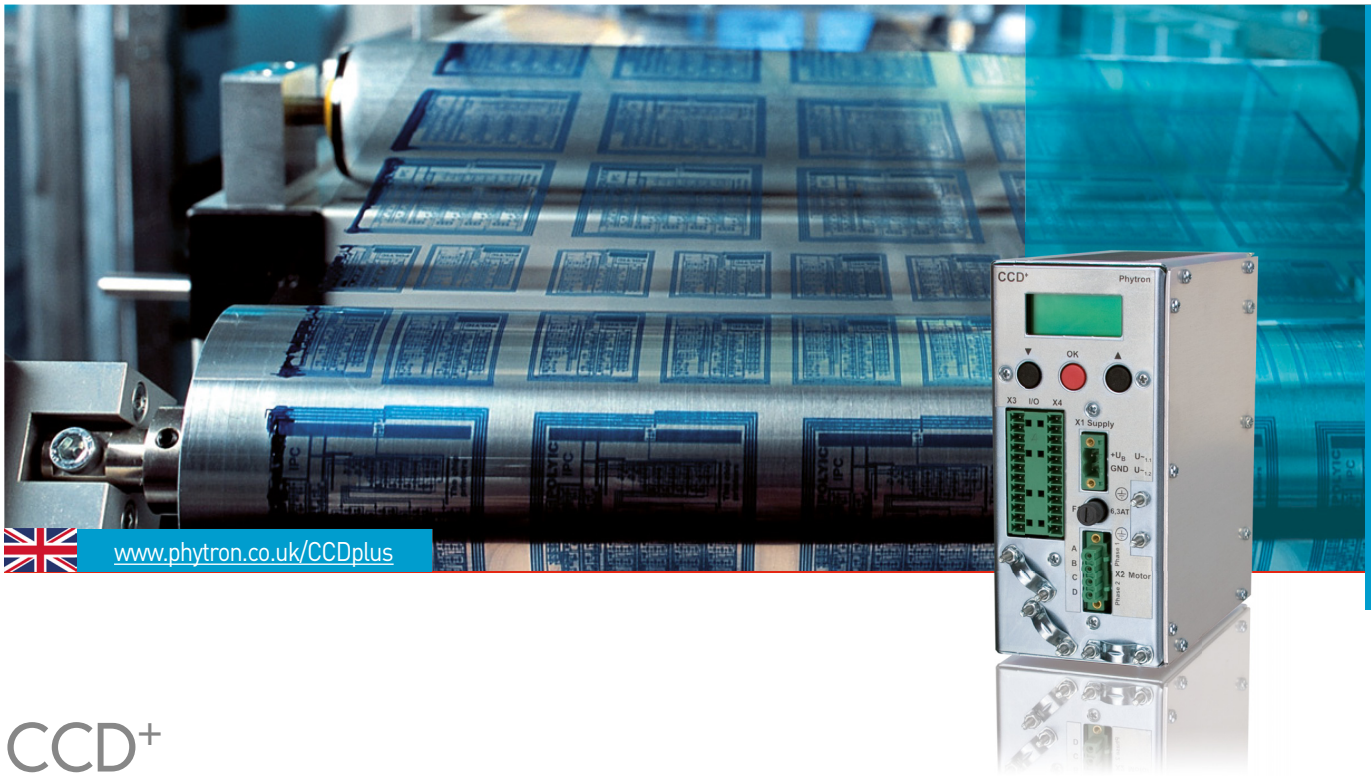


www.phytron.co.uk/CCDplus

CONTROL

CCD+

Stepper motor power stage with plain text display

The CCD+ is a stepper motor power stage with plain text display, designed for driving 2 phase stepper motors up to 9 A peak current. The step resolution is entered by menu or via ServiceBus from full step to 1/20 step, this corresponds to 200-4000 positions per revolution for a 200 stepper motor.

All phytron power stages with the appendum + are particularly service-friendly by the way to access directly from the PC to the power stage via ServiceBus. Configuration, parameterisation or monitoring are facilitated by the delivered ServiceBus-Comm® software for Windows®.

