PNC4

- Fast Counter Module for Positioning Applications
- Counting Frequency Max. 200 kHz
- Counter Depth 24 Bit
- Analog Output for Control of Servo Motors (±10 V, 11 Bit)
- Supply of 5 V and 15 V Signal Encoders

See section A8 "Positioning" as well

SLOTS		0	1	2	3	4	5
PNC4	Base Unit C (CP32)	●	●				

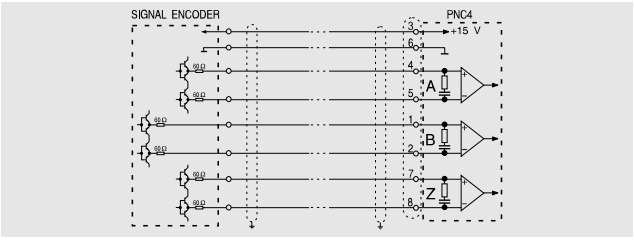
ORDER DATA

MCPNC4-1	Counter module for positioning applications, binary 24 bit counter, counter frequency max. 200 kHz, 11 bit analog output (±10 V), without galvanic isolation, supply of 5 V and 15 V signal encoders

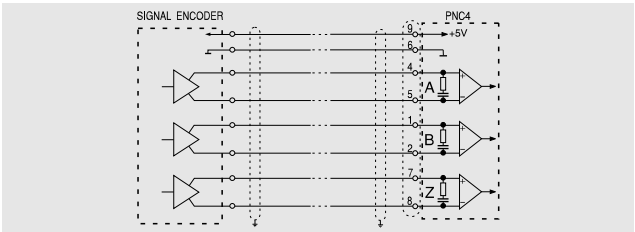
SIGNAL ENCODER

An optional 5 V or 15 V encoder can be connected to the PNC4 counter module. The PNC4 module provides power on the 9 pin D-type (F) for both types of encoder (15 V /max 300 mA on pin 3 and 5 V/max 500 mA on pin 9). Counter inputs A and B as well as reference pulse input Z are not galvanically isolated.

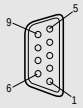
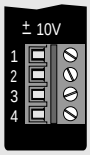
Connection Diagram for the 15 V Encoder



Connection Diagram for the 5 V Encoder



TECHNICAL DATA	PNC4
Signal Encoder Connection	9 pin D-type (F)
Signal Encoder Inputs	
Galvanically Isolated	NO
Nominal Input Voltage	5 - 12 VDC
Min./Max. Input Voltage	2.4 VDC / 15 VDC
Input Current	typ. 2 mA at 5 VDC typ. 5 mA at 15 VDC
Encoder Supply	From PNC4 Module
Supply Voltage	15 VDC 5 VDC
Max. Load	300 mA 500 mA
Distance to Signal Encoder	Max. 50 meters when using signal encoders with square wave output signals
Input Frequency	Max. 50 kHz
Counting Frequency	
With Single Evaluation	Max. 50 kHz
With Double Evaluation	Max. 100 kHz
With Four Fold Evaluation	Max. 200 kHz
Phase Shift between Counter Channels A and B	90 ° ±30 °
Reference Pulse Delay	> 50 µsec
Counting Depth	24 Bit Binary
Analog Output	
Output Voltage	±10 V
Resolution	10 Bit + Sign
Quantification Error	< 1 Bit
Offset Voltage	< 1 mV
Disturbance Resistance [1]	Grade 3
Documentation	Hardware Manual MINICONTROL
German	MAHWMINI-0
English	MAHWMINI-E
French	MAHWMINI-F

PIN ASSIGNMENTS	Pin	Function
9 pin D-type (F) 	1	Counter Channel B
	2	Counter Channel B
	3	+15 V Encoder Supply
	4	Counter Channel A
	5	Counter Channel A
	6	Ref. Potential for Encoder Supply
	7	Reference Input Z
	8	Reference Input Z
	9	+5 V Encoder Supply
	1	Analog Output ±10 V
	2	Analog Output ±5 V
	3	Analog Output ±5 V
	4	Ref. Potential for Analog Output

STANDARD SOFTWARE

Software package SWSPSPOS01-0 contains, among other things, standard function blocks for positioning applications with servo motors and dual speed positioning (see section A7 "PLC Programming/Standard Software" as well for more information.

[1] Signal encoder connections grounded on both sides according to DIN VDE 0843-4.