

# SOFFMC Compact 301

## Motion Controller



### Equipped with CODESYS real-time core

- Standard IEC61131-3 programming language
- Open and modular programming environment
- Multi-person collaborative design

### High real-time Linux operating system

- Optimized Linux operating system for high real-time, streamlined and stable operation

### Support various communication protocols

- Integrated serial port allows communication with various instruments and sensors
- Network port Supports OPCUA, ModbusTCP and TCP/IP communication
- Support CANopen communication protocol
- Support communication with high-level languages such as C#, C++, etc. Adopt PLC Handlert protocol

### Powerful motion control

- 8 EtherCAT servo axes can be controlled in 2ms; 16 EtherCAT servo axes can be controlled in 4ms;
- Point-to-point motion control, velocity synchronization, position synchronization function
- G-code interpolation (linear interpolation/arc interpolation/robot coordinate conversion)

### Support EtherCAT fieldbus

- As the master station of EtherCAT, it is compatible with the third-party EtherCAT slave device

### Support local expansion I/O; support remote I/O

- Controller body can expand 32 I/Os
- Up to 100m connection distance for remote terminal module; ETseries I/O module can be adapted to the third-party standard EtherCAT master station
- Plug-in terminal module, easy for installation

## Ordering Model Cross Reference

| Model           | Runtime            | Class        | Status         |
|-----------------|--------------------|--------------|----------------|
| SC-E08-301-0000 | ControlStudio      | -            | Under planning |
| SC-E08-301-0300 | ControlStudio Plus | -            | Under planning |
| SC-E08-301-0101 | CODESYS            | PLC          | Released       |
| SC-E08-301-0102 |                    | PLC + WebHMI | Released       |
| SC-E08-301-0103 |                    | NC           | Released       |
| SC-E08-301-0104 |                    | NC + WebHMI  | Released       |
| SC-E08-301-0105 |                    | CNC+Robotics | Released       |
|                 |                    |              |                |

## Specification

| Specification                       | Description                                                                                                                                                                                                                                                   |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power down holding function         | Yes. Power down holding data capacity 256Kbyte                                                                                                                                                                                                                |
| Clock                               | Built-in clock records time, saved by battery (replaceable)                                                                                                                                                                                                   |
| Operating system                    | Linux                                                                                                                                                                                                                                                         |
| Control software                    | CODESYS                                                                                                                                                                                                                                                       |
| Ethernet port                       | Support EtherCAT, fieldbus communication Support Modbus TCP, OPC UA communication                                                                                                                                                                             |
| Support serial port                 | Support 1 RS485                                                                                                                                                                                                                                               |
| CAN communication                   | Support CANopen bus                                                                                                                                                                                                                                           |
| Support SD card                     | Download from user program; firmware upgrade                                                                                                                                                                                                                  |
| Axis capacity                       | 8 EtherCAT servo axes can be controlled in 2ms; 16 EtherCAT servo axes can be controlled in 4ms                                                                                                                                                               |
| I/O                                 | 32 I/Os:<br>16 sink (NPN) input digital channels; comply with IEC 61131-2 typel/3<br>16 sink (NPN) output digital channels; comply with IIEC 61131-2;<br>rated load current 500mA/channel; supported load types: resistive load, inductive load and lamp load |
| Operating/Storage temperature       | -20...+55 °C/-40...+85 °C                                                                                                                                                                                                                                     |
| Relative humidity                   | 95% (no condensation)                                                                                                                                                                                                                                         |
| Protection class                    | IP 20                                                                                                                                                                                                                                                         |
| Dimensions (width × height × depth) | 91mm × 112mm × 95mm (depth with lug 110mm)                                                                                                                                                                                                                    |

## Software Features

- Using IEC61131-3 programming language, supporting ST, LD, SFC, FBD, CFC, etc.
- PLCOpen standard motion control library; support motion control functions such as point-to-point motion, electronic gear function/ECAM function, multi-axis interpolation (G-code), robot coordinate conversion, etc.
- Support C/C++; software engineers can use the most suitable language for program development
- Human-machine interface, trend graph continuous data recording and other functions
- Support web access to the visualization interface, allowing remote control
- Integration of typical industry process algorithm packages, such as tension control, flexible gantry, etc.