SIEMENS

Data sheet

6ES7532-5HD00-0AB0



SIMATIC S7-1500, analog output module AQ 4xU/I ST, 16-bit resolution accuracy 0.3%. 4 channels in groups of 4, diagnostics; substitute value; the module supports the safety-oriented shutdown of load groups up to SILCL1 according to EN 62061:2005 + A2:2015, and Category 2 / PL c according to EN ISO 13849-1:2015. delivery including infeed element, shield bracket and shield terminal: front connector (screw terminals or push-in) to be ordered separately

Product type designation AQ 4xU/I ST HW functional status from FS04 Firmware version V2.2.0 • FW update possible Yes Product function Yes • I&M data Yes; I&M0 to I&M3 • Isochronous mode No • Output range scalable No • Output range scalable No • STEP 7 TIA Portal configurable/integrated from version V12 / V12 • STEP 7 configurable/integrated from version V5.5 SP3 / - • ROFIBUS from GSD version/GSD revision V1.0 / V5.1 • ROFIBUS from GSD version/GSD revision V1.0 / V5.1 • Operating mode • • Versampling No • NSO Yes CIR - Configuration in RUN Yes Supply voltage Z4 V Permissible range, lower limit (DC) 19.2 V permissible range, lower limit (DC) 19.2 V permissible range, lower limit (DC) 28.8 V Reverse polarity protection Yes Input current Ucurrent Current consumption, max. 190 mA; with 24 V DC supply Power loss. 0.6 W Power loss. 0.6 W Power loss. 4 Voltage output, short-circuit protection Yes	General information	General information		
Firmware version V2.2.0 • FW update possible Yes Product function	Product type designation	AQ 4xU/I ST		
• FW update possible Yes Product function	HW functional status	from FS04		
Product function I&M data Yes; I&M0 to I&M3 Isochronous mode Prioritized startup Output range scalable No Output range scalable STEP 7 TIA Portal configurable/integrated from version STEP 7 tonfigurable/integrated from version Y12 / V12 STEP 7 configurable/integrated from version STEP 7 tonfigurable/integrated from version STEP 7 configurable/integrated from version V12 / V12 V10 / V5.1 V2.3 / - Operating mode Oversampling MSO Yes Supply voirage Reted value (DC) Yes Supply voirage Reverse polarity protection Yes Input current Current consumption, max. Yes Power loss	Firmware version	V2.2.0		
• I&M data Yes; I&M0 to I&M3 • Isochronous mode No • Prioritized startup No • Output range scalable No Engineering with V12 / V12 • STEP 7 TIA Portal configurable/integrated from version V12 / V12 • STEP 7 configurable/integrated from version V5.5 SP3 / - • PROFIBUS from GSD version/GSD revision V1.0 / V5.1 • PROFINET from GSD version/GSD revision V2.3 / - Operating mode - • Oversampling No • MSO Yes CiR - Configuration in RUN Yes Calibration possible in RUN Yes Supply voltage - Rated value (DC) 24 V permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes Input current - Current consumption, max. 190 mA; with 24 V DC supply Power loss 0.6 W Power loss, typ. 4 W Analog outputs 4 Voltage output, short-circuit protection Yes	FW update possible	Yes		
• Isochronous mode No • Prioritized startup No • Output range scalable No Engineering with	Product function			
• Prioritized startup No • Output range scalable No Engineering with • • STEP 7 TIA Portal configurable/integrated from version V12 / V12 • STEP 7 configurable/integrated from version V5.5 SP3 / - • PROFIBUS from GSD version/GSD revision V1.0 / V5.1 • PROFIBUS from GSD version/GSD revision V2.3 / - Operating mode Versampling • MSO Yes CIR - Configuration in RUN Yes Reparameterization possible in RUN Yes Supply voltage Z4 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. Power loss, typ. 4 W Ataalog outputs 4 Voltage output, short-circuit protection Yes	• I&M data	Yes; I&M0 to I&M3		
• Output range scalable No Engineering with	 Isochronous mode 	No		
Engineering with • STEP 7 TIA Portal configurable/integrated from version V12 / V12 • STEP 7 configurable/integrated from version V5.5 SP3 / - • PROFIBUS from GSD version/GSD revision V1.0 / V5.1 • PROFINET from GSD version/GSD revision V2.3 / - Operating mode • Oversampling • MSO Yes CiR - Configuration in RUN Yes Calibration possible in RUN Yes Supply voltage Reparameterization possible 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. Power loss 0.6 W Power loss 0.6 W Power loss 0.6 W Power loss 4 W Analog outputs 4 Voltage output, short-circuit protection Yes	 Prioritized startup 	No		
