

Weather/Environmental Sensors						
Measurement	Part#	U30	H21-002	H22-001	U12-008	Notes
Barometric Pressure	S-BPB-CM50	x	x	◆		
Leaf Wetness	S-LWA-M003	x	x	◆		
Solar Radiation (Silicone Pyranometer)	S-LIB-M003	x	x	◆		
Photosynthetically Active Radiation (PAR)	S-LIA-M003	x	x	◆		
Rain (0.01") Aluminum	S-RGA-M002	x	x	◆		
Rain (0.2mm) Aluminum	S-RGB-M002	x	x	◆		
Soil Moisture - EC-5	S-SMC-M005	x	x	◆		
Soil Moisture - 10HS	S-SMD-M005	x	x	◆		
Temperature	S-TMB-M0xx	x	x	x		
Temperature	TMCX-HD				x	
Relative Humidity & Temperature	S-THB-M00x	x	x	x		
Wind Speed	S-WSA-M003	x	x	◆		
Wind Speed & Direction	S-WCA-M003	x	x	◆		
Adapters for R.M. Young Wind Sensors	S-WCx-M00x	x	x	◆		
Analog and Digital Adapters for Connecting Sensors						
0-5 Volt DC	S-VIA-CM14	x	x	x		Provides 2.5VDC, 1mA Excitation
0-10 Volt DC Input Cable	CABLE-ADAP10				x	Does not provide Excitation Voltage
0-5 Volt DC Input Cable	CABLE-ADAP5				x	Does not provide Excitation Voltage
0-2.5 Volt DC Input Cable	CABLE-2.5-STEREO				x	Does not provide Excitation Voltage
4-20mA	S-CIA-CM14	x	x	x		Does not provide Excitation Voltage
4-20mA Input Cable	CABLE-4-20mA				x	
Pulse Input Adapter electronic	S-UCC-M00x	x	x	x		
Pulse Input Adapter contact closure	S-UCD-M00x	x	x	x		
U30 Built in Analog Input Port (2 inputs)	VIA	x				Provides 12VDC, 50mA Excitation

- ◆ These sensors are not generally used with the H22-001, but they are compatible as long as the H22 is in an indoor environment

