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Data sheet 6ES7650-8AK60-0AA0

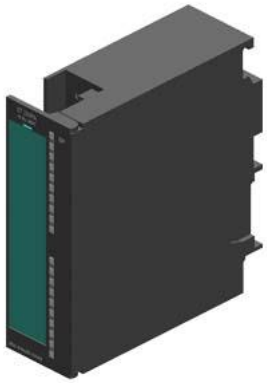


Figure similar

ET 200PA SMART, analog input 0/4 - 20 mA 8 AI, redundancy, 1 x 20-pole, IM 650-8PH required

General information	
Product function	
● Isochronous mode	No
Supply voltage	
Load voltage L+	
● Rated value (DC)	24 V
● Reverse polarity protection	Yes
Input current	
from load voltage L+ (without load), max.	20 mA
from backplane bus 5 V DC, max.	120 mA
Output voltage	
Power supply to the transmitters	
● present	Yes
● Rated value (DC)	24 V
● short-circuit proof	Yes; Short-circuit current approx. 40 mA to 60 mA
Power loss	
Power loss, typ.	1.5 W
Analog inputs	
Number of analog inputs	8
Input ranges (rated values), currents	
● 0 to 20 mA	Yes
— Input resistance (0 to 20 mA)	150 Ω
● -20 mA to +20 mA	Yes
— Input resistance (-20 mA to +20 mA)	150 Ω
● 4 mA to 20 mA	Yes
— Input resistance (4 mA to 20 mA)	150 Ω
Cable length	
● shielded, max.	800 m
Analog value generation for the inputs	
Measurement principle	Sigma Delta
Integration and conversion time/resolution per channel	
● Resolution with overrange (bit including sign), max.	16 bit; 15 bit + sign
● Integration time, parameterizable	Yes
● Integration time (ms)	16.6 ms @ 60 Hz, 20 ms @ 50 Hz, 100 ms @ 10 Hz
● Basic conversion time, including integration time (ms)	55 ms @ 60 Hz, 65 ms @ 50 Hz, 305 ms @ 10 Hz
● Basic execution time of the module (all channels released)	520 ms; 440 ms @ 60 Hz, 520 ms @ 50 Hz, 2 440 ms @ 10 Hz
Smoothing of measured values	

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● parameterizable	Yes; in 4 stages
● Step: None	Yes; 1x cycle time
● Step: low	Yes; 4x cycle time
● Step: Medium	Yes; 32x cycle time
● Step: High	Yes; 64x cycle time
Encoder	
Connection of signal encoders	
● for current measurement as 2-wire transducer	Yes
● for current measurement as 4-wire transducer	Yes
Errors/accuracies	
Linearity error (relative to input range), (+/-)	0.01 %
Temperature error (relative to input range), (+/-)	0.001 %/K
Crosstalk between the inputs, min.	70 dB
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.01 %
Operational error limit in overall temperature range	
● Current, relative to input range, (+/-)	0.15 %
Basic error limit (operational limit at 25 °C)	
● Current, relative to input range, (+/-)	0.1 %
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.	40 dB
● Common mode interference, min.	100 dB
Interrupts/diagnostics/status information	
Status indicator	No
Diagnostics function	Yes; Parameterizable
Alarms	
● Diagnostic alarm	Yes; Parameterizable
Diagnoses	
● Diagnostic information readable	Yes
Diagnostics indication LED	
● Group error SF (red)	Yes
Potential separation	
Potential separation analog inputs	
● between the channels	No
● between the channels and backplane bus	Yes
● Between the channels and load voltage L+	Yes; only for 4-wire transducer
Permissible potential difference	
between M internally and the inputs	75 V DC/60 V AC
Isolation	
Isolation tested with	500 V DC
Ambient conditions	
Ambient temperature during operation	
● min.	0 °C
● max.	60 °C; if the device is installed horizontally
Connection method	
required front connector	20-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	117 mm
Weights	
Weight, approx.	205 g
Classifications	

	Version	Classification
eClass	16	27-24-26-01
eClass	14	27-24-26-01
eClass	12	27-24-26-01

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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			For use in hazardous locations		
EG-Konf.	China RoHS	Manufacturer Declaration	ATEX	IECEx	CCC

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