



Figure similar

SIMATIC S7-300, Analog output SM 332, isolated, 2 AO, U/I; resolution 11/12 bits, 20-pole, Removing/inserting with active backplane bus possible

Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V
• Reverse polarity protection	Yes
Input current	
from load voltage L+ (without load), max.	135 mA
from backplane bus 5 V DC, max.	60 mA
Power loss	
Power loss, typ.	3 W
Analog outputs	
Number of analog outputs	2
Voltage output, short-circuit protection	Yes
Voltage output, short-circuit current, max.	25 mA
Current output, no-load voltage, max.	18 V
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
Load impedance (in rated range of output)	
• with voltage outputs, min.	1 k $\Omega$
• with voltage outputs, capacitive load, max.	1 $\mu$ F
• with current outputs, max.	500 $\Omega$
• with current outputs, inductive load, max.	10 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.	12 bit; $\pm 10$ V, $\pm 20$ mA, 4 mA to 20 mA, 1 V to 5 V: 11 bit + sign; 0 V to 10 V, 0 mA to 20 mA: 12 bit
• Conversion time (per channel)	0.8 ms
Settling time	
• for resistive load	0.2 ms
• for capacitive load	3.3 ms
• for inductive load	0.5 ms; 0.5 ms (1 mH); 3.3 ms (10 mH)
Errors/accuracies	

<b>Operational error limit in overall temperature range</b>	
• Voltage, relative to output range, (+/-)	0.5 %
• Current, relative to output range, (+/-)	0.6 %
<b>Basic error limit (operational limit at 25 °C)</b>	
• Voltage, relative to output range, (+/-)	0.4 %
• Current, relative to output range, (+/-)	0.5 %
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes; Parameterizable
<b>Alarms</b>	
• Diagnostic alarm	Yes; Parameterizable
<b>Diagnoses</b>	
• Diagnostic information readable	Yes
<b>Diagnostics indication LED</b>	
• Group error SF (red)	Yes
<b>Potential separation</b>	
<b>Potential separation analog outputs</b>	
• between the channels	No
• between the channels and backplane bus	Yes
• Between the channels and load voltage L+	Yes
• between the channels and the power supply of the electronics	Yes
<b>Isolation</b>	
Isolation tested with	500 V DC
<b>connection method</b>	
required front connector	20-pin
<b>Dimensions</b>	
Width	40 mm
Height	125 mm
Depth	117 mm
<b>Weights</b>	
Weight, approx.	220 g

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Figure similar

SIMATIC S7-300, Analog output SM 332, isolated, 4 AO, U/I; diagnostics; resolution 11/12 bits, 20-pole, removing and inserting possible with active backplane bus

Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V
• Reverse polarity protection	Yes
Input current	
from load voltage L+ (without load), max.	240 mA
from backplane bus 5 V DC, max.	60 mA
Power loss	
Power loss, typ.	3 W
Analog outputs	
Number of analog outputs	4
Voltage output, short-circuit protection	Yes
Voltage output, short-circuit current, max.	25 mA
Current output, no-load voltage, max.	18 V
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
Load impedance (in rated range of output)	
• with voltage outputs, min.	1 k $\Omega$
• with voltage outputs, capacitive load, max.	1 $\mu$ F
• with current outputs, max.	500 $\Omega$
• with current outputs, inductive load, max.	10 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.	12 bit; $\pm 10$ V, $\pm 20$ mA, 4 mA to 20 mA, 1 V to 5 V: 11 bit + sign; 0 V to 10 V, 0 mA to 20 mA: 12 bit
• Conversion time (per channel)	0.8 ms
Settling time	
• for resistive load	0.2 ms
• for capacitive load	3.3 ms
• for inductive load	0.5 ms; 0.5 ms (1 mH); 3.3 ms (10 mH)
Errors/accuracies	

<b>Operational error limit in overall temperature range</b>	
• Voltage, relative to output range, (+/-)	0.5 %
• Current, relative to output range, (+/-)	0.6 %
<b>Basic error limit (operational limit at 25 °C)</b>	
• Voltage, relative to output range, (+/-)	0.4 %
• Current, relative to output range, (+/-)	0.5 %
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes; Parameterizable
<b>Alarms</b>	
• Diagnostic alarm	Yes; Parameterizable
<b>Diagnoses</b>	
• Diagnostic information readable	Yes
<b>Diagnostics indication LED</b>	
• Group error SF (red)	Yes
<b>Potential separation</b>	
<b>Potential separation analog outputs</b>	
• between the channels	No
• between the channels and backplane bus	Yes
• Between the channels and load voltage L+	Yes
• between the channels and the power supply of the electronics	Yes
<b>Isolation</b>	
Isolation tested with	500 V DC
<b>connection method</b>	
required front connector	20-pin
<b>Dimensions</b>	
Width	40 mm
Height	125 mm
Depth	117 mm
<b>Weights</b>	
Weight, approx.	220 g

