

# AXD Digital load cell



# AXD

## Digital single point load cell

AXD is a single point load cell with embedded electronics



- ▶ AXD load cell is designed to be directly connected to automated systems
- ▶ It offers advanced process control functionalities
  - Allows the control of static process as well as dynamic.
  - Allows the control of mono-product dosing processes.

# Presentation

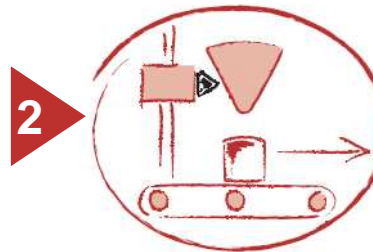
## AXD-D applications

### Measurement transmitter



- High speed measurement acquisition and transmission
- Triggering and sampling functions

### Dosing



- Mono-product dosing by filling or by unloading
- Fine and coarse feed management
- Automatic in-flight correction



▶ AXD load cells is perfectly adapted for high speed liquid filling

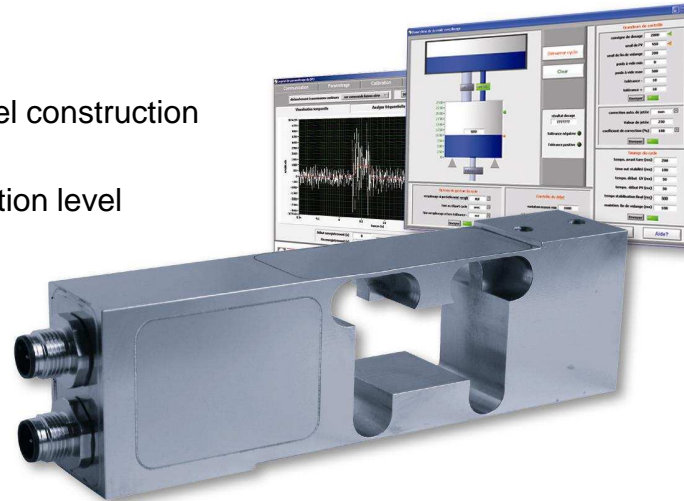
# Presentation

## Main specifications

Stainless steel construction allow a perfect adaptation to the environment

### ► Construction

- Stainless steel construction
- Full welded
- IP69K protection level



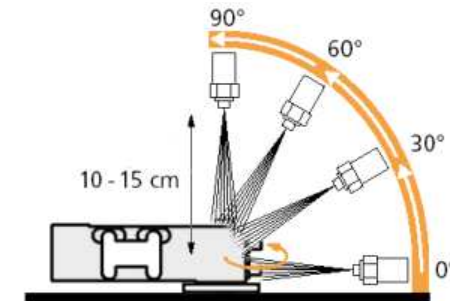
### ► Electrical

- Power supply 10-28V
- Connection by M12 5/8 poles connectors

### ► Metrology

- Capacity 15, 30 and 75kg
- Max. platform size 400x400mm
- Resolution max. 500 000 d
- Factory calibration & gravity correction
- User scaling

