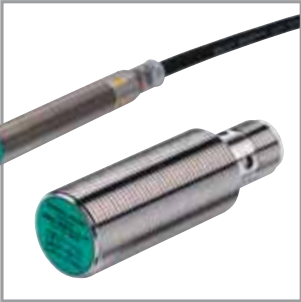
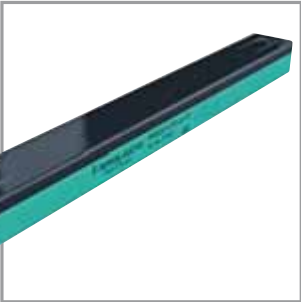




# SENSOR TECHNOLOGY FOR MOBILE EQUIPMENT



# HEAVY DUTY EQUIPMENT REQUIRES HEAVY DUTY SENSORS

Hard working mobile equipment requires sensors that can survive the most demanding environments. Scorching heat, freezing temperatures, rain, road salt, corrosive chemicals, radio frequency noise, and the highest levels of shock and vibration are just another day on the road.

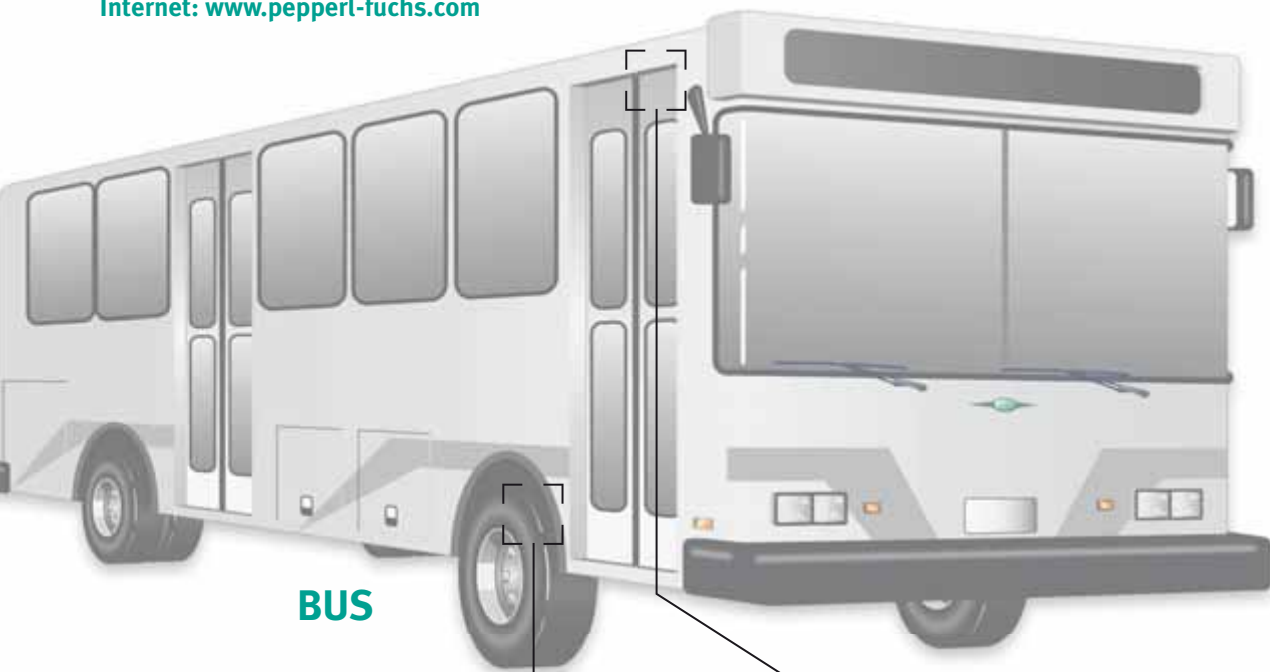
Designed with mobile equipment applications in mind, Pepperl+Fuchs provides the toughest and most versatile sensors on the market. When your equipment has to operate in extreme environments, choose the sensor that withstands the abuse. Should you have any questions please do not hesitate to contact us. Our specialists will be glad to help you.

