## Data sheet 6ES7532-5HF00-0AB0

## Siemens EcoTech



SIMATIC S7-1500, analog output module AQ8xU/I HS, 16-bit resolution accuracy 0.3%, 8 channels in groups of 8, diagnostics; substitute value 8 channels in 0.125 ms oversampling; the module supports the safety-oriented shutdown of load groups up to SIL2 according to EN IEC 62061:2021 and Category 3 / PL d according to EN ISO 13849-1:2015. delivery including infeed element, shielding bracket and shield terminal: front connector (screw terminals or push-in) to be ordered separately

Figure similar

General Information Product type designation HW functional status  Firmware version FW update possible Freduct function Firmware version Firmware version Feeduct function Firmware version Firmware version Feeduct function Firmware version Firmware version Feeduct function Firmware version Firmw		
HW functional status	General information	
Firmware version  FW update possible  FW update possible  Product function  I &M data  Sisochronous mode  Prioritized startup  Output range scalable  Engineering with  STEP 7 TIA Portal configurable/integrated from version  FROFINET from GSD version/GSD revision  PROFINET from GSD version/GSD revision  Pres  MSO  Pes  CIR - Configuration in RUN  Reparameterization possible in RUN  Pes  Calibration possible in RUN  Yes  Calibration possible in RUN  Yes  Supply votage  Rated value (DC)  Permissible range, lower limit (DC)  Permissible range, upper limit (DC)  Permissible range, upper limit (DC)  Pes  Input current  Current consumption, max.  320 mA; with 19.2 V supply  Power  Power variable from the backplane bus  1.15 W  Power loss, typ.  Power loss, typ.  Analog outputs  No  Votage output, short-circuit protection  Yes  Votage output, short-circuit protection	Product type designation	AQ 8xU/I HS
Product function  Product function  1 8M data 1 Sechronous mode 2 Prioritized startup 3 No 4 Output range scalable 4 STEP 7 TIA Portal configurable/integrated from version 5 STEP 7 TIA Portal configurable/integrated from version 5 STEP 7 TIA Portal configurable/integrated from version 7 STEP 7 TIA Portal configurable/integrated from version 9 PROFIBUS from GSD version/GSD revision 1 V1.0 / V5.1 9 PROFIBUS from GSD version/GSD revision 1 V1.0 / V5.1 9 PROFINET from GSD version/GSD revision 1 V2.3 / Operating mode  ○ Oversampling 1 Yes 1 NSO 2 Ves 2 Ves 2 CIR - Configuration in RUN 2 Reparameterization possible in RUN 2 Yes 2 Calibration possible in RUN 2 Yes 2 Version (CC) 2 4 V 2 permissible range, upper limit (DC) 2 8.8 V 2 Reverse polarity protection 2 Yes 2 Nower Input current 2 Current consumption, max. 3 20 mA; with 19.2 V supply 2 Power 3 20 mA; with 19.2 V supply 3 Power Ioss 4 Power Ves 4 Number of analog outputs 8 Ves 4 Voltage output, short-circuit protection 5 8 5 Voltage output, short-circuit protection 5 8 5 Voltage output, short-circuit protection 5 8 5 Voltage output, short-circuit protection 5 Pees 5 Voltage output, short-circuit protection 5 Pees 5 Voltage output, short-circuit protection 5 Ves 5 Ves 5 Voltage output, short-circuit protection 5 Ves 5 V	HW functional status	from FS01
Product function  • I&M data  • Isochronous mode  • Prioritized startup  • Output range scalable  Product function  • STEP 7 TIA Portal configurable/integrated from version  • STEP 7 configurable/integrated from version  • PROFIBUS from GSD version/GSD revision  • PROFINET from GSD version/GSD revision  • PROFINET from GSD version/GSD revision  • Oversampling  • MSO  CIR - Configuration in RUN  Reparameterization possible in RUN  Reparameterization possible in RUN  Reparameterization possible in RUN  Supply voltage  Rated value (DC)  permissible range, lower limit (DC)  permissible range, upper limit (DC)  Power  Power loss, typ.  Power loss  Power loss, typ.  7 W  Analog outputs  No  Ves  Ves  Ves  Ves  Ves  Ves  Ves  Ve	Firmware version	V2.1.0
I I I I I I I I I I I I I I I I I I I	FW update possible	Yes
