SIEMENS

Data sheet

6ES7332-5HB01-0AB0



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 • Rated value (DC) 24 V • Reverse polarity protection Yes Input current 135 mA from load voltage L+ (without load), max. 135 mA from backplane bus 5 V DC, max. 60 mA Power loss, typ. 3 W 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 • 0 to 10 V Yes • 1 V to 5 V Yes • 10 V to 10 V Yes • 0 to 10 V Yes • 0 to 10 V Yes • 0 to 20 mA Yes • 20 mA to +20 mA Yes • 20 mA to +20 mA Yes • 20 mA to 20 mA Yes Load impedance (in rated range of output) Yes Load impedance (in rated range of output) thC	*	
• Rated value (DC) 24 V • Reverse polarity protection Yes Input current 135 mA from backplane bus 5 V DC, max. 60 mA Power loss 60 mA Power loss, typ. 3 W Analog outputs 2 Voltage output, short-circuit protection Yes Voltage output, short-circuit protection Yes Output ranges, voltage 18 V Output ranges, voltage 18 V Output ranges, voltage, max. 18 V Output ranges, voltage Yes • 0 to 10 V Yes • 10 V to 5 V Yes • 0 to 20 mA Yes • 0 to 20 mA Yes • 4 m to 20 mA Yes • 4 m to 20 mA Yes • 4 m to 20 mA Yes • with voltage outputs, capacitive load, max. 1 μF • with voltage outputs, min. 1 kQ • with current outputs, inductive load, max. 10 mH	Supply voltage	
• 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 Power loss Power loss Power loss, typ. 3 W Analog outputs 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. 88 V Output ranges, voltage • 0 to 10 V Yes • 10 V to 5V Yes • 10 V to 5V Yes • 10 V to 10 V Yes Output ranges, current • 0 to 20 mA Yes • 20 mA 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, max. 500 Ω • with current outputs, max. 10 mH Cable length	Load voltage L+	
Input current 135 mA from load voltage L+ (without load), max. 135 mA from backplane bus 5 V DC, max. 60 mA Power loss 9 Power loss, typ. 3 W Analog outputs 2 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 • 10 to 5 V Yes • -10 V to 5 V Yes • 0 to 20 mA Yes • 20 mA to +20 mA Yes Load impedance (in rated range of output) - • with voltage outputs, min. 1 kΩ • with voltage outputs, max. 500 Ω • with voltage outputs, max. 500 Ω • with current outputs, max. 500 Ω • with current outputs, max. 500 Ω • with current outputs, max. 500 Ω <	Rated value (DC)	24 V
from load voltage L+ (without load), max. 135 mA from backplane bus 5 V DC, max. 60 mA Power loss 9 Power loss, typ. 3 W Analog outputs 2 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 • 10 V to +10 V Yes • 0 to 20 mA Yes • 10 V to +10 V Yes • 0 to 20 mA Yes • 10 v to +10 V Yes Output ranges, current - • 0 to 20 mA Yes Load impedance (in rated range of output) Yes • with voltage outputs, capacitive load, max. 1 μF • with voltage outputs, max. 500 Ω • with current outputs, max. 500 Ω • with current outputs, max. 10 mH	 Reverse polarity protection 	Yes
from backplane bus 5 V DC, max. 60 mA Power loss 3 W Analog outputs 3 W 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 • 10 to 10 V Yes • 10 to 10 V Yes • 0 to 20 mA Yes • 10 to 20 mA Yes • 10 to 20 mA Yes Load impedance (in rated range of output)	Input current	
Power loss Power loss, typ. 3 W Analog outputs 2 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 • 0 to 10 V Yes • 1 V to 5 V Yes • -10 V to +10 V Yes Output ranges, current -0 to 20 mA • 0 to 20 mA Yes • -20 mA to +20 mA Yes • 4 mA to 20 mA Yes • with voltage outputs, capacitive load, max. 1 µF • with voltage outputs, min. 1 kΩ • with voltage outputs, max. 500 Ω • with current outputs, inductive load, max. 10 mH	from load voltage L+ (without load), max.	135 mA
Power loss, typ. 3 W Analog outputs 2 Number of analog outputs, 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 • 10 V to 5 V Yes • 10 V to 10 V Yes • 10 V to 5 V Yes Output ranges, current Yes • 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, capacitive load, max. 1 μF • with voltage outputs, capacitive load, max. 500 Ω • with current outputs, inductive load, max. 10 mH Cable length -	from backplane bus 5 V DC, max.	60 mA
Analog outputs 2 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 • 10 to 5 V Yes • 10 V to 5 V Yes • 10 V to 5 V Yes • 10 V to 10 V Yes Output ranges, current Yes • 0 to 20 mA Yes • 20 mA to +20 mA Yes • 4 mA to 20 mA Yes • with voltage outputs, min. 1 kΩ • with voltage outputs, min. 1 kΩ • with voltage outputs, max. 500 Ω • with current outputs, max. 500 Ω • with current outputs, inductive load, max. 10 mH	Power loss	
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 • 20 mA to +20 mA Yes • 4 mA to 20 mA Yes • with voltage outputs, min. 1 k Ω • with voltage outputs, max. 500 Ω • with current outputs, max. 500 Ω • with current outputs, inductive load, max. 10 mH	Power loss, typ.	3 W
Voltage output, short-circuit protectionYesVoltage output, short-circuit current, max.25 mACurrent output, no-load voltage, max.18 VOutput ranges, voltage18 V• 0 to 10 VYes• 1 V to 5 VYes• -10 V to +10 VYesOutput ranges, currentYes• 0 to 20 mAYes• 20 mA to +20 mAYes• 4 mA to 20 mAYes• with voltage outputs, min.1 k Ω • with voltage outputs, max.500 Ω • with current outputs, max.500 Ω • with current outputs, inductive load, max.10 mHCable lengthImage: Corrent outputs, max	Analog outputs	
