

INSTRUCTIONS FOR INSTALATION AND USE

ST44M2HEL3M - Solar Heliostat



SAT CONTROL

More to get more?

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www.solar-motors.com



2 pcs



4 pcs



2 pcs



1 pcs



2 pcs



1 pcs



1 pcs

5 pcs M8 x 110mm



4 pcs M8 x 50mm



2 pcs M12 x 90mm



6 pcs M8 x 30mm



1 pcs M10 x 50mm



4 pcs M6 x 10mm



8 pcs M12 x 20mm



4 pcs M8 x 40mm



4 pcs M8 x 30mm



4 pcs M12



32 pcs M8



2 pcs M12

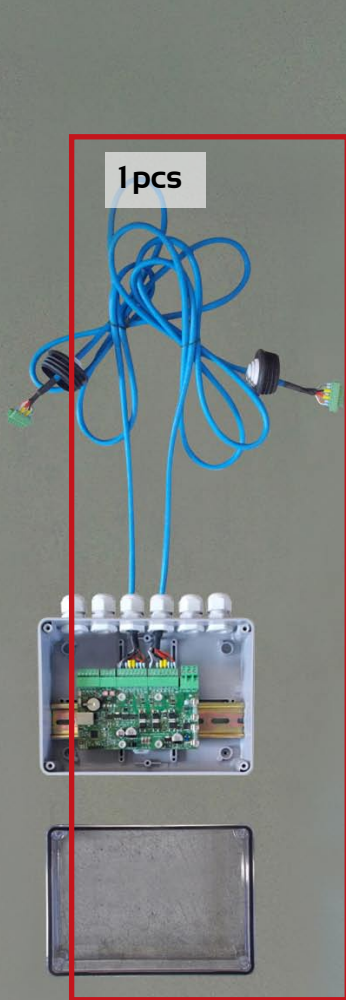


19 pcs M8



3 pcs Ø7mm





2 pcs

1 pcs

2 pcs

1 pcs



2 pcs

4 pcs (4,2x9,5)

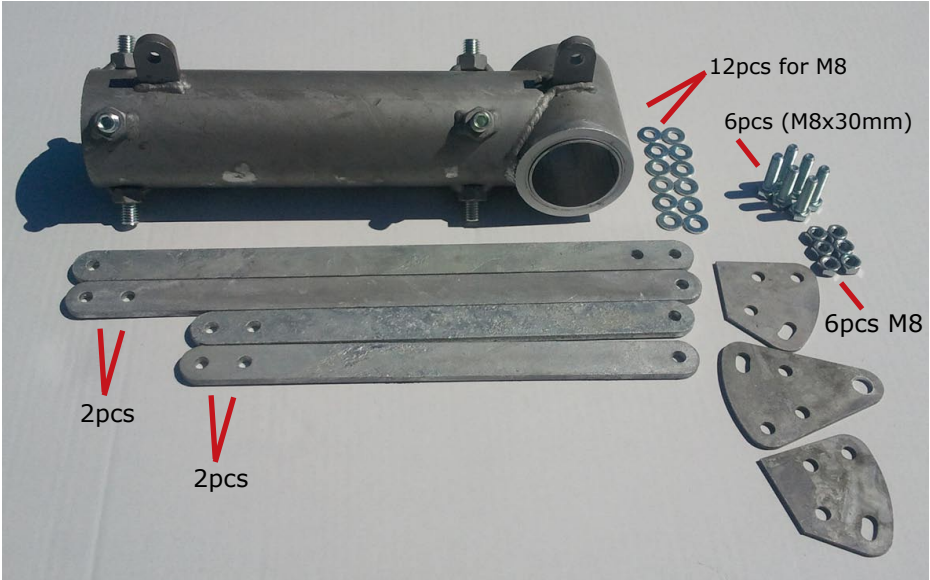
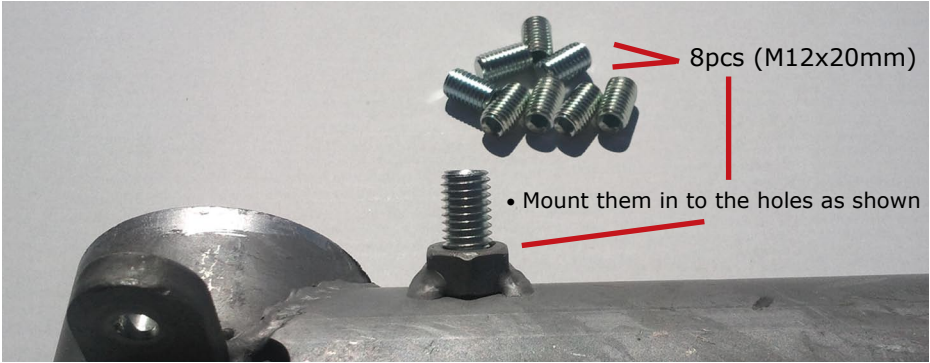
8 pcs



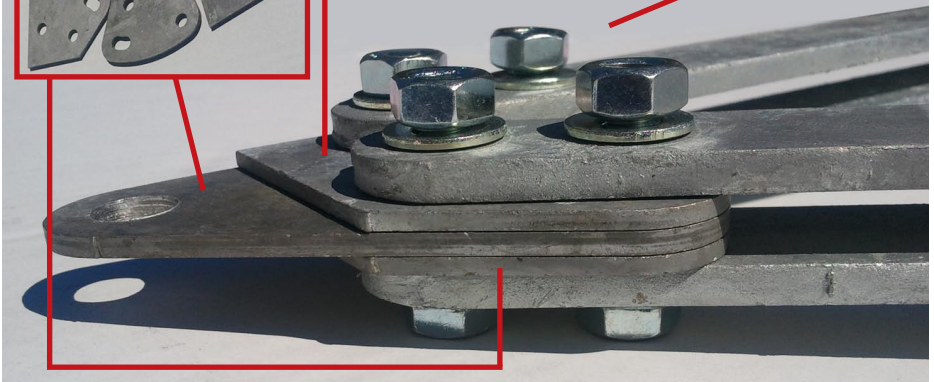
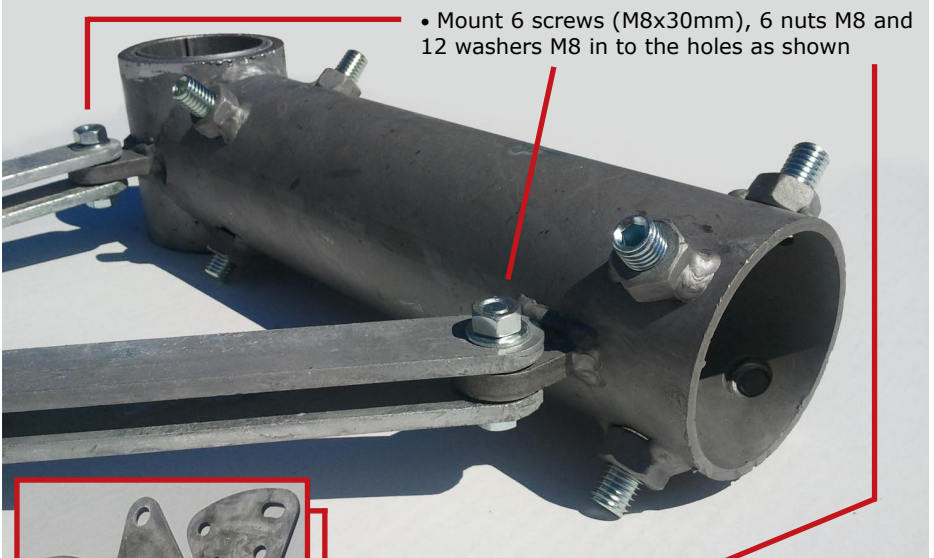
2 pcs