# IP69K



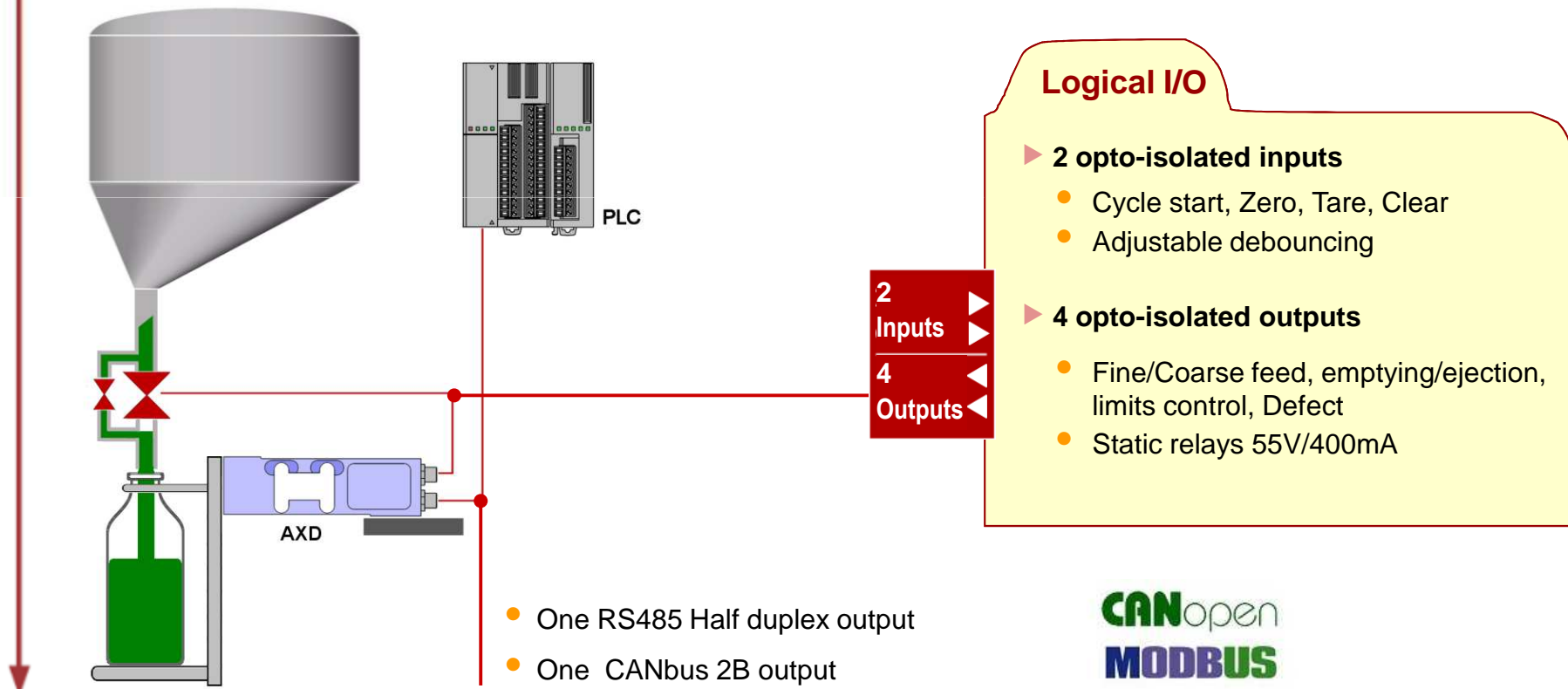
- 30 sec. cycles
- 14 - 16 l per minute
- water 80°C



