SIEMENS

Data sheet

6ES7332-7ND02-0AB0



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

Figure similar

Load voltage L+ • Rated value (DC) 24 V • Reverse polarity protection Yes		
• Rated value (DC) • Reverse polarity protection Power loss	Supply voltage	
Proves polarity protection Input current from load voltage L+ (without load), max. from backplane bus 5 V DC, max. Power loss Power loss Power loss, typ. Analog outputs Number of analog outputs Voltage output, short-circuit protection Voltage output, short-circuit current, max. Voltage output, short-circuit current, max. 40 mA Current output, no-load voltage, max. 18 V Output ranges, voltage ● 0 to 10 V • 1 V to 5 V • 10 V to +10 V Yes • 10 V to +10 V Output ranges, current ● 0 to 20 mA • 20 mA • 20 mA • 4 mA to 20 mA Ves • 4 mA to 20 mA Ves • with voltage outputs, min. • with voltage outputs, max. • with voltage outputs, max. • with current outputs, capacitive load, max. • with current outputs, max. • with current outputs, inductive load, max. • with current outputs, inductive load, max. • with current outputs, inductive load, max. • shielded, max. Analog value generation for the outputs Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Conversion time (per channel) Settling time • for resistive load • for capacitive load		
Input current		
from load voltage L+ (without load), max. 290 mA		Yes
From backplane bus 5 V DC, max. 120 mA	Input current	
Power loss, typ. Analog outputs Number of analog outputs Voltage output, short-circuit protection Voltage output, short-circuit current, max. 40 mA Current output, no-load voltage, max. 0utput ranges, voltage • 0 to 10 V • 1 V to 5 V • -10 V to +10 V Output ranges, current • 0 to 20 mA • 20 mA • 20 mA • 20 mA • 4 mA to 20 mA • with voltage outputs, min. • with voltage outputs, min. • with voltage outputs, max. • with current outputs, max. • with current outputs, inductive load, max. • Resolution with overrange (bit including sign), max. • Conversion time (per channel) Settling time • for resistive load • for resistive load • for resistive load • for capacitive load • for capacitive load	from load voltage L+ (without load), max.	290 mA
Power loss, typ. 3 W Analog outputs Number of analog outputs 4; Isochronous mode Voltage output, short-circuit protection Yes Current output, no-load voltage, max. 40 mA Current output, no-load voltage, max. 18 V Output ranges, voltage • 0 to 10 V Yes • 10 V to 5 V Yes • -10 V to +10 V Yes Output ranges, current • 0 to 20 mA Yes • 20 mA Yes • 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, min. 1 μF • with current outputs, max. 500 Ω • with current outputs, inductive load, max. 1 μF • with current outputs, inductive load, 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) Settling time • for resistive load • for respective load • for respective load • for respective load • for respective load • for capacitive load • for capacitive load • 0.2 ms • for capacitive load • 7 capacitive load	from backplane bus 5 V DC, max.	120 mA
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	Power loss	
Number of analog outputs Voltage output, short-circuit protection Voltage output, short-circuit current, max. 40 mA Current output, no-load voltage, max. 18 V Output ranges, voltage • 0 to 10 V • 1 V to 5 V • -10 V to +10 V Output ranges, current • 0 to 20 mA • -20 mA to +20 mA • 4 mA to 20 mA • with voltage outputs, apacitive load, max. • with current outputs, max. • with current outputs, max. • with current outputs, inductive load, max. 1 mH Cable length • Resolution with overrange (bit including sign), max. • Conversion time (per channel) Settling time • for resistive load • for resistive load • for capacitive load • for resistive load • for capacitive load • 0.2 ms • for resistive load • 0.2 ms • for resistive load • for capacitive load • 0.2 ms • for capacitive load • 0.2 ms • for capacitive load • 0.2 ms	Power loss, typ.	3 W