Telephone: +49 (0) 621 776-4411

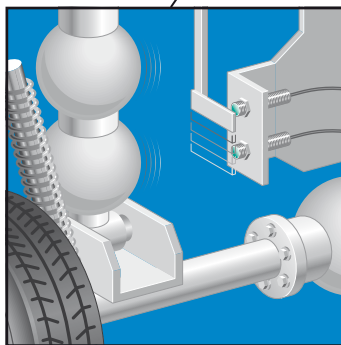
Fax: +49 (0) 621 776-27-4411

E-mail: [fa-info@pepperl-fuchs.com](mailto:fa-info@pepperl-fuchs.com)

Internet: [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com)

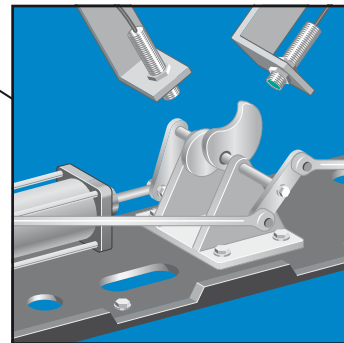


**BUS**



#### **Kneeler Position**

- Lowers bus suspension for easy step up
- Full extension and retraction verification
- Inductive Sensor M12, M18, M30 Series



#### **Door Position**

- Precise, fully opened and closed position
- Withstands continuous temperature fluctuations
- Inductive Sensor M12, M18, M30 Series

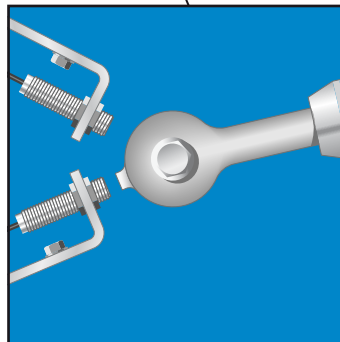


## REFUSE TRUCK



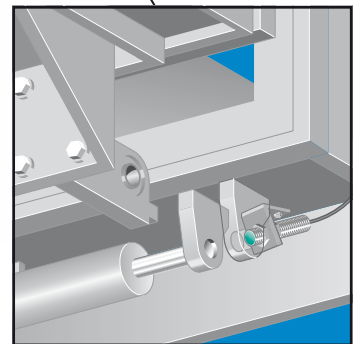
### Fork Position

- Fork retracted and stowed
- Fully encapsulated/moisture proof
- Metal Face Sensor M12, M18, M30 Series



