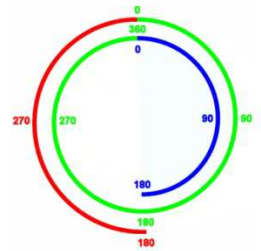


SPID Azimuth & Elevation antenna rotator Type: BIG-RAS/HR



Normal 360
- 180
or
+540 from
North 0
for
total of 720



SPID BIG-RAS/HR MD-01 Rotor Controller



Type BIG-RAS/HR is a two engine rotor system (AZ & EL) delivered including:

- ✓ **BIG-RAS/HR rotor 0.1 degree resolution**
- ✓ **MD-01 rotor controller**
- ✓ **MD-01 Software to control MD-01 rotor controller**
- ✓ **USB Driver**
- ✓ **All connectors to connect to rotor and PS-01**

We recommend to use module PS-01 to supply the MD-01 and Rotor.
This module is a dual voltage power supply which will be connected to the MD-01 module

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Short summary specifications:

Type BIG-RAS/HR is configured with two electronic sensors in order to indicate the position of **Azimuth and Elevation with a resolution of 0.1 degree** (transmission is 0,0058 degree on impulse)

The MD-01 rotor controller has a built in backlight Display which shows Azimuth and Elevation real time at 0.1 degree resolution. This means the rotor can also be used as a stand-alone configuration and AZ & EL engines 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

Build in the MD-01 rotor controller is also a track interface which will be connected through USB (Win XP....Win 7) USB Driver is available and ready for download at our BIG-RAS/HR support page.

Lot of new functions available now and can be configured by the user through MD-01 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 BIG-RAS/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
- ✓ 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)
- ✓ Build in 19" rack system
- ✓ Free of charge software update available at our BIG-RAS/HR support page
- ✓ Track software supported: Orbitron and PST rotor (more will be available)
- ✓ MD-01 Rotor Controller can emulate all Yaesu rotor drivers !

