

# AO890

## Compact Product Suite hardware selector



The AO890 Analog Output Module has 8 channels. The module includes Intrinsic Safety protection components on each channel for connection to process equipment in hazardous areas without the need for additional external devices.

Each channel can drive up to 20 mA loop current into a field load such as an Ex certified current-to-pressure converter and is limited to 22 mA in overload conditions.

TU890 and TU891 Compact MTU can be used with this module and it enables two wire connection to the process devices without additional terminals. TU890 for Ex applications and TU891 for non Ex applications.

### Features and benefits

- 8 channels of 0...20 mA, 4...20 mA outputs.
- 1 group of 8 channels isolated from ground.
- Power to drive Ex certified I/P actuators.

General info	
Type	Analog Output
Signal specification	0..20 mA, 4..20 mA
Article number	3BSC690072R1
Number of channels	8
Signal type	Unipolar single ended
HART	No
SOE	No
Redundancy	No
High integrity	No
Intrinsic safety	Yes
Mechanics	S800

<b>Detailed data</b>	
Resolution	12 bit
Isolation	Groupwise isolated from ground
Under/over range	0 / 22 mA
Output load	<725 ohms at 20 mA, no over-range <625 ohms at up to 22 mA
Error	Typ. 0.05%, Max. 0.1% at 650 ohms
Temperature drift	Typ. 50 ppm/°C, Max. 100 ppm/°C
Rise Time	1 ms (10% to 90%)
Current limiting	Short circuit proof current limited output
Rated insulation voltage	50 V
Dielectric test voltage	500 V a.c.
Power dissipation	3.1 W
Current consumption +5 V Modulebus	80 mA
Current consumption +24 V Modulebus	Typ. 110 mA , Max. <150 mA
Current consumption +24 V external	Typ. 220 mA, Max. <300 mA

<b>Diagnostics</b>	
Front LED's	F(ault), R(un), W(arning), O(SP)
Supervision	Internal process supply, Open wire if > 1 mA is set

<b>Environment and certification</b>	
CE mark	Yes
Electrical safety	IEC 61131-2, FM
Hazardous Location	C1 Div 2 cULus, C1 Zone 2 cULus, ATEX Zone 2
Marine certification	ABS, BV, DNV-GL, LR, RS, CCS
Protection rating	IP20 according to IEC 60529
Corrosive atmosphere ISA-S71.04	G3
Climatic operating conditions	0 to +55 °C (Storage -40 to +70 °C), RH=5 to 95 % no condensation, IEC/EN 61131-2
Pollution degree	Degree 2, IEC 60664-1
Mechanical operating conditions	IEC/EN 61131-2
EMC	EN 61000-6-4, EN 61000-6-2
Overvoltage categories	IEC/EN 60664-1, EN 50178
Equipment class	Class I according to IEC 61140; (earth protected)
Max ambient temperature	55 °C (131 °F), for vertical mounting in compact MTU 40 °C (104 °F)
RoHS compliance	EN 50581:2012
WEEE compliance	DIRECTIVE/2012/19/EU

<b>Compability</b>	
Use with MTU	TU890 and TU891
Keying code	AD

### Intrinsic Safety parameters

U0 (Groups CENELEC USA)	IIc
IO (Groups CENELEC USA)	IIB
P0 (Groups CENELEC USA)	IIA
U0 - C0 (uF)	0.089
U0 -L0 (mH)	4.1
U0 -L/R (uH/O)	55
IO - C0 (uF)	0.704
IO -L0 (mH)	16.4
IO -L/R (uH/O)	222
P0 - C0 (uF)	2.23
P0 -L0 (mH)	16.4
P0 -L/R (uH/O)	443

### Dimensions

Width	45 mm (1.77")
Depth	102 mm (4.01"), 111 mm (4.37") including connector
Height	119 mm (4.7")
Weight	0.2 kg (0.44 lbs.)

## Related products



TU891



TU890

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