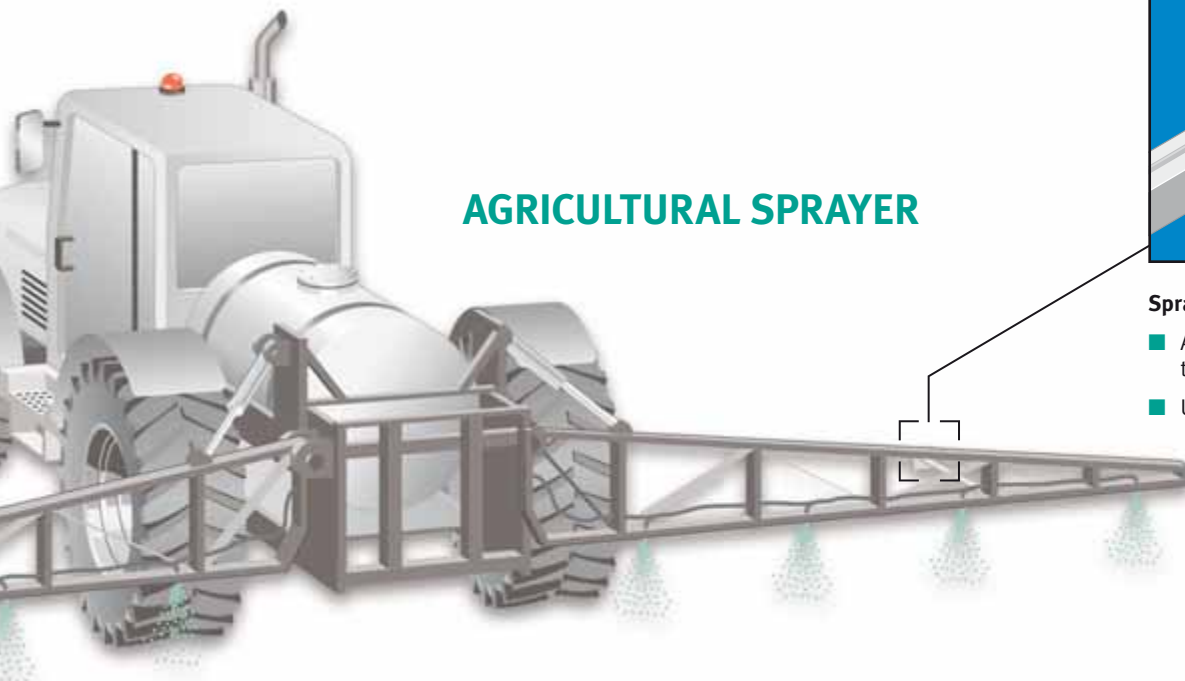
### Compaction Cylinder Position

- Confirms full extension and retraction
- -40 °C temperature rating
- Inductive Sensor M12, M18, M30 Series

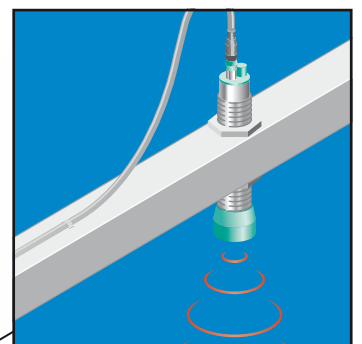


### Rear Door Locking Pin

- Door is locked and secured
- Salt spray and corrosion resistant
- Inductive Sensor M12, M18, M30 Series



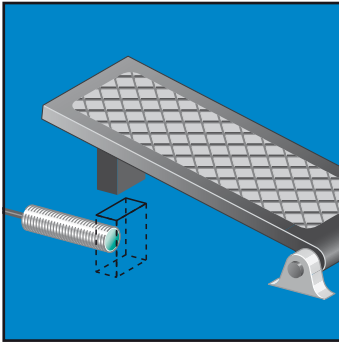
## AGRICULTURAL SPRAYER



### Sprayer Height Monitoring

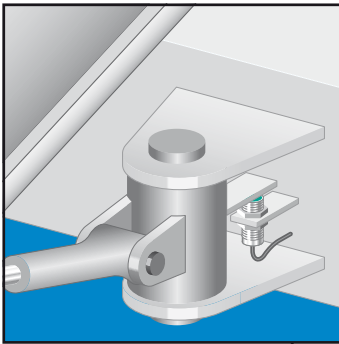
- Automatically adjusts sprayer to proper height over crops
- Ultrasonic Sensor 30GM Series

## DUMP TRUCK



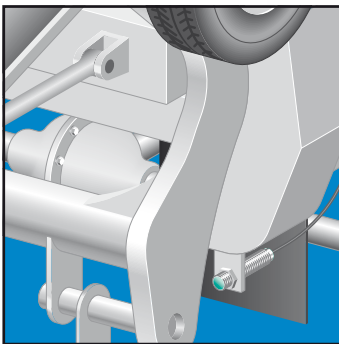
### Brake Pedal Position

- Prevents transmission engagement while braking
- Initiates brake light
- Inductive Sensor M12, M18, M30 Series



### Chute Position

- Confirms chute is in center position
- Allows fifth wheel to be lowered or raised
- Inductive Sensor M12, M18, M30 Series



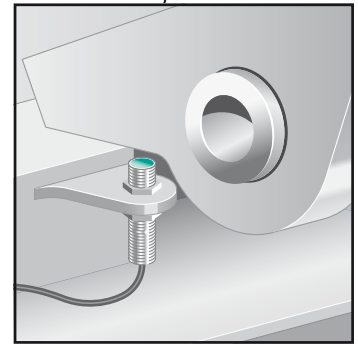
### Fifth Wheel Position

- Fifth wheel is locked in the "up" position
- Survives extreme shock and vibration
- Inductive Sensor M12, M18, M30 Series