Voltage output, short-circuit protection Voltage output, short-circuit current, max. 40 mA Current output, no-load voltage, max. 18 V Output ranges, voltage • 0 to 10 V • 1 V to 5 V • -10 V to +10 V Output ranges, current • 0 to 20 mA • 20 mA • 20 mA • 4 mA to 20 mA Ves • 4 mA to 20 mA Load impedance (in rated range of output) • with voltage outputs, min. • with voltage outputs, capacitive load, max. • with current outputs, max. • with current outputs, inductive load, max. • with current outputs, inductive load, max. • with current outputs, inductive load, max. • shielded, max. Analog value generation for the outputs Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Conversion time (per channel) Settling time • for resistive load • for capacitive load • for capacitive load • 0.2 ms • for capacitive load • for capacitive load • 0.2 ms • for capacitive load • 0.2 ms	Analog outputs	
Voltage output, short-circuit current, max. Current output, no-load voltage, max. Output ranges, voltage • 0 to 10 V	Number of analog outputs	4; Isochronous mode
Current output, no-load voltage, max. Output ranges, voltage • 0 to 10 V • 1 V to 5 V • -10 V to +10 V Output ranges, current • 0 to 20 mA • -20 mA to +20 mA • 4 mA to 20 mA Ves Load impedance (in rated range of output) • with voltage outputs, min. • with voltage outputs, capacitive load, max. • with current outputs, inductive load, max. • with current outputs, inductive load, max. 1 mH Cable length • shielded, max. Analog value generation for the outputs Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Conversion time (per channel) Settling time • for resistive load • for capacitive load • for capacitive load • for capacitive load • 0.2 ms • for capacitive load • for capacitive load • for capacitive load • for capacitive load	Voltage output, short-circuit protection	Yes
Output ranges, voltage • 0 to 10 V • 1 V to 5 V • 1 V to 5 V • -10 V to +10 V Output ranges, current • 0 to 20 mA • -20 mA to +20 mA • 4 mA to 20 mA • with voltage outputs, min. • with voltage outputs, capacitive load, max. • with current outputs, max. • with current outputs, inductive load, max. • with current outputs, inductive load, max. • where the current outputs, inductive load, max. • shielded, max. Analog value generation for the outputs Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Conversion time (per channel) Settling time • for resistive load • for capacitive load • for capacitive load • 7 es Yes Yes Yes Yes Yes 1 kΩ 1 μF 500 Ω 1 mH 200 m Analog value generation for the outputs Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Conversion time (per channel) 200 μs; in isochronous mode 640 μs	Voltage output, short-circuit current, max.	40 mA
• 0 to 10 V • 1 V to 5 V • 1 V to 5 V • -10 V to +10 V Output ranges, current • 0 to 20 mA • -20 mA to +20 mA • 4 mA to 20 mA Load impedance (in rated range of output) • with voltage outputs, min. • with voltage outputs, capacitive load, max. • with current outputs, max. • with current outputs, inductive load, max. • with current outputs, inductive load, max. • with current outputs, inductive load, max. • shielded, max. Analog value generation for the outputs Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Conversion time (per channel) Settling time • for resistive load • for capacitive load • for capacitive load • 7 cs	Current output, no-load voltage, max.	18 V
• 1 V to 5 V • -10 V to +10 V Output ranges, current • 0 to 20 mA • -20 mA to +20 mA • 4 mA to 20 mA • with voltage outputs, min. • with current outputs, max. • with current outputs, inductive load, max. Cable length • shielded, max. Analog value generation for the outputs Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Conversion time (per channel) Settling time • for resistive load • for capacitive load 0.2 ms 3.3 ms	Output ranges, voltage	
Output ranges, current Output ranges, current Out 20 mA	• 0 to 10 V	Yes
Output ranges, current • 0 to 20 mA • -20 mA to +20 mA • 4 mA to 20 mA Ves • 4 mA to 20 mA • with voltage outputs, min. • with voltage outputs, capacitive load, max. • with current outputs, max. • with current outputs, inductive load, max. • with current outputs, inductive load, max. • with current outputs, inductive load, max. • shielded, max. Cable length • shielded, max. Analog value generation for the outputs Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Conversion time (per channel) Settling time • for resistive load • for capacitive load • for capacitive load • for capacitive load • 7 es Yes Yes Yes 1 kΩ 1 μF 200 Ω 1 mH 200 m Analog value generation for the outputs Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Conversion time (per channel) Settling time • for capacitive load • for capacitive load • for capacitive load	• 1 V to 5 V	Yes
