DATA SHEET

# AO820
## Compact Product Suite hardware selector



The AO820 Analog Output Module has 4 bipolar analog output channels. The choice of current or voltage output is configurable for each channel. There are separate sets of terminals for voltage and current outputs, and it is up to the user to wire outputs properly. The only differences between current or voltage channel configuration is in software settings.

To supervise the communication to the A/D-converters the output data is read back and verified. The opencircuit diagnostics are read continuously as well. The process voltage supervision input give channel error signals if the voltage disappears. The error signal can be read via the ModuleBus.

## Features and benefits

- 4 channels of -20 mA...+20 mA, 0...20 mA, 4...20 mA or -10 V...+10 V, 0...10 V, 2...10 V outputs
- Individually galvanically isolated channels
- OSP sets outputs to predetermined state upon error detection."

| General info | |
|---|---|
| Article number | 3BSE008546R1 |
| Type | Analog Output |
| Signal specification | -20 mA...+20 mA, 0...20 mA, 4...20 mA, -10 V...+10 V, 0...10 V, 2...10 V |
| Number of channels | 4 |
| HART | No |
| SOE | No |
| Redundancy | No |
| High integrity | No |
| Intrinsic safety | No |
| Mechanics | S800 |

| Detailed data | |
|---|---|
| Resolution | 12 bits including sign |
| Isolation | Individually isolated - channel-to-channel and channel to circuit common |
| Under/over range | ±15% |
| Output load | ≤ 550 Ω<br>≥ 5 kΩ (voltage output) |
| Error | Max. 0.1% (voltage); Typ. 0.1% at 250 ohms, Max 0,15% (current) |
| Temperature drift | Max 90 ppm/°C |
| Rise Time | < 0.7 ms |
| Update cycle time | ≤ 1.5 ms |
| Current limiting | Short circuit proof current limited output |
| Maximum field cable length | 600 meters (656 yards) |
| Rated insulation voltage | 50 V |
| Dielectric test voltage | 500 V a.c. |
| Power dissipation | Typ. 6 W |
| Current consumption +5 V Modulebus | Max 100 mA |
| Current consumption +24 V Modulebus | Max 260 mA |

| Diagnostics | |
|---|---|
| Front LED's | F(ault), R(un), W(arning), O(SP) |
| Supervision | Module Error: Output power low.<br>Channel Error: Open circuit (for current >1 mA) |
| Status indication of supervision | Module Error, Module Warning, Channel Error |

| Environment and certification | |
|---|---|
| CE mark | Yes |
| Electrical safety | EN 61010-1, UL 61010-1, EN 61010-2-201, UL 61010-2-201 |
| Hazardous Location | C1 Div 2 cULus, C1 Zone 2 cULus, ATEX Zone 2 |
| Marine certification | ABS, BV, DNV, LR, CCS |
| Temperature, Operating | 0 to +55 °C (+32 to +131 °F), approvals are issued for +5 to +55 °C |
| Temperature, Storage | -40 to +70 °C (-40 to +158 °F) |
| Pollution degree | Degree 2, IEC 60664-1 |
| Corrosion protection | ISA-S71.04: G3 |
| Relative humidity | 5 to 95 %, non-condensing |
| Max ambient temperature | 55 °C (131 °F), for vertical mounting in compact MTU 40 °C (104 °F) |
| Protection class | IP20 according to IEC 60529 |
| Mechanical operating conditions | IEC/EN 61131-2 |
| EMC | EN 61000-6-4 and EN 61000-6-2 |
| Overvoltage categories | IEC/EN 60664-1, EN 50178 |
| Equipment class | Class I according to IEC 61140; (earth protected) |
| RoHS compliance | EU RoHS, UAE RoHS, CN RoHS |
| WEEE compliance | DIRECTIVE/2012/19/EU |

| Compatibility | |
|---|---|
| Use with MTU | TU810, TU812, TU814, TU830, TU833 |
| Keying code | BC |