# Interfaces

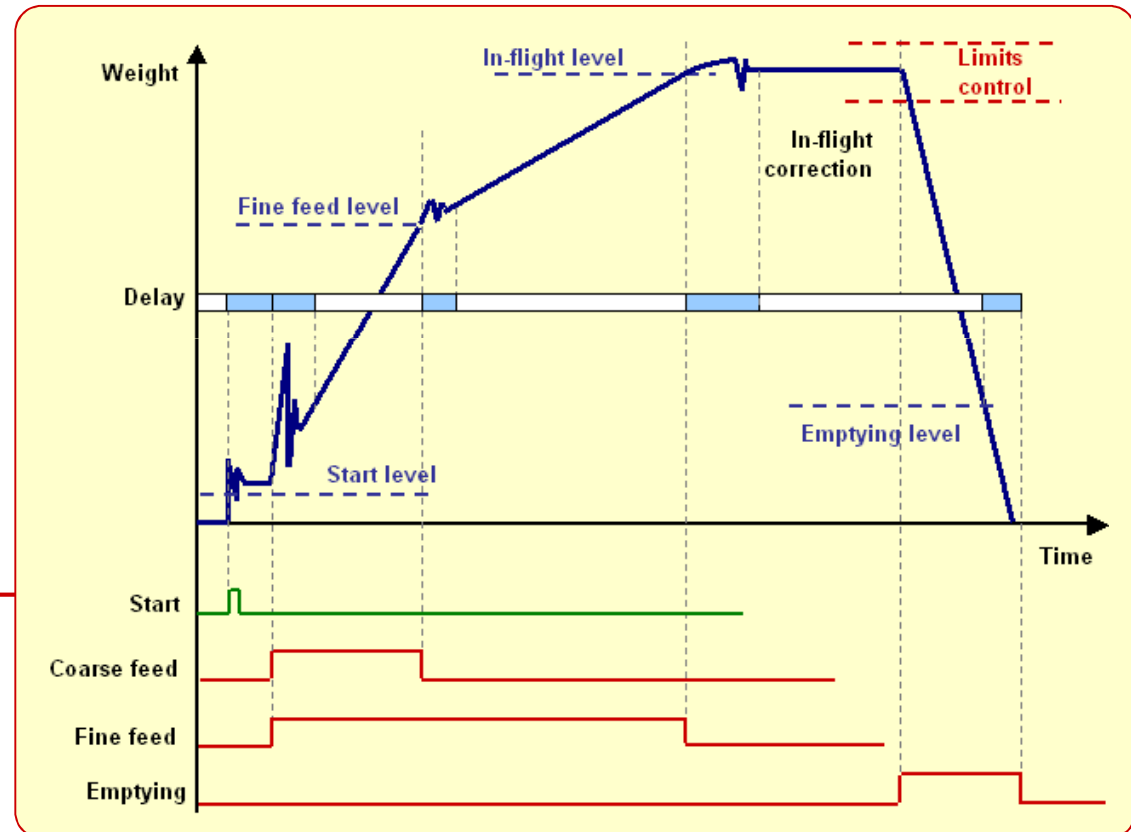
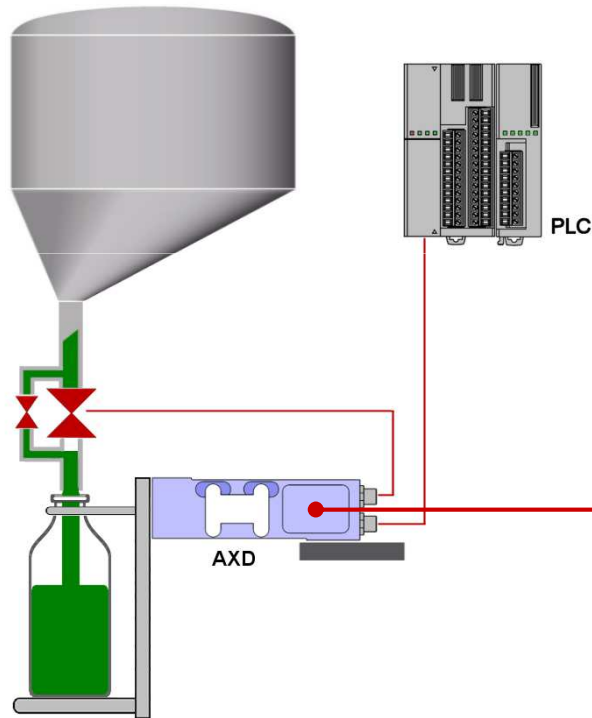
## AXD-D interfaces

