## PRK-250/500/750 Projector Rota Kit

Mounting instructions


Check the unit for damages caused by transport. In case of damage please report directly to the transporter and Audipack to provide a quick solution. Read the manual carefully before installing.
Never install more load on the product than it is allowed.
Unplug before maintenance works.
Please keep this manual for later use.
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## Product

## 1 General features

Electric rotating system with 4 freely programmable preset positions to rotate a projector or a flat panel in the horizontal plane. Product height 250/500/750 mm

## 2 Specifications

### 2.1 Technical data

Power supply 24 Volt, 1.88 A
4 programmable positions
Maximum rotation 350 degrees
Controllable by contact closures, RS232 and optional IR/RF remote.
Max. projector load 30 Kg
Built according CE and EMC norms

### 2.2 Scope of delivery

Product
Manual
Power adapter
Power cable
5-pole connector with jumper
6-pole connector

### 2.3 Accessories

Remote control for IR-unit incl. AA battery
Mounting help P3660
Adapter RS232 serial communication RJ45 $\Leftrightarrow$ Sub-D9f (Part number 320137)
Cable serial adapter Sub-D9 (male) $\Leftrightarrow$ USB (Part number 320139)

## Assembling

## 3 Tools required for installation

| drill | drill bit | ring spanner | screwdriver |
| :--- | :--- | :--- | :--- |
| spirit level | ceiling fixing | hex spanner | tape measure |

## 4 Mounting the product

### 4.1 Preparations for ceiling/ floor/ wall mounting

Make sure the mounting surface area is flat. Make sure there is enough clearance to operate the product. (Keep in mind free space for future maintenance)

## Assembling

### 4.2 Mounting on ceiling

### 4.2.1 Drilling hole pattern



### 4.3 Mounting to false ceiling

When mounting to false ceiling, make sure a strong enough support exist to handle the max load of PRK and monitor/projector combined.

### 4.4 Mounting the monitor/ projector

4.4.1 Prerequisites of the monitor/ projector (Monitor/ projector info) Mounting a monitor or projector on the PRK can only be accomplished using a mounting plate that is suitable.

## Assembling


4.4.2 Adjusting the projector.

To adjust the monitor or projector can be done as follows.


Loosen the hex screw, adjust to desired position and fasten hex screw.

## Initial Setup

## 5 Required for installation

### 5.1 Homing

If the control board will be used with position control the reference or home position have to be set.
Position control is available on program number "1", "2", "3" en " 5 ".

### 5.1.1 The procedure for homing is as follows:

The motor runs in low speed to down limit switch

- The motor stops when the (down) limit switch is activated
- The motor runs in low speed in de reverse direction
- The motor stops 10 count after the (down) limit switch is deactivated


## !! In program number " 5 " homing is in the opposite direction !!

(limit switch "UP" will be activated)

### 5.1.2 Homing can be activated by:

- Keypad
- RS-232
- Program number "2"

home, enter auto homing


## Motor control by input terminals

## 6 Connection to mains

Never use damaged devices. Before mounting the PRK check the specifications on the label with those of the local power supply. Do all mounting and maintenance works with the power supply switched of.


## Motor control by input terminals

## 7 Control by inputs 6-pole connector



### 7.1 Moving to memory positions

Move to memory position 1 make a connection between COM + M1
Move to memory position 2 make a connection between COM + M2
Move to memory position 3 make a connection between COM + M3
Move to memory position 4 make a connection between COM + M4

### 7.2 To set a memory position

To set a memory position:

- Make an interconnection between COM + SET
- Maintain this interconnection, and
- Make an interconnection between COM + M1, M2, M3 or M4, depends on the memory you want to store.
- Disconnecting all the above connections will set the required memory position. (an audible "click" is notable)


## Motor control by input terminals

## 8 Control by inputs 5-pole connector



The connection of the jumper can be replaced by a safety or emergency contact. Removing the jumper completely disconnect the power from the control board.

### 8.1 Moving to memory positions

Move to memory position 1 or down/left direction make a connection between COMMON and DOWN.
Move to memory position 2 or up/right direction make a connection between COMMON and UP.

