

# Assembly instruction and declaration in accordance with the Machinery Directive 95/16/EC PSD4xx positioning system

## PSD4xx positioning system



The PSD4xx positioning system is an integrated drive for the accurate adjustment of auxiliary and positioning axes. The drive makes it possible to perform reproducible and simultaneous adjustments at all the required positions.

The PSD4xx positioning system converts a digital positioning signal into a rotational angle.

The integrated absolute measuring system eliminates the need for time-consuming reference runs. A bus system connection simplifies the wiring. A hollow shaft with adjustable collar makes assembly quite simple.

The positioning system is especially suitable for automatically setting tools, stops or spindles for wood-processing equipment, packing lines, printing equipment, filling units and other types of special machines. The devices require no maintenance.

### Models

The PSD4xx positioning drive is available in a variety of models:

- Torque (options): 0,8 .. 8 Nm
- Bus interface (options):
  - o CANopen (incl. switchable terminating resistor)
  - o IO-Link
  - o PROFINET
  - o EtherCAT
- Protection class:
  - o Standard: IP 50
  - o Optional: IP 65
- Solid circular shaft (flattened), 5 mm or 8 mm
- Optional: Hollow shaft, 8 mm or 14 mm (with gear reducer)
- Optional: Gearbox kit for increased torque requirements with 8 mm or 14 mm hollow shaft
- Selectable connector orientation (horizontal or vertical with regard to the output axis)

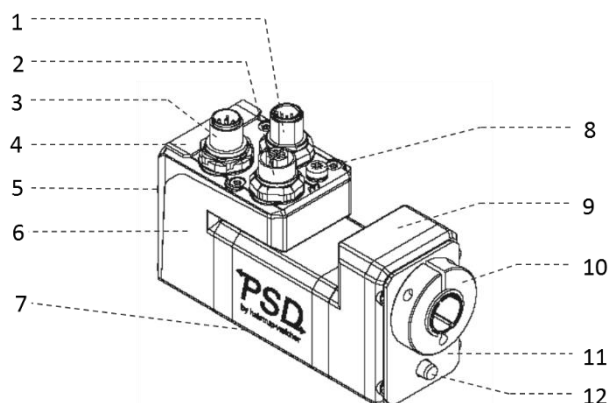
### Adjusting settings

The drive has bus-dependent setting options:

- Assignment of device address
- Setting the baud rate
- Switching the terminating resistor

For more information about these functions and their settings, please refer to the detailed instruction manual at:  
<http://www.halstrup-walcher.de/technicaldocu>.

### Operating elements for drives with hollow shaft



- 1 M12 male connector for power supply (A-coded)  
(for devices with IO-Link also for communication)
- 2 M12 connector for bus (not for devices with IO-Link)  
CA: M12 female connector (B-coded)  
EC/PN: M12 female connector (D-coded)
- 3 M12 connector for bus (not for IO-Link)  
CA: M12 male connector (B-coded)  
EC/PN: M12 female connector (D-coded)
- 4 Sealing plug (device controls (not for IO-Link) and status elements)
- 5 Connection diagram (on the opposite side of the connectors) (not for devices with IO-Link)
- 6 Housing section with power and control electronics
- 7 Type label
- 8 Ground screw
- 9 Gearbox with hollow shaft  
PSD -403 / -413 / -424 / -434 / -426 / -436 / -428 / -438:



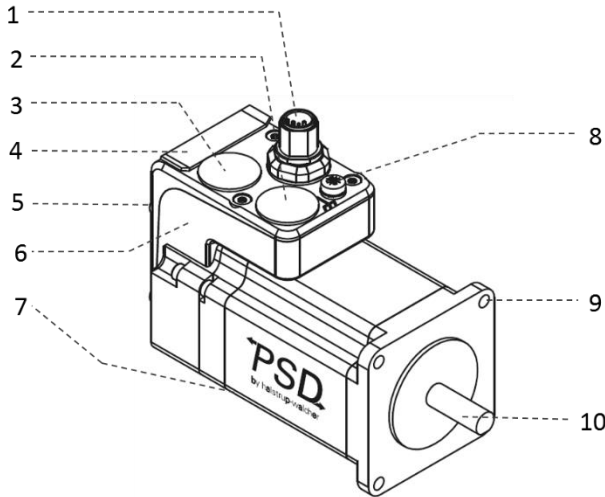
Attachment housing with hollow shaft  
PSD -401 / -411 / -422 / -432:



- 10 Hollow shaft, 8 mm or 14 mm, with adjustable collar and allen screw (M4 x 16 DIN 912) for spindle mounting
- 11 Sealing plate (1.5 mm): to offset lash in the spindle
- 12 Torque support: mechanical fixation to prevent the drive from twisting

The dimensions of your PSD4xx can be found in the current data sheet on the website: [www.halstrup-walcher.de/technicaldocu](http://www.halstrup-walcher.de/technicaldocu)

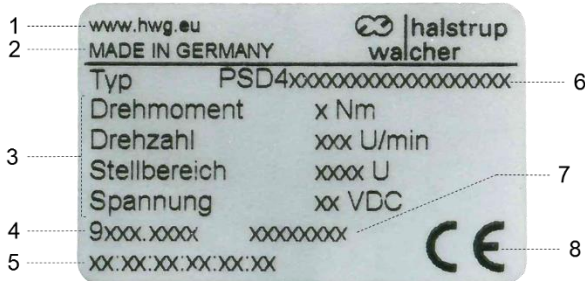
**Operating elements for drives with solid circular shaft**



- 1 M12 male connector (A-coded)  
(for device with IO-Link for bus and power supply)
- 2 M12 connector for bus (not for devices with IO-Link)  
CA: M12 female connector (B-coded)  
EC/PN: M12 female connector (D-coded)
- 3 M12 connector for bus (not for IO-Link)  
CA: M12 male connector (B-coded)  
EC/PN: M12 female connector (D-coded)
- 4 Sealing plug (device controls (not for IO-Link) and status elements)
- 5 Connection diagram (on the opposite side of the connectors) (not for IO-Link)
- 6 Housing section with power and control electronics
- 7 Type label
- 8 Ground screw
- 9 Flange holes M3 (PSD40x/41x) or Ø 4.5 (PSD42x/43x)
- 10 Solid circular shaft (flattened), 5 mm or 8 mm

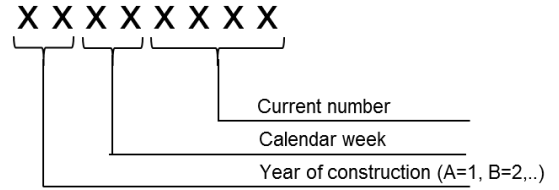
The dimensions of your PSD4xx can be found in the current data sheet on the website: [www.halstrup-walcher.de/technicaldocu](http://www.halstrup-walcher.de/technicaldocu)

**Type label**



- 1 Manufacturer and website
- 2 Country of manufacture
- 3 Technical data
- 4 Article number (specific)
- 5 MAC-address (only for devices with IE buses)
- 6 Order key

7 Serial number



8 CE conformity certification

**Safety precautions**

This assembly instruction is part of the product. Please read this manual carefully, follow our instructions, and pay special attention to the safety information provided. The manual should be available at all times. Please contact the manufacturer if you do not understand any part of the instructions.

The drive has been designed and tested to ensure its safety. However, it may still be dangerous if used inappropriately and with faulty operation. Always observe the operating requirements – particularly the permissible supply voltage – indicated on the type label and the data sheet.

The person responsible for the electrical connections must be notified immediately if the drive is damaged. In the event of a fault, please refer to the detailed instruction manual at: [www.halstrup-walcher.de/technicaldocu](http://www.halstrup-walcher.de/technicaldocu).

**⚠ WARNING**

**Risk of injury if used inappropriately.**

**The device must be installed by trained technical personnel.**

**⚠ WARNING**

**Risk of burns due to hot drive.**

**The drive can become very hot during operation.**

**Allow the drive to cool before touching it.**

**⚠ WARNING**

**Risk of crushing due to rotary movement.**

**Do not reach into the working area of the drive when it is still turning.**

**The user/operator must ensure appropriate protective measures are taken.**

**⚠ WARNING**

**Incorrect installation can lead to the destruction of the drive.**

**⚠ WARNING**

**Check that the supply lines are not pinched or crushed.**

**Lay the supply lines according to the general and specific local installation regulations.**

**If the supply lines have not been delivered together with the device, please select suitable cables for the application.**

**Do not operate the positioning unit if the supply lines are noticeably damaged.**

**⚠ WARNING**

**Risk of injury. High contact voltages can occur in the case of malfunctions.**

**This can be prevented by grounding.**

**⚠ WARNING**

The drive must only be installed and wired when it is disconnected from the power supply.