### Drum Rotation

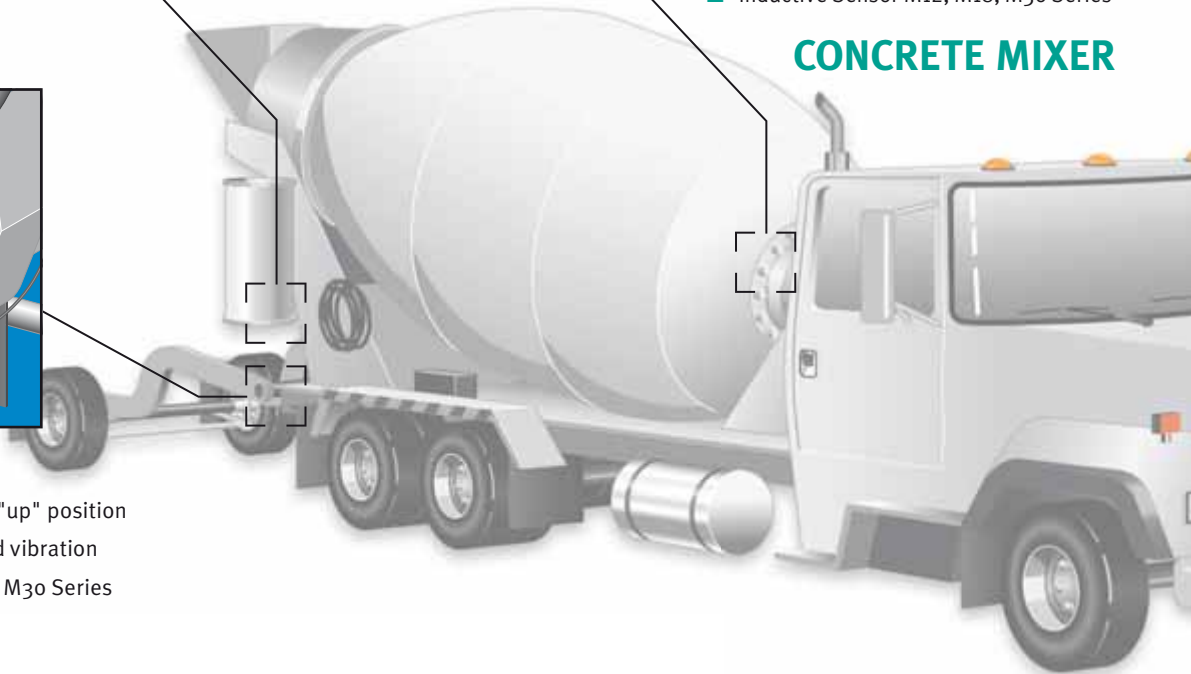
- Counts drum revolutions
- Ensures proper mixing
- Inductive Sensor M12, M18, M30 Series