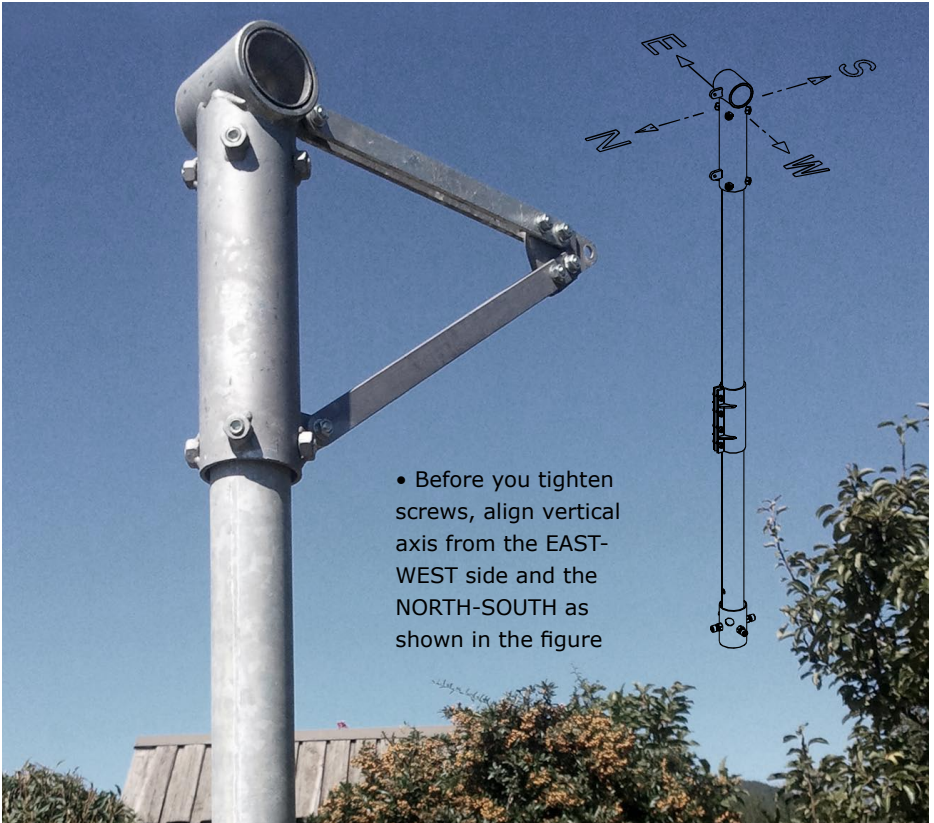
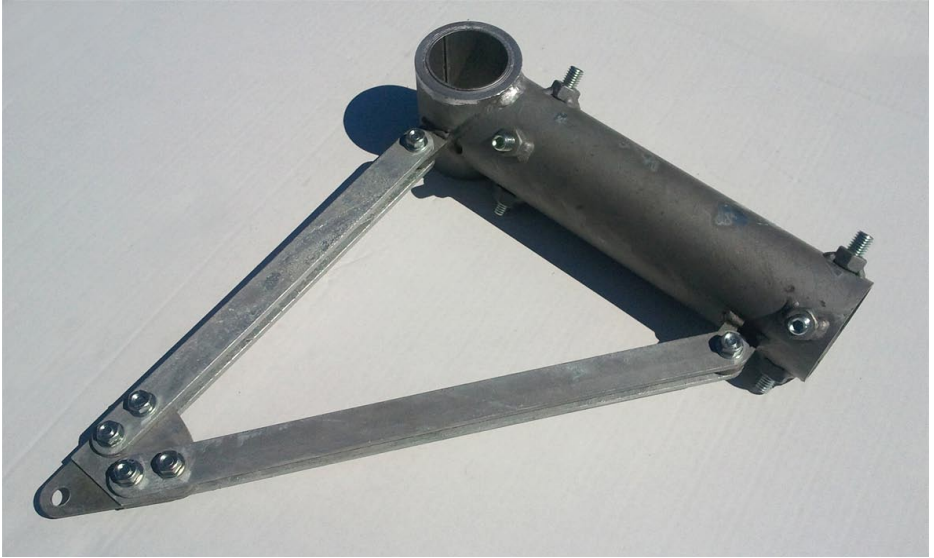
2 pcs

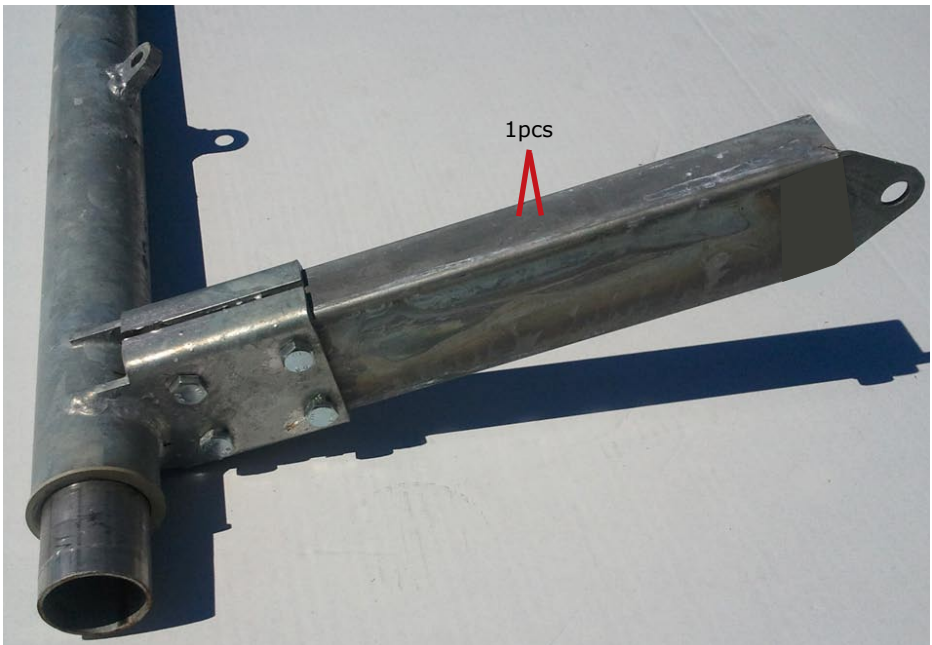
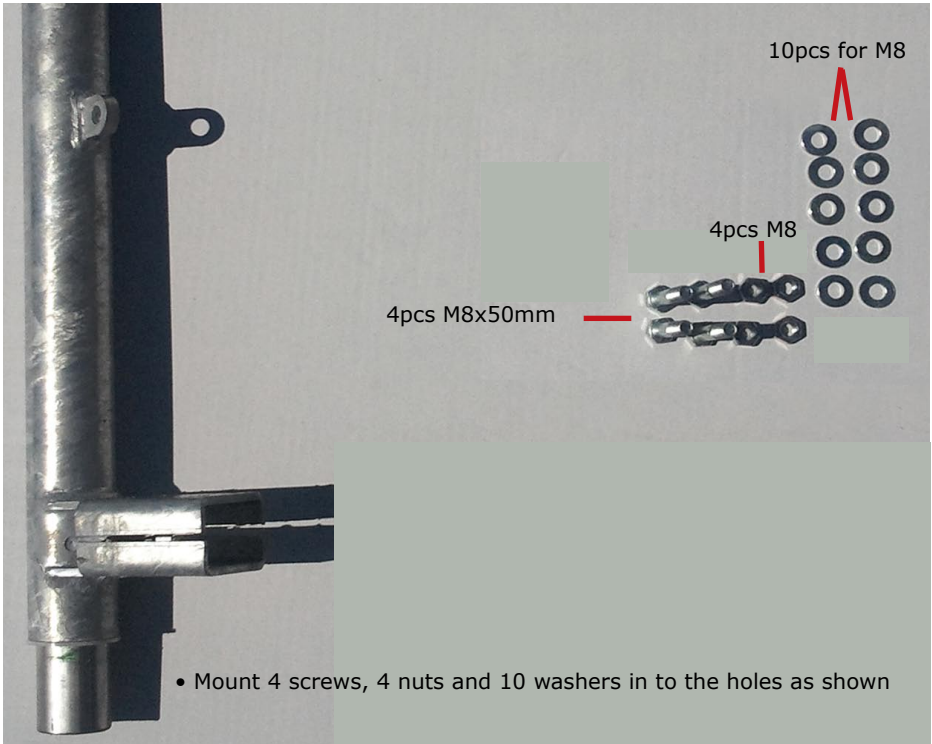
1 pcs

