

**HAYER & BOECKER**



**ELECTRICAL ENGINEERING + AUTOMATION**



**HAYER MEC® 4.0**

**WEIGHING – CONTROLLING – OPERATING**

# HAYER MEC® 4.0 – ELECTRONICS FOR WEIGHING

The MEC® 4.0 is the result of the continuous development of the HAYER electronic weighers in the seventh generation. So far more than 30,000 electronic units are operating on HAYER filling machines. The newly developed MEC® 4.0 is a modularly designed machine control system, customised to suit HAYER needs, with integrated PCT-approved weigher electronic system that can be calibrated.



HAYER weighing technology since 1925

## Weighing

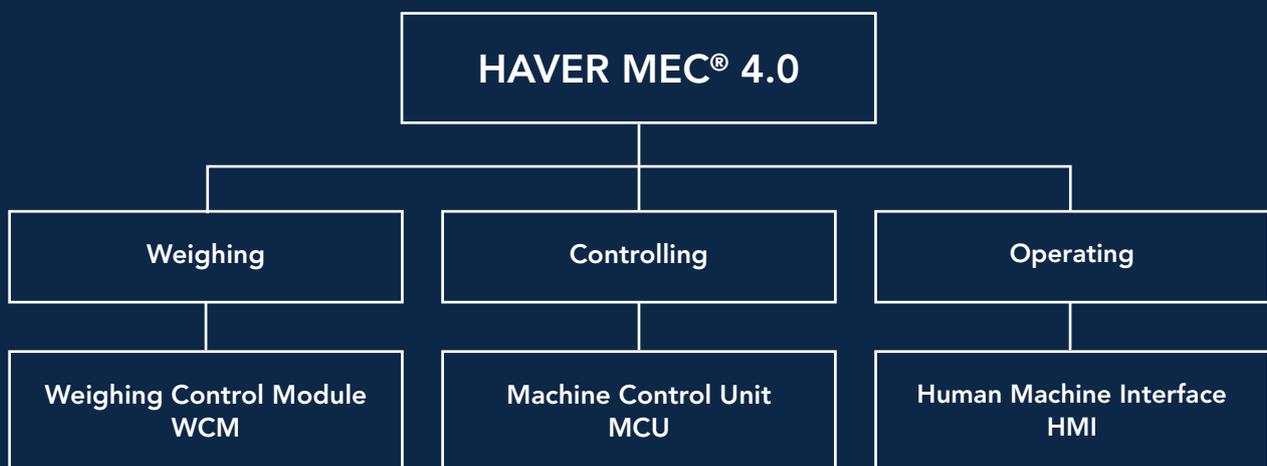
The analogue-digital converter (WCM) senses and amplifies the weight signal. Once it is converted into digital form, the actual value is transmitted for control and display.

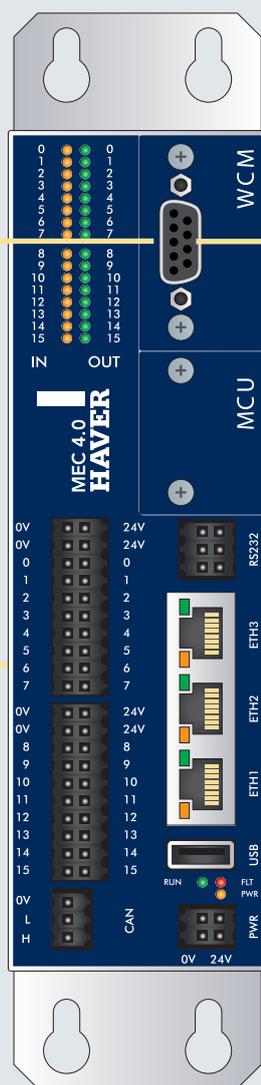
## Controlling

The MCU controller records the conditions of the machine through sensors. Combined with wishes of the operator, the process is shown in the programme and the actuators are controlled. Moreover, it takes over the communication of the single modules that are networked with each other.

## Operating

The HMI terminal is the central operating location. It enables communication between the entire machine and the operator. Using comfortable and clear graphics, the operator can rapidly carry out all necessary settings.





