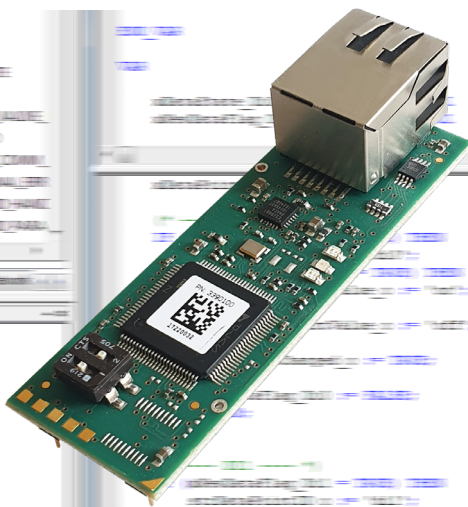




IoT-Chip Powerful SoM for smart IoT devices with MQTT sysWORXX CTR-100



function	number
Digital Inputs	10
Digital Outputs	6
Analog Inputs	4
Analog Outputs	2
PWM	2 (*)
SPI	1 (*)
I2C	1 (*)
A/B Encoder	1 (*)
ETH	1
CAN	1
UART	3

The IoT chip sysWORXX CTR-100 is a ready-to-use plug-on module with PLC firmware for easy realization of user-specific IoT devices with MQTT support. It offers a comprehensive selection of digital and analog inputs and outputs, as well as serial interfaces. Due to its DIP-40 pin header, the SoM can be easily integrated into user-specific designs. The connection of the periphery to be controlled is done on 3.3V TTL level. The Ethernet socket is already placed on the SoM, so that no critical high-speed signals have to be routed to the baseboard via connectors.

The on-board PLC firmware allows easy programming of the IoT chip in IEC 61131-3. The integrated firmware block libraries support MQTT, UDP, CAN layer2, CANopen, Modbus and serial communication via UART.

Your advantages

- ▶ user application freely programmable
- ▶ connection of sensors and actuators possible
- ▶ high-speed Ethernet interface already on-board
- ▶ design optimized in terms of production technology

Key Features

- ▶ support of external peripherals via GPIO, SPI and I2C
- ▶ supports communication protocols: MQTT, UDP, CAN (Layer2), CANopen (Master/slave), Modbus (RTU/TCP each as master/slave), SIO (RS-232 and RS-485)
- ▶ inputs for high-speed counter and A/B encoders

Use Cases

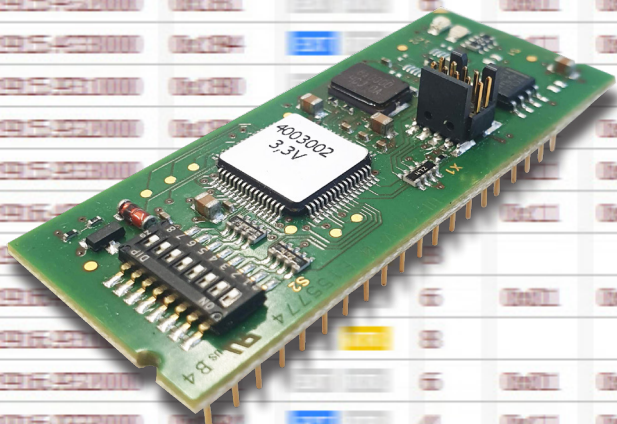
- ▶ connection of sensors and actuators to IoT platforms
- ▶ connection of CANopen networks to IoT platforms
- ▶ connection of Modbus smart meters to IoT platforms



(*) Alternative functions for digital I/O's: The use of alternative functions reduces the number of available digital I/O's, details see manual.



CANopen Chip Powerful SoM for CANopen I/O devices sysWORXX CoC-100



	0	1	2	3	4	5	6
Digital Inputs	14	8	16	8	16	24	16
Digital Outputs	8	8	8	16	-	-	4
Analog Inputs	2	8	-	-	8	-	4
PWM Outputs	4	4	4	4	4	4	4

The CANopen chip sysWORXX CoC-100 is a ready-to-use plug-on module with CANopen firmware for easy implementation of user-specific CANopen devices. With its seven different I/O configurations, it offers a comprehensive selection of digital inputs and outputs, analog inputs as well as PWM outputs. Due to its DIP-40 pin header, the SoM can be easily integrated into user-specific designs. The connection of the periphery to be controlled is done on TTL level. The sysWORXX CoC-100 supports either 3.3V or 5V designs. The on-board setting options allow a flexible module configuration. The CANopen chip sysWORXX CoC-100 is a managed node (slave device) according to the CANopen device profile CiA DSP 401 V3.1.0 and CANopen communication profile CiA 301 V4.2.0. LEDs indicate the device status according to CiA 303-3 V1.4.

Your advantages

- ▶ CAN FD tolerant - can be used in CAN FD networks
- ▶ layer Setting Services (LSS) according to CANopen standard CiA DSP 305 integrated
- ▶ analog inputs with 12 bit resolution
- ▶ design optimized in terms of production technology

KPIs & Key Features

- ▶ future-proof use through use of the NXP S32K142 controller
- ▶ CAN FD tolerant - can be used in a mix with CAN FD devices
- ▶ available in 5V or 3.3V design
- ▶ higher accuracy of the AD converter - 12 bit
- ▶ CANopen bootloader for firmware update via CAN bus

Use Cases

- ▶ connection of decentralized IO's over large distances
- ▶ reduction of cabling effort (especially for mobile use)
- ▶ simple realization of operator interfaces

