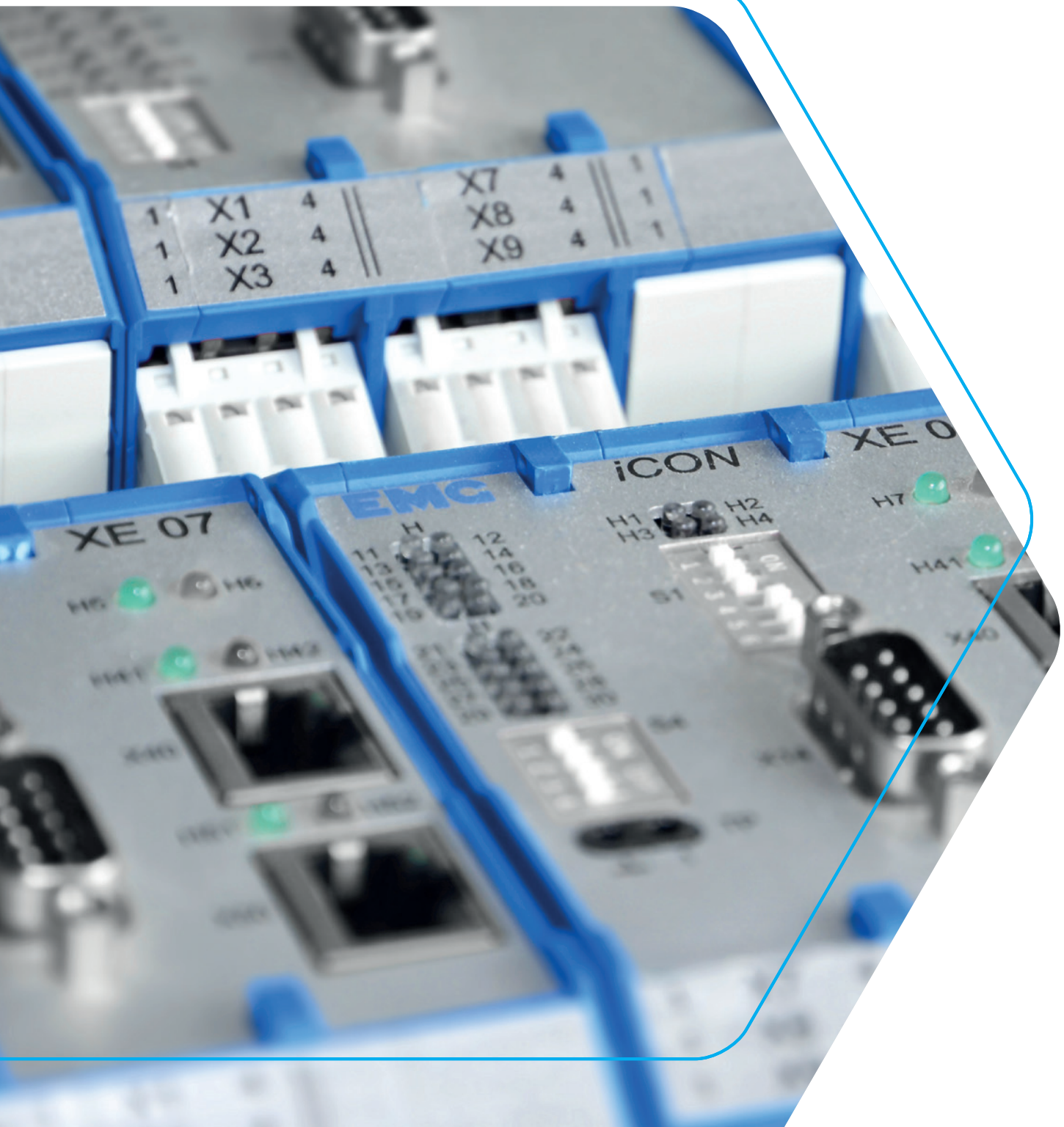
EMG
an ELEXIS company

Intelligent digital controller

# EMG iCON®




EMG iCON®

# THE intelligent controller for every control duty

The EMG Automation GmbH has long-time experience and expertise in the development and application of modern control electronics. The know-how of EMG Automation covers the whole range of modern control electronics, including our own hardware development as well as software programming and the competent application consulting for the customer.