Energy Sensors												
Measurement	Part#	Required Items				Excitation Required	U30	H22	H21-002	U12	ZW	UX
		U30	H22	U12	ZW							
AC Voltage Transmitters	T-CON-ACT-xxx			CABLE-4-20mA					x	x		
Split-Core AC Current Sensors up to 600 AMP	CTV-x								x	x		
TRMS AC Amperage	T-MAG-xxx-xxx	S-FS-TRMSA-D	S-FS-TRMSA			x	x					
TRMS AC Voltage	T-MAG-xxx-xxx	S-FS-TRMSA-D	S-FS-TRMSA			x	x					
Air Velocity	T-DCI-F900-S-x	Built in VIA	S-FS-CVIA	CABLE-ADAP5 & AC-SENS-1		12 VDC, 70mA	x	x		x	x	
Air Velocity	T-DCI-F900-L-x	Built in VIA	S-FS-CVIA	CABLE-ADAP5 & AC-SENS-1		12 VDC, 70mA	x	x		x	x	
Carbon Dioxide	TEL-7001	Built in VIA & CABLE-2070	S-FS-CVIA & CABLE-2070	CABLE-CO2			x	x		x	x	
Compressed Air Flow Meter	T-CDI-5200-10S	Built in VIA	S-FS-CVIA	CABLE-4-20mA			x	x	x	x	x	
Compressed Air Flow Meter	T-CDI-5400-20S	Built in VIA	S-FS-CVIA	CABLE-4-20mA			x	x	x	x	x	
DC Amperage -200 to 200 AMP	T-VER-971BP-200	Built in VIA	S-FS-CVIA	CABLE-4-20mA & AC-SENS-1		12 VDC, 35mA	x	x		x	x	
DC Amperage 0-200 AMP	T-VER-H970-200	Built in VIA	S-FS-CVIA	*CABLE-ADAP5 & AC-SENS-1		12 VDC, 35mA	x	x		x	x	
Differential Air Pressure	T-VER-PXU-L	Built in VIA	S-FS-CVIA	*CABLE-ADAP5 & AC-SENS-1		12 VDC, 35mA	x	x		x	x	
Differential Air Pressure	T-VER-PXU-X	Built in VIA	S-FS-CVIA	*CABLE-ADAP5 & AC-SENS-1		12 VDC, 35mA	x	x		x	x	
Gauge Pressure	T-ASH-G2-xxx	Built in VIA	S-FS-CVIA	CABLE-ADAP5 & AC-SENS-1		12 VDC, 5mA	x	x		x	x	
Power- AC Current, AC Voltage, Amp Hour, Amps, Kilowatt Hours, Kilowatts, Power Factor, Volt-Amp Reactive, Volt-Amp Reactive Hour, Volt-Amps, Volts, Watt Hours, Watts	T-VER-E50B2	S-UCC-M006 & T-MAG-xxx-xxx		CABLE-2.5-STEREO			x	x	x		x	
Kilowatt Hours (kWh) Delta/Wye 240	T-WNB-3D-240	S-UCC-M006 & T-MAG-xxx-xxx		CABLE-2.5-STEREO			x	x	x		x	
Kilowatt Hours (kWh) Delta/Wye 480	T-WNB-3D-480	S-UCC-M006 & T-MAG-xxx-xxx		CABLE-2.5-STEREO			x	x	x		x	
Kilowatt Hours (kWh) Delta/Wye 208/240	T-WNB-3Y-208	S-UCC-M006 & T-MAG-xxx-xxx		CABLE-2.5-STEREO			x	x	x		x	
Kilowatt Hours (kWh) Delta/Wye 208/240	T-WNB-3Y-208-P	S-UCC-M006 & T-MAG-xxx-xxx		CABLE-2.5-STEREO			x				x	
Power (kW) 3 phase, 100 AMP	T-VER-8044-100	Built in VIA	S-FS-CVIA	CABLE-4-20mA & AC-SENS-1			x	x		x	x	
Temperature	S-TMB-M0XX						x	x	x			
Air Water Soil Temperature	TMCx-HD									x	x	
Pipe Temperature	TMC6-HE									x	x	
Stainless Steel Temp Probe	TMC6-HC									x	x	
Relative Humidity & Temperature	S-THB-M00x						x	x	x			
Relative Humidity	T-VAI-HMD-40Y	Built in VIA	S-FS-CVIA			12 VDC, 20mA	x	x				
Volatile Organic compound (VOC)	T-ION-TVOC	Built in VIA	S-FS-CVIA	CABLE-4-20mA & AC-SENS-1		12 VDC, 300mA	x	x		x	x	
Water Flow Meter	T-MINOL-130	S-UCD-M006		CABLE-2.5-STEREO			x	x	x		x	
Analog and Digital Adapters for connecting sensors			Notes									
0-5 Volt DC	S-VIA-CM14	Provides 2.5VDC, 1mA Excitation					x	x	x			
4-20mA	S-CIA-CM14	Does not provide Excitation Voltage					x	x	x			
4-20mA Input cable	CABLE-4-20mA	Does not provide Excitation Voltage								x	x	
0 -10 Volt DC Input Cable	CABLE-ADAP10	Does not provide Excitation Voltage								x	x	
0 - 5 Volt DC Input cable	CABLE-ADAP5	Does not provide Excitation Voltage								x	x	
0-2.5 Volt DC Input cable	CABLE-2.5-STEREO	Does not provide Excitation Voltage								x	x	
Pulse input	CABLE-2.5-STEREO	Does not provide Excitation Voltage									x	
Pulse input	S-UCC-M00x	Does not provide Excitation Voltage					x	x	x			
Pulse input	S-UCD-M00x	Does not provide Excitation Voltage					x	x	x			
Analog Input Adapter	S-FS-CVIA	Provides 12VDC, 200mA Excitation						x				
TRMS Input Module	S-FS-TRMSA	N/A						x				
TRMS Smart Input Module	S-FS-TRMSA-D	N/A					x	x				
U30 Built in Analog Input Port (2 inputs)	VIA	Provides 12VDC, 50mA Excitation					x					

