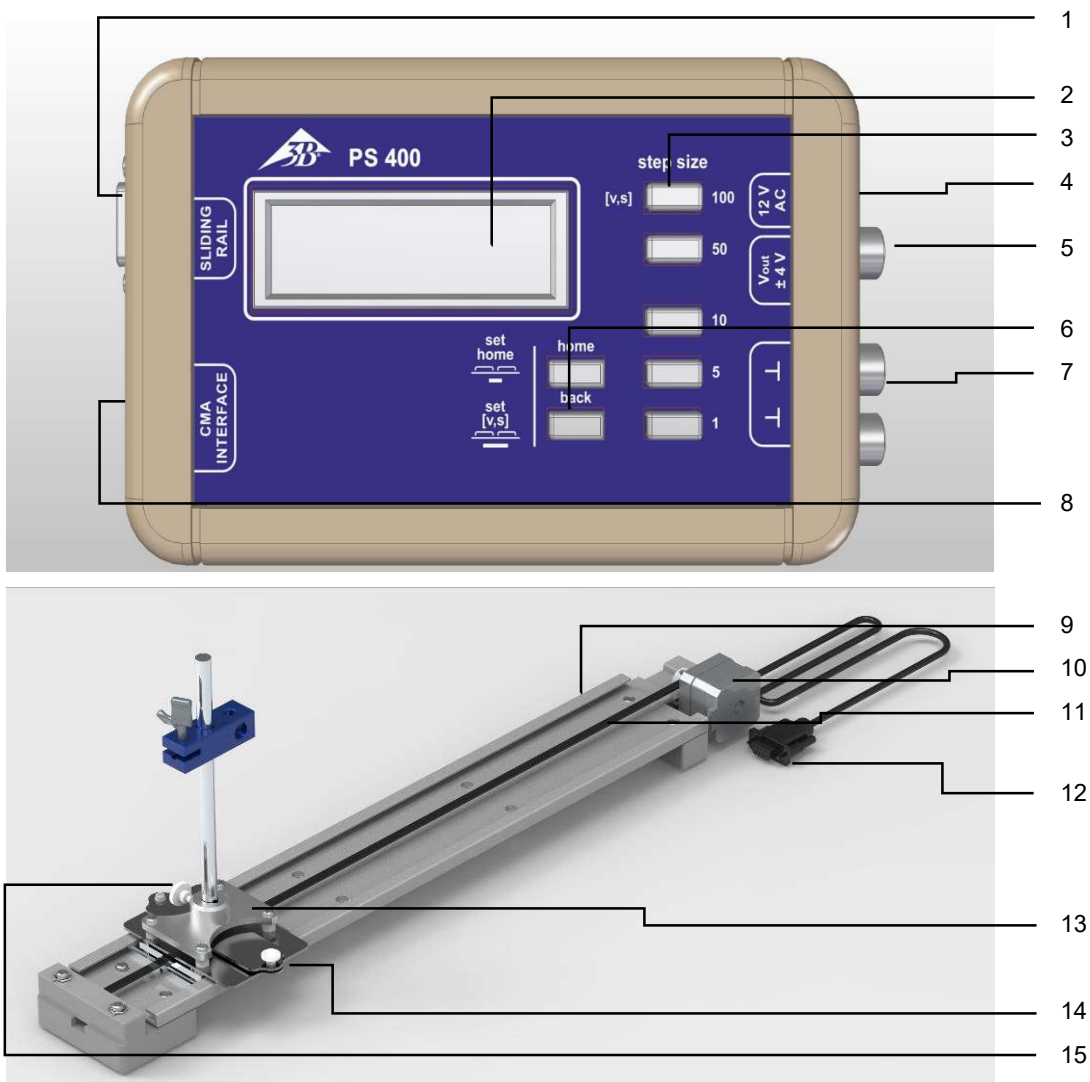


## Remote-Controlled Positioning System PS 400

(230 V, 50/60 Hz) 1023414  
 (115 V, 50/60 Hz) 1023791

### Instruction Manual

03/23 TL



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| <ul style="list-style-type: none"> <li>1 Connection socket for sliding rail (12)</li> <li>2 Display</li> <li>3 Keys <i>step size</i> for moving steps (mm)</li> <li>4 Connection for AC power supply</li> <li>5 Voltage output <math>V_{out}</math></li> <li>6 Function keys</li> <li>7 2 x ground socket</li> </ul> | <ul style="list-style-type: none"> <li>8 Interface for CMA-sensors</li> <li>9 Sliding rail</li> <li>10 Step motor</li> <li>11 Transport belt</li> <li>12 Connection cable for control unit (1)</li> <li>13 Sled, mounting assembly</li> <li>14 Screw for clutch force</li> <li>15 Lock for mounting assembly (13)</li> </ul> |
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## 1. Safety instructions

Plug-in power supply 230 V (1001014)/ 115 V (1009545):

- Operation only with the mains voltage according to the imprint.
- Do not use the device if there is visible damage to the housing, plug or cable.

PS 400:

- Connect or disconnect the control unit to the sliding rail inly without connected power supply.
- Adjust the clutch force with the screw (14) (allows the belt to slide in case of collision at the end of the track or on sensitive components, see 5.).
- The sensor cable 1021514 is needed for the CMA interface (8).
- Do not apply voltage to the voltage output  $V_{out}$  (5).

## 2. Description

The Remote-Controlled Positioning System PS 400 enables fast and exactly reproducible positioning of components in experiments.

Fixed and programmable positioning steps with assigned and programmable moving velocities offer a high degree of flexibility with particularly simple operation.

Experiments can be performed quickly and without disturbing influences of the person performing the experiment.

