



Figure similar

ET 200PA SMART HART analog input 8 AI, 0/4 - 20 mA HART 1 x 20-pole HART auxiliary variables, redundancy IM 650-8PH required

General information	
Product function	
<ul style="list-style-type: none"> <li>• Isochronous mode</li> </ul>	No
Supply voltage	
Rated value (DC)	24 V
Load voltage L+	
<ul style="list-style-type: none"> <li>• Rated value (DC)</li> <li>• Reverse polarity protection</li> </ul>	24 V Yes
Input current	
from load voltage L+ (without load), max.	20 mA
from backplane bus 5 V DC, max.	120 mA
Output voltage	
Power supply to the transmitters	
<ul style="list-style-type: none"> <li>• present</li> <li>• Rated value (DC)</li> <li>• short-circuit proof</li> <li>• Supply current, max.</li> </ul>	Yes 24 V Yes 60 mA; per channel
Power loss	
Power loss, typ.	1.5 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), 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 140 Ω Yes 140 Ω Yes 140 Ω
Cable length	
<ul style="list-style-type: none"> <li>• shielded, max.</li> </ul>	800 m
Analog value generation for the inputs	
Measurement principle	Sigma Delta
Integration and conversion time/resolution per channel	
<ul style="list-style-type: none"> <li>• Resolution with overrange (bit including sign), max.</li> </ul>	16 bit

<ul style="list-style-type: none"> <li>Integration time, parameterizable</li> </ul>	Yes	
<ul style="list-style-type: none"> <li>Integration time (ms)</li> </ul>	20 ms at 50 Hz; 16.6 ms at 60 Hz; 100 ms at 100 Hz	
<ul style="list-style-type: none"> <li>Basic conversion time, including integration time (ms)</li> </ul>	55 ms @ 60 Hz, 65 ms @ 50 Hz, 305 ms @ 100 Hz	
<ul style="list-style-type: none"> <li>Interference voltage suppression for interference frequency <math>f_1</math> in Hz</li> </ul>	10 / 50 / 60 Hz	
<b>Smoothing of measured values</b>		
<ul style="list-style-type: none"> <li>parameterizable</li> </ul>	Yes	
<ul style="list-style-type: none"> <li>Step: None</li> </ul>	Yes	
<ul style="list-style-type: none"> <li>Step: low</li> </ul>	Yes	
<ul style="list-style-type: none"> <li>Step: Medium</li> </ul>	Yes	
<ul style="list-style-type: none"> <li>Step: High</li> </ul>	Yes	
<b>Encoder</b>		
<b>Connection of signal encoders</b>		
<ul style="list-style-type: none"> <li>for current measurement as 2-wire transducer</li> </ul>	Yes	
<ul style="list-style-type: none"> <li>for current measurement as 4-wire transducer</li> </ul>	Yes	
<b>Errors/accuracies</b>		
Linearity error (relative to input range), (+/-)	0.01 %	
Temperature error (relative to input range), (+/-)	0.001 %/K	
Crosstalk between the inputs, min.	70 dB	
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>Current, relative to input range, (+/-)</li> </ul>	0.15 %	
<b>Basic error limit (operational limit at 25 °C)</b>		
<ul style="list-style-type: none"> <li>Current, relative to input range, (+/-)</li> </ul>	0.1 %	
<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> </ul>	40 dB	
<ul style="list-style-type: none"> <li>Common mode interference, min.</li> </ul>	100 dB	
<b>Interrupts/diagnostics/status information</b>		
Diagnostics function	Yes	
<b>Alarms</b>		
<ul style="list-style-type: none"> <li>Diagnostic alarm</li> </ul>	Yes	
<ul style="list-style-type: none"> <li>Hardware interrupt</li> </ul>	No	
<b>Diagnoses</b>		
<ul style="list-style-type: none"> <li>Diagnostic information readable</li> </ul>	Yes	
<ul style="list-style-type: none"> <li>Overrange</li> </ul>	Yes	
<ul style="list-style-type: none"> <li>Wire-break in signal transmitter cable</li> </ul>	Yes	
<ul style="list-style-type: none"> <li>Group error</li> </ul>	Yes	
<b>Diagnostics indication LED</b>		
<ul style="list-style-type: none"> <li>Group error SF (red)</li> </ul>	Yes	
<ul style="list-style-type: none"> <li>Channel fault indicator F (red)</li> </ul>	No	
<b>Potential separation</b>		
<b>Potential separation analog inputs</b>		
<ul style="list-style-type: none"> <li>between the channels</li> </ul>	No	
<ul style="list-style-type: none"> <li>between the channels and backplane bus</li> </ul>	Yes	
<b>Isolation</b>		
Isolation tested with	500 V DC	
<b>Connection method</b>		
required front connector	20-pin	
<b>Dimensions</b>		
Width	40 mm	
Height	125 mm	
Depth	117 mm	
<b>Weights</b>		
Weight, approx.	220 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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