## Motor control by RS-232

## 9 Control by RS-232 serial communication

### 9.1 Connection of the RS232

9.2 Moving the lift by serial communication (RS-232)

Moving up = "o" enter (alphabetic letter)
Moving down = " $n$ " enter (alphabetic letter)
To M1 = "m1" enter
To M2 = "m2" enter
To M3 = "m3" enter
To M4 = "m4" enter
For more information see register manual 1.1 and 1.2

## Motor control by RS-232

## 10 Control by wireless remote

To control the Rota-Kit by wireless remote the next options are possible.

## 2 programmable projection positions

Use IR remote 260214, or use radio 868 Mhz RF remote 260215 for internal installation.
The receiver pcb will be installed inside the PRK.

## 4 programmable projection positions

Use IR remote 260214, or use radio 868 Mhz RF remote 260215 for internal installation. 1 receiver pcb will be installed inside the PRK and 1 external receiver will be installed to the connector of the PRK.

Use external IR remote 260218, or use radio 868 Mhz RF remote 260219 for external installation. 1 receiver pcb will be installed inside the PRK and 1 external receiver will be installed to the 8-way connector of the PRK.

## 11 Control by wireless remote 2-positions

Open the PRK by removing the panel with the green connector. Undo the keyboard connector from the PCB.
On the PCB 260192 select the desired channel ( $\mathbf{1}$ is standard).


Install the receiver PCB on the 261377 in the small connector between the white PCB holders (see image).

## Motor control by RS-232



Insert the batteries in the hand remote and test the product after closing up the PRK. Lead the antenna or IR receiver cable outside the PRK.

## 12 Control by wireless remote 4 positions

Install the internal PCB as mentioned before (see 11) or use 2 sets of below listed external remotes.

Apply the external remote 260218 or 260219 and connect the PCB with the Up-common-down connection to the 8-way external control connector on the PRK.

On the PCB 260192 inside the 260218 or 260219 , select the desired channel ( $\mathbf{2}$ is standard for position $3 \& 4$ for the PRK). Connect $\mathrm{C}+3+4$.


## General information

## 13 General information

### 13.1 Definitions

Homing - Move motor to zero or reference point (counter)
Twin mode - Parallel or synchronous mode for 2 separate drive units

### 13.2 End switches

End switches, also called limit switches restrict the movement of the motor in both directions.
The limit switches are related to the rotation direction of the motor.
It is important to connect the motor so that the direction of motion corresponds to the controls and limit switches.

In any case the movement stops on both switches, but when the motion direction and limit switch do not match, the two led's (U2 and U3) of the corresponding limit switches on the PCB start blinking.

### 13.3 Memory positions and directions

The memory positions M1 to M4 must be set in a specific order in between the two limit switches. They differ of the selected program and are also related to the buttons of the remote control.

Program " 0 " and " 4 "
M1 correspond with the left/down direction
M2 correspond with the right/up direction
M3 is not assigned
M4 is not assigned
Program "1"
M1 correspond with the left/down memory position between M3 and M4, and down position of the RC (free programmable)
M2 correspond with the right/up memory position between M3 and M4, and up position of the RC (free programmable)
M3 lowest memory position, close to limit switch down (factory setting)
M4 upper memory position, close to limit switch up (factory setting)
Program "2", "3" and "5"
M1 correspond with down position of the RC (free programmable)
M2 correspond with the up position of the RC (free programmable)
M3 memory position is free programmable
M4 memory position is free programmable

## General information

### 13.4 Memory position control

Memory position M1 to M4 can be set in three different ways.

- By the keypad on the electrical control box
- By the memory and motor control terminal ${ }^{10}$
- By serial communication via RS-232

In program number "1" M3 and M4 are protected and can only be stored using a PIN-code.

Set the memory position by the keypad

### 13.5 Error reset

All errors can be reset by disconnecting the power from the control board.
Take at least 10 seconds to power up.
The only exception is if two control boards are in twin mode.
If an synchronous error occurs then both motors have to be reset and homed separately. Taking into account of mechanical damage.

