

## Data sheet

## 6ES7650-8BT60-1AA0

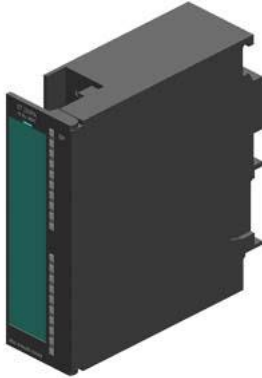


Figure similar

ET 200PA SMART HART analog output 8 AQ, 0/4 - 20 mA HART 1 x 20-pole functions: HART auxiliary variables, redundancy, IM 650-8PH required; conformal coating ISA-S71.04 severity level G1; G2; G3

| General information  |            |
|--|------------|
| Product function   |            |
| • Isochronous mode   | No         |
| Supply voltage   |            |
| Rated value (DC)   | 24 V       |
| Load voltage L+  |            |
| • Rated value (DC)   | 24 V       |
| • Reverse polarity protection  | Yes        |
| Input current  |            |
| from load voltage L+ (without load), max.                              | 350 mA     |
| from backplane bus 5 V DC, max.  | 110 mA     |
| Power loss   |            |
| Power loss, typ.   | 6 W        |
| Analog outputs   |            |
| Number of analog outputs   | 8          |
| Current output, no-load voltage, max.                                  | 24 V       |
| Output ranges, current   |            |
| • 0 to 20 mA   | Yes        |
| • -20 mA to +20 mA   | No         |
| • 4 mA to 20 mA  | Yes        |
| Connection of actuators  |            |
| • for current output two-wire connection                               | Yes        |
| Load impedance (in rated range of output)                              |            |
| • with current outputs, max.   | 750 Ω      |
| • with current outputs, inductive load, max.                           | 10 mH      |
| Destruction limits against externally applied voltages and currents    |            |
| • Voltages at the outputs towards MANA                                 | +60/-0.5 V |
| Cable length   |            |
| • shielded, max.   | 800 m      |
| Analog value generation for the outputs                                |            |
| Integration and conversion time/resolution per channel                 |            |
| • Resolution with overrange (bit including sign), max.                 | 16 bit     |
| Settling time  |            |
| • for resistive load   | 0.1 ms     |
| • for inductive load   | 0.5 ms     |
| Errors/accuracies  |            |
| Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) | 0.02 %     |

|  |           |
|--|-----------|
| Linearity error (relative to output range), (+/-)                          | 0.01 %    |
| Temperature error (relative to output range), (+/-)                        | 0.002 %/K |
| Crosstalk between the outputs, min.  | 70 dB     |
| Repeat accuracy in steady state at 25 °C (relative to output range), (+/-) | 0.005 %   |
| <b>Basic error limit (operational limit at 25 °C)</b>                      |           |
| • Current, relative to output range, (+/-)                                 | 0.1 %     |
| <b>Interrupts/diagnostics/status information</b>                           |           |
| Diagnostics function   | Yes       |
| Substitute values connectable  | Yes       |
| <b>Alarms</b>  |           |
| • Diagnostic alarm   | Yes       |
| <b>Diagnoses</b>   |           |
| • Diagnostic information readable  | Yes       |
| <b>Diagnostics indication LED</b>  |           |
| • Group error SF (red)   | Yes       |
| <b>Potential separation</b>  |           |
| Potential separation analog outputs  |           |
| • between the channels   | No        |
| • between the channels and backplane bus                                   | Yes       |
| • Between the channels and load voltage L+                                 | Yes       |
| <b>Isolation</b>   |           |
| Isolation tested with  | 500 V DC  |
| <b>Connection method</b>   |           |
| required front connector   | 20-pin    |
| <b>Dimensions</b>  |           |
| Width  | 40 mm     |
| Height   | 125 mm    |
| Depth  | 117 mm    |
| <b>Weights</b>   |           |
| Weight, approx.  | 220 g     |

| <b>Classifications</b> |        |                |                       |
|------------------------|--------|----------------|-----------------------|
|                        |        | <b>Version</b> | <b>Classification</b> |
|                        | 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           |

| <b>Approvals / Certificates</b> |                                |
|---------------------------------|--------------------------------|
| General Product Approval        | For use in hazardous locations |



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9/7/2023

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