RICHARDS®
Arklay S. Richards Co., Inc.

Wind Sensor and Systems Catalog 19W

High Performance

Industrial Wind Sensors and Systems

The Test of Time - Since 1938 the Arklay S. Richards Co., Inc. has been manufacturing superior quality industrial sensors and instruments right here in the United States. With a company timeline that dates back to the Great Depression our products, like our name, are built to last. We place the highest priority on having a complete understanding of the particular application, site conditions, and our customer's individual requirements. This personalized approach to doing business has earned us the reputation as a leader in producing custom sensors and instruments for the most demanding applications.

Superior Design with Superior Performance - The Richards' Wind Sensor product line was specifically developed to perform in a variety of extreme weather conditions and in harsh industrial applications which standard anemometers and wind vanes could not survive. In order to endure wind speeds over 200 mph, all Richards anemometer and wind direction vane components are precision machined from corrosion resistant 316 series stainless steel or Titanium solid bar stock. The Arklay S. Richards Co., Inc. is the only manufacturer of mechanical anemometers which have stainless steel wind cups. By using the finest materials we insure that our anemometers and wind vanes will be corrosion resistant, light weight, incredibly strong and perform with superior accuracy. The Richards' C5 Anemometer and D5 Wind Vane product lines all utilize the highest quality ABEC 7 Grade precision stainless steel bearings for superior performance, long service life, repeatability, and accuracy. A variety of sensor options are also available including; internal heaters, anti-ice coatings, a variety of mounting options, cable types, output signals, displays, alarms, and a cloud based wind monitoring system. Custom wind sensors can also be manufactured for your specific wind application or made to seamlessly interface with your industrial equipment.

The Best Withstands the Tests - The Richards C5 Anemometer is the finest industrial anemometer made. The C5 anemometer has undergone extensive wind tunnel testing in wind speeds up to 231 mph. We also have a number of customers in the military destructive testing and industrial research fields that have repeatedly run our anemometers at speeds over 230 mph for years. Winter installations of C5 and C5C Anemometers on the summit of Mt. Washington and in the Canadian Arctic have been subjected to punishing wind speeds over 100 mph and brutally cold temperatures of -55°F for days at a time. C5C Series Anemometers are also used in dusty mining operations 300 feet below ground and at high altitudes mounted on military air ships.

Where You Will See Us - Richards' wind sensors are the ideal instrument for high wind speed applications, wind resource assessments, wind turbine control, meteorological studies, ski resorts, marine buoys, mining operations, bulk material handling, destructive testing, ocean platforms, container cranes, ship loaders, radial stackers, conveyors, building monitoring, storm chasing, hazardous environmental control or any industrial wind application where the sensors durability, and reliability is paramount. Richards' anemometers and wind vanes have even been featured in several major motion pictures!

If you are looking for the finest industrial high speed wind sensor made, look no further.

C5 Series Industrial High Speed Anemometer

The C5 Series Anemometer is the finest, industrial strength 3-cup style anemometer on the market today. All C5 anemometer components are machined from either corrosion resistant stainless steel or high grade Titanium bar stock. C5 Series Anemometers come standard with our lever locking quick disconnect sensor mounting system. This allows the C5 anemometer to be removed in seconds if required. The C5 Anemometers superior performance is produced by a hardened stainless steel shaft, rotating on precision shielded stainless steel ball bearings for maximum durability, performance, and long service life. C5 Anemometers have dual outputs which allow the sensor to produce an AC sine wave or pulse signal. C5 anemometers have a bonded green anti-stick coating to prevent dirt and snow build up on the external working parts of the sensor. C5 Anemometers also have a ventilation system which protects the internal electronics from damage due to moisture, dust, and sea salt spray.

Technical Specifications

Anemometer Performance

- Maximum speed (230+ mph or 102.82+ m/s)
- Reed switch pulse output signal range (0 to 366)
- Distance constant @ 63% recovery (35.30 ft or 10.76 m)
- Measuring range (0 mph to 230 mph or 0 m/s to 102.82 m/s)
- Starting threshold all positions averaged (2.70 mph or 1.21 m/s)
- Starting threshold @ optimum flow position (1.54 mph or 0.69 m/s)
- Accuracy test range (8.95 mph to 80.53 mph or 4.0 m/s to 36.0 m/s)
- Characteristic AC Output transfer function (V[m/s] = .64 x f[Hz] + .72)
- Characteristic Switch Output transfer function (V[m/s] = .32 x f[Hz] + .72)
- Accuracy within range with characteristic transfer function (.2 mph or .1 m/s)

Materials of Construction

- Shaft tower, housing and base (316 stainless steel)
- Shaft (Hardened 303 stainless steel)
- Bearings (Double shielded, hardened stainless steel balls)
- Cups, arms, and rotor assembly (316 stainless steel, Titanium)

Electrical Connections and Cables

- Anemometer (female M12, 6-Pole, single key, shielded cable)
- Connector at cable end (male M12, 6-Pole, single key, shielded)
- Cable (5 conductor, 22 gauge, PVC jacket, foil shield, drain wire)

Anemometer Calibration Test Standards

- ASTM D 5096-02 (Standard Test Method for Determining the Performance of a Cup or Propeller Anemometer)
- ISO 17713-1 (Meteorology Wind Measurements Part 1: Wind Tunnel Test Methods for Rotation Anemometer Performance)

Weight = 4.25 Lbs

Ordering Information

Part Number **C5-1263-2**

Industrial Anemometer

Includes :

- 1.0" Female NPT Quick Connect Fitting
- 15ft Sensor Cable with M12 Connector

D5 Series Wind Direction Vane

The D5-1263-1 Wind Direction Vane was specifically designed for locations with high wind speeds or in harsh industrial environments. All D5 Series Wind Vane components are manufactured from solid stainless steel bar stock for superior strength and corrosion resistance. The wind vane assembly utilizes a heavy duty stainless steel vane blade which is welded to the vane shaft for superior strength. The vane rotates on two precision grade, shielded, stainless steel ball bearing, which can be easily replaced in minutes right on site without disconnecting the sensor cable or the sensor from its mounting.

The D5 Series Wind Vane has a sealed 10K potentiometer element which creates an analog DC voltage output signal for directional degrees. All D5 wind vanes have our unique quick connect lever lock mounting system. This system allows the sensor to be easily adjusted to True North during the initial installation or removed in seconds if required.

Note: Sensor has a 1.0" Female NPT Connection for mounting.

