

Alpha 631

COUNTER, PHASE, STATUS
INPUT AND DIGITAL OUTPUT
MODULE



What is the Alpha 631 Counter, Phase, Status Input and Digital Output Module?

The 631 module provides six digital inputs for counting, frequency or status measurements. Counting and frequency measurements on these channels support inputs to 15KHz. These six channels can also be configured as three quadrature phase decoder channels, each with two-phase inputs. Four additional opto-isolated channels for medium speed counting, low frequency and digital status measurement are included. Contact de-bounce filters can be enabled on these channels. Counting rates up to 1000 per second on each channel are available.

Ten isolated and fused relay outputs are provided as general purpose outputs. Specific autonomous operation can be programmed by Alpha Metrology for custom applications.

PRIMARY COMMUNICATIONS INTERFACE

An RS485 multi-drop interface is provided for normal operation with other Alpha series modules and a host computer. It can operate at speeds up to 230KB with cable lengths of up to 1.2Km.

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

Counting, Phase, Status and frequency in compact DIN rail module

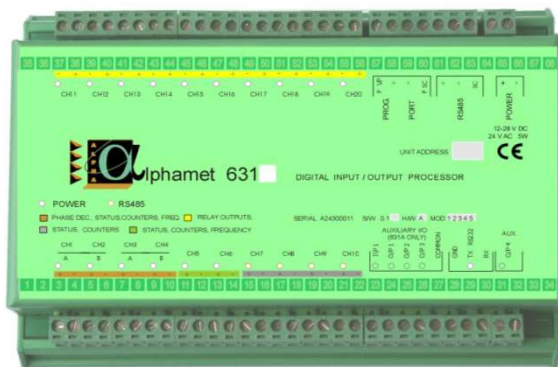
Frequency measurements

Phase decoder channel pairs

Isolated Relay output channels

Second local diagnostic serial interface

High speed comms 230KB (460KB)



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Frequency Counter Status Channels

Number of channels	6
Input threshold	3.5V
Input operating range	3.5-12V
Input count rate	15KHZ
Isolation	Each channel is individually isolated
Time base accuracy	Typ 0.03%

Phase Decoder Channels

Number of phase decoder inputs	3 pairs (using the 6 freq channels)
Input threshold	3.5V
Input operating range	3.5-12V
Resolution	Two pairs offer discrimination of each edge 4 counts per pulse pair Third channel operates at 1 count per two pulses
Input count rate	15KHZ
Minimum pulse width/gap	10uS
Isolation	Each channel is individually isolated

Status Counter Channels

Number of status channels per module	Additional 4
Measurement functions	Status, counting
Max count rate	1000/sec each channel (4 channels)
Input threshold	4V
Input operating range	4-24V
Isolation	Each channel is individually isolated
Update rate – counters or status function	1000/sec 4 channels 100/sec 6 channels

Relay Output Channels

Number of relay outputs	10
Relay output rating	48V 2A Fused
Minimum output load (wetting)	12V / 10mA
Isolation	Each channel is an isolated contact pair

Status LED's

Colour	Red
Functions	Power RS485 Communications RS232 Communications Channel 1-20 – Status level present

Module Dimensions

Dimensions	180x120x65mm DIN rail mounting
Weight	0.6Kg

Communications

RS485 Communications Interface	Baud rates to 230KB supported (460KB is available for some applications)
Measurement throughput of link	10,000/sec (depends on application) 2000-4000/.module typ
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

631 - Power <6W

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Correct at time publication.