

# Installation Instructions

## HIPERDRIVE HDA

- with PROFIBUS DP
- with cable adapter



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## Personal Protection



Please ensure that the voltage or power source with which the HIPERDRIVE is operated is designed in accordance with the technical and statutory guidelines which apply to your plant.

Before carrying out work on the drives themselves, or the components operated by them and the parts of the plant affected, the plant must be switched off in accordance with the professional Safety and Accident Prevention Regulations applicable to your country. In addition to the main circuits, attention must be paid to any additional or auxiliary circuits which may be present.



Caution when the drive is touched by personnel. The temperature of the HIPERDRIVE housing may become high, depending on the mode of operation, because of the integrated motor and the power electronics.

Therefore, during installation, ensure that a sufficiently large distance from flammable materials and/or cables is maintained.

The output shaft of the HIPERDRIVE rotates at up to 280 rpm. In addition to the care that is generally required, please pay attention to the hazards which can result from pieces of clothing, hair and the like becoming entangled.

## Safety advice for mounting and commissioning



The HIPERDRIVE positioning drive is an electromechanical subassembly.

The device must be mounted and connected with voltage/current switched off.

In the event of improper handling, electrical short circuits with permanent consequential damage may occur.



We must point out expressly that the mounting, electrical and mechanical installation and the repair of the HIPERDRIVE may be undertaken only by trained specialist staff with fundamental mechanical, electrical and programming knowledge.

- Always perform mounting/repair work in compliance with the professional Safety and Accident Prevention Regulations applicable to your country.
- Before completing the mounting/repair work and/or before the functional test, ensure that the fixing screws are firmly tightened and that the cable connection is mounted correctly.
- Test the correct functioning of the safety devices (e.g. emergency off switch/safety clutches etc.).

## Device safety



The positioning drive may be operated only within the values predefined in the technical data.

Commissioning is prohibited until it has been established that the plant/machine in which the integrated drive has been incorporated complies with the regulations, which have to be applied to the plant/machine. Make sure that no torques hazardous to persons and environment arise as a result of the mounting, commissioning or as a result of test adjustments.

Opening the drive is forbidden. Any repairs or inspections must only be carried out by the manufacturer's Service Department.

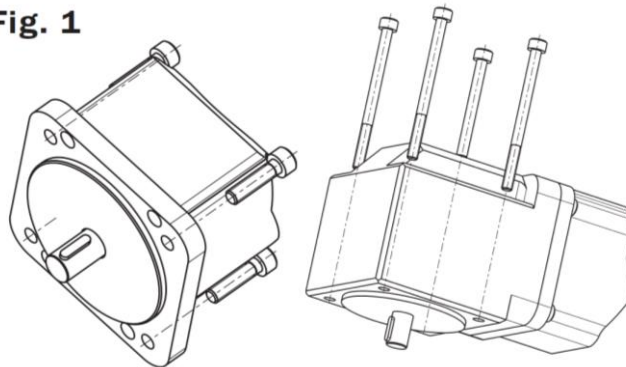
## Mechanical mounting

The installation position is as desired. However, the preferred mounting position is horizontal. When the drives are installed with the output shaft pointing upwards, it is necessary to prevent liquids from remaining on the output shaft for relatively long time periods since, in spite of a shaft seal, it is not possible to completely prevent the penetration of liquids into the drive along the output shaft.

The drives are fixed flush to the mounting surface via the centering attachment by means of 4 pieces M5 screws. Please ensure that there is sufficient thread length (at least 10 mm) in the mounting surface (**Fig. 1**).

The shaft connection using a key makes a form fit. When mounting mechanical coupling elements, it is necessary to note the permissible axial and radial forces in accordance with the technical data. If necessary, in order to compensate for the axial and radial tolerances, use a suitable coupling element.