Technical Specifications

Wind Direction Vane Output and Range

Analog DC voltage output proportional to wind direction angle with excitation voltage supplied by data logger, 360° continuous mechanical rotation, direction range, 10k potentiometer, 352° electrical, 8° open or dead band.

Wind Direction Vane Performance

- Threshold (0.9 mph or .402 m/s)
- Accuracy (Potentiometer linearity within 1%)
- Life expectancy (50 million revolutions or 4-6 years operation)

Materials of Construction

- Shaft tower (316 stainless steel)
- Shaft (Hardened 303 stainless steel)
- Wind Vane housing (316 stainless steel)
- Wind Vane and Hub Assembly (316 stainless steel)
- Bearings (Double shielded and hardened stainless steel balls)

Electrical Technical Data

Direction range (352° electrical with 8° open or dead band)
Signal (Analog DC voltage from precision conductive potentiometer, resistance 10K Ω)

Power Requirements

Regulated potentiometer excitation (1 VDC to 15 VDC), Power rating (1.5 Watts @ 70°C)

Ordering Information

Part Number **D5-1263-1**

Industrial Wind Direction Vane

Includes :

- 1.0" Female NPT Quick Connect Fitting
- 15 Ft Sensor Cable With M12 Connector

Technical Specifications

Materials of Construction

- Shaft Tower, Housing, Arms and Cups (316 stainless steel)
- Shaft (Hardened 303 stainless steel)
- Rotor Hub (Titanium)
- Bearings (C-BRN0203OF double shielded, hardened stainless steel balls)

Anemometer Calibration Test Standards

- ASTM D 5096-02 (Standard Test Method for Determining the Performance of a Cup or Propeller Anemometer)
- ISO 17713-1 (Meteorology Wind Measurements Part 1: Wind Tunnel Test Methods for Rotation Anemometer Performance)

Available C5C Anemometer Outputs

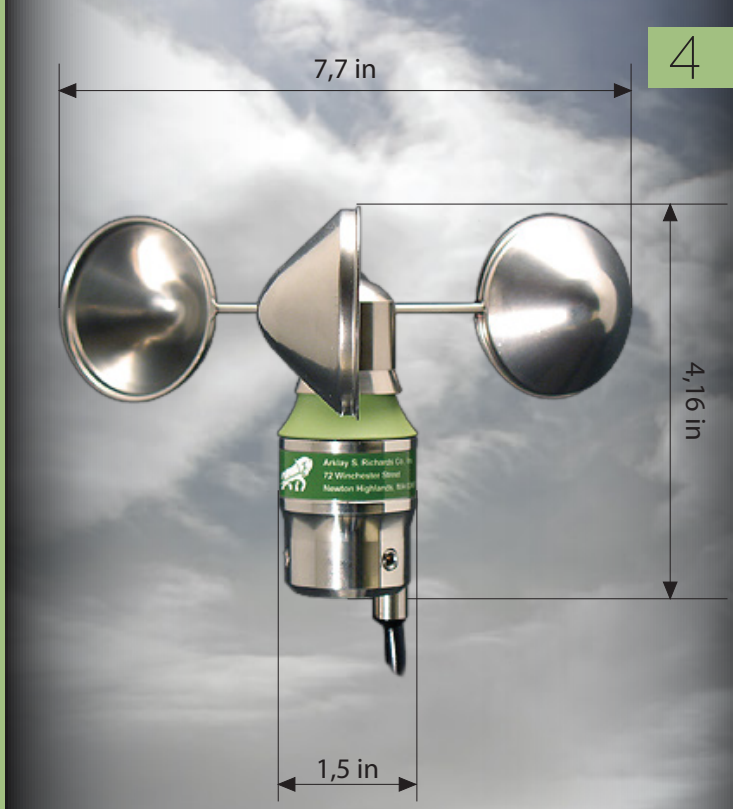
Analog output voltage is low level AC sine wave with frequency linearly proportional to wind speed or output from reed switch contact closure (4 pulses per revolution)

C5C-1263-1-AC Anemometer Performance

- Maximum speed (230+ mph or 102.82 + m/s)
- Distance constant @ 63% recovery (35.30 ft or 10.76 m)
- Characteristic transfer function (V [m/s] = .638 x f [Hz] + .725)
- Characteristic transfer function (V [mph] = 1.4272 x f [Hz] + 1.62)
- Measuring range (0 mph to 230 mph or 0 m/s to 102.82 m/s)
- Starting threshold all positions averaged (2.70 mph or 1.21 m/s)
- Starting threshold @ optimum flow position (1.54 mph or 0.69 m/s)
- Accuracy test range (8.97 mph to 100.60 mph or 4.01 m/s to 44.97 m/s)
- Accuracy within range with characteristic transfer function (.2 mph or .1 m/s)

C5C-1263-1-SP Anemometer Performance

- Maximum speed (230+ mph or 102.82 + m/s)
- Reed switch pulse/sec output signal range (0 to 322)
- Distance constant @ 63% recovery (33.20 ft or 10.12 m)
- Measuring range (0 mph to 230 mph, 0 m/s to 102.82 m/s)
- Characteristic transfer function (V [m/s] = .319 x f [Hz] + .725)
- Characteristic transfer function (V [mph] = .7136 x f [Hz] + 1.62)
- Starting threshold all positions averaged (2.70 mph or 1.21 m/s)
- Starting threshold @ optimum flow position (1.54 mph or 0.69 m/s)
- Accuracy test range (8.97 mph to 100.60 mph or 4.01 m/s to 44.97 m/s)
- Accuracy within range with characteristic transfer function (.2 mph or .1 m/s)



Weight = 0,942 Lbs

Ordering Information

Part Number **C5C-1263-1-AC** (AC Frequency)
Part Number **C5C-1263-1-SP** (Switch Pulse)

Compact Industrial Anemometer

Includes :

- Integral 10 Foot Sensor Cable

C5C Series Compact Anemometers

The C5C Series Compact High Speed Industrial Anemometer is specifically designed for high wind speed applications and industrial use for wind alarm systems on large buildings and container cranes. The C5C Anemometer is machined from all stainless steel and Titanium bar stock and has all of the great features as the larger C5 anemometer but in a lighter more compact profile. The C5C total weight is about 1/4 that of the C5 anemometer. The C5C also uses the same high speed rotor assembly and stainless steel bearings as the larger C5 anemometer. This anemometer is available with a reed switch pulse output (C5C-1263-1-SP) or a low level AC frequency output or for low power applications (C5C-1263-1-AC).

Note: Sensor mounts on .5" O.D. standard tubing.