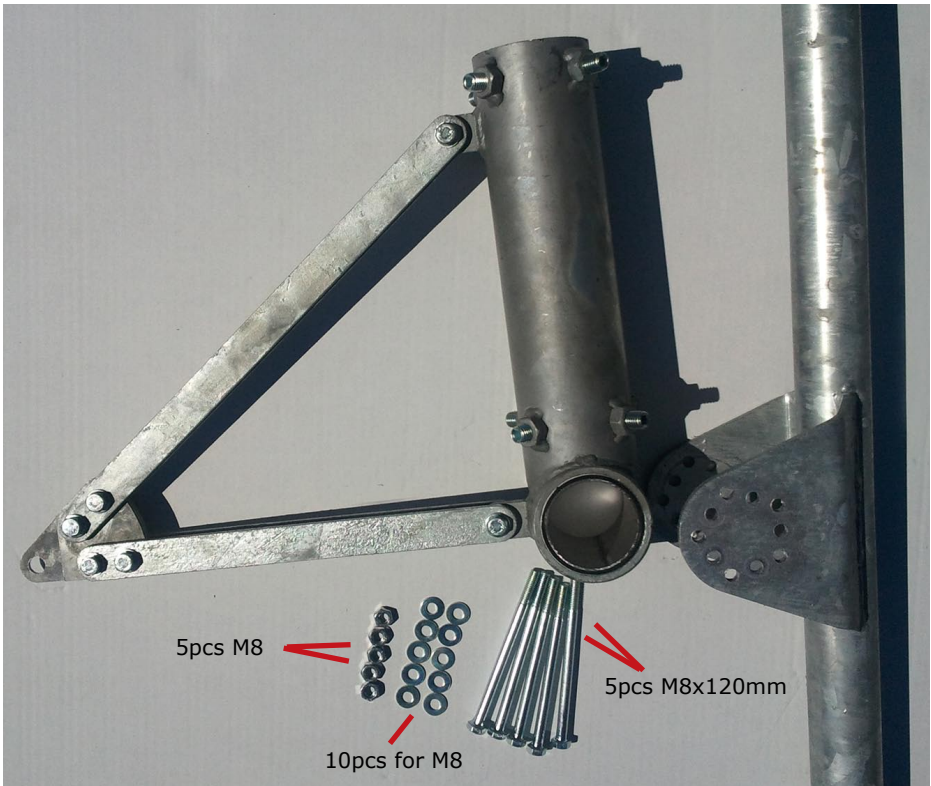


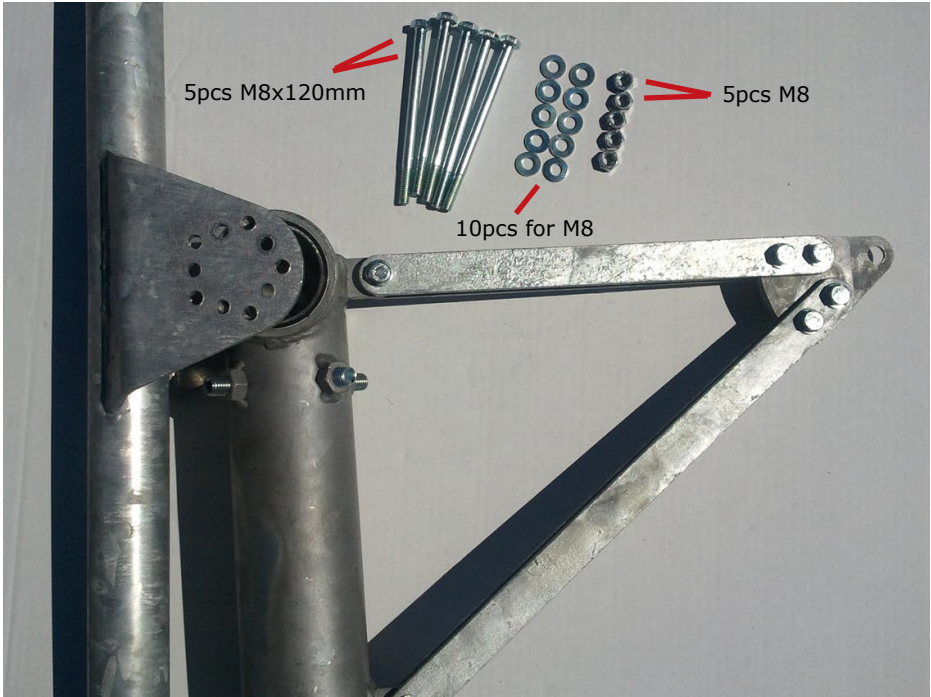
- Mount 6 screws (M8x30mm), 6 nuts M8 and 12 washers M8 in to the holes as shown

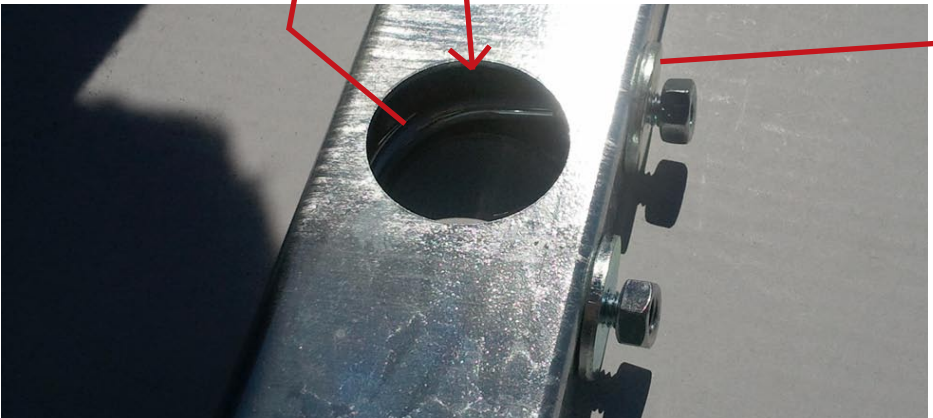
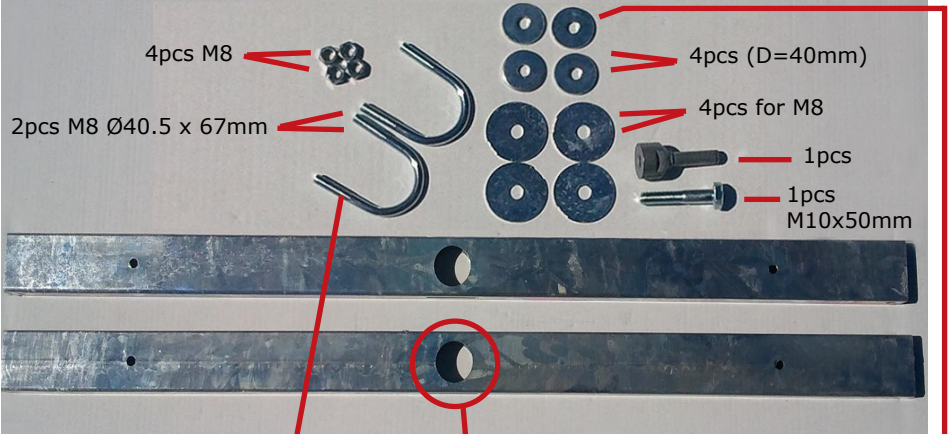


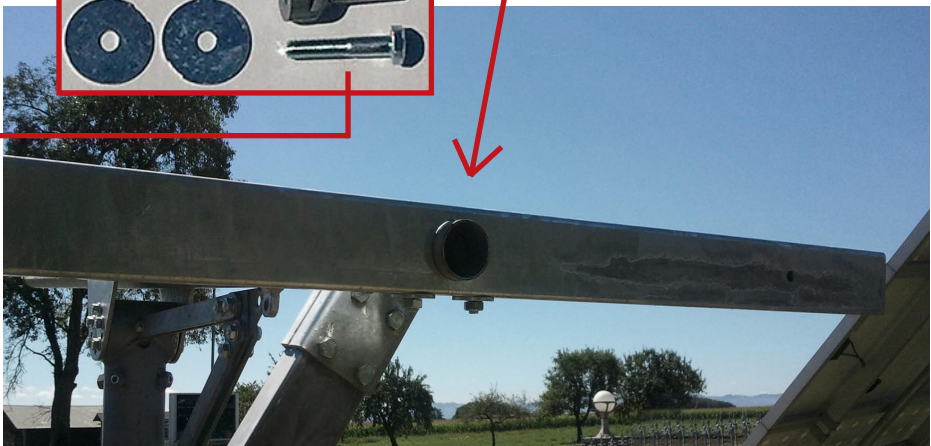
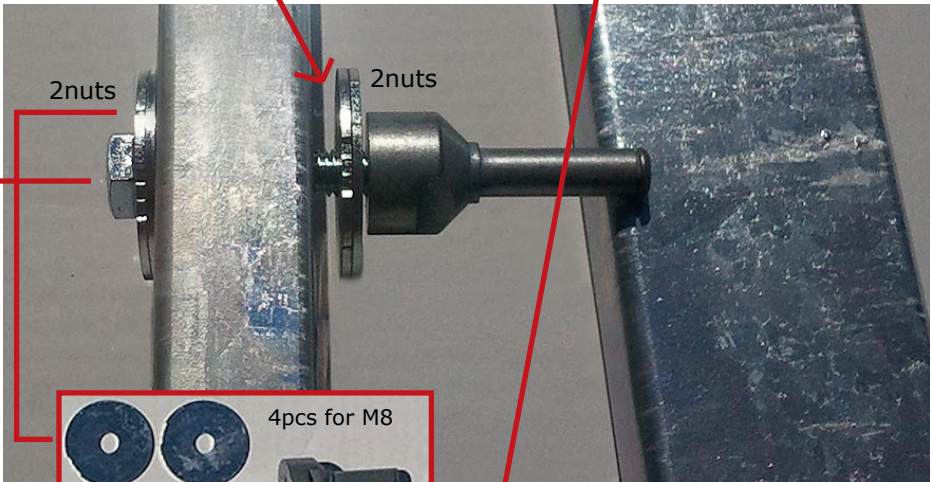
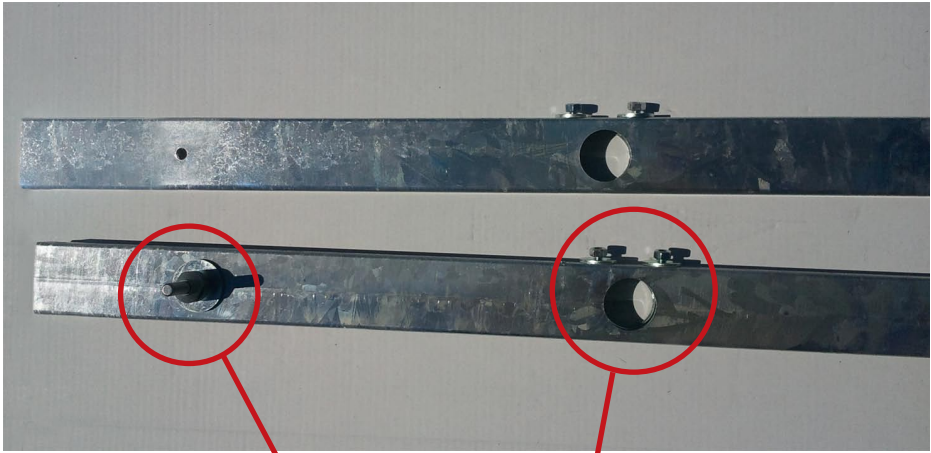