With the intelligent control system EMG iCON® EMG provides one series for all applications including a graphical HMI with touch function (EMG iCON® VS). The system is scalable to all customer's needs because different modules can be individually arranged and combined on a DIN rail.

Due to the compact and modular-design the system is not mechanically limited and very flexible. The connection of the single components is realised via fieldbus CANopen.
With the use of different controllers or extension modules the systems supplies a variable performance and spare parts handling is much easier through the combination of several compact single modules.

With its compact, scalable design and fast processing performance, the EMG iCON® intelligent control system offers the ideal solution for all applications of the EMG strip guiding and quality assurance systems.

At the heart of this is the EMG iCON® XE with its various connections to different customer fieldbus systems.

## Performance features EMG iCON®

- logiCAD/32 programming and new Fieldbus controller with higher flexibility
- graphical 7" touch panel (EMG iCON® VS) as HMI
- control system based on basic module EMG iCON® XE and scalable extension modules EMG iCON® VS, IO, IS
- housing can directly be arranged on DIN rail
- spring-loaded terminal, connection max. 1.5 mm²
- including analogue AD/DA interfaces
- different fieldbus systems available

## Possible applications EMG iCON®:

- all types of quality assurance systems
- all types of strip guiding systems, e.g.:
  - rolling mill or furnace guiding equipped with EMG iCON® IO
  - applications where high weights have to be moved (e. g. coiler and recoiler) can be fitted with EMG iCON® SV
  - using long distance transducers (e. g. double head coiler) can be realised with EMG iCON® IS
- efficient hardware basis with individual extension possibilities

## Technical features EMG iCON® XE:

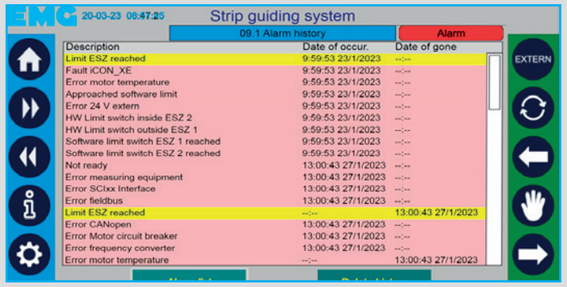
- 10 digital inputs; +24 V, isolated
- 10 digital outputs; +24 V, max. 200 mA, (8 x isolated, 2 x non-isolated)
- 4 analogue inputs, 12bit resolution, non-isolated, switchable 0...+5 V; ±5 V, 0...+10 V, ±10 V, 0...20 mA (4...20 mA over software)
- 3 analogue outputs, 12bit resolution, ±10 V/5 mA, non-isolated
- final amplifier for servo valve, ±300 mA or ±1000 mA dither amplitude, dither frequency and zero-point adjustable
- power supply for sensors:
  - ± 10 V/10 mA
  - + 24 V/max. 400 mA

EMG iCON® VS

# Visualisation: 100 % intuitive

## EMG iCON® VS

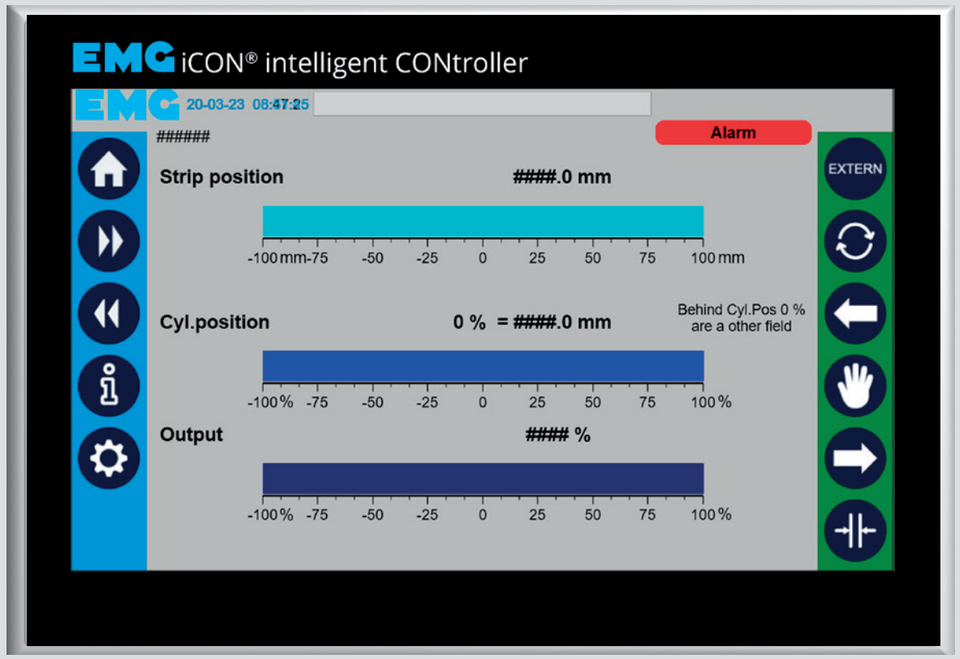
- intuitive user surface
- languages are switchable online
- alert management/alert list included
- plastics housing for mounting in cabinet door (optional: lockable security clap) for furnace guiding mounting in cabinet




