



CPU Module with four serial data interfaces C1CPU-4S-xx

■ Brief description

The C1CPU-4S is a real-time CANbus CPU featuring high-end processor technology.

This module provides a wide range of serial data interfaces. *An overview of available options is provided on the reverse side of this Product Brief.*

In addition, this module provides 4 differential encoder input ports for shaft encoders etc. with RS422 compliant signal levels as well as open-collector pulse output for applications such as stepper motors.

- 3 CAN / CANopen Interfaces
- 4 serial Interfaces (RS232, RS422, RS485...)
- 4 Encoder input ports
- 4 Open collector output ports

With a small space requirements, the C1CPU-4S is ideal for distributed solutions. Designed for in-line configurations, this module simply snaps to standard rails.

If and as required for local extensions, up to 7 add-on modules can be mounted in line with the C1CPU-4S. The modular extension bus (E-Bus) is used for the associated connections. The control units thus set up are networked via the CANbus.

The C1CPU-4S is equipped with 3 CAN ports to allow the creation of a hierarchical bus structure (WideCAN/LocalCAN).

The module provides a full-fledged CANopen master implementation as a library for IEC 61131-3 and 'C'.

■ Power supply

The signal level is factory-configured with connector strips for easy wiring. Connections are made at the front. Choose any of three connection techniques:

- screw connection
- spring latch
- crimping

Front-panel LEDs provide information on the I/O status and operational status of the module. Labeling strips can be inserted to identify each I/O channel.



■ Programmierung mit Standardwerkzeugen

Like all products of the Berghof CANtrol series, the C1CPU-4S is programmed by means of a PC running Windows XP. Depending on your specific requirements, choose PLL programming to IEC 61131-3 in IL, LD, FBD or in the high-level language 'C'. We provide a wide range of tools to support you at all stages of software development.

At a glance – a brief overview

Module Data				
Development environment	CPC++		CP1131	
	Name	Item No.	Name	Item No.
	C1CPU-4S-00	2010020	C1CPU-4S-00-1131	2100030
	C1CPU-4S-00	2010021	C1CPU-4S-01-1131	2100031
	C1CPU-4S-00	2010022	C1CPU-4S-02-1131	2100032
	C1CPU-4S-00	2010023	C1CPU-4S-03-1131	2100033
	C1CPU-4S-00	2010024	C1CPU-4S-04-1131	2100034
	C1CPU-4S-00	2010025	C1CPU-4S-05-1131	2100035
	C1CPU-4S-00	2010026	C1CPU-4S-06-1131	2100036
Dimensions WxHxD [mm]	124 x 170 x 85.5 (modular dimension W = 113/118.5)			
Weight	approx. 700 g			
Mounting	NS 35/7.5 EN 50022 mounting rail			
Expansion	with up to 7 E bus expansion modules (e.g. QDIO, QAIO)			
Working temperature range	5°C to 50°C (no moisture condensation) convection cooling must be provided			
CPU	MC 68332 / 25 MHz			
Programmable software	IEC 1131-3 or 'C' high-level language with real-time operating system			
User memories				
Program and Data memory (RAM)	704 kByte CP1131 / 576 kByte CPC++			
Program memory (Flash)	640 kByte CP1131 / 1024 kByte CPC++			
EMC, class of protection, insulation testing, degree of protection				
Emitted interference	EN 50081-2, industrial sector			
Noise immunity	EN 50081-2, industrial sector			
Class of protection	III under EN 61131-2			
Insulation resistance	EN 61131-2; 500 VDC (test voltage)			
Degree of protection	IP 20			
Supply voltage, power consumption				
Modular electronics power supply (supply voltage)	SELV +24 VDC max. 0.6 A (EN 61131-2)			
Power supply current-loop interface	+24 VDC (EN 61131-2)			
Power consumption	at U _e = +24 VDC max. 600mA			
Electrical isolation	yes, between CANbus channel 0 and digital TPU I/Os, CAN channel 2 is isolated from CAN channel 0, SIO 1-4, TPU I/Os			
TPU Inputs/Outputs				
Number and type of inputs	4 different counter functions with RS422 standard interface level, optical isolation, common GND with the incoming supply			
Number and type of outputs	4 different output functions for open collector interface +24 V, I _{o,max} (low) >25mA, U _{max} (low) = 2V, short-circuit proof, optical isolation, common GND with the incoming supply			
Connection method	front wiring with push-on terminal strips for screw, crimp, clamp connections Connector plugs: 3 x 9 pole			
CAN interfaces				
Number and Type of interfaces	3 CAN channel 0 (cover), CAN channel 1 and channel 2 (base board) <i>CAN channel 2 is optically isolated from the rest of the module electronics</i>			
Operation and display				
LEDs	5 status LEDs			
'S' button	yes, on front panel (including module reset)			
Programming	via CANbus or RS 232 interface on the cover			
Miscellaneous				
Auxiliary power (supplied by the module)	+5 V / 100mA e.g. to supply encoder, - common potential with transfer area I/O - I _{max} = Σ I (terminal 11 + terminal 13) = 100mA			