DynaLogger HF+/HF+s

HF+s: PN 101112 | NCM 9027.89.99 | HS 9027.89

HF+ (discontinued): PN 101110 | NCM 9027.89.99 | HS 9027.89

Datasheet August 2026

Overview

The HF+/HF+s DynaLogger is designed to identify failure mode symptoms or defects in machinery and equipment in a **wide variety of field applications**. Due to its **broad frequency spectrum**, the HF+/HF+s delivers complete triaxial vibration and temperature monitoring for **low to high-speed equipment**. In addition, the solution features an **online platform**, which does not require local installation, with several tools that assist in data analysis and enable constant monitoring of asset health.

The HF+/HF+s DynaLogger has two monitoring modes: spectral/waveform and telemetry. Configurable **telemetry monitoring** in bands includes several metrics, such as acceleration, velocity, and RMS displacement, peak, peak-to peak, and crest factor, as well as skewness, kurtosis, and contact temperature. In **spectral monitoring**, different tools can be used: spectrum, waveform (linear, circular and orbital), frequency filters, cepstrum, spectral envelope (demodulation), autocorrelation, and multi-metrics.



Wireless IoT Monitoring

- Compact and robust sensor with wide frequency range (up to 13 kHz maximum frequency)
- Long battery life
- High resolution in frequency and amplitude
- Over 200 time and frequency based metrics across different bands for alert creation
- Low-speed applications (greater than 10 RPM)
- Sensor with low spectral noise
- Truly simultaneous triaxial measurement
- Remote sensor update

Main Applications

- Motors, pumps, and fans
- Compressors and chillers
- Gearboxes (including planetary ones)
- Vibrating screens
- Rollers
- Internal components of harvesters and off-road vehicles
- Overhead cranes and yard equipment
- Wind turbines
- Bearings in high and low-speed assets

TECHNICAL SPECIFICATIONS	
Dimensions	HF/HF+s (stainless steel base): 39 mm x 39 mm x 35 mm (1.54 in x 1.54 in x 1.38 in) HF+s (full stainless steel base): 39 mm x 39 mm x 39 mm (1.54 in x 1.54 in x 1.54 in)
Weight	HF+ (aluminum base): 73 g, HF+s (stainless steel base): 97 g, HF+s (full stainless steel base): 110 g
Material	Case: LEXAN™, Sensor pin and base: Stainless steel or aluminum
Mounting	Glued or screwed
Visual Signaling (LED)	Red/green
Accelerometer	MEMS triaxial
Accelerometer Impact Limit	10,000 g in 0.2 ms
Operating Temperature[1,2]	HF+: -10 °C ≤ T ≤ 84 °C (14 °F ≤ T ≤ 183.2 °F) HF+s: -10 °C ≤ T ≤ 84 °C (14 °F ≤ T ≤ 183.2 °F) batches < 05 HF+s: -10 °C ≤ T ≤ 105 °C (14 °F ≤ T ≤ 221 °F) batches ≥ 05[3]
Certified Operating Temperature for Explosive Atm.	HF+: -10 °C ≤ T ≤ 79 °C (14 °F ≤ T ≤ 174.2 °F) HF+s: -10 °C ≤ T ≤ 79 °C (14 °F ≤ T ≤ 174.2 °F) HF+s: -10 °C ≤ T ≤ 105 °C (14 °F ≤ T ≤ 221 °F) batches ≥ 05[3]

BATTERY	
Voltage	3 V
Autonomy	5 years

COMMUNICATIONS AND SYSTEM	
Wireless Communication	Bluetooth® 5.3 / 2.400 – 2.483,5 MHz
Free Field Range	100 m
RF Output Power	0.4 dBm

CONTINUOUS MONITORING (TELEMETRY)	
Monitoring Interval	1 to 60 min
Monitored Metrics	RMS Acceleration
	RMS Velocity
	Contact temperature
Temperature Resolution	0.01 °C (32.018 °F)
Frequency Bands	Factory standard: 34 Hz to 13 kHz and 3 Hz a 13 kHz (adjustable)
Frequency Response (± 3 dB)	7.6 kHz
Amplitude Range	Up to ±16 g
Memory	51,200 samples (adjustable)