Weight = 1,87 Lbs

D5C Series Compact Wind Direction Vane

The D5C Wind Vane has all of the great features of the larger D5 Wind Vane but in a lightweight more compact profile for ease of installation. The D5C wind vane shares the same heavy duty stainless steel welded vane and hub assembly for use in high wind speed applications or on heavy equipment such as cranes, stackers, and ship loaders.

All D5C wind vane components are manufactured from Stainless Steel bar stock for superior strength and corrosion resistance. The D5C vane assembly rotates on two precision grade, shielded, stainless steel ball bearings. These bearings can be replaced in minutes right in the field with a simple screw driver and without disconnecting the sensor cable or the wind sensor from its mounting.

The D5C compact wind direction vane creates an analog DC voltage output signal for directional degrees using a robust sealed 10K potentiometer element.

Note: Sensor mounts on .5" O.D. standard tubing.

Ordering Information

Part Number **D5C-1263-1**

Compact Industrial Wind Vane

Includes :

- Integral 10 Foot Sensor Cable

Technical Specifications

Wind Direction Vane Output and Range

Analog DC voltage output proportional to wind direction angle with excitation voltage supplied by data logger, 360° continuous mechanical rotation, direction range, 10k potentiometer, 352° electrical, 8° open or dead band.

Wind Direction Vane Performance

- Threshold (0.9 mph or .402 m/s)
- Accuracy (Potentiometer linearity within 1%)
- Life expectancy (50 million revolutions or 4-6 years operation)

Materials of Construction

- Shaft tower (316 stainless steel)
- Shaft (Hardened 303 stainless steel)
- Wind Vane housing (316 stainless steel)
- Wind Vane and Hub Assembly (316 stainless steel)
- Bearings (Double shielded and hardened stainless steel balls)

Electrical Technical Data

Direction range (352° electrical with 8° open or dead band)

Signal (Analog DC voltage from precision conductive potentiometer, resistance 10K Ω)

Power Requirements

Regulated potentiometer excitation (1 VDC to 15 VDC), Power rating (1.5 Watts @ 70°C)

C5H Series Heated Industrial Anemometer

The C5H-3263-2 (green anti-ice coating shown, black is standard on heated sensors) Anemometer is the heated version of the C5-1263-2 High Speed Industrial Anemometer. The C5H has all the great features of the C5 anemometer but is manufactured with a powerful internal heater to prevent the bearings from freezing in winter conditions. All parts of the sensor are machined from Stainless Steel bar stock. The rotor hub is machined from light weight Titanium and the wind cups are fabricated from stainless steel. Since the heating element is actually located inside the body of the sensor, there is no disruption of air flow around the unit to cause errors in wind speed data.

Note: The internal wind sensor heater will require a SJB Series Heater Control Box.

Technical Specifications

Anemometer Performance

- Maximum speed (230+ mph or 102.82+ m/s)
- Reed switch pulse output signal range (0 to 366)
- Distance constant @ 63% recovery (35.30 ft or 10.76 m)
- Measuring range (0 mph to 230 mph or 0 m/s to 102.82 m/s)
- Starting threshold all positions averaged (2.70 mph or 1.21 m/s)
- Starting threshold @ optimum flow position (1.54 mph or 0.69 m/s)
- Accuracy test range (8.95 mph to 80.53 mph or 4.0 m/s to 36.0 m/s)
- Characteristic AC Output transfer function (V[m/s] = .64 x f[Hz] + .72)
- Characteristic Switch Output transfer function (V[m/s] = .32 x f[Hz] + .72)
- Accuracy within range with characteristic transfer function (.2 mph or .1 m/s)

Materials of Construction

- Shaft tower, housing and base (316 stainless steel)
- Shaft (Hardened 303 stainless steel)
- Bearings (Double shielded, hardened stainless steel balls)
- Cups, arms, and rotor assembly (316 stainless steel, Titanium)

Electrical Connections and Cables

- Anemometer (female M12, 6-Pole, single key, shielded cable)
- Connector at cable end (male M12, 6-Pole, single key, shielded)
- Cable (5 conductor, 22 gauge, PVC jacket, foil shield, drain wire)

Heater Specifications

- Heater power supply (15 Watts @ 12V DC, draws 1.25 Amps, tolerance of +/- 25% or 11.5-18.5 Watts, .68-10.3 Ohms)
- Wind vane housing temperature with heater under power (147°F or 63.9°C, heater activation temperature of 37°F or 2.8°C)

Note: green anti-ice coating shown, black is standard on heated sensors.

Ordering Information

Part Number **C5H-3263-2**

Heated Industrial Anemometer

Includes :

- 1.0" Female NPT Quick Connect Fitting
- 15 Ft Sensor Cable With M12 Connector
- Internal Heater Assembly

Optional:

- SJB Heater Control Box and Power Supply

Anemometer Calibration Test Standards

- ASTM D 5096-02 (Standard Test Method for Determining the Performance of a Cup or Propeller Anemometer)
- ISO 17713-1 (Meteorology Wind Measurements Part 1: Wind Tunnel Test Methods for Rotation Anemometer Performance)

Note: green anti-ice coating shown, black is standard on heated sensors.

Ordering Information

Part Number **D5H-3263-1**

Heated Wind Direction Vane

Includes :

- 1.0" Female NPT Quick Connect Fitting
- 15 Ft Sensor Cable With M12 Connector
- Internal Heater Assembly

Optional:

- SJB Heater Control Box and Power Supply

D5H Series Heated Wind Direction Vane

The D5H-3263-1 Heated Wind Vane has all the great features of the D5 Wind Vane but is manufactured with a powerful internal heater to prevent the bearings from freezing in winter conditions. The D5H-3263-1 Heated Wind Vane was specifically designed for locations with high wind speeds or in harsh industrial environments. All D5H Series Wind Vane components are manufactured from solid stainless steel bar stock for superior strength and corrosion resistance.

The D5H Heated Wind Vane has a sealed 10K potentiometer element which creates an analog DC voltage output signal for directional degrees. All D5H wind vanes have our unique quick connect lever lock mounting system. This system allows the sensor to be easily adjusted to True North during the initial installation or removed in seconds if required.

Note: Sensor has a 1.0" Female NPT connection for mounting and the internal wind sensor heater will require a SJB Series Heater Control Box.

Technical Specifications

Wind Direction Vane Output and Range

Analog DC voltage output proportional to wind direction angle with excitation voltage supplied by data logger, 360° continuous mechanical rotation, direction range, 10k potentiometer, 352° electrical, 8° open or dead band.