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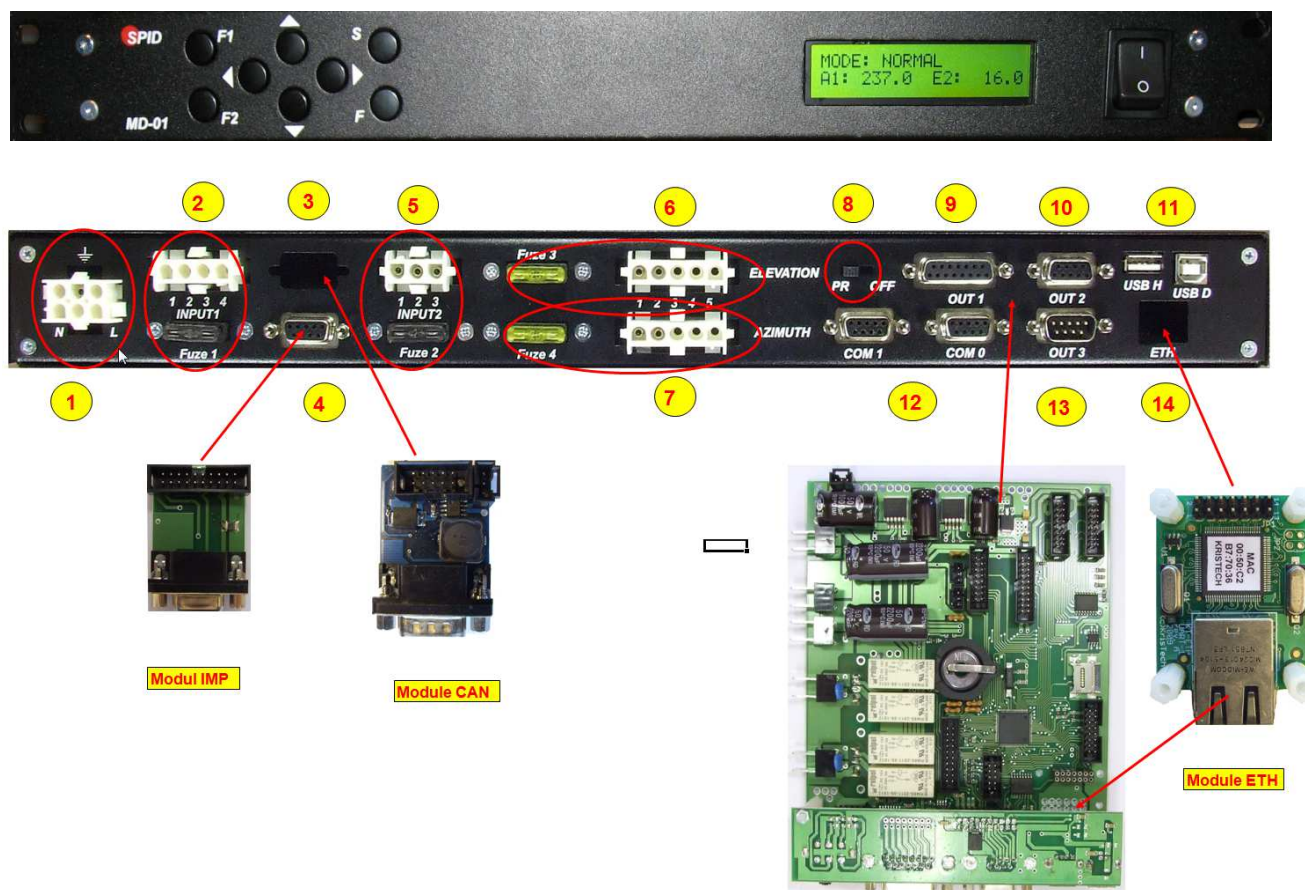
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Specifications Rotor Controller, type MD-01	
Supply voltage input	13.8 and 24 volt
Current consumption	6.....18 A
Supplied with	build in PC track interface (USB), MD01 controlling software, connectors
Dimensions	19 inch rack Mount (483x366x43mm)
Weight:	1.9 Kg
Case	Aluminium / steel
Environment	Ground / Mobile Sheltered
MTBF	15000 hours @ -5 to +40°C
Display	2* 4 digit (green)
Control cable 8-core	Connection inc. 2* 4 pin connector

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MD-01 Rotor Controller in spotlight



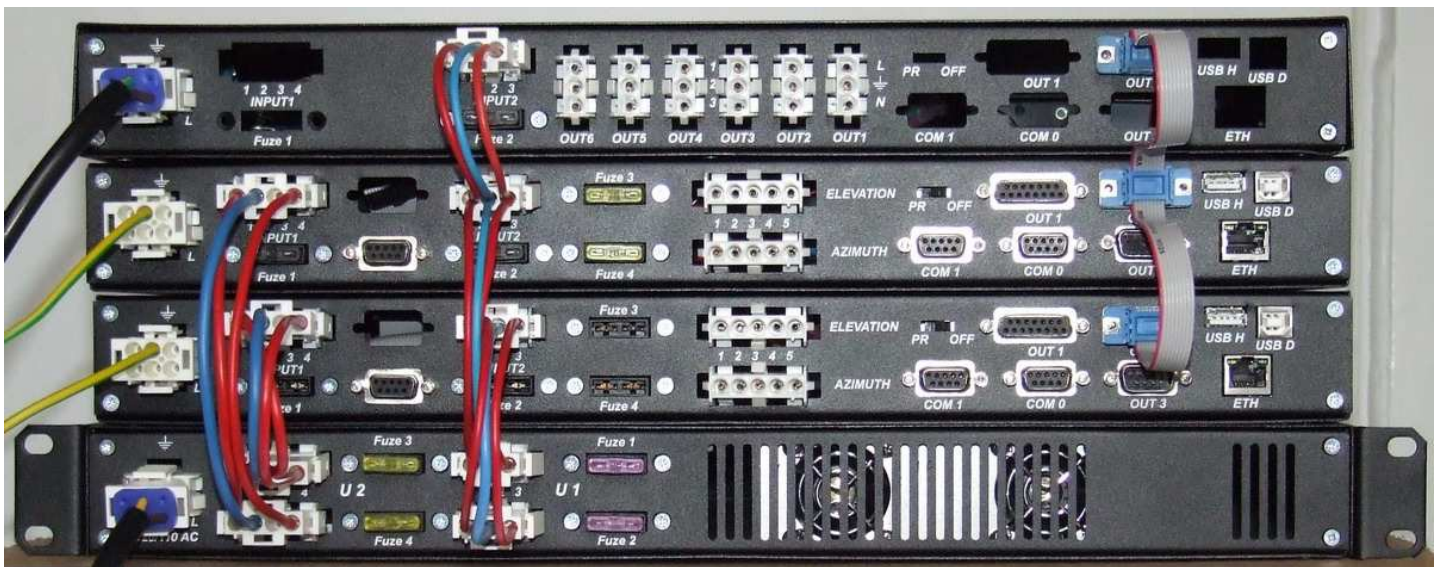
Description by Number:

- 1# Plug in for Ground connecting (rest of the pins NC)
- 2# PSU plug in for Rotors engine 24Volts (FUZE 25A)
- 3# NC, can b used for connecting modules for example CAN, RS485, RS422 or other analog plug in
- 4# Impulse plug in (plug in for HALL 4 sensors from Rotors engine)
- 5# PSU plug in for electronic 13.8Volts (FUZE 4A)
- 6# Plug out for connecting Rotor ELEVATION BIG-RAS On each plug out FUZE (15A)
- 7# Plug out for connection Rotor AZIMUTH BIG-RAS On each plug out there is FUZE (15 A)
- 8# Switch for updating Firmware (firmware is available for free at our BIG-RAS/HR support page)
- 9# Universal plug out . There is possibility to connect relay module inside of the driver .
MD-01 can have a function to switch for example antennas .
- 10# Universal plug out
- 11# USB plug in
USB – D (PC)
USB – H (HOST) (version on future)
- 12# Plug out RS-232
COM 0 (RxD and TxD, COM 0 also used for firmware update)
COM 1 (RxD nad TxD)
- 13# Universal plug in for mouse
- 14# Ethernet plug in
This is available to use after installing the ethernet module (picture)

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Example set up using 4 units combined including SW-01 and PSU PS-01 module



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BIG-RAS/HR Azimuth and Elevation Rotor