• STEP 7 TIA Portal configurable/integrated from version V12 / V12 • STEP 7 configurable/integrated from version V5.5 SP3 / - • PROFIBUS from GSD version/GSD revision V1.0 / V5.1 • PROFINET from GSD version/GSD revision V2.3 / - Operating mode V2.3 / - • Oversampling No • MSO Yes CiR - Configuration in RUN Yes Calibration possible in RUN Yes Calibration possible in RUN Yes Supply voltage 24 V Rated value (DC) 24 V permissible range, lower limit (DC) 19.2 V permissible range, lower limit (DC) 28.8 V Reverse polarity protection Yes Input current Urrent consumption, max. Power loss 0.6 W Power loss 0.6 W Power loss, typ. 4 W Analog outputs 4 Voltage output, short-circuit protection Yes	Output range scalable	No		
version V5.5 SP3 / - • STEP 7 configurable/integrated from version V5.5 SP3 / - • PROFIBUS from GSD version/GSD revision V1.0 / V5.1 • PROFINET from GSD version/GSD revision V2.3 / - Operating mode • • Oversampling No • MSO Yes Calibration possible in RUN Yes Supply voltage Rated value (DC) Permissible range, lower limit (DC) 19.2 V permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes Input current Urrent consumption, max. Power loss 0.6 W Power loss, typ. 4 W Analog outputs 4 Voltage output, short-circuit protection Yes	Engineering with			
PROFIBUS from GSD version/GSD revision V1.0 / V5.1 PROFINET from GSD version/GSD revision V2.3 /- Operating mode Oversampling No Verso Ver		V12 / V12		
PROFINET from GSD version/GSD revision V2.3 / - Operating mode Oversampling No Ves Supply control of the second o	 STEP 7 configurable/integrated from version 	V5.5 SP3 / -		
Operating mode No • Oversampling No • MSO Yes Cill - Configuration in RUN Yes Reparameterization possible in RUN Yes Calibration possible in RUN Yes Supply voltage 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. Power available from the backplane bus 0.6 W Power loss Power loss, typ. Power of salog outputs 4 Voltage output, short-circuit protection Yes	 PROFIBUS from GSD version/GSD revision 	V1.0 / V5.1		
• OversamplingNo• MSOYesCiR - Configuration in RUNReparameterization possible in RUNYesCalibration possible in RUNYesSupply voltageYesRated value (DC)24 Vpermissible range, lower limit (DC)19.2 Vpermissible range, upper limit (DC)28.8 VReverse polarity protectionYesInput currentYesCurrent consumption, max.190 mA; with 24 V DC supplyPowerPower lossPower loss0.6 WPower loss, typ.4 WAnalog outputs4Voltage output, short-circuit protectionYes	 PROFINET from GSD version/GSD revision 	V2.3 / -		
 MSO Yes 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) 19.2 V permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes Input current Current consumption, max. 190 mA; with 24 V DC supply Power Power loss Power loss, typ. 4 W Analog outputs Number of analog outputs 4 Voltage output, short-circuit protection Yes 	Operating mode			
CiR - Configuration in RUN Yes Reparameterization possible in RUN Yes Calibration possible in RUN Yes Supply voltage Image: Comparison of the system of the sys	Oversampling	No		
Reparameterization possible in RUN Yes Calibration possible in RUN Yes Supply voltage Image: Comparison of the second	• MSO	Yes		
Calibration possible in RUN Yes Supply voltage 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 Yes Current consumption, max. 190 mA; with 24 V DC supply Power Power available from the backplane bus 0.6 W Power loss, typ. 4 W Analog outputs 4 Voltage output, short-circuit protection Yes	CiR - Configuration 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 V Current consumption, max. 190 mA; with 24 V DC supply Power Power available from the backplane bus 0.6 W Power loss 0.6 W Power loss, typ. 4 W Analog outputs 4 Number of analog outputs 4 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 Yes Current consumption, max. 190 mA; with 24 V DC supply Power 0.6 W Power loss 0.6 W Power loss, typ. 4 W Analog outputs 4 Voltage output, short-circuit protection Yes	Calibration possible in RUN	Yes		