CERTIFICATION / HOMOLOGATION
See last page

1 – It is possible to monitor assets whose temperature exceeds 84 °C (183.2 °F), especially assets with intermittent characteristics and with room temperature below 24 °C (75.2 °F). However, Dynamox does not provide warranty in these cases. Specific condition for application outside explosive atmospheres. 2 – The application at temperatures below 0 °C (32 °F) impacts the battery autonomy. This effect worsens the lower the temperature, estimating a reduction of about 50% of useful life in applications at -20 °C (-4 °F). 3 – This temperature specification is valid for batches above DyL4.05.AXXXX of the HF+s model. 4 – Estimated value for a standard monitoring condition with 1 or 2 daily spectral collections, telemetry intervals of 5 to 30 minutes, and operating temperature between 20 °C (68 °F) and 60 °C (140 °F). 5 – Reference in open field. The Bluetooth®® communication distance may vary with obstacles, interference, and device (phone or DynaGateway). 6 – Each telemetry metric corresponds to the allocation of a sample in memory. In practice, the time to fill the memory depends on the sample interval and number of metrics configured. It is important to remember that when data is collected (via App or DynaGateway), the memory is emptied.

SPECTRAL MONITORING AND WAVEFORM	
Analysis Tools	Spectrum
	Frequency filters
	Envelope (demodulation)
	Cepstrum
	Spectral waterfall
	Autocorrelation
	Circular and orbital waveform
	Advanced metrics: Multiband RMS, Envelope RMS, peak-to-peak, kurtosis, FC, FC+, carpet energy, energy at 1X and harmonics in velocity, and 1X BPFO, 1X BPFI, 1X BSF, 1X FTF in envelope and Envelope RMS.
Frequency Response (± 5%)	7 kHz
Frequency Response (± 3dB)	7.6 kHz
Spectral Noise Density	< 75 µg/√Hz
Sample Rate	Up to 26 kHz
Min. Frequency Resolution	0.006 Hz (8 bits) and 0.012 Hz (16 bits)
Min. Amplitude Resolution[1]	16 mg (8 bits) and 61 µg (16 bits)
Amplitude Range	Up to ±16 g
Lines of Resolution (LOR)	98,304 (uniaxial) and 32,768 (triaxial)
Max. Frequency	571 Hz to 13 kHz (adjustable)
Max. Acquisition Time[2]	172.2 s (uniaxial) and 57.3 s (triaxial)

SPECTRAL MONITORING SETTINGS

TRIAXIAL SIMULTANEOUS

Max. Freq. (Hz)	Duration (s)						RPM Min.[3]
13,145	0.08	0.16	0.31	0.62	1.25	2.5	24.0
6,572	0.16	0.31	0.62	1.25	2.5	5.0	12.0
2,629	0.4	0.8	1.6	3.1	6.2	12.5	4.8
1,314	0.8	1.6	3.1	6.2	12.5	24.9	2.4
571	1.8	3.6	7.2	14.3	28.7	57.3	1.0
N. Lines	1,024	2,048	4,096	8,192	16,384	32,768*	-