The CMA interface (8) enables recording the position of the sled on the sliding rail via computer or VinciLab (1021477). The position of the sled can also be determined via the voltage output (5). Measurement data from other sensors can thus be recorded as a function of the sled's position and quickly evaluated.

## 3. Scope of delivery

- 1 Sliding rail
- 1 Control unit PS400
- 1 Stand rod:  $\varnothing = 10$  mm, length: 200 mm
- 1 Tripod muff
- 1 Plug-in power supply 230 V (1001014) or 115 V (1009545)

## 4. Technical data

### Sliding rail:

Weight:	2 kg
Moving distance:	405 mm
Stand rod mount:	$\varnothing = 10$ mm
Dimensions:	580x120x50 mm <sup>3</sup>

### Control Unit PS400:

The control unit has fixed programmed keys *step size* (3). Pressing a button once moves the sled the distance  $s$  at the velocity  $v$ :

"1"	$s = 1$ mm	$v = 1$ mm/s
"5"	$s = 5$ mm	$v = 5$ mm/s
"10"	$s = 10$ mm	$v = 10$ mm/s
"50"	$s = 50$ mm	$v = 25$ mm/s
"100"	$s = 100$ mm	$v = 50$ mm/s

The "100" key is also programmable. The distance can be selected from 1 mm to 405 mm, the velocity from 1 mm/s to 100 mm/s (see 5.).

The movement of the sled is uniform:  $v = \text{constant}$ .

Precision of moved distance:  $\pm 0.1$  %

Connetions:

- 1x Output voltage (5),  
 $V_{OUT} = 0$  V bis  $\pm 4,05$ V
- 1x CMA interface (8)  
Sensor cable 1021514 required
- 1x Sub-D *Sliding Rail* (1)
- 1x Hollow bushing (4), supply voltage
- 2x Ground socket (7)

Supply voltage:	12 V AC
Dimensions:	110x170x30 mm3
Weight:	1 kg

## 5. Operation

- Connect the sliding rail and the control unit. After connect the power supply to the control unit. The current position of the sled is the so called "home" position (voltage  $U_{out}$  between (5) and the reference point (7) is 0 V).
- By pressing the "home" key, the sled moves back to the "home" position from any position.
- A new "home" position can be set at any desired sled position by pressing the two function keys (6) simultaneously.

