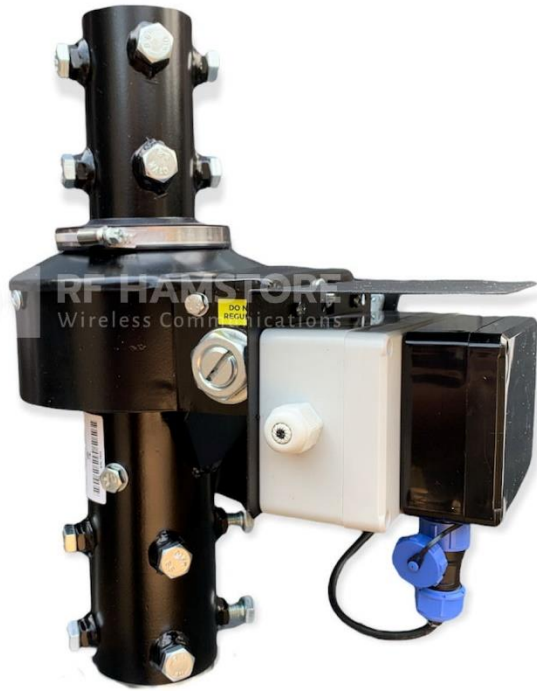


SPID Azimuth Antenna rotator **Type: RAK/HR**



SPID RAK/HR MD-02 Rotor Controller



keyboard

Display 2 x 20

ON/OFF Power

Type RAK/HR is a 1 engine rotor system (Azimuth) and delivered including:

- ✓ **RAK/HR rotor 0.2 degree resolution**
- ✓ **MD-02 rotor controller (at request MD-01, 19" rack mount model)**
- ✓ **Software to control MD-02 rotor controller from PC**
- ✓ **USB connection for PC**
- ✓ **Build in track interface (EME, Satellite, or write own app)**
- ✓ **All connectors to connect to rotor and PS-02**

We recommend to use Power supply module PS-02 to drive the MD-02 and Rotor.
This module is a dual voltage power supply which will be connected to the MD-02 module.

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Short summary specifications:

Type RAK/HR is configured with a electronic sensor in order to indicate the position of **Azimuth with a resolution of 0.2 degree** (transmission is 0,125 degree on impulse)

The MD-02 rotor controller has a build in backlight Display which shows Azimuth real time at 0.2 degree resolution. This means the rotor can also be used as a stand-alone configuration and the Azimuth engine can be moved using the arrow buttons at the front.

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

Note: The MD-02 controller can handle 2 rotor systems, this means you can drive 2 pcs Azimuth or Azimuth & Elevation or 2 Elevation rotators at the same time !

Build in the MD-02 rotor controller is also a track interface which will be connected through USB (Win XP....Win 7, 8) USB Driver is available and ready for download at our /HR support page. (/HR = High Resolution)

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

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

One of the most used track program Orbitron is integrated to select easy.
(more info at the SPID /HR support page)



More available functions:

- ✓ 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 movement by a mouse connected to MD-02
- ✓ Minimum and maximum angle free adjustable for Azimuth
- ✓ Write your own protocol and/or PC application (protocol available for download)
- ✓ Ethernet module option (ready to build in)
- ✓ Build in 19" rack system
- ✓ Free of charge software update available at our High Resolution support page (need password to acces)
- ✓ Track software supported: Orbitron and PST rotor (more will be available)

