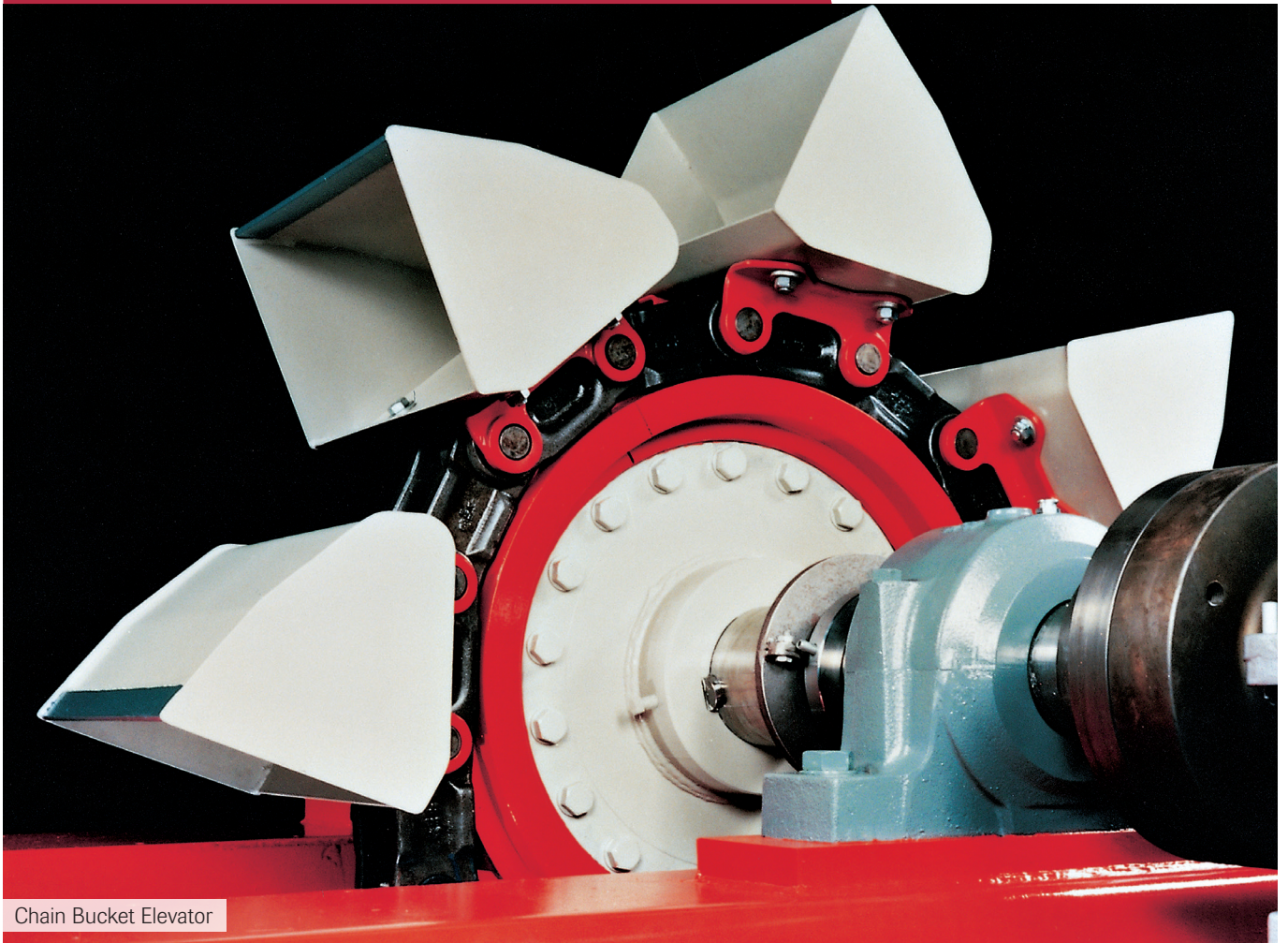


# AUMUND Spec Sheet: PREMAS® 4.0



Chain Bucket Elevator

WE CONVEY QUALITY

## Predictive Maintenance

### PREMAS® 4.0 for Chain Bucket Elevators

Reactive maintenance leads to unplanned stops, high costs and reduced production. This can be avoided – with PREMAS® 4.0. The solution enables the early detection of wear and aging of important machine components at your chain bucket elevator.

The latest sensor technologies are combined with data acquisition and analysis to provide complete online condition monitoring of your chain bucket elevator. PREMAS® 4.0 keeps you informed about the condition of the machine in real-time, provides a prediction of the estimated service life of critical machine components and thus enables you to plan ahead, act in time, and prevent possible problems. Furthermore, you will find contact details for expert assistance and remote support when you need it. PREMAS® 4.0 can be applied to all types of chain bucket elevators.