- The "home" position is changed when the sled collides with components or hits the end of the carriageway. The "home" position should be reset afterwards.
- The sled moves away from the motor by pressing the "step size" buttons once. The sled is moved by the according value.
- Movements towards the motor are initiated by pressing the "back" key (6) and a step size key (3) at the same time.
- The display is updated each time the sled has finished its movement. The voltage output corresponds always to the actual position of the sled.
- A 100 mm distance corresponds to a voltage change (5) of 1V.
- Alternatively the "100" key can be programmed with freely selectable values for the distance  $s$  and the speed  $v$ .

**Programming** example for  $s = 152$  mm and  $v = 65$ mm/s:

Press the two function keys (6) simultaneously for 3 s. The display shows: "CUSTOMIZE 100" and then " $s = 0$  mm". Press the following *step size* keys: 1x "100", 1x "50" and 2x "1". The display shows: " $s = 152$  mm". Confirm this value with the "home" key. Display: " $s = 152$  mm" " $v = 0$  mm/s".

Next press 1x "50", 1x "10" and 1x "5". Display: " $v = 65$  mm/s". Confirm this value again with the "home" key. The programming is completed.

The distance  $s$  can be set between 1 mm and 405 mm. The speed  $v$  can be set between 1 mm/s and 100 mm/s. Values  $s > 0$  and  $v > 0$  must be selected, otherwise "increase" is shown in the display.

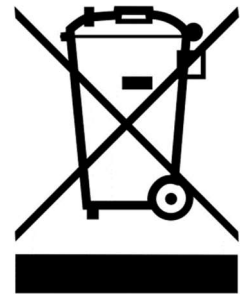
After a device restart, the "100" key is again assigned the default values  $s = 100$  mm and  $v = 50$  mm/s.

#### **Adjustment of the clutch force (14):**

The clutch force of the sled (13) can be adjusted to protect sensitive components. At maximum force coupling and a "hard" collision, audible magnetic cogging torques occur at the motor (chatter). If possible, only set the required force coupling: clockwise rotation of (14) for higher force, counterclockwise rotation for lower force.

## 6. Disposal

The packaging should be disposed of at local recycling points. Should you need to dispose of the equipment itself, never throw it away in normal domestic waste. Local regulations for the disposal of electrical equipment will apply.



1023414 (230 V, 50/60 Hz), 1023791 (115 V, 50/60 Hz)

**Positionierungssystem PS400**

**Positioning System PS400**

**Sistema de posicionamiento PS400**

**Système de positionnement PS400**

**Sistema di posizionamento PS400**

**Sistema de posicionamento PS400**

## Deutsch

### 1. Sicherheitshinweise

#### Positionierungssystem PS 400:

- Steuereinheit nur im stromlosen Zustand mit der Fahrbahn verbinden bzw. trennen.
- Für die CMA Schnittstelle ist das Sensorkabel 1021514 zu verwenden.
- Keine Spannung in  $V_{out}$  einspeisen.

#### Steckernetzgerät 230 V (1001014) bzw. 115 V (1009545):

- Ausschließlich für den Betrieb mit der Netzspannung gemäß Aufdruck zulässig.
- Bei sichtbaren Beschädigungen an Gehäuse, Stecker oder Kabel das Gerät nicht mehr verwenden.