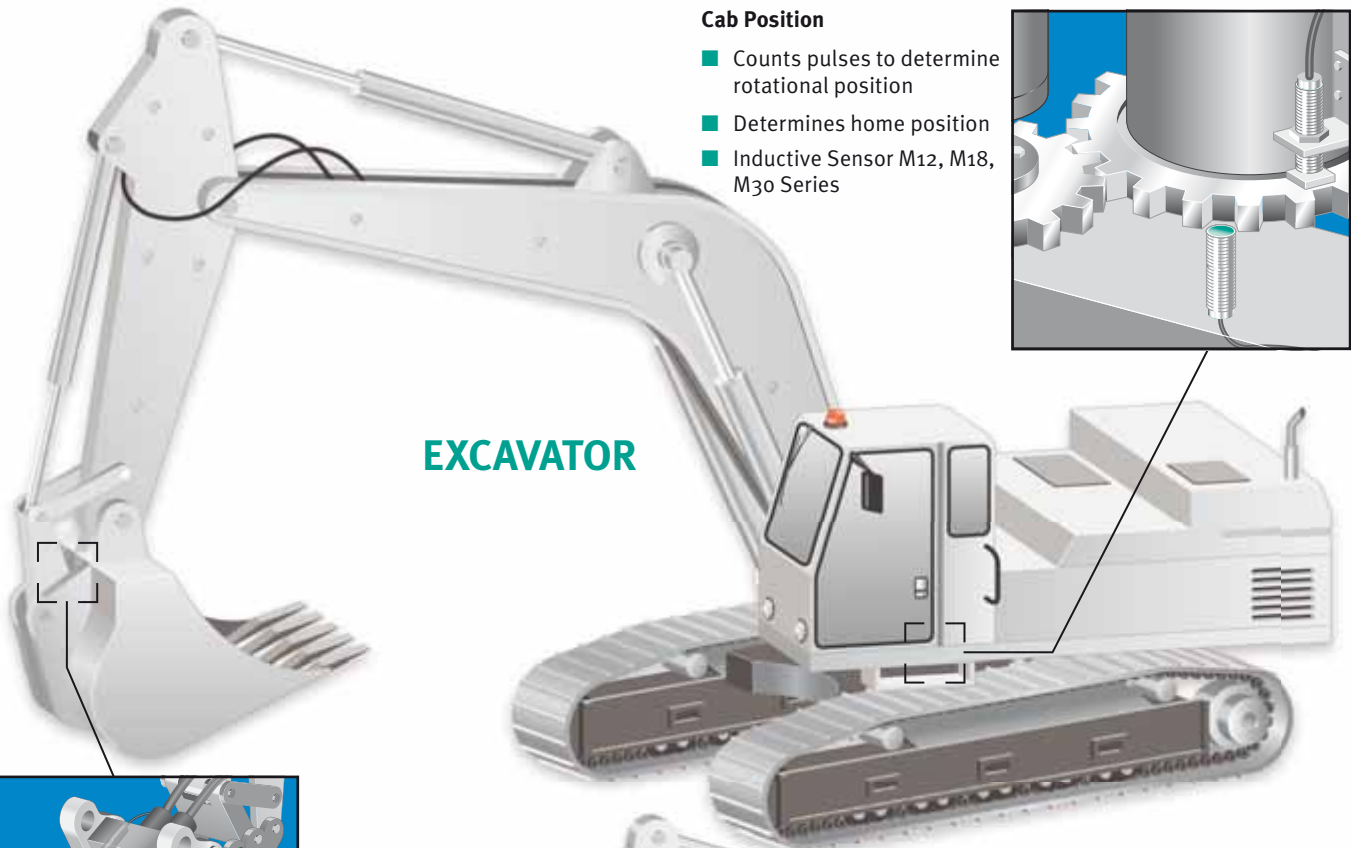


### Dump Bed Down Position

- Provides feedback when dump bed is down
- 100 V/m radio frequency immunity
- Inductive Sensor M12, M18, M30 Series

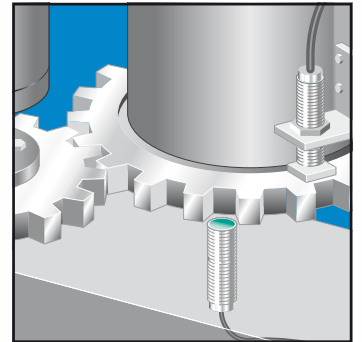
## CONCRETE MIXER



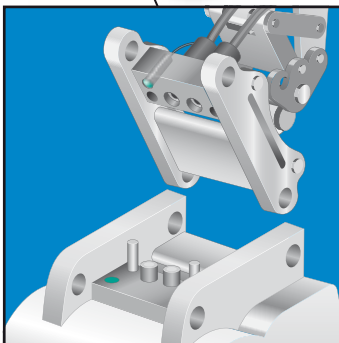


**Cab Position**

- Counts pulses to determine rotational position
- Determines home position
- Inductive Sensor M12, M18, M30 Series