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. Current consumption, max. 190 mA; with 24 V DC supply Power 0.6 W Power loss 0.6 W Power loss, typ. 4 W Analog outputs 4 Number of analog outputs 4 Voltage output, short-circuit protection Yes	Supply voltage			
permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes Input current 190 mA; with 24 V DC supply Current consumption, max. 190 mA; with 24 V DC supply Power 0.6 W Power loss 0.6 W Power loss, typ. 4 W Analog outputs 4 Number of analog outputs 4 Voltage output, short-circuit protection Yes	Rated value (DC)	24 V		
Reverse polarity protection Yes Input current Input current Current consumption, max. 190 mA; with 24 V DC supply Power 0.6 W Power loss 0.6 W Power loss, typ. 4 W Analog outputs 4 Number of analog outputs 4 Voltage output, short-circuit protection Yes	permissible range, lower limit (DC)	19.2 V		
Input current Current consumption, max. 190 mA; with 24 V DC supply Power Power available from the backplane bus 0.6 W Power loss 0.6 W Power loss, typ. 4 W Analog outputs 4 Number of analog outputs 4 Voltage output, short-circuit protection Yes	permissible range, upper limit (DC)	28.8 V		
Current consumption, max. 190 mA; with 24 V DC supply Power Power available from the backplane bus 0.6 W Power loss 0.6 W Power loss, typ. 4 W Analog outputs 4 W Number of analog outputs 4 Voltage output, short-circuit protection Yes	Reverse polarity protection	Yes		
Power 0.6 W Power loss 0.6 W Power loss 4 W Analog outputs 4 W Number of analog outputs 4 Voltage output, short-circuit protection Yes	Input current			
Power available from the backplane bus 0.6 W Power loss 4 W Analog outputs 4 W Number of analog outputs 4 Voltage output, short-circuit protection Yes	Current consumption, max.	190 mA; with 24 V DC supply		
Power loss 4 W Power loss, typ. 4 W Analog outputs 4 Number of analog outputs 4 Voltage output, short-circuit protection Yes	Power			
Power loss, typ. 4 W Analog outputs 4 Number of analog outputs 4 Voltage output, short-circuit protection Yes	Power available from the backplane bus	0.6 W		
Analog outputs Number of analog outputs 4 Voltage output, short-circuit protection Yes				
Number of analog outputs 4 Voltage output, short-circuit protection Yes	Power loss, typ.	4 W		
Voltage output, short-circuit protection Yes	Analog outputs			
Voltage output, short-circuit protection Yes	Number of analog outputs	4		
		Yes		
		24 mA		

Current output, no-load voltage, max.	22 V
Cycle time (all channels), min.	3.2 ms; 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: 0.5 kOhm at 1 to 5 V
 with voltage outputs, capacitive load, max. 	1 µF
 with voltage outputs, capacitive load, max. with current outputs, max. 	750 Ω
 with current outputs, inductive load, max. 	10 mH
Cable length	
shielded, max.	800 m; for current, 200 m for voltage
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)	0.5 ms
Settling time	
 for resistive load 	1.5 ms
 for capacitive load 	2.5 ms
 for inductive load 	2.5 ms
Errors/accuracies	
Errors/accuracies Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-)	0.02 %
Output ripple (relative to output range, bandwidth 0 to 50	0.02 %
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-)	
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) Linearity error (relative to output range), (+/-)	0.15 %
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) Linearity error (relative to output range), (+/-) Temperature error (relative to output range), (+/-) Crosstalk between the outputs, max. Repeat accuracy in steady state at 25 °C (relative to	0.15 % 0.002 %/K
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) Linearity error (relative to output range), (+/-) Temperature error (relative to output range), (+/-) Crosstalk between the outputs, max. Repeat accuracy in steady state at 25 °C (relative to output range), (+/-)	0.15 % 0.002 %/K -100 dB 0.05 %
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) Linearity error (relative to output range), (+/-) Temperature error (relative to output range), (+/-) Crosstalk between the outputs, max. Repeat accuracy in steady state at 25 °C (relative to	0.15 % 0.002 %/K -100 dB
