

Data sheet

6ES7650-8EK70-1AA0

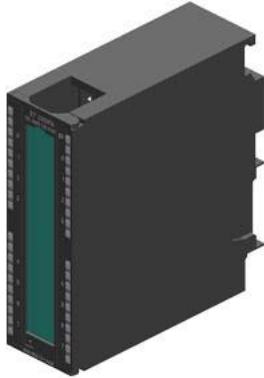


Figure similar

ET 200PA SMART, digital output 16 DQ, 24 V DC / 0.5 A, diagnostics-capable, wire break detection with 0 and 1 signal, 1 x 40-pole, connection ILM650-8PH 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	No
Input current	
from load voltage L+ (without load), max.	100 mA
from backplane bus 5 V DC, max.	100 mA
Power loss	
Power loss, typ.	6 W
Digital outputs	
Number of digital outputs	16
Short-circuit protection	Yes; Electronic
• Response threshold, typ.	1.4 A; per channel
Limitation of inductive shutdown voltage to	L+ (-68 V)
Controlling a digital input	Yes
Switching capacity of the outputs	
• on lamp load, max.	5 W
Load resistance range	
• lower limit	48 Ω
• upper limit	4 kΩ
Output voltage	
• for signal "0", max.	31 V; 0.7 mA * RL (RL = load resistance value), max. 31 V for RL = unlimited
• for signal "1", min.	L+ (-1.3 V)
Output current	
• for signal "1" rated value	0.5 A
• for signal "1" permissible range, min.	5 mA
• for signal "1" permissible range, max.	0.6 A
• for signal "0" residual current, max.	0.7 mA
Output delay with resistive load	
• "0" to "1", max.	3 ms
• "1" to "0", max.	3 ms
Parallel switching of two outputs	
• for uprating	No
• for redundant control of a load	Yes
Switching frequency	

<ul style="list-style-type: none"> with resistive load, max. 	100 Hz
<ul style="list-style-type: none"> with inductive load (acc. to IEC 60947-5-1, DC13), max. 	2 Hz
<ul style="list-style-type: none"> on lamp load, max. 	10 Hz
Total current of the outputs (per group)	
horizontal installation	
— up to 60 °C, max.	2 A
vertical installation	
— up to 40 °C, max.	2 A
Cable length	
<ul style="list-style-type: none"> shielded, max. 	1 000 m
<ul style="list-style-type: none"> unshielded, max. 	600 m
Interrupts/diagnostics/status information	
Diagnostics function	Yes; Parameterizable
Alarms	
<ul style="list-style-type: none"> Diagnostic alarm 	Yes; Parameterizable
Diagnoses	
<ul style="list-style-type: none"> Diagnostic information readable 	Yes
<ul style="list-style-type: none"> Wire break 	Yes
<ul style="list-style-type: none"> Short-circuit 	Yes
<ul style="list-style-type: none"> missing load voltage 	Yes; per channel group
Diagnostics indication LED	
<ul style="list-style-type: none"> Group error SF (red) 	Yes
<ul style="list-style-type: none"> Status indicator digital output (green) 	Yes
<ul style="list-style-type: none"> Channel fault indicator F (red) 	No
Potential separation	
Potential separation digital outputs	
<ul style="list-style-type: none"> between the channels 	No
<ul style="list-style-type: none"> between the channels, in groups of 	4
<ul style="list-style-type: none"> between the channels and backplane bus 	Yes
Permissible potential difference	
between different circuits	75 V DC/60 V AC
Isolation	
Isolation tested with	500 V AC/707 V DC, type test
Connection method	
required front connector	1x 40-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	120 mm
Weights	
Weight, approx.	300 g
Classifications	

	Version	Classification
eClass	14	27-24-26-04
eClass	12	27-24-26-04
eClass	9.1	27-24-26-04
eClass	9	27-24-26-04
eClass	8	27-24-26-04
eClass	7.1	27-24-26-04
eClass	6	27-24-26-04
ETIM	10	EC001599
ETIM	9	EC001599
ETIM	8	EC001599
ETIM	7	EC001599
IDEA	4	3566
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval

For use in hazardous locations



[China RoHS](#)

[Manufacturer Declaration](#)



last modified:

10/23/2025 

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