Easy integration into the automated systems



# AXD presentation

## AXD-D filling functions

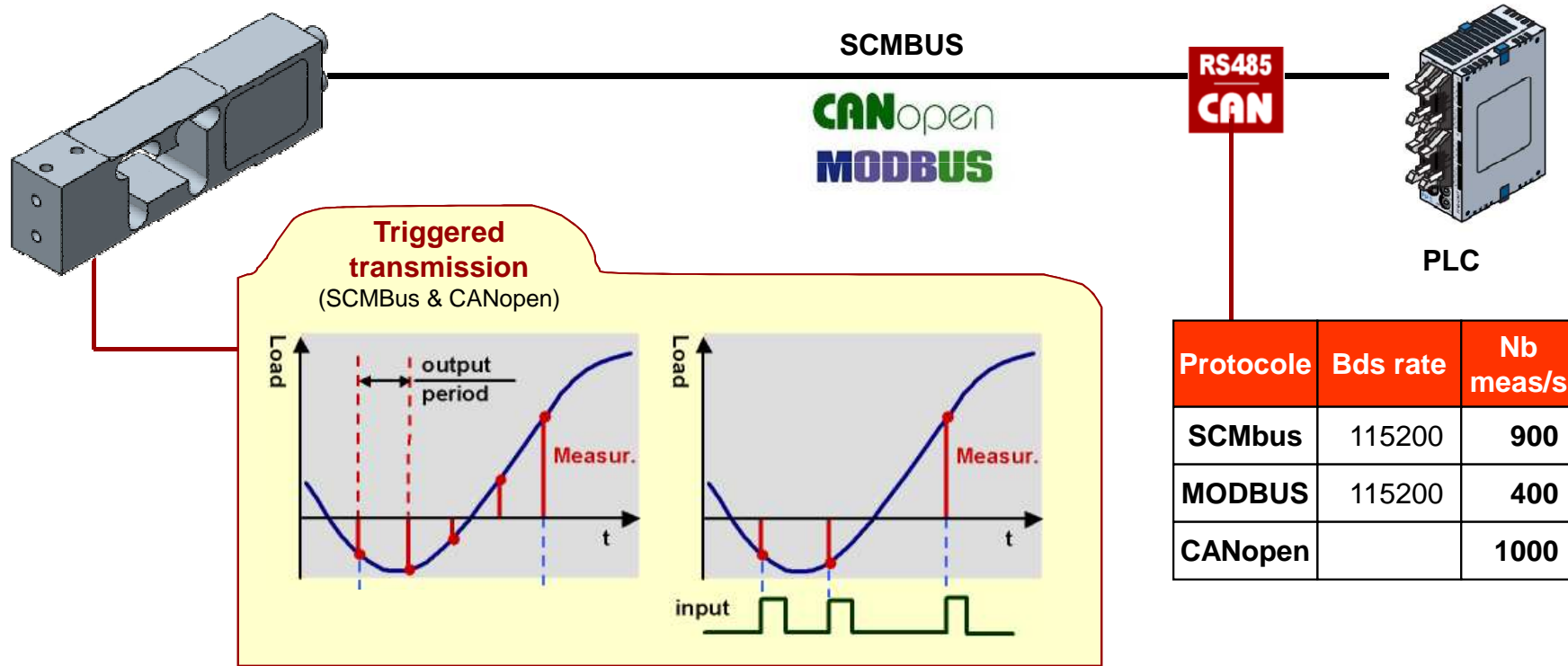


- ▶ AXD manages the dosing process with parameters coming from the PLC

# Measurement transmission

## AXD weight transmission functions

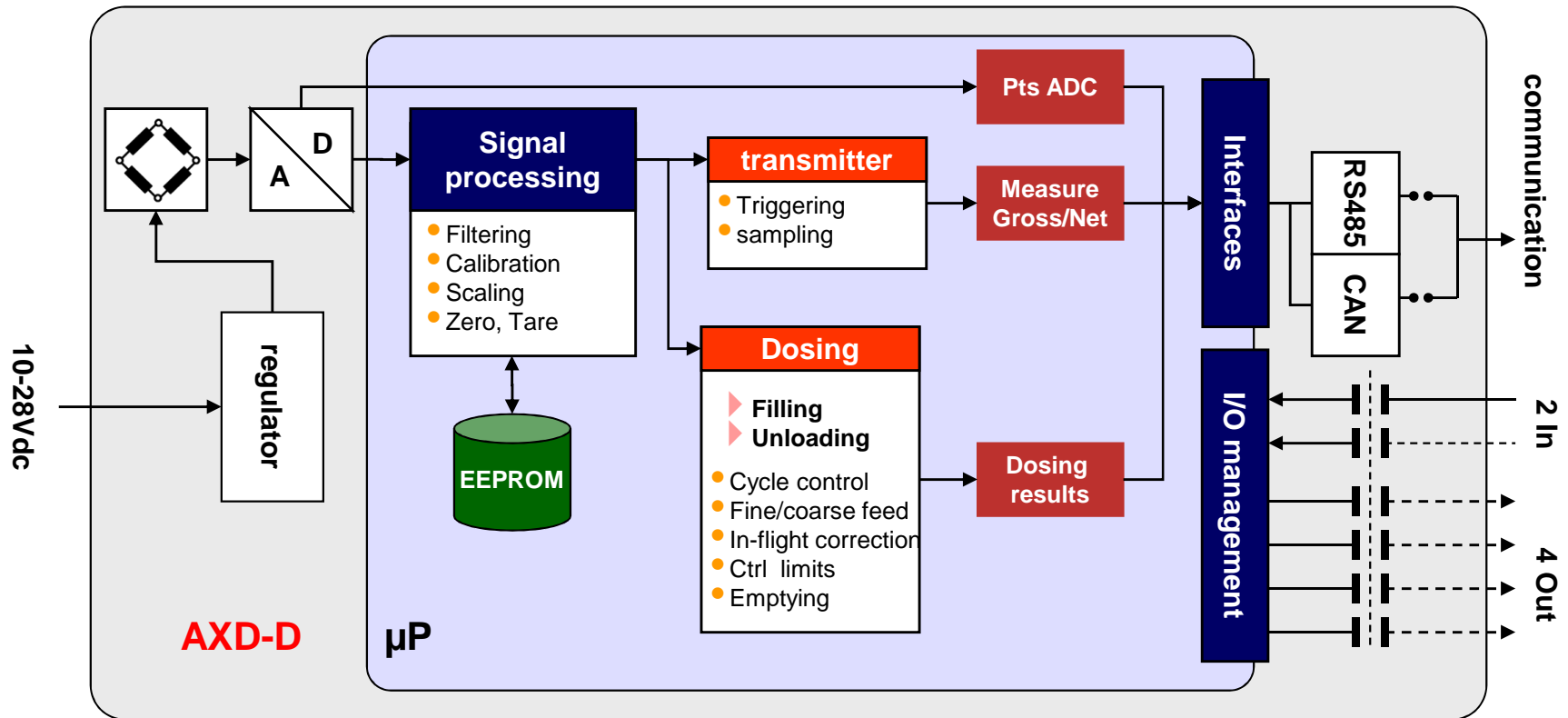
- ▶ AXD allows high speed measurement acquisition and transmission



