

# Model C45 Wind Alarm

Document 1865C



C45 Shown with optional display and alarm

## Features:

- Low Cost
- 0.01% Accuracy (Electronics)
- High/Low Alarm with High & Low Set Points
- Hysteresis with Independent On & Off Set Points
- Period Averaging to Smooth Irregular Signals
- DPDT 10 Amp Relay

The C45 WIND ALARM is a low-cost digital device which provides over speed protection for all types of machinery. The C45 senses the period of the input signal in as little as one cycle, providing rapid response when required.

It can also average the input signal from 2 to over 4000 cycles to smooth irregular signals or to slow response time. The control will respond to signals with periods ranging from 30 minutes to 0.2 milliseconds.

The unit is crystal controlled for precise, repeatable operation. A double pole double throw relay capable of switching 10 Amps at 120 VAC provides a flexible connection to your equipment.

The C45 operates from a variety of AC and DC power supplies. Transducers are available to sense RPM, Linear Speed, Wind Speed, and Fluid Flow.

## OPERATING MODES

### High/Low Alarm:

The C45 relay will close when the signal exceeds the high set point or falls below the low set point. The relay is open when the signal is within its desired operating window.

### Hysteresis

The C45 relay will close whenever the signal exceeds the On set point. A memory in the control causes the relay to remain closed until the signal drops below the Off set point.

This configuration is especially useful in control strategies where the change of state causes a dip in the input signal.

For example, this occurs when load is applied to an electrical generator. The hysteresis prevents the control system from chattering.

### Anticipator:

The anticipator is used in quickly accelerating machines to activate the relay in anticipation of the machine reaching its control set point.

This approach can greatly reduce shock forces. It has been successfully used to connect accelerating induction generators to the electrical mains (grid).

### Options:

Controls with the D option display wind speed in miles per hour, meters per second or kilometers per hour. The display is independent of the control setting for the alarm and is updated approximately every two seconds. A 16 character liquid crystal display is provided.

Controls with the A option contain an integral sonic alarm. This creates a piercing continuous tone whenever an alarm condition is present. The output volume may be adjusted using the rotating shutter.

ISO 9001 Registered

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# Model C45

## C45 APPLICATIONS NOTES

The C45-W is supplied with a Model A75-104 cup type anemometer to measure wind speed. The anemometer has proven rugged and reliable throughout many years of use.

The system can be used to sound an alarm when the wind speed exceeds a predetermined limit. It can also be used to furl awnings, inhibit irrigation systems, warn crane operators of high winds or stop rotating signs or fountains.

The C45 has independent On and Off set points. The response of the C45 can be selected from seconds to several minutes. Thus, the control can activate based on a long term average wind speed or a short term gust.

The Hysteresis mode is most commonly used.

## OTHER APPLICATIONS

If you have a question concerning other possible applications involving RPM, fluid flow or load shedding please contact the factory.

## OPTIONAL ACCESSORIES

Model A19 Digital Indicator to provide instantaneous display of input.

A96 Surge Arrestors

HAE Heated Anemometer

Higher Performance Anemometers

A10 Mechanical Chart Recorders

## OPTIONS

Time Delay

The C45 can be configured for one of the following Time Delay options:

Delay On

Delay Off

Delay On & Delay Off One Shot

The type of delay is user selectable via dip switches.

The delay time is user adjustable via dip switches from 0 to 31 seconds.

## SPECIFICATIONS

Operating Power: 105 to 127VAC, 50/60 Hz, 4VA  
207 to 253 VAC, 50/60 Hz, 4VA  
10.5 to 15VDC,.3W  
21 to 30VDC,.6W

Input Device: A75-104 Anemometer

Displays: One Light Emitting Diode (LED) to indicate relay coil energized.  
Optional Wind Speed display available.

Controls: Unit may be field programmed by using an array of miniature switches.

Outputs: Double Pole Double Throw Relay (DPDT) capable of switching 10 Amps @ 125 VAC, resistive, 10 Amps @ 24 VDC or 1/2Hp @ 120 VAC.

## ELECTRICAL

Accuracy: 0.01% of set point. (Electronics)  
Anemometer-see separate specifications.

Response Time: 0.1 to 10 sec. typical.

Resolution: 1 in 65,000.

Unattended Operating Period: 100,000 contact transfers.

Ambient Temperature Range: -20 to 60 degrees C.

Environmental Protection: Surge suppression on signal line.

Dimensions: Nominal 6 in W x 8 in H x 4 in D;

Clearance, 7 ins W x 10 in H x 4 1/2 in D.

Weight: 7 lbs.

Connectors: Barrier strip to accommodate AWG # 12 or smaller wire.

Maintenance: Replace relay every 100,000 contact transfers.

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