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) Linearity error (relative to output range), (+/-) Temperature error (relative to output range), (+/-) Crosstalk between the outputs, max. Repeat accuracy in steady state at 25 °C (relative to output range), (+/-) note regarding accuracy Operational error limit in overall temperature range	0.15 % 0.002 %/K -100 dB 0.05 % at temperatures below 0 °C, the figures for operating error and temperature error are doubled
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) Linearity error (relative to output range), (+/-) Temperature error (relative to output range), (+/-) Crosstalk between the outputs, max. Repeat accuracy in steady state at 25 °C (relative to output range), (+/-) note regarding accuracy	0.15 % 0.002 %/K -100 dB 0.05 % at temperatures below 0 °C, the figures for operating error and
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) Linearity error (relative to output range), (+/-) Temperature error (relative to output range), (+/-) Crosstalk between the outputs, max. Repeat accuracy in steady state at 25 °C (relative to output range), (+/-) note regarding accuracy Operational error limit in overall temperature range	0.15 % 0.002 %/K -100 dB 0.05 % at temperatures below 0 °C, the figures for operating error and temperature error are doubled
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) Linearity error (relative to output range), (+/-) Temperature error (relative to output range), (+/-) Crosstalk between the outputs, max. Repeat accuracy in steady state at 25 °C (relative to output range), (+/-) note regarding accuracy Operational error limit in overall temperature range • Voltage, relative to output range, (+/-)	0.15 % 0.002 %/K -100 dB 0.05 % at temperatures below 0 °C, the figures for operating error and temperature error are doubled
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) Linearity error (relative to output range), (+/-) Temperature error (relative to output range), (+/-) Crosstalk between the outputs, max. Repeat accuracy in steady state at 25 °C (relative to output range), (+/-) note regarding accuracy Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-)	0.15 % 0.002 %/K -100 dB 0.05 % at temperatures below 0 °C, the figures for operating error and temperature error are doubled
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) Linearity error (relative to output range), (+/-) Temperature error (relative to output range), (+/-) Crosstalk between the outputs, max. Repeat accuracy in steady state at 25 °C (relative to output range), (+/-) note regarding accuracy Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Basic error limit (operational limit at 25 °C)	0.15 % 0.002 %/K -100 dB 0.05 % at temperatures below 0 °C, the figures for operating error and temperature error are doubled 0.3 % 0.3 %
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) Linearity error (relative to output range), (+/-) Temperature error (relative to output range), (+/-) Crosstalk between the outputs, max. Repeat accuracy in steady state at 25 °C (relative to output range), (+/-) note regarding accuracy Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Voltage, relative to output range, (+/-)	0.15 % 0.002 %/K -100 dB 0.05 % at temperatures below 0 °C, the figures for operating error and temperature error are doubled 0.3 % 0.3 % 0.2 %
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) Linearity error (relative to output range), (+/-) Temperature error (relative to output range), (+/-) Crosstalk between the outputs, max. Repeat accuracy in steady state at 25 °C (relative to output range), (+/-) note regarding accuracy Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) • Current, relative to output range, (+/-) • Current, relative to output range, (+/-)	0.15 % 0.002 %/K -100 dB 0.05 % at temperatures below 0 °C, the figures for operating error and temperature error are doubled 0.3 % 0.3 % 0.2 %
