

SPX-02

Azimuth & Elevation antenna rotator



SPX-02 and PLATE-03 (Plate-03 is additional to order)



Standard supplied controller MD-03.

Each Rotor set is supplied including:

- MD-03 controller with build in tracking interface (USB)
- Connectors for Azimuth and Elevation motors + Power system
- Fast start setup document (PDF) in English

SPX-02 Azimuth and Elevation Rotor, Resolution 0.5 degree (P/N: SPX-02)

The **SPX-02** is an Medium Duty solution to Rotate in Azimuth and Elevation your Antenna, Dish antenna , Astronomy Tele scope, Camera, Light Box and many more which must be rotated in 2 axes.

SPX-02 is supplied **including an controller MD-03** and comes with an build in Track interface (USB), lot of tracking program available and easy to install on your Lap-Top or PC and connect the Controller through USB.

You can now auto track Moon, Sun, stars, constellations, galaxies, planets, etc etc.

But if you prefer, you can operate manual by pressing the buttons on the front of the panel or supplied mouse (option). The degree readout is displayed on the front LED display in 0.5 degree / step.

SPX-02 Rotators are supplied including

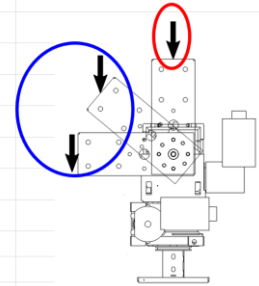
Controller incl. build in track interface (USB) MD-03
Connectors to setup system
Mounting Antenna Bracket
Waterproof IP-55
Quick start guide



Setup MD-03 and PS-03

PS-03 is optional

Specifications: SPX-02 Azimuth and Elevation Rotator	
Turning torque	80 Nm
Brake Torque	320 Nm
Brake Construction	Double Worm Gear
Maximal Vertical Load = Red Circle	40 Kg = Red Circle Vertical load is max load on Azimuth & Elevation bearing
Maximal mounting weight bracket	15 Kg = Bleu Circle Mass weight 15Kg is without counterweight, if in perfect balance by using counter weight max 40Kg is allowed. (40Kg is Incl weight of counterweight !)
Rotation Speed	3.5 dgr/sec @ 12Volts DC / 5.8 dgr/sec @ 18Volts DC
Resolution Standard version	0.5 degree
Resolution /HR version	0.1875 degree
Rotation Range Az/El	360 / 180 degree
Weight Mass Kg	14,5 Kg
Position Sensor Standard version	Reed Switch
Position Sensor /HR version	Hall Effect Sensors
Mast size Bottom mount	Supplied flat plate (base plate mount)
Mast size Elevation mount	Supplied Antenna mounting bracket
Control cable core standard version	2 * 4 Core 1.5mm2 (Part No: CC4/001/25)
Control cable core /HR version	4 Core 1.5mm2 unshielded / 2 * 4 Core 0.25mm2 Shielded
Environment	Ground / Mobile free air and / or Sheltered
MTBF	12500 hours @ -20 to +55°C
Rotor Waterproof	IP-55



Specifications Supplied controller:

MD-03 (desk-top model)	
Supply voltage:	12.....18 Volts DC
Current consumption:	3 ...20 A (Max current depends on load)
Supplied including:	MD-03 controller, build in PC track interface, Connectors, Setup DOC
Dimensions:	(34x26x6,5 cm (WxLxH))
Weight:	3 Kg
Housing:	Aluminium / steel
Environment:	Ground / Mobile Sheltered
MTBF:	15000 hours @ -5 to +40°C
Display:	2* 4 digit (green)
Connectors:	Supplied for Rotor connection

RF HAMDESIGN & SPX Controllers will support the following software:

PST Rotor (Also /HR controllers MD-0X), MacDoppler (MacDoppler Ham Radio Satellite Tracking for Macintosh), N1MM Logger, Ham Radio Deluxe, Logic 7 Version => 7.0.45, Orbiton Satellite Tracking, Gpredict Satellite Tracking Linux and MAC, SatPC32 Satellite Tracking - works on windows only, DXLab (DX View), TRXmanager.

