NovaTech®
Bitronics • D/3 • Orion

AOC

Bitronics® AOC Family
Analog Output Converters

Analog Output Converter Models
NAO8101, Modbus to 0-1 mA
NAO8102, Modbus to 4-20 mA
NAO8103, DNP3 to 0-1 mA
NAO8104 ,DNP3 to 4-20 mA

Functional Description

The Analog Output Converter family consists of network devices that provide transducer analog outputs from RS-485 serial ports on devices like the MultiComm meter, the PowerPlex transducer, and a 70 Series IED.

There are eight analog outputs with each converter providing three phase volts, three phase current, total watt and total VAR channels. There are models that provide different analog output ranges and that communicate with different protocols, e.g. DNP3 or Modbus.

This distributed architecture allows the MultiComm meter, the PowerPlex transducer, or the 70 Series IED to be used, at no additional cost, when later upgrading to a serial communication network.

Features

- Eight analog channels, for Volts, Amps, Watts and VARs to RTU
- Multiple converters on one RS-485 network, up to 4000'
- Can support three system configuration
- Wide ranging power supply, can operate from AC or DC power
- Easy surface mount
- Scalable when moving to serial only RTU

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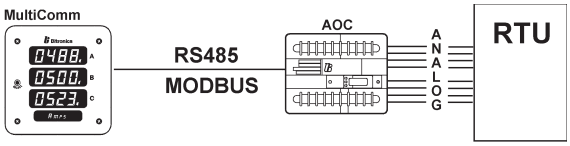
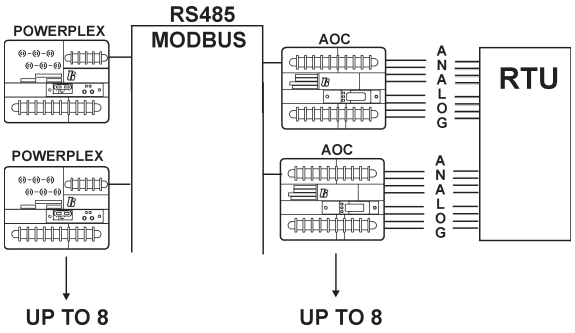
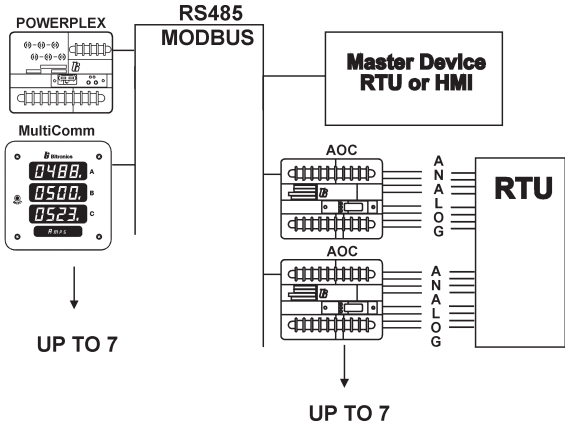


One-on-One System Configuration



Multiple System Configuration



Hybrid System Configuration

Specifications

- **Model NAO8101 and NAO8103:**
  Eight current, 0 to ± 1 mA dc output channels into loads up to 10 KΩ, overload through 2 mA dc into loads up to 5 KΩ
  - uni-directional values are calibrated for 0 to 1 mA = 0 to 5 A or 0 to 150V
  - bi-directional values are calibrated for -1 to 0 to 1 mA = - 500 to 0 to +500 Watts (or VARs) per element
- **Model NAO8102 and NAO8104:**
  Eight passive current, 4 to 20 mA dc output channels each with a maximum voltage drop of 5V at 20 mA with overload to 25 mA
  - uni-directional values are calibrated for 4 to 20 mA = 0 to 5 A or 0 to 150V
  - bi-directional values are calibrated for 4 to 12 to 20 mA = - 500 to 0 to +500 Watts (or VARs) per element
- **System Configuration**:
  The AOC supports three system configurations. The AOC can be used one-on-one with a MultiComm meter, PowerPlex transducer, or 70 Series IED. Another configuration is with multiple units on an RS-485 circuit. The final configuration allows the AOC to co-exist on an RS-485 circuit with another master digital device such as an RTU, PLC or panel display.
- **Isolation**:
  2500V ac, power to serial ports
  1500V ac, serial outputs to serial ports
- **Accuracy**:
  ±0.25% of full scale
- **Auxiliary Power Supply**:
  115V ac ± 20V, 6 VA
  230V ac ± 20V
  or
  Universal AC/DC supply with operating range of 55 to 200V ac or 20 to 280V dc
- **Mechanical** :
  Metal case with 5.3" x 5.25" base x 5.63" high
- **Operating Temperature**:
  -30C to 70C
- **UL Certification**:
  Meets IEC Standard 1010 and is certified by Underwriters Laboratory to meet UL and CAN/CSA standards.

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