**Fig. 1**



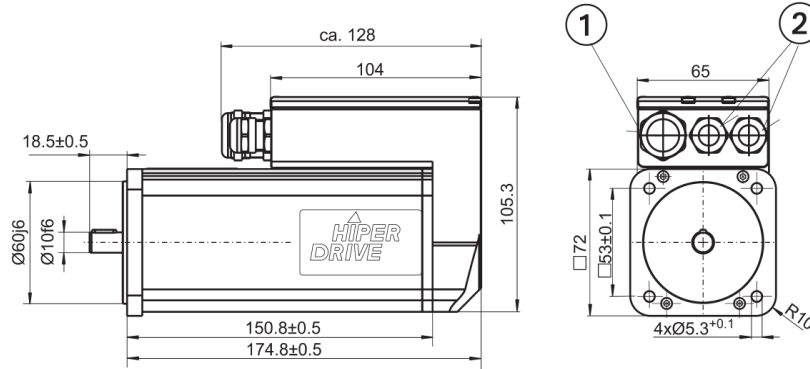
In order to prevent damage to the electromechanical components, please avoid shocks and impacts on the output shaft.

## Electrical installation HIPERDRIVE with PROFIBUS adapter



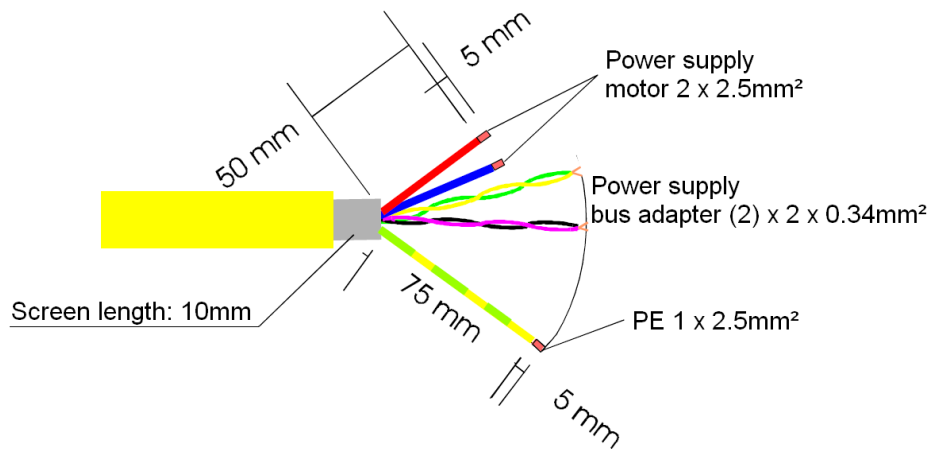
Always disconnect system completely prior to fitting the connecting cables.

- Connecting the voltage supply for motor and bus interface ① (1 x M20 cable screw connection) and the bus cables ② (2 x M16 cable screw connections) via the PROFIBUS adapter (**Fig. 2**).

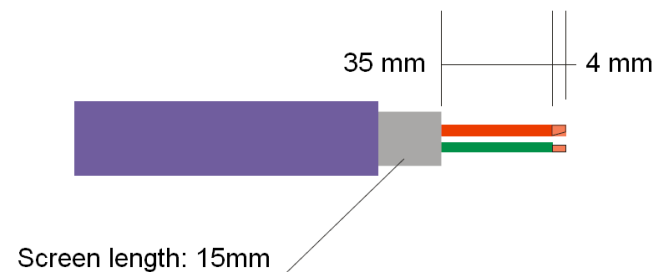


**Fig. 2**

- Strip wire ends according to **Fig. 3** and **4**.



**Fig. 3:** confection of cables for power supply



**Fig. 4:** confection of bus cables

- Provide the ends of the wires with the cable terminations suitable for the cable used. For the protective conductor connection, an eyelet with a screw opening to suit an M3 screw is required.
- Push cable with sleeves crimped-on the end through the union nut, plastic bushing with seal and the main body of the cable screw connection. Pull the cable screen over the plastic bush and firmly tighten with the union nut.
- Connect all wires with the appropriate terminals (observe polarity!) and screw the protective conductor to the appropriately labelled screw, and firmly tighten contacts (**Fig. 5**).

