



SIPLUS ET200S EM 2AO I STANDARD -25 ... +70 DGR C  
WITH CONFORMAL COATING BASED ON 6ES7135-  
4GB01-0AB0 . +/-20mA;  
13 BIT + VZ, 4 . .20mA;  
13 BIT CYCLE TIME < 1MS WITH LED GF (GROUP  
FAULT)

|                                           |                          |
|-------------------------------------------|--------------------------|
| Supply voltage                            |                          |
| Load voltage L+                           |                          |
| Rated value (DC)                          | 24 V ; From power module |
| Reverse polarity protection               | Yes                      |
| Input current                             |                          |
| from load voltage L+ (without load), max. | 150 mA                   |
| from backplane bus 3.3 V DC, max.         | 10 mA                    |
| Power losses                              |                          |
| Power loss, max.                          | 2 W                      |
| Address area                              |                          |
| Address space per module                  |                          |
| Address space per module, max.            | 4 byte                   |
| Analog outputs                            |                          |
| Number of analog outputs                  | 2                        |
| Current output, no-load voltage, max.     | 18 V                     |
| Cycle time (all channels) max.            | 1.5 ms                   |
| Output ranges, current                    |                          |
| -20 to +20 mA                             | Yes                      |

|                                                                            |                                                                           |
|----------------------------------------------------------------------------|---------------------------------------------------------------------------|
| 4 to 20 mA                                                                 | Yes                                                                       |
| <b>Connection of actuators</b>                                             |                                                                           |
| for current output two-wire connection                                     | Yes                                                                       |
| for current output four-wire connection                                    | No                                                                        |
| <b>Load impedance (in rated range of output)</b>                           |                                                                           |
| with current outputs, max.                                                 | 500 $\Omega$                                                              |
| with current outputs, inductive load, max.                                 | 1 mH                                                                      |
| <b>Destruction limits against externally applied voltages and currents</b> |                                                                           |
| Voltages at the outputs towards MANA                                       | 15 V ; max. 15 V continuous; 75 V for max. 1 s (mark to space ratio 1:20) |
| Current, max.                                                              | 50 mA ; DC                                                                |
| <b>Cable length</b>                                                        |                                                                           |
| Cable length, shielded, max.                                               | 200 m                                                                     |
| <b>Analog value creation</b>                                               |                                                                           |
| <b>Integrations and conversion time/resolution per channel</b>             |                                                                           |
| Resolution with overrange (bit including sign), max.                       | 14 bit ; 4 to 20 mA: 13 bits, +/-20 mA: 14 bits                           |
| <b>Settling time</b>                                                       |                                                                           |
| for resistive load                                                         | 0.1 ms                                                                    |
| for capacitive load                                                        | 0.5 ms                                                                    |
| for inductive load                                                         | 0.5 ms                                                                    |
| <b>Errors/accuracies</b>                                                   |                                                                           |
| Output ripple (based on output area, bandwidth 0 to 50 kHz), (+/-)         | 0.02 %                                                                    |
| Linearity error (relative to output range), (+/-)                          | 0.02 %                                                                    |
| Temperature error (relative to output range), (+/-)                        | 0.01 %/K                                                                  |
| Repeat accuracy in steady state at 25 °C (relative to output area), (+/-)  | 0.05 %                                                                    |
| <b>Operational limit in overall temperature range</b>                      |                                                                           |
| Current, relative to output area, (+/-)                                    | 0.5 %                                                                     |
| <b>Basic error limit (operational limit at 25 °C)</b>                      |                                                                           |
| Current, relative to output area, (+/-)                                    | 0.3 %                                                                     |
| <b>Interrupts/diagnostics/status information</b>                           |                                                                           |
| Substitute values connectable                                              | Yes ; 0 to 65535 (range of values must be within the rated range)         |
| <b>Diagnostic messages</b>                                                 |                                                                           |
| Wire break                                                                 | Yes                                                                       |
| Group error                                                                | Yes                                                                       |
| <b>Diagnostics indication LED</b>                                          |                                                                           |
| Group error SF (red)                                                       | Yes                                                                       |
| <b>Parameter</b>                                                           |                                                                           |
| Remark                                                                     | 7 byte                                                                    |