*4-20mA output option requires CABLE-4-20mA



Weather/Environmental



Barometric Pressure
S-BPB-CM50
 50 cm (20 in) Cable

Range: 660 mbar to 1070 mbar (19.47 to 31.55 in. Hg)
 Accuracy: ± 3.0 mbar (0.088 in. Hg) over full pressure range at 25°C (77° F) max error of ± 5.0 mbar (0.148 in. Hg) over -40° to +70°C (-40° to +158°F)
 Resolution: 0.1 mbar (0.003 in. Hg)
 User connection: 2-wire input (24 AWG wire; 2 wire nuts included)

Includes cable ties for mast mounting.

Recommended for use with the HOBO U30 Remote Monitoring System.

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



Leaf Wetness
S-LWA-M003

Sensor Plate
 4.7 x 5.1 cm
 (1.8 x 2.0 in) Tube
 12.2 cm x 1.8 cm diameter
 (4.8 x 0.7 in) Cable 3 m (9.8 ft)

Range: 0 (dry) to 100% (wet)
 Sensor Type: Capacitive Grid
 Repeatability: $\pm 5\%$
 Resolution: 0.59%

Includes mounting bracket. Adjustable angle allows better matching to leaf characteristics.

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



Photosynthetically Active Radiation (PAR)
S-LIA-M003
 3 m (9.8 ft) Cable

Range: 0 to 2500 $\mu\text{mol}/\text{m}^2/\text{sec}$
 Spectral range: 400 to 700 nm
 Accuracy: ± 5 $\mu\text{mol}/\text{m}^2/\text{sec}$ or $\pm 5\%$, whichever is greater in sunlight. Cosine corrected 0 to 80 degrees
 Resolution: 2.5 $\mu\text{mol}/\text{m}^2/\text{sec}$

Light sensor bracket (M-LBB) and light sensor level (M-LLA) recommended.

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



Solar Radiation (Silicon Pyranometer)
S-LIB-M003
 3 in 9.8 ft) Cable

Range: 0 to 1280 W/m^2
 Spectral range: 300 to 1100 nm
 Accuracy: $\pm 10\text{W}/\text{m}^2$ or $\pm 5\%$ whichever is greater in sunlight. Cosine corrected 0 to 80 degrees
 Resolution: 1.25 W/m^2

Light sensor bracket (M-LBB) and light sensor level (M-LLA) recommended.

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



♦ These sensors are not generally used with the H22-001, but they are compatible as long as the H22 is in an indoor environment



Rain Gauge Smart Sensors
0.2 mm: S-RGB-M002
0.01in: S-RGA M002
 Cable 2 m (6.5 ft)

Mechanism: Tipping bucket, with 154 mm (6.06 in) receiving orifice
 Range: Up to 12.7 cm/hr or 5 in/h, maximum 4000 tips per interval
 Resolution: 0.2 mm (S-RGB) and 0.01 in. (S-RGA)
 Calibration accuracy: $\pm 1.0\%$ at up to 20 mm/hour or 1 in/hour
Comes with side bracket for post or tripod mount and feet for surface mount.

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



Soil Moisture-10HS
S-SMD-M005
 160 x 32 x 2 mm
 (6.5 x 1.25 x 0.08 in)
 Cable 5 m (16 ft)

Range: 0 to $0.57 \text{ m}^3/\text{m}^3$ volumetric water content
 Accuracy: Typical: $\pm 0.033 \text{ m}^3/\text{m}^3$ ($\pm 3\%$) up to 10 ds/m,
 $\pm 0.020 \text{ m}^3/\text{m}^3$ ($\pm 2\%$) with soil-specific calibration
 Resolution: $\pm 0.0008 \text{ m}^3/\text{m}^3$ ($\pm 0.08\%$)

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX

Note: no more than 6 per H21-002 logger
For CE compliant solution, use part number T-DEC-10HS with U30 Analog Sensor (VIA)



