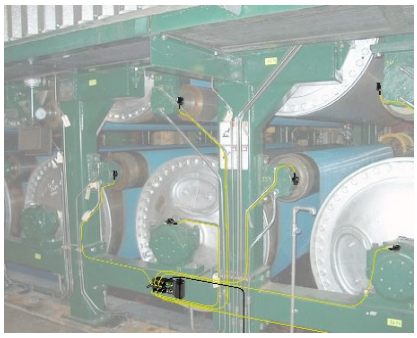
SMARTdiagnostics®

IoT HUB - SD-HUB-1

Wired Accel - SD-WVS-1
Wired Analog Adapter - SD-WAA-1
Wired IEPE Adapter - SD-WIA-1

The SMARTdiagnostics IoT Hub is the next generation of full asset health solutions designed by KCF Technologies to handle the most complex asset monitoring needs, including triggered collections, multi-functional sensor ports and the ability to withstand higher temperatures with external power sourcing, including an optional wired power solution

- Multiple power options available
- Capable of triggered and simultaneous collections
- Compatible with multiple sensor types, including third party options



HIGH TEMPERATURE

The IoT Hub can be positioned away from extreme environments while power is supplied to the sensors. This allows sensors to be placed on high temperature machines without compromising battery power or temperature limits

TRIGGERED MACHINES

In triggered machines, such as robots, the IoT HUB can be configured to activate sensors in response to unique movement patterns. This allows for more focused data collection as opposed to continuous monitoring

SHIELDED MACHINES

Assets in shielded areas, such as those covered by metal or screening, pose an issue where wireless sensors struggle to connect to the network. The IoT HUB provides a wired solution for monitoring these machines

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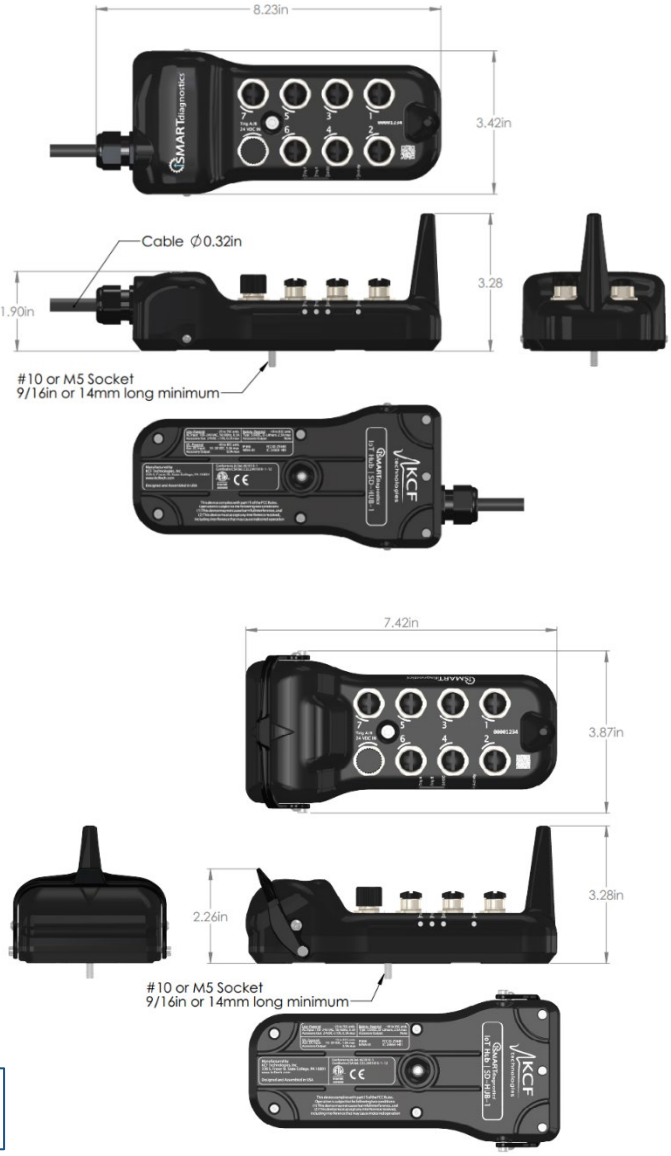
Learn more at kcftech.com/hardware

IoT Hub Specifications (SD-HUB-1)