|                                                                                   |                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Output type/range</b>                                                          | deactivated / +/-20 mA / 4 to 20 mA                                                                                                                                                                     |
| <b>Diagnosis: wire break</b>                                                      | Disable / enable                                                                                                                                                                                        |
| <b>Group diagnostics</b>                                                          | Disable / enable                                                                                                                                                                                        |
| <b>Behavior on CPU/Master STOP</b>                                                | Output current and de-energized/substitute a value/keep last value                                                                                                                                      |
| <b>Ex(i) characteristics</b>                                                      |                                                                                                                                                                                                         |
| <b>Max. values of output circuits (per channel)</b>                               |                                                                                                                                                                                                         |
| <b>U<sub>o</sub> (output no-load voltage), max.</b>                               | 18 V                                                                                                                                                                                                    |
| <b>Galvanic isolation</b>                                                         |                                                                                                                                                                                                         |
| <b>Galvanic isolation analog outputs</b>                                          |                                                                                                                                                                                                         |
| <b>between the channels</b>                                                       | No                                                                                                                                                                                                      |
| <b>between the channels and the backplane bus</b>                                 | Yes                                                                                                                                                                                                     |
| <b>between the channels and the load voltage L+</b>                               | Yes                                                                                                                                                                                                     |
| <b>Permissible potential difference</b>                                           |                                                                                                                                                                                                         |
| <b>between MANA and M internally (UIISO)</b>                                      | 75 VDC / 60 VAC                                                                                                                                                                                         |
| <b>Ambient conditions</b>                                                         |                                                                                                                                                                                                         |
| <b>Extended ambient conditions</b>                                                |                                                                                                                                                                                                         |
| <b>Relative to ambient temperature-atmospheric pressure-installation altitude</b> | Tmin ... Tmax at 1080 hPa ... 795 hPa (-1000 m ... +2000 m) // Tmin ... (Tmax - 10K) at 795 hPa ... 658 hPa (+2000 m ... +3500 m) // Tmin ... (Tmax - 20K) at 658 hPa ... 540 hPa (+3500 m ... +5000 m) |
| <b>Relative humidity</b>                                                          |                                                                                                                                                                                                         |
| <b>with condensation, maximum</b>                                                 | 100 % ; RH incl. condensation/frost (no commissioning under condensation conditions)                                                                                                                    |
| <b>Resistance</b>                                                                 |                                                                                                                                                                                                         |
| <b>to biologically active substances/conformity with EN 60721-3-3</b>             | Yes ; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna). The supplied connector covers must remain on the unused interfaces during operation in corrosive atmospheres!            |
| <b>to chemically active substances/conformity with EN 60721-3-3</b>               | Yes ; Class 3C4 (RH < 75%) incl. salt spray according to EN 60068-2-52 (degree of severity 3). The supplied connector covers must remain on the unused interfaces during operation!                     |
| <b>to mechanically active substances/conformity with EN 60721-3-3</b>             | Yes ; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!                                                                                  |
| <b>Mechanical and climatic conditions during operation</b>                        |                                                                                                                                                                                                         |
| <b>Climatic conditions in operation</b>                                           |                                                                                                                                                                                                         |
| <b>Temperature</b>                                                                |                                                                                                                                                                                                         |
| <b>Min.</b>                                                                       | -25 °C ; = Tmin                                                                                                                                                                                         |
| <b>max.</b>                                                                       | 70 °C ; = Tmax                                                                                                                                                                                          |
| <b>Dimensions</b>                                                                 |                                                                                                                                                                                                         |
| <b>Width</b>                                                                      | 15 mm                                                                                                                                                                                                   |
| <b>Height</b>                                                                     | 81 mm                                                                                                                                                                                                   |
| <b>Depth</b>                                                                      | 52 mm                                                                                                                                                                                                   |
| <b>Weights</b>                                                                    |                                                                                                                                                                                                         |

|                        |              |
|------------------------|--------------|
| <b>Weight, approx.</b> | 40 g         |
| Status                 | Jun 16, 2014 |