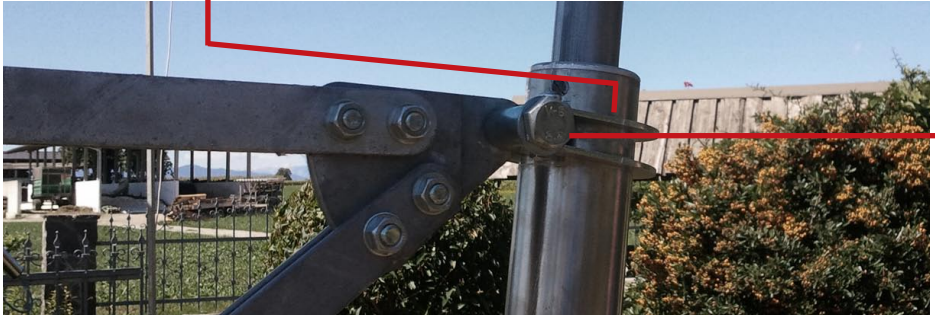
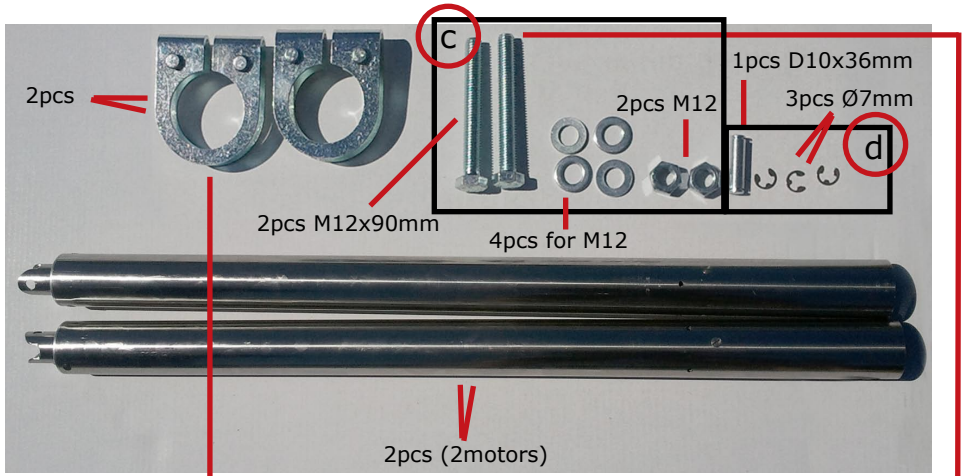


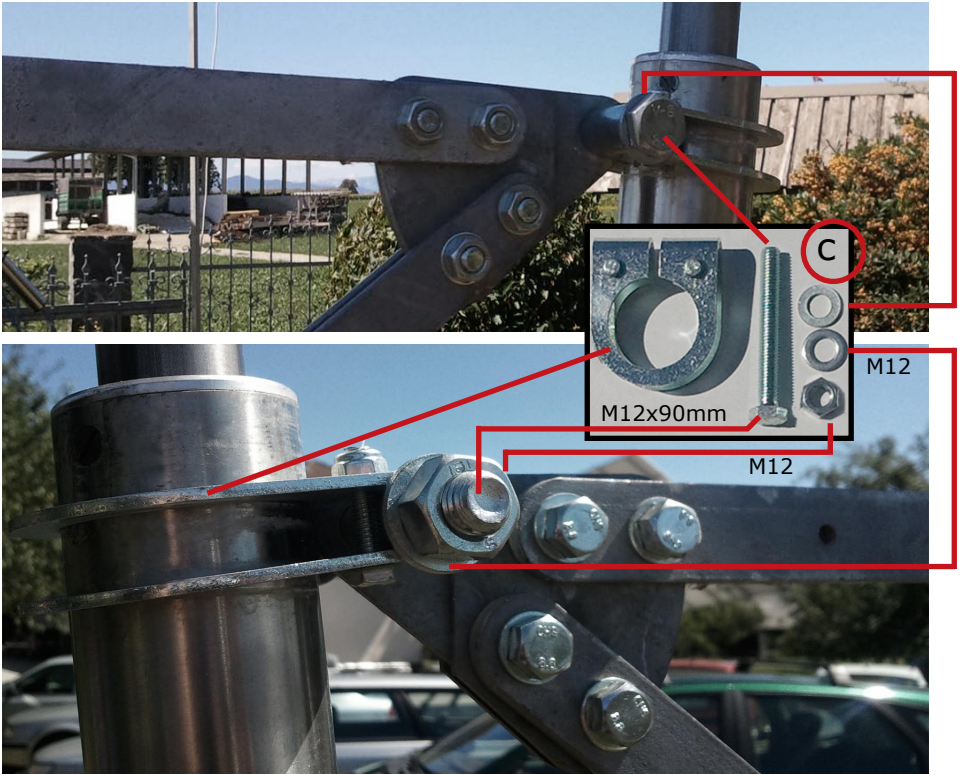


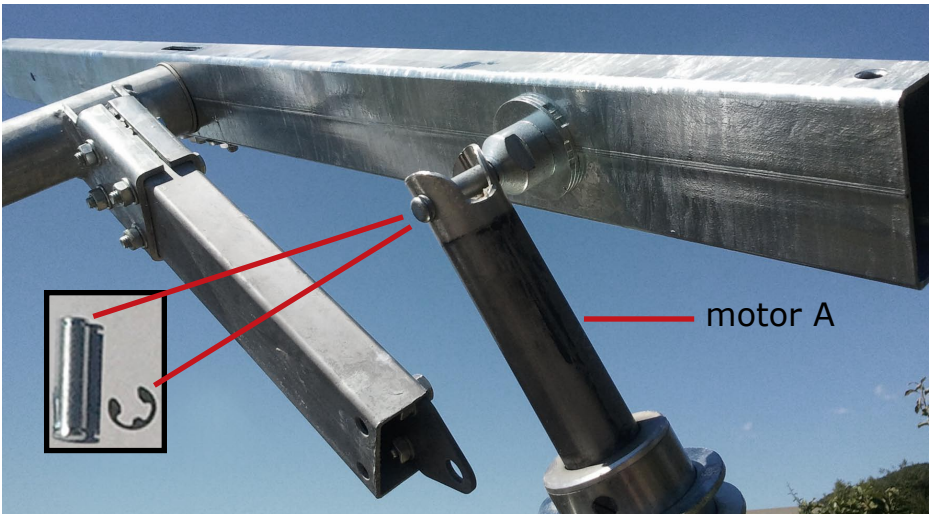
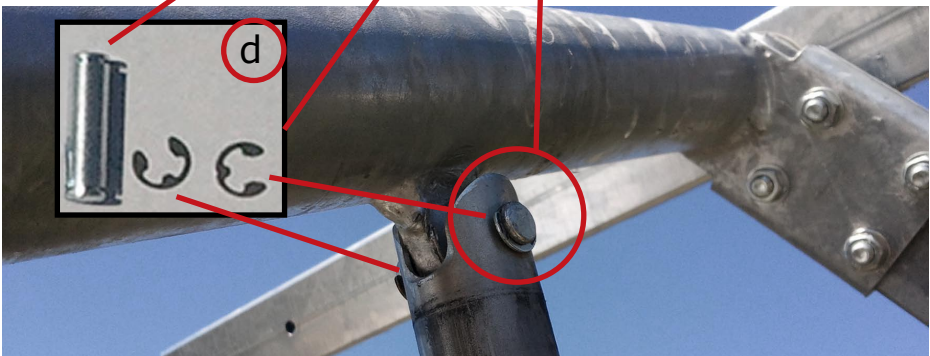


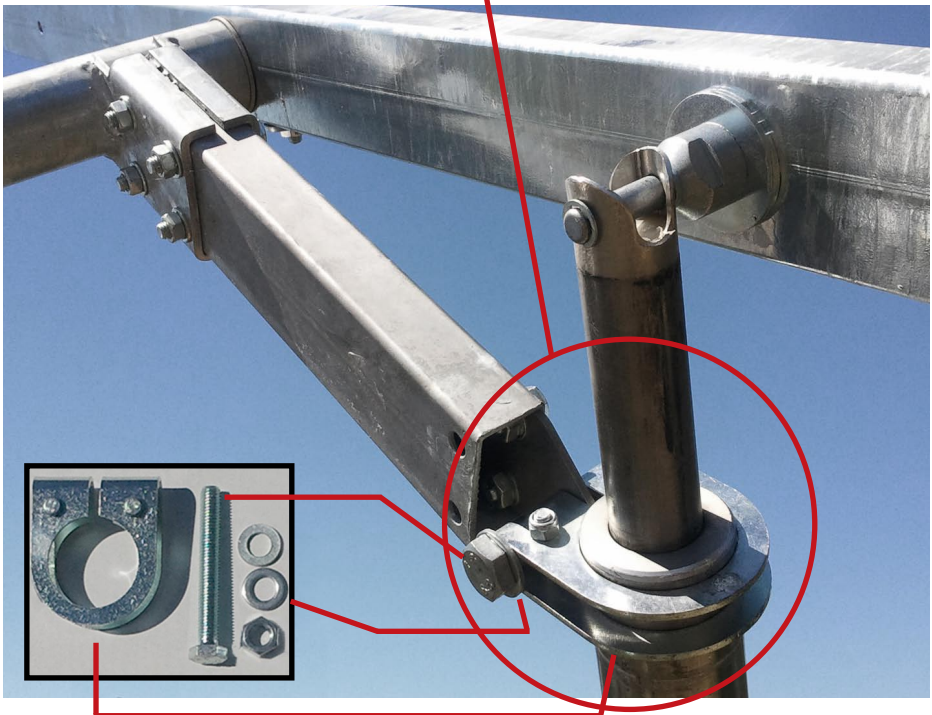
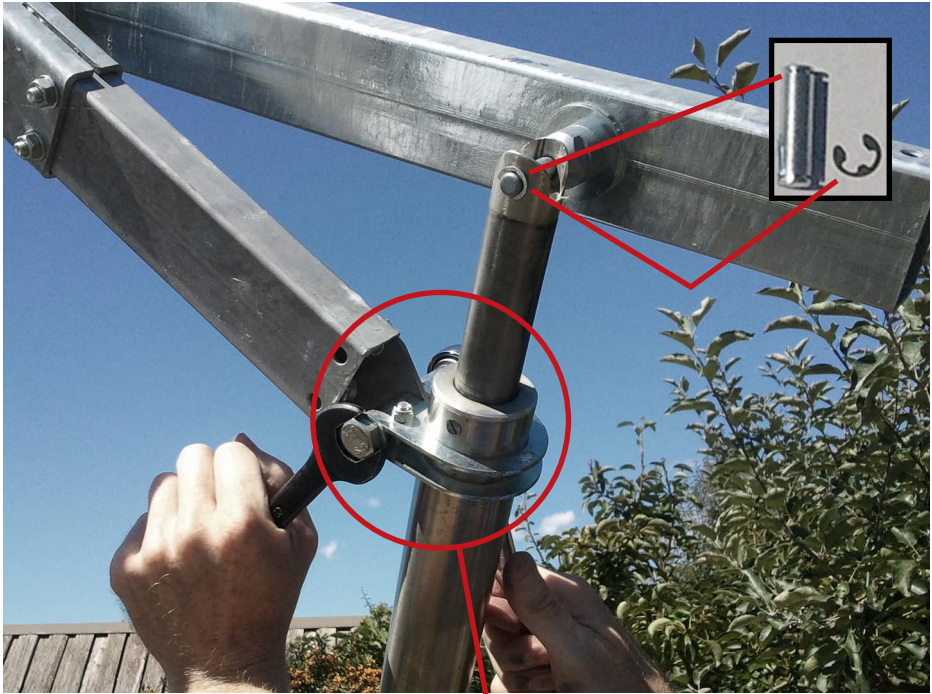
- Make sure that the two arms are perfectly parallel

