SIEMENS

Data sheet 6ES7144-6KD50-0AB0

SIMATIC DP, ET 200ECO PN, 8 AI 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; against destruction
Input current	
Current consumption, typ.	110 mA
Power loss	
Power loss, typ.	2.8 W
Analog inputs	
Number of analog inputs	8
• For resistance/resistance thermometer measurement	8
Input ranges (rated values), voltages	
• -80 mV to +80 mV	Yes

Input ranges (rated values), thermocouples	
• Type E	Yes
• Type J	Yes
• Type K	Yes
• Type N	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
Input ranges (rated values), resistors	
• 0 to 150 ohms	Yes
• 0 to 300 ohms	Yes
• 0 to 600 ohms	Yes
• 0 to 3000 ohms	Yes
Thermocouple (TC)	
Temperature compensation	
— parameterizable	Yes
— internal temperature compensation	Yes
— external temperature compensation with Pt100	Yes
— external temperature compensation with compensations socket	Yes
— dynamic reference temperature value	Yes
— for definable comparison point temperature	Yes
Cable length	
• shielded, max.	30 m

Analog value generation for the inputs	
Analog value display	SIMATIC S7 format
Measurement principle	integrating
Integration and conversion time/resolution per channel	
• 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
Smoothing of measured values	
• 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

Encoder	
Number of connectable encoders, max.	8
Connection of signal encoders	
• for resistance measurement with two-wire connection	Yes
• for resistance measurement with three-wire connection	Yes
• for resistance measurement with four-wire connection	Yes

Errors/accuracies	
Linearity error (relative to input range), (+/-)	0.01 %
Temperature error (relative to input range), (+/-)	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 %
Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = interference frequency	
• Series mode interference (peak value of interference < rated value of input range), min.	46 dB
• Common mode interference, min.	70 dB

Interfaces	
Transmission procedure	100BASE-TX
Number of PROFINET interfaces	1

1. Interface	
Interface types	
• integrated switch	Yes

Interface types	
M12 port	
• Autonegotiation	Yes
• Autocrossing	Yes
• Transmission rate, max.	100 Mbit/s

Protocols	
Supports protocol for PROFINET IO	Yes
PROFINET CBA	No
PROFIsafe	No

PROFINET IO Device	
Services	
— Prioritized startup	Yes
Redundancy mode	
Media redundancy	
— MRP	Yes
Open IE communication	
• TCP/IP	No
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
• ping	Yes
• ARP	Yes

Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
• Diagnostic alarm	Yes
Diagnostic messages	
• Diagnostic information readable	Yes
• Monitoring the supply voltage	Yes; green "ON" LED
• Group error	Yes; Red/yellow "SF/MT" LED
• Overflow/underflow	Yes

Potential separation	
between the load voltages	Yes
between load voltage and all other switching components	No
between Ethernet and electronics	Yes
Potential separation channels	
• between the channels	No

Permissible potential difference	
Between the inputs and MANA (UCM)	10 Vpp AC

Isolation	
tested with	
• 24 V DC circuits	707 V DC (type test)
• Test voltage for interface, rms value [Vrms]	1 500 V; According to IEEE 802.3

Degree and class of protection	
IP degree of protection	IP65/67

Standards, approvals, certificates	
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

Connection method	
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

last modified: 06/09/2020