

SIMATIC S7-300, ANALOG INPUT SM 331,  
OPTICALLY ISOLATED, 8 AI,  
13 BIT RESOLUTION,  
U/I/RESISTANCE/PT100, NI100, NI1000,  
LG-NI1000, 66 MS MODULE UPDATE,  
1 X 40 PIN

Analog inputs	
Number of analog inputs	8
Input ranges	
Voltage	Yes
Current	Yes
Thermocouple	No
Resistance thermometer	Yes
Resistance	Yes
Input ranges (rated values), voltages	
0 to +10 V	Yes
Input resistance (0 to 10 V)	100 kΩ
1 to 5 V	Yes
Input resistance (1 to 5 V)	100 kΩ
1 to 10 V	No
-1 V to +1 V	Yes
Input resistance (-1 V to +1 V)	100 kΩ
-10 V to +10 V	Yes
Input resistance (-10 V to +10 V)	100 kΩ
-2.5 V to +2.5 V	No
-250 mV to +250 mV	No
-5 V to +5 V	Yes
Input resistance (-5 V to +5 V)	100 kΩ
-50 mV to +50 mV	Yes
Input resistance (-50 mV to +50 mV)	100 kΩ
-500 mV to +500 mV	Yes
Input resistance (-500 mV to +500 mV)	100 kΩ
-80 mV to +80 mV	No
Input ranges (rated values), currents	
0 to 20 mA	Yes

Input resistance (0 to 20 mA)	50 $\Omega$
-10 to +10 mA	No
-20 to +20 mA	Yes
Input resistance (-20 to +20 mA)	50 $\Omega$
-3.2 to +3.2 mA	No
4 to 20 mA	Yes
Input resistance (4 to 20 mA)	50 $\Omega$
<b>Input ranges (rated values), thermoelements</b>	
Type B	No
Type E	No
Type J	No
Type K	No
Type L	No
Type N	No
Type R	No
Type S	No
Type T	No
Type U	No
Type TXK/TXK(L) to GOST	No
<b>Input ranges (rated values), resistance thermometer</b>	
Cu 10	No
Ni 100	Yes ; Standard/climate
Input resistance (Ni 100)	100 M $\Omega$
Ni 1000	Yes
Input resistance (Ni 1000)	100 M $\Omega$
LG-Ni 1000	Yes ; Standard/climate
Input resistance (LG-Ni 1000)	100 M $\Omega$
Ni 120	No
Ni 200	No
Ni 500	No
Pt 100	Yes ; Standard/climate
Input resistance (Pt 100)	100 M $\Omega$
Pt 1000	No
Pt 200	No
Pt 500	No
<b>Input ranges (rated values), resistors</b>	
0 to 150 Ohm	No
0 to 300 Ohm	No
0 to 600 Ohm	Yes

Input resistance (0 to 600 ohms)	100 MΩ
0 to 6000 Ohm	Yes
Input resistance (0 to 6000 ohms)	100 MΩ
<b>Resistance thermometer (RTD)</b>	
<b>Characteristic linearization</b>	
for resistance thermometer	yes; Pt100 standard/air con.; Ni100 standard/air con.; Ni1000 standard/air con.; LG-Ni1000 standard/air con.
<b>Characteristic linearization</b>	
Parameterizable	Yes
<b>Analog value creation</b>	
Measurement principle	integrating
<b>Integration and conversion time/resolution per channel</b>	
Resolution with overrange (bit including sign), max.	13 bit
Integration time, parameterizable	Yes ; 60 / 50 ms
Basic conversion time, ms	66 / 55 ms
Interference voltage suppression for interference frequency f1 in Hz	50 / 60 Hz
<b>Encoder</b>	
<b>Connection of signal encoders</b>	
for current measurement as 2-wire transducer	Yes ; with external supply
for current measurement as 4-wire transducer	Yes
for resistance measurement with two-wire connection	Yes
for resistance measurement with three-wire connection	Yes
for resistance measurement with four-wire connection	Yes
<b>Isochronous mode</b>	
Isochronous operation (application synchronized up to terminal)	No
<b>Interrupts/diagnostics/status information</b>	
<b>Alarms</b>	
Diagnostic alarm	No
Limit value alarm	No
<b>Diagnostic messages</b>	
Diagnostic functions	No
Diagnostic information readable	No
Diagnostics	No
Group error	No
<b>Diagnostics indication LED</b>	
Group error SF (red)	No
<b>Galvanic isolation</b>	
<b>Galvanic isolation analog inputs</b>	

<b>between the channels</b>	No
<b>between the channels and the backplane bus</b>	Yes
<b>Connection method</b>	
<b>required front connector</b>	40-pin
<b>Dimensions</b>	
<b>Width</b>	40 mm
<b>Height</b>	125 mm
<b>Depth</b>	117 mm
<b>Weights</b>	
<b>Weight, approx.</b>	250 g
Status	Dec 20, 2014