Application

The CCD+ is particularly suitable for applications that require a parameter-control and adjustment of the device. The integrated display and the control via ServiceBus offer at any time comfortable and fast access to the performance parameters of the power stage and make the CCD+ to a optimal power stage for applications with changing requirements as the semiconductor assembly or component tests.

Highlights


ServiceBus-Comm®

ServiceBus-Comm®

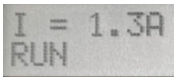
The free Windows® software program ServiceBus-Comm® is developed by phytron and allows easy programming and operation of stepper motor power stages.

Operation and other parameters are configured, stored and transmitted to the power stage on the PC via the ServiceBus.

Plain text display with menu buttons

The CCD+ can be conveniently operated via menu buttons on the front panel or from your PC using the ServiceBus.

A Setup and test menu make a simple parameter input possible. Active parameters and diagnostic information are displayed during operation.



Plain text display

In Focus

- Bipolar control of 2 phase stepper motors
- Phase currents from 0,14 to 9 A_{PEAK}
- Power supply 50 to 70 V_{DC}
  Permissible range: 17 to 50 V_{AC}
  or 24 to 70 V_{DC} (input logic 5 V or 24 V)
- Step resolution up to 1/20 step
- ServiceBus interface: USB point-to-point
- ServiceBus-Comm® communications and operation software for WINDOWS® (included in delivery)
- Inputs compatible to RS 422 for safe operation
- Plain text display 2 x 8 digits for menu-driven operation parameter input
- Compact design 70 x 150 x 127 mm
- Userfriendly screw connectors
- Fully EMC compliant metal housing
- Integrated EMC filter for supply voltage
- DIN rail or wall mounting
- Prepared for mounting an external 24 V fan

Edition 2012 July

phytron
Beyond Steppers

Control

Specification

Mechanical

Dimensions (W x H x D)	70 x 150 x 127 mm
Weight	Ca. 1100 g
Mounting	Wall or DIN rail mounting

Features

Stepper motors	Suitabe for bipolar control of 2 phase stepper motors with 4-, (6-) or 8 lead wiring
Power supply	17 to 50 V_{AC} or 24 to 70 V_{DC}
Phase currents	0,14 to 9 A_{PEAK}
Step resolution	1/1, 1/2, 1/2,5, 1/4, 1/5, 1/8, 1/10 or 1/20 of a full step
Hardware error detection	• Short circuit (between phase and power supply; between both phases; within a motor against ground) • Over temperature • Under voltage
Cable length	Motor: shielded: 50 m max. Signal: shielded: 100 m max.
Plain text display	Menu-driven input on the front side of the power stage
Power stage operating modes	Menu-driven, ServiceBus or bus mode exclusive

Interfaces

Analogue output	A, B, C, D for a two 2 phase stepper motor
Digital outputs	Optically insulated from the motor voltage, type Open-Collector: I_{max} = 20 mA, U_{max} = 30 V, $U_{CE\ sat}$ at 20 mA < 1 V, P_{total} = 300 mW Ready Error: short circuit, under voltage, over temperature
Inputs	Optically insulated from the motor voltage control via push-pull driver or Open Collector, input level 5 V or 24 V Control pulses, Motor direction, Boost, Activation, Deselect, Reset

Communication and Programming

Plain text display	2 x 8 digits for menu-driven input
ServiceBus (optional)	Configuration- and diagnostic interface via USB point-to-point

