

Linear Stepper Motor Power Stage with Plain Text Display

The CLD⁺ Power Stage

CLD⁺ 20-24 is a linear stepper motor power stage with plain text display for 2-phase stepper motors up to 2 A_{PEAK}.

The step resolution is entered by menu: full step to 1/512 step, that means up to 25.600 steps/rev. with a 200-step motor.

phytron power stages with the addendum + are particularly service-friendly by the **ServiceBus** which enables configuring, operating and monitoring the power stage via PC. For easy use of all setting options, the free ServiceBus-Comm[®] for Windows[®] software is included in delivery.

In the ServiceBus mode, additional functions are available: e. g. protection against undesired access.

Due to the linear design, there is no problem with EMC requirements. CLD⁺ is the most recommendable power stage for extreme applications where sensitive measurements could suffer from noise emissions.

Menu Control and Plain Text Display



Fig. 1

The CLD⁺ can be operated by the front side menu buttons or by the ServiceBus via PC.

In the SETUP menu the parameters step resolution, run, stop and boost current are programmed and can be changed at any time.

The TEST menu allows to drive the motor for test with the programmed parameters, to set the outputs and to display the input states.

Active parameters are displayed during motor running: phase current, voltage or power stage temperature (optional).

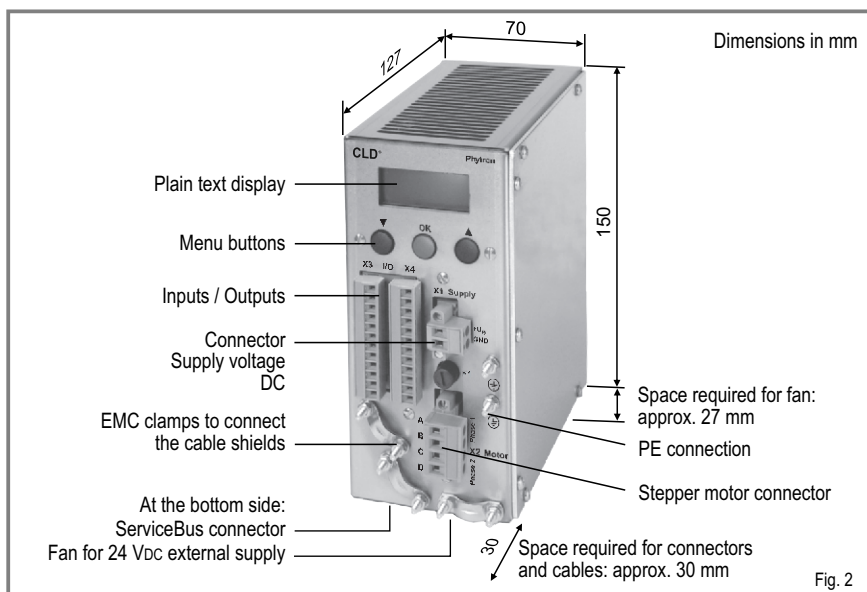
The plain text display changes in case of an error: short circuit, undervoltage or overtemperature.



Technical Information

- Linear stepper motor power stage for 2-phase stepper motors
- Phase currents from 0.14 to 2 A_{PEAK}
- Supply voltage 24 V_{DC}
- Step resolution 1/1 to 1/512 step
- ServiceBus interface: USB point-to-point
- ServiceBus-Comm[®] configuration and operation software for Windows[®]
- Inputs compatible to RS422 for safe operation
- Input logic 5 V or 24 V
- Menu-driven operation parameter input
- Plain text display 2 x 6 digits
- Compact design 70 x 150 x 127 mm
- User-friendly screw connectors
- Fully EMC compliant metal housing
- EMC filter for supply voltage
- DIN rail or wall mounting kit included in delivery
- Fan for external 24 V_{DC} supply mounted at the bottom side
- Free CD with ServiceBus-Comm software package

Dimensions / Front View



Inputs

The signal inputs are electrically insulated from the supply voltage. The signals are active, when current flows through the optocoupler.

Input data: Push-Pull or Open-Collector control mode

Input level: 5 V or 24 V

Control pulse: Maximum step frequency 250 kHz, minimum pulse width 2µs

Direction: The motor rotates in the reverse preferential direction.