Soil Moisture-EC-5
S-SMC-M005
 89 x 15 x 1.5 mm
 (3.5 x 0.62 x 0.06 in)
 Cable 5 m (16 ft)

Range: 0 to $0.55 \text{ m}^3/\text{m}^3$ volumetric water content
 Accuracy: Typical: $\pm 0.031 \text{ m}^3/\text{m}^3$ ($\pm 3\%$) up to 8 ds/m,
 $\pm 0.020 \text{ m}^3/\text{m}^3$ ($\pm 2\%$) with soil-specific calibration
 Resolution: $\pm 0.0007 \text{ m}^3/\text{m}^3$ ($\pm 0.07\%$)

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



12-bit Temperature
S-TMB-MOxx
 2 m, 6 m, 17 m
 cable lengths available:
 (6.5 ft, 20 ft, 56 ft)

Range: -40° to 75°C (-40° to 212°F)
 Accuracy: $\pm 0.21^\circ$ from 0° to 50°C ($\pm 0.38^\circ$ from 32° to 122°F)
 Resolution: 0.03° from 0° to 50°C (0.054° from 32° to 122°F)
 Environment: Sensor tip and cable rated for 1-year immersion
 in fresh water $\leq 50^\circ\text{C}$ (122°F)
 Response Time: < 3 minutes (to 90% in airflow of 1 m/s)
Solar radiation shield (RS3) recommended for accurate temperature measurements in sunlight.

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



◆ These sensors are not generally used with the H22-001, but they are compatible as long as the H22 is in an indoor environment



Temperature/RH

S-THB-M00x

cable lengths available
2 m, 8 m, (6.5 ft, 26 ft)

Ranges: -40° to 75°C (-40° to 167°F); 0 to 100%
 Accuracy: RH from -40° to 75°C (-40° to 167°F)
 ± 0.21° @ 25°C (±0.386° @ 77°F);
 ± 2.5% typical, 3.5% maximum, from 10 - 90% RH
 Resolution: 0.02° @ 25°C (0.04° @ 77°F); 0.1% RH @ 25°C (77°F)
 Response Time: Temp: 5 minutes, RH: 5 minutes (to 90% in airflow of 1 m/s)
 Data Channels: 2

Solar radiation shield (RS3) recommended for accurate temperature measurements in sunlight.

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



Wind Speed

S-WSA-M003

3 m (9.8 ft) Cable

Range: 0 to 45 m/s (0 to 100 mph)
 Accuracy: ± 1.1 m/s (2.4 mph) or ± 4% of reading, whichever is greater
 Resolution: 0.38 m/s
 Starting threshold: ≤1 m/s (2.2 mph)
 Data channels: 2 (average wind speed and highest 2 sec gust) Survival to 54 m/sec (120 mph)
Cross arm or pole mount recommended (2x hose clamps required for pole mount).

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



Wind Speed & Direction

S-WCA-M003

3 m (9.8 ft) Cable

	<u>Speed</u>	<u>Direction</u>
Range:	0 to 44 m/s (0 to 99 mph)	0-358°, 2° dead band
Maximum Wind Speed Survival:	In non-icing conditions: 45 m/sec (100 mph) peak, or 34 m/sec (75 mph) sustained*	
Accuracy:	In icing conditions: 34 m/sec (75 mph) peak, or 18 m/sec (40 mph) sustained*	
	Greater of ± 0.5 m/s (1.1 mph) or ±4% of reading	±5°
Resolution:	0.19 m/s	1.4 degrees
Starting threshold:	≤0.5 m/s, (1.1 mph)	≤0.5 m/s, (1.1 mph)
Data channels:	3 (average wind speed, direction, and highest 3 second gust)	

***WARNING:** The S-WCA wind speed and direction sensor is designed for sensitivity, not ruggedness. It is not suitable for use in the following locations:

1. on tall buildings
2. in the wake of wind turbines or other locations with turbulence
3. in locations with icing combined with high winds

The wind sensor must be mounted on a mast secured with guy wires to prevent the sensor from vibrating in high winds. For harsh applications we recommend using one of the following RM Young wind sensors with one of the following adapters: Wind Sentry Adapter, Wind Monitoring Adapter, Wind Monitor AQ Adapter, or Marine Wind Monitor Adapter. See page 61 for details.