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) Linearity error (relative to output range), (+/-) Temperature error (relative to output range), (+/-) Crosstalk between the outputs, max. Repeat accuracy in steady state at 25 °C (relative to output range), (+/-) note regarding accuracy Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Lorent, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Lorent, relative to output range, (+/-) • Lorent, relative to output range, (+/-) • Lorent, relative to output range, (+/-)	0.15 % 0.002 %/K -100 dB 0.05 % at temperatures below 0 °C, the figures for operating error and temperature error are doubled 0.3 % 0.3 % 0.2 %
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) Linearity error (relative to output range), (+/-) Temperature error (relative to output range), (+/-) Crosstalk between the outputs, max. Repeat accuracy in steady state at 25 °C (relative to output range), (+/-) note regarding accuracy Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) • Scale error limit (operational limit at 25 °C) • Voltage, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Lurrent, relative to output range, (+/-) • Current, relative to output range, (+/-)	0.15 % 0.002 %/K -100 dB 0.05 % at temperatures below 0 °C, the figures for operating error and temperature error are doubled 0.3 % 0.3 % 0.2 % 0.2 %
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) Linearity error (relative to output range), (+/-) Temperature error (relative to output range), (+/-) Crosstalk between the outputs, max. Repeat accuracy in steady state at 25 °C (relative to output range), (+/-) note regarding accuracy Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Substice to output range, (+/-) • Substitute values connectable	0.15 % 0.002 %/K -100 dB 0.05 % at temperatures below 0 °C, the figures for operating error and temperature error are doubled 0.3 % 0.3 % 0.2 % 0.2 %
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) Linearity error (relative to output range), (+/-) Temperature error (relative to output range), (+/-) Crosstalk between the outputs, max. Repeat accuracy in steady state at 25 °C (relative to output range), (+/-) note regarding accuracy Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Substitute voluput range, (+/-) • Current, relative to output range, (+	0.15 % 0.002 %/K -100 dB 0.05 % at temperatures below 0 °C, the figures for operating error and temperature error are doubled 0.3 % 0.3 % 0.2 % Yes Yes
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) Linearity error (relative to output range), (+/-) Temperature error (relative to output range), (+/-) Crosstalk between the outputs, max. Repeat accuracy in steady state at 25 °C (relative to output range), (+/-) note regarding accuracy Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) • Diagnostics function Substitute values connectable Alarms • Diagnostic alarm	0.15 % 0.002 %/K -100 dB 0.05 % at temperatures below 0 °C, the figures for operating error and temperature error are doubled 0.3 % 0.3 % 0.2 % Yes Yes
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) Linearity error (relative to output range), (+/-) Temperature error (relative to output range), (+/-) Crosstalk between the outputs, max. Repeat accuracy in steady state at 25 °C (relative to output range), (+/-) note regarding accuracy Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Diagnostics/status information Diagnostics function Substitute values connectable Alarms • Diagnostic alarm Diagnoses	0.15 % 0.002 %/K -100 dB 0.05 % at temperatures below 0 °C, the figures for operating error and temperature error are doubled 0.3 % 0.3 % 0.2 % 0.2 % Yes Yes Yes
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) Linearity error (relative to output range), (+/-) Temperature error (relative to output range), (+/-) Crosstalk between the outputs, max. Repeat accuracy in steady state at 25 °C (relative to output range), (+/-) note regarding accuracy Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Diagnostics function Substitute values connectable Alarms • Diagnostic alarm Diagnoses • Monitoring the supply voltage	0.15 % 0.002 %/K -100 dB 0.05 % at temperatures below 0 °C, the figures for operating error and temperature error are doubled 0.3 % 0.3 % 0.2 % Ves Yes Yes Yes Yes