Boost: The current is increased by the preselected value.

Deselect: Pulse inhibit. When the input is not connected, the power stage is ready for operation.

Reset: All error messages are reset, the monitoring circuits are initialised.

Outputs

Optically insulated Open-Collector outputs

$I_{max} = 20 \text{ mA}$, $U_{max} = 30 \text{ V}$, $U_{CE \text{ sat}}$ at $20 \text{ mA} < 1 \text{ V}$

Ready: Power stage is ready for operation.

Error: Short circuit, undervoltage, overtemperature

Fan

- The fan is mounted at the bottom side and has to be connected to 24 V_{DC} external supply.

Accessories

- Connector set included in delivery
- Power supply unit PS 10-24

ServiceBus-Comm® Software

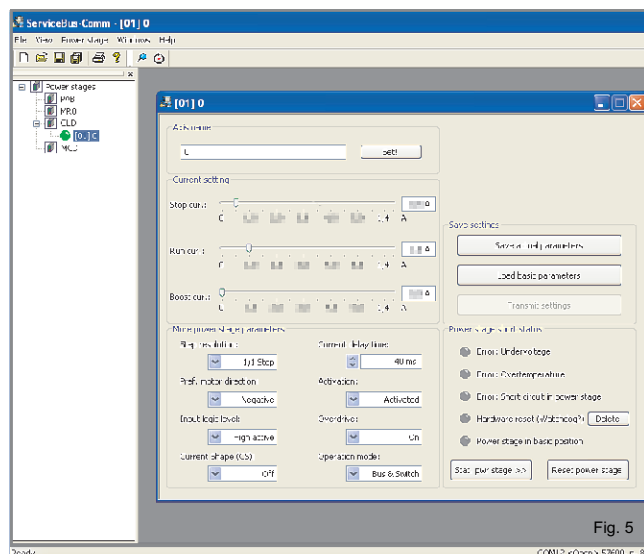


Fig. 5

Input Wiring Diagram

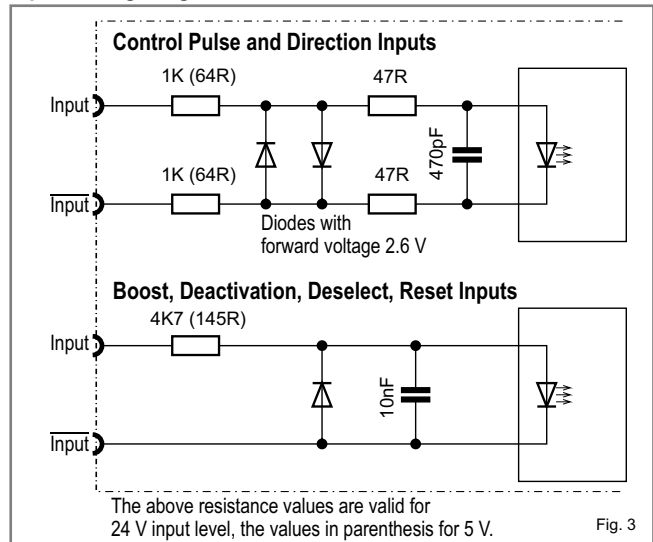


Fig. 3

Output Wiring Diagram

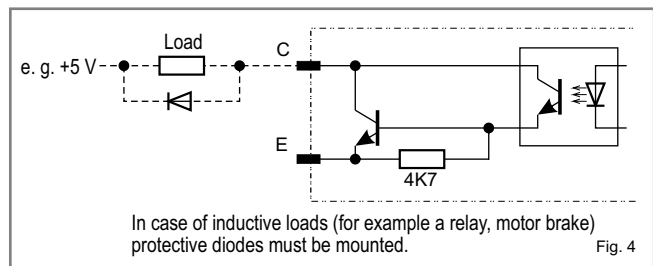


Fig. 4

Ordering Code

Type	CLD ⁺ = Stepper motor power stage with ServiceBus
Peak current	20 = 2 A
Motor voltage	24 = 24 V
Step resolution	MINI = Step resolution 1/1 to 1/512
Mounting kit	H = DIN rail mounting kit W = Wall mounting kit
Input level	5 = 5 V 24 = 24 V