#### Which indicators support your proactive, predictive maintenance strategy?

PREMAS® 4.0 gives you an overview about the most important indicators to show the condition of your chain bucket elevator anytime:

- Machine KPIs: Chain Lifetime, Chain Condition, Chain Stress
- Last 30 days machine performance
- Current values of main variables: Chain Elongation, Motor Current, Temperature Boot & Head
- Detailed Trend Curves
- Machine Overview

## Achieve maximum capacity with additional safety and knowledge about the condition of your machines.



It keeps an eye on your machine, esp. when visible inspection is difficult or impossible

- Critical bucket elevators running 24/7
- Remote locations



It helps you to plan ahead and secure the timely availability of your spare parts & inspection

- Consider longer delivery times of remote areas
- Early initiation of order process



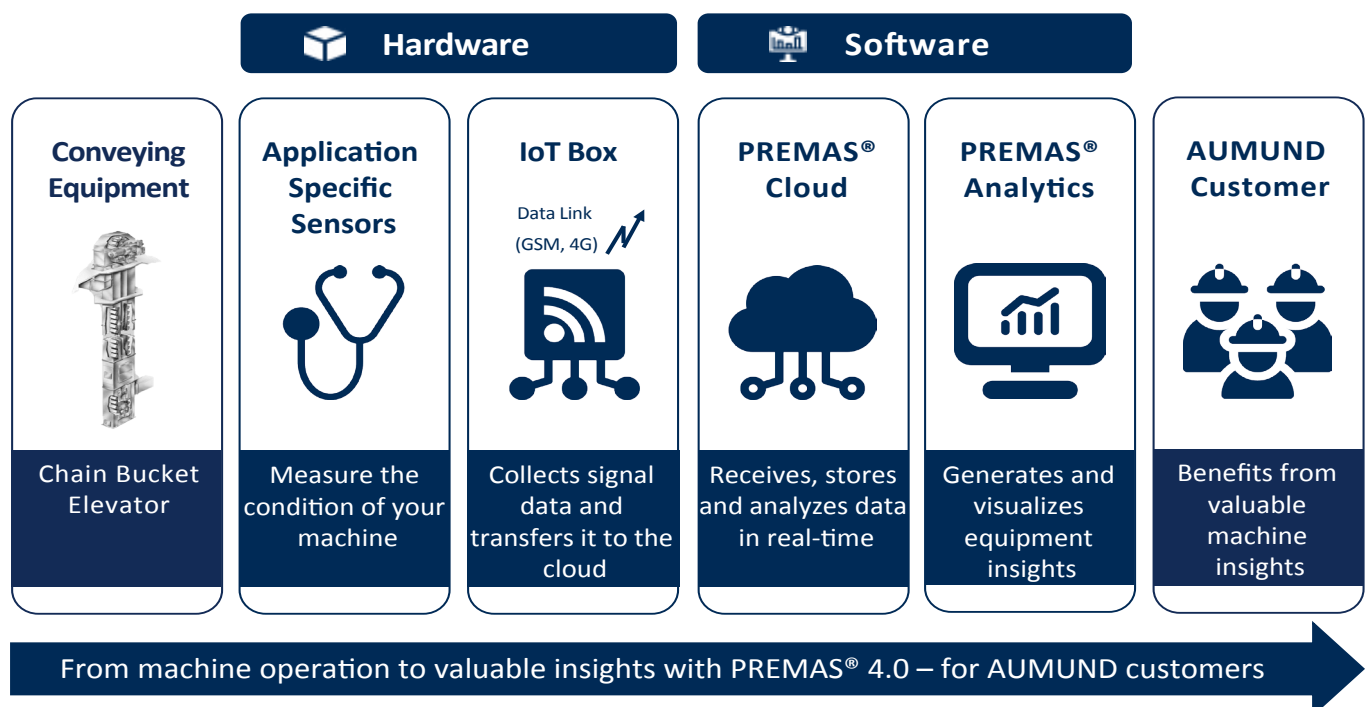
It supports you to reduce maintenance costs and increase machine reliability

- 24/7 knowledge about the condition of your machine
- Contact remote support when you need it

## How PREMAS® 4.0 reveals machine insights of your chain bucket elevators to your fingertips.

Our Predictive Maintenance Solution is specially made for conveying equipment in the heavy industry such as chain bucket elevators. Every machine receives a hardware package. Provided field sensors as well as some existing signals from the plant control system (motor current, level switch & speed switch) will be connected to the IoT Box, which sends the

collected data through mobile connectivity to the PREMAS® Cloud. There, the data will be analyzed based on the latest technologies for predictive analytics. The PREMAS® Portal visualizes and provides all relevant data for a complete online condition monitoring, securely online accessible to authorized users 24/7 through any mobile or desktop device.