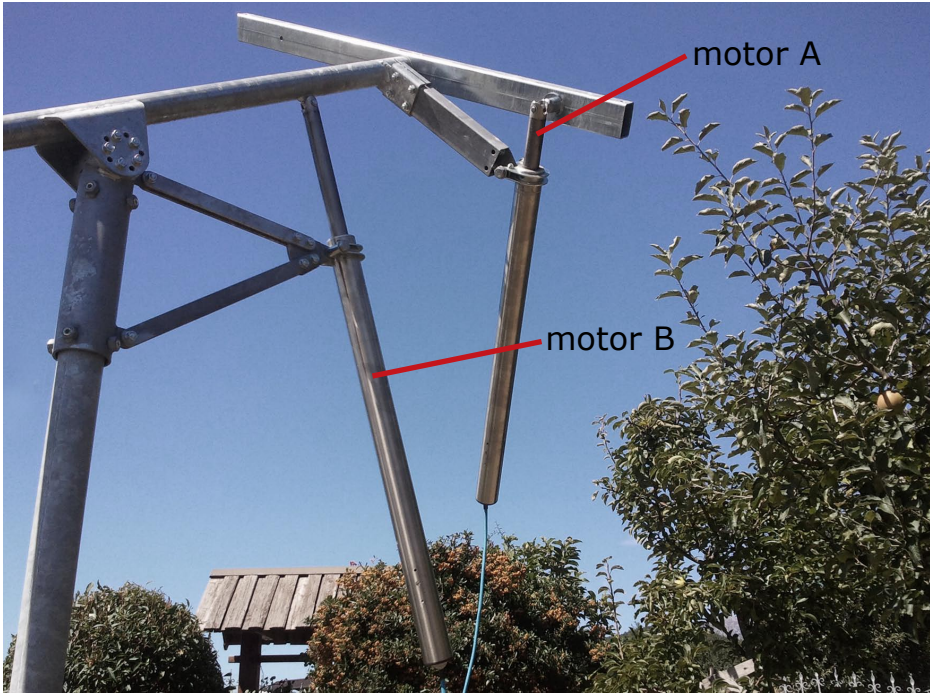






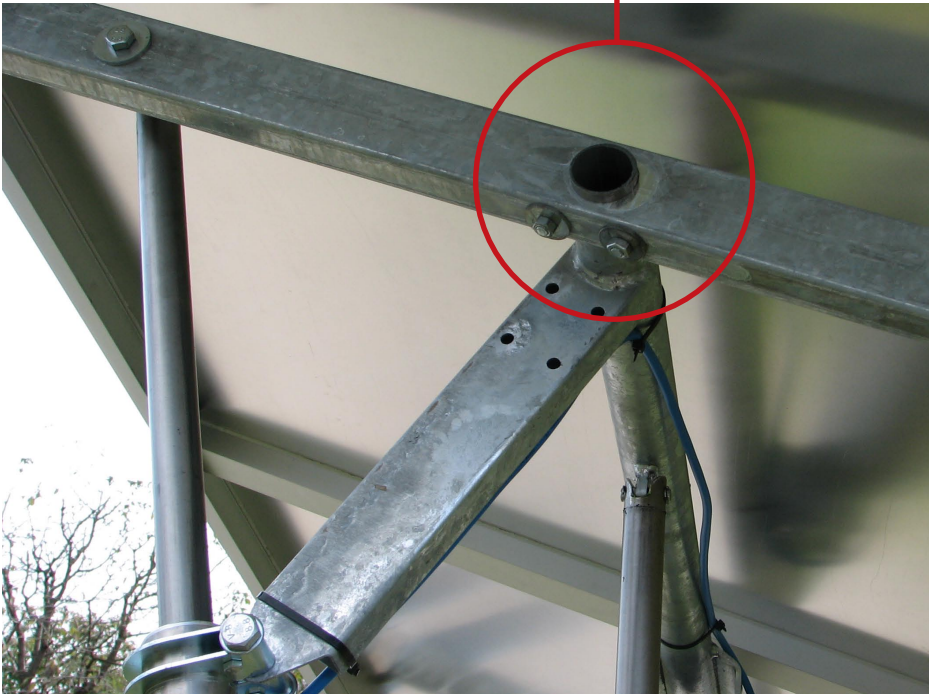












How to set the Motor Box!

Followed pictures includes Solar Tracker panels instead of heliostats, dont be confused, setting the Motor Box is the same for Heliostats and Solar Tracker Panels!!!