 0 to 20 mA -20 mA to +20 mA 4 mA to 20 mA with voltage outputs, min. with voltage outputs, capacitive load, max. with current outputs, max. with current outputs, inductive load, max. with current outputs, inductive load, max. 1 μF with current outputs, inductive load, max. 1 mH Cable length shielded, max. Analog value generation for the outputs Integration and conversion time/resolution per channel Resolution with overrange (bit including sign), max. Conversion time (per channel) Settling time for resistive load for capacitive load 0.2 ms 3.3 ms 	• -10 V to +10 V	Yes
• -20 mA to +20 mA Yes • 4 mA to 20 mA Yes Load impedance (in rated range of output) • with voltage outputs, min. • with voltage outputs, capacitive load, max. • with current outputs, max. • with current outputs, inductive load, max. 1 μ F • with current outputs, inductive load, max. 1 μ H Cable length • shielded, max. Analog value generation for the outputs Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Conversion time (per channel) Settling time • for resistive load • for capacitive load • for capacitive load • for capacitive load • 3.3 ms	Output ranges, current	
• 4 mA to 20 mA Load impedance (in rated range of output) • with voltage outputs, min. • with voltage outputs, capacitive load, max. • with current outputs, max. • with current outputs, inductive load, max. 1 μF • with current outputs, inductive load, max. 1 mH Cable length • shielded, max. Analog value generation for the outputs Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Conversion time (per channel) Settling time • for resistive load • for capacitive load • for capacitive load • for capacitive load 3.3 ms	• 0 to 20 mA	Yes
Load impedance (in rated range of output) • with voltage outputs, min. • with voltage outputs, capacitive load, max. • with current outputs, max. • with current outputs, inductive load, max. • 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. • Conversion time (per channel) Settling time • for resistive load • for capacitive load 1 kΩ 1 kΩ 2 00 m 1 bit 200 m	• -20 mA to +20 mA	Yes
$ \begin{array}{llllllllllllllllllllllllllllllllllll$		Yes
 with voltage outputs, capacitive load, max. with current outputs, max. 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. Conversion time (per channel) Settling time for resistive load for capacitive load 3.3 ms 	Load impedance (in rated range of output)	
 with current outputs, max. 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. Conversion time (per channel) Settling time for resistive load for capacitive load 3.3 ms 		1 kΩ
with current outputs, inductive load, max. Cable length shielded, max. Analog value generation for the outputs Integration and conversion time/resolution per channel Resolution with overrange (bit including sign), max. Conversion time (per channel) Settling time for resistive load for capacitive load for capacitive load 3.3 ms		1 μF
Cable length		
 shielded, max. Analog value generation for the outputs Integration and conversion time/resolution per channel Resolution with overrange (bit including sign), max. Conversion time (per channel) Settling time for resistive load for capacitive load 3.3 ms 	·	1 mH
Analog value generation for the outputs Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Conversion time (per channel) Settling time • for resistive load • for capacitive load 3.3 ms	_	
Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Conversion time (per channel) Settling time • for resistive load • for capacitive load • for capacitive load 3.3 ms	·	200 m
 Resolution with overrange (bit including sign), max. Conversion time (per channel) Settling time for resistive load for capacitive load 3.3 ms 		
 Conversion time (per channel) Settling time for resistive load for capacitive load 3.3 ms 		
Settling time • for resistive load • for capacitive load • for capacitive load 3.3 ms		
 for resistive load for capacitive load 3.3 ms 		200 μs; in isochronous mode 640 μs
• for capacitive load 3.3 ms		
	·	
• for inductive load 0.5 ms		0.5 ms
Errors/accuracies	Errors/accuracies	

0.12 %
0.12 %
0.18 %
0.000/
0.02 %
0.02 %
Yes; Parameterizable
Yes; Parameterizable
Yes
Yes
Yes
Yes Yes
- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1
Yes
Yes
Yes Yes
Yes Yes
Yes Yes 1 500 V DC
Yes Yes 1 500 V DC
Yes Yes 1 500 V DC 20-pin
Yes Yes 1 500 V DC 20-pin 40 mm
Yes Yes 1 500 V DC 20-pin 40 mm 125 mm

last modified: 1/17/2021 ☑