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



♦ These sensors are not generally used with the H22-001, but they are compatible as long as the H22 is in an indoor environment



R.M. Young
Wind Monitor-AQ
(model 05305) Adapter
S-WCB-M003

3m (9.8 ft) cable from the adapter housing that plugs into logger. Adapter housing dimensions – 19.6 cm(7.7 in) long, 2.7 cm (1.05 in) diameter

Range:	0 to 50 m/s (0 to 112 mph)	<u>Direction</u>	0 to 360 degrees
Accuracy:	0.20 m/s (0.4 mph)		± 3 degrees
Data channels:	3 (average wind speed, direction, and highest 3 second gust)		

NOTE: This adapter is not compatible with models 05305L or 05305V

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



R.M. Young
Marine Wind Monitor
(model 05106) Adapter
S-WCC-M003

3m (9.8 ft) cable from the adapter housing that plugs into logger. Adapter Housing Dimensions – 19.6 cm(7.7 in) long, 2.7 cm (1.05 in) diameter.

Range:	0 to 100 m/s (0 to 224 mph)	<u>Direction</u>	0 to 355 degrees
Accuracy:	± 0.3 m/s (0.6 mph)		± 3 degrees
Data channels:	3 (average wind speed, direction, and highest 3 second gust)		

NOTE: This adapter is not compatible with models 05603C or 05631C

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



R.M. Young
Wind Sentry
(model 03002) Adapter
S-WCD-M003

3m (9.8 ft) cable from the adapter housing that plugs into logger. Adapter Housing Dimensions – 19.6 cm(7.7 in) long, 2.7 cm (1.05 in) diameter

Range:	0 to 50 m/s (0 to 112 mph)	<u>Direction</u>	0 to 355 degrees
Accuracy:	0.25 m/s (0.55 mph)		1.4 degrees
Data channels:	3 (average wind speed, direction, and highest 3 second gust)		

NOTE: This adapter is not compatible with models 03002L or 03002M

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



R.M. Young
Wind Monitor adapter for Wind/Alpine
(models 05103, and 05103-45)
S-WCE-M003

3m (9.8 ft) cable from the adapter housing that plugs into logger. Adapter Housing Dimensions – 19.6 cm(7.7 in) long, 2.7 cm (1.05 in) diameter

Range:	0 to 100 m/s (224 mph)	<u>Direction</u>	0 to 360 degrees
Accuracy:	± 0.3 m/s (0.6 mph)		± 3 degrees
Data channels:	3 (average wind speed, direction, and highest 3 second gust)		

NOTE: This adapter is not compatible with models 05103L, 05103V, 05103L-45, or 05103V-45

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



♦ These sensors are not generally used with the H22-001, but they are compatible as long as the H22 is in an indoor environment

Analog and digital Adapters for connecting sensors



0-5V Input Adapter
S-VIA-CM14

Range: 0-5V DC
Accuracy: ±0.025V
Resolution: 1.221 millivolts
Sensor trigger: Open collector or 2.5V

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



4-20mA Input Adapter
S-CIA-CM14

Range: 0-20 mA
Accuracy: ±0.1 mA
Resolution: ±4.93 µA
Choice of non-switched or switched input to save external battery power
Sensor trigger: 2.5 V

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



Electronic Pulse Input Adapter
S-UCC-MOXX
cable lengths available:
1 M, 6 M, (3.3 ft, 21 ft)

Maximum Frequency: 120 Hz (120 pulses per second)
Range: 0-65, 533 counts per logging interval
User Connection: 2-wire input (wire nuts included)

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



Contact Closure Pulse Input Adapter
S-UCD-MOXX
cable lengths available:
1 M, 6 M, (3.3 ft, 21 ft)