● Isochronous mode Prioritized startup No Output range scalable Engineering with  ● STEP 7 TIA Portal configurable/integrated from version STEP 7 to Engineering with  ● STEP 7 TIA Portal configurable/integrated from version PROFIBUS from GSD version/GSD revision PROFIBUS from GSD version/GSD revision PROFIBUT from GSD version/GSD revision Pres  Oversampling Yes NSO Yes  Cir - Configuration in RUN Reparameterization possible in RUN Yes Calibration possible in RUN Yes Supply voltage Rated value (DC) Permissible range, lower limit (DC) Permissible range, upper limit (DC) Prower  Power variable from the backplane bus 1.15 W Power loss Power loss Power loss, typ. Analog outputs Number of analog outputs Number of analog outputs Number of analog outputs Ves  Val / - Val	Product function	
Prioritized startup Output range scalable No  Engineering with  STEP 7 TIA Portal configurable/integrated from version STEP 7 Tonfigurable/integrated from version PROFIBUS from GSD version/GSD revision Press Power available in RUN Pres Power loss Power loss Power loss, typ. Analog outputs Number of analog outputs Protection Press Poser loss, byn. Protection Press Power oanalog outputs Number of analog outputs Protection Press Proser oanalog outputs Protection Press Proser loss, byn. Protection Press Proser loss, typ. Protection Press Proser oanalog outputs Protection Press Press Proser of analog outputs Protection Press Press Proser of analog outputs Press Press Press Proser of analog outputs Press Press Press Press Proser of analog outputs Press Press Press Press Press Proser of analog outputs Press	<ul> <li>I&amp;M data</li> </ul>	Yes; I&M0 to I&M3
Output range scalable No  Engineering with  STEP 7 TIA Portal configurable/integrated from version STEP 7 configurable/integrated from version PROFIBUS from GSD version/GSD revision PROFIBUS from GSD version/GSD r	<ul> <li>Isochronous mode</li> </ul>	Yes
Engineering with  STEP 7 TIA Portal configurable/integrated from version STEP 7 configurable/integrated from version PROFIBUS from GSD version/GSD revision PROFINET from GSD version/GSD revision PROFINET from GSD version/GSD revision Operating mode Oversampling SMSO SMSO SMSO Ves  CIR - Configuration in RUN Reparameterization possible in RUN Calibration possible in RUN Yes Supply voltage Rated value (DC) Permissible range, lower limit (DC) Permissible range, upper limit (DC) Permissible range, upper limit (DC) Permissible range, with the packplane bus Current consumption, max.  SMSO  Power available from the backplane bus 1.15 W Power loss Power loss Power loss, typ. Analog outputs Number of analog outputs Number of analog outputs  8 Voltage output, short-circuit protection Yes	<ul> <li>Prioritized startup</li> </ul>	No
STEP 7 TIA Portal configurable/integrated from version STEP 7 configurable/integrated from version PROFIBUS from GSD version/GSD revision PROFINET from GSD version/GSD revision PROFINET from GSD version/GSD revision V2.3 /-  Operating mode Oversampling MSO Yes MSO Ves MSO Ves CIR - Configuration in RUN Reparameterization possible in RUN Yes Calibration possible in RUN Yes Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Permissible range, upper limit (DC) Reverse polarity protection Yes Input current Current consumption, max. Power Power available from the backplane bus 1.15 W Power loss Power loss, typ. Analog outputs Number of analog outputs Number of analog outputs Number of analog outputs Number of analog outputs V1.0 / V5.5 SP3 / - V1.0 / V5.5 SP3 / - V1.0 / V5.1 Ves Ves Ves  Ves  Ves  Ves  Ves  1.15 W Voltage output, short-circuit protection Yes  Voltage output, short-circuit protection Yes	Output range scalable	No