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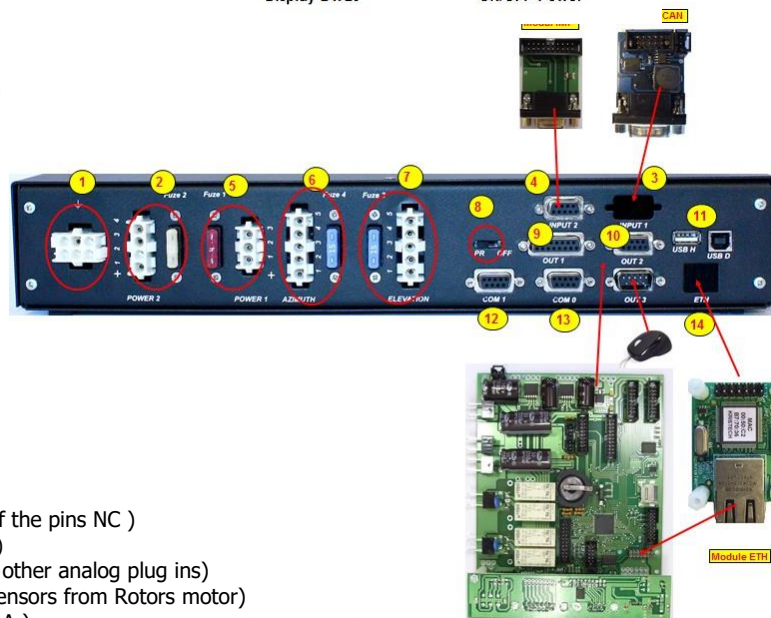
MD-02 Rotor Controller in spotlight



keyboard

Display 2 x 20

ON/OFF Power



Description MD-02:

- 1# Plug in for Ground connecting (rest of the pins NC)
- 2# Plug in for Rotors engine (FUZE 25A)
- 3# NC, (Example CAN, RS485, RS422 or other analog plug ins)
- 4# Impulse plug in (plug in for HALL 4 sensors from Rotors motor)
- 5# Plug in for MD-02 electronics (FUZE 4A)
- 6# Plug out for connecting Rotors type RAK, BIG-RAK or Elevation motors type RAS, BIG-RAS. RAEI
On each plug out there is FUZE (15A)
- 7# Plug out for Rotors RAK, BIG-RAK or azimuth motor RAS, BIG-RAS
On each plug out there is FUZE (15 A)
- 8# Switch for updating Firmware MD-01 / MD-02
In PR position update software by com1, OFF position is normal operation
- 9# Universal plug out . There is possibility to connect relay module inside of the driver .
Driver will have function to antenna switch
- 10# Universal plug out
- 11# USB plug in
USB - D -- DEVICE
USB - H -- HOST (version on future)
- 12# Plug out RS-232
COM 0 (RxD and TxD, it is also plug in for updating)
COM 1 (RxD nad TxD)
- 13# Universal plug in for mouse (option)
- 14# Ethernet plug in (option)

Specifications Rotor Controller, type MD-02

Supply voltage input	13.8 and 24 volt
Current consumption	6.....18 A
Supplied with	build in PC track interface (USB), MD01dde.exe controlling software, connectors
Dimensions	Desk top housing (386x310x70mm)
Weight:	1.9 Kg
Case	Aluminium / steel
Environment	Ground / Mobile Sheltered
MTBF	15000 hours @ -5 to +40°C
Display	2* 4 digit (green)

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SPID RAK/HR Azimuth Rotor



Specifications:	RAK/HR
SPID RAK/HR Az Rotator	RAK/HR
Turning torque in-lbs/Nm	2734 in lb/ 309 Nm
Brake Torque in lbs/Nm	13984 in lb/ 1580 Nm
Brake Construction	Double Worm Gears
Vertical Load lbs/Kg	>639 lbs/290 Kg
Rotation Speed in Degree AZ	5 degree / sec (standard PSU PS-02) Option: 4.2 degree / sec
Resolution	0.2 degree
Rotation Range AZ	360 degree
Weight lbs / Mass Kg	20 lbs / 9 Kg
Position Sensor	HALL Sensors
Mast size inches/mm Bottom - Top mount	2.6 inch / 66 mm – 2 inch / 51 mm
Environment	Ground / Mobile free air and / or Sheltered
MTBF	15000 hours @ -20 to +55°C
Control cable Engine	2-core / 1.5mm ²
Control cable Sensors	4-core / 0.2mm ²

