

Model C47 Wind Alarm

Document 1864E



1/4 DIN Enclosure

C47 Wind Alarm Features

- Adjustable averaging time
- Four Alarms
- Two Wind Speed Inputs
- One Wind Direction Input
- Three Analog Outputs
- Wind Speed Simulator for testing
- Sensor Fault Detection
- Retains Configuration without electrical power
- Back Lighted LCD Display
- Instant, Average & Peak Speed
- Display MPH, M/S or KPH Units of Speed
- AC or DC Operating Power
- Security Code
- Multiple Anemometer Styles Available.
- Protected with Metal Oxide Varistors

Alarms have an adjustable filter with time constant of 1 - 600 seconds to prevent nuisance tripping from wind speed gusts. Current, peak and average wind speed is displayed with user selectable units of miles per hour (MPH), meters per second (M/S) or kilometers per hour (KPH). Wind speed measurement timing is crystal controlled for high accuracy.

Four alarms with single pole double throw (SPDT) relays are provided. Each relay is configurable for hysteresis or latch mode operation. The alarms can be individually disabled. In hysteresis mode the alarm is activated when the average wind speed exceeds the closure set point. The alarm remains activated until the average wind speed drops below the opening set point. In latch mode the alarm is activated when the average wind speed exceeds the closure set point. The alarm remains activated until manually reset.

One or two wind speed circuits are optionally available to provide redundancy in critical applications. Continuity of the anemometer circuit is tested every 10 seconds when the wind is calm. If the circuit fails open or is short circuited a message is flashed on the display.

Two analog output signals proportional to wind speed are optionally available. The analog output may be ordered with 4-20 mA, 0-1 mA or 0-1 VDC outputs. A screen is provided to simulate wind speed, which allows for system testing and calibration of the optional analog output signals.

All set points and configuration selections are retained in EEPROM memory even when operating power is removed. A back lighted liquid crystal display (LCD) provides excellent readability in bright or low light conditions.

A security code feature resists tampering with set points or control configuration by unauthorized personnel. A blank front version is available which lacks a keyboard & display. The Mode C47-PM programming module is required to configure units with a blank front. The control can be ordered for operation from 120 VAC, 230 VAC or 12 VDC electrical power. All inputs and analog outputs are protected from damage by high voltage transients with metal oxide varistors. The C47 can be provided to operate with anemometers producing an AC output signal whose frequency is proportional to wind speed. The C47 can also be provided to operate with anemometers whose DC output signal is proportional to wind speed.

One wind direction input is optionally available with one analog output signal proportional to wind direction. The wind vane circuit is continuously monitored for continuity. If an open or short circuit is detected a message is flashed on the LCD screen.

ISO 9001 Registered

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The C47 uses a microcontroller to measure the frequency of the anemometer signal once per second, which is scaled to the units of wind speed selected by the user. The current wind speed drives a digital to analog converter which controls the analog wind speed output signal. A low pass filter operates on the wind speed data using a time constant entered by the user. The filtered wind speed signal is compared to the various wind speed set points and an alarm is initiated when required. At power up and during periods of no wind the control checks the anemometer circuit for continuity by measuring the circuit resistance. The optional wind vane is excited with a regulated DC voltage. The signal on the wiper of the wind vane is proportional to wind direction which is measured by an analog to digital converter. The signal is converted to degrees of azimuth and displayed as required. The wind vane circuit is checked for continuity every ten seconds.

The terminal blocks on the C47 can be unplugged to facilitate wiring.

The factory can provide custom control features to adapt the C47 to your system needs. Contact the factory with your requirements for assistance and costing.

Specifications

Operating Power: 105 to 127 VAC, 50/60Hz
207 to 253 VAC, 50/60 Hz
10.5 to 15 VDC
21 to 28 VDC

Input Devices: A75-104 Three Cup Anemometer
A75-302 Potentiometric Wind Vane
Higher performance sensors available

Display: Liquid Crystal Display,
16 Characters X 2 Lines
LED Alarm Status Indicators on front panel

Controls: Four button keyboard with tactile and visual feed back

Output: Four SPDT Relays, 8 Amps resistive @ 120 VAC
Two Analog Wind Speed Outputs
One Analog Wind Direction (Azimuth) Output

Analog Output Format: 4-20ma, 0-1 ma or 0-1 V (Specify @ time of order)

Control Accuracy: Wind Speed ± 1 Unit
Wind Direction ± 4 degrees
Analog Outputs $\pm 1\%$ of full scale

Sensor Accuracy: See sensor specifications

Resolution: Wind Speed - User selectable
1 MPH, 1 M/S or 1 KPH
Azimuth - 2 degrees

Connectors: Barrier strip to accept AWG #12 to AWG # 20 copper wire

Temperature: Electronics -20 to +60 °C
Sensors -55 to +60 °C (A75-104 & A75-302)

Maintenance: Check sensor calibration yearly

Dimensions: DIN Package:
¼ DIN Cutout X 5.75" deep
NEMA 12 Package:
12" H X 10" W X 6" D
NEMA 4X SS Package:
12" H X 10" W X 6" D
NEMA 4X FG Package:
12" H X 10" W X 6" D

Weight: DIN Package:
2 pounds
NEMA 12 Package:
16 pounds
NEMA 4X SS Package:
16 pounds
NEMA 4X FG Package:
8 pounds