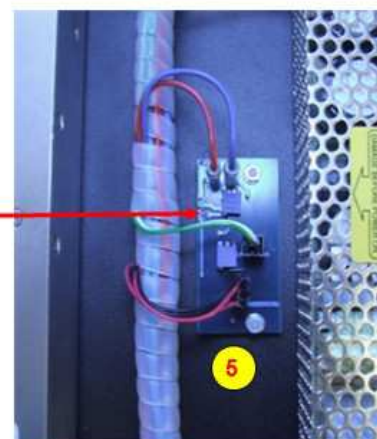
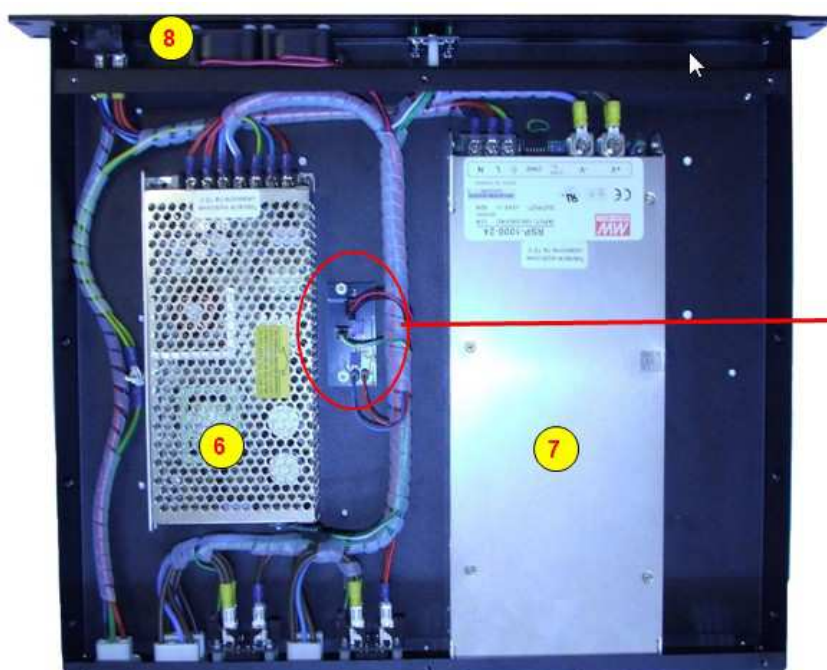
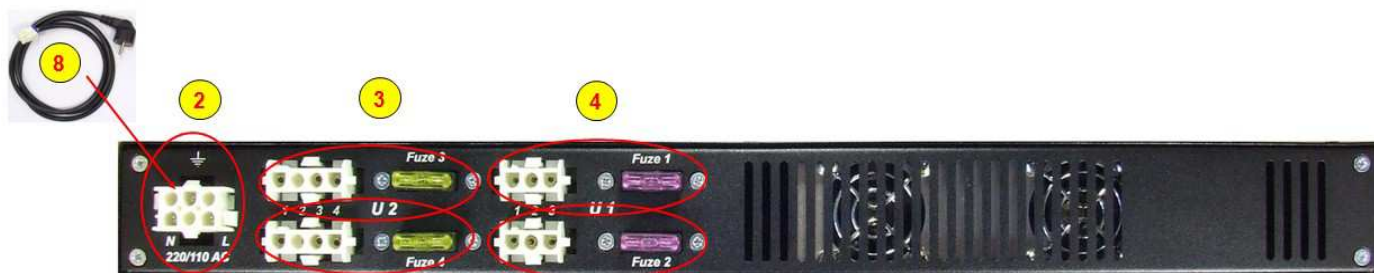
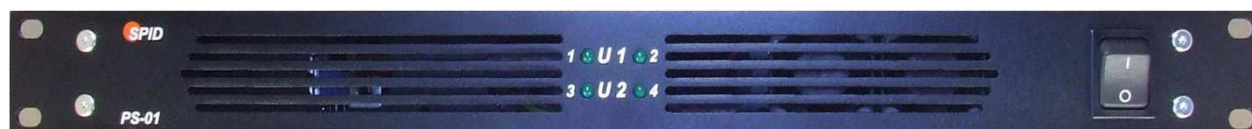


Specifications: SPID BIG RAS/HR Azimuth and Elevation Rotator	BIG RAS/HR
Turning torque in-lbs/Nm	11500 in lb/1300 Nm
Brake Torque in lbs/Nm	24,000 in lb/2,712 Nm
Brake Construction	Double Worm Gears
Vertical Load lbs/Kg	>700 lbs/318 Kg
Rotation Speed (360 Deg)	60 sec
Resolution	0.1 degree
Rotation Range Az/El	360/180 deg
Weight lbs / Mass Kg	51 lbs/23 Kg
Position Sensor	HALL Sensors
Mast size inches/mm Bottom mount	2.6 in/66 mm
Mast size inches/mm Elevation	2.0 in/50 mm
Environment	Ground / Mobile free air and / or Sheltered
MTBF	12500 hours @ -20 to +55°C
Control cable Engine	4-core / 1.5mm ²
Control cable Sensors	8-core / 0.2mm ²

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SPID Power Supply Module, PS-01



This

Module, PS-01 is a Dual Voltage PSU which can be connected to MD-01
Standard build in is a 15Volt / 10A and a 24Volt / 22A Power Supply unit

