Eilersen
The Weighing Experts

NEXT GENERATION

DIGITAL LOAD CELLS

- Robust digital load cells
- Tolerate up to 1000% overload
- Accuracy up to OIML C6 (MI10)
- Easy installation
- Stainless steel (IP68)
- ATEX certified zone 1, 2, 21, 22
- Patented worldwide
- Trusted in over 85 countries worldwide

Experts in Weighing since 1969

Since the foundation in 1969, the Eilersen companies in Denmark and Switzerland have been dedicated to the development, manufacture and supply of high quality robust industrial sensors based on a capacitive measurement principle.

This extensive know-how is patented worldwide and invested in the current range of digital load cells. The capacitive technology developed by Eilersen features a number of advantages compared to other technologies used in sensors for measuring force and weight.

The Eilersen load cells feature excellent specifications, high reliability, simple installation and minimal maintenance for the use in tough and demanding industrial environments. Eilersen load cells are available with Profibus DP, DeviceNet, EtherNet/IP, EtherCAT, Modbus ASCII/RTU, RS485/422, RS232, 4-20mA and 0-10VDC interfaces, and can be supplied in OIML and ATEX certified versions.

The Eilersen customers are found among leading companies in more than 85 countries worldwide.

Certificates

OMIL R60

EC Type Approval

ATEX

Selected References

FedEx Express, Carlsberg, ALSTOM, Nike, Coca-Cola, DANISCO, Vestas, Nestlé, Tetra Pak, MÆRSK, Unilever, Alfa Laval, DHL, ABB, KRAFT, P&G, DONG energy, UPS, novo nordisk, Pfizer, Flügger 福乐阁, Barilla, metso, BRIDGESTONE, COLGATE-PALMOLIVE, AkzoNobel, novozymes, Lonza

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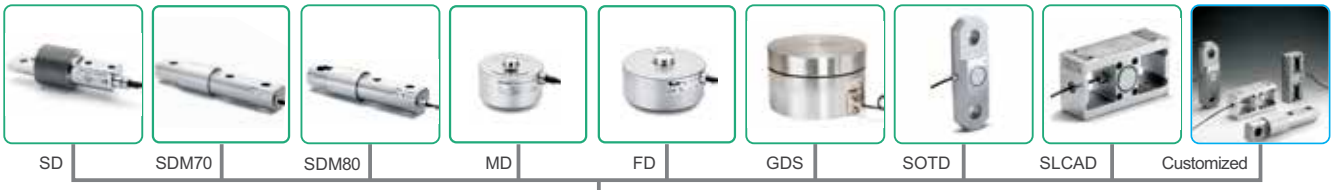
Process Installation Examples

2000 Generation Load Cells



SD | SDM70 | SDM80 | MD | FD | GDS | SOTD | SLCAD | Customized

Load cell module
MCE2010

Terminal module
MCE9601

24Vdc

2000 Generation Modules

Weighing Terminal
(LED/LCD)
MCE9625

Profibus DP module
(Profibus DP)
MCE2035
(for 1~8 load cells)

DeviceNet module
(DeviceNet)
MCE9637
(for 1~8 load cells)

Serial module
(RS232/RS485/422)
MCE2040
(for 1~8 load cells)

Weighing Terminal
(LCD)
5024G

Analog module
(4-20mA, 0~10VDC)
MCE2029
(for 1~8 load cells)

EtherNet/IP module
(EtherNet/IP)
2050
(for 1~8 load cells)

4000 Generation Load Cells

SPSX | BBLA | DLA | DMA | BBMA70 | BBMA80 | DHA | Customized

4000 Generation Modules

24Vdc

24Vdc

ATEX

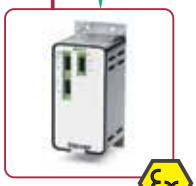
4X29
Analog module
(4-20mA,0-10VDC)
(for 1~4 load cells)

4X35A
Profibus DP module
(Profibus DP)
(for 1~4 load cells)

4X37A
DeviceNet module
(DeviceNet)
(for 1~4 load cells)

4X40A
Serial module
(RS485)
(for 1~4 load cells)

4X50A
EtherNet IP module
(EtherNet IP)
(for 1~4 load cells)