Most software should also work if it supports Yaesu type rotators !

Note: #1 Software may have new versions and some options may have changed

#2 We have not tested all this software !

#3 Most software is for use with Rot2Prog protocol (Dual-Ax rotor AZ&EL), but some also work with the single Ax rotor system.

SPX-02 Available Accessoires

(this parts on this page are additional to order parts)

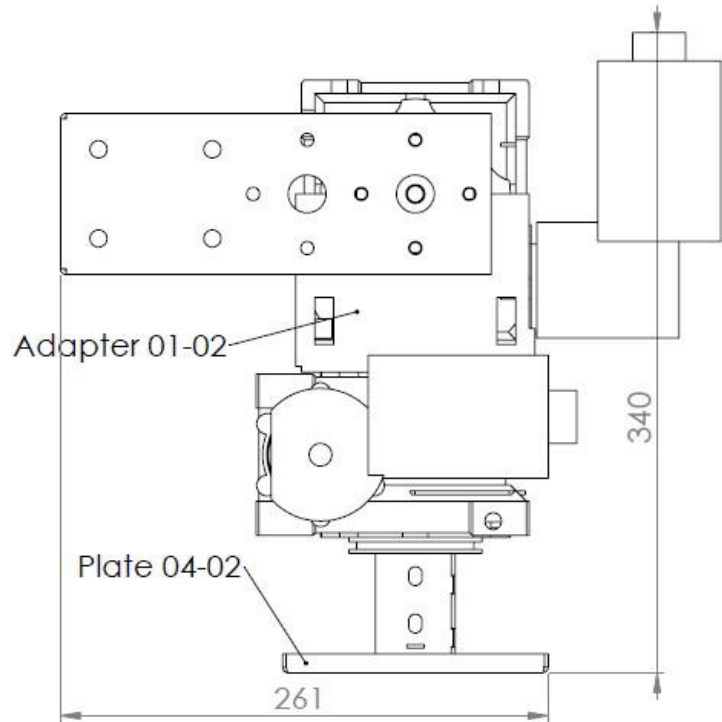
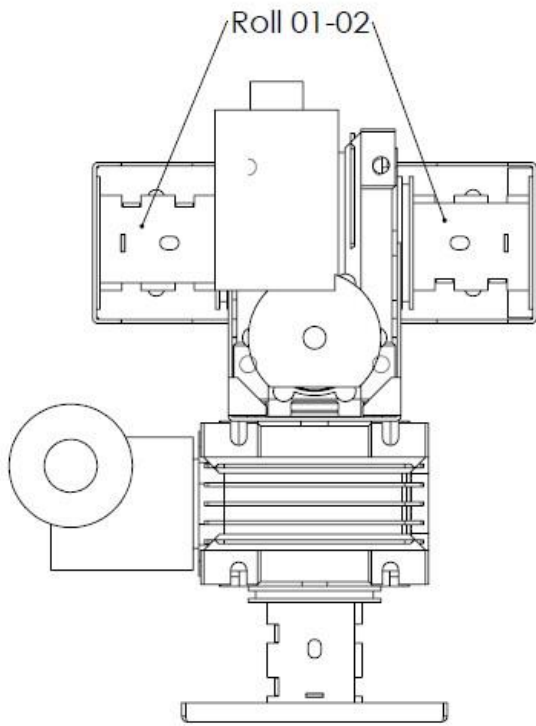
SPX-02 Accessoires	P/N Refer Pricelist	Model
<p>Order 2* 4-core length for AZ&EL rotor system Motor Control cable 4-core (1,5mm²) Reel: 25, 50, 75, 100 meter length</p>	CC4-001/25	
<p>Low budget Power Supply Unit 13,5 – 18 Volts / 20 A Dim: 23 x 11 x 5,5 cm (LxBxH)</p>	PW-32015	
<p>Power Supply PS-03 AC 110-240Volt Output 18Volt 33Amp (Same dimensions as MD-03 controller)</p>	PS-03	
<p>SPID MOUSE Control AZ & EL rotation by mouse connect to MD03</p>	SPID MOUSE	
<p>BR-08 Adaptor plate BR-08 is used to interface RF HAMDESIGN Mesh Dish with a SPX-01 or SPX-02 rotor This plate can be mounted direct to the Bracket of the SPX-0X rotor and RF HAMDESIGN DISH</p>	BR-08	
<p>MD-0X Ethernet Module TCP/IP Remote control unit. Control rotor system through internet TCP/IP Unit built in MD-03</p>	SPID-ET	
<p>SPID-CCM CURRENT CONTROL MODULE measurement module to measure Amp's during use direct in MD-0x controllers. (Perfect to find rotor balance)</p>	SPID-CCM	

