1 Information about this connection plan

This connection plan applies to synchronous servo motors of the EZ series in combination with Control Techniques Digitax OCS with encoder EnDat 2.2.

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 STOBER.
- 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 STOBER 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 STOBER.
- 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

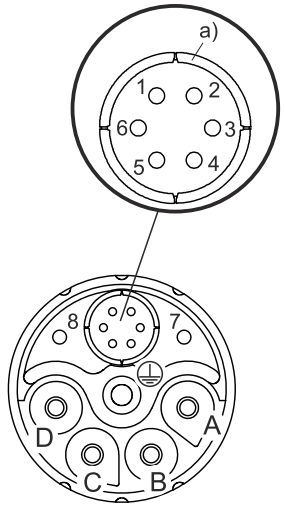
The plug connectors can be damaged by improper handling.

- 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 plug connectors (One Cable Solution)

In the One Cable Solution design, the power and encoder lines are connected using a shared plug connector.
The temperature sensor of the motor is connected to the encoder internally. The measured values from the temperature sensor are transmitted via the log of the encoder.

Plug connector size con.23

Connection diagram	Pin	Connection
	A	1U1 (U phase)
	B	1V1 (V phase)
	C	1W1 (W phase)
	D	
	1	Up +
	2	0 V GND
	3	Data +
	4	Data −
	5	Clock +
	6	Clock −
	7	1BD2 (brake −)
	8	1BD1 (brake +)
	⏚	PE (grounding conductor)
a) Coaxial shield to which the shield of the encoder cores is connected		

4 Temperature sensor connection

The temperature sensor of the motor is connected to the encoder internally. Read out the measured values of the temperature sensor via the EnDat interface of the encoder.
The type of the temperature sensor is specified on the nameplate of the motor.

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.

5 Holding brake connection

The (optional) motor holding brake is connected via the power plug connector.

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 permanent magnet holding brake: DC 24 V ± 5%, smoothed.
Note that there must be the specified nominal voltage of the holding brake at the plug connector of the motor. Adjust the voltage if necessary to compensate for voltage drops in the connection cables.

6 Forced ventilation unit connection

For the connection of the forced ventilation unit, you need a connection cable with flexible cores and end sleeves.

The operating voltage of the forced ventilation unit is specified on the nameplate of the motor.

Forced ventilation unit AC

The nominal voltage of the forced ventilation unit is AC 230 V ± 5%, 50/60 Hz.

Connect the connection cable to the screw terminals of the supplied mating connector in accordance with the following table:

Connection diagram	Pin	Connection
	1	L1 (phase)
	2	N (neutral conductor)
	3	
	⏚	PE (grounding conductor)

Forced ventilation unit DC

The nominal voltage of the forced ventilation unit is DC 24 V ± 10 %.

Connect the connection cable to the screw terminals of the supplied mating connector in accordance with the following table:

Connection diagram	Pin	Connection
	1	
	2	0 V GND
	3	Up +
	⏚	

Mating connector of forced ventilation unit

The Hirschmann GDM3109 valve connector (Belden item no. 934888105) is installed at the forced ventilation unit.

The plug insert can be mounted in 4 positions and therefore cable entry is possible in 4 directions.

Tightening torques

Screw-type male connectors	0.4 Nm
Central screw	0.5 Nm
Cable gland	1.5 Nm

For detailed information, see the assembly instructions of the manufacturer.