

# 1 Information about this connection plan

This connection plan applies to cLEAN motors of the CLM series in combination with MH300 compatible series drive controllers.

# 2 Safety notes

Serious risks to life and limb can occur when connecting and operating motors! Observe the following operating manuals, the operating manual of the motor as well as the applicable national, local and system-specific regulations.

## **WARNING!**

### **High electrical voltage on the motor**

Touching live parts can lead to death or serious injuries.

- ✓ Please note that only electrically skilled persons are permitted to connect the motor.
  - Before carrying out any electrical work, switch off the power supply to the machine using the main switch.
  - Secure the main switch to prevent it from being switched on again.
  - Only connect the motor using cables supplied or approved by STÖBER.
  - Do not open the motor housing.

## **ATTENTION!**

### **Incorrect connection of the motor to the drive controller**

An incorrect connection will damage the motor and/or drive controller.

- Check whether this wiring diagram matches the information on the nameplate of the motor and the drive controller.
- Check to see if the connection cables match this connection plan.
- In case of questions, contact STÖBER Service.

## **ATTENTION!**

### **Direct connection of the motor to the power grid**

Connecting the motor directly to the power grid will damage the motor.

- Only connect the motor to the intended drive controller in accordance with this connection plan.

## **ATTENTION!**

### **Use of connection cables that are not compatible with the motor**

Connection cables that are not compatible with the motor can damage the motor or the plug connectors. In addition, they may result in non-compliance with legal EMC requirements and invalidate warranty claims.

- Only use connection cables that have been supplied or approved by STÖBER.
- When connecting to drive controllers from other manufacturers, only the original cables from the respective manufacturer may be used.

**ATTENTION!****Electrostatic discharge**

Motor components such as encoders or temperature sensors can be damaged by electrostatic discharge.

- Avoid touching the plug connector contacts with your fingers.

**ATTENTION!****Improper handling of the plug connectors**

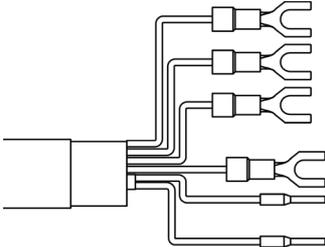
The plug connectors can be damaged by improper handling.

- Tighten the cap nuts of screw connections by hand (not with a tool).
- Turn the plug connector of the motor using the connected mating connector of the connection cable (not with a tool).
- Turn the plug connector only within the permitted turning range.

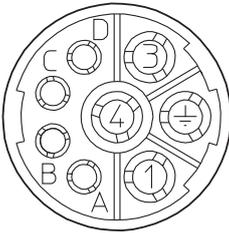
### 3 Terminal assignment for power

As standard, the CLM cLEAN motor is delivered with a connected cable. The cable is either open or equipped with a plug connector with screw cap.

**Flying lead – cross-section: AWG 14 (2.5 mm<sup>2</sup>)**

Connection diagram	Designation	Color	Connection
	U/L1/C/L+	Black	U/T1
	V/L2	Black	V/T2
	W/L3/D/L-	Black	W/T3
		Greenyellow	PE (grounding conductor)
		Black	1BD1 (brake +)/1TP1 (temperature sensor +)
		White	1BD2 (brake -)/1TP2 (temperature sensor -)

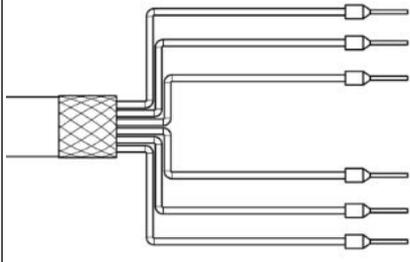
**Plug connector size con.23**

Connection diagram	Pin	Connection
	1	1U1 (U phase)
	⊕	PE (grounding conductor)
	3	1V1 (V phase)
	4	1W1 (W phase)
	A	1BD1 (brake +)/1TP1 (temperature sensor +)
	B	1BD2 (brake -)/1TP2 (temperature sensor -)
	C	
	D	

## 4 Terminal assignment for encoder

The CLM cLEAN motor can be optionally equipped with a resolver. Connect the corresponding cable to the drive controller according to the following pin assignment. Correct wiring guarantees reliable transmission of analog signals for precise position and speed information.

### Resolvers

Connection diagram	Color	Pair	Connection	Terminal
	Blue	Blue/white	S1 Cos -	S1
	White	Blue/white	S3 Cos +	S3
	White	Yellow/white	S4 Sin +	S4
	Yellow	Yellow/white	S2 Sin -	S2
	Red	Red/white	R1 Ref -	R1
	White	Red/white	R2 Ref +	R2
	Green	Green/white		
	White	Green/white		

## 5 Temperature sensor connection

The type of the temperature sensor is specified on the nameplate of the motor.

- PTC thermistor 145 °C
- Pt1000 temperature sensor

The CLM cLEAN motor can be optionally equipped with a holding brake. In this case, it is not possible to connect a temperature sensor.

### ATTENTION!

#### Lack of or incorrect monitoring of the temperature sensor

Incorrect or a lack of monitoring of the temperature sensor can cause damage to the motor.

- Always monitor the temperature sensor using devices that will switch the motor off if the maximum permitted winding temperature is exceeded.

## 6 Holding brake connection

The CLM cLEAN motor can be optionally equipped with a holding brake. The holding brake is powered through the power connection. If a holding brake is used, a temperature sensor cannot be connected.

### ATTENTION!

#### Incorrect brake connection

Connection errors can cause damage to the holding brake.

- Observe the polarity of the connections and the nominal voltage of the holding brake.

Nominal voltage of the holding brake: DC 24 V ( $\pm 5\%$ )

The specified nominal voltage must be applied to the holding brake. Adjust the voltage if necessary to compensate for voltage drops in the connection cables.