STEP 7 configurable/integrated from version PROFIBUS from GSD version/GSD revision PROFINET from GSD version/GSD revision Operating mode Oversampling MSO Ves MSO Ves CIR - Configuration in RUN Reparameterization possible in RUN Reparameterization possible in RUN Ves Calibration possible in RUN Supply voltage Rated value (DC) Permissible range, lower limit (DC) Permissible range, upper limit (DC) Permissible range, upper limit (DC) Reverse polarity protection Ves Input current Current consumption, max. Power loss Power loss, typ. Power loss, typ. Analog outputs Number of analog outputs Number of analog outputs V1.0 / V5.5 SP3 / - V1.0 / V5.1 Ves  Ves  Ves  Ves  Ves  1.15 W Voltage output, short-circuit protection Ves  Voltage output, short-circuit protection Ves	Engineering with	
PROFIBUS from GSD version/GSD revision PROFINET from GSD version/GSD revision V2.3 /-  Operating mode Oversampling MMSO Yes MSO Yes  CIR - Configuration in RUN Reparameterization possible in RUN Yes Supply voltage Rated value (DC) Permissible range, lower limit (DC) Permissible range, upper limit (DC) Permissible range, upper limit (DC) Reverse polarity protection Yes  Input current Current consumption, max. 320 mA; with 19.2 V supply  Power Power available from the backplane bus 1.15 W  Power loss Power loss, typ. Analog outputs Number of analog outputs Number of analog outputs Number of analog outputs Ves  Number of analog outputs Number of analog outputs Ves  Ves  Ves  Ves  Ves  Ves  Ves  Ve	<ul> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>	V14 / -
● PROFINET from GSD version/GSD revision  Operating mode  ● Oversampling	<ul> <li>STEP 7 configurable/integrated from version</li> </ul>	V5.5 SP3 / -
Operating mode  Oversampling Subscription in RUN  Reparameterization possible in RUN  Reparameterization possible in RUN  Reparameterization possible in RUN  Yes  Calibration possible in RUN  Yes  Supply voltage  Rated value (DC) Permissible range, lower limit (DC) Permissible range, upper limit (DC) Permissible range, upper limit (DC) Permissible range, upper limit (DC) Permissible range, with 19.2 V Pes  Reverse polarity protection Yes  Current consumption, max.  230 mA; with 19.2 V supply  Power  Power available from the backplane bus 1.15 W  Power loss Power loss, typ. 7 W  Analog outputs  Number of analog outputs  Number of analog outputs  Number of analog outputs  Yes	<ul> <li>PROFIBUS from GSD version/GSD revision</li> </ul>	V1.0 / V5.1
Oversampling  MSO  Yes  CiR - Configuration in RUN  Reparameterization possible in RUN  Calibration possible in RUN  Yes  Supply voltage  Rated value (DC)  permissible range, lower limit (DC)  permissible range, upper limit (DC)  permissible range, upper limit (DC)  Reverse polarity protection  Yes  Current consumption, max.  Current consumption, max.  Power  Power available from the backplane bus  1.15 W  Power loss  Power loss, typ.  Analog outputs  Number of analog outputs  Number of analog outputs  Yes  Ves  Ves  Ves  Ves  Ves  Ves  Ve	<ul> <li>PROFINET from GSD version/GSD revision</li> </ul>	V2.3 / -
NSO     Yes  CIR - Configuration in RUN  Reparameterization possible in RUN  Yes  Calibration possible in RUN  Yes  Supply voltage  Rated value (DC)  permissible range, lower limit (DC)  permissible range, upper limit (DC)  permissible range, upper limit (DC)  Reverse polarity protection  Yes  Input current  Current consumption, max.  20 mA; with 19.2 V supply  Power  Power available from the backplane bus  1.15 W  Power loss, typ.  Analog outputs  Number of analog outputs  Number of analog outputs  Ves	Operating mode	
CiR - Configuration in RUN  Reparameterization possible in RUN  Calibration possible in RUN  Yes  Supply voltage  Rated value (DC)  permissible range, lower limit (DC)  permissible range, upper limit (DC)  Reverse polarity protection  Yes  Input current  Current consumption, max.  320 mA; with 19.2 V supply  Power  Power loss  Power loss  Power loss, typ.  7 W  Analog outputs  Number of analog outputs  8  Ves	<ul> <li>Oversampling</li> </ul>	Yes