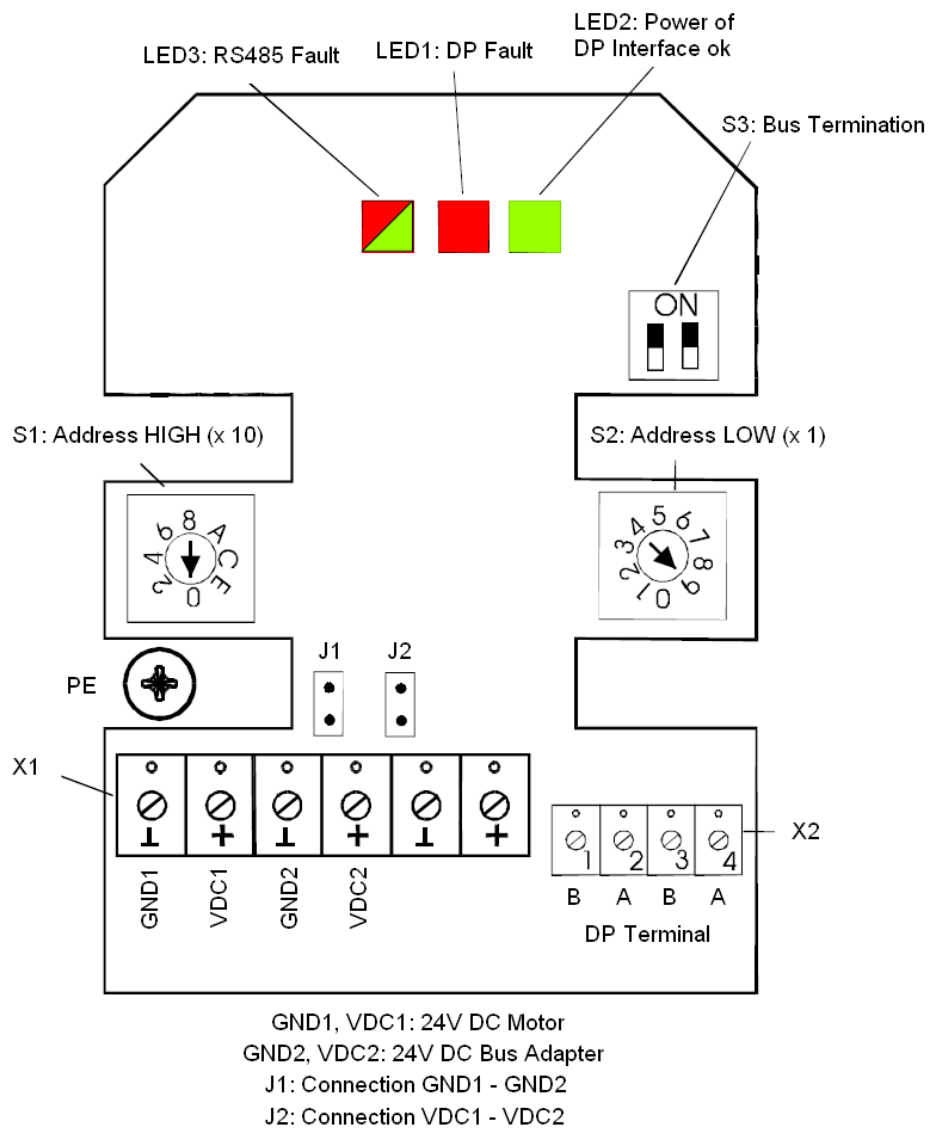


Fig. 5: Position of the connection and operating elements

- Ensure correct screen connection.

## Electrical connection HIPERDRIVE with cable adapter



Always disconnect system completely prior to fitting the connecting cables.

When operating the drive via the serial communication interface RS485, the connection of operating voltage and serial interface is made directly via the integrated plug connector. Prepared connecting cables with cable adapter and a free second cable end are available as accessories.

### Connecting the connecting cable

- Remove protective foil from the drive-end plug opening. Ensure that no foreign bodies enter the plug opening.

