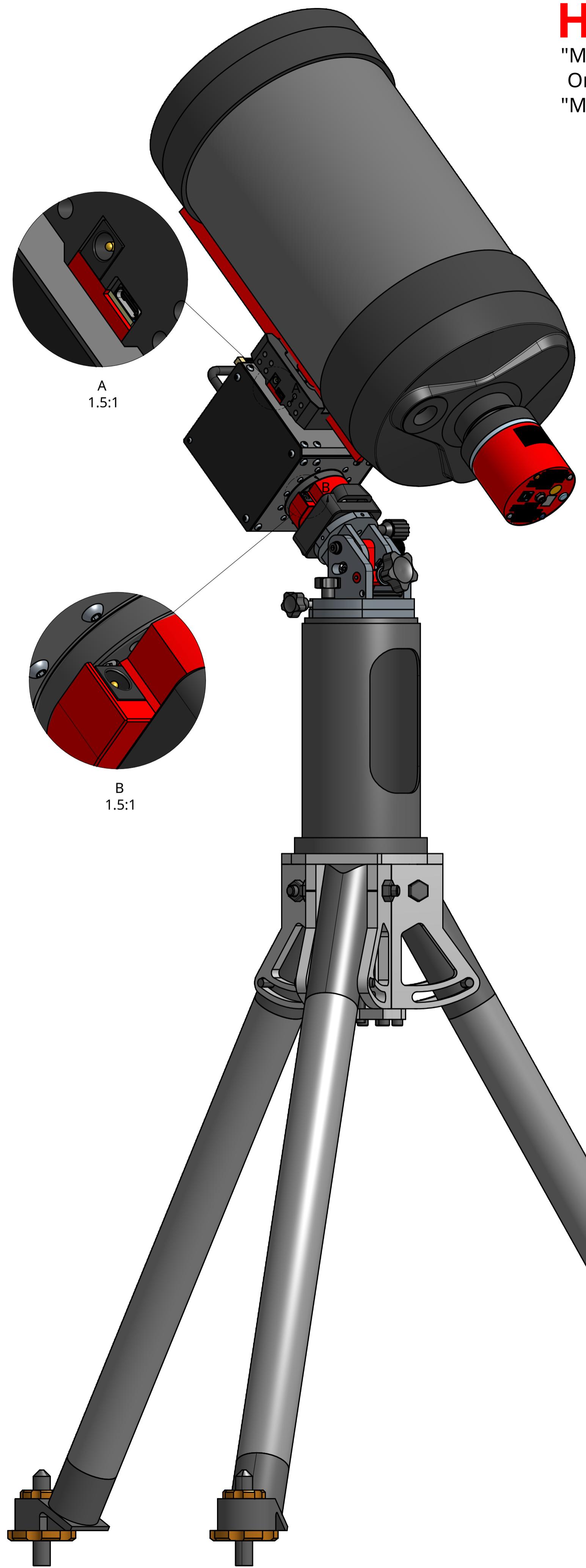


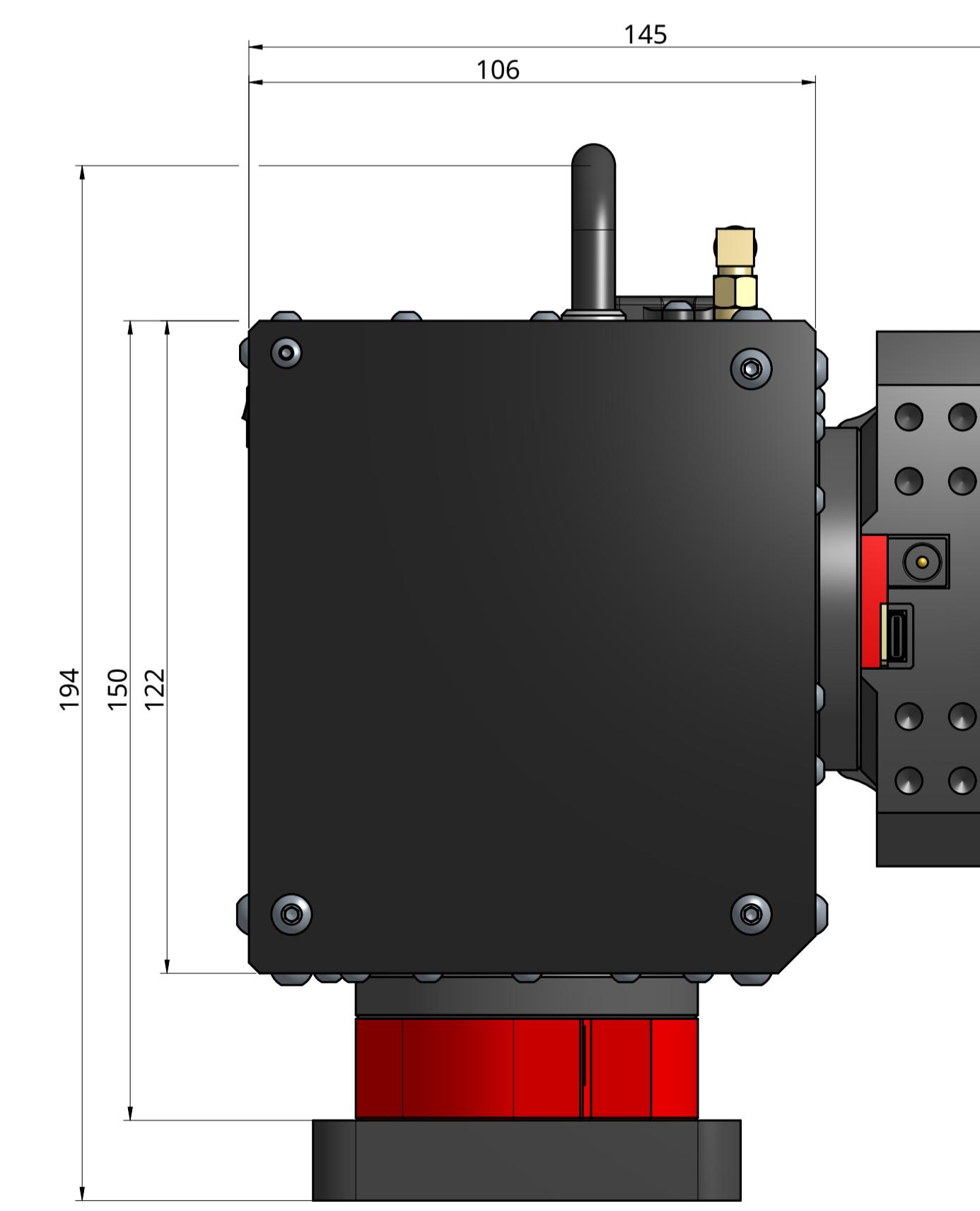
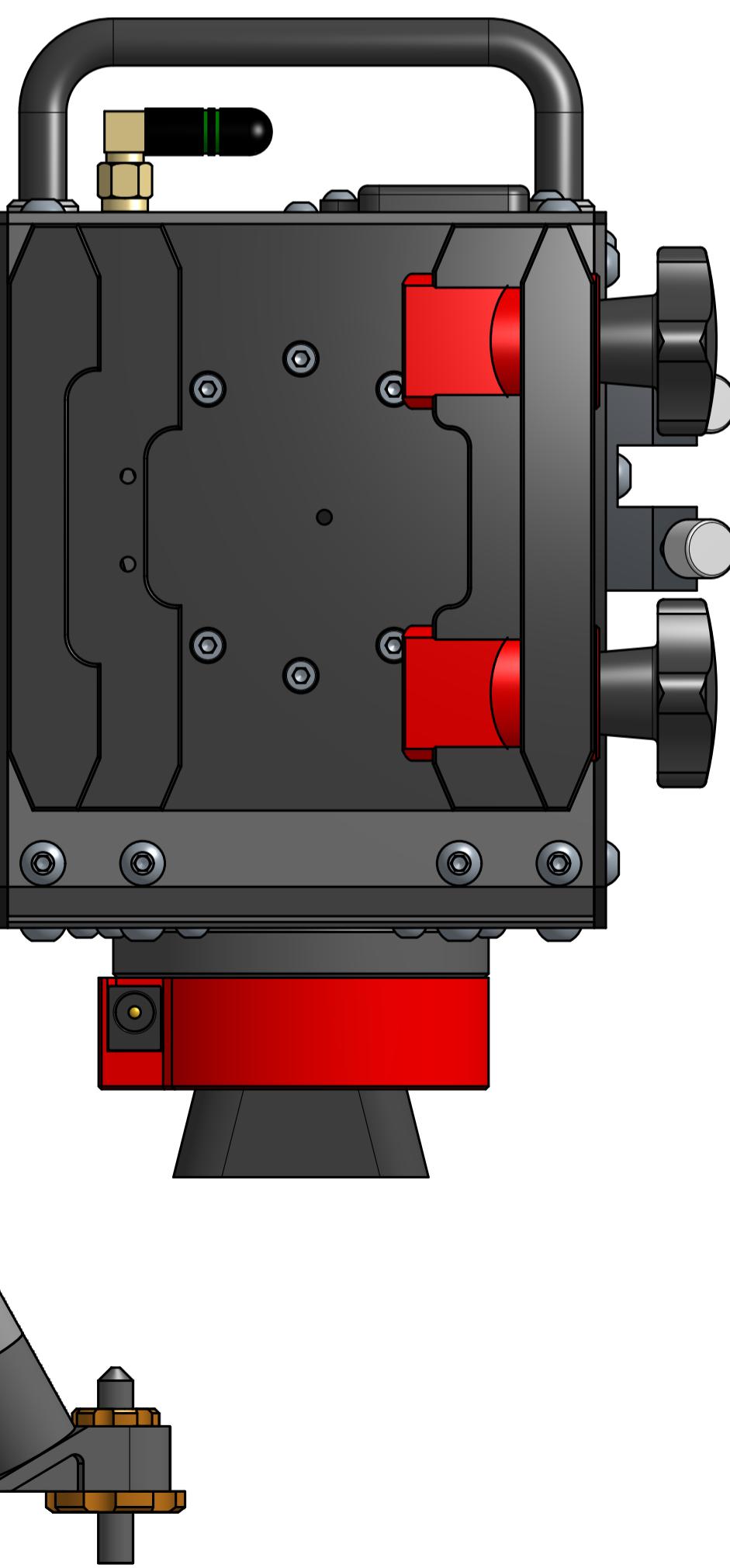
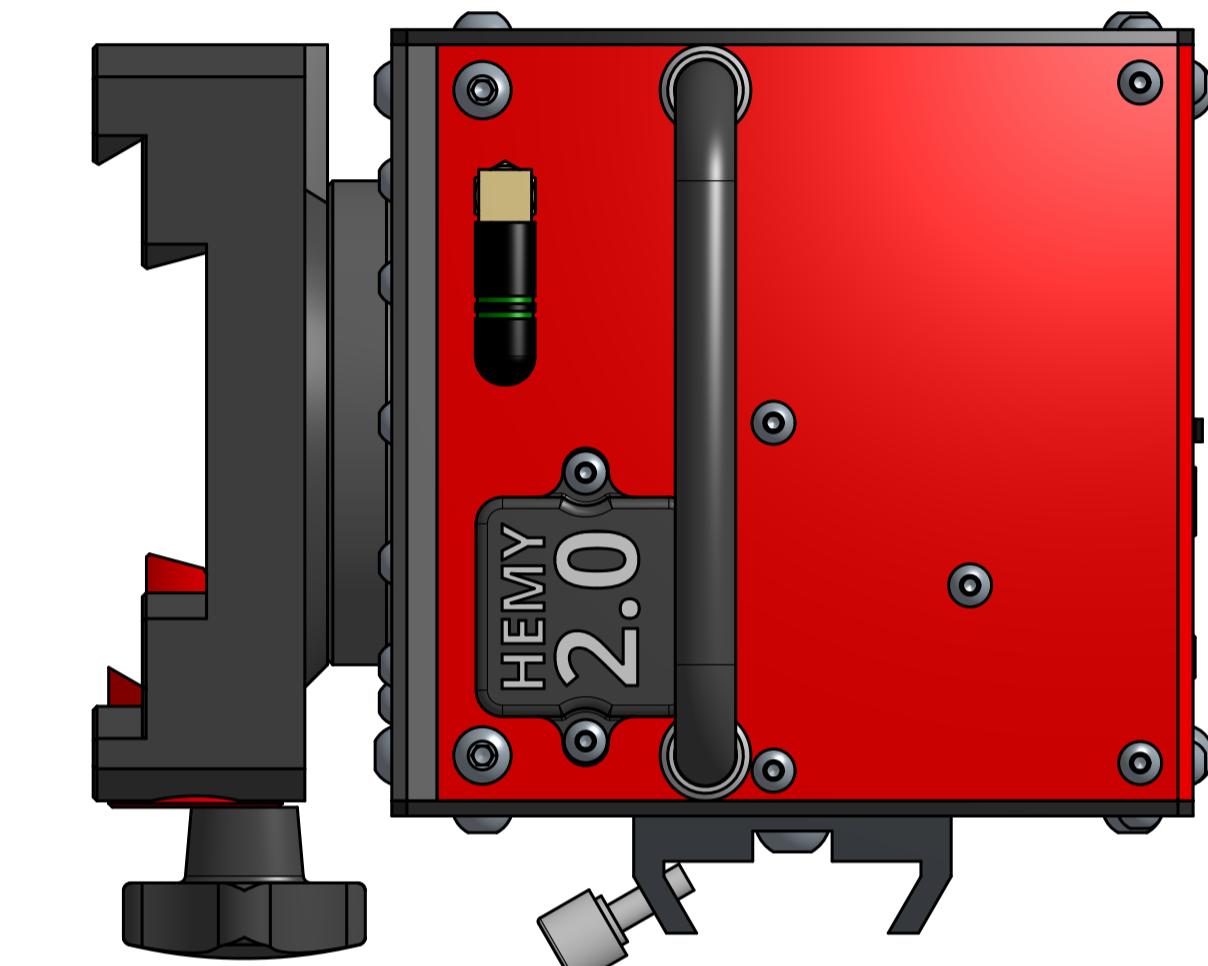
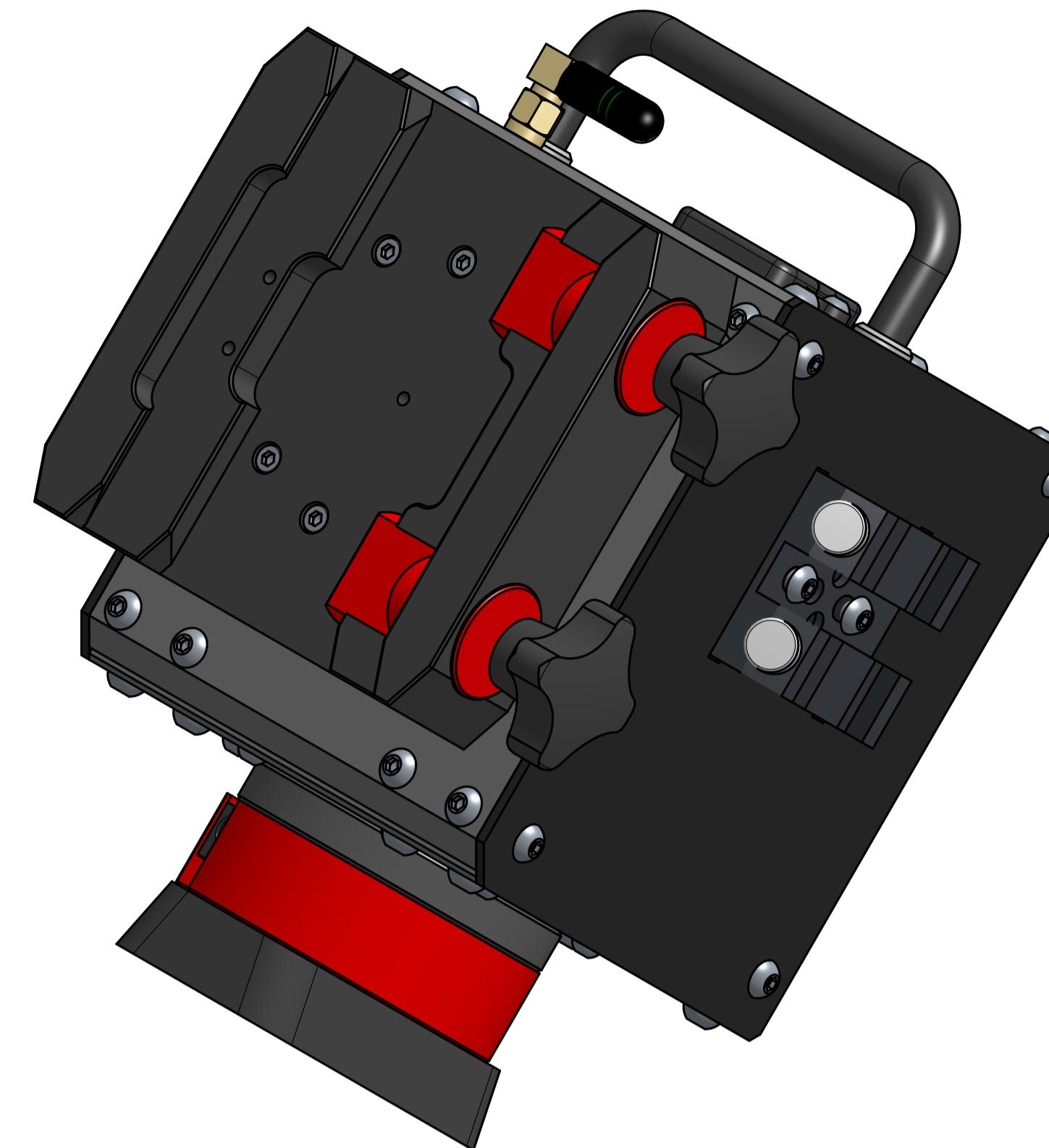
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