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) Linearity error (relative to output range), (+/-) Temperature error (relative to output range), (+/-) Crosstalk between the outputs, max. Repeat accuracy in steady state at 25 °C (relative to output range), (+/-) note regarding accuracy Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) • Current, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) • Current, relative to output range, (+/-) • Current, relative to output range, (+/-) • Diagnostics function Substitute values connectable Alarms • Diagnostic alarm Diagnoses • Monitoring the supply voltage • Wire-break	0.15 % 0.002 %/K -100 dB 0.05 % at temperatures below 0 °C, the figures for operating error and temperature error are doubled 0.3 % 0.3 % 0.2 % 0.2 % Yes Yes Yes
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) Linearity error (relative to output range), (+/-) Temperature error (relative to output range), (+/-) Crosstalk between the outputs, max. Repeat accuracy in steady state at 25 °C (relative to output range), (+/-) note regarding accuracy Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) • Current, relative to output range, (+/-) • Diagnostics/status information Diagnostics function Substitute values connectable Alarms • Diagnostic alarm Diagnoses • Monitoring the supply voltage • Wire-break • Short-circuit • Overflow/underflow	0.15 % 0.002 %/K -100 dB 0.05 % at temperatures below 0 °C, the figures for operating error and temperature error are doubled 0.3 % 0.3 % 0.2 % 0.2 % Yes Yes Yes Yes; Only for output type "current" Yes; Only for output type "voltage"
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) Linearity error (relative to output range), (+/-) Temperature error (relative to output range), (+/-) Crosstalk between the outputs, max. Repeat accuracy in steady state at 25 °C (relative to output range), (+/-) note regarding accuracy Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) • Diagnostics function Substitute values connectable Alarms • Diagnostic alarm Diagnoses • Monitoring the supply voltage • Wire-break • Short-circuit • Overflow/underflow Diagnostics indication LED	0.15 % 0.002 %/K -100 dB 0.05 % at temperatures below 0 °C, the figures for operating error and temperature error are doubled 0.3 % 0.3 % 0.2 % 0.2 % Yes Yes Yes Yes Yes Yes Yes Yes
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) Linearity error (relative to output range), (+/-) Temperature error (relative to output range), (+/-) Crosstalk between the outputs, max. Repeat accuracy in steady state at 25 °C (relative to output range), (+/-) note regarding accuracy Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) • Current, relative to output range, (+/-) • Diagnostics/status information Diagnostics function Substitute values connectable Alarms • Diagnostic alarm Diagnoses • Monitoring the supply voltage • Wire-break • Short-circuit • Overflow/underflow	0.15 % 0.002 %/K -100 dB 0.05 % at temperatures below 0 °C, the figures for operating error and temperature error are doubled 0.3 % 0.3 % 0.2 % 0.2 % Yes Yes Yes Yes; Only for output type "current" Yes; Only for output type "voltage"

 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, in groups of 	4	
 between the channels and backplane bus 	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		
Suitable for safety-related tripping of standard modules	Yes; From FS05	
Highest safety class achievable for safety-related tripping of standard modules		
 Performance level according to ISO 13849-1 	PL d	
 Category according to ISO 13849-1 	Cat. 3	
 SILCL according to IEC 62061 	SILCL 2	
Ambient conditions		
Ambient temperature during operation		
 horizontal installation, min. 	-30 °C; From FS06	
 horizontal installation, max. 	60 °C	
 vertical installation, min. 	-30 °C; From FS06	
 vertical installation, max. 	40 °C	
Altitude during operation relating to sea level		
 Installation altitude above sea level, max. 	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.	310 g	
last modified:	4/29/2021 🖸	