*Alarm history via EMG iCON® VS*

## Technical data

- power supply: 18-32 V DC/350 mA
- dimensions: 192 x 132 x 32 mm (W x H x D)
- ambient temperature: 0...+50 °C
- protection class: IP66 front
- interfaces:
  - 2x USB device for download
  - 2x Ethernet RJ45
  - RS232 to EMG iCON®
- display:
  - Graphic-LC display, 1024 x 600 pixel, 7“ TFT, 16 million colours; touch screen
  - dimmable LED




*Comfortable operating with EMG iCON® VS*

EMG iCON®

# Extension modules: 100 % scalable

## EMG iCON® IO

- EMG iCON® IO – Input/Output
- same analogue and digital in- and outputs as EMG iCON® XE

*Extension module EMG iCON® IO*

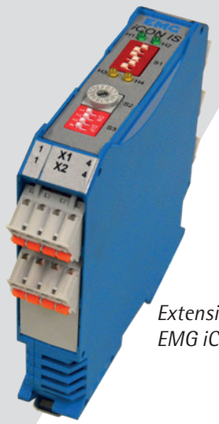
## EMG iCON® SV

- EMG iCON® SV – Servo valve
- for all double-stage servo valves
- final amplifier with underlaid control loop
- analogue input for position encoder as feedback of the main stage