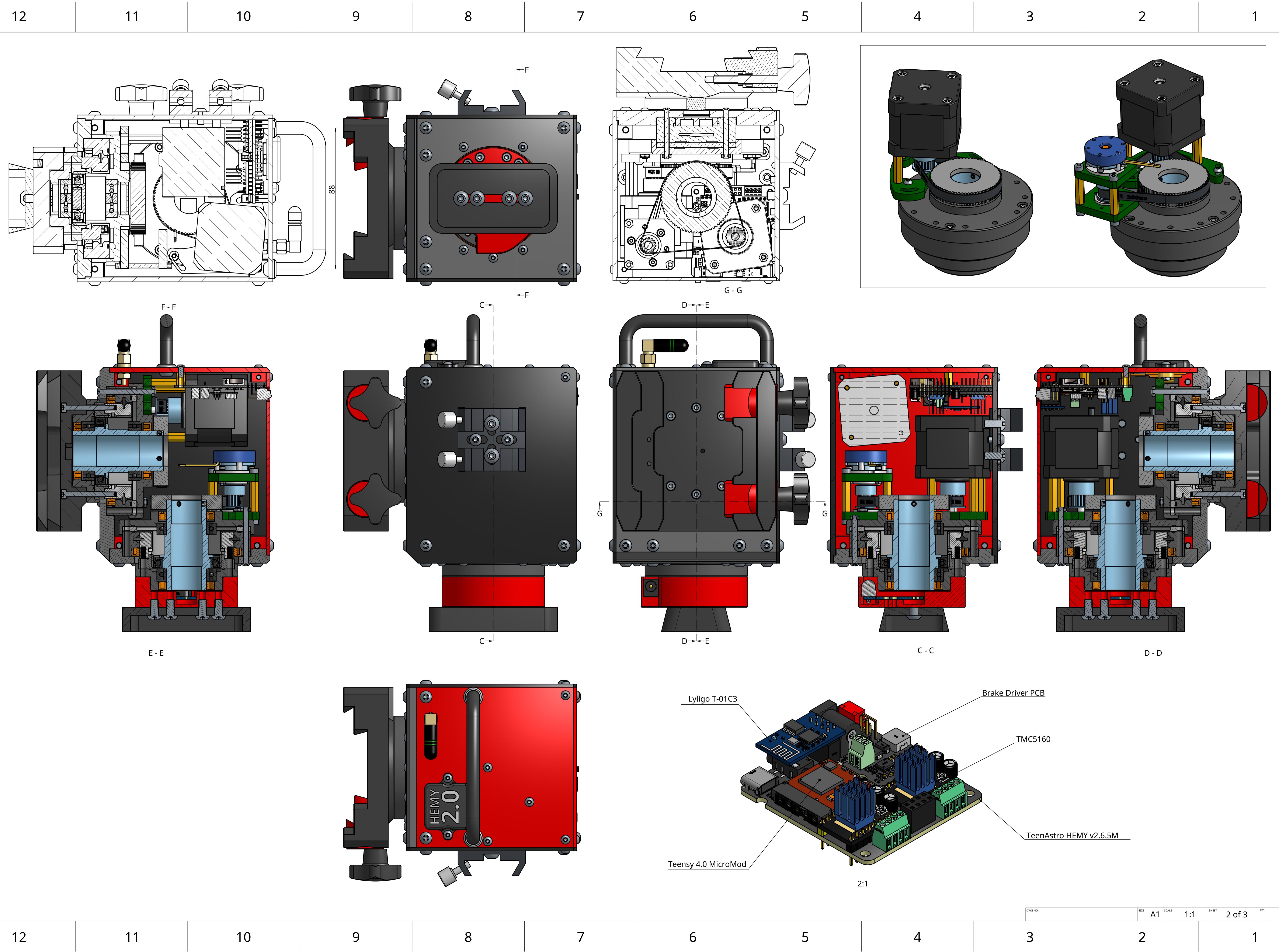
## HEMY v2.0 - Harmonic Equatorial Mount Yourself

"Making your own Harmonic Equatorial Mount out of aluminium?  
Only a moron would do that, even if it's opensource"  
"Moron Yourself!"

