

Alpha 640

ANALOGUE OUTPUT MODULE



What is the Alpha 640 Analogue Output Module?

The 640 output module provides eight 12 bit analog outputs, four individually isolated digital status or counter inputs and seven relay driver channels. The analog outputs offer unipolar voltage, bipolar voltage and current output ranges. Each output can be set to any of three ranges 0 to +10V, -10V to +10V or 4 to 20mA. By software commands. The analog outputs are isolated as a group from all other connections eliminating ground loop and other problems. The relay driver outputs are suitable for direct connection to low power relays for general supervisory use. The isolated digital inputs can be used to return status information about the equipment being controlled by the analog outputs and can also be used as general purpose inputs. Counting and low frequency measurements are also possible on these inputs up to 1KHz pulse rates. The module is intended to be used as a general purpose output facility to compliment the Alpha Metrology input measurement modules. The firmware is structured to allow specific application code to be easily added for stand alone functions to create special versions with customer specified functions. If used with an Alpha Metrology input module, then a combination of analog and digital input and outputs could be combined as a compact assembly, operating independently from the supervisory software on the host computer. Additional processing could be applied to inputs to create new measurement functions, and to outputs to control behaviour under different conditions. However the standard 940 module is controlled from the host computer as with other modules in the range, using the RS485 high speed serial communications.

The outputs can be individually calibrated with software commands without requiring access to within the module. Similarly the firmware within the module can be updated using a serial interface should this be needed to load a custom application.

LOCAL SERIAL INTERFACE

As with most other modules in the Alpha series a local serial interface can be used to program and monitor operation locally independent of the communications on the RS485 network. This can be very convenient during installation or used later to diagnose application problems at the measurement site. Alternatively it could be used with a permanent local process display. Customised display output can be provided. All programming can be stored in secure non volatile flash memory.



Features

Isolated Analog output channels

Digital status/counter inputs

Relay drivers

Second local diagnostic serial interface

High speed comms 230KB (460KB)

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Specifications Details

Number of outputs	8
Voltage output range	0 to +10V
Resolution	12bit 2.5mV
Accuracy	0.1% offsetting +0.1% of range
Temp coefficient	50ppm/°C setting

Voltage output range	-10 to +10V
Resolution	12bit 5.0mV
Accuracy	0.2% of range
Temp coefficient	50ppm/°C

Current Ouput range	4 to 20mA
Supply	Internal
Resolution	12bit 5uA
Accuracy	0.1% of range +0.2% of setting
Temp coefficient	75ppm/°C 25ppm/°C

Max load resistance	400R
Isolation	Isolated as a group

Status Counter Channels

Number of status channels per module	4
Measurement functions	Status, counting
Max count rate	1000/sec each channel (4 channel)
Input threshold	4V
Input operating range	4-24V
Isolation	Each channel is individually isolated

Relay Driver Channels

Number of relay drivers	7
Driver output rating	26V 100mA
Protection	30V clamp zener
Supply	External
Isolation	These drivers are not isolated

Status LED's

Colour	Red
Function	Communications



Mechanical

Dimensions	180x120x65mm DIN rail mounting
Weight	0.8Kg

Communications

RS485 Communications Interface	Baud rates to 230KB supported (460KB is available for some applications)
Local RS232 interface	Baud rates to 38K4 supported

Calibration

Software – no internet access required

Environmental

-20 to 60°C ambient. 0-90%RH

Power Requirements

12-36V DC or 24V AC
Power <7W