Weighing Control Module  
WCM

Machine Control Unit  
MCU

Human Machine Interface  
HMI



## Applications

- Cement-limestone-gypsum industry
- Building materials and minerals industry
- Chemical industry
- Foodstuffs and pet food industry
- Paint and lacquer industry
- Petrochemical industry
- Fertiliser industry
- Coal and ore industry
- Recycling industry

# HAYER MEC® 4.0 – CUSTOMER ADVANTAGES AT A GLANCE

## Function

- Weighing, controlling and operating all in one unit
- Achieving individualised customer solutions
- Proven HAYER technology

The effective integration of the various control tasks into a single unit results in a high level of availability and huge flexibility for our customers.

The control system is optimally structured and offers all functions for a rapid, secure and exact filling process.

Necessary adjustments or diagnoses are shown on a display. This results in reduced training needed for operators and maintenance personnel.

The ability to program freely offers a rapid match-up to the product or plant requirements.

The usual high quality that one expects from HAYER assures maximum plant operating times.

## Operating

- Single-button operation
- Intuitive operating concept
- Dynamic operation
- One operation for the machine and weighing system
- Scratch-resistant glass surface
- Central display that can be calibrated for all weighers, also by remote radio control

There is only a single operation for the machine and weighing system.

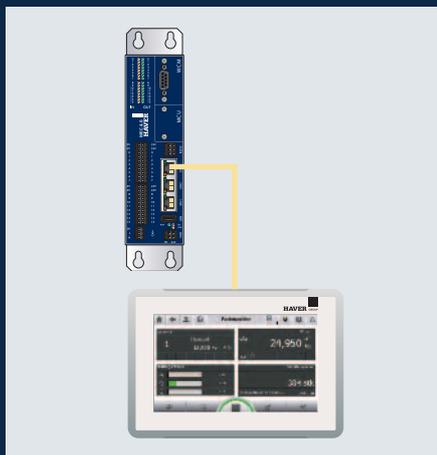
Thanks to the new concept, the operator is quickly guided through the menu with little training. The single-button philosophy shortens the processes for starting and stopping production. The long-lasting, scratch-resistant glass surface offers a high level of operating time. The central display shows all weight values and operating conditions. Data transmission by radio communication assures maximum system reliability.

## Service

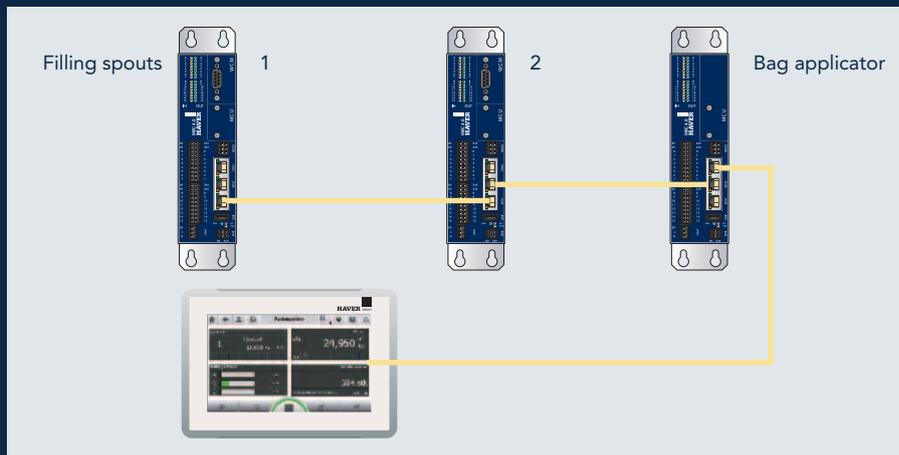
- Rapid replacement of spare parts
- Replacement of the controller without violating the calibration seal
- Reduced need for spare parts
- Rapid procurement of spare parts
- Remote maintenance and diagnostics
- High capability of adaptation to on site customer wishes

The improvements to our electronic weigher offer our customers an even greater level of service convenience. The memory card with all programmes, set-up parameters and operational data can be rapidly exchanged by maintenance personnel without special tools, loss of data and without violating the calibration seal. The use of identical components for all HAYER machines reduces the number of spare parts. A connection with the HAYER Hotline via the Internet assures rapid assistance and reduces machine downtime.

