System Detects Changing Conditions of Press Lubrication

COMPANY DESCRIPTION

A leading manufacturer of metalworking products provides prototype parts and mass production for various industries.

CHALLENGES

- Lubrication systems for CNC and stamping equipment are used and maintained manually.
- An increase in production was met with increased press failure due to undergreasing causing damaged bearings.
- The company wanted a complimentary system to their massive lube systems to eliminate downtime and lost production.

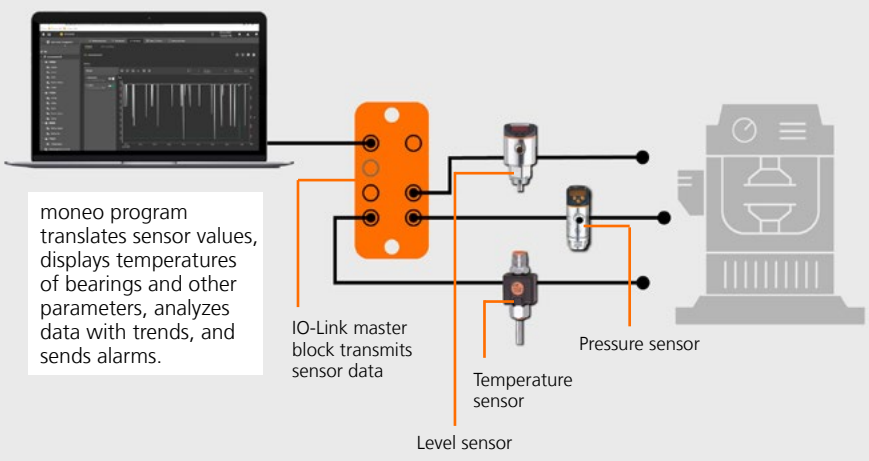
DISCOVER MONEO — MONITORS PRESS LUBRICATION AND WARNS OF EQUIPMENT FAILURE, ELIMINATING DOWNTIME

- ifm's moneo Real-time Monitoring System forms a complete solution to ensure a steady flow of lubrication is maintained to eliminate downtime in press machinery.
- ifm sensors are designed to reliably detect oil pressure, temperature and level in lubrication systems. moneo software converts the sensor values into relevant information.
- moneo performs basic calculations of differential temperature measurement based on ambient conditions and bearing temperatures.
- The moneo cockpit function displays a detailed visual of each sensor value.
- moneo provides analysis of low system pressure, oil level and trending performance and quickly reacts to changing parameters via an integrated alarm management system.

ifm's moneo Real-Time Monitoring System maximizes machine performance by eliminating over- or under-greasing in lube systems. moneo detects changing conditions, displays the results, and sends a warning before machine damage occurs.

moneo is easy to program and understand, allowing maintenance workers to save time. The moneo is software for Industry 4.0 and gives manufacturers actionable insights to increase plant efficiency.