## CHAIN Bucket Elevator: Field sensors to supervise and identify potential weak points of your conveying equipment

Connected to plant control system

Motor current (a)

Speed Switch [d]

Level Switch [d]

Connected to PREMAS® 4.0

Motor current (a)

Speed Switch [d]

Temperature Head (a)

Temperature Boot (a)

Chain elongation (a)

Level Switch, [d]

### Legend

(a) analogue signal  
[d] digital signal

Existing sensor

New sensor

Signal transfer of existing sensor

**Note:** sensors may be added as required to increase the condition monitoring.

**Start monitoring, achieve peace of mind!**  
**Detect vulnerabilities before your operation is affected.**

**Reap the benefits of a proactive and predictive maintenance strategy:**

- Optimized equipment availability and stoppages: PREMAS® Analytics
- Knowledge about the condition of your machine, anytime, 24/7: Online Condition Monitoring
- Reduced maintenance costs, OPEX: PREMAS® Analytics
- Increased machine reliability at high level of production: Online Condition Monitoring
- Prevention of critical failures, decreasing costs for collapse failure: PREMAS® Analytics
- Early and better planning of inspections and maintenance: Anomaly detection
- Optimized planning for spare parts stocking and reduced inventory costs: PREMAS® Analytics
- Improved remote support: PREMAS® Support





## All-in-one: the plug & play package for your machine:

- Sensors
- IoT Box
- Mounting Kit
- Installation Instruction
- Operation Manual
- PREMAS® Portal & Analytics

Besides the provided field sensors, existing signals from the plant control system are required: motor current, level switch and speed switch.

Plug & play: Simply install the box, connect it to the signals, log-in to the PREMAS® Portal and concentrate on your operation.



## Keep track of the condition of all machines – securely accessible anywhere, 24/7 including:

- Monitoring Dashboard
- Predictive Analytics
- Anomaly detection
- Notifications

You define who sees your data and manage the access to your portal.

### Your direct contact

**AUMUND Fördertechnik GmbH (Germany):**  
premas@aumund.de

**AUMUND SARL (France):**  
aumund@aumund.fr

**AUMUND Ltda (Brazil):**  
servicecenter@aumund.com.br

**AUMUND Corporation (USA):**  
parts@aumundusa.com

**AUMUND Asia (H.K.) Limited (China):**  
aftersales@aumund-asia.com

**AUMUND Machinery Technology (Beijing) Co. Ltd (China):**  
aftersales-china@aumund.com

**AUMUND Engineering Private Ltd (India):**  
aumundindia@aumund.in

**SCHADE Lagertechnik GmbH (Germany):**  
after-sales-market@schade-lagertechnik.com

**SAMSON Materials Handling Ltd (Great Britain):**  
spares@samson-mh.com

**PREMAS® 4.0**  
Predictive Maintenance Solution

PREMAS AG signs responsible for the technical data - technical data subject to change without notice.



<https://aumund.com/en/customer-support/premas4-0-predictive-maintenance-solution/>

[www.aumund.com](http://www.aumund.com)

## Technical Datasheet: PREMAS® 4.0 for Chain Bucket Elevators

PREMAS® 4.0 enables the early detection of wear and aging of important machine components at your conveying equipment. Please find below further technical details of the hardware of this Predictive Maintenance Solution.

### Field Sensor: Temperature

Measurement Range	-50°C to 150°C
Connection cable	4-wire connection to IoT Box
Signal type	4 to 20 mA
Location	1 at Boot, 1 at Head, mounted at machine wall
Transmitter required	No
External power supply required	No (24 VDC supply from IoT Box)
Protection class IP	IP67

### Field Sensor: Elongation

Measurement Range	0 to 400 mm
Connection cable	4-wire connection to IoT Box
Signal type	4 to 20 mA
Location	1 at Boot (mounted at parallel tension device)
Transmitter required	No
External power supply required	No (24 VDC supply from IoT Box)
Protection class IP	IP67

### Input Signals from Plant System

Motor current	Analogue signal: 4 to 20 mA
Level Switch	Digital signal (on/off): 0 to 24 VDC
Speed Switch	Digital signal (on/off): 0 to 24 VDC
Input Impedance	27.4 ohms

### IoT-Box

Material	Metal enclosure
Operation conditions	Ambient temperature from -30°C to 70°C
Size	30 x 40 x 21 cm (11.8 x 15.75 x 8.3 in)
Miniature circuit breaker	Compact, single phase, rated current 10A
Input types	8x analog, 5x digital
Output types	2x digital (warning/alarm to external)
Power supply	110 to 230 VAC (uninterrupted power supply – UPS)
Power requirement	25 W
Location	Nearby bucket elevator boot, protect from direct sunlight
Mobile communication	4G (LTE), UMTS/HSPA+, EDGE, GPRS, GSM
SIM Card	Global SIM card with data package included
Protection class IP	Dust proof (NEMA 4/IP65)

### Your direct contact

#### AUMUND Fördertechnik GmbH (Germany):

premas@aumund.de

#### AUMUND SARL (France):

aumund@aumund.fr

#### AUMUND Ltda (Brazil):

servicecenter@aumund.com.br

#### AUMUND Corporation (USA):

parts@aumundusa.com

#### AUMUND Asia (H.K.) Limited (China):

aftersales@aumund-asia.com

#### AUMUND Machinery Technology (Beijing) Co. Ltd (China):

aftersales-china@aumund.com

#### AUMUND Engineering Private Ltd (India):

aumundindia@aumund.in

#### SCHADE Lagertechnik GmbH (Germany):

after-sales-market@schade-lagertechnik.com

#### SAMSON Materials Handling Ltd (Great Britain):

spares@samson-mh.com