### 2. Technische Daten

#### Fahrbahn:

Gewicht: ca. 2 kg  
 Fahrstrecke: 405 mm  
 Stielaufnahme Schlitten:  $\varnothing = 10\text{mm}$   
 Abmessungen: 580x120x50 mm<sup>3</sup>

„1“	s = 1 mm	v = 1 mm/s
„5“	s = 5 mm	v = 5 mm/s
„10“	s = 10 mm	v = 10 mm/s
„50“	s = 50 mm	v = 25 mm/s
„100“	s = 100 mm	v = 50 mm/s

#### Steuereinheit PS400:

Die Steuereinheit verfügt über fest programmierte Tasten *step size*. Bei einmaligem Drücken der Tasten fährt der Schlitten die Strecke s mit der Geschwindigkeit v:

Die Taste „100“ ist zudem programmierbar. Die Strecke kann von 1 mm bis 405 mm, die Geschwindigkeit von 1 mm/s bis 100 mm/s frei gewählt werden.

## English

### 1. Safety instructions

#### Positioning System PS 400:

- Connect or disconnect the control unit to the sliding rail only while the power supply is disconnected.
- The sensor cable 1021514 is needed for the CMA interface.
- Do not apply voltage to the voltage output  $V_{out}$ .

#### Plug-in power supply 230 V (1001014)/ 115 V (1009545):

- Operation only with the mains voltage according to the imprint.
- Do not use the device if there is visible damage to the housing, plug or cable.

## 2. Technical data

<b>Sliding rail:</b>		"1"	s = 1 mm	v = 1 mm/s
Weight:	2 kg	"5"	s = 5 mm	v = 5 mm/s
Moving distance:	405 mm	"10"	s = 10 mm	v = 10 mm/s
Stand rod mount:	Ø = 10mm	"50"	s = 50 mm	v = 25 mm/s
Dimensions:	580x120x50 mm <sup>3</sup>	"100"	s = 100 mm	v = 50 mm/s

### Control Unit PS400:

The control unit has fixed programmed keys *step size*. Pressing a button once moves the carriage the distance *s* at the velocity *v*:

The "100" key is also programmable. The distance can be selected from 1 mm to 405 mm, the velocity from 1 mm/s to 100 mm/s.

## Español

### 1. Instrucciones de seguridad

#### Sistema de posicionamiento PS 400:

- Conecte o desconecte la unidad de control al carril deslizante únicamente cuando la alimentación de tensión este desenchufada.
- El cable sensor 1021514 es necesario para la interfaz CMA.
- No aplique tensión a la salida de voltaje  $V_{out}$ .

#### Enchufe de fuente de alimentación de 230 V (1001014) / 115 V (1009545):

- Funcionamiento solo con la tensión de red según lo indicado en la impresión.
- No utilice el dispositivo si hay daños visibles en la cubierta, el enchufe o el cable.

### 2. Ficha técnica

<b>Carril deslizante:</b>		"1"	s = 1 mm.	v = 1 mm/s
Peso:	2 kg	"5"	s = 5 mm.	v = 5 mm/s
Distancia de movimiento:	405 mm	"10"	s = 10 mm.	v = 10 mm/s
Montaje de soporte de varilla:	Ø = 10mm	"50"	s = 50 mm.	v = 25 mm/s
Dimensiones:	580x120x50 mm <sup>3</sup>	"100"	s = 100 mm.	v = 50 mm/s

### Unidad de control PS400:

La unidad de control tiene teclas programadas *step size*. Al presionar una vez una tecla el carril se mueve la distancia *s* a la velocidad *v*:

La clave "100" también es programable. La distancia se puede seleccionar de 1 mm a 405 mm y la velocidad de 1 mm/s a 100 mm/s.

## Français

### 1. Consignes de sécurité

#### Système de positionnement PS 400 :

- Connecter ou déconnecter l'unité de commande au rail coulissant uniquement lorsque l'alimentation électrique est déconnectée.
- Le câble de capteur 1021514 est nécessaire pour l'interface CMA.
- Ne pas appliquer de tension à la sortie  $V_{out}$ .

#### Alimentation enfichable 230 V (1001014)/ 115 V (1009545) :

- Fonctionnement uniquement avec la tension secteur indiquée.
- Ne pas utiliser l'appareil si le boîtier, la fiche ou le câble présentent des dommages visibles.