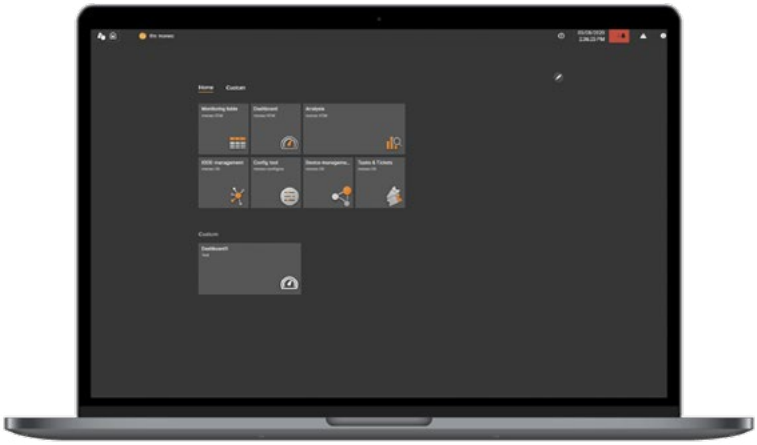
moneo | RTM System Structure



moneo | RTM

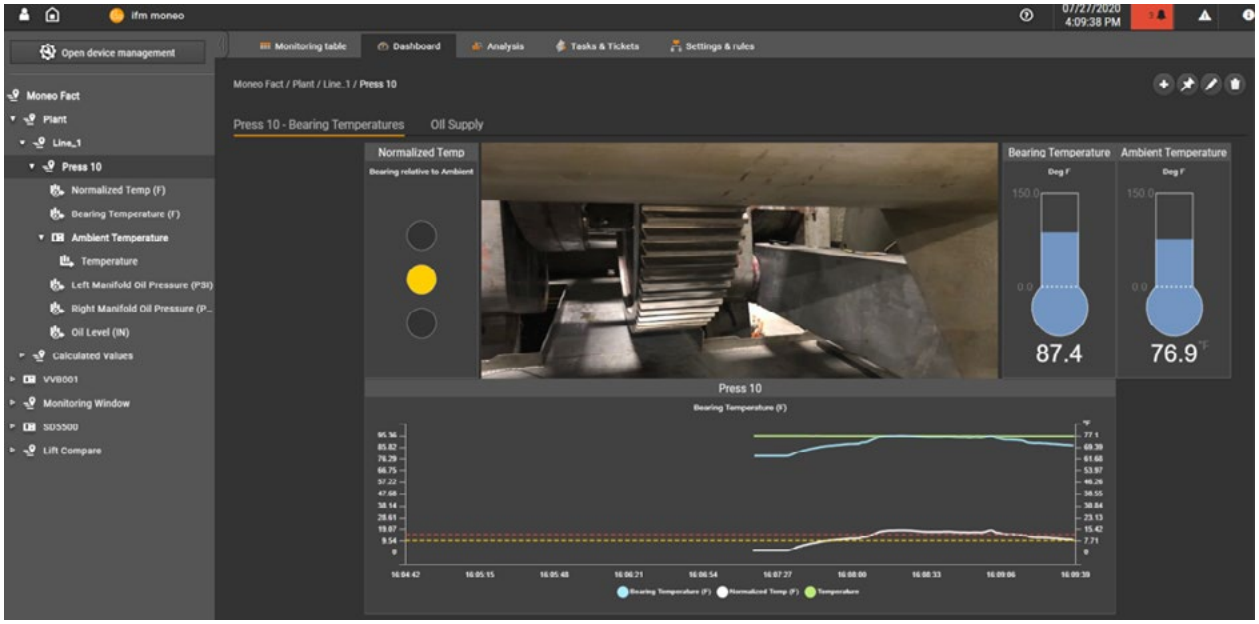
User-friendly software helps you align efficiency goals within one system.

Monitoring table
Analysis
Dashboard
Tasks and Tickets
IODD Management
Config Tool
Device Management