Voltage output, short-circuit current, max.25 mACurrent output, no-load voltage, max.18 VOutput ranges, voltage $18 V$ • 0 to 10 VYes• 1 V to 5 VYes• -10 V to +10 VYesOutput ranges, currentYes• 0 to 20 mAYes• -20 mA to +20 mAYes• 4 mA to 20 mAYesLoad impedance (in rated range of output)1 k Ω • with voltage outputs, min.1 k Ω • with voltage outputs, max.500 Ω • with current outputs, max.10 mHCable length10 mH	Number of analog outputs	2
Current output, no-load voltage, max. 18 V Output ranges, voltage Yes • 0 to 10 V Yes • 1 V to 5 V Yes • -10 V to +10 V Yes Output ranges, current Yes • 0 to 20 mA Yes • 20 mA to +20 mA Yes • 4 mA to 20 mA Yes Load impedance (in rated range of output) 1 kΩ • with voltage outputs, min. 1 kΩ • with voltage outputs, max. 500 Ω • with current outputs, inductive load, max. 10 mH Cable length Ion M	Voltage output, short-circuit protection	Yes
Output ranges, voltage Yes • 0 to 10 V Yes • 1 V to 5 V Yes • -10 V to +10 V Yes Output ranges, current Yes • 0 to 20 mA Yes • -20 mA to +20 mA Yes • 4 mA to 20 mA Yes Load impedance (in rated range of output) Yes • with voltage outputs, min. 1 kΩ • with voltage outputs, capacitive load, max. 1 μF • with current outputs, inductive load, max. 10 mH Cable length 10 mH	Voltage output, short-circuit current, max.	25 mA
• 0 to 10 VYes• 1 V to 5 VYes• -10 V to +10 VYesOutput ranges, currentYes• 0 to 20 mAYes• -20 mA to +20 mAYes• 4 mA to 20 mAYesLoad impedance (in rated range of output)Yes• 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 mHCable length	Current output, no-load voltage, max.	18 V
• 1 V to 5 VYes• -10 V to +10 VYesOutput ranges, currentYes• 0 to 20 mAYes• -20 mA to +20 mAYes• 4 mA to 20 mAYesLoad impedance (in rated range of output)Yes• 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 mHCable length	Output ranges, voltage	
• -10 V to +10 VYesOutput ranges, currentYes• 0 to 20 mAYes• -20 mA to +20 mAYes• 4 mA to 20 mAYes• 4 mA to 20 mAYesLoad impedance (in rated range of output)Yes• 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	• 0 to 10 V	Yes
Output ranges, current Yes • 0 to 20 mA Yes • -20 mA to +20 mA Yes • 4 mA to 20 mA Yes Load impedance (in rated range of output) Yes • 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	• 1 V to 5 V	Yes
• 0 to 20 mA Yes • -20 mA to +20 mA Yes • 4 mA to 20 mA Yes Load impedance (in rated range of output) Yes • 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	• -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) Yes • 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	Output ranges, current	
• 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	• 0 to 20 mA	Yes
Load impedance (in rated range of output) 1 kΩ • 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	• -20 mA to +20 mA	Yes
• 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	• 4 mA to 20 mA	Yes
• with voltage outputs, capacitive load, max. 1 μF • with current outputs, max. 500 Ω • with current outputs, inductive load, max. 10 mH Cable length	Load impedance (in rated range of output)	
 with current outputs, max. with current outputs, inductive load, max. Cable length 	 with voltage outputs, min. 	1 kΩ
with current outputs, inductive load, max. 10 mH Cable length	 with voltage outputs, capacitive load, max. 	1 µF
Cable length	 with current outputs, max. 	500 Ω
•	 with current outputs, inductive load, max. 	10 mH
• shielded max 200 m	Cable length	
	• shielded, max.	200 m
Analog value generation for the outputs	Analog value generation for the outputs	
Integration and conversion time/resolution per channel	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	 Resolution with overrange (bit including sign), max. 	
Conversion time (per channel) 0.8 ms	Conversion time (per channel)	0.8 ms
Settling time	Settling time	
• for resistive load 0.2 ms	 for resistive load 	0.2 ms
• for capacitive load 3.3 ms	 for capacitive load 	3.3 ms
• for inductive load 0.5 ms; 0.5 ms (1 mH); 3.3 ms (10 mH)	 for inductive load 	0.5 ms; 0.5 ms (1 mH); 3.3 ms (10 mH)
Errors/accuracies	Errors/accuracies	

Operational error limit in overall temperature range	
 Voltage, relative to output range, (+/-) 	0.5 %
 Current, relative to output range, (+/-) 	0.6 %
Basic error limit (operational limit at 25 °C)	
 Voltage, relative to output range, (+/-) 	0.4 %
 Current, relative to output range, (+/-) 	0.5 %
Interrupts/diagnostics/status information	
Diagnostics function	Yes; Parameterizable
Alarms	
Diagnostic alarm	Yes; Parameterizable
Diagnoses	
Diagnostic information readable	Yes
Diagnostics indication LED	
Group error SF (red)	Yes
Potential separation	
Potential separation analog outputs	
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
Isolation	
Isolation tested with	500 V DC
connection method	
required front connector	20-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	117 mm
Weights	
Weight, approx.	220 g

last modified:

1/17/2021 🖸