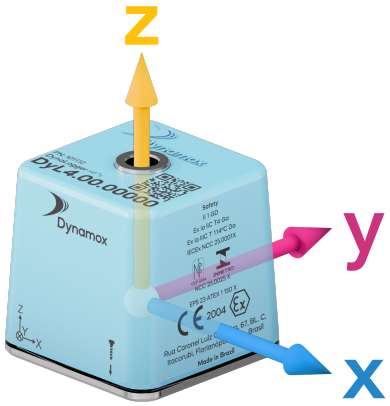
UNIAXIAL

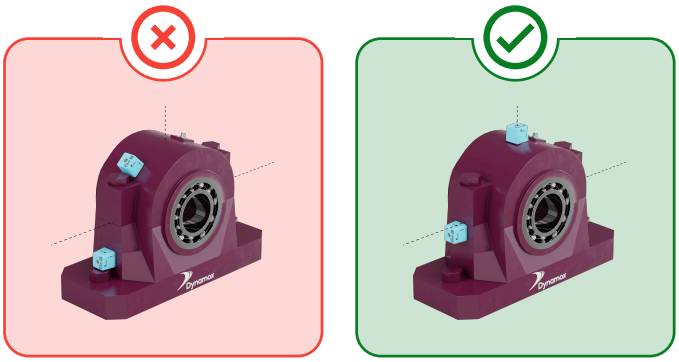
Max. Freq. (Hz)	Duration (s)								RPM Min.[3]
13,145	0.08	0.16	0.31	0.62	1.25	2.5	3.7	7.5	8.0
6,572	0.16	0.31	0.62	1.25	2.5	5.0	7.5	15.0	4.0
2,629	0.4	0.8	1.6	3.1	6.2	12.5	18.7	37.4	1.6
1,314	0.8	1.6	3.1	6.2	12.5	24.9	37.4	74.8	0.8
571	1.8	3.6	7.2	14.3	28.7	57.3	86.0	172.0	0.3
N. Lines	1,024	2,048	4,096	8,192	16,384	32,768	49,152	98,304*	-

1 - Calculated amplitude resolution is based on the accelerometer digital output in µg/LSB or mg/LSB. 2 - Check the setting in the "Spectral Monitoring Settings" table. 3 - Minimum RPM based on the longest measurement time considering one full revolution of the shaft. * - Setting available with 8 bits of amplitude resolution.

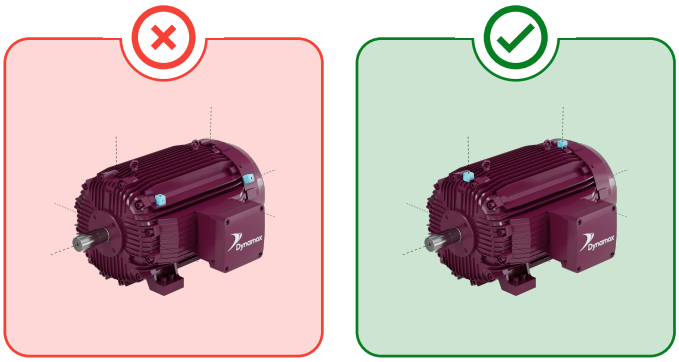
Quick Installation Guide

- Define the critical points of the machines to be monitored for the installation of the DynaLoggers;
- It is only necessary to install one DynaLogger per monitoring spot, as the devices are triaxial;
- Avoid installation in areas of the housings that present any stiffness loss. Example: cooling fins, covers, and protections. Try to install in rigid parts of the machine, preferably near the bearings;
- Align one of the axes of the DynaLogger with the actual axis of the machine. These axes are shown in the schematic above and on the body of the devices. A detailed installation guide can be found at Dynamox's **support website**.





It is recommended to install the DynaLogger centrally on the component.



Installation on cooling fins and covers is not recommended.

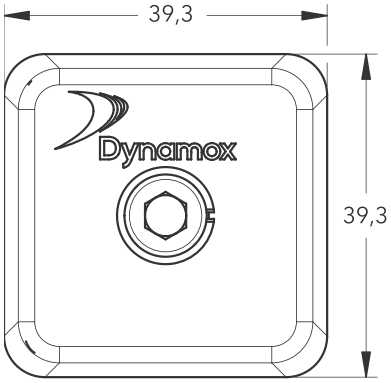
Note: For motors, the recommendation is to install a sensor on the drive side (DS) and another one on the non-drive side (NDS) for complete monitoring.

Regarding the types of mounting, the HF+/HF+s DynaLogger can be:

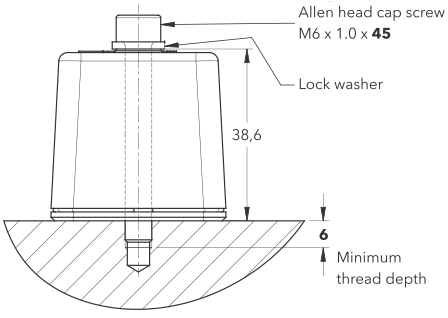
Screwed: Drill a threaded hole using an M6x1 tap at the measurement point. It is recommended to drill holes with a depth of 6 mm (for screws 45 mm long) and 11 mm (for screws 50 mm long). It is recommended to use a spring washer and to apply an 11 N-m torque.

