SIEMENS

Data sheet 6ES7650-8AE60-1AA0

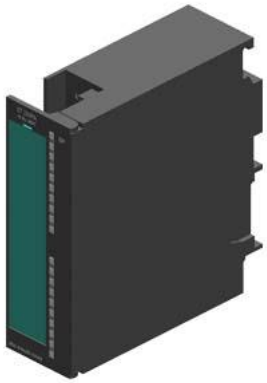

Figure similar

ET 200PA SMART, analog input isolated 8 AI, resolution 13 bit U/I/resistance/Pt100, NI100, NI1000, LG-NI1000, PTC/KTY, 66 ms conversion time; 1x 40-pole IM 650-8PH required; conformal coating ISA-S71.04 severity level G1; G2; G3

Input current	
from backplane bus 5 V DC, max.	90 mA
Power loss	
Power loss, typ.	0.4 W
Analog inputs	
Number of analog inputs	8
permissible input voltage for voltage input (destruction limit), max.	30 V; 12 V continuous, 30 V for max. 1 s
permissible input current for current input (destruction limit), max.	40 mA
Input ranges (rated values), voltages	
● -1 V to +1 V	Yes
— Input resistance (-1 V to +1 V)	100 kΩ
● -50 mV to +50 mV	Yes
— Input resistance (-50 mV to +50 mV)	100 kΩ
● -500 mV to +500 mV	Yes
— Input resistance (-500 mV to +500 mV)	100 kΩ
Input ranges (rated values), currents	
● 0 to 20 mA	Yes
— Input resistance (0 to 20 mA)	100 Ω
● -20 mA to +20 mA	Yes
— Input resistance (-20 mA to +20 mA)	100 Ω
● 4 mA to 20 mA	Yes
— Input resistance (4 mA to 20 mA)	100 Ω
Input ranges (rated values), resistance thermometer	
● Ni 100	Yes; Standard/climate
— Input resistance (Ni 100)	100 MΩ
● Pt 100	Yes; Standard/climate
— Input resistance (Pt 100)	100 MΩ
Input ranges (rated values), resistors	
● 0 to 600 ohms	Yes
— Input resistance (0 to 600 ohms)	100 MΩ
Characteristic linearization	
● parameterizable	Yes
— for resistance thermometer	yes; Pt100 standard/air con.; Ni100 standard/air con.; Ni1000 standard/air con.; LG-Ni1000 standard/air con.
Cable length	
● shielded, max.	200 m; max. 50 m at 50 mV
Analog value generation for the inputs	

Measurement principle	integrating
Integration and conversion time/resolution per channel	
● Resolution with overrange (bit including sign), max.	13 bit
● Integration time, parameterizable	Yes; 60 / 50 ms
● Basic conversion time, including integration time (ms)	66 / 55 ms
● Interference voltage suppression for interference frequency f1 in Hz	50 / 60 Hz
Encoder	
Connection of signal encoders	
● for voltage measurement	Yes
● for current measurement as 2-wire transducer	Yes; with external supply
● 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), (+/-)	0.1 %
Temperature error (relative to input range), (+/-)	0.006 %/K
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.1 %
Operational error limit in overall temperature range	
● Voltage, relative to input range, (+/-)	0.6 %; ±0.6 % (±5 V, 10 V, 1 to 5 V, 0 to 10 V); ±0.5 % (±50 mV, 500 mV, 1 V)
● Current, relative to input range, (+/-)	0.5 %; ±20 mA, 0 to 20 mA, 4 to 20 mA
● Resistance, relative to input range, (+/-)	0.5 %; 0 to 6 kohms, 0 to 600 kohms
● Resistance thermometer, relative to input range, (+/-)	1 Kelvin (Pt100, Ni100, climatic; Ni1000, LG-Ni1000, standard; Ni1000, LG-Ni1000, climatic); 1.2 Kelvin (Pt100, Ni100, standard)
Basic error limit (operational limit at 25 °C)	
● Voltage, relative to input range, (+/-)	0.4 %; 0.4% (±5 V, 10 V, 1 to 5 V, 0 to 10 V); 0.3% (±50 mV, 500 mV, 1 V)
● Current, relative to input range, (+/-)	0.3 %; ±20 mA, 0 to 20 mA, 4 to 20 mA
● Resistance, relative to input range, (+/-)	0.3 %; 0 to 6 kohms, 0 to 600 kohms
● Resistance thermometer, relative to input range, (+/-)	1 Kelvin (Pt100, Ni100, standard); 0.8 Kelvin (Pt100, Ni100, climatic; Ni1000, LG-Ni1000, standard; Ni1000, LG-Ni1000, climatic)
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.	86 dB
Interrupts/diagnostics/status information	
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
Permissible potential difference	
between the inputs (UCM)	2 V DC
Isolation	
Isolation tested with	500 V DC
Connection method	
required front connector	40-pin
Dimensions	
Width	40 mm
Height	125 mm
Depth	117 mm
Weights	
Weight, approx.	250 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

CE EG-Konf. China RoHS IECEx IECEx ATEX CCC

last modified: 4/25/2024

TURLL

YOUR GLOBAL AUTOMATION PARTNER

6ES7650-8AE60-1AA0

OFFICIAL DATASHEET & QUOTATION

- 100% New & Original Factory Sealed
- Global Express Shipping (DHL/FedEx/UPS)
- 12-Month Warranty Protection
- Professional Technical Support

CHECK STOCK & PRICE

Need Assistance? Scan to Chat on WhatsApp

sales@turll.com | +852 6339 7344