When using the cable adapter for **long** connecting cables (AD-H-xxMRS with  $xx > 10$ ; **Fig. 6**):

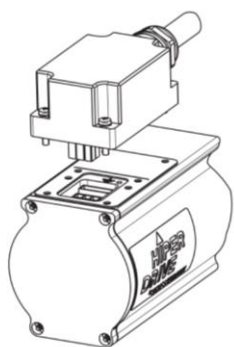


Fig. 6

- Enable or disable line termination resistors at the cable end[s], depending on the line topology with DIP switches ① (**Fig. 7**):

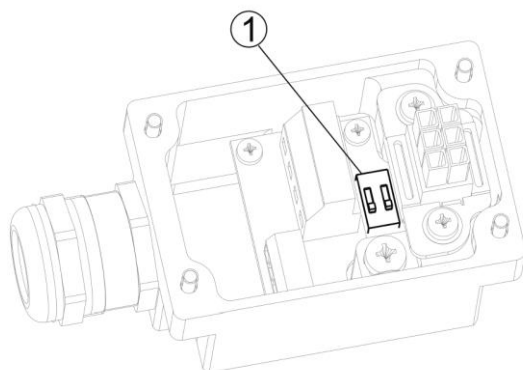


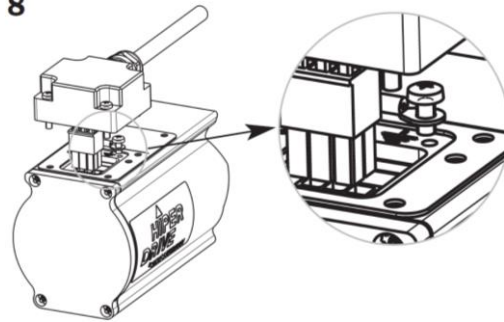
Fig. 7

- Ensure correct seating and cleanliness of the moulded seal.

- Plug in the connector with the supply to the cable adapter switched off.
- Firmly screw cable adapter to motor housing.
- Connect all wires with the appropriate terminals.

When using a cable adapter for **short** connecting cables (AD-H-xxMRS with  $xx < 10$ ; **Fig 8**):

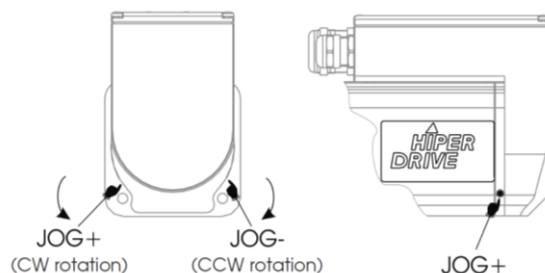
**Fig. 8**



- Firmly screw protective conductor connection to the screw connection provided. Place toothed washer underneath.
- Plug in the connector with the supply to the cable adapter switched off.
- Ensure correct seating and cleanliness of the moulded seal.
- Firmly screw cable adapter to motor housing.
- Connect all wires with the appropriate terminals.

## Manual procedure with the JOG+ / JOG- switches

The **JOG+** and **JOG-** switches located on the rear cover plate of the drive make it possible to move the drive in both directions of rotation without the control being connected, as follows (**Fig. 9**).



**Fig. 9:** Position and function of the switches JOG+ and JOG-

- Provide 24 VDC power supply for the motor. Ensure that the voltage source can meet the drive's current demand.
- Switch off the PROFIBUS connection or serial interface or remove cable connection (leave only 24 VDC connected).
- Using a cylindrical pin (3 mm Ø max.), press switch **JOG+** (CW rotation, looking at the output shaft) or **JOG-** (CCW rotation, looking at the output shaft) until the drive has reached the position required.



## Dismantling



Before dismantling the HIPERDRIVE, please ensure that

- the mechanism cannot move when the holding torque from by HIPERDRIVE is removed,
- the operating voltage of the HIPERDRIVE is switched off and switching on again has been prevented in accordance with the safety rules.

- Please isolate the wires of the voltage supply in such a way that the wires cannot touch one another and cause a short circuit.
- If a number of slaves are operated on the PROFIBUS in your plant, please make sure that after the removal of the drive, the bus line is neither interrupted nor that the termination resistors have been removed.
- Then please dismantle the motor by removing the fixing screws from the motor flange and removing the motor.

## GSD file and further documentation

Further documents (assembly and operating instructions, GSD file) are available as downloads from <http://www.halstrup-walcher.com>