MOTIX 1.0 DATASHEET

The **MOTIX sensor** an integrated, high-performance motor monitoring system that combines vibration and temperature analysis in a compact industrial package. Utilizing proprietary algorithms for advanced signal processing and analysis, this device provides comprehensive real-time monitoring capabilities essential for predictive maintenance and motor health assessment.

Designed to meet the needs of modern industrial and commercial systems, MOTIX sensors offer seamless integration and enhanced ease of use. The system's sophisticated sensors and intelligent processing capabilities deliver precise measurements and actionable insights, while its robust construction ensures reliable operation in demanding industrial environments. Optional Moto-Scope add-on for Additional Monitoring capability.

Applications:

Industrial Motor Monitoring - AC and DC motor health monitoring - Variable frequency drive (VFD) applications - Servo motor monitoring - High-speed motor applications - Critical process motors - Remote and hard-to-access motor installations

Equipment Monitoring - Industrial pumps and compressors - Cooling tower fans - Conveyor systems -

Industrial mixers and agitators - HVAC equipment -

Production line machinery
Key Benefits - Real-time monitoring and alerts - Predictive maintenance capabilities - Reduced unplanned downtime - Extended motor life - Simple installation and setup

- Integration with existing systems.

Predictive Maintenance - Bearing condition monitoring -

Shaft alignment analysis - Motor temperature profiling - Vibration trend analysis - Early fault detection - Performance optimization

Industry-Specific Applications - Manufacturing facilities - Water treatment plants - Food and beverage processing - Pharmaceutical production - Chemical processing - Mining operations - Building automation systems - Data center infrastructure

Key Differentiators:

- True plug-and-play functionality with 5-minute setup time
- Integrated multi-parameter monitoring in a single device
- Real-time alerting with prioritized notifications

Typical return on investment is achieved within months through:

- Reduced unplanned downtime
- Extended equipment life
- Optimized maintenance scheduling
- Lower energy consumption

- Improved operational efficiency
- Decreased maintenance costs

Special Features

- **Advanced Multi-Parameter Monitoring**
  - Simultaneous tracking of vibration, temperature, and power parameters
  - Real-time spectrum analysis capabilities
  - Comprehensive motor health assessment through integrated sensors

- **Innovative Plug-and-Play Implementation**
  - Zero programming is required for basic setup
  - Instant deployment with PoE connection
  - Simple device registration process
  - Fast Integration with existing systems

- **Intelligent Edge Processing**
  - Proprietary algorithms for real-time data analysis
  - Advanced fault detection and diagnosis
  - Automated performance optimization

- **Scalable Monitoring Solution**
  - Support for multiple devices on a single dashboard
  - Flexible deployment options
  - Easy system expansion capabilities
  - Cross-facility monitoring support

- **Enhanced Communication Features**
  - Dual connectivity with Ethernet
  - Secure encrypted data transmission
  - Real-time alert system with multi-channel notifications
  - Remote access and monitoring capabilities

- **Industrial-Grade Reliability**
  - IP67-rated protection for harsh environments
  - Wide operating temperature range (-40°C to 110°C)
  - Robust and simple mounting system for secure installation
  - High-precision sensor technology

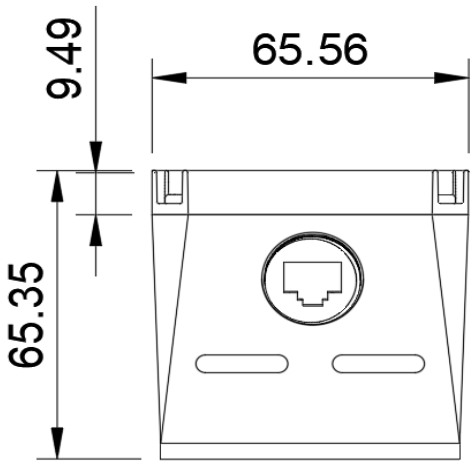
- **Cost-Effective Implementation**
    - Rapid return on investment through preventive maintenance
    - Reduced installation and setup costs
    - Minimal training requirements
    - Lower total cost of ownership