Wind Direction Vane Performance

- Threshold (0.9 mph or .402 m/s)
- Accuracy (Potentiometer linearity within 1%)
- Life expectancy (50 million revolutions or 4-6 years operation)

Materials of Construction

- Shaft tower, Vane and Hub Assembly (316 stainless steel)
- Shaft (Hardened 303 stainless steel)
- Wind Vane housing (316 stainless steel)
- Bearings (Double shielded and hardened stainless steel balls)

Electrical Technical Data

Direction range (352° electrical with 8° open or dead band) Signal (Analog DC voltage from precision conductive potentiometer, resistance 10K Ω)

Power Requirements

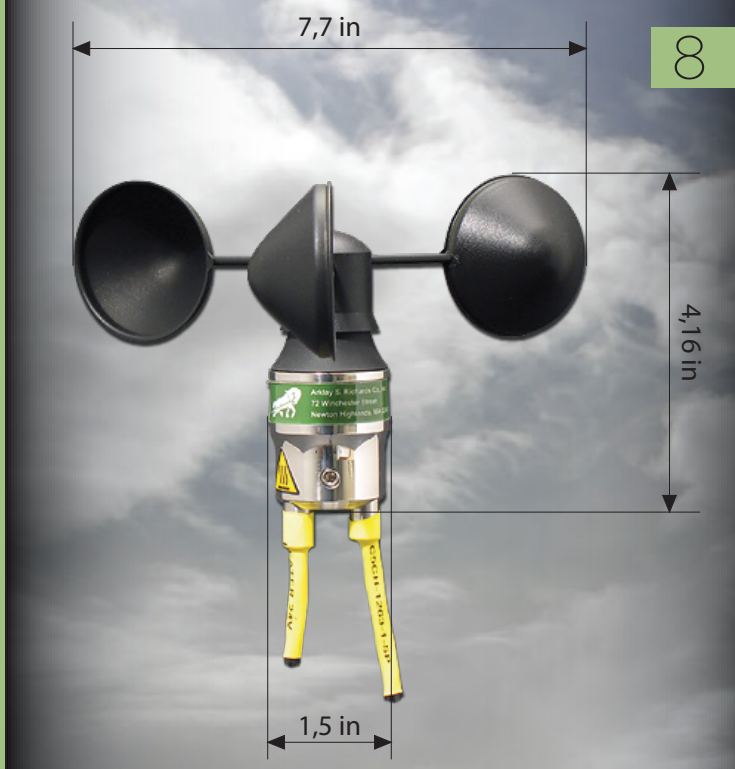
Regulated potentiometer excitation (1 VDC to 15 VDC), Power rating (1.5 Watts @ 70°C)

Heater Specifications

- Heater power supply (15 Watts @ 12V DC, draws 1.25 Amps, tolerance of +/- 25% or 11.5-18.5 Watts, .68-10.3 Ohms)
- Wind vane housing temperature with heater under power (147°F or 63.9°C, heater activation temperature of 37°F or 2.8°C)

C5CH Series Compact Heated Anemometer

The C5CH Series Heated Anemometer was specifically designed for high wind speeds in harsh cold winter environments. The C5CH is the heated version of our C5C Anemometer with all of the great features of the standard C5C anemometer but the addition of a powerful internal heater to prevent the bearings from freezing in winter conditions. The C5CH Heated Anemometer is available with a reed switch pulse output or a low level AC frequency output for low power installations. Note Sensor mounts on .5" O.D. standard tubing and the internal wind sensor heater will require a SJB Series Heater Control Box.



Weight = 0,942 Lbs

Technical Specifications

Available C5CH Heated Anemometer Outputs

Analog output voltage is low level AC sine wave with frequency linearly proportional to wind speed or output from reed switch contact closure (4 pulses per revolution).

C5CH-3263-1-AC Heated Anemometer Performance

- Maximum speed (230+ mph or 102.82 + m/s)
- Distance constant @ 63% recovery (35.30 ft or 10.76 m)
- Characteristic transfer function (V [m/s] = .638 x f [Hz] + .725)
- Characteristic transfer function (V [mph] = 1.4272 x f [Hz] + 1.62)
- Measuring range (0 mph to 230 mph or 0 m/s to 102.82 m/s)
- Starting threshold all positions averaged (2.70 mph or 1.21 m/s)
- Starting threshold @ optimum flow position (1.54 mph or 0.69 m/s)
- Accuracy test range (8.97 mph to 100.60 mph or 4.01 m/s to 44.97 m/s)
- Accuracy within range with characteristic transfer function (.2 mph or .1 m/s)

C5CH-3263-1-SP Heated Anemometer Performance

- Maximum speed (230+ mph or 102.82 + m/s)
- Reed switch pulse/sec output signal range (0 to 322)
- Distance constant @ 63% recovery (33.20 ft or 10.12 m)
- Measuring range (0 mph to 230 mph, 0 m/s to 102.82 m/s)
- Characteristic transfer function (V [m/s] = .319 x f [Hz] + .725)
- Characteristic transfer function (V [mph] = .7136 x f [Hz] + 1.62)
- Starting threshold all positions averaged (2.70 mph or 1.21 m/s)
- Starting threshold @ optimum flow position (1.54 mph or 0.69 m/s)
- Accuracy test range (8.97 mph to 100.60 mph or 4.01 m/s to 44.97 m/s)
- Accuracy within range with characteristic transfer function (.2 mph or .1 m/s)

Heater Specifications

- Heater power supply (15 Watts @ 12V DC, draws 1.25 Amps, tolerance of +/- 25% or 11.5-18.5 Watts, .68-10.3 Ohms)
- Anemometer housing temperature with heater under power (147°F or 63.9°C, heater activation temperature of 37°F or 2.8°C)

Ordering Information

Part Number **C5CH-3263-1-AC** (AC Frequency)

Part Number **C5CH-3263-1-SP** (Switch Pulse)

Compact Heated Anemometer

Includes :

- Integral 10 Foot Sensor Cable
- Integral 10 Foot Sensor Heater Cable
- Internal Heater Assembly

Optional :

- SJB Heater Control Box and Power Supply

Materials of Construction

- Shaft Tower, Housing, Arms and Cups (316 stainless steel)
- Shaft (Hardened 303 stainless steel)
- Rotor Hub (Titanium)
- Bearings (C-BRN0203OF double shielded, hardened stainless steel balls)

Anemometer Calibration Test Standards

- ASTM D 5096-02 (Standard Test Method for Determining the Performance of a Cup or Propeller Anemometer)
- ISO 17713-1 (Meteorology Wind Measurements Part 1: Wind Tunnel Test Methods for Rotation Anemometer Performance)

Weight = 0,942 Lbs

D5CH Series Compact Heated Wind Direction Vane

The Richards D5CH Series Heated Wind Direction Vane was specifically designed for high wind speeds in harsh cold winter environments. The D5CH is the heated version of our D5C Series Wind Vane. The D5CH has all of the great features of the standard D5C compact wind vane but with the addition of a powerful internal heater to prevent the bearings from freezing in winter conditions.