Note: Actual Prices can be found in our price list, download link at our web-site: www.rfhamdesign.com

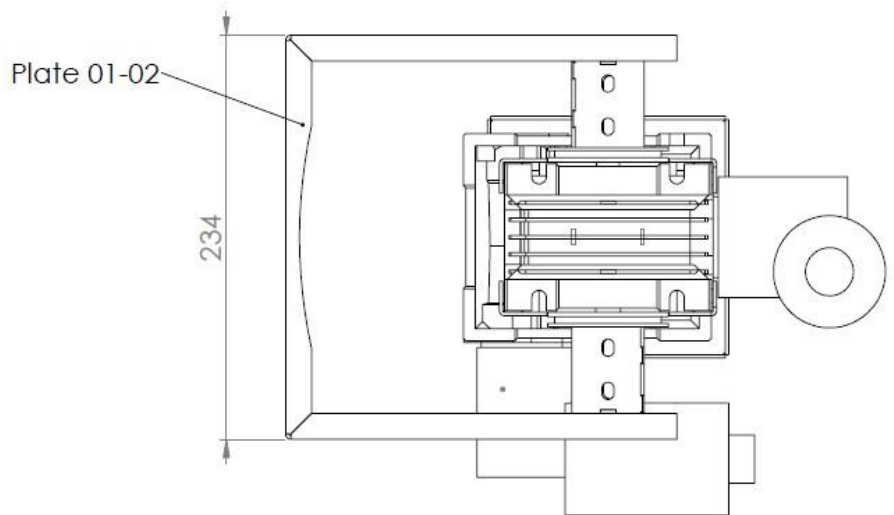
We recommend to use Power supply module **PS-03 to drive the MD-03 and Rotor**. This PS-03 is a power supply which will be direct connected to the MD-03 controller and drive the rotor as well.

PS-03 is supplied including power supply unit which offer max rotation speed

SPX-02 Azimuth & Elevation antenna rotator



SPX-02 + PLATE-03 and 1.2Meter Mesh Dish mounted



SPX-02
Dimensions in mm

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Short summary specifications MD-03

The MD-03 rotor controller has a built-in backlight Display which shows Azimuth & Elevation real time at 0.5 degree resolution. This means the rotor can also be used as a stand-alone configuration and the Azimuth & Elevation engine can be moved using the arrow buttons at the front.

The menu can be entered and changes can be made to all available functions.



Built in the MD-03 rotor controller is also a track interface which will be connected through USB (Win-OS)

Lots of new functions are available now and can be configured by the user through MD01dde.exe PC interface:

MD-01 (UI) Interface (Picture right) can be used to control the AZ & EL rotor by Personal Computer.