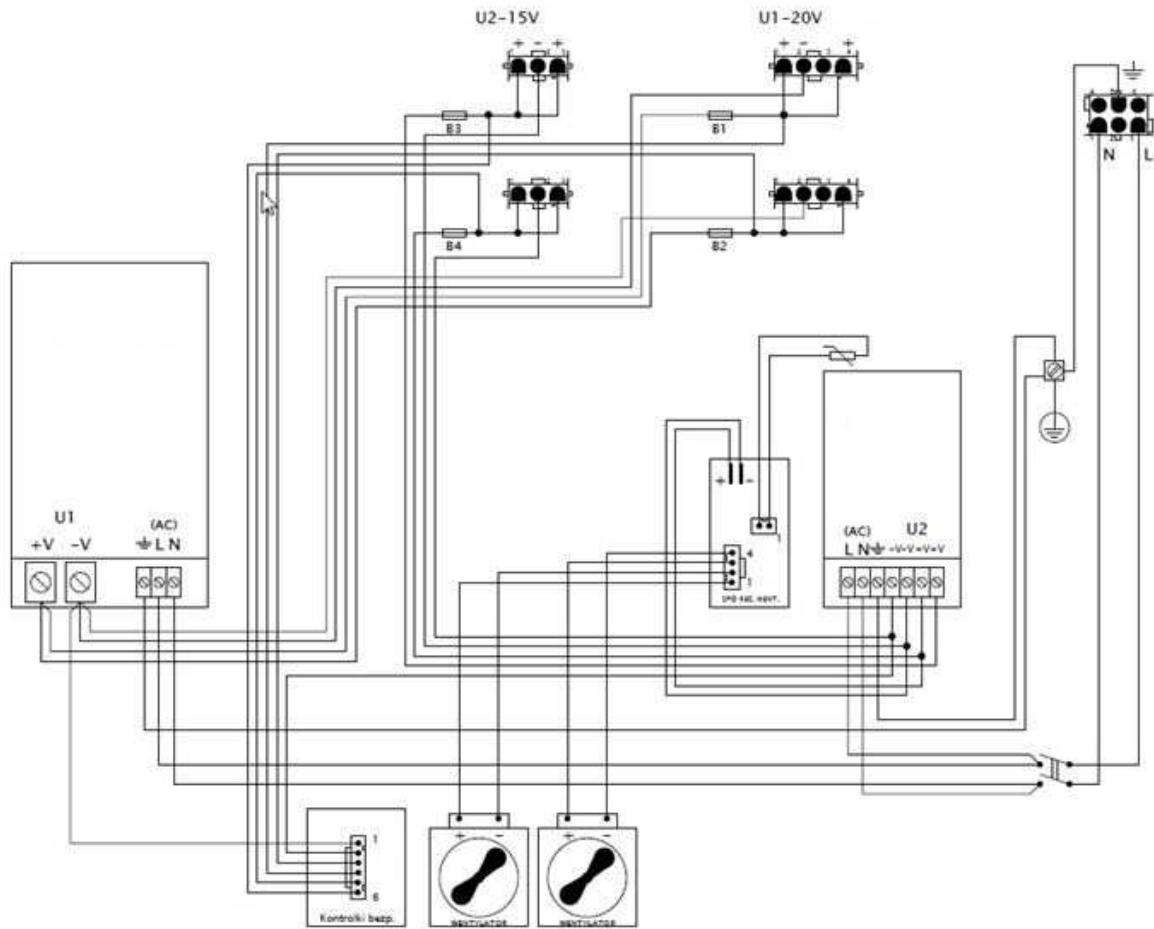
Description by number:

- 1# Indicators are showing whether on plug outs
- 2# Plug in for power supply 90 – 230 Volts AC
- 3# Output 24V / 22A
- 4# Output 15V / 10A
- 5# Temperature sensor
- 6# 15V / 10 A PSU
- 7# 24V / 22 A PSU
- 8# Blowers