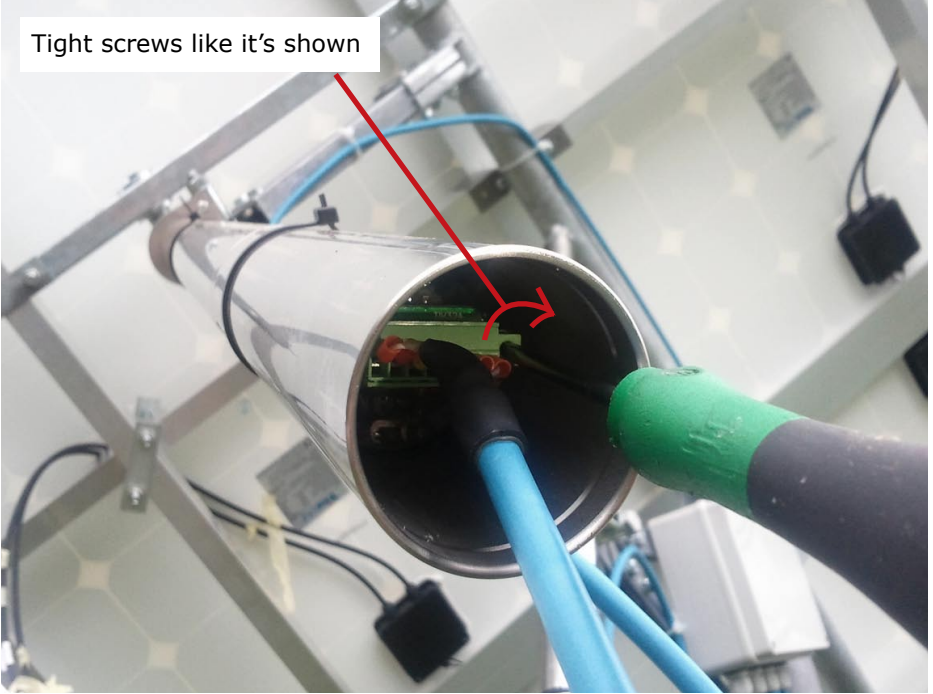


2 screws are already inside the connector



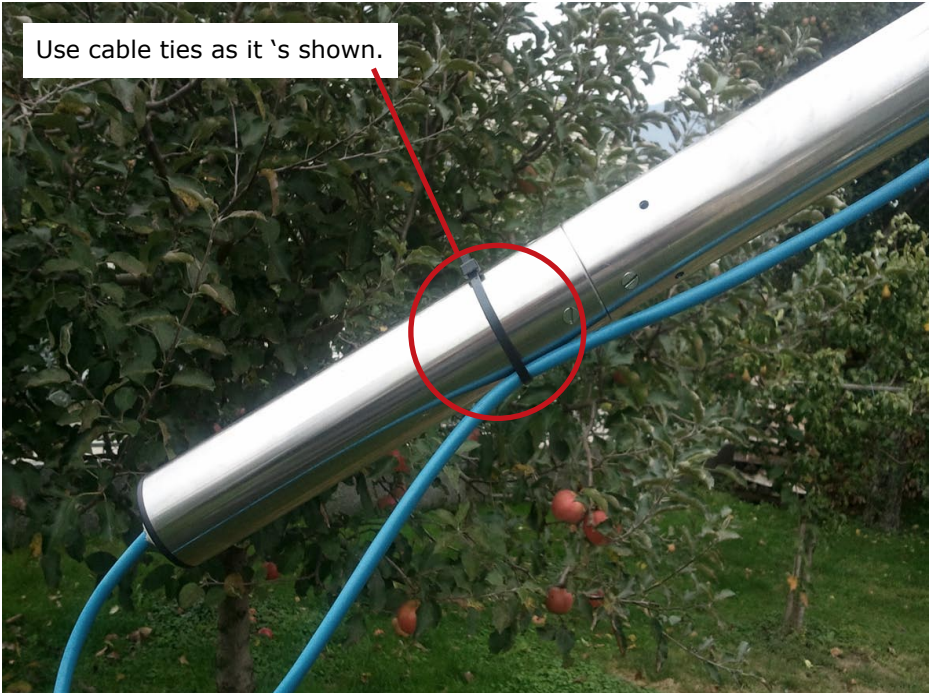


Tight screws like it's shown

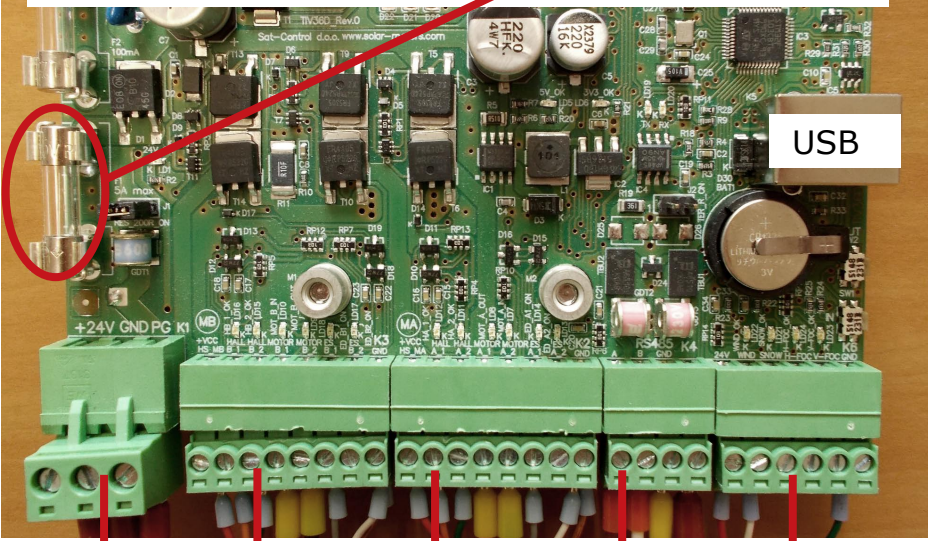




Use cable ties as it 's shown.

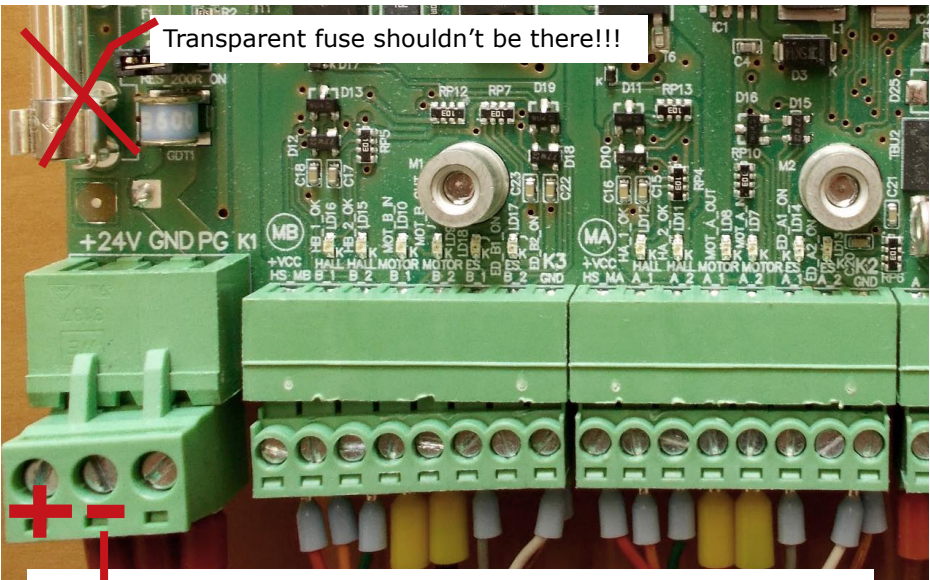


Before wiring junction box, take out the transparent fuse so indicator on connection board turns off.

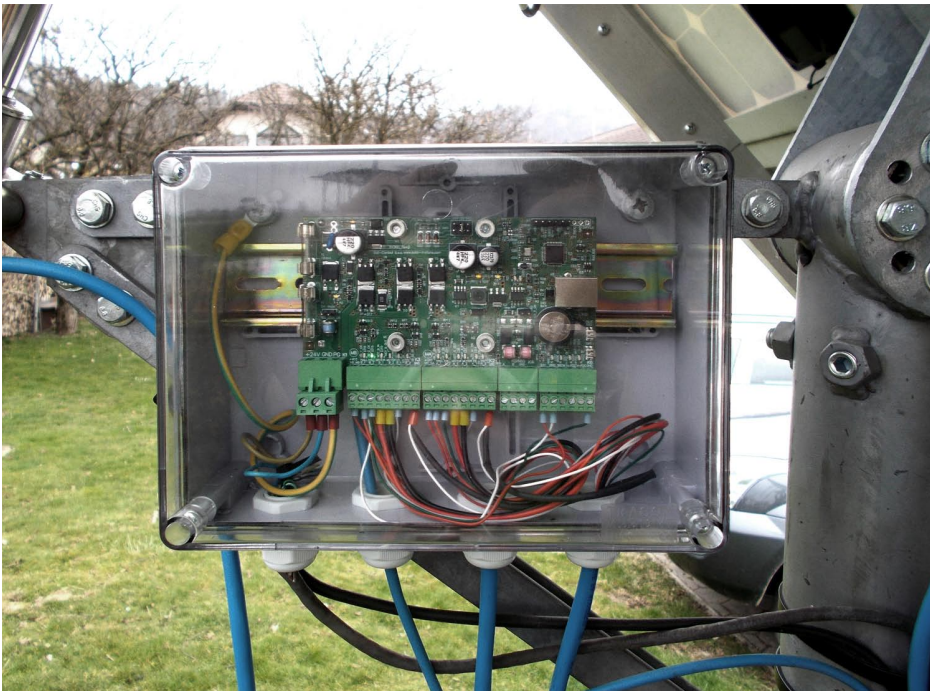
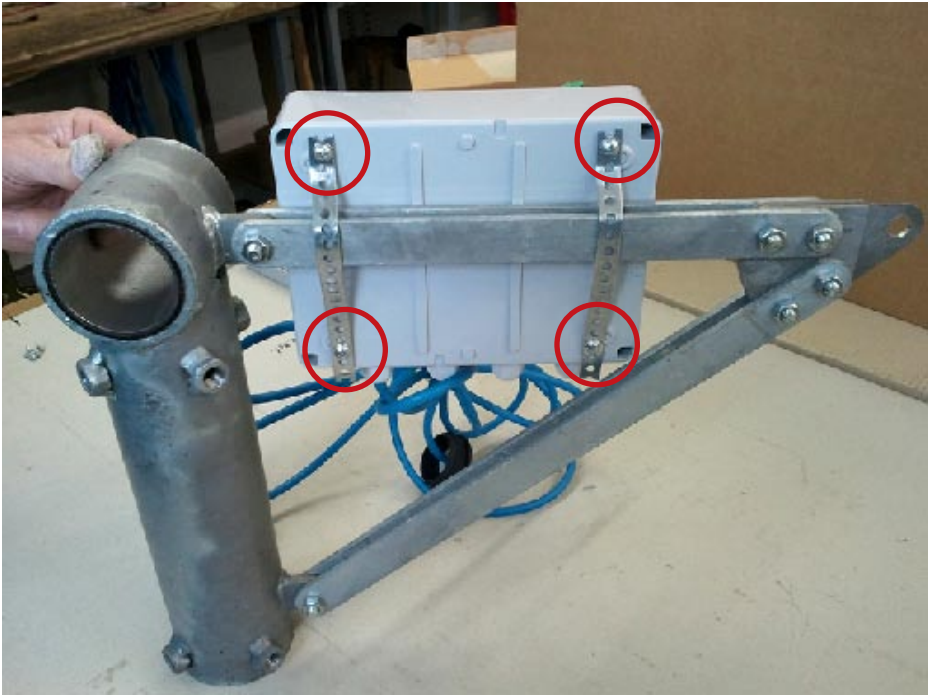


power supply motor B motor A RS485 wind sensor & optionally optical sensor

Transparent fuse shouldn't be there!!!

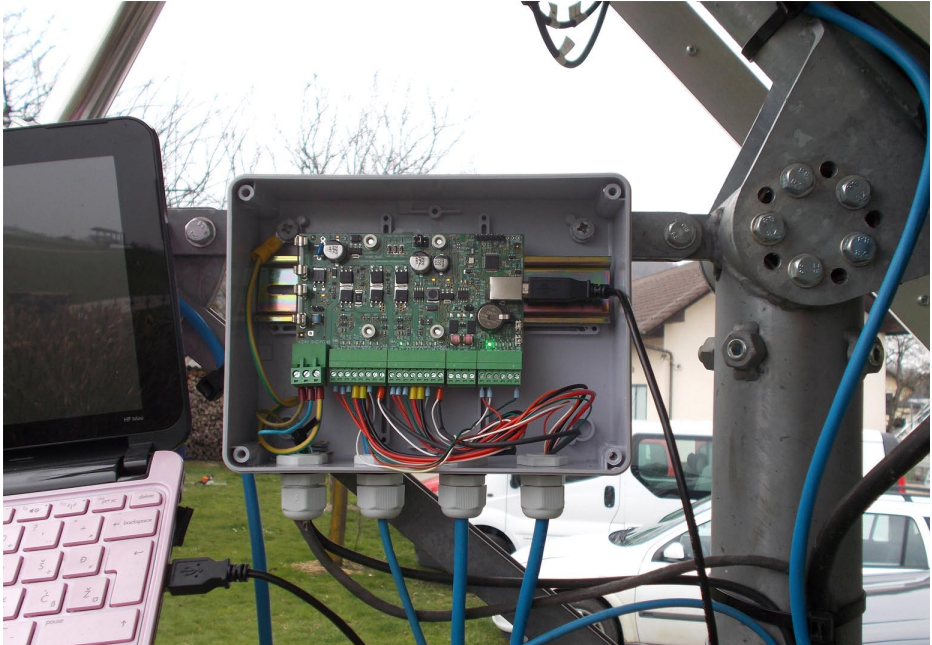


Before you connect power system be aware of plus and minus in a right terminal. Connect one wire into the plus and the other one into the minus!