All D5CH heated wind vane components are manufactured from Stainless Steel bar stock for superior strength and corrosion resistance. The D5CH vane assembly rotates on two precision grade, shielded, stainless steel ball bearings. These bearings can be replaced in minutes right in the field with a simple screw driver and without disconnecting the sensor cable or the wind sensor from its mounting.

The D5CH wind vane creates an analog DC voltage output signal for directional degrees using a robust sealed 10K potentiometer element. The D5CH heated wind sensor will quickly mount on any .5" O.D. standard tubing using the three large set screws on the body. These heated wind vanes will also mount on our BHC Series Buck Horn Crossarms or Horizontal Booms. The internal wind sensor heater will require a SJB Series Heater Control Box.

Ordering Information

Part Number **D5CH-3263-1**

Heated Wind Direction Vane

Includes :

- Integral 10 Foot Sensor Cable
- Integral 10 Foot Sensor Heater Cable
- Internal Heater Assembly

Optional:

SJB Heater Control Box and Power Supply

Technical Specifications

Wind Direction Vane Output and Range

Analog DC voltage output proportional to wind direction angle with excitation voltage supplied by data logger, 360° continuous mechanical rotation, direction range, 10k potentiometer, 352° electrical, 8° open or dead band.

Wind Direction Vane Performance

- Threshold (0.9 mph or .402 m/s)
- Accuracy (Potentiometer linearity within 1%)
- Life expectancy (50 million revolutions or 4-6 years operation)

Materials of Construction

- Shaft tower (316 stainless steel)
- Shaft (Hardened 303 stainless steel)
- Wind Vane Housing (316 stainless steel)
- Wind Vane and Hub Assembly (316 stainless steel)
- Bearings (Double shielded and hardened stainless steel balls)

Electrical Technical Data

Direction range (352° electrical with 8° open or dead band)

Signal (Analog DC voltage from precision conductive potentiometer, resistance 10K Ω)

C5CA Series Compact Ultra Lite "Blue Aero" Anemometer

The Richards C5CA-1264-2-SP Compact or "Blue Aero" Ultra Lite High Speed Industrial Anemometer is the perfect sensor for meteorological installations and storm chasing vehicles. The C5CA Anemometer has all of the great features as the C5C anemometer like the stainless steel wind cups but has a machined blue anodized aluminum body for an even lighter wind sensor. The C5CA also uses the same rotor assembly and stainless steel bearings as the C5 and C5C anemometers.

The C5CA Series Compact Anemometer is available with a reed switch pulse output only. Some of the great features of the C5CA are that the reed switch assembly can be removed in the field without disassembling the anemometer and the anemometer bearings can be replaced without removing the sensor from the mount or disconnecting the signal wires.

Sensor mounts on .5" O. D. standard tubing.

Weight = 0,684 Lbs

Technical Specifications

Anemometer Output

Pulse output from reed switch contact closure (4 pulses per revolution).

Anemometer Performance and Transfer Functions

- Maximum speed (230+ mph or 102.82 + m/s)
- Reed switch pulse/sec output signal range (0 to 322)
- Distance constant @ 63% recovery (33.20 ft or 10.12 m)
- Measuring range (0 mph to 230 mph, 0 m/s to 102.82 m/s)
- Characteristic transfer function (V [m/s] = .322 x f [Hz] +.69)
- Characteristic transfer function (V [mph] = .7203 x f [Hz] +1.54)
- Starting threshold all positions averaged (2.70 mph or 1.21 m/s)
- Starting threshold @ optimum flow position (1.54 mph or 0.69 m/s)
- Accuracy test range (8.97 mph to 100.60 mph or 4.01 m/s to 44.97 m/s)
- Accuracy within range with characteristic transfer function (.2 mph or .1 m/s)

Materials of Construction

- Shaft Tower (316 stainless steel)
- Shaft (Hardened 303 stainless steel)
- Anemometer housing (6061-T6 Aluminum)
- Cups, rotor arms, (316 stainless steel, 6061-T6 Aluminum)
- Bearings (C-BRN0203OF double shielded, hardened stainless steel balls)

C5CA-1264-2-SP Anemometer Calibration Test Standards

- ASTM D 5096-02 (Standard Test Method for Determining the Performance of a Cup or Propeller Anemometer)
- ISO 17713-1 (Meteorology Wind Measurements Part 1: Wind Tunnel Test Methods for Rotation Anemometer Performance)

Ordering Information

Part Number **C5CA-1264-2-SP**

Blue Aero Ultra Lite Anemometer

Includes :

- Integral 10 Foot Sensor Cable

Weight = 0,515 Lbs

FT702LT Series Heated Ultrasonic Anemometer

The FT702LT Heated Ultrasonic Anemometer is an extremely reliable wind speed and direction sensor for industrial and metrological applications with cold winter conditions. The anemometer has three powerful internal thermostatically controlled heaters which keep ice and snow from accumulating on the sensor. Users typically experience data availability of more than 99.9% as the FT702LT ultrasonic anemometer continues to function where traditional mechanical sensors may fail from heavy ice and snow.

These high levels of availability are also achieved through the use of Highly Accelerated Life cycle testing during design, an extensive independent testing program and a robust solid state design with no moving parts to degrade. The sensor is probably the most tested wind sensor in the world. It has passed over 28 independent tests including sand, dust, ice, vibration, drop, corrosion, hail, and lightning protection.

FT702LT ultrasonic wind sensors can be used with our 490-A Wind Monitor / Alarm to display wind speed and direction. The Richards remote online wind monitoring interface can be used with the addition of a Richards C-24154 wireless internet gateway.

