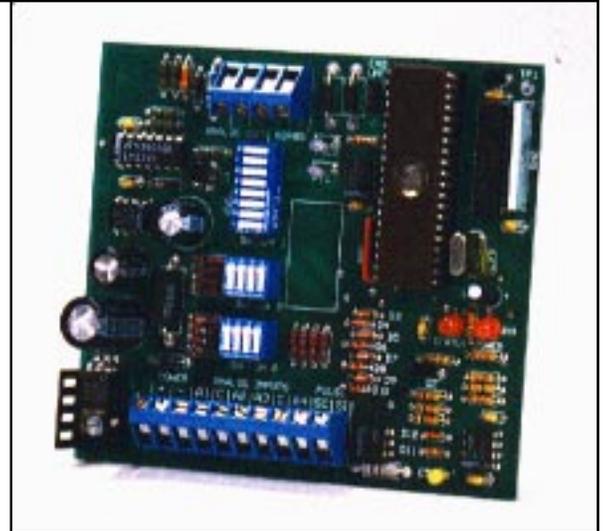


FEATURES

- Multiple Inputs
 - Up to 4 Analog
- Selectable Output
 - Average of (up to) 4 Inputs
 - Highest of (up to) 4 Inputs
 - Lowest of (up to) 4 Inputs
 - Difference of 2 Inputs
- Optional RS485 port for remote monitoring and control
- LED Status Indicators
- 24 VDC or 24 VAC Powered
- Switch selectable modes of operation
- Directly Interfaces to all other ACT Products



APPLICATIONS

- Coldest Zone Hot Deck Reset
- Warmest Zone Cold Deck Reset
- Reset VAV Make-up Air from "fume hood" or exhaust fan static pressure
- Signal Selector

PRODUCT DESCRIPTION

The 4N1 is a microprocessor controlled interface designed to provide maximum flexibility at a minimum of cost. With a variety of standard inputs the 4N1 provides the user with the ability to interface several devices to the analog

output. The 4N1 can average two, three, or four inputs to one output, output the highest of two, three or four inputs, output the lowest of two, three, or four inputs, or output the difference of two inputs. All modes are DIP switch selectable.

ORDERING INFORMATION

Specify: 4N1 _____ or 4N1 RS485 _____ **with DRC Kit?**

SPECIFICATIONS

Electrical Requirements

Power Supply

Supply Voltage	24 VAC or 25 VDC (+/- 10%)
Supply Current VAC	110 mA maximum
Supply Current VDC	50 mA maximum

Input (Four Analog)

Voltage Range/Impedance	0 to 5 and 0 to 10 VDC (DIP switch selectable)/124,000 ohms
Current Range	0 to 20 mA (DIP switch selectable)/248 ohms

Communications

Type	RS485. Address up to 63 4N1 interfaces
Baud Rate	9600 bps (1200, 2400, or 4800 available)

Output (One Analog)

Voltage Range/Impedance	0 to 10 Vdc (DIP switch selectable)/100,000 ohms minimum
Current Range/Impedance	0 to 20 mA (DIP switch selectable)/500 ohms maximum

Mechanical Requirements

Connections

Wire Size	Up to one 14 gauge maximum
Terminal Type	45°, Captive screw, moving clamp design in nickel plated copper alloy

Dimensions

4.375" L x 4.0" W x 1.5" H

Weight

4.0 oz

Mounting

Furnished with 4.375" length of 4.0" wide snaptrack

Environmental Requirements

<i>Operating Temperature</i>	32 to 120 deg F
<i>Storage Temperature</i>	-20 to 150 deg F
<i>Operating Humidity Range</i>	10% to 95% non condensing

RS485 OPERATION

This version of the 4N1 allows the user to read the digital and analog inputs and to control the analog output with the serial RS-485 port. The digital input has additional software enhancements for pulse counting, designed specifically for monitoring electric utility meters.

The 4N1 can accept either momentary impulse (Counts every high transition) or maintained flip flop or toggle (Counts every change of state as a new pulse).

The incoming digital pulse is counted and stored in two different ways; a total pulse count and an adjustable window buffer. The total count equals the number of pulses since the last reset. The window buffer count is the total number of pulses in a given time frame. The window buffer is a circular buffer count, meaning that when the end of the buffer is reached the first byte of the buffer is overwritten by the new pulse count. The time between buffer updates is set by the size of the window (in minutes) divided by the number of bytes in the buffer (currently 40 bytes). Both counters will be reset to 0 when a new window size is set.

The following information can be retrieved from the 4N1-RS485 via the RS485 bus:

- 1) Current data from the four analog inputs
- 2) Digital input status (ON or OFF)
- 3) Digital input count accumulation (0-65535)
- 4) Digital input count, sliding time window (0-65535). A circular buffer will be summed for this data.
- 5) Current sliding time window size (2-170 minutes in steps of 2)
- 6) Current time window resolution (1/buffer size * window time in seconds)

The following RS485 data can be written:

- 1) Set analog output data (0-255)
- 2) Set new window size (2-170 minutes in steps of 2)

Specifications may change without notice to improve product performance.