FIRST CONNECTION OF TRACKER TO A PC OVER AN USB CONNECTION DRIVER INSTALLING

- Connect your PC to the tracker using the enclosed communication cable. Use the USB port on your computer.



- Computer will require its driver installation. Let windows choose your driver automatically. When the driver is not found install latest custom windows updates.

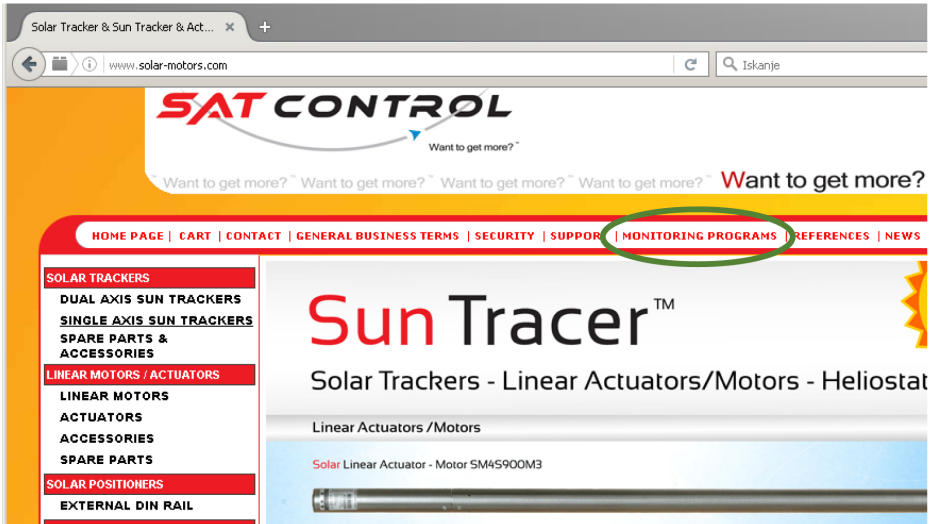


- When the next window appear, click on "No, not this time" and than **Install the software automatically** .

HOW TO SETUP HELIOS ANALYTICS

STEP-BY-STEP INSTRUCTIONS:

1. Download Helios analytics from www.solar-motors.com to C:\Users\USER\Downloads



<http://www.solar-motors.com/gb/monitoring-programs-d489.shtml>

Home page > MONITORING PROGRAMS

Helios Analytics (ver 2.0.3)

This is a program to monitor and setup the Solar Trackers. It is fully compatible substitution for older web based "WebMonitor" program.
The program support now English and German language.
Usage is allowed only with products made by SAT CONTROL.
for WINDOWS 7 and WINDOWS 8 (with pre-installed Framework 4.0)
(to get the VCP driver working you MUST update WINDOWS 8 with all security and all custom updates !!!)

Download Helios Analytics

for WINDOWS XP and WINDOWS VISTA (without Framework 4.0 installed yet)

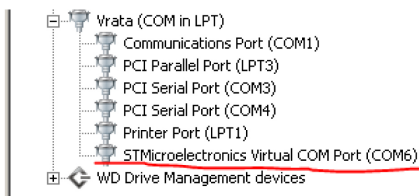
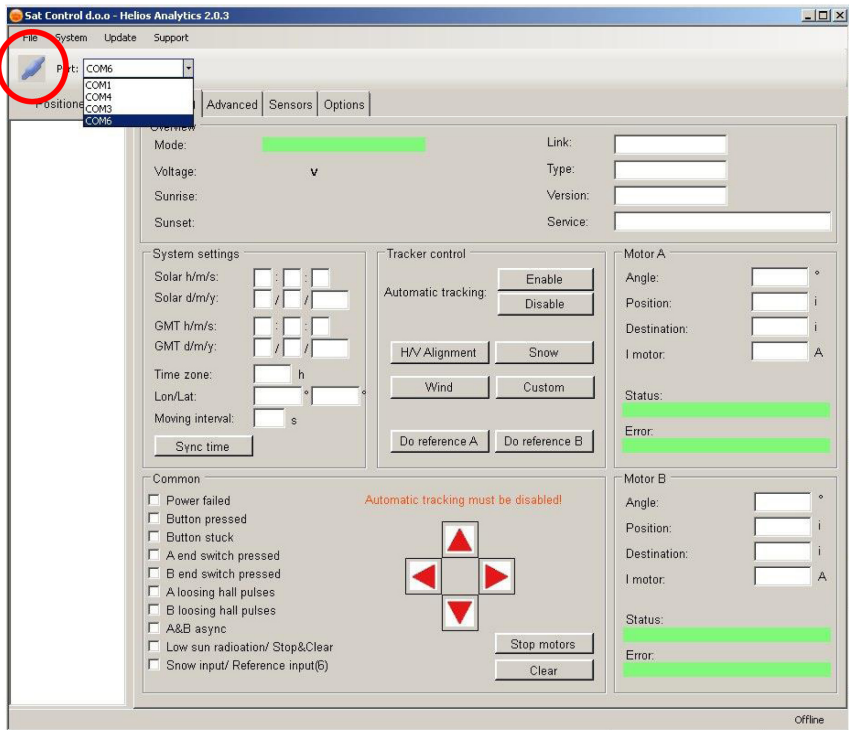
Download Helios Analytics

Serial port driver installation file for WIN XP, WIN VISTA, WIN 7, WIN 8
(to get the VCP driver working you MUST update WINDOWS 8 with all security and all custom updates !!!)

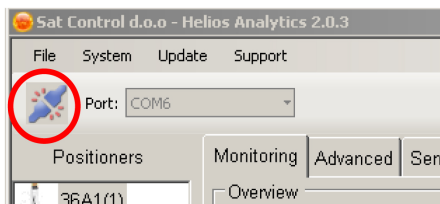
Helios Analytics 2.0.3 - User manual.pdf

[Old Helios Analytics 1.8](#)
[German version of old Helios Analytics 1.8](#)

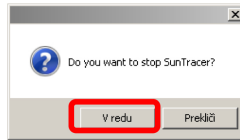
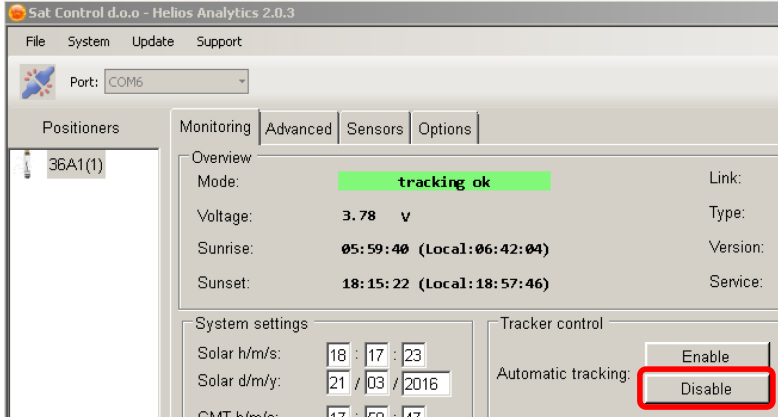
2. Extract downloaded file to disk C:\Program Files (x86)\HELIOS
3. Run or open HeliosAnalytics.exe from the folder where all other original files and folders are. If you want to run from desktop, make shortcut on desktop! Do not copy this file on desktop, because will not work!



4. Choose right COM port. You can check which COM port in -> START -> COMPUTER -> PROPERTIES -> DEVICE MANAGER -> PORTS COM & LPT -> check for STMicroelectronics Virtual COM port (COMx) (x is a number). In our case, we choose COM6 and press connect. (the button left beside COM ports).

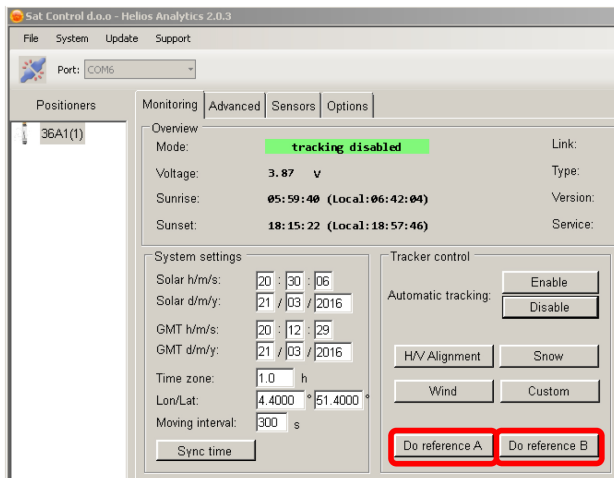


- The numbers appear and link is counting; now disable tracking in case tracking enabled.