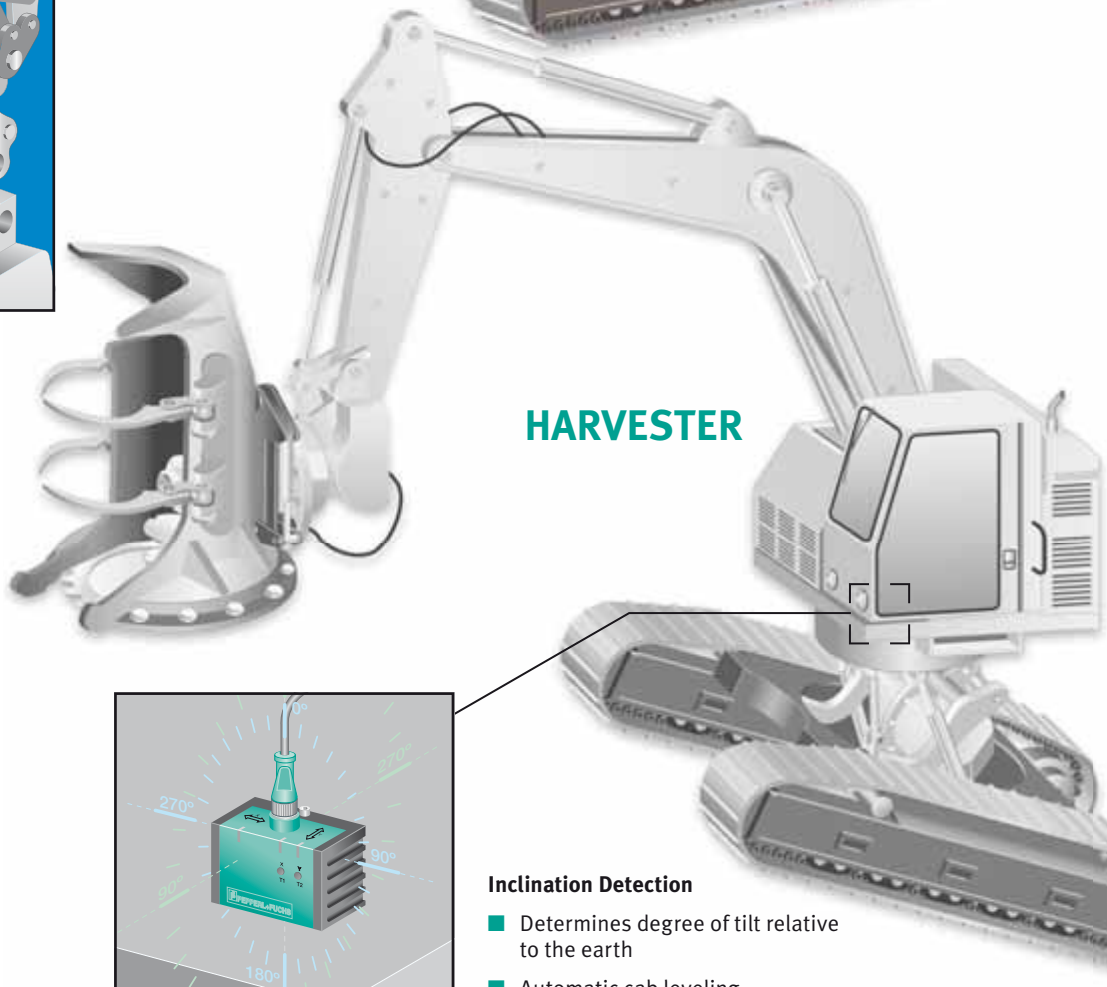


**EXCAVATOR**



**Attachment Detection**

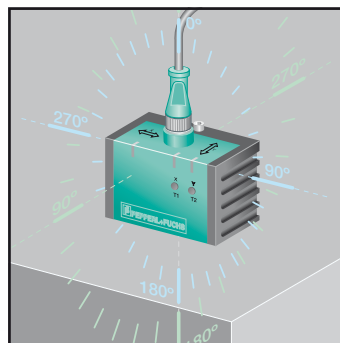
- RFID of attachment tool
- Inductive sensor monitors attachment tool presence
- IDENTControl Compact



**HARVESTER**

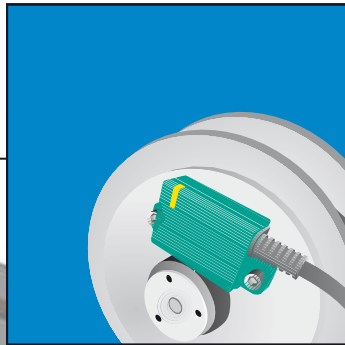
**Inclination Detection**

- Determines degree of tilt relative to the earth
- Automatic cab leveling
- Inclination Sensor F99 Series