Ordering Information

Part Number **FT702LT** Industrial Ultrasonic Anemometer

Requires:

- FT901-15 (15 Meter Sensor Cable)

Optional:

- FT089 Pipe Mounting Adapter (1.5" Pipe Size)
- 490-A Wind Monitor-Alarm
- Online Wind Monitoring System
- C-24154 Wireless Internet Gateway

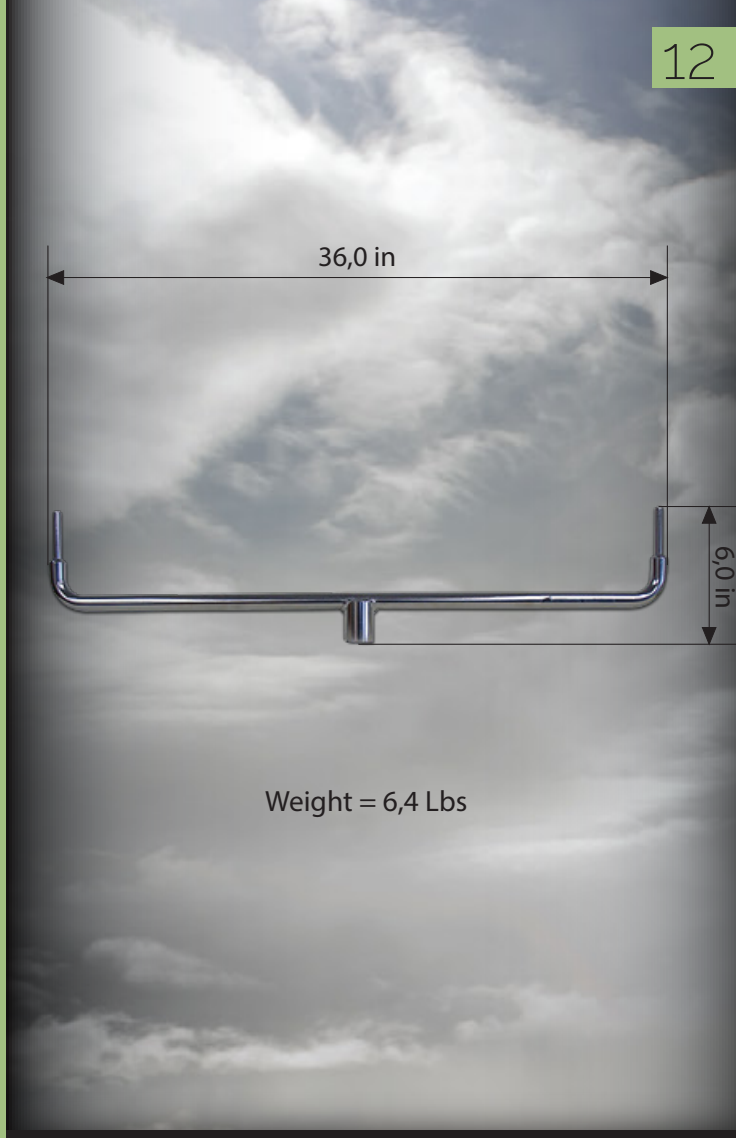
Features

- Powerful Resonating Ultrasonic Signal
- The Wind Sensor Signal is Inherently Compensated for Changes in Air Pressure, Temperature, and Humidity
- Heavy Duty Construction with a Hard Anodized Body For Corrosion Resistance
- Powerful De-Icing with 3 Internal Thermostatically Controlled Heaters (99 Watt)
- Proven Internal Lightning Protection
- Accurate Measurement of Wind Speed and Direction in Harsh Environments
- Compact Size (2.76" x 6.34" or 70 mm x 161 mm)

BHC Series Wind Sensor Crossarms

The BHC-36-C-SS Buck Horn Wind Sensor Crossarm, is a heavy-duty wind sensor arm for C5C anemometers and D5C wind vanes. When mounted the two wind sensors are positioned 36" apart to prevent them from being in each other's wind path, causing errors in wind readings. The BHC-36-C-SS crossarm has two welded solid bar stock .50" O.D. sensor posts and can be mounted to your own mast, horizontal boom, or directly to an AWOS tower with the center positioned female 1" NPT fitting. The BHC-36-C-SS Cross Arm is fabricated from incredibly strong, 3/4" Schedule 80 316 series stainless steel pipe and bar stock for many years of service in the harshest industrial environments.

The BHC-36-01-SS Buck Horn Sensor Cross arm, is designed for mounting large C5 anemometers and D5 wind vanes with lever lock couplings. When mounted, the two sensors are positioned 36" apart on welded 1.0" NPT female couplings. This keeps them from interfering in each other's wind path causing errors in wind readings. The BHC-36-01-SS cross arm can be mounted to your own mast, horizontal boom, or directly to an AWOS Tower with the center positioned female 1" NPT fitting on the cross arm. The BHC-36-01-SS Cross Arm is constructed from incredibly strong, 1.75" O. D. thick wall stainless steel tubing for many years of severe service.



Weight = 6,4 Lbs

Features

- Heavy duty thick wall 316 stainless steel pipe or tube construction
- .05" O.D. posts or 1.0" female NPT sensor mounts
- Wide 36" separation of wind sensor mounts for accurate readings
- Female 1.0" NPT center mounting coupling

Ordering Information

Part Number **BHC-36-01-SS**
(1.0" Female NPT Sensor Mount)
Wind Sensor Crossarm

Part Number **BHC-36-C-SS**
(.5" O.D. Sensor Mounting Posts)
Compact Wind Sensor Crossarm

C-MM Series Mounting Adaptors

When installing wind sensors for monitoring high wind speeds, it is extremely important to have a strong, stable, mounting platform for the wind sensors. The C-MMA-16-06 and C-MMB-16-06 stainless steel threaded wind sensor mounts are available for all of the C5C Series Compact Anemometers and D5C Compact Wind Direction Vanes. The C-MM sensor mounts provide a solid connection between the wind sensor and the pipe mast, crossarm, or horizontal boom. Since these adapters have standard pipe threads, it allows the use of standard 1.0" NPT pipe and pipe fittings for assembling your crossarms or horizontal booms. C-MM series mounting adapters are machined from solid 316 series stainless steel bar stock for superior corrosion resistance and high strength. The C-MMA-16-06 has a female 1" NPT thread for ease of installation. The C-MMB-16-06 version of the adapter is also available which has a machined male 1" NPT thread. This adapter can be installed directly onto our heavy duty stainless steel BHC-36-01-SS crossarms. All C-MM sensor mounting posts are machined to a standard 0.5" O.D. tube size and are 6.0" tall for mounting all compact series anemometers or wind direction vanes.