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DIAGRAM Power Supply PS-01

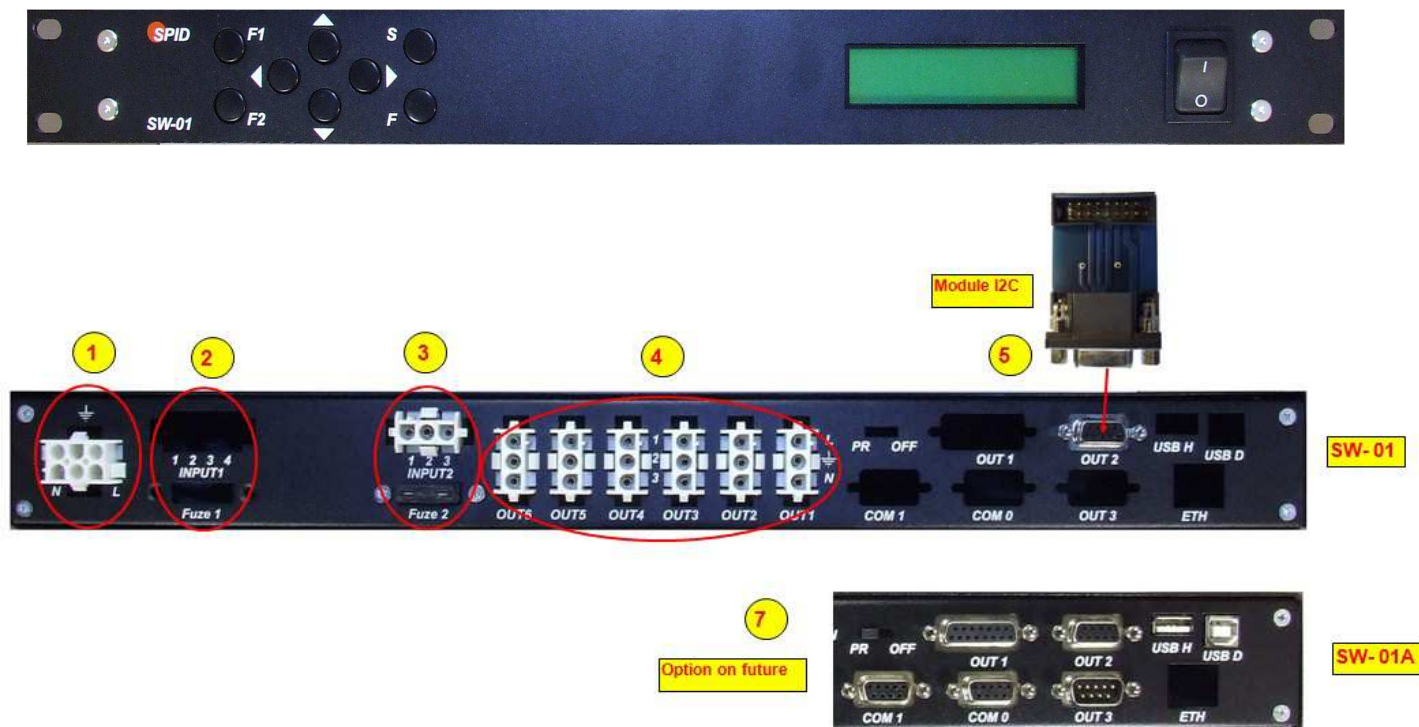


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SPID SWITCH Module, SW-01

The Switch Unit, type SW-01 is a option if you want to switch on/off connected interfaces, amplifiers etc, etc. All can be controlled by the MD-01 program through PC.
Dimensions: 19 inch rack Mount (483x366x43mm)



Description by Number:

1# Power supply plug in OUT1-OUT6

For pins N,L we are connecting power supply (in this case 220/110 AC) this circuit is without FUSE .

2# NC, There can be additional power supply from PS-01 connected .

