



SIMATIC DP, ET 200ECO PN, 8 AI (4 U/I+4 RTD/TC); 8x M12, Degree of protection IP67

Figure similar

General information	
Vendor identification (VendorID)	002AH
Device identifier (DeviceID)	0306H
Supply voltage	
Rated value (DC)	24 V
Reverse polarity protection	Yes
power supply according to NEC Class 2 required	Yes
Input current	
Current consumption, typ.	110 mA
Encoder supply	
Number of outputs	4
24 V encoder supply	
<ul style="list-style-type: none"> <li>Short-circuit protection</li> </ul>	Yes; Electronic at 1.4 A
<ul style="list-style-type: none"> <li>Output current, max.</li> </ul>	1 A
Power loss	
Power loss, typ.	2.8 W
Analog inputs	
Number of analog inputs	8
<ul style="list-style-type: none"> <li>For voltage/current measurement</li> </ul>	4
<ul style="list-style-type: none"> <li>For resistance/resistance thermometer measurement</li> </ul>	4
permissible input voltage for voltage input (destruction limit), max.	28.8 V permanent, 35 V for max. 500 ms
Input ranges (rated values), voltages	
<ul style="list-style-type: none"> <li>0 to +10 V</li> </ul>	Yes
<ul style="list-style-type: none"> <li>1 V to 5 V</li> </ul>	Yes
<ul style="list-style-type: none"> <li>-10 V to +10 V</li> </ul>	Yes
<ul style="list-style-type: none"> <li>-80 mV to +80 mV</li> </ul>	Yes
Input ranges (rated values), currents	
<ul style="list-style-type: none"> <li>0 to 20 mA</li> </ul>	Yes
<ul style="list-style-type: none"> <li>-20 mA to +20 mA</li> </ul>	Yes
<ul style="list-style-type: none"> <li>4 mA to 20 mA</li> </ul>	Yes
Input ranges (rated values), thermocouples	
<ul style="list-style-type: none"> <li>Type E</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Type J</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Type K</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Type N</li> </ul>	Yes
Input ranges (rated values), resistance thermometer	

• Ni 100	Yes
• Ni 1000	Yes
• Ni 120	Yes
• Ni 200	Yes
• Ni 500	Yes
• Pt 100	Yes
• Pt 1000	Yes
• Pt 200	Yes
• Pt 500	Yes
<b>Input ranges (rated values), resistors</b>	
• 0 to 150 ohms	Yes
• 0 to 300 ohms	Yes
• 0 to 600 ohms	Yes
• 0 to 3000 ohms	Yes
<b>Thermocouple (TC)</b>	
<b>Temperature compensation</b>	
— parameterizable	Yes
— internal temperature compensation	Yes
— external temperature compensation with compensations socket	Yes
<b>Cable length</b>	
• shielded, max.	30 m
<b>Analog value generation for the inputs</b>	
Analog value display	SIMATIC S7 format
Measurement principle	integrating
<b>Integration and conversion time/resolution per channel</b>	
• Resolution with overrange (bit including sign), max.	16 bit
• Integration time, parameterizable	Yes
• Integration time (ms)	2/16.67/20/100 ms
• Interference voltage suppression for interference frequency f1 in Hz	500 / 60 / 50 / 10 Hz
• Conversion time (per channel)	4 / 19 / 22 / 102 ms
<b>Smoothing of measured values</b>	
• parameterizable	Yes
• Step: None	Yes; 1x cycle time
• Step: low	Yes; 4x cycle time
• Step: Medium	Yes; 16x cycle time
• Step: High	Yes; 64x cycle time
<b>Encoder</b>	
Number of connectable encoders, max.	8
<b>Connection of signal encoders</b>	
• for voltage measurement	Yes
• for current measurement as 2-wire transducer	Yes
• for current measurement as 4-wire transducer	Yes
• for resistance measurement with two-wire connection	Yes
• for resistance measurement with three-wire connection	Yes
• for resistance measurement with four-wire connection	Yes
<b>Errors/accuracies</b>	
Linearity error (relative to input range), (+/-)	0.01 %
Temperature error (relative to input range), (+/-)	U: 0.0035%/°C; I:0.006%/°C; RTD: 0.0005%/°C; TC: 0.0035%/°C
Crosstalk between the inputs, min.	85 dB
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.008 %
<b>Interference voltage suppression for <math>f = n \times (f1 \pm 1 \%)</math>, <math>f1 =</math> interference frequency</b>	
• Series mode interference (peak value of interference < rated value of input range), min.	46 dB
• Common mode interference, min.	70 dB
<b>Interfaces</b>	

Transmission procedure	100BASE-TX
Number of PROFINET interfaces	1
<b>1. Interface</b>	
Interface types	
<ul style="list-style-type: none"> <li>• M12 port</li> <li>• integrated switch</li> </ul>	 Yes Yes
<b>Interface types</b>	
M12 port	
<ul style="list-style-type: none"> <li>• Autonegotiation</li> <li>• Autocrossing</li> <li>• Transmission rate, max.</li> </ul>	 Yes Yes 100 Mbit/s
<b>Protocols</b>	
Supports protocol for PROFINET IO	Yes
PROFINET CBA	No
PROFIsafe	No
PROFINET IO Device	
Services	
<ul style="list-style-type: none"> <li>— IRT with the option "high flexibility"</li> <li>— Prioritized startup</li> </ul>	 Yes Yes
Redundancy mode	
Media redundancy	
<ul style="list-style-type: none"> <li>— MRP</li> </ul>	Yes
Open IE communication	
<ul style="list-style-type: none"> <li>• TCP/IP</li> <li>• SNMP</li> <li>• DCP</li> <li>• LLDP</li> <li>• ping</li> <li>• ARP</li> </ul>	 No Yes Yes Yes Yes Yes
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes
Alarms	
<ul style="list-style-type: none"> <li>• Diagnostic alarm</li> </ul>	Yes
Diagnoses	
<ul style="list-style-type: none"> <li>• Diagnostic information readable</li> <li>• Monitoring the supply voltage</li> <li>• Short-circuit encoder supply</li> <li>• Group error</li> <li>• Overflow/underflow</li> </ul>	 Yes Yes; green "ON" LED Yes; per module Yes; Red/yellow "SF/MT" LED Yes
<b>Potential separation</b>	
between the load voltages	Yes
between load voltage and all other switching components	No
between Ethernet and electronics	Yes
Potential separation channels	
<ul style="list-style-type: none"> <li>• between the channels</li> </ul>	No
<b>Permissible potential difference</b>	
Between the inputs and MANA (UCM)	10 Vpp AC
<b>Isolation</b>	
tested with	
<ul style="list-style-type: none"> <li>• 24 V DC circuits</li> <li>• Test voltage for interface, rms value [Vrms]</li> </ul>	 707 V DC (type test) 1 500 V; According to IEEE 802.3
<b>Degree and class of protection</b>	
IP degree of protection	IP65/67
<b>Standards, approvals, certificates</b>	
Suitable for applications according to AMS 2750	Yes; Declaration of Conformity, see online support entry 109757262
Suitable for applications according to CQI-9	Yes; Based on AMS 2750 E
<b>connection method / header</b>	
Design of electrical connection	4/5-pin M12 circular connectors

Dimensions	
Width	60 mm
Height	175 mm
Depth	49 mm
Weights	
Weight, approx.	930 g
<b>last modified:</b>	9/27/2021 