4051A
ATEX power supply

Weighing Terminals

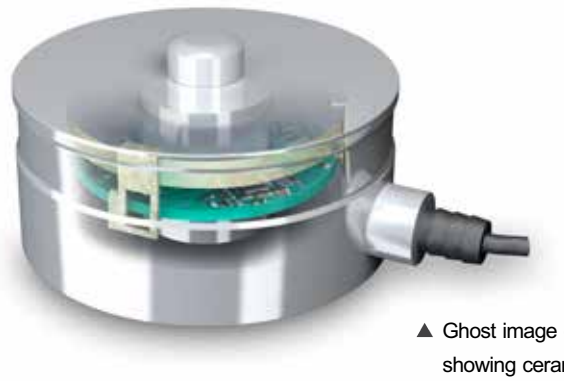
Terminal (LCD)
5024G

Terminal (LED/LCD)
MCE9625

Load Cell Overview

NON-ATEX	**SD**	**SDM**	**SPSX**	**SPSXL**	**MD**	**FD**	**GDS**
ATEX	**BBLA**	**BBMA**	**SP5075A**		**DLA**	**DMA**	**DHA**
Load Cell Type							
Compression					■	■	■
Bending Beam	■	■					
Single Point			■	■			
Load Cell Features							
Digital	■	■	■	■	■	■	■
Stainless Steel	■	■	■	■	■	■	■
IP68	■	■	■	■	■	■	■
Robust	■	■	■	■	■	■	■
Applications							
Process Weighing	■	■	■	■	■	■	
Tank, Vessel & Silo	■	■			■	■	■
Filling & Dosing	■		■	■	■		
Level Measurement					■	■	■
Dynamic Weighing	■	■	■	■			
Scales	■	■	■	■	■		
Conveyer Belts	■	■	■	■			
Heavy Duty		■		■	■	■	■
On-Board Weighing		■					
Offshore Applications	■	■			■	■	■
Specifications							
Maximum Capacity	1.000kg	7.500kg	150kg	150kg	5.000kg	50.000kg	500.000kg
Overload Tolerance	> 300% of Rated Capacity						
Output Options	RS485, Profibus DP, DeviceNet, EtherNet/IP, Modbus ASCII/RTU, 4-20mA, 0-10Vdc, EtherCAT, ProfiNET (pending)						

Weighing terminal type 5024G for panel mounting ►



▲ Ghost image of digital compression load cell showing ceramic sensor and pcb

DIGITAL CAPACITIVE TECHNOLOGY

The Choice for Industrial Applications

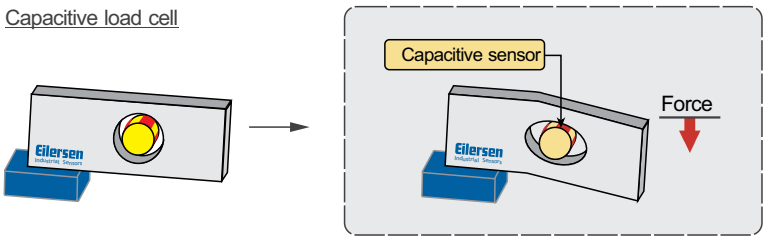
The Eilersen digital capacitive technology is based on a non-contacting ceramic sensor mounted inside the load cell body. As the load cell contains no moving parts and the ceramic sensor is not in contact with the load cell body, the load cell tolerates very high overloads, sideloads, torsion and welding voltages.

Therefore, the mechanical installation of the load cell can be done without expensive and complicated mounting kits and overload protection devices.

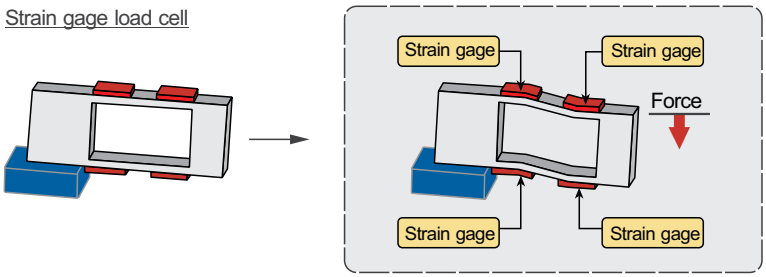
The capacitive measurement from the ceramic sensor is directly converted to a RS485 signal which is transmitted through the single wire RG-58 coaxial cable to a weighing module.