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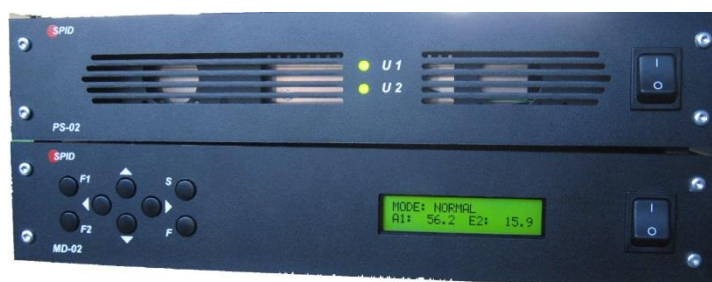
SPID Power Supply Module, PS-02



This Module, PS-02 is a Dual Voltage PSU which should be connected to MD-02

Standard build in is a 15Volt / 10A and a 22Volt / 22A Power Supply unit

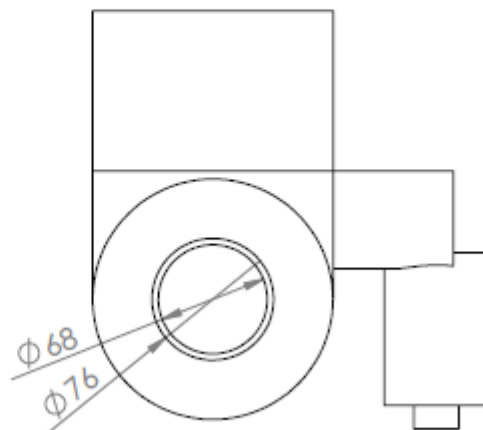
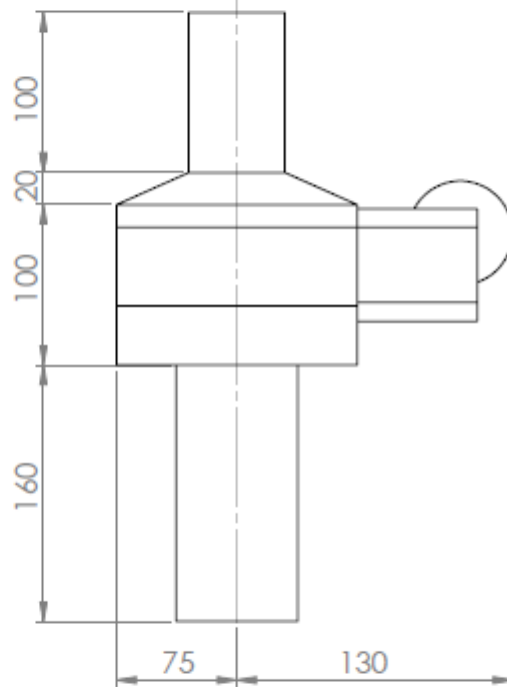
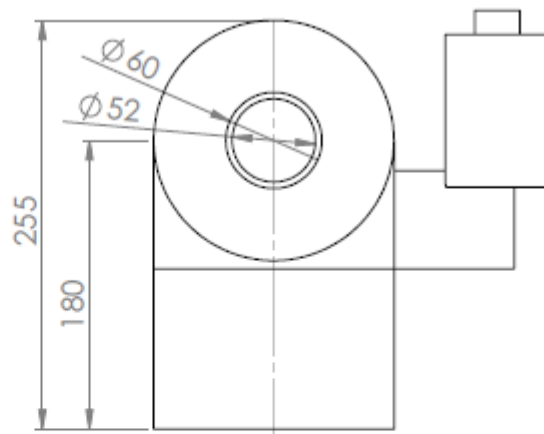
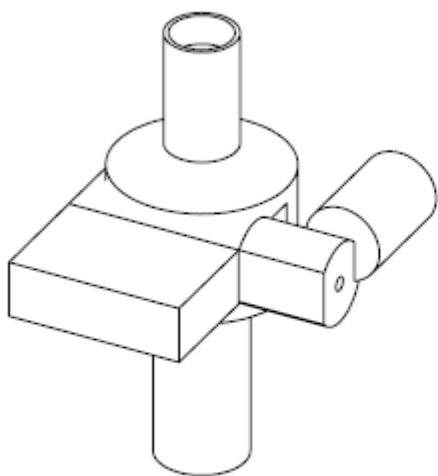
It can be easily placed at the MD-02, same dimensions as MD-02



