HYBRID XT ANEMOMETER

Reliably measure wind speed for turbine control in all climates.

	Hybrid XT Anemometer (#4718)	Hybrid XT Anemometer | 4-20mA Output | 0-50m/s (#5763)	Hybrid XT Anemometer | Push-Pull Output (#7901)
DESCRIPTION			
Sensor type	3 Cup Heated Wind Turbine Control Anemometer	3 Cup Heated Wind Turbine Control Anemometer	3 Cup Heated Wind Turbine Control Anemometer
Applications	Wind Turbine Control	Wind Turbine Control	Wind Turbine Control
Sensor range	• **Measuring range 0 to 50 m/s (112 mph)** • **Maximum speed 70 m/s (156 mph)**	• **Measuring range 0 to 50 m/s (112 mph)** • **Maximum speed 70 m/s (156 mph)**	• **Measuring range 0 to 60 m/s (133 mph)** • **Maximum speed 70 m/s (156 mph)**
Instrument compatibility	• **Digital inputs of turbine controllers** • **PLCs**	• **4-20 mA current loop inputs of wind turbine controllers** • **PLCs** • **Other instruments compatible with a 4-20mA input**	• **Digital inputs of turbine controllers** • **PLCs**
Sensor compatibility	**n/a**	**n/a**	• **Direct replacement for IceFree 3 anemometers**
Certifications	• **Conforms to UL Std 61010-1** • **Conforms to CSA STD C22.2 NO. 61010-1** • **CE**	**CE Marked**	**CE Marked**

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OUTPUT SIGNAL			
Signal type	• **High level square wave frequency (see manual for details)** • **Amplitude equals supply voltage** • **Other formats from optional personality module**	**Current loop, 4 to 20mA, sourced by the sensor**	• **High level square wave frequency** • **Push/Pull (compatible with NPN or PNP inputs)** • **Amplitude equals supply voltage**
Anemometer Transfer Function	**0.5 m/s per Hz - 0.5 m/s**	• **4 to 20 mA corresponds to 0 m/s to 50 m/s** • **output 20 mA for > 50 m/s**	**Wind speed is 0.509 m/s per Hz + 0.4 m/s**
Accuracy	**+/- (0.3 m/s + 2% of measured value)**	**+/- (0.3 m/s + 2% of measured value)**	**+/- (0.3 m/s + 2% of measured value)**
Sensor to Sensor Variation	99.7% of sensors fall within 2% of the specified slope	99.7% of sensors fall within 2% of the specified slope	99.7% of sensors fall within 2% of the specified slope
Recommended load resistance	**1200 Ω minimum**	**50Ω to 1000Ω(depending on power supply)**	**1200 Ω minimum**
Calibration	**Available upon request**	**Not available**	**Available upon request**
Output signal range	• **1 to 141 Hz** • **0 Hz output indicates fault**	**4 to 20 mA**	**n/a**
Resolution	**Frequency output, resolution dependent on controller**	**0.1 m/s, guaranteed monotonic**	**Frequency output, resolution dependent on controller**

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RESPONSE CHARACTERISTICS			
Threshold	**1.58 m/s (3.52 mph)**	**1.58 m/s (3.52 mph)**	**< 2 m/s (< 4.5 mph)**
Distance constant (63% recovery)	16 m	16 m	16 m
Swept diameter of rotor	127 mm (5 inches)	127 mm (5 inches)	127 mm (5 inches)
POWER REQUIREMENTS			
Supply voltage	**8 to 24 V DC**	**11 to 24 V DC**	**8 to 24 V DC**
Supply current	• **40 mA typical** • **51 mA max. (not including heater)**	**20 mA typical, plus output current.**	• **40 mA typical** • **51 mA max. (not including heater)**
Heater supply voltage	24 V, AC or DC	24 V, AC or DC	24 V, AC or DC
Heater supply current	• Self regulating • 1 to 4 A, thermal load dependant • Cold start inrush current: 9 A peak • Inrush drops below 4 A within 30 secs.	• Self regulating • 1 to 4 A, thermal load dependant • Cold start inrush current: 9 A peak • Inrush drops below 4 A within 30 secs.	• Self regulating • 1 to 4 A, thermal load dependant • Cold start inrush current: 9 A peak • Inrush drops below 4 A within 30 secs.
INSTALLATION			