## Structure HAYER NET WEIGHER



## Structure HAYER INTEGRA®



# EXAMPLES OF APPLICATION



HAVER NET WEIGHER

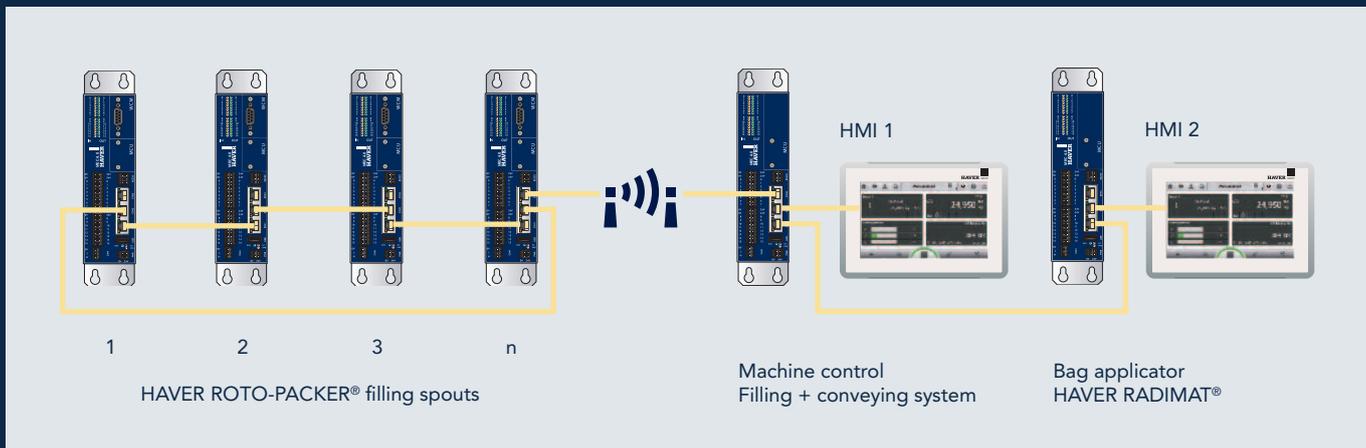


HAVER INTEGRA®



HAVER ROTO-PACKER® with bag applicator HAVER RADIMAT®

## Structure HAVER ROTO-PACKER® with bag applicator HAVER RADIMAT®



# HAVER MEC® 4.0 – MODULES AND ADDITIONS

## MEC® 4.0 system

All equipment of the MEC® 4.0 series is based on robust technology. Metal housings, high temperature resistance and protection against electromagnetic interference enable trouble-free and reliable operation.

## Machine Control Unit: MCU

The MCU is the central unit of the MEC® 4.0 series. It is equipped with digital inputs and outputs, Ethernet switch and serial interfaces for communication with all peripherals. The necessary data are centrally stored on the SD memory card. An insert port offers a place for an analogue-digital converter.

## Digital Control Unit: DCU

The DCU can be attached to the MCU and offers connections for additional digital sensors and actuators.

## Analogue Control Unit: ACU

The ACU is for the connection of additional digital or analogue actuators and sensors. The ACU can be attached to the MCU.

## Weighing Control Module: WCM

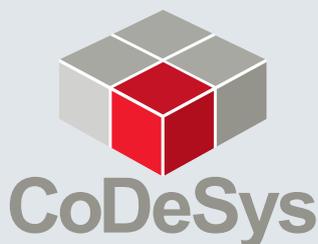
The WCM is a premium quality analogue-digital converter. A combination of high sampling rates, fine resolution, intelligent filters and rapid processing frequencies enables an exact weight determination and switching off the dosing process. OIML certification and approval as to the 2004/22/EG directive clear the way for worldwide use.

## Weighing Interface Unit: WIU

The WIU offers the possibility of connecting further analogue-digital converters to the central unit (MCU).