Maximum Frequency: 120 Hz (120 pulses per second)
Range: 0-65, 533 counts per logging interval
User Connection: 2-wire input (wire nuts included)

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



U30 Built in Analog Input Port (2 inputs)
VIA

Inputs: 2 channels – User configured as 0-20mA or 0-20VDC
Sensor Power: Switched 12 VDC, up to 50 mA: user-selectable warm-up from 5 milliseconds to 2 minutes
Scaling: Linear scaling to user units
Accuracy: +/- 0.25% full scale

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



Energy/Power



Power & Energy Meter
T-VER-E50B2

Works with CTs (T-MAG-XXX-XXX) to provide True RMS Power and Energy measurements including AC Current, AC Voltage, Amp Hour (Ah), Amps (A), Kilowatt Hours (kWh), Kilowatts (kW), Power Factor (PF), Volt-Amp Reactive (VAR), Volt-Amp Reactive Hour (VARh), Volt-Amps (VA), Volts (V), Watt Hours (Wh), Watts (W). The LCD screen on the face plate allows instant output viewing.

Ranges: 90 – 600 Volts AC; 5 to 32,000 Amps AC; Wye & Delta Configurations; One to Three phase AC System

Measurement Type: True RMS up to the 21st Harmonic 60 Hz

Accuracy: ANSI 12.20 0.5%, IEC 62053-22 Class 0.5S

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



AC Voltage
T-CON-ACT-xxx
11.4 x 7.3 x 3.25 cm
(4.49 x 2.87 x 1.28 in)
300 g (10.6 oz)

Ranges: 90 to 150 or 180 to 300 volts RMS
Accuracy: 0.1% of span

Self-powered transmitter for monitoring sine wave, single-phase 60Hz AC voltage. Requires 4-20mA Input Cable (CABLE-4-20mA) for use with HOBO U12 loggers.

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



Split-Core AC Current Sensors
CTV-x
Cable length: 1.8 m (6 ft)

Ranges: 0-20, 0-50, 0-100, 0-200, 0-600
Accuracy: ± 4.5% of full scale

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



AC Current
T-MAG-O400-XX

Ranges: 0-5, 0-10, 0-20, 0-50, 0-75 Amps
Accuracy: ±1% (from 10% to 130% of rated voltage)

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



AC Current
T-MAG-SCT-XXX

Ranges: 0-5, 0-20, 0-50, 0-100, 0-200, 0-600 Amps
Accuracy: ±1% (from 10% to 130% of rated voltage)

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX





AC Voltage
T-MAG-SPT-XXX

Ranges: 0-150, 0-300, 0-600 volts
Accuracy: ±1% (from 10% to 130% of rated voltage)

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



Air Velocity Sensor
T-DCI-F900-S-P
T-DCI-F900-S-O

Ranges: 0.15 to 10 m/s (30 to 1969 fpm)
Accuracy: Greater of 10% of reading or +/- 0.05 m/s or 1% full-scale
Ranges: 0.15 to 5 m/s (30 to 985 fpm)

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



Air Velocity Sensor
T-DCI-F900-L-P
T-DCI-F900-L-O

Ranges: 0.15 to 10 m/s (30 to 1969 fpm)
Accuracy: Greater of 10% of reading or +/- 0.05 m/s or 1% full-scale
Ranges: 0.15 to 5 m/s (30 to 985 fpm)

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



Carbon Dioxide/Temp
TEL-7001

Ranges: 0 to 2500 ppm CO₂ , 0° to 40°C (32° to 104°F)
Accuracy: ±50ppm or ±5% of reading; ±1°C (±2°F)

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



Compressed Air Flow Meter
T-CDI-5200-10S

Ranges: 1 to 80 SCFM
Accuracy: calibrated range: 5% of reading plus 1% of F.S. between 40° and 120° F
Can be configured for either analog or pulse output.

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX





Compressed Air Flow Meter
T-CDI-5400-20S

Ranges: 3 to 350 SCFM (3 to 600 SCFM extended range)
Accuracy: calibrated range: 5% of reading plus 1% of F.S. between 40° and 120° F
Can be configured for either analog or pulse output.