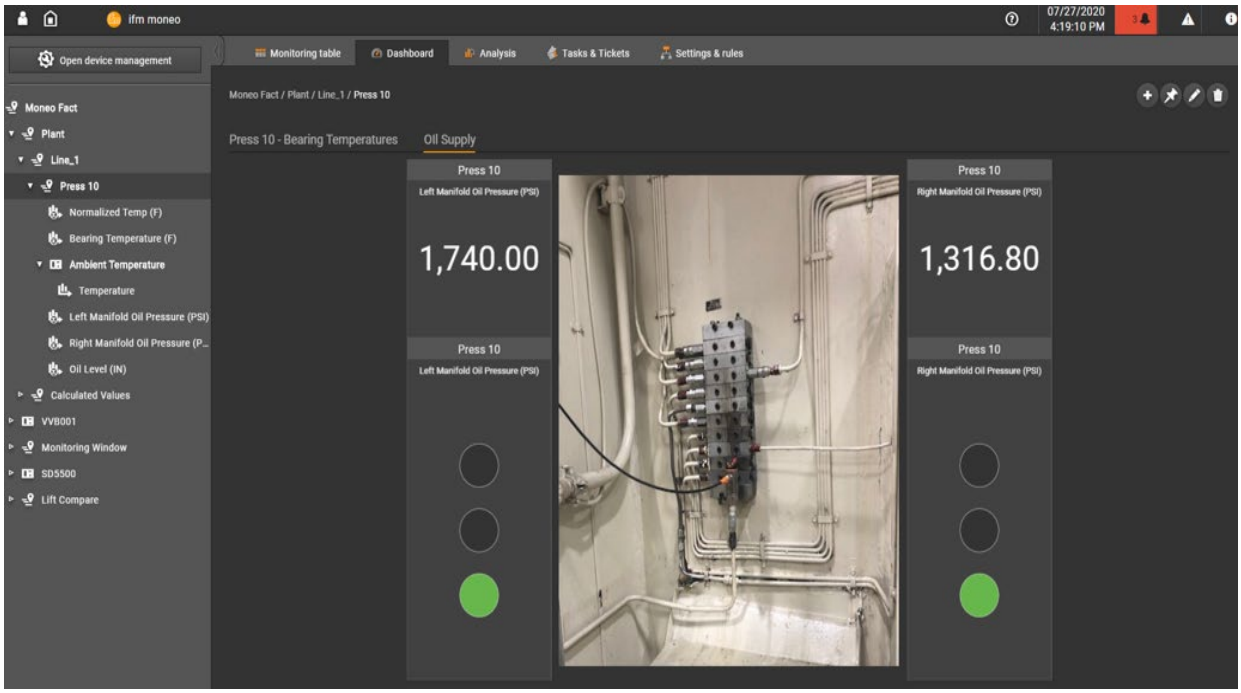


COCKPIT

- Visualize normalized temperatures of bearings to compare against other bearings.
- Creation of customer-specific dashboards by drag and drop for a clear representation of pressure, temperature, and level values.
- Integration of plant graphics for better visualization of the measuring points.
- Clear representation of the system status across all sensors.
- Simple machine status provided with traffic light graphic.

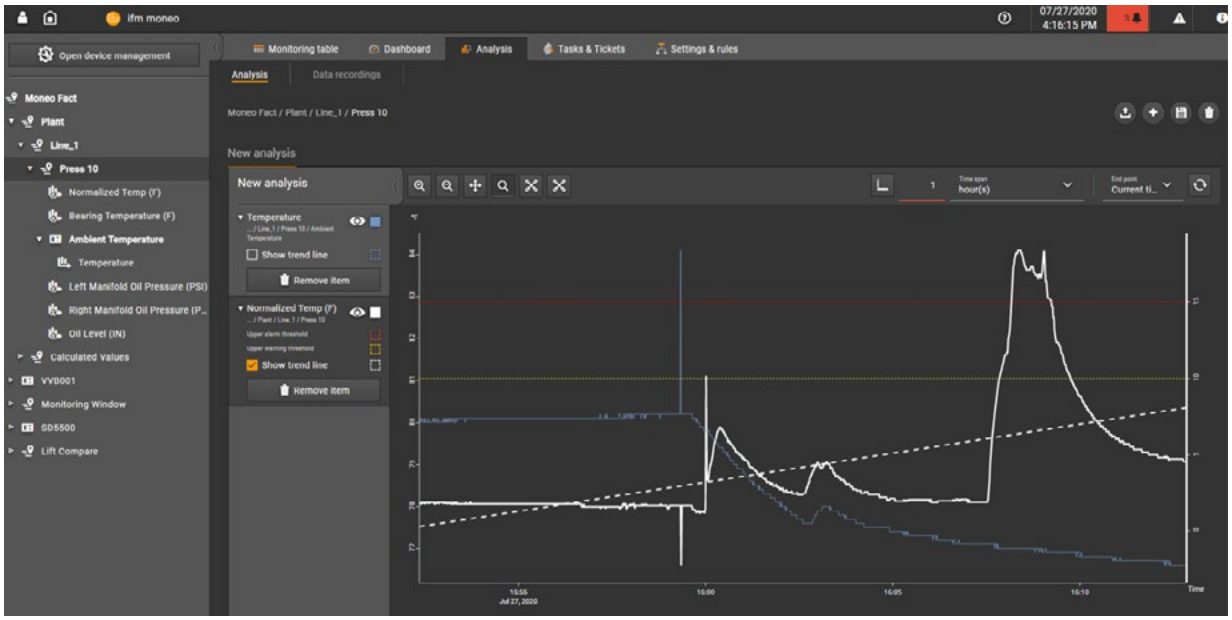


Cockpit (cont'd)



ANALYSIS

- Correlates pressure, temperature and level to evaluate the cause of alarm.
- Representation of relevant sensor values in the analysis chart.
- Visualization of the time and trend of change in value associated with these events.