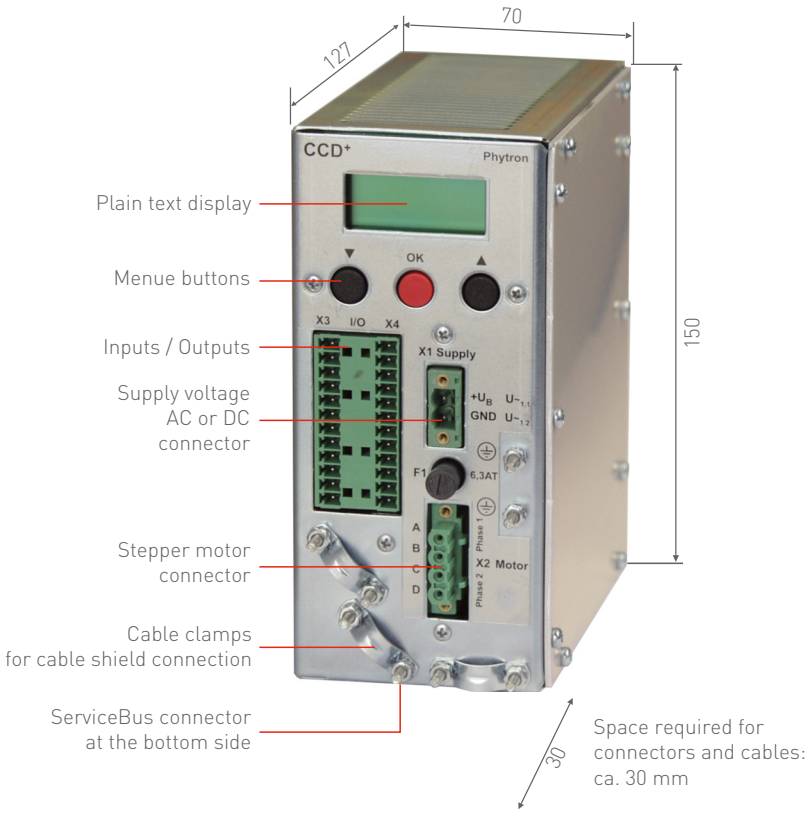
Operating Modes

Menu-driven	Adjusting the operating parameters in the SETUP menu; Function: S-BUS=DISABLED
ServiceBus	S-BUS=ENABLED in the SETUP menu activates the ServiceBus
Bus mode exclusive	Garantees a safe operation in the ServiceBus mode; activation by the „PX"command in the ServiceBus-Comm

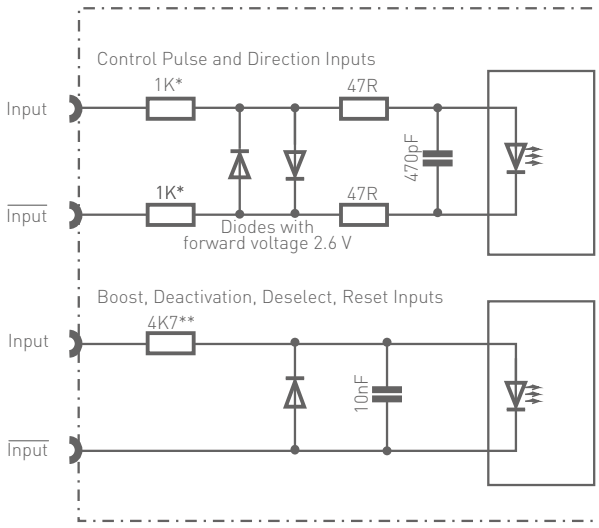
Operating Conditions

Temperatures	Operation: +5 to 40 °C; storage: -25 to +55 °C; transport: -25 to +50 °C
Degree of pollution	Level 2
Relative humidity	5 to 85 %, class 3K3 non condensing
Protection class	IP 20
EMC immunity/ EMC emission	Acc. to EN 61000-3-2 EMC Acc. to EN 61000-6-1, -2, -3, -4 EMC and RFI immunity
Approval	CE

Front View and Dimensions

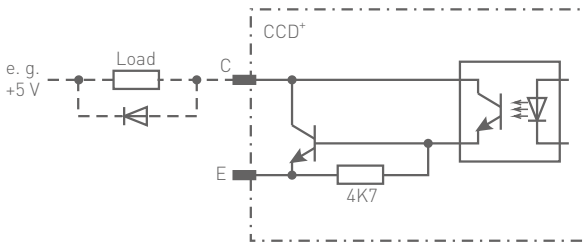


Input Wiring Diagram



The above resistance values are valid for 24 V input level.
At 5 V the following values are valid: * = 64 R
** = 145 R