## Settings

## 14 Program rotary switch (SW1)

### 14.1 Precautions

Before changing the program state disconnect the power from the control board. Set memory positions under load. Place the projector or flat screen before storing the memory positions.

### 14.2 Rotary switch positions versus functions

Rotary switch on position "0" = DC motors up to 30VDC without position control
Rotary switch on position "1" = DC motors up to 30VDC, column lifts with intern limit switches and position control.
Rotary switch on position " 2 " = DC motors up to 30VDC with external limit switches and position control, auto homing.
Rotary switch on position "3" = DC motors up to 30VDC with external limit switches and position control, manual homing.
Rotary switch on position "4" = Single phase AC tube motors with external limit Switches.
Rotary switch on position " 5 " = Single phase AC tube motors with external limit Switches and position control, manual homing.
(4 \& 5 not applicable on PCB 261377)


## Settings

### 14.3 Rotary switch positions versus product examples

Rotary switch on position "0" = MKT-150WS, MKT-200WS, MKT-250WS, MKT-265WS
Rotary switch on position "1" = FFCL-XXXX, Column lifts
Rotary switch on position "2" = PRK-250, PRK-500, PRK-750, PCL-M350, PCL -X350 and MKT-C150
Rotary switch on position "3" = PRK-250, PRK-500, PRK-750, PCL-M350, PCL -X350 and MKT-C150
Rotary switch on position "4" = Universal AC tube motors
Rotary switch on position " 5 " = PCL-1070, PCL-2050, PCL-3050, PCL-5050
Switches and position control, manual homing.
(4 \& 5 not applicable on PCB 261377)

## 15 Function dipswitches (J14)

Dipswitch position $1=$ Master/slave - slave "on" (in twin-mode only)


Dipswitch position $2=$ Single/twin - single mode "on"


Dipswitch position 3 = Soft start/stop on/off - soft start/stop "on"


Dipswitch position $4=$ Pulse/continue - pulse "on"
!! When pulse is "on", the direction buttons are working as a latching switch !!


## Settings

Dipswitch position $5=$ Speed limit on/off - speed limit "on"

| ON |  |  |  |  | WE |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\square$ | $\square$ | $\square$ | $\square$ |  |  |
| $\square$ | - |  |  |  |  |
| 1 | 2 | 3 | 4 | 5 |  |

## Connections

## 16 Serial communication RS-232

Cable RS232 serial communication RJ45 $\Leftrightarrow$ Sub-D9f (Part number 320137) Cable serial adapter Sub-D9 (male) $\Leftrightarrow$ USB (Part number 320139)

### 16.1 Connections

Put the RJ-45 male connector into female connector board and into the Sub-D9 male connector of your computer.


## Connections

If your computer doesn't have a serial Sub-D9 serial port connector, a serial adapter Sub-D9 (male) $\Leftrightarrow$ USB cable is needed. (Part number 320139)


## Connections

### 16.2 Software

An example of a terminal emulator software to control the control board is "PuTTY" and can be found to follow this link:
http://the.earth.li/~sgtatham/putty/latest/x86/putty.exe

## 蝓 PuTTY Reconfiguration

Category:
$\square$ Session
.... Logging
-- Terminal
. Keyboard
.. Bell
... Features
-- Window
. Appearance

- Behaviour
- Translation

Selection
...Colours

- Connection

Serial

| Options controlling local serial lines |  |
| :--- | :--- |
| Configure the serial line 38400 <br> Speed (baud) 8 <br> Data bits 1 <br> Stop bits  <br> Parity  <br> Flow control  |  |

## Connections

## 17 Electric connections

 POWER SUPPLY(1) and 2 are power supply connections up to 30 Volt DC.

