

Alfa Laval CM

Sensing and control

Introduction

Understanding the running condition of equipment and whether service or maintenance is required is paramount to keeping plant and processes running efficiently and cost effective.

The Alfa Laval CM condition monitor is a quick and easy battery operated device, to attach to rotating equipment and detect any change in the equipment behaviour compared to the benchmark baseline on set-up. Providing users with easy, safe data via bluetooth to enable them to optimise process uptime, assist in maintenance scheduling and efficiency and reduce operating costs.

The Alfa Laval CM periodically measures the tri-axial vibration of the installed unit and the internal temperature storing 3 months of data for analysis, comparing it to the original baseline set-up values and pre-set warning and alarms, which if exceeded provide a visible indication via its LED and via the users mobile device.

In addition, unique identification can provide the user with service data of the equipment and contacts of service partners to ease the maintenance process, ensuring asset value, total cost of ownership and process continuity.

Applications

Designed for hygienic applications, the Alfa Laval CM is suited for use in the dairy, food, beverage, personal care, pharmaceutical and biotechnology industries. In particular the applications where the customer is focused on continuous processing manufacturing where the preventative maintenance attributes can be fully appreciated.

Benefits

- Designed to ensure hygienic integrity, suitable for plant washdown.
- Easy, low cost installation and set-up. No cables required.
- Intuitive mobile app.
- Safe data collection.
- 3 months trend data assist in early detection of process instability, maintenance scheduling & failure analysis.

Standard design

The Alfa Laval CM is a stand-alone PA12 plastic hermetically sealed battery powered monitoring device suitable for use in a hygienic environment with washdown. It is attached to the



rotating equipment by a 6 mm stainless steel screw. A stainless-steel adaptor will be supplied to retrofit to existing and new Alfa Laval equipment dependent on product size and model.

Working principles

The Alfa Laval CM uses a 3-axis accelerometer and internal temperature sensor to collect and store up to 3 months of data in its onboard memory. In addition, a Bluetooth antenna enables it to connect to an IOS or Android mobile device where it is presented in an intuitive and user-friendly form via an Alfa Laval supplied application for the condition monitor.

When the monitor senses some vibration it activates, starts the running hours counter and monitors the tri-axial vibration and internal temperature of the unit at pre-set intervals determined by the user. This information is sent via Bluetooth to a mobile device running the application if within 20 meters of the condition monitor.

The user can then use the app to review vibration data shown in Fast Fourier Transform (FFT) to review current trend condition against original benchmark values, and in the case

of a failure, potentially use the data for system root cause analysis.

Setting up the device is a simple process which is guided by the mobile app.

In addition, the application shows battery status, historical data for vibration and in unit temperature, total running hours, and information on the unit under monitoring.

TECHNICAL DATA

General	
Plastic parts:	PA12
Steel parts:	1.4301 (AISI 304)
Battery:	Lithium Thionyl Chloride
Battery life:	2 years typically (data acquisition request every 6 hours)
Size:	Ø57 mm x 27.9 mm deep
Weight:	100 grams

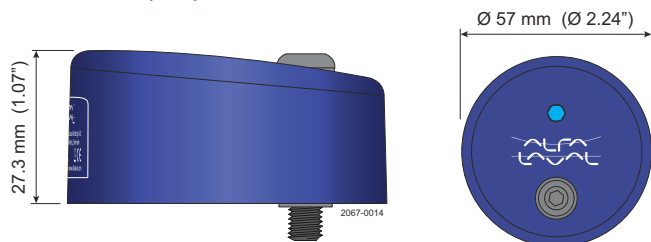
Environment	
Ambient temperature:	-10 °C to +60 °C
Protection class:	IP69K & NEMA4PW

Operating parameters	
Vibration frequency:	From 10 Hz to 2.5 kHz
3-axis vibration range:	0 - 16 g
Mounting surface temperature:	-10 °C to +80 °C
Bluetooth range:	20 meters line of sight
Mobile app:	Available for iOS and Android

Compliances	
The Alfa Laval CM is in compliance to CE, NEMA, IP, Reach & RoHS2. For further compliances, please contact Alfa Laval.	

Warranty	
12 months for date of despatch. Due to the varied ways that Product(s) can be accessed and/or configured during use, battery life is excluded from the warranty.	

Dimensions (mm)



This document and its contents are subject to copyrights and other intellectual property rights owned by Alfa Laval Corporate AB. No part of this document may be copied, re-produced or transmitted in any form or by any means, or for any purpose, without Alfa Laval Corporate AB's prior express written permission. Information and services provided in this document are made as a benefit and service to the user, and no representations or warranties are made about the accuracy or suitability of this information and these services for any purpose. All rights are reserved.

How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com