

2. Technical data

2.1 Technical data for the hardware

Internal power consumption

+5V:	20 ... 45 mA
Uext:	0 ... 10 mA (without load current)

External power supply

Terminals +/-:	10 ... 32 VDC smoothed, residual ripple max. 10%
	TVS diode 39V \pm 10%
	max. 2A for putouts, not protected against wrong polarity!

Digital inputs

Total	4
Nominal voltage:	24V
Low range:	- 30 ... +5V
High range:	+15 ... +30V
Input current (typical)	6.5 mA
Switching type	galvanically connected
Input filter	< 1 ms

Digital outputs:

Total	4
Current range:	0.5A each in range 10 ... 32 VDC, residual ripple max. 10%
Galvanic isolation	no
Potential drop	max. 0.3V at 0.5A
Kogic	positive (positive switching)
Output delay	typically 50 μ s, max 100 μ s at resistive load

Power supply

Internal supply	
from PCD1/2 bus	5 VDC, 20 ... 45 mA
External by user	24VDC (10 ... 32 VDC), max. 2A
for all outputs	smoothed ripple max. 10%

Operating conditions

Ambient temperature	operation: 0 ... +50°C without forced ventilation storage: -20 ... +85°C
Interference immunity	CE mark according to EN 50081-1 and EN 50082-2

Ordering details

PCD2.H110	Universal counting and measuring module
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Programming

With STEP-7, through out direct periphery access.

2.2 General Information and Connection

Measuring and fast counting module for general counting and simple motion control tasks; also for specific applications such as frequency measurement, period and pulse length measurement, etc. The module is equipped with an FPGA (Field Programmable Gate Array) and can be programmed for special applications by using a plug-in PROM.

Technical data

Number of systems	1
Counting range	0 to 16 777 215 (24 bit)
Counting frequency	100 kHz
Data protection	All data in this module is volatile.

Digital inputs

Total	4
E 0:	Input "A"
E 1:	Input "B"
E 2:	"EnableC" input, counting module
E 3:	"EnableM" input, measuring module
Nominal voltage:	24 V
"Low" range:	- 30 to +5 V
"High" range:	+15 to 30 V
Source operation only (positive logic)	
Input current (typical)	6.5 mA
Input filter	150 kHz

Digital outputs

Total	2
A 0:	"CCO" (counting function)
A 1:	"TCO" (measuring function)
Current range	5 to 500 mA (current leakage max.: 1 mA) (load resistor min.: 48Ω in voltage range 5 to 24 V)
Frequency	≤ 100 kHz
Voltage range	5 to 32 V (external supply)
Connection method	galvanically connected, not short-circuit proof, positive switching
Potential drop (typical)	< 0.5V at 500 mA
Output delay	less than 1 μs, longer for inductive load, because of recovery diode

Power supply

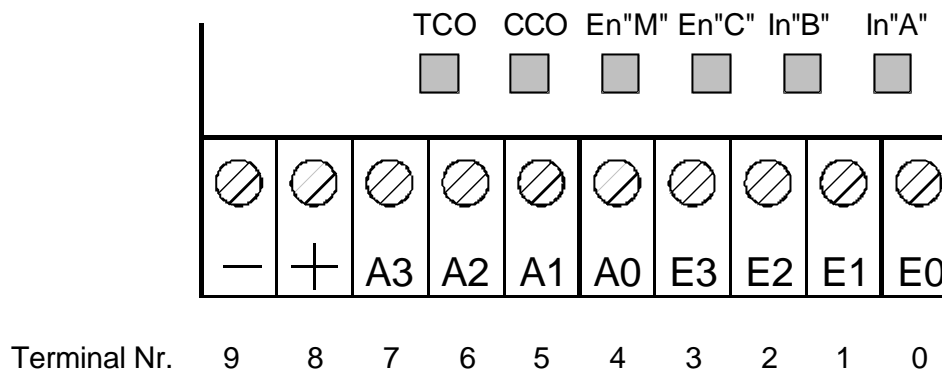
External (user)	5 to 32 VCC (supply for outputs)
Current consumption from PCD2 bus	+ 5 V : 90 mA max +24 V : – mA

Interference immunity
according to IEC 1000-4-4

1 kV with capacitive coupling for unshielded cable at the 24V I/Os. In contaminated environments, the use of shielded lines is recommended.

Screw terminals

This picture shows the text on the print. The I/O connector is standard from 0 ... 9 (from right to left)



See also the block diagrams in chapter 1.2.

Inputs:

Terminal 0 =	E 0:	Input "A" for counting and as measuring input
Terminal 1 =	E 1:	Input "B" for counting only
Terminal 2 =	E 2:	Input "Enable C" by use as counting module
Terminal 3 =	E 3:	Input "Enable M" by use as measuring module

Outputs:

Terminal 4 =	A 0:	Output "CCO" for counter
Terminal 5 =	A 1:	Output "TCO" for measuring functions
Terminal 6 =	A 2:	Not use, reserve for OEM
Terminal 7 =	A 3:	Not use, reserve for OEM

Supply:

Terminal 8 =	+	+ 24 VDC
Terminal 9 =	-	GND

LED displays

LED 0:	Status of input "A"
LED 1:	Status of input "B"
LED 2:	Status of input "EnableC"
LED 3:	Status of input "EnableM"
LED 4:	Status of outputs "CCO"
LED 5:	Status of output "TCO"

Note: