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 starting with the own hardware development over software programming to 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 design and the possibility to fix all components on a DIN rail the system is not mechanically limited and very flexible. The connection of the single components is realized via fieldbus CANopen.

With the use of different controllers or extension modules the systems supplies a variable performance and the spare part 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.

**Operating principle:**
- THE intelligent controller for every control duty
- scalable • high-precision • compact

**Technical features EMG iCON®:**
- 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, 0...-5 V, 0...+10 V, 0...-10 V, 0...20 mA (4...20 mA over software)
- 3 analogue outputs, 12bit resolution, 0...20 V, max. 200 mA, non-isolated
- final amplifier for servos valve, ± 500 mA or ± 1500 mA, dither amplitude, dither frequency and zero-point adjustable
- power supply for sensors: ± 10 VDC ± 2 A
- ± 24 VDC max. 400 mA

**Performance features EMG iCON®:**
- LogiCAD222 programming and new fieldbus controller with higher flexibility
- graphical 7” touch panel (EMG iCON® VS) as HMI
- control system based on flexible, scalable modules
- housing can directly be arranged on DIN rail
- spring-loaded terminal, connection max. 1.5 mm²
- including analog input/ output interfaces
- different fieldbus systems available

**Visualisation:**
- intuitive user surface
- languages are switchable online
- alert management/alert list included
- plastic housing for mounting in cabinet door (optional: isolable security clam)
- for furnace guiding mounting on cabinet

**Technical data:**
- power supply: 10-32 V DC/250 mA
- dimensions: 202 x 142 x 40 mm (W x H x D)
- ambient temperature: 0...+50 °C
- protection class: IP65 front
- interfaces: USB device for download
- RS232 to EMG iCON®
- display: Graphic-LCD display, 680 x 480 pixel, 7´´ TFT, 65535 colours, touch sensitive
- white LED background illumination

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

**Extension modules EMG iCON®:**
- EMG iCON® IO - Input/Output
- same analogue and digital in- and outputs as EMG iCON®

**Extension modules EMG iCON® IS:**
- EMG iCON® IS - Incremental/SSI
- evaluation of incremental sensors and/or SSI sensors on 2 channels

**Extension modules EMG iCON® SV:**
- EMG iCON® SV - Servovalve
- for all double-stage servo valves
- final amplifier with underload control loop
- analog input for position encoder as feedback of the main stage

**Extension module EMG iCON® IO:**
- EMG iCON® IO

**Extension module EMG iCON® VS:**
- EMG iCON® VS

**Extension module EMG iCON® SV:**
- EMG iCON® SV

**Extension module EMG iCON® IS:**
- EMG iCON® IS

**Alert list vs EMG iCON® VS:**
- Comfortable operating with EMG iCON® VS
**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-Slave
  - Profibus Device
  - Profibus 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 (EMG_logiCAD/32)
- program can be downloaded via a PC
- storage of pre-selected settings and parameter values will be maintained on 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" included in the EMG_logiCAD/32/RE package
- storing of measured values in ASCII-file

**EMG iCON® Intelligent digital controller**

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**Features:**
- scalable
- high-precision
- compact

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