplane bus	1.15 W
Power loss	
Power loss, typ.	7 W
Analog outputs	
Number of analog outputs	8; > +60 °C max. 4x ±10 V permissible
Voltage output, short-circuit protection	Yes
Voltage output, short-circuit current, max.	45 mA
Current output, no-load voltage, max.	20 V
Cycle time (all channels), min.	125 µs; independent of number of activated channels
Output ranges, voltage	
• 0 to 10 V	Yes
• 1 V to 5 V	Yes
• -10 V to +10 V	Yes
Output ranges, current	
• 0 to 20 mA	Yes
• -20 mA to +20 mA	Yes

• 4 mA to 20 mA	Yes
Connection of actuators	
• for voltage output two-wire connection	Yes
• for voltage output four-wire connection	Yes
• for current output two-wire connection	Yes
Load impedance (in rated range of output)	
• with voltage outputs, min.	1 k Ω
• with voltage outputs, capacitive load, max.	100 nF
• with current outputs, max.	500 Ω
• with current outputs, inductive load, max.	1 mH
Analog value generation for the outputs	
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	16 bit
• Conversion time (per channel)	50 μ s
• Basic execution time of the module (all channels released)	125 μ s
Settling time	
• for resistive load	30 μ s; see additional description in the manual
• for capacitive load	100 μ s; see additional description in the manual
• for inductive load	100 μ s; see additional description in the manual
Errors/accuracies	
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-)	0.02 %
Linearity error (relative to output range), (+/-)	0.15 %
Temperature error (relative to output range), (+/-)	0.002 %/K
Crosstalk between the outputs, max.	-100 dB
Repeat accuracy in steady state at 25 °C (relative to output range), (+/-)	0.05 %
Operational error limit in overall temperature range	
• Voltage, relative to output range, (+/-)	0.4 %
• Current, relative to output range, (+/-)	0.4 %
Basic error limit (operational limit at 25 °C)	
• Voltage, relative to output range, (+/-)	0.2 %
• Current, relative to output range, (+/-)	0.2 %
Isochronous mode	
Isochronous operation (application synchronized up to terminal)	Yes
Execution and activation time (TCO), min.	100 μ s
Bus cycle time (TDP), min.	250 μ s
Interrupts/diagnostics/status information	

Diagnostics function	Yes
Substitute values connectable	Yes
Alarms	
• Diagnostic alarm	Yes
Diagnostic messages	
• Monitoring the supply voltage	Yes
• Wire-break	Yes; Only for output type "current"
• Short-circuit	Yes; Only for output type "voltage"
• Overflow/underflow	Yes
Diagnostics indication LED	
• RUN LED	Yes; Green LED
• ERROR LED	Yes; Red 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 load voltage L+	Yes
Permissible potential difference	
between MANA and M internally (UISO)	75 V DC/60 V AC
between S- and MANA (UCM)	+/- 8 V
Isolation	
Isolation tested with	707 V DC (type test)
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 ±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)
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

— against chemically active substances /
conformity with EN 60721-3-3

— against mechanically 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!

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!

Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!

Decentralized operation

Fast Startup supported

Yes; 500 ms

Dimensions

Width

35 mm

Height

147 mm

Depth

129 mm

Weights

Weight, approx.

325 g

last modified:

10/14/2016