## Human Machine Interface: HMI

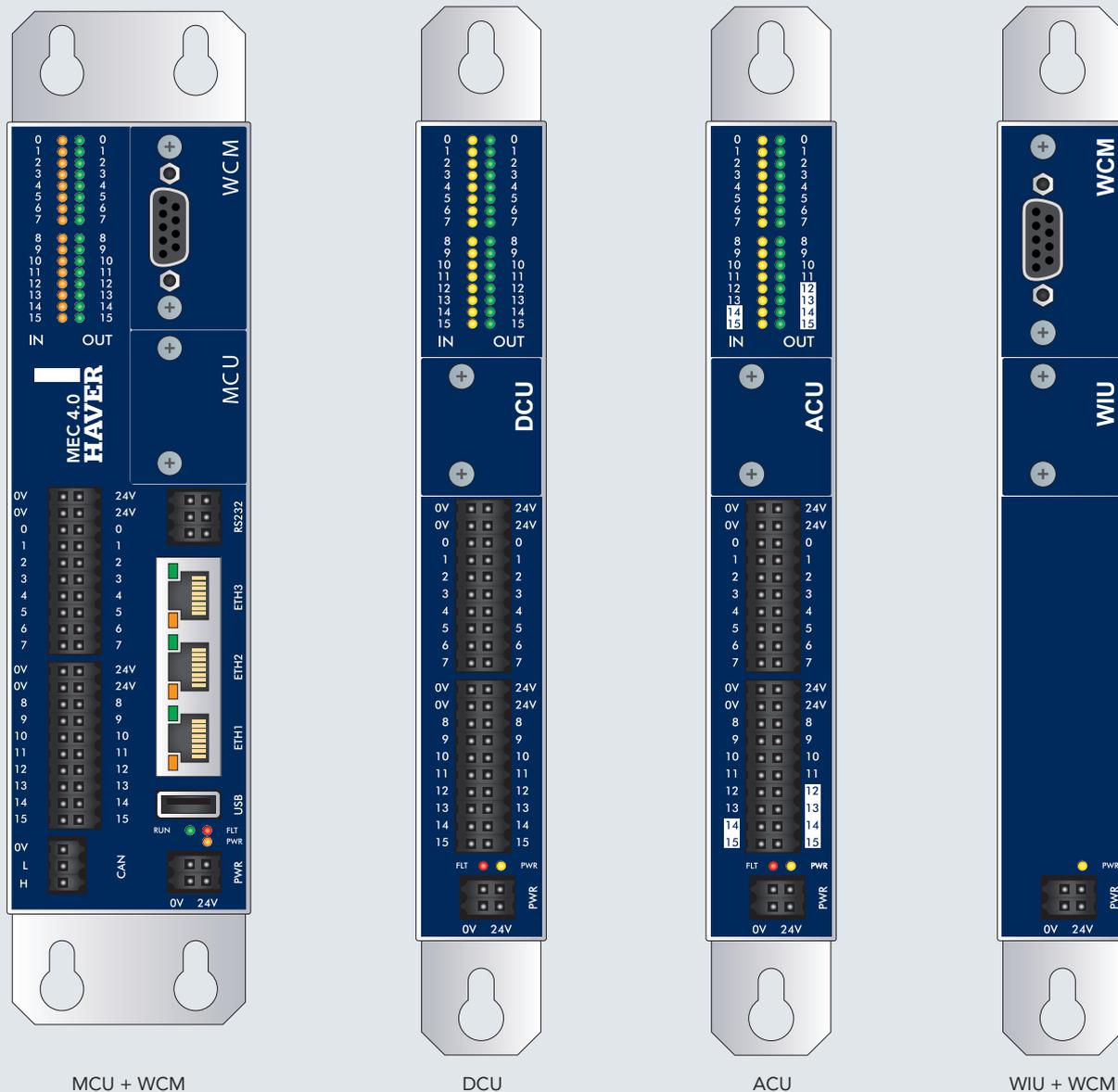
The HMI is the interface between the operator and the machine. For use in rough conditions, a scratch-resistant glass surface is available for the 7" or 12" widescreen colour display. The HMI is a touchscreen monitor equipped with a pluggable storage medium. All diagnostic data are stored on the SD card of the MCU.



By using the 3S software CoDeSys, the requirement of the globally recognised IEC 61131-3 programming directive is fulfilled.



The proven HAVER-DPS software is compatible with the MEC® 4.0 series and offers a convenient collection stage for production data.



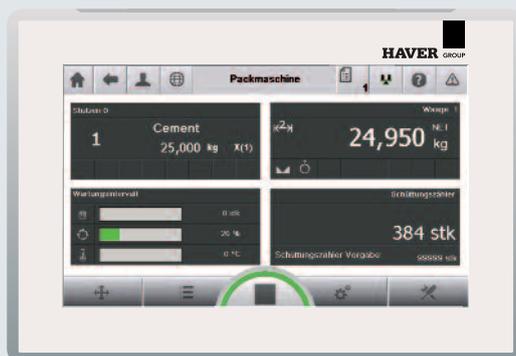
MCU + WCM

DCU

ACU

WIU + WCM

The HMI is supplied in the 7" or 12" version, depending on the application.



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