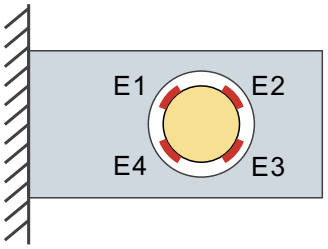
The technology and mechanical design of the Eilersen load cells is covered worldwide by a number of patents.

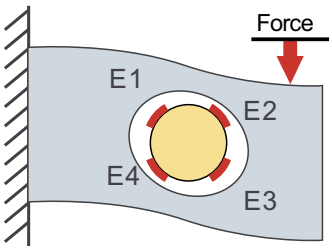
Capacitive load cell



Strain gage load cell







The Eilersen digital capacitive technology is based on an accurate and stable ceramic sensor, which is non-contacting and therefore unaffected by overloads, sideloads, torsion and welding voltages.

DIGITAL CAPACITIVE TECHNOLOGY (continued...)

The True Digital Weighing Solution

The electrical installation of the Eilersen digital load cell is pure plug-and-play as the signal from the non-contacting sensor is directly converted, compensated and calibrated by a microprocessor in the load cell to a digital output in grams, kilograms, or Newton. Measurements and status codes are transmitted on the single wire coaxial load cell cable (RG-58) which may be up to 100 meters long.

This design results in unsurpassed flexibility, high data rates and allows for connection to a wide range of equipment and interfaces (PLCs, PCs, Weighing Terminals, Displays, Profibus DP, EtherNet/IP, EtherCAT, DeviceNet, Modbus ASCII/RTU, RS232, RS485/422, 4-20mA, and 0-10VDC).

High Accuracy and Easy Installation

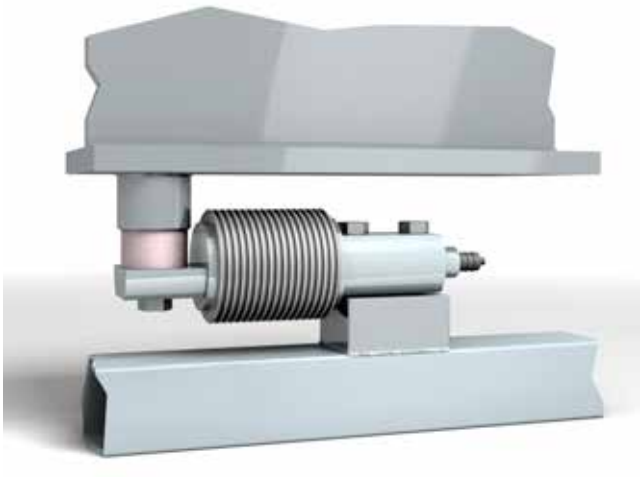
Eilersen load cells are factory calibrated and compensated to ensure the highest accuracy (up to OIML C6 MI10) and quality on the market.

The robustness of the Eilersen load cells allows a very simple and hygienic mechanical installation. The simple installation eliminates the need for maintenance and reduces the total cost of ownership.

The load cell cable can be mounted on-site if necessary and the cable length (up to 100 meters) has no influence on the calibration of the load cell.

It is possible to monitor the load and status of each individual digital load cell which provides visibility, easy troubleshooting and saves time during commissioning.

▲ Hygienic tank weighing installation



▲ Simple installation of Eilersen beam load cells

CHOOSE EILERSEN WEIGHING SOLUTIONS

TOP 10 REASONS

Part 1

No. 1 Robust Load Cells for Industrial Applications

The Eilersen load cells tolerate very high overloads, sideloads and torsion. The load cells are hermetically sealed (IP68) to ensure superb waterproof protection for tough industrial applications. Furthermore, the load cells are available in capacities up to 500ton.

No. 2 Simple Mechanical Installation

Mechanical protection devices are not necessary when installing Eilersen digital load cells. This is an important cost and maintenance saver.

No. 3 Simple Electrical Installation

The Eilersen digital load cells feature true plug-and-play installation as the load cells are pre-calibrated to transmit the load directly in gram, kilogram, ton or Newton which eliminates the need for on-site calibration in many applications.

No. 4 ATEX Certified Solutions

The Eilersen weighing solutions are ATEX certified for installation in ATEX Zone 1, 2, 21, and 22.

No. 5 Excellent Specifications

The Eilersen digital load cells can be supplied in very high accuracy (up to OIML C6 MI10) while still maintaining a very high overload tolerance.