**Storage and transportation of devices**

The PSD4xx positioning drive should always be stored and transported to the place of installation in its original packaging.

**Maintenance, cleaning and repair of devices**

The drive requires no maintenance. The drive may only be cleaned from the outside with a damp cloth.

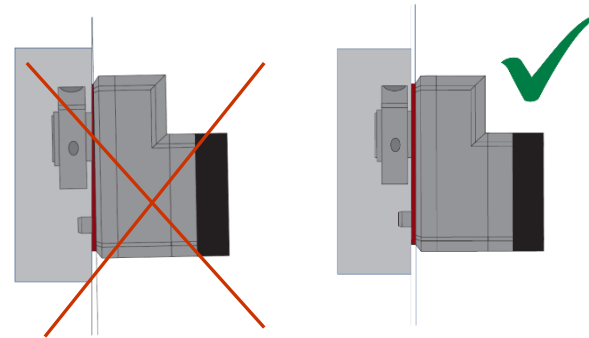
Repairs should only be carried out by the manufacturer.

**Installing the device**

Depending on the model, the device can be installed on the machine using a hollow or solid circular shaft.

**⚠ ATTENTION**

Never apply force to the housing of the drive, e.g. for supporting weight.



INCORRECT ☹

CORRECT ☺

**⚠ ATTENTION**

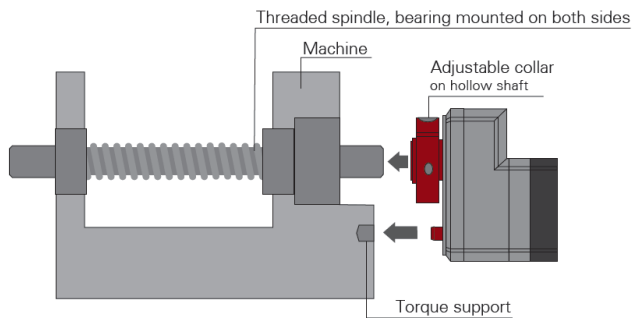
Under no circumstances must the drive be bolted on “hard” without an air gap between it and the machine. The sealing plate is used for tolerance compensation.

**Installing a drive with hollow shaft**

How to mount the drive on a shaft

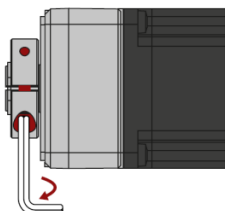
Tools required: 3 mm Allen key.

Example:



**Instructions:**

1. Slide the drive onto the shaft to be driven.
2. Guide the torque support into the hole provided by the planner.
3. Slide the drive towards the machine base until the sealing plate is pressed together to approx. the half thickness.
4. Now tighten the adjustable collar screw with 4 Nm.



The drive is now installed.

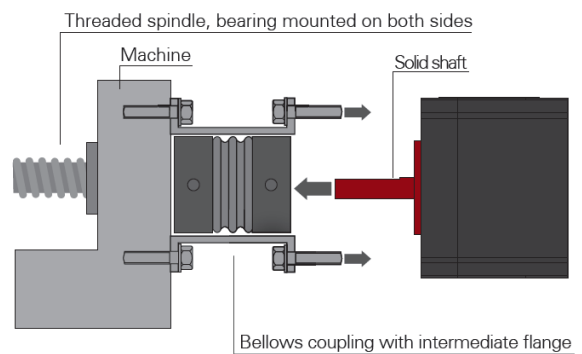
**!** **Note:** Ensure that the drive and machine base are as parallel to each other as possible.

**Installing a drive with solid circular shaft**

The drive is installed on the axle to be driven using a coupling and an intermediate flange.

Install the drive according to the coupling manufacturer's specifications.

**Example:**



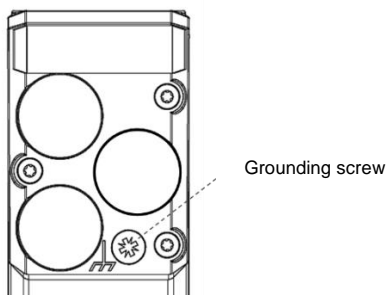
The dimensions of your device can be found in the current data sheet on the website: [www.halstrup-walcher.de/technicaldocu](http://www.halstrup-walcher.de/technicaldocu)

### Grounding the drive

**!** **Note:** The positioning system should be connected to the machine base using the shortest possible cable. The minimum wire cross-section of the grounding cable is 1.5 mm<sup>2</sup>.