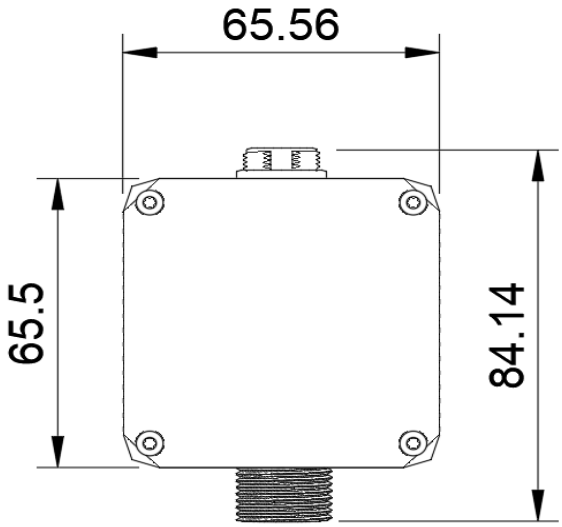
- **Smart Integration Capabilities**
    - Seamless integration with existing systems
    - Customizable dashboards for third-party software integration
    - Compatible with standard industrial protocols

Basic Specifications

Definition	**Data**	**Unit**	**Remarks**
Product Code	MOTIX-1.0		(base)
Power Input Voltage (PoE)	42 – 55	VDC	IEEE 802.3af Class 1
Power use	825	mW	Maximum power draw 1.0 W
Weight	100	g	
Vibration frequency range	0 to 3.33	kHz	(up to 40kHz with added Motoscope probe)
Temperature range	-40 to 100	C	
Protection Rating	IP67		Dust-tight, water-resistant
Communication	Ethernet		

Note: all measurements are in mm MOTIX 2.0





Operation guide

This guide provides step-by-step instructions for the safe installation, setup, and operation of MOTIX sensors to ensure optimal performance.

Safety Precautions

1. **General Warnings:**
    - Installation and maintenance should only be performed by qualified personnel
    - Do not install the device on running motors
    - Ensure proper mounting to prevent device displacement during motor operation
    - Follow all local electrical and safety codes during installation
    - The device's bottom surface may be hot when mounted on operating motors
    - Keep installation documentation for future reference
2. **Handling Precautions:**
    - Do not drop or subject the device to physical shock
    - Ensure mounting straps are properly tensioned to prevent movement
    - Maintain IP67 rating by properly sealing all connections
    - Avoid mounting in locations that exceed the specified temperature range
    - Do not modify or attempt to repair the device

3. **Electrical Precautions:** ● When using PoE:
    - ■ Use only IEEE 802.3af-compliant PoE network equipment
    - ■ Use industrial-grade shielded Ethernet cables
    - ● Route cables to prevent mechanical stress and strain
    - ● Ensure proper grounding when using the DC power option
    - ● Disconnect power before servicing

Power Input Options

1. **Power over Ethernet (PoE)**
    - ● IEEE 802.3af Class 1 compliant
    - ● Input voltage range: 42V to 55V VDC
    - ● Provided through RJ45 Ethernet connection

Installation Steps

1. Mounting the Unit

- ● To set up a sensor unit, you will need the following items: a MOTIX sensor, a flathead screwdriver or 8mm socket, an RJ45 Ethernet cable (the length may vary depending on the distance to the PoE router), and a worm drive hose clamp, as shown in **Step 1.**
- ● Loosen the hose clamp and insert it through one of the three slots at the units bottom. Refer to **Step 2** to identify a suitable position for the motor to ensure proper contact with the unit**.**
- ● Once a spot has been located place the motor vision down onto the motor and wrap the hose clamp around the motor with the motor vision attached to the hose clamp as seen in **Step 3** (note you may need to increase the length of the hose clamp or decrease it depending on the size of the motor)
- ● Once the hose clamp is completely around the motor, use the screwdriver to secure the motor vision, as seen in
  Step 4. (Note: Make sure the sensor unit is securely mounted to the motor for proper data acquisition. If the sensor unit is loose, data may be registered incorrectly.
- ● Once the sensor unit has been properly tightened and does not move, plug in your RJ45, which is connected to a PoE router or switch. Your MOTIX should automatically boot up, as seen in Step 5, with the LED indicator on the side lighting up.
- ● For instructions on how to easily register your MOTIX once it has been prepared see the software setup.

Step 1

Step 2

Step 3

Step 4