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SIMATIC S7-300, Analog output SM 332, isolated, 8 AO, U/I; diagnostics; resolution 11/12 bits, 40-pole, removing and inserting possible with active backplane bus

Figure similar

Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V
• Reverse polarity protection	Yes
Input current	
from load voltage L+ (without load), max.	340 mA
from backplane bus 5 V DC, max.	100 mA
Power loss	
Power loss, typ.	6 W
Analog outputs	
Number of analog outputs	8
Voltage output, short-circuit protection	Yes
Voltage output, short-circuit current, max.	25 mA
Current output, no-load voltage, max.	18 V
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
Load impedance (in rated range of output)	
• with voltage outputs, min.	1 kΩ
• with voltage outputs, capacitive load, max.	1 μF
• with current outputs, max.	500 Ω
• with current outputs, inductive load, max.	10 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.	12 bit; ±10 V, ±20 mA, 4 mA to 20 mA, 1 V to 5 V: 11 bit + sign; 0 V to 10 V, 0 mA to 20 mA: 12 bit
• Conversion time (per channel)	0.8 ms
Settling time	
• for resistive load	0.2 ms
• for capacitive load	3.3 ms
• for inductive load	0.5 ms; 0.5 ms (1 mH); 3.3 ms (10 mH)
Errors/accuracies	

<b>Operational error limit in overall temperature range</b>	
• Voltage, relative to output range, (+/-)	0.5 %
• Current, relative to output range, (+/-)	0.6 %
<b>Basic error limit (operational limit at 25 °C)</b>	
• Voltage, relative to output range, (+/-)	0.4 %
• Current, relative to output range, (+/-)	0.5 %
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes; Parameterizable
<b>Alarms</b>	
• Diagnostic alarm	Yes; Parameterizable
<b>Diagnoses</b>	
• Diagnostic information readable	Yes
<b>Diagnostics indication LED</b>	
• Group error SF (red)	Yes
<b>Potential separation</b>	
<b>Potential separation analog outputs</b>	
• between the channels	No
• between the channels and backplane bus	Yes
• Between the channels and load voltage L+	Yes
• between the channels and the power supply of the electronics	Yes
<b>Isolation</b>	
Isolation tested with	500 V DC
<b>connection method</b>	
required front connector	40-pin
<b>Dimensions</b>	
Width	40 mm
Height	125 mm
Depth	117 mm
<b>Weights</b>	
Weight, approx.	272 g

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Figure similar

SIMATIC S7-300, Analog output SM 332, isolated by channel, 4 AI, Resolution 16 bit, 0-10 V, 1-5 V, +/-10 V, +/-20 mA, 0/4-20mA, 20-pole, suitable for isochronous mode improved bus cycle times for the isochronous mode

Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V
• Reverse polarity protection	Yes
Input current	
from load voltage L+ (without load), max.	290 mA
from backplane bus 5 V DC, max.	120 mA
Power loss	
Power loss, typ.	3 W
Analog outputs	
Number of analog outputs	4; Isochronous mode
Voltage output, short-circuit protection	Yes
Voltage output, short-circuit current, max.	40 mA
Current output, no-load voltage, max.	18 V
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
Load impedance (in rated range of output)	
• with voltage outputs, min.	1 k $\Omega$
• with voltage outputs, capacitive load, max.	1 $\mu$ F
• with current outputs, max.	500 $\Omega$
• 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)	200 $\mu$ s; in isochronous mode 640 $\mu$ s
Settling time	
• for resistive load	0.2 ms
• for capacitive load	3.3 ms
• for inductive load	0.5 ms
Errors/accuracies	
Operational error limit in overall temperature range	

• Voltage, relative to output range, (+/-)	0.12 %
• Current, relative to output range, (+/-)	0.18 %
<b>Basic error limit (operational limit at 25 °C)</b>	
• Voltage, relative to output range, (+/-)	0.02 %
• Current, relative to output range, (+/-)	0.02 %
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes; Parameterizable
<b>Alarms</b>	
• Diagnostic alarm	Yes; Parameterizable
<b>Diagnoses</b>	
• Diagnostic information readable	Yes
<b>Diagnostics indication LED</b>	
• Group error SF (red)	Yes
<b>Potential separation</b>	
<b>Potential separation analog outputs</b>	
• between the channels	Yes
• between the channels and backplane bus	Yes
• between the channels and the power supply of the electronics	Yes
<b>Isolation</b>	
Isolation tested with	1 500 V DC
<b>connection method</b>	
required front connector	20-pin
<b>Dimensions</b>	
Width	40 mm
Height	125 mm
Depth	117 mm
<b>Weights</b>	
Weight, approx.	220 g

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