

\*\*\*Spare part\*\*\* SIPLUS S7-400 SM 431 BEG AI6x 14 for medial exposure and adapted INPUT CONNECTION based on 6ES7431-1KF20-0AB0



Figure similar

Supply voltage	
Load voltage L+	
<ul style="list-style-type: none"> <li>Rated value (DC)</li> </ul>	24 V; Only required for supplying 2-wire transmitters
<ul style="list-style-type: none"> <li>Reverse polarity protection</li> </ul>	Yes
Input current	
from load voltage L+ (without load), max.	200 mA; for 8 connected, fully controlled 2-wire transmitters
from backplane bus 5 V DC, max.	1 000 mA
Power loss	
Power loss, typ.	4.9 W
Analog inputs	
Number of analog inputs	8
<ul style="list-style-type: none"> <li>For voltage/current measurement</li> </ul>	8
<ul style="list-style-type: none"> <li>For resistance measurement</li> </ul>	4
permissible input voltage for voltage input (destruction limit), max.	18 V; 18 V continuous, 75 V for 1 ms (mark to space ratio 1:20)

permissible input current for current input (destruction limit), max.	40 mA; Permanent
<b>Input ranges</b>	
• Voltage	Yes
• Current	Yes
• Resistance	Yes
<b>Input ranges (rated values), voltages</b>	
• 1 V to 5 V	Yes
• Input resistance (1 V to 5 V)	10 M $\Omega$
• -1 V to +1 V	Yes
• Input resistance (-1 V to +1 V)	10 M $\Omega$
• -10 V to +10 V	Yes
• Input resistance (-10 V to +10 V)	100 k $\Omega$
<b>Input ranges (rated values), currents</b>	
• -20 mA to +20 mA	Yes
• Input resistance (-20 mA to +20 mA)	50 $\Omega$
• 4 mA to 20 mA	Yes
• Input resistance (4 mA to 20 mA)	50 k $\Omega$
<b>Input ranges (rated values), resistors</b>	
• 0 to 600 ohms	Yes
<b>Cable length</b>	
• shielded, max.	200 m
<b>Analog value generation for the inputs</b>	
<b>Integration and conversion time/resolution per channel</b>	
• Resolution with overrange (bit including sign), max.	14 bit; 14 / 14 / 14
• Integration time, parameterizable	Yes
• Basic conversion time (ms)	52 $\mu$ s
• Interference voltage suppression for interference frequency f1 in Hz	none / 400 / 60 / 50 Hz
<b>Encoder</b>	
<b>Connection of signal encoders</b>	
• for voltage measurement	Yes; possible
• for current measurement as 2-wire transducer	Yes
• for current measurement as 4-wire transducer	Yes
• for resistance measurement with two-wire connection	Yes; Line resistances are also measured
• for resistance measurement with three-wire connection	Yes; Line resistances are also measured
• for resistance measurement with four-wire connection	Yes

Errors/accuracies	
Operational error limit in overall temperature range	
<ul style="list-style-type: none"> <li>• Voltage, relative to input range, (+/-)</li> <li>• Current, relative to input range, (+/-)</li> <li>• Resistance, relative to input range, (+/-)</li> </ul>	0.7 %; $\pm 0.7$ % at $\pm 1$ V; $\pm 0.9$ % at $\pm 10$ V, 1 to 5 V 0.8 %; at $\pm 20$ mA, 4 to 20 mA 1 %
Basic error limit (operational limit at 25 °C)	
<ul style="list-style-type: none"> <li>• Voltage, relative to input range, (+/-)</li> <li>• Current, relative to input range, (+/-)</li> <li>• Resistance, relative to input range, (+/-)</li> </ul>	0.6 %; 0.6 % at $\pm 1$ V; 0.75 % at $\pm 10$ V, 1 to 5 V 0.7 %; at $\pm 20$ mA, 4 to 20 mA 0.7 %; 0 to 600 ohms
Potential separation	
Potential separation analog inputs	
<ul style="list-style-type: none"> <li>• Potential separation analog inputs</li> <li>• between the channels</li> </ul>	Yes; internal/external No
Isolation	
Isolation tested with	2120 V DC between bus and analog part; 500 V DC between bus and local ground; 707 V DC between analog part and L+/M; 2120 V DC between analog part and local ground; 2120 V DC between L+/M and local ground
Ambient conditions	
Altitude during operation relating to sea level	
<ul style="list-style-type: none"> <li>• Ambient air temperature-barometric pressure-altitude</li> </ul>	Tmin ... Tmax at 1 080 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax - 20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)
Relative humidity	
<ul style="list-style-type: none"> <li>• With condensation, tested in accordance with IEC 60068-2-38, max.</li> </ul>	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Resistance	
Use in stationary industrial systems	
<ul style="list-style-type: none"> <li>— to biologically active substances according to EN 60721-3-3</li> <li>— to chemically active substances according to EN 60721-3-3</li> <li>— to mechanically active substances according to EN 60721-3-3</li> </ul>	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request Yes; Class 3C4 incl. salt spray according to EN 60068-2-52 (degree of severity 3). The supplied connector covers must remain on the unused interfaces during operation! Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!
Dimensions	
Width	25 mm
Height	290 mm
Depth	210 mm
Weights	
Weight, approx.	500 g

last modified:

05/16/2018