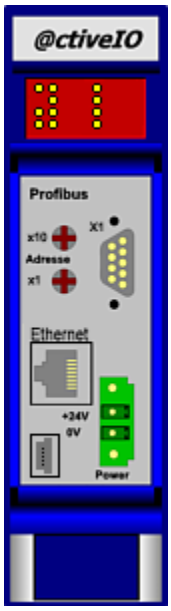
Controller @PLC-C201-PB

CPU

- **IEC-61131-3 PLC**
- **Profibus DP slave**
- **Automatic baudrate detection 9,6kBd to 12MBd**
- **TCP/IP and RS232 for programming and diagnostic**

Pinout



LED: *) see notes	
RUN	CPU: ok
DIAG	CPU: diagnostic LED
ERR	CPU: Error LED
S DX	CPU: system data transmssion @BUS
ACT	Ethernet: Transmit
LINK	Ethernet: link ok
SP	Ethernet: Off: 10Mbit; on:100Mbit
COLL	Ethernet: Collision
Rotary switch: for Profibus address	
Hi:	Decimal place of the add
Lo:	Unit place of the add
Connectors	
Profibus-DP:	Pin 3: PB_B Pin 4: PB_RTS Pin 5: PB_GND Pin 6: +5V= Pin 8: PB_A
Ethernet:	RJ45 10/100Mbit
Serial:	Mini USB RS232 Pin 1: RX Pin 2: TX Pin 3: GND
Power:	Phoenix Minicombicon Pin 1:24 V Pin 2: 0 V

Attributes

Fieldbus Interface:
The @PLC-C201-PB connects the Profibus-DP bus system to the IO-Moduls. The profibus address can be adjusted via rotary switches.
The @PLC-C201-PB contains a ARM7 core controller.

Ethernet:
The @PLC-C201-PB includes a 10/100Mbit fast ethernet interface. The IP-Address can be adjusted by the software @ctiveIO-Toolkit.

Serial Interface:
RS232, optional RS485

CPU specifications:
Flash memory : ..... 2 MByte (16 Bit)
SDRAM : ..... 8 MByte (32 Bit)
NVRAM : ..... 64 Kbyte (16 Bit)
CPU clock : ..... 44.2 MHz

Funcionality:
PLC function : IEC 61131-3 CoDeSys CSP32E

System specifications:
Hardware supervisor system :

- temperature control
- power control
- hardware watchdog

Electrical Data

Power supply external ..... +24V= ± 20%, see notes
Operating Current ..... 185mA at +24V
Input protection ..... 30V overvoltage, surge
Serial Interface ..... 10/100Mbit Fast Ethernet, RS232, RS485 (opt.), Profibus-DP

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System Information

System ID 0x5201
Dataformat PLC I/O .....Motorola, big endian

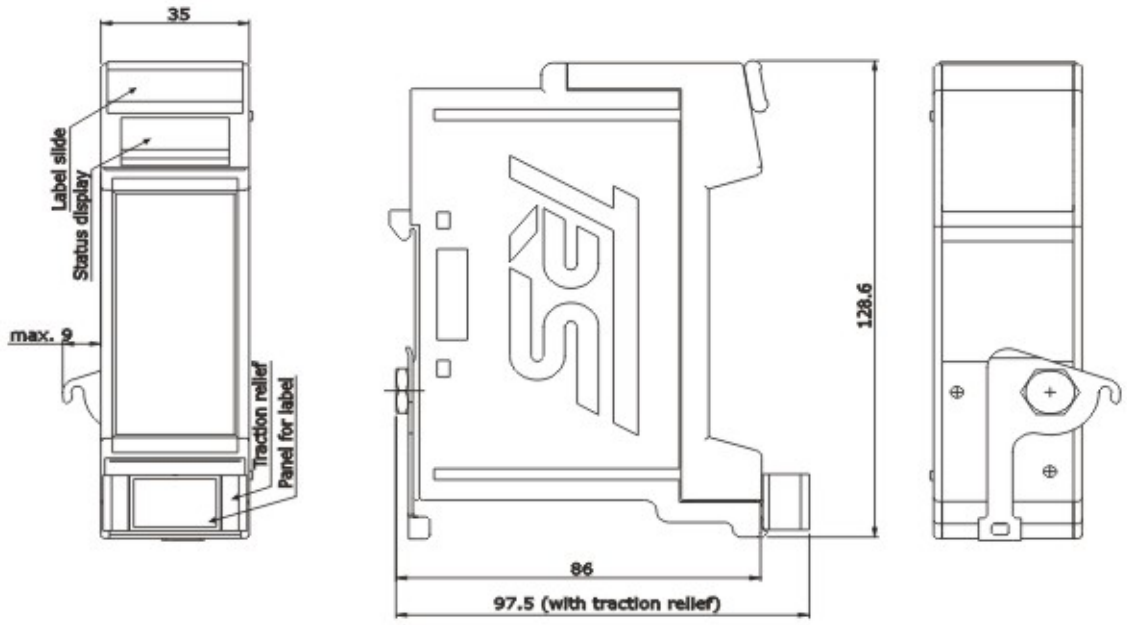
Environmental Conditions

EMC .....EN 61000-4-2 (IEC-801-2) / EN 61000-4-4 (IEC-801-4)
Operating temperature [°C] .....0 .. +55
Storage temperature [°C] .....-20 .. +70
Humidity (rel) .....98 % (non condensing)
* Protection class.....IP 20 (DIN 40 050)
* The protection class is valid only with housing and connector installed

