

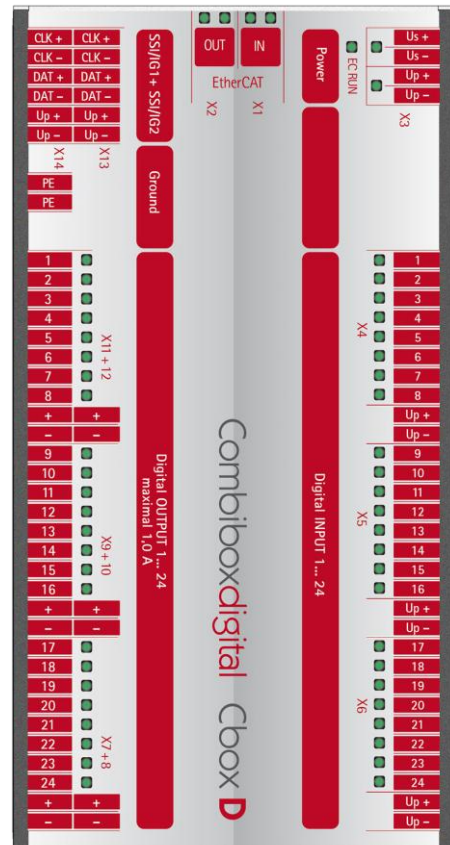
## System Description

The all-rounder **Combibox D** is basically designed for three applications:

### 1. Cbox D as a passive BUS terminal

Cbox D is a platform for high-speed automation-Systems. Based on an ultra-fast BUS cycle time of **50µs** provides the fieldbus terminal with an EtherCAT-Slave-Interface digital Inputs / Outputs.

On the contrary to a standard PLC - which operates at a cycle time of 1ms – realizes the Cbox D a BUS cycle time of 50µs, thus a **20 times faster and therefore a 20 times more precise** evaluation of the process as conventional PLC systems. Real time software solutions are realized e.g. with the Soft-PLC TwinCAT.



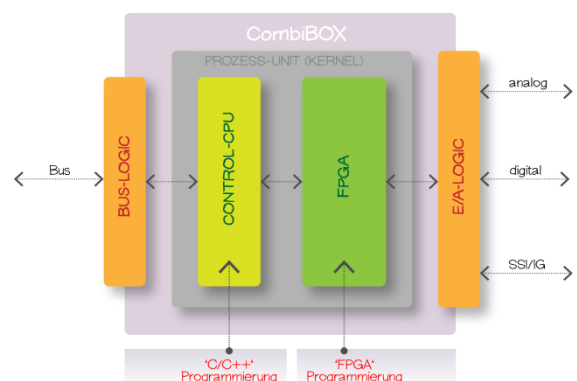
### 2. Cbox D as an active PLC-Sub-System

Cbox D suits optimal as a high-speed PLC-Sub-system, to collect, evaluate, actuate and control stand-alone digital process data and provides the process parameters additionally via an EtherCAT-Interface to a host system.

Due to the high-speed internal processing of the I/O-Signals via CPU <50µs and FPGA <1µs are cycle times realized which are only a fraction of the BUS cycle.

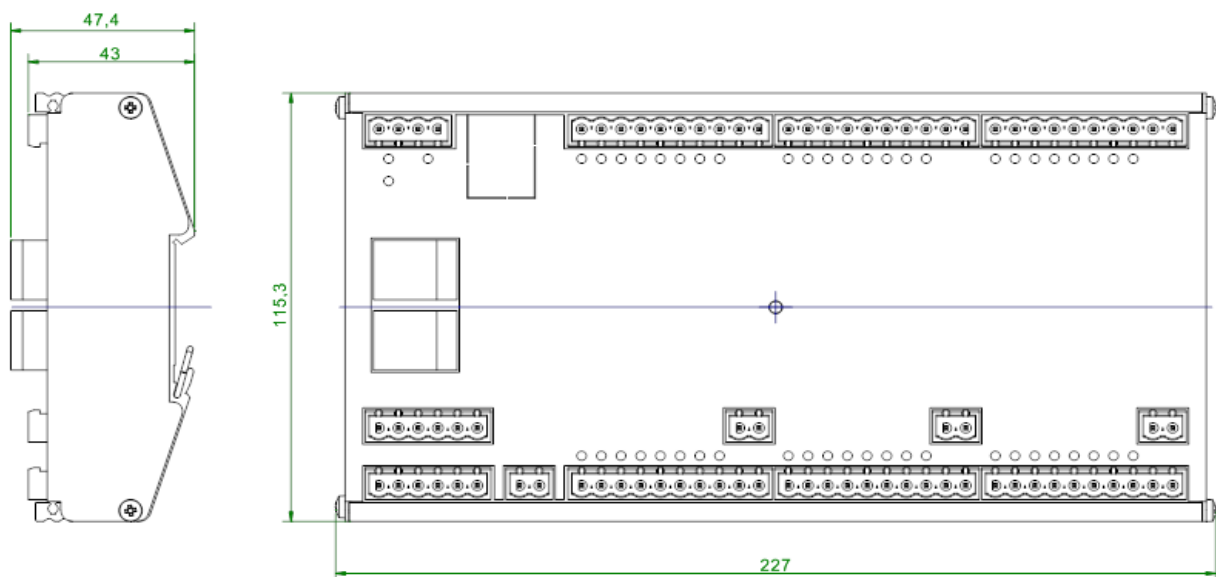
### 3. Cbox D as an Embedded System

The Cbox D is also a stand-alone system for individual test- / control-applications available. Programming with C- programs for the ARM-Controller or with VHDL for the FPGA. Development Kits for individual applications are available.



## System Features

- 24 digital inputs
  - Debouncing programmable
  - Flag counter
- 24 digital outputs
  - Error diagnostic
  - Excess temperature detection
  - Watchdog-Funktion
- 2x SSI / IG with Master | Slave | Encoder Funktion
- Modbus compatible
- EtherCAT - Slave
- Safety class IP 20



<b>Technical Data</b>	
<b>US   UP</b>	
Power supply Us/Up	24 VDC ± 10 %
Current consumption w/o load	< 150 mA at 24 VDC (Us)
<b>Digital Inputs 1..24</b>	
Log „1“	9 - 30 V
Log „0“	0 - 5 V
Max. Voltage	30 VDC
Rise Time	2,5 µs
Fall Time	5 µs
Digital debouncing	0 - 65535 µs
Flag counter	8 Bit
<b>Digital Outputs 1..24</b>	
Current (nominal)	0..1000 mA
Max. current 2 outputs per group (4)	2,6 A
Output level X8   X10   X12	8 - 27 V   8 A
Rise Time	37 µs
Fall Time	100 µs
Error diagnostic	2 Outputs = 1 Bit
<b>SSI   IG Eingänge 1..2</b>	
Power supply	Level by UP (X3.3,X3.4) max. 300 mA
Max. clock rate SSI Master	125   250   500   1000 kHz
Max. clock rate SSI Slave	100..1000 kHz
Signal level	RS422   RS485 Differentiell 5V
Functions	Master   Slave   Encoder
<b>EtherCAT In Out</b>	
Feldbus	EtherCAT 100 MBit/s, Full Duplex
Medium	CAT-5e cable, shielded
<b>Mechanic</b>	
Dimensions	220 x 115 x 40 mm (L x W x H)
Installation	Din-rail EN35
Weight	700 g
Safety class	IP 20
Vibration proofing X/Y/Z   IEC68 Teil 2-6	10 G
Part-No.	193120010000