Glued: After cleaning the mounting spot, apply adhesive glue to cover the entire sensor base. The adhesives DP8810, DP8710 and DP420 from 3M are approved by Dynamox for applications with an operating temperature of up to 84 °C. For applications of up to 105 °C, Dynamox approves the use of adhesive HY4090 from Loctite or the adhesives DP-8407NS and DP-420NS from 3M.

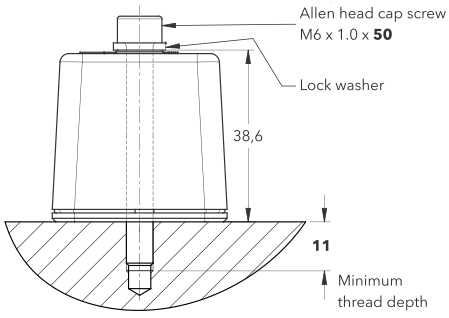
Technical Drawing



Dimensions in millimeters

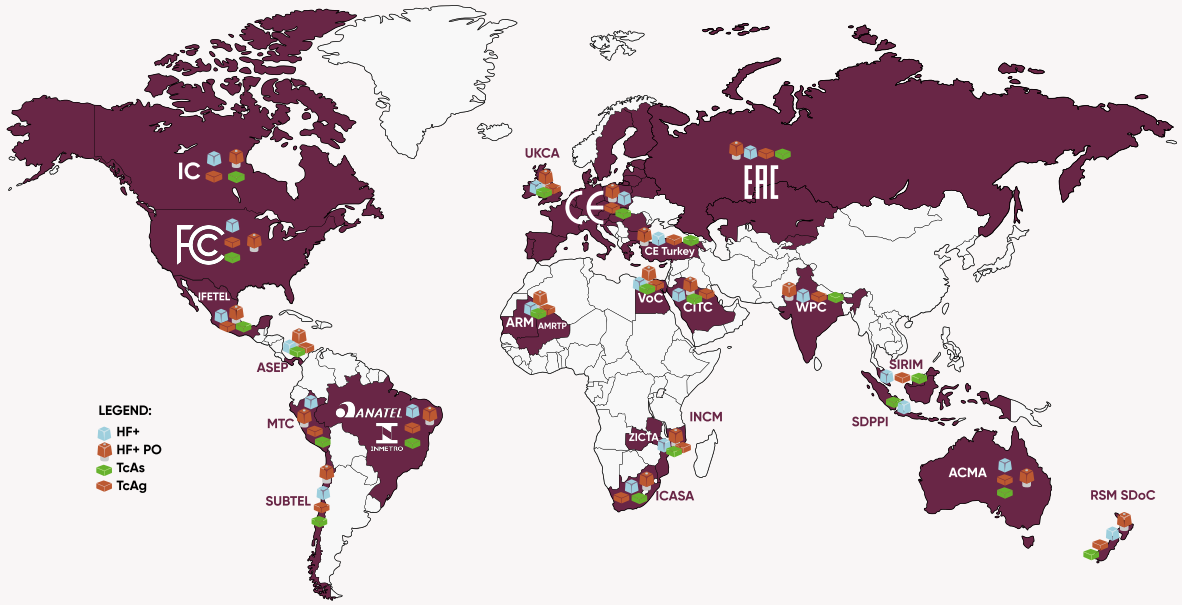


Assembly considering a 45 mm screw



Assembly considering a 50 mm screw

CERTIFICATION	
Homologation/Certification	ANATEL/CE/ACMA/FCC/IC/INMETRO/IECEX/ATEX
Explosive Atmosphere (IECEX/ATEX)	IECEX/ATEX/INMETRO (batches ≥ 05): • Ex ia IIC T4 Ga • Ex ia IIIC T114°C Da • IP66/IP68/IP69K INMETRO (batches < 5): • Ex ma IIC T6 Ga • Ex ta IIIC T85 °C Da • IP66/IP68/IP69



For more information about certifications, contact our technical support at: www.support.dynamox.net

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