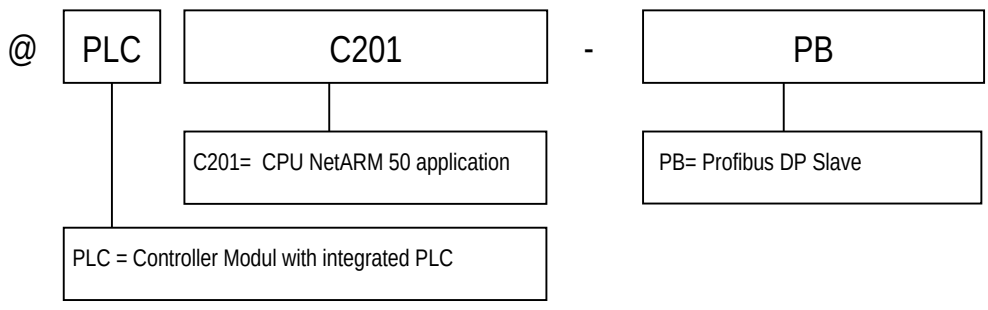
Mechanical Data

Weight .....approx. 0.28 kg including connector
Dimension .....105 x 80 mm

Drawing **(effective if mounted in @M housing)**



Ordering Key



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Functional description

CPU

The product @PLC-C201-PB is a IEC-61131-3 based programmable logic controller unit. It offers the following options.

@PLC-C201-EN	
Controller	basic
CPU	NetARM 50
CPU clock	44,2 MHz
FLASH memory	2 MB x 16
SDRAM	8 MB x 32
NVRAM	64 KB x 16
Serial	RS232 RS485 (opt.)
diag. LED; fieldbus	X
@ctiveIO-Bus support	X
second fieldbus	N
Processing time	
Bit	0,8 µs
Word	1,1 µs
Dword	1,2 µs
Fixed-Point arithmetik	1,6 µs
Floating Point arithmetik	7,9 µs
Basic firmware functions	
Firmware download	ftp-Server
@ctiveIO-Toolkit diagnostic	X
PLC functions	IEC-61131-3
runtime system	CSP32E
Memory for IEC program	512kByte
IEC data	3Mbyte
IEC retain data	32kByte
Programming	
Serial	X
TCP/IP	X
monitorino	X
breakpoints	X
online change	X
source code save	X
Libraries	
standard library / timer	X
serial communication	O
boot project	X
retain data (NVRAM)	X
PLC browser	X
object dictionary	X
network variables	X
Configuration	
watchdog	X
multitasking	N
exception handling	N
Modbus(RS232)	
Interface connection	Slave
Transmission protocols	RTU/ ASCII
Memory size	(adjustable)
digital Output(coil)	max 131072 Bit
digital Input(input)	max 131072 Bit
Holding Register	max 8192 Word
Input Register	max 8192 Word
Function code	1,2,3,4,5,6,8,15, 16 ,23

X : standard
O : option
N : not supported by @PLC-C201-PB

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Controller @PLC-C201-PB

notes:

At boot time the module can be switch into ftp mode. In this mode the firmware can be updated using a standard ftp client.

During the IEC-61131-3 plc mode the serial interface is used as communication interface between CoDeSys and the module for programming and debugging. Alternatively the serial interface can be used for diagnostics with the software @ctiveIO-Toolkit (switch over at boot time).

In parallel, the ethernet interface (TCP/IP) can also be used for communication between CoDeSys and the module (programming and debugging). For diagnostics the software @ctiveIO-Toolkit can also be used over TCP/IP.

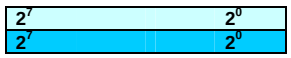
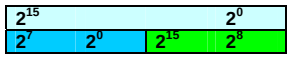
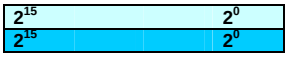
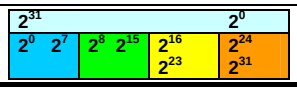
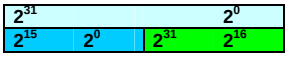
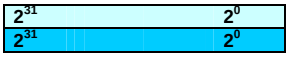
Description of the LEDs:

LED	Status	Description
RUN	ON	CPU is running
DIAG		(static) Diagnostic information available: Warning / Error
ERR		(static) Error on fieldbus, no diagnostic information available (blinking) Error (see diagnostic information)
SDX	ON	Data on @Bus
ACT		Data transfer on Ethernet network
LINK	ON	Ethernet network connected
SP		(off) 10 Mbit Ethernet (on) 100 Mbit Ethernet
COLL	ON	Collisions on Ethernet

Special operating modes (DIAG and ERR LED):

ftp server mode: .....DIAG and ERR in alternating blink mode
System init in progress:.....DIAG and ERR are static on

Caution:
Dataformat PLC I/O function : Big Endian (Motorola)

var dataformat PLC configuration	variable as Byte	variable as Word	variable as Dword
module as Byte		X	X
module as Word			X
module as Dword			

Caution:
If using interface moduls of type @5xxx power 0V of the controller has to be directly connected with power 0V of the @5xxx-modul and power 0V of the interface partner of the @5xxx-modul.

Revision change

Revision	Description	Date (m/y)
00	Serie 0	04/04

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