	√	√	√		√	
Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



Split-Core Bi-Polar DC Transducer
T-VER-971BP-200

Ranges: -200 to 200 Amps DC
Accuracy: +/- 0.5A F.S.

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



Split-Core 200A DC Transducer
T-VER-H970-200

Ranges: 0 to 200 Amps DC (selectable 0-50, 0-100, 0-200)
Accuracy: +/- 3% F.S.

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



Differential Air Pressure Transducer with LCD
T-VER-PXU-L

Ranges: User selectable: 0.1; 0.25; 0.50; 1.0; 2.5; 5.0; 10.0 "WC
(inches of water column)
Accuracy: +/- 1% F.S. of selected range

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX





Differential Air Pressure Transducer
T-VER-PXU-X

Ranges: User selectable: 0.1; 0.25; 0.50; 1.0; 2.5; 5.0; 10.0 "WC
(inches of water column)
Accuracy: +/- 1% F.S. of selected range

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



Gauge Pressure
T-ASH-G2-XXX

Ranges: 0-100, 0-200, 0-500 psig
Accuracy: ±1% of span from -20° to 85°C (-4° to 185°F)

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



kWh Transducer
T-WNB-3X-XXX

Works with CTs (T-MAG-XXX-XXX) to provide True RMS kilowatt hours of energy used, even for loads with non-sinusoidal waveforms.
Ranges: 208/240 VAC and 480 VAC ±15% Delta and Wye systems
Accuracy: ±0.45% of reading ±0.05% FS through 25th harmonic

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



kW Transducer
T-VER-8044-100

Ranges: 3 phase, 50/60 Hz, 480 VAC, 0 to 100 Amps
Accuracy: ±3% per ANSI C12.1 (from 10% to 100% of CT rating)

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Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



12-bit Temperature S-TMB-MOxx

2 m, 6 m, 17 m
cable lengths available:
(6.5 ft, 20 ft, 56 ft)

Range: -40° to 75°C (-40° to 212°F)
Accuracy: ± 0.21° from 0° to 50°C (±0.38° from 32° to 122°F)
Resolution: 0.03° from 0° to 50°C (0.054° from 32° to 122°F)
Environment: Sensor tip and cable rated for 1-year immersion
in fresh water ≤ 50°C (122°F)
Response Time: < 3 minutes (to 90% in airflow of 1 m/s)
*Solar radiation shield (RS3) recommended for accurate temperature
measurements in sunlight.*

	√	√	√			
Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



Air/Water/Soil/Temperature TMCx-HD

Sensor diameter: 0.5 cm
(0.2 in) diameter
Cable lengths: 0.3, 1.8, 6.1, 15.2 m
(1, 6, 20, 50 ft) available

Range: -40° to 100°C (-40° to 212°F) in air;
-40° to 50°C (-40° to 122°F) in water or soil
Accuracy: ± 0.21°C from 0° to 50°C (0.38°F from 32° to 122°F)
Resolution: 0.03° @ 25°C (0.05° @ 77°F)
Response time: 3 minutes (to 90% in airflow 1 m/s); 1 minute in water

*Note: Sensor tip and cable immersion in fresh water up to 50°C (122°F) for
one year; radiation shield (RS3) recommended for use in sunlight*

				√	√	
Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



Stainless Steel Temperature Probe TMC6-HC

0.3 cm diameter x 10.2 cm
(0.12 in x 4 in)
cable length: 1.8 m (6 ft)

10.2 cm (4 in) food-grade stainless-steel probe with pointed tip; 0.3 cm
(0.12 in) diameter, 1.8 m (6 ft) cable
Range: -40° to 100°C (-40° to 212°F) in air;
-40° to 50°C (-40° to 122°F) in water or soil
Accuracy: ± 0.21°C from 0° to 50°C (0.38°F from 32° to 122°F)
Resolution: 0.03° @ 25°C (0.05° @ 77°F)
Response time: 3 minutes (to 90% in air moving 1 m/s); 15 seconds in stirred water

				√	√	
Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



Temperature Sensor TMC6-HE

0.3 cm diameter x 10.2 cm
(0.12 in x 4 in)
cable length: 1.8 m (6 ft)

Range: -40° to 100°C (-40° to 212°F) in air
Accuracy: ± 0.21°C from 0° to 50°C (0.38°F from 32° to 122°F)
Resolution: 0.03 @ 20°C (0.05° @ 68°F)
Response time: In air: 2 minutes typical to 90% in air moving 1 m/s
On a pipe: Typically 2 times faster than the TMCX-HD. Typically less than 1
minute to 90%.