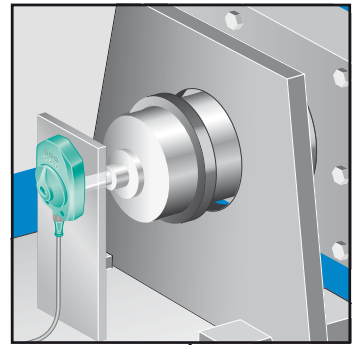
## Rotation Indicator

- Resistant to oil, water, shock vibration
- MNI40N

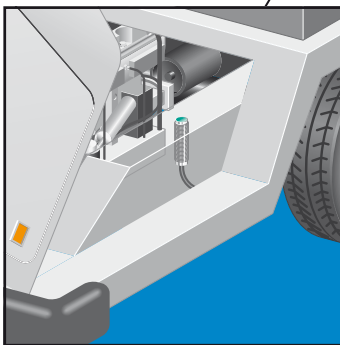
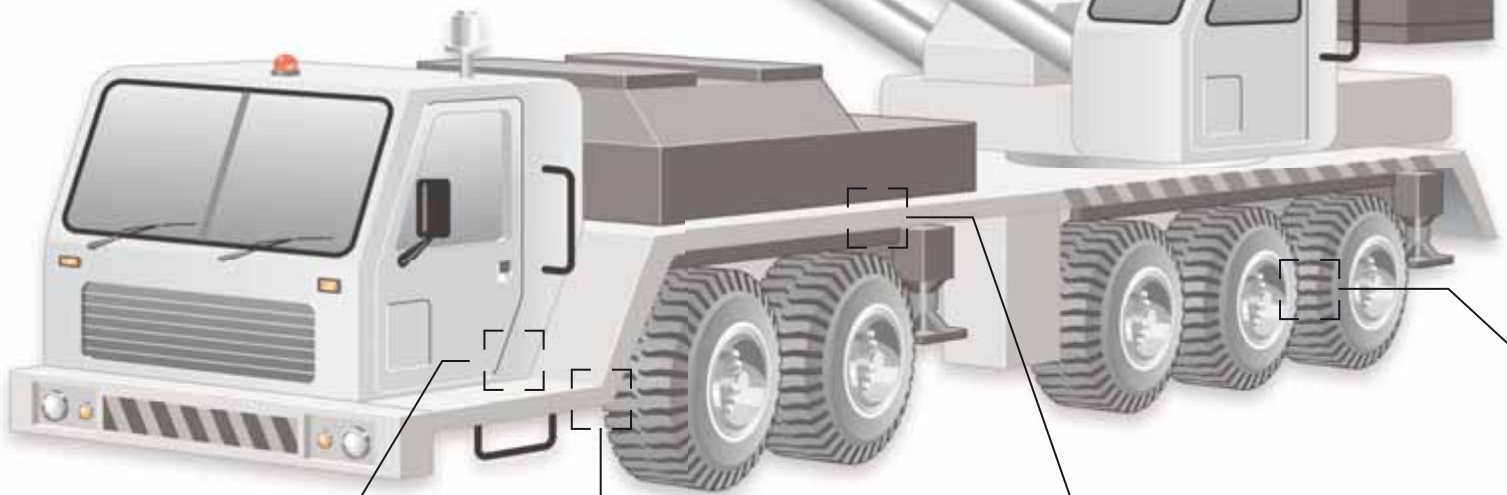


## Boom Position

- Measures absolute boom angle position
- 360° analog inductive technology
- Survives heavy washdown
- PMI F130 Series

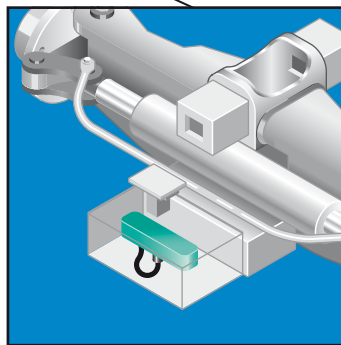


## CRANE



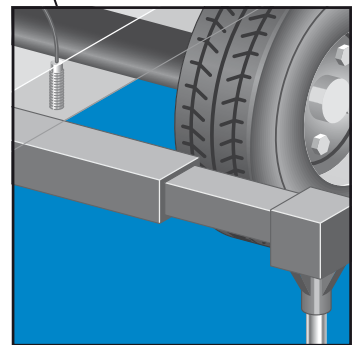
## Cab Home Position

- Precise positioning
- Inductive Sensor M12, M18, M30 Series



## Continuous Absolute Wheel Steer Position

- Analog inductive sensor
- Exact wheel steering position
- PMI F90 and F110 Series

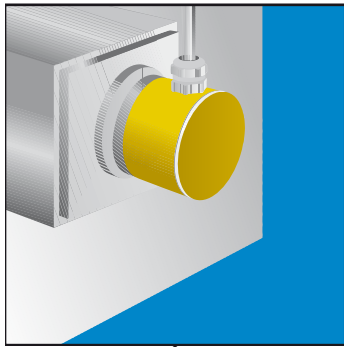


## Outrigger Monitoring

- Outrigger extended and retracted
- Extended sensing range
- Inductive Sensor M12, M18, M30 Series