General	
Weight	672g (Battery/DC Power Model) 621g (AC/DC Power Model)
Enclosure Material	Polycarbonate Alloy
Mounting	#10 or M5 Socket Head, temporary magnet
Certifications	UL and CE
Environmental	
Operating Temp.	-25°C to 65°C (-13°F to 149°F)
IP Rating	AC/DC Model: IP66 (IEC60529) Battery/DC Model: IP64 (IEC60529)
Use Case	Indoor & outdoor use Suitable for wet locations Pollution Degree 4
Exposure	Resistant to UV, petroleum products, mild acids and bases, cleaning products, most industrial fluids, most processing fluids
Wireless Radio	
Radio	KCF DART™ Wireless 2.4GHz ISM band
Antenna	Internal dipole antenna
FCC ID	Z5IHB1
IC	24664-HB1
Power	
Power Source Options	AC Model: 100-240VAC, 50/60Hz Battery Model: 3.6VDC Lithium D-Size (Saft LSH-20 non-rechargeable only) All Models: 10-30VDC Wired via 4-pin M12 Male Port
Inputs	
Collection Mode	Timed Interval Triggered
Input Types	24 VDC rising edge trigger (optional) 7 Sensor Ports
Sensor Input Types	KCF Wired Vibration Sensor (SD-WVS-1) KCF Analog/IEPE Adapter (SD-WAA/WIA-1)



For full product information see the IoT Hub Product Line Guide & Installation Manual

SD-HUB-1-[magnet][power]-[country]

Magnet Options		Power Options		Country Options	
M	Magnet	**B**	Battery & 24VDC	**NA**	US/CAN/MEX
X	No Magnet	**A**	100-240VAC & 24VDC	**EU**	Europe
				UK	United Kingdom
				BR	Brazil
				SA	South Africa

HUB w/ magnets, battery & DC power:	**SD-HUB-1-MB**
HUB w/ out magnets, AC & DC power, for North America:	**SD-HUB-1-XA-NA**

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Wired Vibration Sensor Specifications (SD-WVS-1)

General	
Weight	100g
Enclosure Material	Polycarbonate Alloy and 303 Stainless Steel
Mounting	#10 or M5 Socket Head, temporary magnet
Certifications (pending)	UL and CE in progress

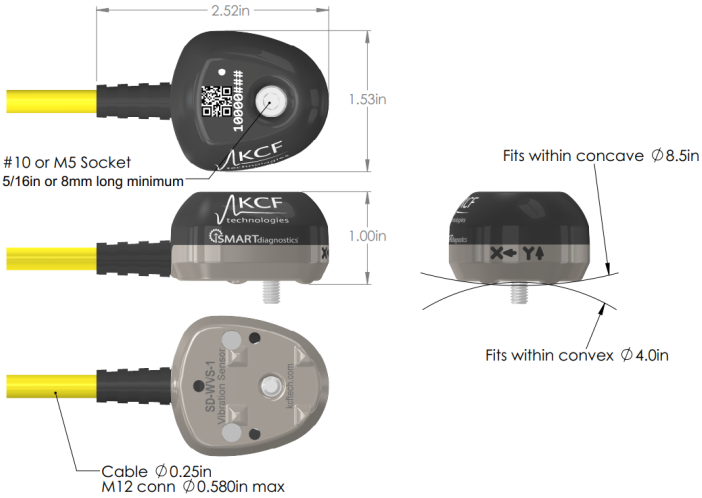
Operating Temperature	
Sensor and cable, fixed install	-30°C to 105°C (-22°F to 221°F)
Sensor and cable, flexible install	-5°C to 105°C (23°F to 221°F)
M12 connector	-25°C to 90°C (-13°F to 194°F)

Environmental	
IP Rating	IP66 (in progress)
Use Case	Indoor & outdoor use (cert in progress) Suitable for wet locations (cert in progress) Pollution Degree 4 (cert in progress)
Exposure	Resistant to UV, petroleum products, mild acids and bases, cleaning products, most industrial fluids, most processing fluids

Inputs	
Collection Mode	Timed Interval Triggered

Acceleration	
Range	±19 g typical, ±16 g nominal
Resolution	0.866 mg nominal
Noise Floor	1.5 mg RMS @ 64 Hz 13.0 mg RMS @ 8192 Hz
Transverse Sensitivity	10% typical
Frequency Response	±5% 0-2700 Hz ±3% 2700-4000 Hz
Samples per Acquisition	4096
Spectral Lines	2048
Sampling Frequency	64 Hz – 8192 Hz configurable

Temperature Sensor	
Range	-30°C to 105°C (-22°F to 221°F)
Resolution	±0.5°C (±1°F)



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SD-WVS-1-[cable][magnet][location]-[temperature][foot][connector]

Cable		Magnet		Location		Temperature		Foot Type		Connector	
00	0.5 meter	**M**	Magnet	**R**	Ordinary Location	**T**	Standard	**A**	Pointed Feet	**C**	Standard M12 male 8-pin
05	5 meter	**X**	No Magnet					**B**	Flat Feet		
10	10 meter										