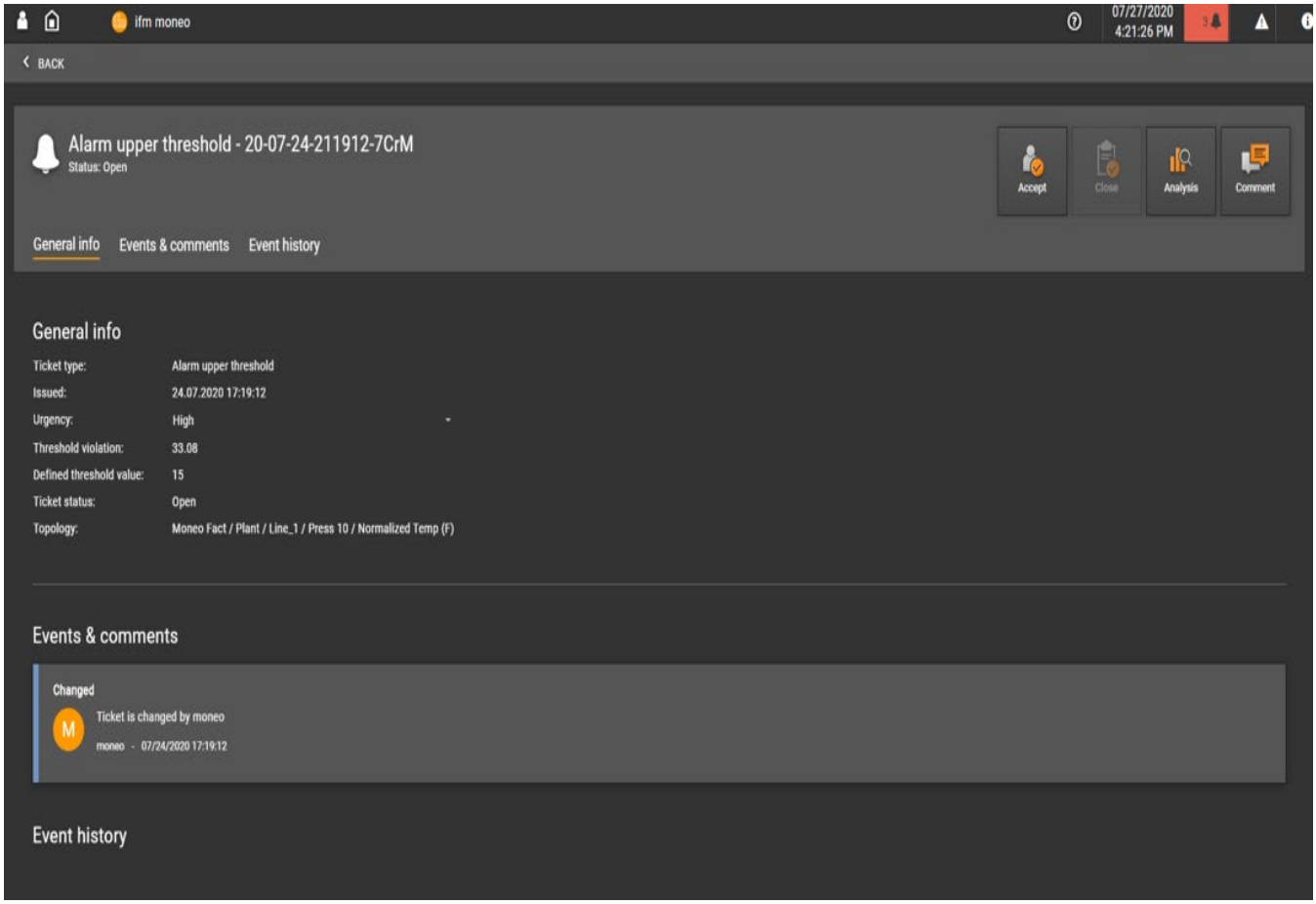


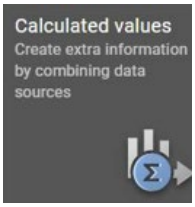
TASKS AND TICKETS

- Integrated alarm function for limit value monitoring.
- Automated ticket generation in the event of an alarm.
- Alarm-escalation strategies.
- Early detection of damage cases and malfunctions.