Connector ${ }^{1}$ is suitable for a barrel plug with a diameter of 5.5 mm . The inner contact also called tip is the positive pole (+)
(3) Connector external control
(4) Motor terminal DC

5 Relays output UP/DOWN
(6) Terminal limit switches
(7) Sensor counter

8 Serial communication (RS232)
(9) Heartbeat cable connector

10 Connector memory position control and memory store function

(11) Connector keypad

R1 = Potentiometer for maximum motor current
R2 = Potentiometer for maximum motor voltage (\% of power supply) R80 = Potentiometer supply voltage counter sensor (factory setting = 5VDC)

## Connections

Table 1 - Electrical connections


## Keypad

## 18 Keypad (261288)

With the keypad in combination with the control board (261287 or 261377) button control

Table 2 - Buttons keypad (part number: 261288)

| (1) |  |  |  |  | Go to memory position 1 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| (2) |  |  |  |  | Go to memory position 2 |
| (3) |  |  |  |  | Go to memory position 3 |
| (4) |  |  |  |  | Go to memory position 4 |
| (5) |  |  |  |  | Set memory in combination with $1,2,3$ or 4 |
| $\bigcirc$ |  |  |  |  | Moving direction Up/right |
| $\bigcirc$ |  |  |  |  | Moving direction Down/left |
| (S) | + | (1) |  |  | Set memory position 1 Memory indicator LED1 turns from orange (pushed) to green (released) |
| (S) | + | (2) |  |  | Set memory position 2 Memory indicator LED2 turns from orange (pushed) to green (released) |
| (S) | + | (3) |  |  | Set memory position 3 Memory indicator LED2 turns from orange (pushed) to green (released) |
| (S) | + | (3) | $\rightarrow$ | Pin | Set memory position 3 with PIN-code Memory indicator LED3 turns from orange (pushed and released) to green (pin-code correct) |
| (S) | + | (4) |  |  | Set memory position 4 Memory indicator LED2 turns from orange (pushed) to green (released) |
| (S) | + | (4) | $\rightarrow$ | Pin | Set memory position 4 with PIN-code Memory indicator LED4 turns from orange (pushed and released) to green (pin-code correct) |
| $\bigcirc$ | + | $\bigcirc$ |  |  | Toggle between fast and slow motion (DC output only) |
| $\bigcirc$ | + | (3) |  |  | "Homing" |
| (1) | (2) | (3) | (4) |  | "Reset" the control board by pushing all buttons together during power up. <br> Memory positions remain there current value |

## RS-232 registers

## 19 Instructions RS232

### 19.1 TERMINAL INPUT INSTRUCTIONS

The terminal input or instruction by other devices thru RS232 or not context sensitive.

### 19.2 INSTRUCTIONS TO CONTROL THE MOTOR

B $\quad=\quad$ Switch slow/fast model (DC Output only)
$\mathbf{N}=$ Move motor down
O = Move motor up
$\mathbf{S}=$ Motor stop

### 19.3 INSTRUCTIONS TO MOVE THE MOTOR TO A MEMORY POSITION

M1 $=$ Go to memory position 1
M2 $=$ Go to memory position 2
M3 $=$ Go to memory position 3
M4 $=\quad$ Go to memory position 4

### 19.4 PROGRAM MEMORY POSTIONS

P1 $=\quad$ Set new value for memory position 1
P2 = Set new value for memory position 2
P3 $=$ Set new value for memory position 3
P4 $\quad=\quad$ Set new value for memory position 4
PF $\quad=\quad$ Set memory positions to factory settings
In program number "1", P3 and P4 can only be stored in factory mode.

### 19.5 FACTORY MODE

To set the control board into the factory mode, type: [Esc] [Enter]


Returns with the text: "FM is ON"
To turn the factory mode off, type: [Esc] [Enter]

## RS-232 registers



Returns with the text: "FM is OFF"

### 19.6 MISCELLANIOUS INSTRUCTIONS

D $\quad=\quad$ Switch debug on/off
$\mathbf{R}<\mathbf{X}>\quad=\quad$ Read register $<X>$
$\mathbf{W}<\mathbf{X}>=<$ data $>=\quad$ Write <data> into register $X$
$\mathbf{V}<\mathbf{X}>\quad=\quad$ Set PWM motor speed $<X>(0<X>1023)$
$\mathbf{K}<\mathbf{X}>\boldsymbol{=} \quad$ Set motor position in counts $(50<X>60000)$
(ascii letters are not case sensitive)

### 19.7 REGISTER R1000 [Device Name]

In register "R1000" the device name is stored.
R1000[Enter]

```
gm
    |口
r1000 > AUDIPACK DUAL UNIT
```

Returns "AUDIPACK DUAL UNIT"

## RS-232 registers

### 19.8 REGISTER R1001 [Input Status]

In register "R1001" the status of the inputs can be viewed.
The result is a DEC number.

|  | $N$ $N$ - $\cdots$ |  | $\begin{aligned} & \infty \\ & \stackrel{\infty}{0} \\ & \underset{m}{2} \end{aligned}$ | $\begin{aligned} & \dot{\infty} \\ & \underset{\sim}{\infty} \\ & \underset{\sim}{n} \end{aligned}$ | $\begin{aligned} & \text { N } \\ & \text { ने } \end{aligned}$ | $\begin{aligned} & \text { b } \\ & \text { O } \end{aligned}$ | $\begin{aligned} & \infty \\ & \underset{N}{+} \end{aligned}$ | $\underset{\sim}{\underset{\sim}{N}}$ | $\begin{aligned} & 0 \\ & \stackrel{1}{n} \end{aligned}$ | $\stackrel{\bullet}{N}$ | $\stackrel{\infty}{\underset{\sim}{\sim}}$ | ¢ | N | $\stackrel{\square}{\square}$ | $\infty$ | ナ | $\sim$ | $\checkmark$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 18 Bits | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
|  |  |  |  |  |  |  |  |  |  |  |  | $\begin{aligned} & \text { § } \\ & \substack{0 \\ 0} \end{aligned}$ | $\frac{1}{3}$ | $\begin{aligned} & \text { U } \\ & \stackrel{0}{0} \end{aligned}$ | $$ |  |  |  |

## R1001[Enter]



Returns decimal number "118912" (DEC)
and is equal to a 18 -Bits binary " 0100011000100100010010 " (BIN)

| 18 Bits | 0 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | $\begin{aligned} & \text { n } \\ & \stackrel{\rightharpoonup}{4} \\ & . \stackrel{1}{3} \\ & .0 . \\ & \hline 0 . \end{aligned}$ |  |  |  |  |  |  | 5 0 0 | 옥 |  |  |  |  | $\begin{aligned} & \underset{\sim}{-} \\ & \stackrel{y}{\Psi} \\ & \underset{\sim}{\otimes} \end{aligned}$ |

## RS-232 registers

### 19.9 REGISTER R1002 [Control Function]

In register "R1002" the status of the control function input is stored.
This number could be " 0 " or " 4 ".
R1002[Enter]


Returns "1"

Table 3 - Rotary switch control function

| Position | Description | Connector |
| :---: | :--- | :---: |
| 0 | DC motor control without position control | 4 <br> (manual) |
| 1 | DC motor control with position control and build in limit <br> switches (e.g. columns) | 4 <br> (manual) |
| 2 | DC motor control with position control auto homing | 4 <br> (manual) |
| 3 | DC motor control with position control manual homing | 5 <br> (manual) |
| 3 | Relay output control without position control | 5 <br> (manual) |
| 4 | Relay output control with position control | 5 <br> (manual) |

## RS－232 registers

## 19．10 REGISTER R1003［UP／DOWN Status］

In register＂R1003＂the status of the UP／DOWN motor sequence is stored．

|  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| DEC | 3 | 2 | 1 | 0 |
|  | 0 0 0 2 0 0 0 0 |  |  | r $\substack{1 \\ 1 \\ 5 \\ 2 \\ 3 \\ 0 \\ 0 \\ 0}$ |

R1003［Enter］

```
風 COM5 - PuTTY 口回
r1003 > 2
```

Returns decimal number＂ 2 ＂． Number＂ 2 ＂equals＂UP／DOWN RELEASED＂．

## RS-232 registers

### 19.11 REGISTER R1004 (Motor Status]

In register "R1004" the status of the motor can be viewed.
The result is a DEC number.


