

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

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"> Short-circuit protection 	Yes; Electronic at 1.4 A
<ul style="list-style-type: none"> Output current, max. 	1 A
Power loss	
Power loss, typ.	2.8 W
Analog inputs	
Number of analog inputs	8
<ul style="list-style-type: none"> For voltage/current measurement 	4
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> 0 to +10 V 	Yes
<ul style="list-style-type: none"> 1 V to 5 V 	Yes
<ul style="list-style-type: none"> -10 V to +10 V 	Yes
<ul style="list-style-type: none"> -80 mV to +80 mV 	Yes
Input ranges (rated values), currents	
<ul style="list-style-type: none"> 0 to 20 mA 	Yes
<ul style="list-style-type: none"> -20 mA to +20 mA 	Yes
<ul style="list-style-type: none"> 4 mA to 20 mA 	Yes
Input ranges (rated values), thermocouples	
<ul style="list-style-type: none"> Type E 	Yes
<ul style="list-style-type: none"> Type J 	Yes
<ul style="list-style-type: none"> Type K 	Yes
<ul style="list-style-type: none"> Type N 	Yes
Input ranges (rated values), resistance thermometer	
<ul style="list-style-type: none"> 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 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 f_1 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 $f = n \times (f_1 \pm 1 \%)$, f_1 = 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
• 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	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

[Miscellaneous](#)

[Manufacturer Declaration](#)

[Declaration of Conformity](#)



General Product Approval **EMV** **For use in hazardous locations**



[Metrological Approval](#)



For use in hazardous locations **Maritime application**



[CCC-Ex](#)



[Miscellaneous](#)

[CCC-Ex](#)



Maritime application



[NK / Nippon Kaiji Kyokai](#)




[CCS \(China Classification Society\)](#)

Maritime application **Industrial Communication**

[KR \(Korean Register of Shipping\)](#)

[PROFINET](#)

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