- Click "Do reference A" and confirm action to initiate a position calibrating for motor A. When motor A stops, click "Do reference B" and confirm action to initiate a position calibrating for motor B

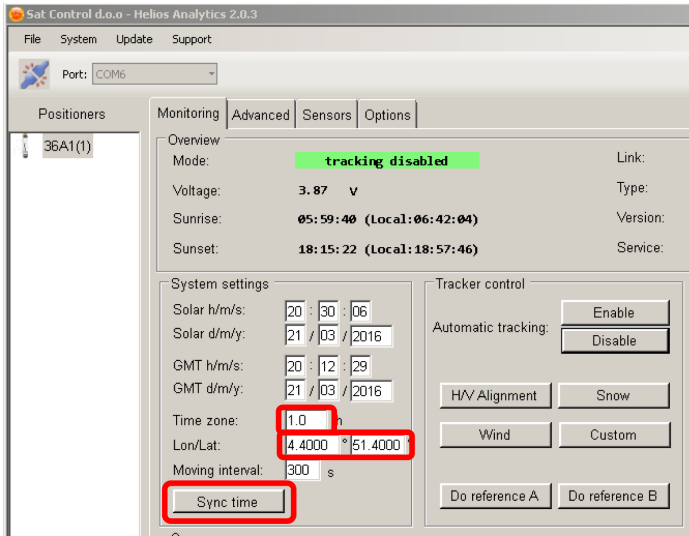
WARNING: Before proceeding to this step, make sure that all connectors are plugged in all wires and screws are properly tied in junction box and on motor's side! If not, all further actions can lead to serious damage of tracker! The power 24VDC must be on!



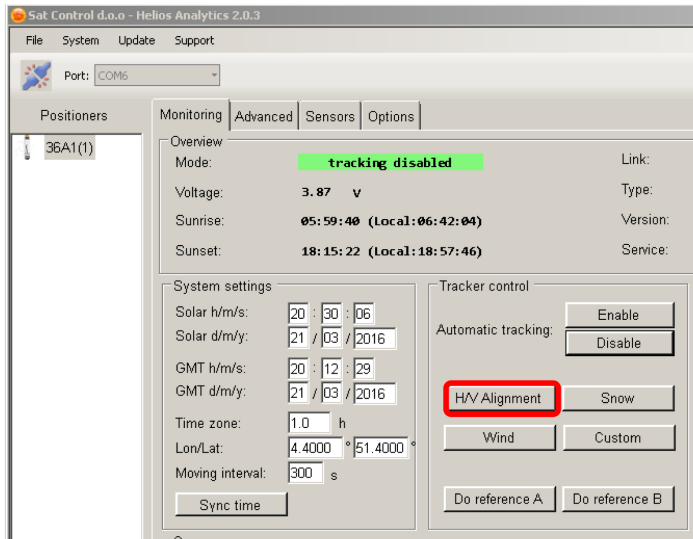


Click “Do reference A” and confirm action. When motor A stops, click “Do reference B”. You can proceed when motor stops moving and both positions are same as parameter “min range A” and “min range B” under tab Advanced parameters. Important Note: The motor fully retracts then goes to “min range A/B”. Check whether motor position is “0” (or “min range A/B” in case it is different from 0) when motor stops. In case it is not, please contact us. For additional information, refer to Helios Analytics manual.

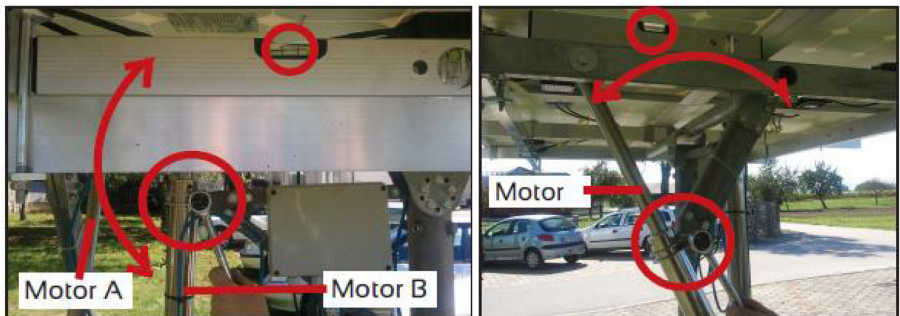
7. Sync time, set Longitude and Latitude and time zone of yours’s solar tracker position. (minus sign is WEST)



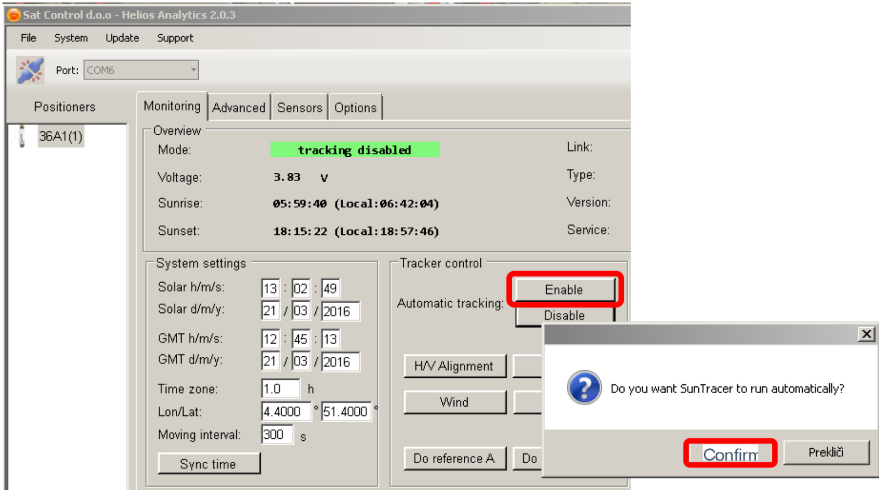
- After the calibration is finished and motors stops, press H/V alignment to initiate horizontal alignment. After motors stops, make mechanical calibration so, that you loosen the clamp of stator part of linear motor; adjust plate with solar panels fully horizontally with help of spirit level, then tight clamp back. Do it so by both linear motors. **WARNING**: At the time of horizontal alignment, check if parameter Min. range A is zero and parameter Min. range B is zero in Advanced tab. When are not zero, then set it to zero (both).



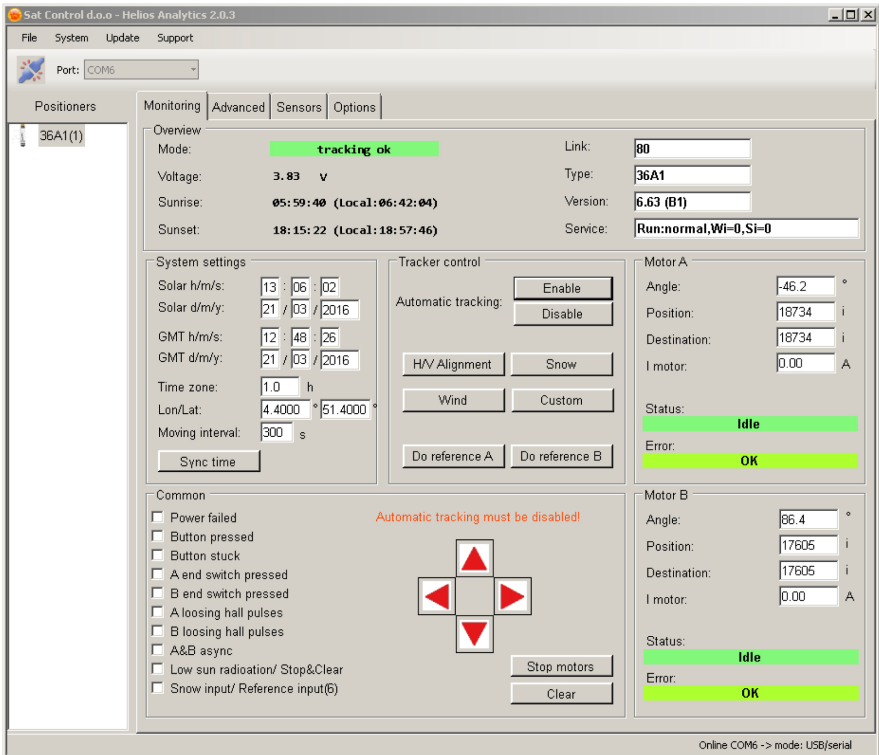
See photos of horizontal aligning.



9. Enable tracking



Start to use the Helios analytics and discover the advantages and benefits with help of user manual for Helios analytics.



DECLARATION OF CONFORMITY
according to ISO/IEC Guide 22 and EN 45014

Company/Manufacturer's Name: Sat Control d.o.o.

Address: Poženič 10, SI-4207 Cerklje, Slovenia / EU

declares under its sole responsibility, that the product

Product name: Solar Tracker

Model number: ST44M2V4P, ST44M2V3P, ST44M2V2P, ST40M2V3P, ST40M2V2P

Product options: (+) All

conforms to the following directives and/or standards

- EN 55013 :97 +A12 :97 +A13 :97 +A14 :00
- EN 55020 :95 +A11 :97 +A12 :00 +A13 :00 +A14 :00
- EN61000-3-3 :97
- SIST EN 61000-3-2 :97 +A1 :99 +A2 :00
- IEC 60065 :98

Supplementary Information:

The product herewith complies with the requirements of the following Directives and carries the CE-marking accordingly:

- the Electromagnetic compatibility (EMC) directive 89/336/EEC
- Low voltage equipment directive 73/23/EEC



Signed for and on behalf of
Director of
Sat Control d.o.o.
Bogdan Bolka



Place and date of issue

Cerklje, 1st June 2010

(name, function) (signature, stamp)



027-2310

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