

Data sheet

6ES7650-8AK70-1AA0

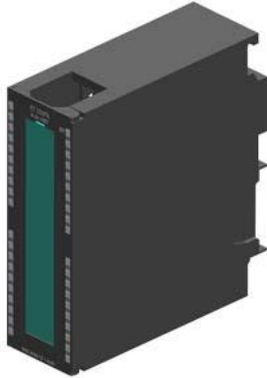


Figure similar

ET 200PA SMART, analog input 0/4 - 20 mA isolated, 16 AI, diagnostics; resolution 15/16 bit, 40-pole, removing and inserting possible IM 650-8PH required; conformal coating ISA-S71.04 severity level G1; G2; G3

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.	70 mA
from backplane bus 5 V DC, max.	100 mA
Output voltage	
Power supply to the transmitters	
• present	Yes
• Rated value (DC)	24 V
• short-circuit proof	Yes
• No-load voltage (DC)	22 V
• Supply current, max.	70 mA
Power loss	
Power loss, typ.	3.3 W
Analog inputs	
Number of analog inputs	16
permissible input current for current input (destruction limit), max.	70 mA; 40 mA continuous
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.	24 bit
• Integration time, parameterizable	Yes
• Integration time (ms)	16.6 / 20 / 100 ms
• Basic conversion time, including integration time (ms)	19.8 / 23.8 / 119 ms
• Interference voltage suppression for interference frequency f1 in Hz	10 / 50 / 60 Hz
Smoothing of measured values	
• parameterizable	Yes
• Step: None	Yes
• Step: low	Yes

• Step: Medium	Yes	
• Step: High	Yes	
Encoder		
Connection of signal encoders		
• for current measurement as 2-wire transducer — Burden of 2-wire transmitter, max.	Yes 750 Ω	
• 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	
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 $f = n \times (f_1 \pm 1 \%)$, $f_1 =$ 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		
Diagnostics function	Yes	
Alarms		
• Diagnostic alarm	Yes	
Diagnoses		
• Diagnostic information readable	Yes	
• Group error	Yes	
Diagnostics indication LED		
• Group error SF (red)	Yes	
• Channel fault indicator F (red)	No	
Potential separation		
Potential separation analog inputs		
• between the channels	No	
• between the channels, in groups of	16	
• between the channels and backplane bus	Yes	
• between the channels and the power supply of the electronics	No	
Permissible potential difference		
between the inputs (UCM)	20 V AC/30 V DC	
between M internally and the inputs	75 V DC/60 V AC (base isolation)	
between MANA and M internally (UISO)	75 V DC/60 V AC	
Isolation		
Isolation tested with	500 V	
Ambient conditions		
Ambient temperature during operation		
• min.	0 °C	
• max.	60 °C	
Connection method		
required front connector	1x 40-pin	
Dimensions		
Width	40 mm	
Height	125 mm	
Depth	117 mm	
Weights		
Weight, approx.	280 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	For use in hazardous locations
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[Manufacturer Declaration](#)



last modified:

6/7/2025

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