R1004[Enter]


Returns decimal number "64" (DEC)
and is equal to a 10 -Bits binary "0001000000" (BIN) number.


## RS-232 registers

### 19.12 REGISTER R1005-R1008 [Memory Preset Values)

In the registers "R1005" to "R1008" the preset values of the memory positions are stored.

| Register | Description | Value range |
| :--- | :--- | :--- |
| R1005 | M1 counter value | $50-60000$ counts |
| R1006 | M2 counter value | $50-60000$ counts |
| R1007 | M3 counter value | $50-60000$ counts |
| R1008 | M4 counter value | $50-60000$ counts |

R1005[Enter]
R1006[Enter]
R1007[Enter]
R1008[Enter]


Returns decimal numbers "1010", "2000", "130", "2600".

## RS-232 registers

### 19.13 REGISTER R1009 [Request Count]

In the register "R1009" the "Requested count" is stored.
R1009[Enter]


```
R1009 > 2000

Returns decimal number " 2000 ".

\subsection*{19.14 REGISTER R1010 [Motor Position Count]}

In the register "R1010" the "Motor position" is stored.
R1010[Enter]


Returns decimal number " 2000 ".

\section*{RS-232 registers}

\subsection*{19.15 REGISTER R1011 [Motor Error]}

In the register "R1011" the "Motor error" is stored.
\begin{tabular}{|c|c|c|}
\hline Register & Value Hexadecimal [decimal] & Error \\
\hline R1011 & 1[1] & Current error (DC output only) Current is higher than adjusted current value or Current is too low when motor is activated \\
\hline & 2[2] & Motor connection error (DC output only) Limit switch up activated when motor runs down Limit switch down activated when motor runs up \\
\hline & 4[4] & Motor sync error (parallel mode) Number of pulses between master and slave is too many \\
\hline & 8[8] & Heartbeat error (parallel mode) Slave receives no heartbeat from master (connection error) \\
\hline & 10[16] & \begin{tabular}{l}
Limit switch error \\
Limit switch up/down activated when motor is between memory position M1 or M2
\end{tabular} \\
\hline & 20[32] & \begin{tabular}{l}
Pulse error \\
Time between pulses is too long
\end{tabular} \\
\hline & 40[64] & CRC error EEPROM error \\
\hline & 80[128] & Memory error Motor didn't reach the requested position \\
\hline & 100[256] & \begin{tabular}{l}
Slave error (parallel mode) \\
Error occurred in slave device
\end{tabular} \\
\hline & 200[512] & Master error Error occurred in master device \\
\hline
\end{tabular}

\section*{R1011[Enter]}


Returns decimal number " 0 ". No error occurred.
```

R1011[Enter]

```

\section*{RS-232 registers}


Returns decimal number "641". 641 decimal \(=281\) hexadecimal.
When we look at the error table we find the following numbers:
1 = Current error
\(80=\) Memory error
\(200=\) Master error

\subsection*{19.16 REGISTER R1012 [Motor Speed Slow mode]}

In the register "R1012" the preset status "Slow mode" is stored. (DC output only)

1 = Slow mode
\(0=\) No slow mode

\section*{R1012[Enter]}
```

COM5 - PuTTY
R1012 > 0
|\square

Returns decimal number " 0 ".
This represents preset: No slow mode

## RS-232 registers

### 19.17 REGISTER R1013 [Memory Preset Status]

In the register "R1013" the status "Calibration" is stored.
$0=$ Memory preset ready
$1=$ Preset memory position 1 request

| $S$ | + |  | Set memory position 1 <br> Memory indicator LED1 turns from <br> orange (pushed) to green (released) |
| :--- | :--- | :--- | :--- | :--- | :--- |

$2=$ Preset memory position 2 request

| S. | +2 |  | Set memory position 2 <br> Memory indicator LED2 turns from <br> orange (pushed) to green (released) |
| :--- | :--- | :--- | :--- | :--- | :--- |