Specifications	
Mount Type	Dual Alt-Az/Equatorial
Mount Series	HEMY
License	GPL-3.0 license
Weight Capacity	15 kg
Electronics	TeenAstro included
Mount Slew Speed	5°/s
Motor Type	Harmonic Drive and Synchronous belt
Reduction Ratio RA	350:1
Reduction Ratio DEC	350:1
Resolution	0.14"
Periodic Error Duration	440s
Mount Weight	5 kg
Total price	~ 800\$
Sources	<a href="https://github.com/polvinc/HEMY">https://github.com/polvinc/HEMY</a>
Power	12V 3A, 5.5x2.1 connector
Connections	USB-C, Wifi, Bluetooth
Ergonomics	Power via DC connector on vixen plate, transferring 12V to vixen/losmandy clamp. USB-C connection on mount or clamp.
Base	e.g. Proxsky Alt/Az Base
Base coupling	Vixen plate



UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN MILLIMETERS		NAME	SIGNATURE	DATE
SURFACE FINISH	ANGULAR = ± *	POLVINC		2025-03-16
DO NOT SCALE DRAWING		CHECKED		
BREAK ALL SHARP EDGES AND REMOVE BURRS		APPROVED		
FIRST ANGLE PROJECTION				
	MATERIAL	FINISH	SIZE A1 DWG NO. REV.	
