



SIMATIC S7-400, ANALOG INPUT SM 431,
8AI;
16 BIT RESOLUTION,
RESIST./PT100/Ni100 OPTIC. ISOLATED,
DIAGNOSTIC, ALARM, 20 MS MODULE UPDATE

Input current	
from load voltage L+ (without load), max.	400 mA
Configuration	
[nicht versorgt: TAK_ABW806_001_000]	
Required slots	1
Analog inputs	
Number of analog inputs	8
Input ranges	
Voltage	No
Current	No
Thermocouple	No
Resistance thermometer	Yes
Resistance	Yes
Input ranges (rated values), resistance thermometers	
Ni 100	Yes
Input resistance (Ni 100)	> 10,000 ohms
Ni 1000	Yes ; Different characteristics selectable: Europe/U.S.
Input resistance (Ni 1000)	> 10,000 ohms
Pt 100	Yes

Input resistance (Pt 100)	> 10,000 ohms
Pt 1000	Yes
Input resistance (Pt 1000)	> 10,000 ohms
Pt 200	Yes
Input resistance (Pt 200)	> 10,000 ohms
Pt 500	Yes
Input resistance (Pt 500)	> 10,000 ohms
Resistance thermometer (RTD)	
Characteristic linearization	
for resistance thermometer	Pt100, Pt200, Pt500, Pt1000, Ni100, Ni1000; different characteristics selectable (Europe/U.S.)
Characteristic linearization	
Parameterizable	Yes
Cable length	
Cable length, shielded, max.	200 m ; 50 m with thermocouples and input ranges +/-80 mV
Analog value creation	
Integrations and conversion time/resolution per channel	
Resolution with overrange (bit including sign), max.	16 bit
Integration time, parameterizable	Yes
Basic conversion time, ms	8 / 23 / 25 ms
Integration time, ms	20 ms at 50 Hz (entire module incl. wire break)
Basic conversion time, including integration time, ms	
additional conversion time for wire break monitoring	110 ms / 4 ms
additional conversion time for wire break monitoring and resistance measurement	none
Interference voltage suppression for interference frequency f1 in Hz	none/ 60 / 50 Hz
Encoder	
Connection of signal encoders	
for resistance measurement with 3-conductor connection	Yes
for resistance measurement with 4-conductor connection	Yes
Interrupts/diagnostics/status information	
Alarms	
Diagnostic alarm	Yes ; Parameterizable
Limit value alarm	Yes
Diagnostic messages	
Diagnostics	Yes
Galvanic isolation	
Galvanic isolation analog inputs	

Galvanic isolation analog inputs	Yes ; internal/external
between the channels	No
Permissible potential difference	
between the inputs (UCM)	none
Isolation	
Isolation checked with	1500 V DC
Dimensions	
Width	25 mm
Height	290 mm
Depth	210 mm
Weights	
Weight, approx.	650 g
Status	Mar 31, 2014