				√	√	
Compatible with:	U30	H22-001	H21-002	U12	ZW	UX



Temperature/RH

S-THB-MOOx

cable lengths available
2 m, 8 m, (6.5 ft, 26 ft)

Ranges: -40° to 75°C (-40° to 167°F); 0 to 100%

RH from -40° to 75°C (-40° to 167°F)

Accuracy: $\pm 0.21^\circ$ @ 25°C ($\pm 0.38^\circ$ @ 77°F);

$\pm 2.5\%$ typical, 3.5% maximum, from 10 - 90% RH

Resolution: 0.02° @ 25°C (0.04° @ 77°F); 0.1% RH @ 25°C (77°F)

Response Time: Temp: 5 minutes, RH: 5 minutes (to 90% in airflow of 1 m/s)

Data Channels: 2

Solar radiation shield (RS3) recommended for accurate temperature measurements in sunlight.



Duct-Mount Humidity/Temp

T-VAI-HMD-40Y

Ranges: 10 to 90% RH

Temp: -10° to 60°C (14° to 140°F)

Accuracy: better than $\pm 3\%$ RH @ 25°C (77°F); $\pm 0.3^\circ$ temp
@ 25°C ($\pm 0.54^\circ$ @ 77°F)



Volatile Organic Compound (VOC) Sensor

T-ION-TVOC

Range: selectable 0 - 10, 0 - 100, 0 - 1000 ppm (parts per million)

Accuracy: (0-10 and 0-100 ppm) $\pm 2\%$; (100-1000 ppm) $\pm 5\%$

Linearity: (0 - 100 ppm) > 98%

Response time: sensor T90 < 5 sec.



Water Flow Meter Sensor

T-MINOL-130

Ranges: 0 to 22 gpm (gallon per minute)

Accuracy: 0.25-1 gpm

Analog and Digital Adapters for Connecting Sensors

**4-20mA Cable****CABLE-4-20mA**

45.7 cm (18 in) cable
with 8.9 cm (3.5 in)
tinned braided wire leads

Range: 0 to 20.1 mA
Accuracy: ± 0.02 mA, $\pm 2.5\%$ of reading
Resolution: 0.03% of full scale

**Voltage Input
Adapter Cable****CABLE-ADAPX**

Length 1.9m (6.3 ft.)
Weight 38.6g (1.4 oz.)

Accuracy:

CABLE-ADAP5 provides user analog sensor input of 0-5 Vdc max.
CABLE-ADAP10 provides user analog sensor input of 0-10 Vdc max.
Max. error of 0.2%

**Voltage Input Cable****CABLE-2.5-STEREO**

1.8 m (6 ft) cable with 1.27 cm
(0.5 in) tinned braided wire leads

For voltage input specifications, refer to the external input specifications of the model you will be using.

**FlexSmart Analog Module****(2 channels)****S-FS-CVIA**

User-configurable

Ranges: 0-20mA, 0-20VDC (suitable for 2.5, 5, and 10V sensors)
Accuracy: $\pm 0.25\%$ FS over range selected from 50mV to FS

Provides 12V sensor excitation

**FlexSmart Analog Module****(2 channels) w/modular plug****S-FS-TRMSA-D**

3.5cm x 5.7cm x 1.9cm (1.38 in.
x 2.25 in. x 0.75 in.)

Range: 5mV to 512mV input; compatible with 333mV FS output sensors
Accuracy: $\pm 0.3\%$ of reading $\pm 0.5\%$ FSR*

**Crest factor may cause additional error*