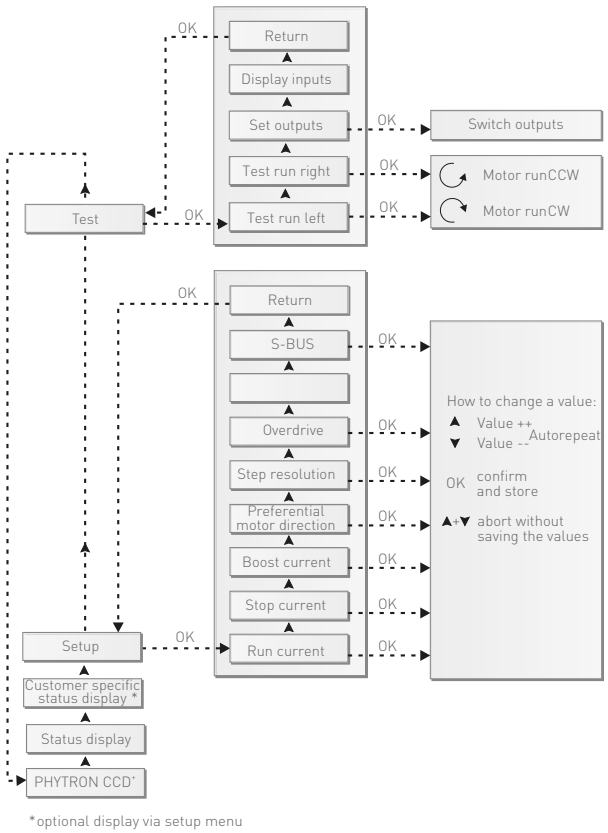
Output Wiring Diagram



In case of inductive loads (for example a relay, motor brake) protective diods must be mounted!

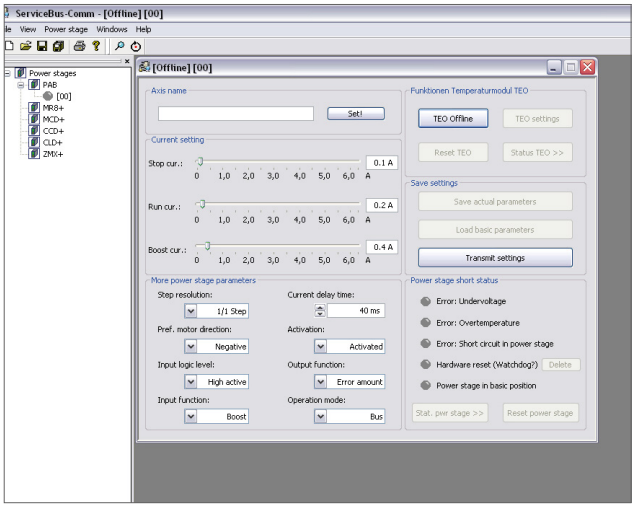
Control

Operating mode Menu



*optional display via setup menu

Operating mode ServiceBus



Ordering Code

The variable elements of the product are displayed in colour.

	Type	Current/-regulation	Motor voltage	Step resolution	Mounting	Input level
Ordering code	CCD+	- 93 -	70	MINI -	H -	5

Options		
Mounting	W H	Wall mounting With attached DIN rail mounting clip
Input level	5 24	5 V 24 V

Windows® is a trade mark of Microsoft.

ServiceBus-Comm® is a trade mark of Phytron-Elektronik GmbH.

Extent of Supply

- A CD-ROM with ServiceBus-Comm software and USB driver
- Connector set

Optional Accessories

- Fan Papst 614 / 24 V_{DC}
- Rail mounting assembly
- USB cable (A-B connection) 200 cm
- Power supply PS 5-48 (5 A, 48 V) for wall- or DIN rail mounting
- Power supply PS 10-24 (10 A, 24 V) for wall- or DIN rail mounting

Phytron UK Ltd.
Mr. Carl Huntington
17 Kingsway, Caversham Park
Reading Berkshire, RG4 6RA
Great Britain
T +44-118-9462132 F +44-118-9473059