One of the most used track program PST-Rotor



More available functions MD-0X

(Standard controller excluded)

- ✓ Most used and special function is the integrated function: Soft Start and Soft Stop !
Soft start and stop has available a 3 step Delay time and a 3 step acceleration time. Both Delay and acceleration can be set by the user step by step. This function is very helpful for large dishes
- ✓ Firmware update free of charge
- ✓ Short way function for Satellite track
- ✓ USB controlled
- ✓ Mouse option: control AZ and EL movement by a mouse connected to MD-02
- ✓ Minimum and maximum angle free adjustable for Azimuth and Elevation
- ✓ Write your own protocol and/or PC application (protocol available for download)
- ✓ Ethernet module option (ready to build in)
- ✓ Free of charge software update available at our High Resolution support page (need password to access)
- ✓ Track software supported: Orbitron and PST rotor (more will be available)
- ✓ MD-01 Rotor Controller can emulate all Yaesu rotor drivers !

**Additional to order:
SPID Power Supply Module PS-03**



Power supply PS-03 will be direct connected to MD-03.
Control cables are standard supplied including mounted connectors

Build in is an professional 18Volt DC / 33Amp Power Supply unit which offer maximal rotation speed.

PS-03	PS-03 Desk top mount enclosure
AC input	50/60Hz – 100-240VAC
Dimensions	34x26x6.5cm
Weight lbs / Mass Kg	3.7 Kg
Environment	Ground / Mobile free air and / or Sheltered
MTBF	32000 hours @ -20 to +55°C
Supplied with:	Connectors with readymade cables and mains cable



SPX-02 Base Mount Options



SPX-02 + PLATE-03 Mast Pole Mount



SPX-02 + PLATE-04 Mast Pole Mount

SPX-02 Accessoires	P/N Refer Pricelist	Model
<p style="text-align: center;">PLATE-03 Mast Pole Mount Base</p> <p>(Base mast outside diameter: 48 – 52mm) Weight: 1.6Kg</p>	PLATE-03	
<p style="text-align: center;">PLATE-04 Heavy Duty Mast Pole Mount Base</p> <p>(Mast outside diameter: 42 / 80mm) Weight: 2.7Kg</p>	PLATE-04	

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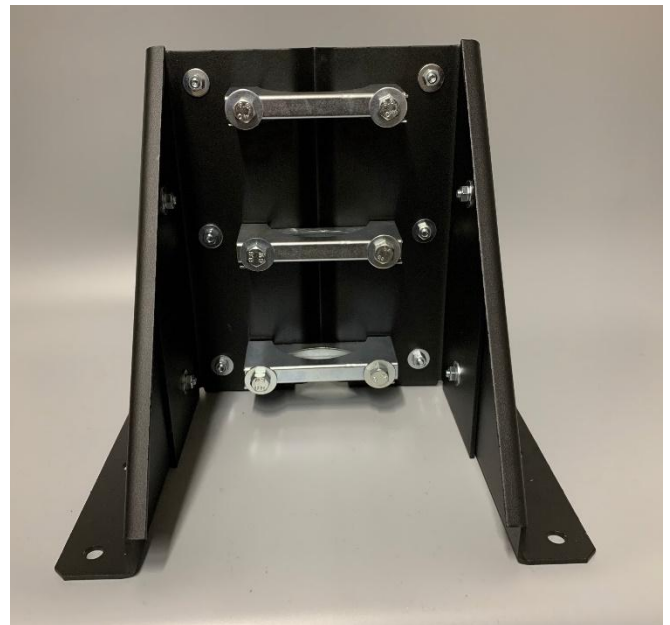
Optional BASE Plate mounting Bracket P/N: STR-00

This Bracket can be used to mount your antenna installation direct on the concrete or an heavy duty concrete slab by use of screws.

Max vertical pole length which can be placed depends on mounting antenna or object.

For example, 1 or 1.2 Meter dish, Max pole height 1.8Meter, Drawing example can be found on this page.

- Vertical Pole diameter mount: from 32 to max 75mm
- Weight: 5.6 Kg
- Supplied incl mounting clamp vertical pole (3 x)
- Supplied incl mounting hardware but without mounting screws concrete !
- Material: laser cutted, steel, painted black



Drawing and dimensions of the supplied SPX-02 bottom plate

