

## Rotor BIG-RAK



# DESCRIPTION

Rotor works with controller Rot1Prog. It can be used for lightweight construction, such as Yagi and heavy shortwave antennas. It is based on the worm gear, worm and worm wheel made of steel (as pictured). These features ensure long life and durability of the device. Its advantage is the possibility to adjust the worm and worm wheel clamping, clearing backlash in the drive mechanism, which may be necessary in the case of wear and tear after long-term use. The device surface is covered with powder coating, effectively protecting against corrosion. Range trading is protected by limit switches.

# SPECIFICATIONS

<b>Rotation angle:</b>	360 +/- 180 stopni
<b>Rotation time for 360°:</b>	240 sek. * 145 sek.
<b>Electric motor:</b>	12 V DC
<b>Weight Antenna rotor:</b>	15 Kg
<b>Encoder Type:</b>	Magnetic 6 pulse /HR 32 pulse
<b>Vertical load:</b>	320 Kg
<b>Rotating torque:</b>	8.000

# CONTROLLERS WORKING WITH MACHINE

ROT 1



The controller works with all motorized type RAU and RAK and also with all motorized having a pulse output. The controller was also created for those who constructed rotor by themselves or are working on equipment brought from abroad (controller software can be adapted to any structure in which the actuator is a pulser or REED).

To control using a computer there is specially prepared program ham radio **SPID.LOG**

## Controller Features:

- Manual operation;
- Semi-automatic operation (you write angle without rotating the rotor, and after 2 seconds the rotor starts to given angle;
- Automatic operation (full control from your PC throughout SpidLog software program).

## Additional features for Canada version:

- MEMORY function (you can write 6 angles to memory that can be directly selected by buttons on the mouse). This feature allows you to quickly select a direction for example in competition.

**ATTENTION.** The mouse is not a computer mouse. It only looks similiar.Do not connect it to your computer!!!!

## TECHNICAL SPECIFICATIONS:

Power supply:	12V - 18V DC/0,5A - 1,5A external power supply required
Input Signal:	pulse version - pulses
Supply:	Electronic -180 +180 degrees
Dimensions:	120 x 35 x 220 mm
Output:	COM 9-pin connector to connect the PC (RS232, 1200 baud, 1 stop bit, no parity).

## MD-01



MD-01 is an electronic control unit for rotating the rotors. It is a multifunctional device that allows for different combinations of settings work. The controller can be connected to individual rotors (eg, two rotors azimuth) or double (one rotor azimuth / elevation). The basic layout provides work with DC motors.

Controller parameters:

- Controller MD-01 supply voltage 15 VDC (Imax - 2A),
- Rotor supply voltage 12-14 VDC (Imax - 40 A),
- Maximum supply voltage of a single motor up to 20 A.
- 2 RS232 ports
- 1 USB host port
- 1 USB device - visible in the system as a virtual COM port.
- 1 RJ45 Ethernet port.

## MD-02



MD-02 is an electronic control unit for rotating the rotors. It is a multifunctional device that allows for different combinations of settings work. The controller can be connected to individual rotors (eg, two rotors azimuth) or double (one rotor azimuth / elevation). The basic layout provides work with DC motors.

Controller parameters:

- Controller MD-01 supply voltage 15 VDC (I<sub>max</sub> - 2A),
- Rotor supply voltage 12-14 VDC (I<sub>max</sub> - 40 A),
- Maximum supply voltage of a single motor up to 20 A.
- 2 RS232 ports
- 1 USB host port
- 1 USB device - visible in the system as a virtual COM port.
- 1 RJ45 Ethernet port.

# COMPARISON OF AVAILABLE MACHINES

Rotator Comparison Table	RAU and RAU/HR ( 18 V ) *(24V)	RAK and RAK/HR (18V) *(24V)	BIG RAK and BIG-Rak/HR (18V) *(24V)	RAS and RAS/HR (18V) *(24V)	BIG-RAS and BIG-RAS/HR (18V) *(24V)
<b>Rotating torque</b>	900 *1800	1.800 *3.240	8.000 *8.000 **	1.800 *3.240	8.000 *8.000 **
<b>Braking torque</b>	8.000	14.000	24.000	14.000	24.000
<b>Vertical load</b>	350 lbs	550 lbs	>700 lbs	550 lbs	>700 lbs
<b>Break type</b>	Double worm	Double worm	Double worm	Double worm	Double worm
<b>Carter</b>	Metal	Metal	Metal	Metal	Metal
<b>Gear</b>	Metal	Metal	Metal	Metal	Metal
<b>Mast plate</b>	Metal	Metal	Metal	Metal	Metal
<b>Reduction ratio</b>	3300 / 1	4950 / 1	6120 / 1	4950/ 1	6120 / 1
<b>Encoder type</b>	Magnetic 4 pulse /HR 32 pulse	Magnetic 6 pulse /HR 32 pulse	Magnetic 6 pulse /HR 32 pulse	Magnetic 6 pulse /HR 32 pulse	Magnetic 6 pulse /HR 32 pulse
<b>Precision</b>	1° / 1.0° /HR 0,1° / 0.1°	1° / 1.0° /HR 0,1° / 0.1°	0.5° / 0.5° /HR 0,1° / 0.1°	1° / 1.0° /HR 0,1° / 0.1°	0.5° / 0.5° /HR 0,1° / 0.1°
<b>Rotation angle</b>	360° +/- 180°	360° +/- 180°	360° +/- 180°	360° +/- 180°	360° +/- 180°
<b>Rotation time for 360°</b>	45 sek	90 sek *45 sek	240 sek * 145sek	90 sek *45 sek	240 sek *145 sek
<b>Electric motor</b>	12 Vdc	12 Vdc	12 Vdc	12 Vdc	12 Vdc /HR 24 Vdc
<b>Environment</b>	-20° +50°	-20° +50°	-20° +50°	-20° +50°	-20° +50°
<b>Weight Antenna rotor</b>	8 kg	12 kg	15kg	19kg	25kg
<b>Weight Digital Rotator Controller</b>	Rot1Prog- 1,5 kg MD-02 – 4 kg MD-01 – 5 kg	Rot1Prog- 1,5 kg MD-02 – 4 kg MD-01 – 5 kg	Rot1Prog- 1,5 kg MD-02 – 4 kg MD-01 – 5 kg	Rot2Prog- 2 kg MD-02 – 4 kg MD-01 – 5 kg	Rot2Prog- 2 kg MD-02 – 4 kg MD-01 – 5 kg