Reparameterization possible in RUN  Calibration possible in RUN  Yes  Supply voltage  Rated value (DC)  permissible range, lower limit (DC)  permissible range, upper limit (DC)  Reverse polarity protection  Yes  Input current  Current consumption, max.  320 mA; with 19.2 V supply  Power  Power available from the backplane bus  1.15 W  Power loss  Power loss, typ.  7 W  Analog outputs  Number of analog outputs  Ves  Ves  Ves  Yes	• MSO	Yes
Calibration possible in RUN  Supply voltage  Rated value (DC) 24 V  permissible range, lower limit (DC) 19.2 V  permissible range, upper limit (DC) 28.8 V  Reverse polarity protection Yes  Input current  Current consumption, max. 320 mA; with 19.2 V 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  Voltage output, short-circuit protection Yes	CiR - Configuration in RUN	
Rated value (DC) 24 V permissible range, lower limit (DC) 19.2 V permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes Input current Current consumption, max. 320 mA; with 19.2 V 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 Voltage output, short-circuit protection Yes	Reparameterization possible in RUN	Yes
Rated value (DC) 24 V  permissible range, lower limit (DC) 19.2 V  permissible range, upper limit (DC) 28.8 V  Reverse polarity protection Yes  Input current  Current consumption, max. 320 mA; with 19.2 V 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  Voltage output, short-circuit protection Yes	Calibration possible in RUN	Yes
permissible range, lower limit (DC)  permissible range, upper limit (DC)  Reverse polarity protection  Yes  Input current  Current consumption, max.  Power  Power available from the backplane bus  1.15 W  Power loss  Power loss, typ.  7 W  Analog outputs  Number of analog outputs  Ves  Ves  Voltage output, short-circuit protection  19.2 V  28.8 V  28.8 V  28.8 V  7 W  Analog output  9 The service of the serv	Supply voltage	
permissible range, upper limit (DC)  Reverse polarity protection  Yes  Input current  Current consumption, max.  Power  Power available from the backplane bus  1.15 W  Power loss  Power loss, typ.  7 W  Analog outputs  Number of analog outputs  Voltage output, short-circuit protection  Yes	Rated value (DC)	24 V
Reverse polarity protection  Input current  Current consumption, max.  Power  Power available from the backplane bus  Power loss  Power loss, typ.  Analog outputs  Number of analog outputs  Ves  Yes  Yes  Yes  320 mA; with 19.2 V supply  1.15 W  7 W  Analog outputs  8  Voltage output, short-circuit protection  Yes	permissible range, lower limit (DC)	19.2 V
Input current Current consumption, max.  Power  Power available from the backplane bus  1.15 W  Power loss  Power loss, typ.  7 W  Analog outputs  Number of analog outputs  Voltage output, short-circuit protection  Yes	permissible range, upper limit (DC)	28.8 V
Current consumption, max.  Power  Power available from the backplane bus  1.15 W  Power loss  Power loss, typ.  7 W  Analog outputs  Number of analog outputs  Voltage output, short-circuit protection  Yes	Reverse polarity protection	Yes
Power available from the backplane bus  Power loss  Power loss, typ.  7 W  Analog outputs  Number of analog outputs  Voltage output, short-circuit protection  Yes	Input current	
Power available from the backplane bus  Power loss  Power loss, typ.  7 W  Analog outputs  Number of analog outputs  Voltage output, short-circuit protection  Yes	Current consumption, max.	320 mA; with 19.2 V supply
Power loss Power loss, typ. 7 W  Analog outputs  Number of analog outputs 8  Voltage output, short-circuit protection Yes	Power	
Power loss, typ. 7 W  Analog outputs  Number of analog outputs 8  Voltage output, short-circuit protection Yes	Power available from the backplane bus	1.15 W
Analog outputs  Number of analog outputs  Voltage output, short-circuit protection  Yes	Power loss	
Number of analog outputs 8  Voltage output, short-circuit protection Yes	Power loss, typ.	7 W
Voltage output, short-circuit protection Yes	Analog outputs	
	Number of analog outputs	8
Voltage output, short-circuit current, max. 45 mA	Voltage output, short-circuit protection	Yes