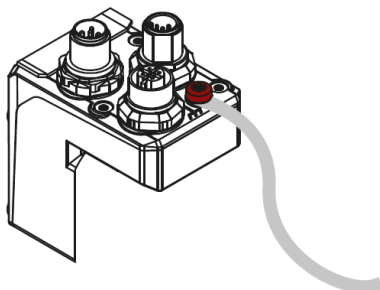
To ground the drive:

Next to the connectors, there is an M4 stud bolt for mounting the grounding cable.



#### Instructions:

1. Open the stud bolt next to the connection plug(s).
2. Attach the specified cable.
3. Fasten the grounding cable to the drive with the stud bolt.



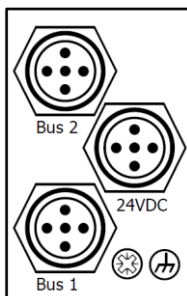
4. Fasten the other end of the grounding cable to the position provided on the machine base.

### Electrical connections for the drive

To connect the drive electrically:

**!** **Note:** Please refer to the connection diagram on the housing cover (not for IO-Link devices).

#### Example:



Information on the connection and pin assignment for your drive can be found at: [www.halstrup-walcher.de/technicaldocu](http://www.halstrup-walcher.de/technicaldocu)

### Run drive in reverse

Depending on the model, the drive may be run in reverse up to a certain speed.



#### ATTENTION

Running a PSD4xx in reverse for more than 1-2 seconds at more than the permissible speed will damage the internal protection diode and the PSD4xx will be defective.

Please refer to the following table to find the maximum permissible speed [rpm]:

PSD 401/411-	PSD 403/413-	PSD 422/432-	PSD 424/434-	PSD 426/436-	PSD 428/438-
5V/ 8H/14H	8H/14H	8V/ 8H/14H	14H	14H	14H
200	48	200	95	60	45

### Dismantling the drive

How to dismantle the drive with hollow shaft and adjustable collar



**Note:** When dismantling models with a solid circular shaft, please follow the coupling manufacturer's instructions.

#### Instructions:

1. Disconnect all electrical connections.
2. Undo the adjustable collar screw(s).
3. Remove the drive from the shaft.



**Note:** Ensure the drive is pulled off the shaft in the axial direction. Excessive bending can damage the output shaft.

**Installation declaration**



Die Lösung liegt im Detail

**Declaration of Incorporation  
halstrup-walcher GmbH  
Stegener Str. 10, 79199 Kirchzarten, Deutschland**

Description and identification of the partly completed machinery:

**Positioning systems PSD 4 series**

The following essential requirements of EC Machinery Directive 2006/42/EC have been applied and fulfilled:

- 1.1.2, 1.1.3, 1.1.5, 1.3.2, 1.3.4, 1.5.13, 1.7.1

The relevant technical documentation has been compiled in accordance with Annex VII, Part B of EC Machinery Directive 2006/42/EC. We undertake, in response to a reasoned request, to supply it *in electronic form* to the market surveillance authorities within a reasonable period.

The party authorised to compile the technical documentation is:

Mr Christian Sura  
halstrup-walcher GmbH  
Stegener Str. 10  
79199 Kirchzarten  
Deutschland

The partly completed machinery must not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of the Machinery Directive.



Christian Sura, Managing Director

Kirchzarten, 23 September 2019

**Declaration of Conformity**



**EU-Konformitätserklärung  
EU Declaration of Conformity**

**Company** halstrup-walcher GmbH, Stegener Str. 10, 79199 Kirchzarten  
erklärt als Hersteller in alleiniger Verantwortung, dass das Produkt  
declares as manufacturer under sole responsibility, that the product

**Product** Direktantriebe Familie PSD4xx  
Direct Drives Family PSD4xx

**Regulations** den folgenden Europäischen Richtlinien entspricht:  
conforms to following European Directives:

EMC 2014/30/EU  
RoHS 2011/65/EU

**Standards** angewandte harmonisierte Normen:  
applied harmonized standards:

EN IEC 61800-3:2018  
EN IEC 63000:2018

**Certification** EU Konformitätserklärung ausgestellt von  
EC Type Examination Certificate issued by

Geschäftsführer

Managing Director

Kirchzarten, 23. Jun. 2021

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Umsatzsteuer-ID-Nr. DE 811169901