5m cable, magnet, industrial temp, pointed feet, M12 connector:	**SD-WVS-1-05MR-TAC**
10m cable, w/out magnet, industrial temp, flat feet, M12 connector:	**SD-WVS-1-10XR-TBC**

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Wired Analog Adapter Specifications (SD-WAA-1)

General	
Weight	~50g
Enclosure Material	Polycarbonate Alloy
Mounting	Inline w/ cable

Operating Temperature	
Adapter & cable, fixed install	-30°C to 80°C (-22°F to 176°F)
Adapter & cable, flexible install	-5°C to 80°C (23°F to 176°F)
M12 connector	-25°C to 90°C (-13°F to 194°F)

Environmental	
IP Rating	IP66 (in progress)
Use Case	Indoor & outdoor use (cert in progress) Suitable for wet locations (cert in progress) Pollution Degree 4 (cert in progress)
Exposure	Resistant to UV, petroleum products, mild acids and bases, cleaning products, most industrial fluids, most processing fluids

Input and Acquisition	
Collection Mode	Timed Interval, Triggered
Input Type	Voltage or Current (Software Selectable)
Voltage Input Mode:	Measurement Range: -11 to +11 V min Input Impedance: 100 kΩ min Max Input Voltage: ±20V
Current Input Mode:	Measurement Range: -22 to +22 mA min Input Impedance (burden): 100 Ω Max Input Current: ±40 mA
Frequency Response:	DC – 3 kHz @ –3 dB (Voltage or Current Mode)
Sampling Frequency:	64 Hz – 8192 Hz configurable
Transducer Power Options:	+24VDC from External DC (0.8 A. max. / Hub) AC-Powered Hub (+24V, 0.2 A max. / Hub)
Supported Sensor Types:	0–10 V –10 V to +10V 4-20mA

Wired IEPE Adapter Specifications (SD-WIA-1)

General	
Weight	~50g
Enclosure Material	Polycarbonate Alloy
Mounting	Inline w/ cable

Operating Temperature	
Adapter & cable, fixed install	-30°C to 80°C (-22°F to 176°F)
Adapter & cable, flexible install	-5°C to 80°C (23°F to 176°F)
M12 connector	-25°C to 90°C (-13°F to 194°F)

Environmental	
IP Rating	IP66 (in progress)
Use Case	Indoor & outdoor use (cert in progress) Suitable for wet locations (cert in progress) Pollution Degree 4 (cert in progress)
Exposure	Resistant to UV, petroleum products, mild acids and bases, cleaning products, most industrial fluids, most processing fluids

Input and Acquisition	
Collection Mode	Timed Interval, Triggered
Input Type	AC-coupled voltage-reading with integrated constant current bias
Frequency Response:	2 Hz – 5.8 kHz @ –3 dB
Sampling Frequency:	62.5 Hz – 16 kHz configurable
IEPE Bias Current:	4 mA ±5% fixed (+24V External or AC-Powered Hub required for operation)
Compatible IEPE Sensor Types:	Accelerometer Dynamic pressure sensor

For full product information see the
IoT Hub Product Line Guide & Installation Manual

SD-WAA-1-[location][input connector]

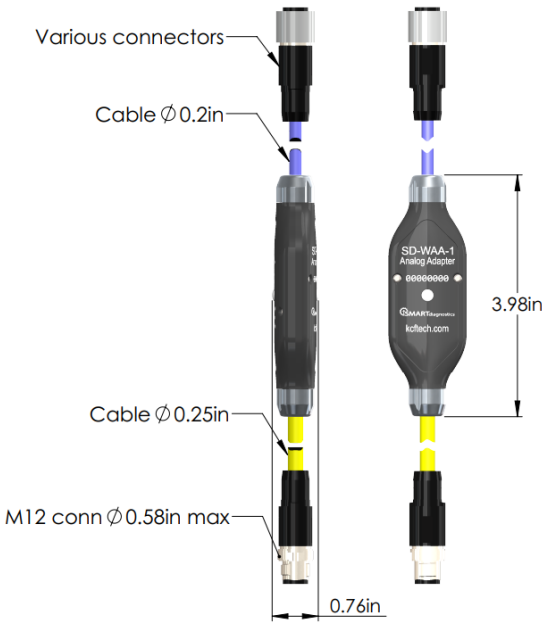
Location		Analog Connector	
R	Ordinary Location	**C**	Standard M12 female 4-pin

Analog adapter, 0.5m cable, ordinary location, standard connector:	**SD-WAA-1-RC**

SD-WIA-1-[location][input connector]

Location		Analog Connector	
R	Ordinary Location	**C**	Standard Flying Leads

Analog adapter, 0.5m cable, ordinary location, standard connector:	**SD-WIA-1-RC**



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