Features

- Machined from solid 316ss bar stock
- Available with 1.0" NPT female or male threads
- Standard 0.5" O.D. post for sensor mounting
- Hex base for installation with a 1.5" wrench
- High polished mirror finish

Ordering Information

Part Number **C-MMA-16-06**
(1.0" Female NPT Sensor Mount)

Part Number **C-MMB-16-06**
(1.0" Male NPT Sensor Mount)

Wind Sensor Mounting Adapter

490-A Wind Monitor and Alarm

The 490-A Wind Speed Monitor / Alarm is commonly used on harbor container and large gantry cranes to help operators quickly shut down operations during high wind speed conditions. Bulk material handling and processing equipment such as radial stackers, conveyers, and ship loaders also install 490-A Wind Speed Monitors to insure that product is only moved and stored when wind speeds are below regulated levels.

The Richards 490-A Wind Monitor displays the current wind speed, maximum wind gust registered during the previous 60 seconds, and current wind direction The monitor also has the capability to display temperature if used with a resistance type temperature probe (not included) The 490-A Wind Monitor has a menu-driven interface using the LCD front panel selection buttons. User setup options include unit of measurement, sensor type, gust speed, and wind speed setting for alarm buzzer and relay. The user configured settings are secure with a key lockout feature.

Wireless options for the 490-A wind monitor include the capability of each unit acting as either a transmitter or a receiver. If one unit is set up as a transmitter, a second unit can be set up as a receiver to act as a remote wireless display. Additional capability includes remote live internet-based wind data monitoring via Richards Complementary Remote Monitoring Services.

Weight = 3,75 Lbs

Features

- Displays wind speed, maximum gust, wind direction, and temperature
- Can be used as a wireless transmitter to other 490-A Monitors
- Key Lockout to secure user configured settings
- Wind and temperature alarm with relay
- Easy to read backlit LCD display
- Flush wall or panel mount
- High visibility red powder coated housing
- Can be used with Richards Online Wind Monitoring Web Interface (C-24154 Wireless Internet Gateway Required).

Ordering Information

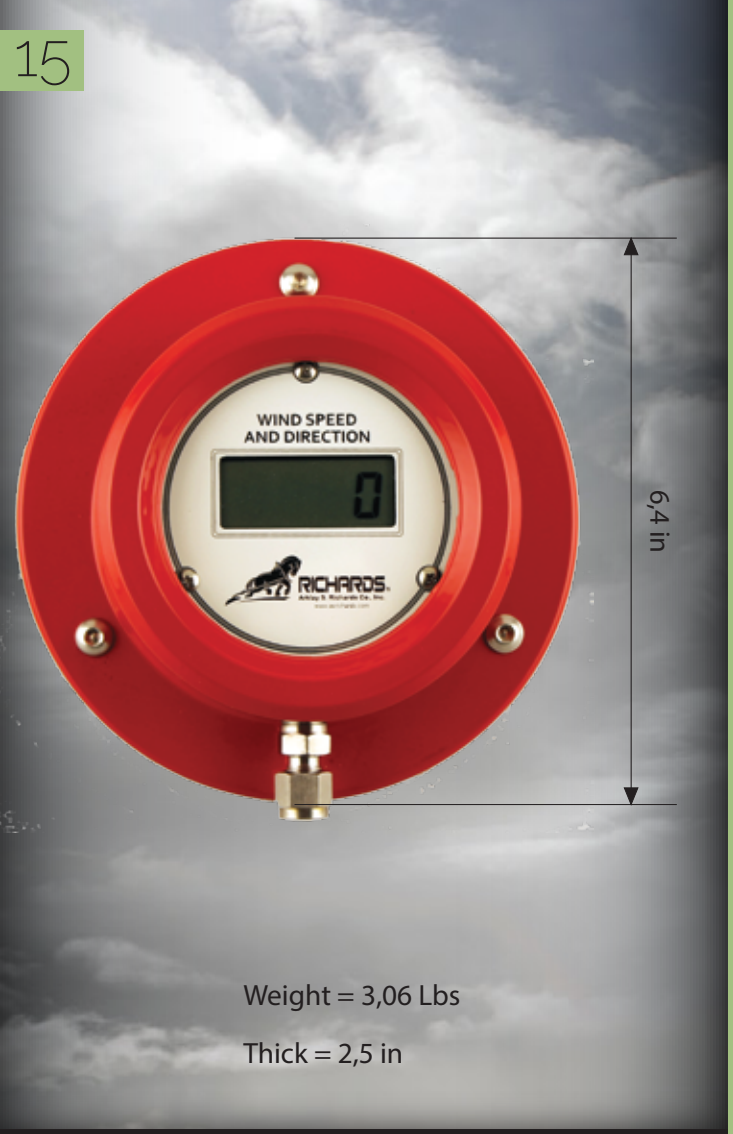
Part Number **490-A**
Wind Monitor and Alarm

Includes :

- 490-A Wind Monitor
- Lock Out Keys
- 12 Volt AC Power Adapter
- Richards Online Wind Monitoring Service

Optional:

- 3E164-1-8-4-RB-LS (Temperature Sensor)
- T-RS-1263 (Radiation Shield)
- C-24154 (Wireless Internet Gateway)
- PPSH (Weatherproof Sensor Junction Box)



Weight = 3,06 Lbs

Thick = 2,5 in

Ordering Information

Part Number **LW-1261-CD**

Wind Speed and Direction Display

Includes :

- 50 Feet of Anemometer Cable
- 50 Feet of Wind Vane Cable
- 1 each CR2032 Lithium Coin Cell

LW-1261-CD Series Waterproof Wind Speed and Direction LCD Display

LW-1261-CD is a heavy duty waterproof LCD instrument for the display of wind speed, or direction. This wind instrument can also be set to alternating mode which will momentarily display the wind speed for 15 seconds and the wind direction for 5 seconds. The LW-1261-CD wind display was specifically designed to be installed outdoors in harsh industrial applications. The housing assembly is rugged and machined from solid aluminum stock with a thick high visibility red powder coat for corrosion resistance. The housing assembly is also triple O-ring sealed for protection from the rain and snow. The LCD display is easy to view and is protected from the elements by a thick high temperature glass lens. The instrument is powered by a 3 volt coin cell (battery life is about 1 year) so wiring for power is not required. The LW-1261-CD Wind Display can be used with all Richards C5 and C5C Series Anemometers with AC frequency outputs or D5 and D5C Series Wind Vanes with 10K potentiometer outputs.

Note: The LW-1261-CD Wind Speed and Direction Display is shipped with 50 feet of wind sensor cable and one 3 Volt coin cell Installed.