$4=$ Preset memory position 3 request

| $S$ | +3 |  | Set memory position 3 with PIN-code <br> Memory indicator LED3 turns from <br> orange (pushed) to green (released) |
| :--- | :--- | :--- | :--- | :--- | :--- |

$8=$ Preset memory position 4 request

| $S$ | + |  |  | Set memory position 4 with PIN-code <br> Memory indicator LED4 turns from <br> orange (pushed) to green (released) |
| :--- | :--- | :--- | :--- | :--- | :--- |

$16=$ New value is stored
R1013[Enter]


Returns decimal number " 0 ".
This represents preset: Ready to preset a memory position

## RS-232 registers

### 19.18 REGISTER R1014 [Delta pulse]

In the register "R1014" the "delta pulse" is stored.
R1014[Enter]


```
R1014 > 40

Returns decimal number " 40 ".

\subsection*{19.19 REGISTER R1015 [Master/Slave Mode]}

In the register "R1015" the preset "Master/Slave mode" is stored. (DC output only)
\(1=\) Master
0 = Slave
R1015[Enter]


Returns decimal number " 1 ". This represents preset: Master

\section*{RS-232 registers}

\subsection*{19.20 REGISTER R1016 [Single/Parallel Mode]}

In the register "R1016" the preset "Single/Parallel mode" is stored. (DC output only)
\(0=\) Single mode
\(1=\) Parallel mode
R1016[Enter]


Returns decimal number " 0 ".
This represents preset: Single mode

\subsection*{19.21 REGISTER R1017 (Soft Start Mode]}

In the register "R1017" the preset status "Soft start mode" is stored. (DC output only)
0 = Ramp up/down
\(1=\) No ramp up/down
R1017[Enter]


Returns decimal number " 1 ".
This represents preset status: No ramp up/down

\section*{RS－232 registers}

\section*{19．22 REGISTER R1018［Pulse／Continue Mode）}

In the register＂R1018＂the preset＂Pulse／Continue mode＂is stored．
（DC output only）
\(0=\) Pulse（latch）
\(1=\) Continue（closed contact）
R1018［Enter］
```

    COM5 - PuTTY 咱回湆年
    R1018 > 1

```

Returns decimal number＂ 1 ＂．
This represents preset：Continue（Up／Down NO－contact must be continue closed to run the motor）

\section*{19．23 REGISTER R1019［Adjustable Speed Limit Mode］}

In the register＂R1019＂the preset status＂Speed limit＂is stored．
（DC output only）
\(0=\) Speed limit
\(1=\) No speed limit
R1019［Enter］
```

COM5 - PuTTY
\square吕 汉
R1019 > 1

Returns decimal number＂ 1 ＂．
This represents preset status：No speed limit
The speed（PWM output voltage）can be adjusted by potentiometer R2．
！！The output voltage is a percentage of the supply voltage ！！

## RS-232 registers

### 19.24 REGISTER R1021 [limit switch hysteresis homing]

In the register "R1021" the value of the limit switch hysteresis for homing is stored. The factory setting is " 10 "

R1021[Enter]


### 19.25 REGISTER R8888 [Software Version]

In register "R8888" the software version is stored .
R8888[Enter]


Returns "V11"

## Service \& Maintenance

## 20 Maintenance of the product

Clean with mild damp cloth. Dry after cleaning. Do not use aggressive cleaning agents.

Reinigen met een licht vochtige doek. Daarna droog maken. Geen agressieve schoonmaak middelen toepassen.


## Technical data

## 21 Dimensions and illustrations



## FAQ

## 22 Frequently asked questions

Q What is the maximum load?
A The maximum load is 30 kg
Q There is an abnormality in the position that you want?
$R \quad$ Follow the procedure for manual homing.


Q Control board doesn't react without error message
$R \quad$ Follow the procedure for manual homing.


Q What indicates when the two led's (U2 and U3) of de corresponding limit switches are both blinking synchronous, what is
A Actuated limit switch do not match the motor direction of rotation or Motor current exceeds motor current setting (R2) or

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