EMG iCON® THE intelligent controller for every control duty

Operating principle:
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.

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: ±24 V, non-isolated, switchable 0...±5 V, 0...±10 V, 0...±20 mA (±20 mA over software)
- 3 analogue outputs, 24 V, ±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

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 flexible, scalable modules
- housing can directly be arranged on DIN rail
- spring-loaded terminal, connection max. 1.5 mm²
- including analogue A/D converters
- different fieldbus systems available

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

Visualisation:
EMG iCON® VS:
- intuitive user surface
- languages are switchable online
- alert management/alert list included
- plastic housing for mounting in cabinet door (optional: interlock security seal) for furnace guiding mounting in cabinet

Technical data:
- power supply: 18-32 V DC/200 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:
  - Graphical-LCD display, 640 x 480 pixel, 2" TFT, 65535 colors; touch screen
  - white LED background illumination

EMG iCON® IO:
- same analogue and digital in- and outputs as EMG iCON®

Extension modules:

EMG iCON® IS:
- EMG iCON® IS – Increment/SSI

EMG iCON® SV:
- EMG iCON® SV – Servo valve

For all double-stage servo valves
- final amplifier with underload control loop
- analogue input for position encoder as feedback of the main stage

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moving ahead.

**iCON®**

**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!

**Standard interface signals:**

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

Optional adjustments possible!

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**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

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**Intelligent digital control system**

- scalable
- high-precision
- compact

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