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Mounting	Sensor housing compatible with: • 25 mm pipe per BS1387, or • 32 mm tube, or • 1 inch IPS pipe, or • 1-1/4 inch tube Quick disconnect allows for easy mounting or dismounting captive M6 clamp bolt, nut, and connector	Sensor housing compatible with: • 25 mm pipe per BS1387, or • 32 mm tube, or • 1 inch IPS pipe, or • 1-1/4 inch tube Quick disconnect allows for easy mounting or dismounting captive M6 clamp bolt, nut, and connector	Sensor housing compatible with: • 25 mm pipe per BS1387, or • 32 mm tube, or • 1 inch IPS pipe, or • 1-1/4 inch tube Quick disconnect allows for easy mounting or dismounting captive M6 clamp bolt, nut, and connector
Tools required	10 mm wrench	10 mm wrench	10 mm wrench
Accessories	• **Pre-wired cable assembly (not included)** • **Personality Module (interface converter) (not included)**	• **Pre-wired cable assembly (not included)**	• **Pre-wired cable assembly (not included)**
Wiring	Sensor plugs onto captive connector - see manual for wiring details	Sensor plugs onto captive connector - see manual for wiring details	Sensor plugs onto captive connector - see manual for wiring details
ENVIRONMENTAL			
Operating temperature range	**-40 ° C to 60 ° C (-40 ° F to 140 ° F)**	**-40 ° C to 60 ° C (-40 ° F to 140 ° F)**	**-40 ° C to 50 ° C (-40 ° F to 122 ° F) Ambient**
Operating humidity range	0 to 100% RH	0 to 100% RH	0 to 100% RH

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Other	• IP55 per IEC 60529 and DIN40050-9 (Ingress Protection) • MIL-STD-810F Method 509.4 (96 Hour Salt Fog Corrosion) • IEC 60068-2-52, Severity 1 (28 Day Salt Fog Corrosion) • IEC60068-2-38 Z/AD (Cyclic Humidity & Temperature) • IEC 60068-2-78 (Constant Humidity) • IEC 60068-2-6, Test Fc (Sinusoidal Vibration) • IEC 60068-2-64, Test Fh (Random Vibration) • packaging meets ISTA 1A (Drop Test)	• IP55 per IEC 60529 and DIN40050-9 (Ingress Protection) • MIL-STD-810F Method 509.4 (96 Hour Salt Fog Corrosion) • IEC 60068-2-52, Severity 1 (28 Day Salt Fog Corrosion) • IEC60068-2-38 Z/AD (Cyclic Humidity & Temperature) • IEC 60068-2-78 (Constant Humidity) • IEC 60068-2-6, Test Fc (Sinusoidal Vibration) • IEC 60068-2-64, Test Fh (Random Vibration) • packaging meets ISTA 1A (Drop Test)	• IP55 per IEC 60529 and DIN40050-9 (Ingress Protection) • MIL-STD-810F Method 509.4 (96 Hour Salt Fog Corrosion) • IEC 60068-2-52, Severity 1 (28 Day Salt Fog Corrosion) • IEC60068-2-38 Z/AD (Cyclic Humidity & Temperature) • IEC 60068-2-78 (Constant Humidity) • IEC 60068-2-6, Test Fc (Sinusoidal Vibration) • IEC 60068-2-64, Test Fh (Random Vibration) • packaging meets ISTA 1A (Drop Test)

PHYSICAL

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Connections	• Quick release connector mount • 300V rated insulation • Outside diameter of cable = 8.89mm(0.35inches) • braided shield overall • two heater wires 20 AWG • sensor wires: power, common, signals, 22 AWG	• Quick release connector mount • 600V rated insulation • Outside diameter of cable = 8.89mm(0.35inches) • Braided shield overall • Two heater wires (20 AWG) • Three sensor wires: power, common, signal (22 AWG, shielded from heater power)	• Quick release connector mount • 300V rated insulation • Outside diameter of cable = 8.89mm(0.35inches) • Braided shield overall • Two heater wires (20 AWG) • Four sensor wires (22 AWG, shielded from heater power)
Weight	1.45 kg (3.2 lbs)	1.45 kg (3.2 lbs)	1.45 kg (3.2 lbs)
Dimensions	• Overall height: 237.6 mm (9.35 inches) • Swept diameter of rotor: 127 mm (5 inches) • Body diameter: 58 mm4 (2.3 inches)	• Overall height: 237.6 mm (9.35 inches) • Swept diameter of rotor: 127 mm (5 inches) • Body diameter: 58 mm4 (2.3 inches)	• Overall height: 237.6 mm (9.35 inches) • Swept diameter of rotor: 127 mm (5 inches) • Body diameter: 58 mm (2.3 inches)
MATERIALS			
Cups	Black Anodized Aluminum	Black Anodized Aluminum	Black Anodized Aluminum
Body	Zinc	Zinc	Zinc
Shaft	Stainless Steel	Stainless Steel	Stainless Steel

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Bearing	Double-shielded stainless steel ball bearings in a protective cartridge	Double-shielded stainless steel ball bearings in a protective cartridge	Double-shielded stainless steel ball bearings in a protective cartridge

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