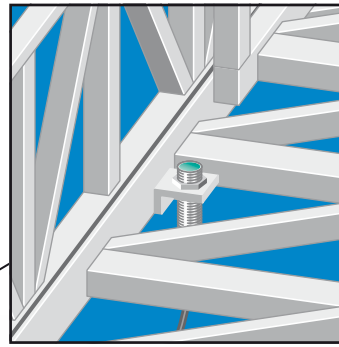
### Boom Position

- Measures absolute boom angle position
- Single-/Multiturn rotary encoder
- Fieldbus interface
- Certified Safety
- Safety Encoders

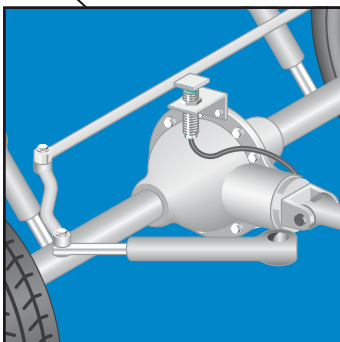


### Rung Position

- Precise alignment of ladder rungs
- Inductive Sensor M12, M18, M30 Series

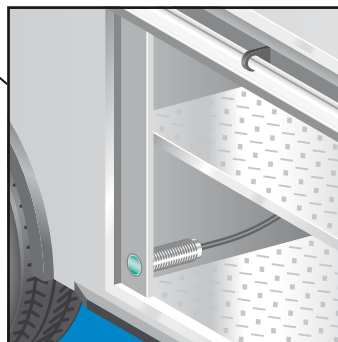


## FIRE TRUCK



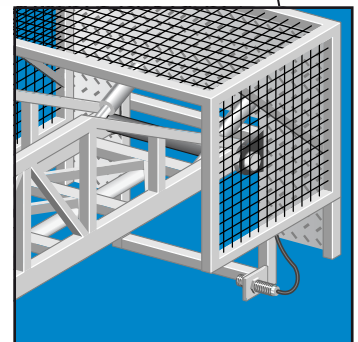
### Wheel Steer Home Position

- Confirms rear steering wheels are centered
- Inductive Sensor M12, M18, M30 Series



### Storage Door Position

- Verifies storage door closed
- Saves equipment from loss
- Inductive Sensor M12, M18, M30 Series



### Cage Position

- Cage stowed
- Inductive Sensor M12, M18, M30 Series

## PMI POSITION MEASURING SYSTEMS

### Series F90, F110, F130

- Non-contact inductive positioning and angle positioning
- Wear-free and contamination-resistant
- Fully-encapsulated and suitable for use under harsh ambient conditions
- Wide range of functions through parameterizable measurement range and switching range



## F99 INCLINATION SENSORS

- Extremely robust measurement principle and enclosure
- Measurement range: 0° ... 360°
- High shock resistance: 100 g
- Temperature range: -40 °C ... +85 °C
- Degree of protection: IP68 and IP69k
- e1 approval 2006/28/EC
- Noise immunity: 100 V/m according to DIN-ISO 11452-2
- Current, voltage and switching outputs, CANopen



## METAL FACE SENSORS

### Series NMB... M12, M18, M30

- Robust design
- Stainless steel enclosure
- Degree of protection: IP69k
- PUR cable



## CABLE AND PLUG SOLUTIONS

- Standard automotive connectors from our suppliers on request



## INDUCTIVE CYLINDRICAL SENSORS

### Series M12, M18, M30

- Robust design
- Temperature range: -40 °C ... +85 °C
- Degree of protection: IP68 and IP69k
- Oil-resistant PUR cable
- e1 approval 2006/28/EC
- Noise immunity: 100 V/m according to DIN-ISO 11452-2

e 1



## CYLINDRICAL ULTRASONIC SENSORS

### Series M30

- Non-contact separation distance measurement by means of ultrasound
- Robust design
- Temperature range: -40 °C ... +85 °C
- Stainless steel enclosure
- Wear-free and contamination-resistant
- Current, voltage and switching outputs



## ROTARY ENCODERS

### MNI40N Magnetic Incremental Rotary Encoders

- Resistant to oil and water, IP67
- Highly shock/vibration resistant, 100 °C
- Long service life due to bearing-free technology

### Safety Rotary Encoders

- Certified functional safety
- For systems up to SIL3 according to IEC 61508
- Performance level e according to ISO 13849



## IDENTCONTROL COMPACT

- PROFIBUS, PROFINET, Ethernet TC/IP and serial interfaces
- Rugged metal housing in IP67 with M12 connection



### Contact

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