Specifications: SPID PS-02 power supply	
AC input	50/60Hz – 100-240VAC
Dimensions	Desk top housing (386x310x70mm)
Weight lbs / Mass Kg	12,4 lbs / 5,6 Kg
Environment	Ground / Mobile free air and / or Sheltered
MTBF	32000 hours @ -20 to +55°C
Delivered incl	Connectors and mains cable

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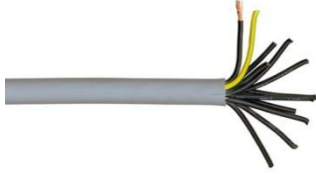

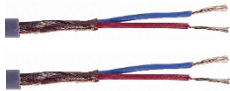
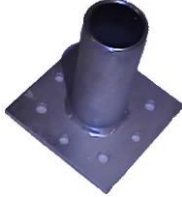



ROTOR RAK\HR
Dimmension: mm

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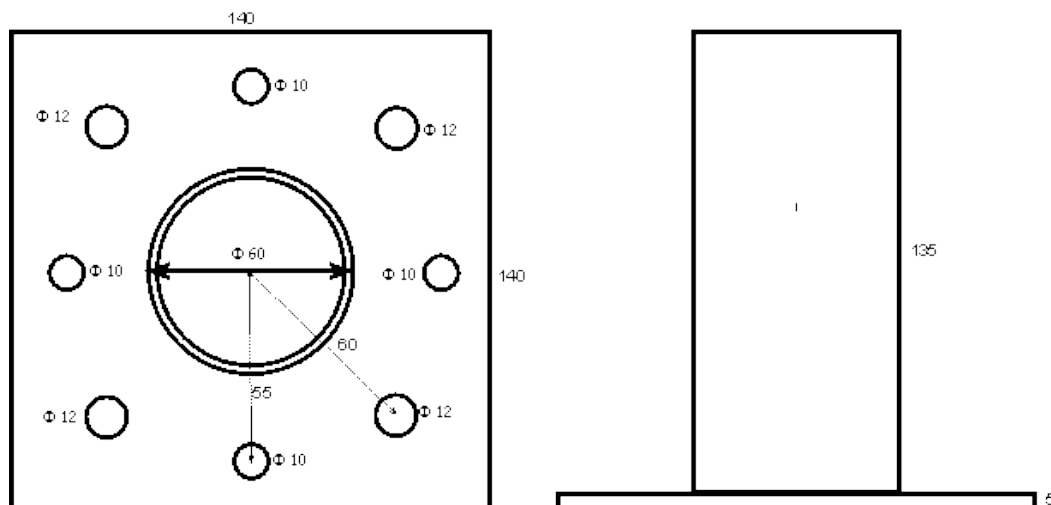
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Available accesories

Accesories	Type	
Control cable 4-core (4x1,5mm²) Reel: 25meter / 50 meter	CC4-002/25	
Sensor Control Cable Unscreened (8x0,2mm²) Reel: 25 meter max length	CC8-004/25	
Sensor Control Cable Screened Needed if control cable longer than 25 meter ! 2 x 2 core screened cable (1x EL or 1x AZ + 1x Power) Available 50 or 100 meter lengths	CC6-002/50	
SPID ADAPTOR Plate Used to Mount the rotator at a base-plate	SPID-ADAPT	
MOUSE Control AZ & EL movement by mouse connected to MD01	SPID MOUSE	

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

Dimension SPID ADAPTOR Plate in mm.



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