i anaga antan nama ani ani ani ani ani ani ani ani ani an	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
• -5 V to +5 V	No
• -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 kΩ
with voltage outputs, rain.      with voltage outputs, capacitive load, max.	100 nF
with voltage outputs, expanditive load, max.     with current outputs, max.	500 Ω
with current outputs, inductive load, max.	1 mH
Cable length	
• shielded, max.	200 m
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 µs; independent of number of activated channels
Settling time	30 μs, independent of number of activated charmers
• for resistive load	30 us; see additional description in the manual
for capacitive load	30 μs; see additional description in the manual 100 μs; see additional description in the manual
for inductive load	100 μs; see additional description in the manual
	100 μs, see additional description in the mandal
Errors/accuracies	0.00.0/
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 %
note regarding accuracy	at temperatures below 0 °C, the figures for operating error and temperature error are doubled
Operational error limit in overall temperature range	
Voltage, relative to output range, (+/-)	0.3 %
Current, relative to output range, (+/-)	0.3 %
Basic error limit (operational limit at 25 °C)	
Voltage, relative to output range, (+/-)	0.2 %
Current, relative to output range, (+/-)	0.2 %
Isochronous mode	
Execution and activation time (TCO), min.	100 μs
Bus cycle time (TDP), min.	250 μs
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Substitute values connectable	Yes
Alarms	100
Diagnostic alarm	Yes
	100
Diagnoses  • Monitoring the supply voltage	Vec
Monitoring the supply voltage     Wire brook	Yes
Wire-break     Short circuit	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
<ul> <li>Monitoring of the supply voltage (PWR-LED)</li> </ul>	Yes; green LED
Channel status display	Yes; green LED
<ul> <li>for channel diagnostics</li> </ul>	Yes; red LED
for module diagnostics	Yes; red LED
Potential separation	
Potential separation channels	
<ul> <li>between the channels</li> </ul>	No
<ul> <li>between the channels, in groups of</li> </ul>	8
<ul> <li>between the channels and backplane bus</li> </ul>	Yes
Between the channels and load voltage L+	Yes
Permissible potential difference	
between S- and MANA (UCM)	8 V DC
Isolation	
Isolation tested with	707 V DC (type test)
Standards, approvals, certificates	
Siemens Eco Profile (SEP)	Siemens EcoTech
Suitable for safety-related tripping of standard modules	Yes; from FS04
Ecological footprint	
<ul> <li>environmental product declaration</li> </ul>	Yes
Global warming potential	
<ul><li>— global warming potential, (total) [CO2 eq]</li></ul>	37.6 kg
<ul><li>— global warming potential, (during production) [CO2 eq]</li></ul>	11.1 kg
<ul><li>— global warming potential, (during operation) [CO2 eq]</li></ul>	26.8 kg
<ul> <li>— global warming potential, (after end of life cycle)</li> <li>[CO2 eq]</li> </ul>	-0.364 kg
Highest safety class achievable for safety-related tripping of stand	ard modules
<ul> <li>Performance level according to ISO 13849-1</li> </ul>	PL d
<ul> <li>Category according to ISO 13849-1</li> </ul>	Cat. 3
• SIL acc. to IEC 62061	SIL 2
<ul> <li>remark on safety-oriented shutdown</li> </ul>	https://support.industry.siemens.com/cs/de/en/view/39198632
product functions / security / header	
signed firmware update	No
data integrity	No
Ambient conditions	
Ambient temperature during operation	
• horizontal installation, min.	-30 °C; From FS03
<ul> <li>horizontal installation, max.</li> </ul>	60 °C
• vertical installation, min.	-30 °C; From FS03
<ul> <li>vertical installation, max.</li> </ul>	40 °C
Altitude during operation relating to sea level	
<ul> <li>Installation altitude above sea level, max.</li> </ul>	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
Dimensions	
Width	35 mm
Height	147 mm
Depth	129 mm
Weights	
Weight, approx.	325 g
last modified:	12/8/2024 [7]

last modified: 12/8/2024 **C**