*Extension module EMG iCON® SV*

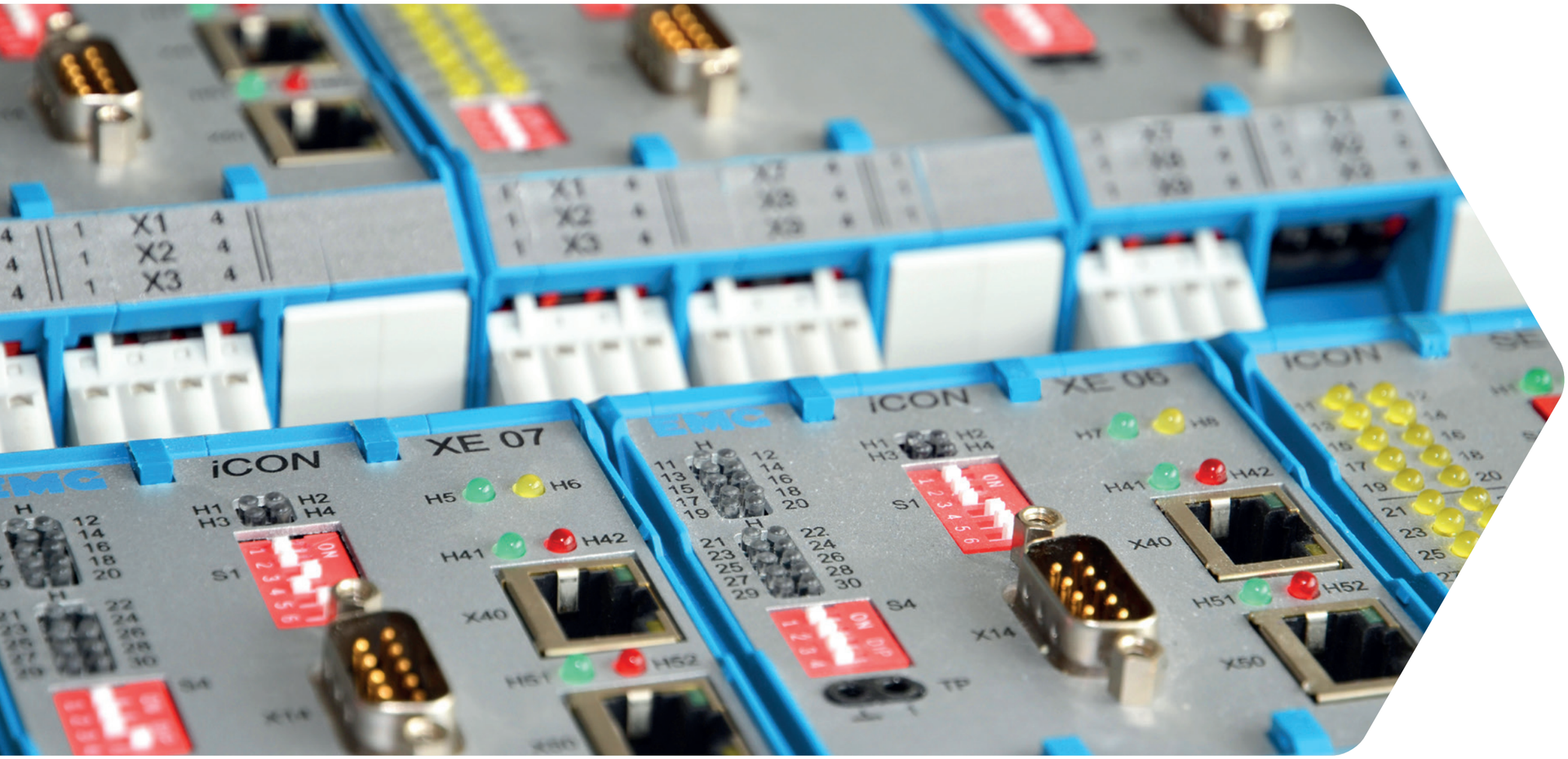
## EMG iCON® IS

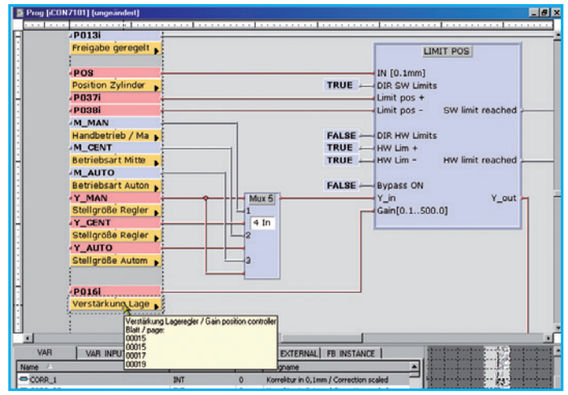
- EMG iCON® IS – Incremental/SSI
- evaluation of incremental sensors and/or SSI sensors on 2 channels



*Extension module EMG iCON® IS*

# Communication: 100 % flexible




*Screenshot of the software EMG_logiCAD/32 (Excerpt)*

## Universal communication

- all EMG measuring systems
- all EMG servo valves
- CAN-Bus Master to communicate with peripheral equipment
- optional interfaces depending on application:
  - Profibus-DP Slave
  - EtherNet Modbus TCP-Server
  - Profinet Device
  - Profinet Controller
  - EtherNet/IP Adapter

## Standard interface signals

Assignment of PLC compatible inputs / outputs

- Inputs
  - automatic mode
  - manual mode
  - centre mode
  - jog mode manual left
  - jog mode manual right
- Outputs
  - ready to operate
  - auto selected (control ON)
  - centre selected (centre position approached)
  - measuring equipment ok
  - release external operation

Optional adjustments possible!

## Software

- program documented by EMG (via EMG_logiCAD/32)
- program can be downloaded via a PC
- storage of pre-selected settings and parameter values will be maintained during power failure
- closed loop manual control is possible by using a longitudinal stroke transducer at the actuator
- expandable for customer applications and extended features

## Option „Runtime Edition“

- online connection between PC and EMG iCON® with EMG_logiCAD/32/RE
- display of process status of all project variables and function blocks
- fast diagnosis by ”forcing“ all variables, even those of the I/O level
- tool: ”Oscilloscope“ available
- storing of measured values in ASCII-file

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