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Data sheet 6ES7331-7RD00-0AB0



Figure similar

********** spare part ********* SIMATIC S7, analog input SM 331, isolated, 4 AI; 0/4 - 20 mA, 1 x 20-pole, for signals from the hazardous area, diagnostics-capable, PTB tested

Supply voltage	
Load voltage L+	
● Rated value (DC)	24 V
● Reverse polarity protection	Yes
Input current	
from load voltage L+ (without load), max.	250 mA
from backplane bus 5 V DC, max.	60 mA
Output voltage	
Power supply to the transmitters	
● Rated value (DC)	13 V; at 22 mA
Power loss	
Power loss, typ.	3 W
Analog inputs	
Number of analog inputs	4
permissible input current for current input (destruction limit), max.	40 mA
Input ranges	
● Voltage	No
● Current	Yes
● Thermocouple	No
● Resistance thermometer	No
● Resistance	No
Input ranges (rated values), currents	
● 0 to 20 mA	Yes
— Input resistance (0 to 20 mA)	50 Ω
● 4 mA to 20 mA	Yes
— Input resistance (4 mA to 20 mA)	50 Ω
Cable length	
● shielded, max.	200 m
Analog value generation for the inputs	
Integration and conversion time/resolution per channel	
● Resolution with overrange (bit including sign), max.	16 bit; 10 bit to 15 bit + sign
● Integration time, parameterizable	Yes; 2.5 to 100 ms
● Interference voltage suppression for interference frequency f1 in Hz	10 to 400 Hz
Encoder	
Connection of signal encoders	
● for current measurement as 2-wire transducer	Yes

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● for current measurement as 4-wire transducer	Yes
Errors/accuracies	
Operational error limit in overall temperature range	
● Current, relative to input range, (+/-)	0.45 %
Basic error limit (operational limit at 25 °C)	
● Current, relative to input range, (+/-)	0.1 %
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Diagnoses	
● Diagnostic information readable	Yes
● Overrange	Yes
● Wire-break in signal transmitter cable	Yes
● Short-circuit of the signal encoder cable	Yes
Diagnostics indication LED	
● Group error SF (red)	Yes
● Channel fault indicator F (red)	Yes
Ex(i) characteristics	
Module for Ex(i) protection	Yes
maximum values for connecting terminals for gas group IIC	
● Uo (no-load voltage), max.	25.2 V
● Io (short-circuit current), max.	68.5 mA
● Po (power output), max.	431 mW
● Co (permissible external capacity), max.	90 nF
● Lo (permissible external inductivity), max.	7.5 mH
Potential separation	
Potential separation analog inputs	
● between the channels	Yes
● between the channels and backplane bus	Yes
Standards, approvals, certificates	
Use in hazardous areas	
● ATEX marking	ATEX II 3 G (2) GD Ex nA [ib Gb] [ib IIIC Db] IIC T4 Gc
● FM marking	Class I, Division 2, Group A, B, C, D T4
● Test number PTB	Ex-96.D.2092X
Ambient conditions	
Ambient temperature during operation	
● max.	60 °C
Connection method	
required front connector	20-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	290 g
Classifications	

	Version	Classification
eClass	16	27-24-22-01
eClass	14	27-24-22-01
eClass	12	27-24-22-01
eClass	9.1	27-24-22-01
eClass	9	27-24-22-01
eClass	8	27-24-22-01
eClass	7.1	27-24-22-01
eClass	6	27-24-22-01
ETIM	10	EC001420
ETIM	9	EC001420

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ETIM	8	EC001420
ETIM	7	EC001420
IDEA	4	3562
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval





Miscellaneous



Metrological Approval



General Product Approval

China RoHS

Manufacturer Declaration

Miscellaneous

For use in hazardous locations





FM

For use in hazardous locations



CCC-Ex





Maritime application



NK / Nippon Kaiji Kyokai

Maritime application



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