



Figure similar

ET 200PA SMART, analog input isolated 8 AI, resolution 13 bit  
U/I/resistance/Pt100, Ni100, Ni1000, LG-Ni1000, PTC/KTY, 66 ms conversion  
time; 1x 40-pole IM 650-8PH required

Input current	
from backplane bus 5 V DC, max.	90 mA
Power loss	
Power loss, typ.	0.4 W
Analog inputs	
Number of analog inputs	8
permissible input voltage for voltage input (destruction limit), max.	30 V; 12 V continuous, 30 V for max. 1 s
permissible input current for current input (destruction limit), max.	40 mA
Input ranges (rated values), voltages	
<ul style="list-style-type: none"> <li>• -1 V to +1 V               <ul style="list-style-type: none"> <li>— Input resistance (-1 V to +1 V)</li> </ul> </li> <li>• -50 mV to +50 mV               <ul style="list-style-type: none"> <li>— Input resistance (-50 mV to +50 mV)</li> </ul> </li> <li>• -500 mV to +500 mV               <ul style="list-style-type: none"> <li>— Input resistance (-500 mV to +500 mV)</li> </ul> </li> </ul>	Yes 100 kΩ Yes 100 kΩ Yes 100 kΩ
Input ranges (rated values), currents	
<ul style="list-style-type: none"> <li>• 0 to 20 mA               <ul style="list-style-type: none"> <li>— Input resistance (0 to 20 mA)</li> </ul> </li> <li>• -20 mA to +20 mA               <ul style="list-style-type: none"> <li>— Input resistance (-20 mA to +20 mA)</li> </ul> </li> <li>• 4 mA to 20 mA               <ul style="list-style-type: none"> <li>— Input resistance (4 mA to 20 mA)</li> </ul> </li> </ul>	Yes 100 Ω Yes 100 Ω Yes 100 Ω
Input ranges (rated values), resistance thermometer	
<ul style="list-style-type: none"> <li>• Ni 100               <ul style="list-style-type: none"> <li>— Input resistance (Ni 100)</li> </ul> </li> <li>• Pt 100               <ul style="list-style-type: none"> <li>— Input resistance (Pt 100)</li> </ul> </li> </ul>	Yes; Standard/climate 100 MΩ Yes; Standard/climate 100 MΩ
Input ranges (rated values), resistors	
<ul style="list-style-type: none"> <li>• 0 to 600 ohms               <ul style="list-style-type: none"> <li>— Input resistance (0 to 600 ohms)</li> </ul> </li> </ul>	Yes 100 MΩ
Characteristic linearization	
<ul style="list-style-type: none"> <li>• parameterizable               <ul style="list-style-type: none"> <li>— for resistance thermometer</li> </ul> </li> </ul>	Yes yes; Pt100 standard/air con.; Ni100 standard/air con.; Ni1000 standard/air con.; LG-Ni1000 standard/air con.
Cable length	
<ul style="list-style-type: none"> <li>• shielded, max.</li> </ul>	200 m; max. 50 m at 50 mV
Analog value generation for the inputs	

Measurement principle	integrating	
<b>Integration and conversion time/resolution per channel</b>		
<ul style="list-style-type: none"> <li>Resolution with overrange (bit including sign), max.</li> <li>Integration time, parameterizable</li> <li>Basic conversion time, including integration time (ms)</li> <li>Interference voltage suppression for interference frequency <math>f_1</math> in Hz</li> </ul>	13 bit Yes; 60 / 50 ms 66 / 55 ms 50 / 60 Hz	
<b>Encoder</b>		
<b>Connection of signal encoders</b>		
<ul style="list-style-type: none"> <li>for voltage measurement</li> <li>for current measurement as 2-wire transducer</li> <li>for current measurement as 4-wire transducer</li> <li>for resistance measurement with two-wire connection</li> <li>for resistance measurement with three-wire connection</li> <li>for resistance measurement with four-wire connection</li> </ul>	Yes Yes; with external supply Yes Yes Yes Yes	
<b>Errors/accuracies</b>		
Linearity error (relative to input range), (+/-)	0.1 %	
Temperature error (relative to input range), (+/-)	0.006 %/K	
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.1 %	
<b>Operational error limit in overall temperature range</b>		
<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> <li>Resistance thermometer, relative to input range, (+/-)</li> </ul>	0.6 %; $\pm 0.6$ % ( $\pm 5$ V, 10 V, 1 to 5 V, 0 to 10 V); $\pm 0.5$ % ( $\pm 50$ mV, 500 mV, 1 V) 0.5 %; $\pm 20$ mA, 0 to 20 mA, 4 to 20 mA 0.5 %; 0 to 6 kohms, 0 to 600 kohms 1 Kelvin (Pt100, Ni100, climatic; Ni1000, LG-Ni1000, standard; Ni1000, LG-Ni1000, climatic); 1.2 Kelvin (Pt100, Ni100, standard)	
<b>Basic error limit (operational limit at 25 °C)</b>		
<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> <li>Resistance thermometer, relative to input range, (+/-)</li> </ul>	0.4 %; 0.4% ( $\pm 5$ V, 10 V, 1 to 5 V, 0 to 10 V); 0.3% ( $\pm 50$ mV, 500 mV, 1 V) 0.3 %; $\pm 20$ mA, 0 to 20 mA, 4 to 20 mA 0.3 %; 0 to 6 kohms, 0 to 600 kohms 1 Kelvin (Pt100, Ni100, standard); 0.8 Kelvin (Pt100, Ni100, climatic; Ni1000, LG-Ni1000, standard; Ni1000, LG-Ni1000, climatic)	
<b>Interference voltage suppression for <math>f = n \times (f_1 \pm 1 \%)</math>, <math>f_1 =</math> interference frequency</b>		
<ul style="list-style-type: none"> <li>Series mode interference (peak value of interference &lt; rated value of input range), min.</li> <li>Common mode interference, min.</li> </ul>	40 dB 86 dB	
<b>Interrupts/diagnostics/status information</b>		
<b>Diagnostics indication LED</b>		
<ul style="list-style-type: none"> <li>Group error SF (red)</li> </ul>	Yes	
<b>Potential separation</b>		
<b>Potential separation analog inputs</b>		
<ul style="list-style-type: none"> <li>between the channels</li> <li>between the channels and backplane bus</li> </ul>	No Yes	
<b>Permissible potential difference</b>		
between the inputs (UCM)	2 V DC	
<b>Isolation</b>		
Isolation tested with	500 V DC	
<b>Connection method</b>		
required front connector	40-pin	
<b>Dimensions</b>		
Width	40 mm	
Height	125 mm	
Depth	117 mm	
<b>Weights</b>		
Weight, approx.	250 g	
<b>Classifications</b>		
	<b>Version</b>	<b>Classification</b>
eClass	14	27-24-26-01
eClass	12	27-24-26-01

eClass	9.1	27-24-26-01
eClass	9	27-24-26-01
eClass	8	27-24-26-01
eClass	7.1	27-24-26-01
eClass	6	27-24-26-01
ETIM	10	EC001596
ETIM	9	EC001596
ETIM	8	EC001596
ETIM	7	EC001596
IDEA	4	3562
UNSPSC	15	32-15-17-05

**Approvals / Certificates**

General Product Approval	For use in hazardous locations
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