CORNELL PUMP COMPANY

CO-PILOT™

EXTERNAL VIBRATION SENSOR

CORNELL
EFFICIENT BY DESIGN

CORNELL
Co·Pilot™

EXTERNAL VIBRATION SENSOR

Modbus Communication

3-Axis Vibration
Temperature Sensor
Magnetic Field Measurements

IP68
Submersible up to 10m

CORNELL Co·Pilot™

WHAT CAN THIS SENSOR DO?

The external vibration sensor (EVS) is a standalone sensor featuring a stainless steel composite case and integrating an accelerometer for measuring vibration, a magnetic field sensor for tracking RPM, and a temperature sensor. It can be mounted using magnets or epoxy to monitor various parameters on pumps, motors, engines, and other rotating equipment. The sensor uses internal computing to calculate machine health insights and operating time features.

SUITABLE FOR MOST ENVIRONMENTS

The sensor is designed to be rugged and suitable for most environments. It comes standard with a stainless steel enclosure and is IP68-rated. The sensor is equipped with 12 meters of cable and can be submerged up to 10 meters, making it ideal for use with submersible pumps and motors.

INTEGRATE THE EVS INTO EXISTING SYSTEMS

This sensor communicates via Modbus, a widely used protocol that ensures seamless integration into existing SCADA systems. It can also be connected to Cornell Co-Pilot or PMG devices, allowing for remote access to the EVS data.

Integrating the EVS into your systems can reduce maintenance costs and prevent downtime. This is particularly valuable for monitoring problematic or inaccessible pumps or motors, as it offers critical insights into potential issues.

SENSOR'S ADVANCED COMPUTING

The external vibration sensor uses its inputs to calculate different machine health parameters, such as slip, balance, bearing fault, and cavitation. Users can set alerts for these parameters and configure dynamic alerting for multi-parameter alerts. The system also records operating time, start/stop intervals, and duty cycles.

IT SPECIFICATIONS

4 LED 2 COLOR INDICATORS

- SUFFICIENT POWER SOURCE
- INSUFFICIENT POWER SOURCE (UNDER 12VDC OR OVER 24VDC)
- COUNTER-CLOCKWISE ROTATION
- INSUFFICIENT POWER SOURCE
- MACHINE HEALTH GOOD, NO ALERTS

- CALCULATED FAULT OR SYSTEM ALARM

- UNBALANCE
- CAVITATION
- VIBRATION RMS
- TEMPERATURE
- GEAR MESH LEVEL
- BEARING FAULT

Get started at CORNELLPUMP.COM/CO-PILOT

TECHNICAL SPECIFICATIONS

SENSING CAPABILITIES

VIBRATION

- 0-7.8 in/sec (0-200 mm/sec)
- 3D axis vibration (x, y, z-axis)
- Vibration RPM

MAGNETIC FIELD

- Magnetic RPM
- 0-2.000 µT

TEMPERATURE

- -40°C to 110°C

OPERATING PARAMETERS

- -40°C to 90°C
- Chemical resistant
- Dirt repellent
- Built out of stainless steel
- IP68

WIRING

- 4 wire, shielded cable
- Power +/-
- Modbus: A+, B

COMMUNICATION

- Modbus (RS-485)

DIMENSIONS/ MATERIALS

- 2.15" (Ø56 mm)
- 12 m of cable

POWER

- 12-24 VDC power required
- 60 mA current draw

COMPUTING CAPABILITIES

- Slip
- Unbalance
- Cavitation
- Vibration RMS
- Dynamic Alerting
- Bearing Fault
- Slip Gear
- Tri-Axial Vibration
- RPM

CORNELL PUMP COMPANY

MARKET & PRODUCT LINE

CORNELL
EFFICIENT BY DESIGN

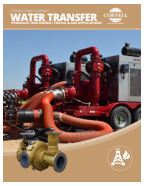
AGRICULTURE

FOOD PROCESS

INDUSTRIAL

MINING

MUNICIPAL



WATER TRANSFER

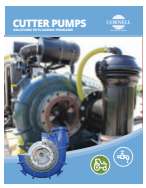
REFRIGERATION

CONSTRUCTION

SLURRY

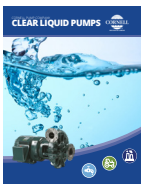
SLURRY SM

MANURE



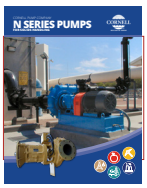
CUTTERS

SELF PRIMING

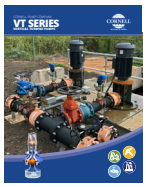


CLEAR LIQUIDS

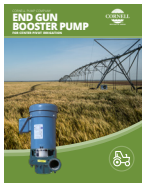
MX SERIES



N SERIES

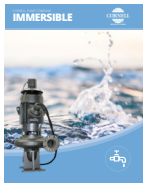


CYCLONE™



EDGE™

HYDRAULIC SUBS



IMMERSIBLE

CD4MCU

RUN-DRY™

PRIMING SYSTEMS

CYCLOSEAL®

24 - IO - BR - 601

CORNELLPUMP.COM

ANAB ACCREDITED ISO 9001 MANAGEMENT SYSTEMS CERTIFICATION BODY
Certified to ISO 9001:2015
TÜVRheinland Precisely Right.

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