

ET 200PA SMART, analog output isolated, 8 AO; diagnostics;  
resolution 11/12 bit 40-pole, required in 650-8PH

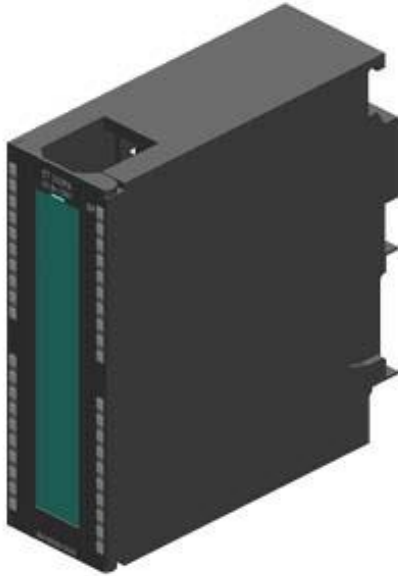


Figure similar

General information	
Product function	
• Isochronous mode	No
Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V
• Reverse polarity protection	Yes
Input current	
from load voltage L+ (without load), max.	340 mA
from backplane bus 5 V DC, max.	100 mA
Power loss	
Power loss, typ.	6 W
Analog outputs	
Number of analog outputs	8
Voltage output, short-circuit protection	Yes
Voltage output, short-circuit current, max.	25 mA

Current output, no-load voltage, max.	18 V
<b>Output ranges, voltage</b>	
• 0 to 10 V	Yes
• 1 V to 5 V	Yes
• -10 V to +10 V	Yes
<b>Output ranges, current</b>	
• 0 to 20 mA	Yes
• -20 mA to +20 mA	Yes
• 4 mA to 20 mA	Yes
<b>Connection of actuators</b>	
• for voltage output four-wire connection	Yes
• for current output two-wire connection	Yes
<b>Load impedance (in rated range of output)</b>	
• with voltage outputs, min.	1 k $\Omega$
• with voltage outputs, capacitive load, max.	1 $\mu$ F
• with current outputs, max.	500 $\Omega$
• with current outputs, inductive load, max.	10 mH
<b>Destruction limits against externally applied voltages and currents</b>	
• Voltages at the outputs towards MANA	18 V; continuous; 75 V for max. 1 s (mark to space ratio 1:20)
• Current, max.	50 mA; DC
<b>Cable length</b>	
• shielded, max.	200 m
<b>Analog value generation for the outputs</b>	
<b>Integration and conversion time/resolution per channel</b>	
• Resolution with overrange (bit including sign), max.	12 bit; $\pm$ 10 V, $\pm$ 20 mA, 4 mA to 20 mA, 1 V to 5 V: 11 bit + sign; 0 V to 10 V, 0 mA to 20 mA: 12 bit
• Conversion time (per channel)	0.8 ms
<b>Settling time</b>	
• for resistive load	0.2 ms
• for capacitive load	3.3 ms
• for inductive load	0.5 ms; 0.5 ms (1 mH); 3.3 ms (10 mH)
<b>Errors/accuracies</b>	
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-)	0.05 %
Linearity error (relative to output range), (+/-)	0.05 %
Temperature error (relative to output range), (+/-)	0.002 %/K
Crosstalk between the outputs, min.	40 dB
Repeat accuracy in steady state at 25 °C (relative to output range), (+/-)	0.05 %
<b>Operational error limit in overall temperature range</b>	
• Voltage, relative to output range, (+/-)	0.5 %
• Current, relative to output range, (+/-)	0.6 %

<b>Basic error limit (operational limit at 25 °C)</b>	
• Voltage, relative to output range, (+/-)	0.4 %
• Current, relative to output range, (+/-)	0.5 %
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes; Parameterizable
Substitute values connectable	Yes; channel by channel, parameterizable
<b>Alarms</b>	
• Diagnostic alarm	Yes; Parameterizable
<b>Diagnostic messages</b>	
• Diagnostic information readable	Yes; possible
<b>Diagnostics indication LED</b>	
• Group error SF (red)	Yes
<b>Potential separation</b>	
<b>Potential separation analog outputs</b>	
• between the channels	No
• between the channels and backplane bus	Yes
• Between the channels and load voltage L+	Yes
• between the channels and the power supply of the electronics	Yes
<b>Permissible potential difference</b>	
between MANA and M internally (UISO)	75 V DC/60 V AC
between S- and MANA (UCM)	3 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	120 mm
<b>Weights</b>	
Weight, approx.	272 g
<b>last modified:</b>	07/30/2020 