3# Power supplying electronic (FUZE 2A)

4# Plug out for switcher (OUT1 -- OUT6)

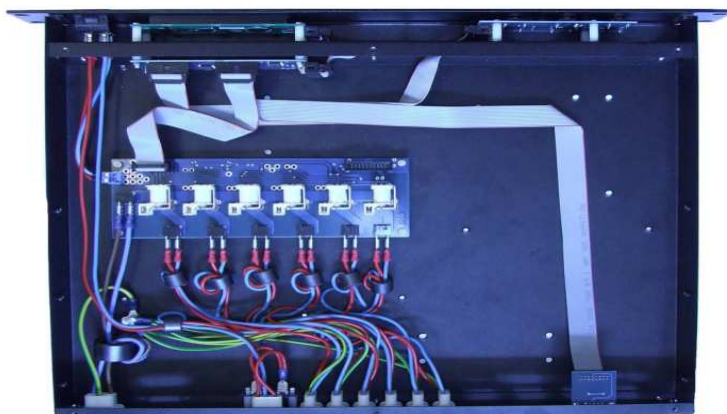
On plug out there is voltage from plug in "1"

5# I2C plug in connected to plug out I2C in DRIVER (OUT2 MD-1 --- OUT2 SW-01)

6# PCB control, DELAY for turning on plug outs OUT1 - OUT6 (30 A, 600V)

7# In the future there is possibility that SW-01 can work as a separate device .



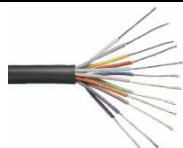
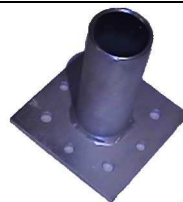
In such case SW-01 instead of module I2C there can be full control motherboard (just like in MD-01) and device will be fully separate .



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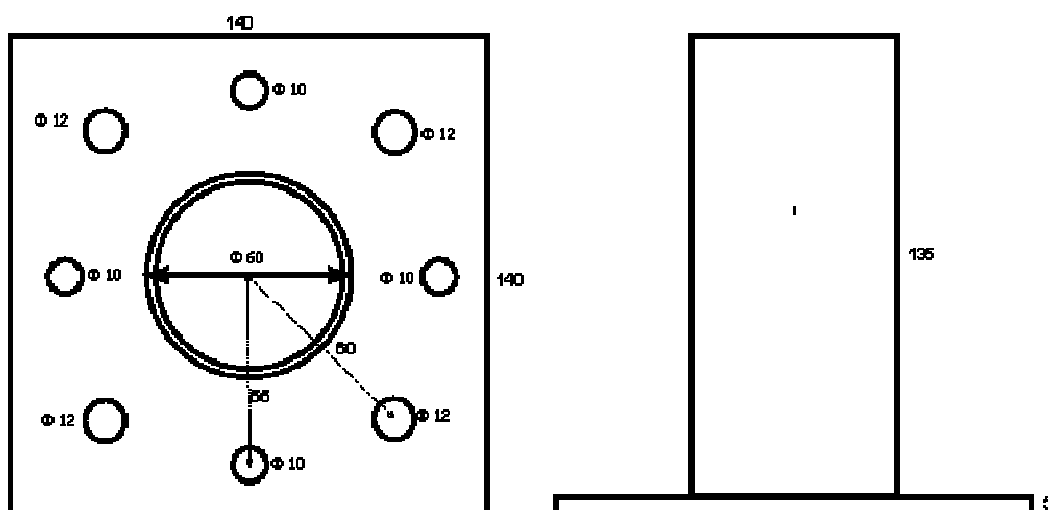
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Available accesories

Accesories	Type	
Mounting bracket	FPD-BR01	
Control cable 4-core (4x1,5mm²) Reel: 25meter / 50 meter	CC4-002/25	
Control cable 8-core (8x0,2mm²) Reel: 25meter / 50 meter	CC8-004/25	
SPID ADAPTOR Plate Used to Mount the rotator at a base-plate	ALPHA-ADAPT	

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

Dimension SPID ADAPTOR Plate



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