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Data sheet 6ES7144-6KD00-0AB0

	*** spare part *** SIMATIC DP, ET 200eco PN, 8 AI (4 U/I+4 RTD/TC); 8x M12, degree of protection IP67
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	
● Short-circuit protection	Yes; Electronic at 1.4 A
● Output current, max.	1 A
Power loss	
Power loss, typ.	2.8 W
Analog inputs	
Number of analog inputs	8
● For voltage/current measurement	4
● For resistance/resistance thermometer measurement	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	
● 0 to +10 V	Yes
● 1 V to 5 V	Yes
● -10 V to +10 V	Yes
● -80 mV to +80 mV	Yes
Input ranges (rated values), currents	
● 0 to 20 mA	Yes
● -20 mA to +20 mA	Yes
● 4 mA to 20 mA	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

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● 0 to 600 ohms	Yes
● 0 to 3000 ohms	Yes
Thermocouple (TC)	
Temperature compensation	
— Parameterizable	Yes
— internal temperature compensation	Yes
— external temperature compensation with compensations socket	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 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
Errors/accuracies	
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 %
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	
● M12 port	Yes
● integrated switch	Yes
PROFINET IO Device	
Services	
— IRT with the option "high flexibility"	Yes
— Prioritized startup	Yes
Interface types	
M12 port	
● Autonegotiation	Yes
● Autocrossing	Yes

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● Transmission rate, max.	100 Mbit/s
Protocols	
Supports protocol for PROFINET IO	Yes
PROFINET CBA	No
PROFIsafe	No
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
Diagnoses	
● Diagnostic information readable	Yes
● Monitoring the supply voltage	Yes; green "ON" LED
● Short-circuit encoder supply	Yes; per module
● 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
Use in hazardous areas	
● Explosion protection category for gas	ATEX gas explosion protection, Zone 2
● Explosion protection category for dust	ATEX dust explosion protection, Zone 22
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
Classifications	

	Version	Classification
eClass	16	27-24-26-01
eClass	14	27-24-26-01

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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

Miscellaneous | Manufacturer Declaration | Declaration of Conformity

General Product Approval

Metrological Approval | China RoHS

EMV

For use in hazardous locations

CCC-Ex | Miscellaneous | CCC-Ex

Maritime application

NK / Nippon Kaiji Kyokai

Maritime application

CCS (China Classification Society) | KR (Korean Register of Shipping)

Industrial Communication

PROFINET

last modified: 10/23/2025

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