Features

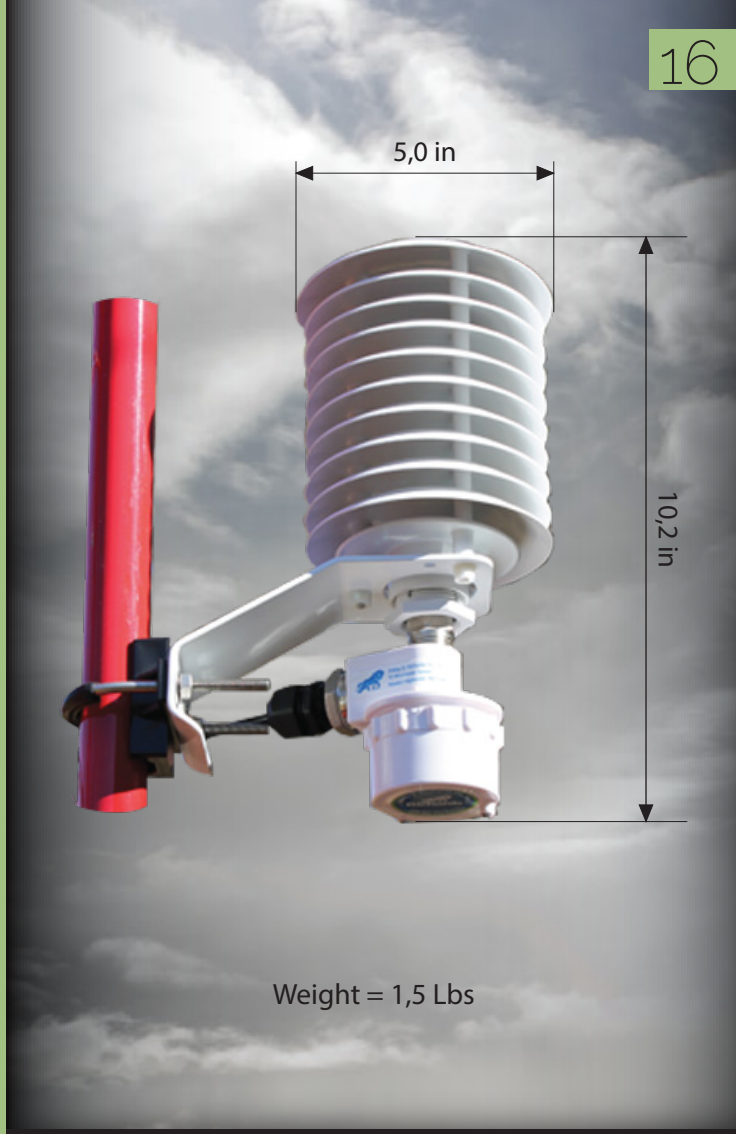
- Waterproof Heavy Duty Machined Aluminum Housing
- High Visibility Red Corrosion Resistant Powder Coating
- Triple O-ring Sealed Housing for Rain and Snow Protection
- Flush Flange Mount
- Battery Powered (1 year)
- Wind Speed or Wind Direction Display Mode Alternating Wind Speed and Wind Direction Display Mode
- Thick High Temperature Glass Lens

T-RS-1263 Radiation Shield

The T-RS-1263 Multi Plate Radiation Shield is used to protect the temperature sensor from the effects of error producing precipitation, solar radiation and other sources of radiated and reflective heat. The T-RS-1263 Radiation Shield has ten uniquely profiled plates to permit excellent airflow around the sensor housing. These plates were designed with a steep profile to minimize moisture accumulation from precipitation and dew. The radiation shield plates are also constructed from a specially formulated material for high reflectivity, low thermal conductivity, and maximum weather resistance.

The T-RS-1263 Radiation Shield utilizes a heavy duty corrosion resistant stainless steel U-bolt for ease of mounting on any vertical pipe or mast up to 2 inches in diameter.

Note: The Platinum RTD Temperature Sensor and junction box shown in the photo (right) are sold separately. For more information, see the T-RS-1263 Radiation Shield accessories and related information below for ordering part numbers and more detailed item specifications at www.asrichards.com.



Technical Specifications

T-RS-1263 Radiation Shield

- 10 White UV Stabilized Thermoplastic Plates
- Aluminum Powder Coated Mounting Bracket
- Stainless Steel Mounting Hardware
- Mounts on 1-2" O.D. Pipe

3E164-1-8-4-RB-LS Resistance Temperature Sensor

- 100Ω Platinum RTD
- Gold Plated Spade Lugs
- Accuracy ±0.1°C at 0°C
- Range -58°F to 572 °F (-50°C to 300°C)
- 316ss Sheath

Ordering Information

Part Number **T-RS-1263**
Temperature Sensor Radiation Shield

Includes :

- 10 White UV Stabilized Thermoplastic Plates
- Aluminum Powder Coated Mounting Bracket
- Stainless Steel Mounting Hardware
- Mounts on 1-2" O.D. Pipe

Optional:

- PPSH (Weatherproof Sensor Junction Box)
- 3E164-1-8-4-RB-LS (Temperature Sensor)

Remotely View Your Wind
and Temperature Conditions Online

The Richards Online Wind Monitoring Service is a complimentary Cloud based graphical web interface for users of the 490-A Wind Monitor / Alarm. The system gathers, displays, and stores, wind and temperature data wirelessly transmitted from a 490-A Wind Monitor by means of our C-24154 Wireless Internet Gateway. Users can view current and historical data from their wind and temperature sensors on the interface with a PC, Tablet, or Smart Phone. Important historical data can be downloaded at any time in excel format.

A live webcam view can also be added to the interface. The live video feed comes from an outdoor web camera usually mounted in close proximity to the wind sensors. The camera is hard wired to the C-24154 Wireless Gateway which has access to an always on internet connection.

How the System Works

A C5C Anemometer and D5C Wind Vane are first installed at the required location. The wind sensors are both hard wired to the 490-A Wind Monitor. An optional RTD temperature sensor can also be wired to the monitor if temperature data is required. The current wind speed, direction, and temperature will be displayed locally on the 490-A LCD display. Data from the 490-A Wind Monitor is also automatically wirelessly transmitted to the C-24154 Wireless Gateway.

Data from the gateway uploads automatically right to our server. All resulting wind and temperature data is then displayed and logged on the Richards Wind Monitoring Web Interface for online viewing at any time.
Live examples of the complete Richards Online Wind Monitoring System can be found on our website at www.asrichards.com.

RICHARDS
Arklay S. Richards Co., Inc.

Made in USA

Since 1938

Arklay S. Richards Co., Inc.

72 Winchester Street

Newton Highlands, MA 02461, USA

617-527-4385

617-964-3746

sales@asrichards.com

www.asrichards.com