Protocole	Bds rate	Nb meas/s
SCMbus	115200	900
MODBUS	115200	400
CANopen		1000

# Structure

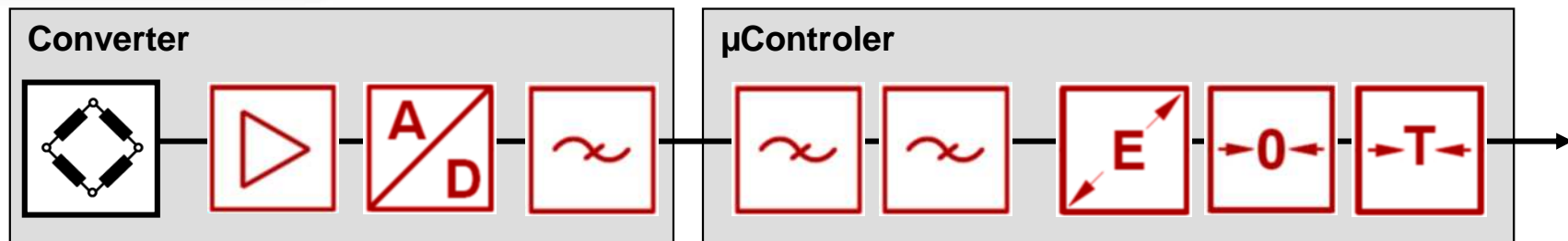
## AXD-D Internal structure



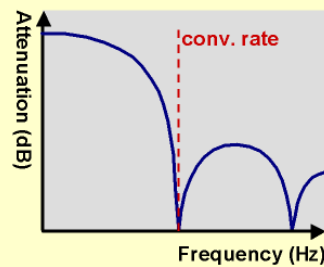


# Signal processing

## AXD Signal processing tools

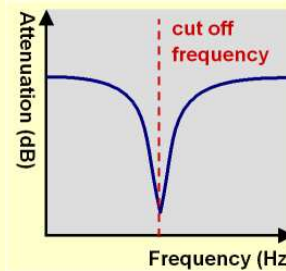
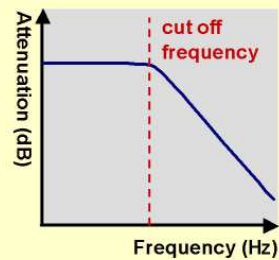


- 24 bits resolution
- Conv. rate 6 to 1600Hz with Low-pass filter



### Post-Filtering

- Bessel/Butterworth
- Band-cut filter



- Permanent factory calibration
- **500 000d at max capacity**
- User scaling on factory calibration
- Gravity correction

# AXD Summary

## Main Advantages of AXD

- ▶ **IP69K protection level**
- ▶ **Thanks to its new measuring principle, the AXD present an unbeatable combination of :**
  - Very high accuracy
  - Highest protection level allowing its use in wash down applications.
  - High resistance against side force without any additional devices



# AXD Summary

## Main Advantages of AXD

- ▶ AXD electronics is designed around the latest 24-bit A/D converter.
- ▶ AXD dosing firmware integrate algorithms optimized for rotary liquid filling machines.
- ▶ To meet the needs of high speed weighing, it uses a library of powerful digital filters.
- ▶ To set up the application, SCAIME provide the eNodView PC freeware allowing to optimize the dosing process and triggering events.