TASKS AND TICKETS DETAILS

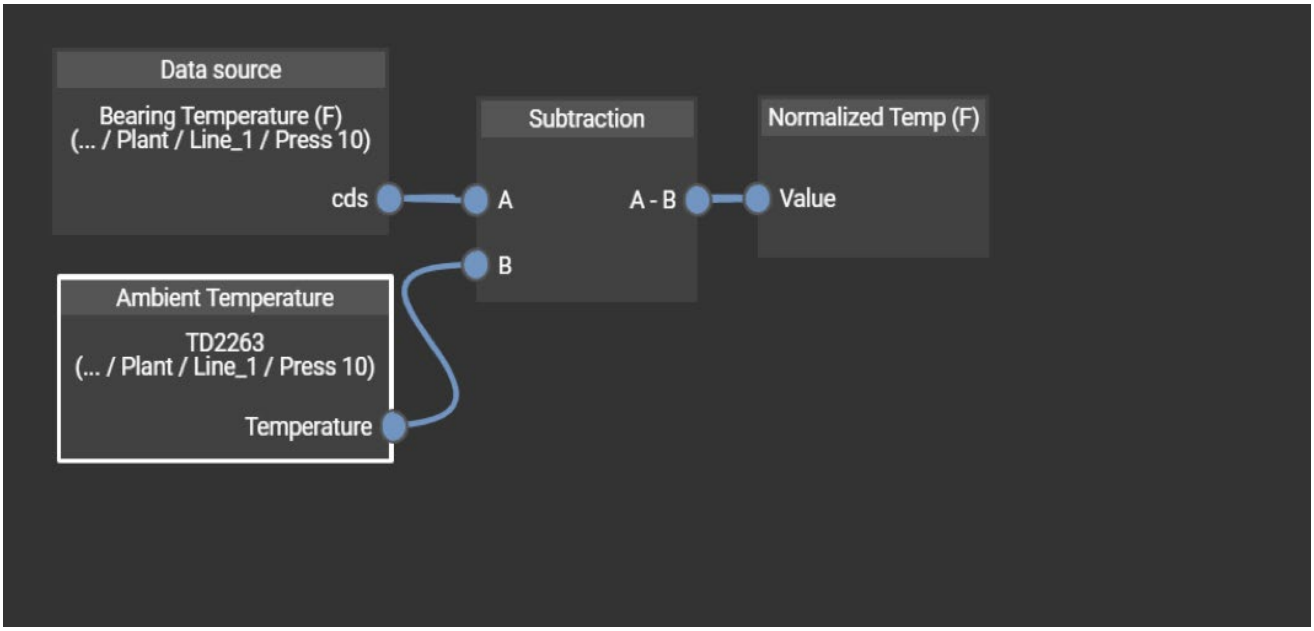
- Using a predefined wizard, an alarm strategy can be configured.
- The customer can manage the generated alarm ticket over time.
- Comments can be added to the ticket, for example the cause of the error or a maintenance strategy.
- Via an analysis button, the time of the limit violation in the data analysis can be viewed.





CALCULATED VALUES

- Compensate for fluctuations in ambient conditions, resulting in a stabilized trend.
- Compare bearing temperature to ambient temperature produces normalized temperatures.
- Conversion of process values to usable information and data.



Overview of moneo | RTM System Components for Improving Press Lubrication System

Sensor	Product Picture	Item Number	Link
Surface mount temperature RTD		**TS2229**	https://www.ifm.com/us/en/product/TS2229
RTD to IO-Link converter		**TP3233**	https://www.ifm.com/us/en/product/TP3233
Oil Level Sensor		**LR7000**	https://www.ifm.com/us/en/product/LR7000
Oil Pressure Sensor		**PN7071**	https://www.ifm.com/us/en/product/PN7071
IO-Link Master		**AL1322**	https://www.ifm.com/us/en/product/AL1322