## 2. Caractéristiques techniques

<b>Rail coulissant :</b>		"1"	s = 1 mm	v = 1 mm/s
Poids :	2 kg	"5"	s = 5 mm	v = 5 mm/s
Distance de déplacement :	405 mm	"10"	s = 10 mm	v = 10 mm/s
Support de tige :	Ø = 10mm	"50"	s = 50 mm	v = 25 mm/s
Dimensions :	580x120x50 mm <sup>3</sup>	"100"	s = 100 mm	v = 50 mm/s

### Unité de commande PS400 :

L'unité de commande a programmé des pas de touches fixes (*step size*). En appuyant une fois sur un bouton, le chariot se déplace sur la distance s à la vitesse v:

La touche « 100 » est également programmable. La distance peut être choisie entre 1 mm et 405 mm, la vitesse entre 1 mm/s et 100 mm/s.

## Italiano

### 1. Istruzioni per la sicurezza

#### Sistema di posizionamento PS 400:

- Collegare o scollegare la centralina alla/dalla guida di scorrimento esclusivamente quando l'alimentatore è scollegato.
- Il cavo del sensore 1021514 è necessario per l'interfaccia CMA.
- Non applicare tensione all'uscita di tensione  $V_{out}$ .

#### Alimentatore plug-in da 230 V (1001014) / 115 V (1009545):

- Utilizzare esclusivamente con la tensione di rete secondo la nota tipografica.
- Non utilizzare il dispositivo in caso di danni visibili all'alloggiamento, alla spina o al cavo.

### 2. Dati tecnici

#### Guida di scorrimento:

Peso: 2 kg  
Distanza di spostamento: 405 mm  
Montaggio della barra di supporto: Ø = 10mm  
Dimensioni: 580x120x50 mm<sup>3</sup>

"1"	s = 1 mm	v = 1 mm/s
"5"	s = 5 mm	v = 5 mm/s
"10"	s = 10 mm	v = 10 mm/s
"50"	s = 50 mm	v = 25 mm/s
"100"	s = 100 mm	v = 50 mm/s

#### Centralina PS400:

La centralina è dotata di commutazione dei pulsanti programmati fissa (*step size*). Se si preme un pulsante una volta, il carrello si sposta coprendo la distanza s alla velocità v:

Anche il tasto "100" è programmabile. È possibile selezionare la distanza da 1 mm a 405 mm, la velocità da 1 mm/s a 100 mm/s.

## Português

### 1. Instruções de segurança

#### Sistema de posicionamento PS 400:

- Conecte ou desconecte a unidade de controle ao trilho deslizante somente quando a fonte de alimentação estiver desconectada.
- cabo do sensor 1021514 é necessário para a interface CMA.

- Não aplique tensão à saída de tensão  $V_{out}$ .

#### Fonte de alimentação plug-in 230 V (1001014)/ 115 V (1009545):

- Funciona somente com a tensão da rede elétrica de acordo com a ficha técnica.
- Não use o dispositivo se houver danos visíveis no invólucro, plugue ou no cabo.

## 2. Dados técnicos

### Trilho deslizante:

Peso: 2 kg

Distância de deslocamento: 405 mm

Montagem da haste de suporte:  $\varnothing = 10\text{mm}$

Dimensões: 580x120x50 mm<sup>3</sup>

"1"	s = 1 mm	v = 1 mm/s
"5"	s = 5 mm	v = 5 mm/s
"10"	s = 10 mm	v = 10 mm/s
"50"	s = 50 mm	v = 25 mm/s
"100"	s = 100 mm	v = 50 mm/s

### Unidade de controle PS400:

A unidade de controle tem um tamanho de chavetas programado fixo (*step size*). Pressionar um botão uma vez move o carro a uma distância *s* na velocidade *v*:

A tecla "100" também é programável. A distância pode ser selecionada de 1 mm a 405 mm, a velocidade de 1 mm/s a 100 mm/s.