Accessories: A96 Surge Protectors
A70-LPDD Remote Display
A76-T10 Tripod Tower
Heated Anemometer
Higher Performance Sensors

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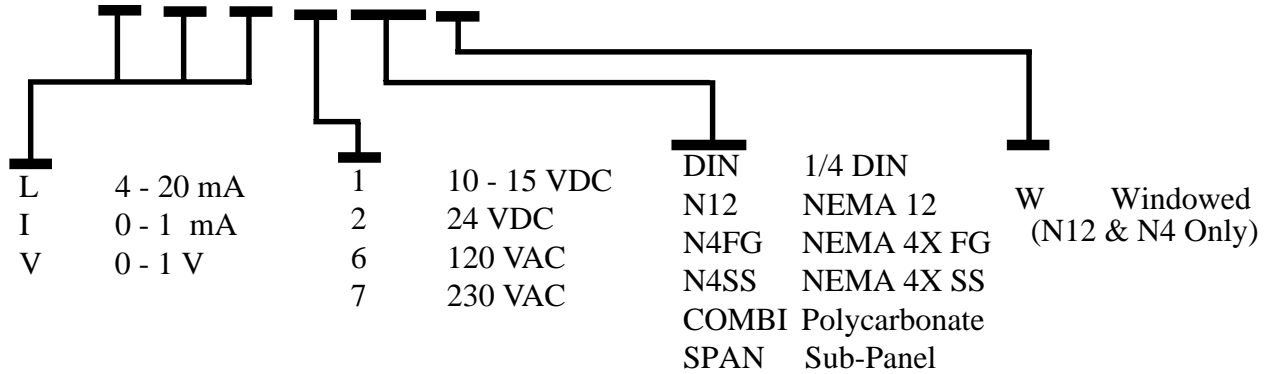
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Ordering Information

C47 - SO - SO - DO - P - XXX - W



The C47 can monitor one or two anemometers and one potentiometric wind vane. It can also provide up to three analog output signals. These features must be specified at time of order.

Examples:

C47-S-6-DIN

Control to monitor one anemometer which operates from 120 VAC, 50/60 Hz packaged in 1/4 DIN enclosure

C47-S-1-DIN

Control to monitor one anemometer which operates from 10 -15 VDC, packaged in 1/4 DIN enclosure

C47-S-6-N12

Control to monitor one anemometer which operates from 120 VAC, 50/60 Hz in NEMA 12 JIC enclosure

C47-S-6-N12-W

Control to monitor one anemometer which operates from 120 VAC, 50/60 Hz in NEMA 12 JIC enclosure with window

C47-SL-6-DIN

Control to monitor one anemometer with one 4-20 mA output, which operates from 120 VAC, 50/60 Hz packaged in 1/4 DIN enclosure

C47-SL-SL-6-DIN

Control to monitor two anemometers with two 4-20 mA outputs, which operates from 120 VAC, 50/60 Hz packaged in 1/4 DIN enclosure

C47-SL-SL-DL-6-DIN

Control to monitor two anemometers and wind vane with three 4-20 mA outputs, which operates from 120 VAC, 50/60 Hz packaged in 1/4 DIN enclosure

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Model C47



DIN Enclosure
3.75 inch Square Panel Cut Out
6 Inch Mounting depth



C47 Combi Enclosure
Weatherproof
6 X 7 Inch Front
12 Inch Depth



C47 Sub-Panel Mounting
3.75 inch Square Panel Cut Out
3 Inch Mounting Depth
Recommended for portable installations
subject to mechanical shock

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Examples of enclosures using the
Sub-Panel Mounting Configuration



NEMA 12 Enclosure with Window
Weatherproof
12 X 10 X 5 Inches



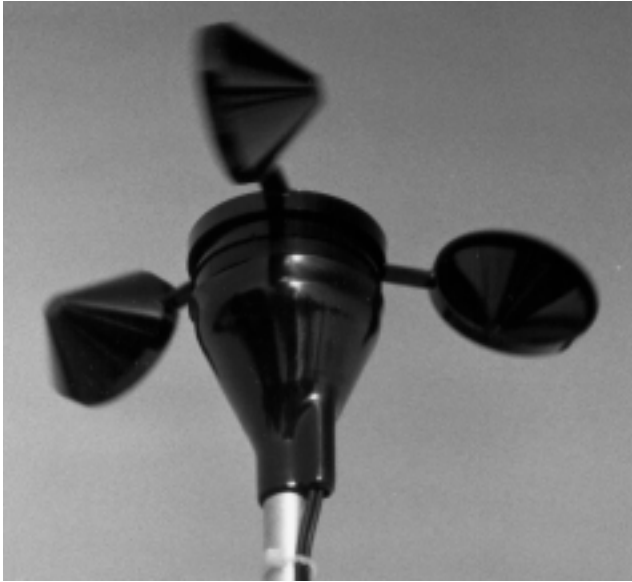
NEMA 4X Fiberglass Enclosure
Weatherproof
12 X 10 X 5 Inches

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Model C47



Model A75-104
Three Cup Anemometer



Model HAE
Heated Anemometer



Model 05103
Wind Monitor



Model 03101
Wind Sentry

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