▲ Installations in more than 85 countries worldwide

No. 6 Hygienic Installations

The simple mechanical installation without overload protection devices ensures hygienic installations with a minimal need for maintenance.

No. 7 Dynamic Applications

The Eilersen digital load cells feature sampling rates of up to 1.000 measurements per second and a deflection of less than 100µm at Rated Capacity.

These characteristics result in a high frequency of resonance which together with a wide variety of digital filters makes it possible to achieve a very fast response for dynamic applications.

▲ Hygienic weighing solutions for food and pharma industries

CHOOSE EILERSEN WEIGHING SOLUTIONS

TOP 10 REASONS

Part 2

No. 8 Intelligent Load Cells with Integrated Diagnostics

For solutions using the Eilersen digital load cells, it is possible to monitor the load and status of each individual load cell with the integrated diagnostics feature.

The Eilersen digital load cells will send an error code if maintenance should be required for fast and easy troubleshooting.

Furthermore, a damaged load cell can be exchanged without the need for re-calibration. This is an important feature in high capacity applications where it is difficult to find calibration weights.

▲ Robust and reliable weighing solutions

▲ Installations in more than 85 countries worldwide

No. 9 Easy Integration

Electronic modules are available for converting the data output from the Eilersen digital loads cells to a host of standard industrial interfaces (Profibus DP, DeviceNet, EtherNet/IP, EtherCAT, Modbus, RS485/422, RS232, 4-20mA, 0-10Vdc).

The digital technology is optimal for equipment with more than one load cell as several load cells can be connected to a single digital com port and thereby avoiding cabling and analog input cards.

No. 10 Quality

All Eilersen load cells are individually calibrated and compensated to ensure that all load cells meet the highest quality standard on the market.

▲ Solutions for web tension measurement

▲ Installations in food processing lines

Customized Load Cell Examples

▲ Customized load cells

Weighing Terminals

▲ Weighing terminal type 5024G mounted in stainless steel box

Hygienic Robust Scales

Eilersen has developed a range of scales to meet the increasing demands from the food and pharmaceutical industries

Scales integrated in the production process have to meet the requirements to hygiene while being so robust that a forklift can drive into or over the scale without damaging the load cells. Furthermore the scale must to be very safe and easy to clean.

The range of hygienic and robust scales from Eilersen fulfils these requirements.

Safe and easy to clean

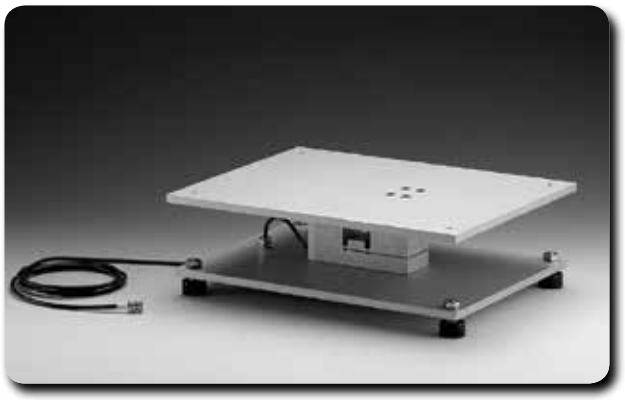
Special Features

- Very robust and **hygienic design**
- Can handle up to **300% overload**
- Equipped with Eilersen robust **digital load cells**
- Available in many different configurations
- Available with local indicator and/or **interface to PLC or PC**
- Weighing capacity up to **5.000kg**

Robust scale
without bacterial traps

Very safe to handle

Easy to clean



Robust bench scales

Options

- Customized versions can be made by request
- Can be supplied in versions that can be certified for sale
- Can be supplied in versions for installation in ATEX Zone 1, 2, 21 or 22

Customized stainless steel scales

Specifications

- Capacity: Up to 5.000kg
- Dimensions: can be made according to customer requirements
- Material: AISI304 or 316
- Power supply:
  230VAC or 24VDC +/- 10%, min. 2A

- Local Indicator and/or interface to PC/PLC
  - Profibus DP
  - DeviceNet
  - EtherNet/IP
  - Modbus ASCII/RTU
  - 4-20mA
  - 0-10Vdc
  - EtherCAT (pending)
  - ProfiNet (pending)

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