SCALE 1:1	WEIGHT		1 of 3	



Item	Quantity	Part number	Description	Title 1	Title 2
1	1	CNC	A01 - Main frame A	\$19	<a href="https://jlccnc.com/">https://jlccnc.com/</a>
2	1	CNC	A02 - Main frame B	\$21	<a href="https://jlccnc.com/">https://jlccnc.com/</a>
3	1	CNC	A03 - Lateral plate A	\$10	<a href="https://jlccnc.com/">https://jlccnc.com/</a>
4	1	CNC	A04 - Lateral plate B	\$10	<a href="https://jlccnc.com/">https://jlccnc.com/</a>
5	1	CNC	A05 - Top plate	\$10	<a href="https://jlccnc.com/">https://jlccnc.com/</a>
6	1	CNC	A06 - Bottom plate	\$10	<a href="https://jlccnc.com/">https://jlccnc.com/</a>
7	2	CNC	A07 - Brake support	\$10	<a href="https://jlccnc.com/">https://jlccnc.com/</a>
8	2	CNC	A08 - Motor Support	\$17	<a href="https://jlccnc.com/">https://jlccnc.com/</a>
9	1	CNC	A09 - Dovetail Vixen/Losmandy	\$54	<a href="https://jlccnc.com/">https://jlccnc.com/</a>
10	2	CNC	A10 - RFix Dovetail	\$17	<a href="https://jlccnc.com/">https://jlccnc.com/</a>
11	1	CNC	A11 - Output flange	\$31	<a href="https://jlccnc.com/">https://jlccnc.com/</a>
12	2	CNC	A12 - Pulley 70T CNC (bore 25mm)	\$29	<a href="https://jlccnc.com/">https://jlccnc.com/</a>
13	1	I3D	B01 - Dovetail PCB cover	\$1	<a href="https://jlc3dp.com/">https://jlc3dp.com/</a>
14	1	I3D	B02 - GPS cover	\$1	<a href="https://jlc3dp.com/">https://jlc3dp.com/</a>
15	1	I3D	B03 - GPS antenna support	\$1	<a href="https://jlc3dp.com/">https://jlc3dp.com/</a>
16	1	To buy	C01 - Pulley GT2 - 5mm hole - 16T	<\$1	<a href="https://fr.aliexpress.com/item/32781681772.html">https://fr.aliexpress.com/item/32781681772.html</a>
17	2	To buy	C02 - Pulley GT2 - 5mm hole - 20T	<\$1	<a href="https://fr.aliexpress.com/item/32781681772.html">https://fr.aliexpress.com/item/32781681772.html</a>
18	1	To buy	C03 - Belt GT2 - 166mm	\$1	<a href="https://fr.aliexpress.com/item/1005007066821495.html">https://fr.aliexpress.com/item/1005007066821495.html</a>
19	1	To buy	C04 - Belt GT2 - 200mm	\$1	<a href="https://fr.aliexpress.com/item/1005007066821495.html">https://fr.aliexpress.com/item/1005007066821495.html</a>
20	2	To buy	C05 - Bearing 625ZZ	<\$1	<a href="https://fr.aliexpress.com/item/1005006995866051.html">https://fr.aliexpress.com/item/1005006995866051.html</a>
21	2	To buy	C06 - Harmonic Reducer ZXK17-100	\$115	<a href="https://fr.aliexpress.com/item/1005006525104869.html">https://fr.aliexpress.com/item/1005006525104869.html</a>
22	2	To buy	C07 - Nema 17 (17HM15-0904S)	\$20	<a href="https://fr.aliexpress.com/item/33017087864.html">https://fr.aliexpress.com/item/33017087864.html</a>
23	1	To buy	C08 - Shaft D5x40	<\$1	<a href="https://fr.aliexpress.com/item/4000473863693.html">https://fr.aliexpress.com/item/4000473863693.html</a>
24	2	To buy	C09 - Screw Square Corner 10x10x6 M3	<\$1	<a href="https://fr.aliexpress.com/item/1005005387777809.html">https://fr.aliexpress.com/item/1005005387777809.html</a>
25	8	To buy	C10 - Screw Square Corner 12x12x12 M4	<\$1	<a href="https://fr.aliexpress.com/item/1005007257652761.html">https://fr.aliexpress.com/item/1005007257652761.html</a>
26	6	To buy	C11 - Spacer M3x21mm FM (3mm)	<\$1	<a href="https://fr.aliexpress.com/item/1005005462128073.html">https://fr.aliexpress.com/item/1005005462128073.html</a>
27	3	To buy	C12 - Spacer M3x19mm FF	<\$1	<a href="https://fr.aliexpress.com/item/1005006049595637.html">https://fr.aliexpress.com/item/1005006049595637.html</a>
28	3	To buy	C13 - Spacer M3x8mm FF	<\$1	<a href="https://fr.aliexpress.com/item/1005006049595637.html">https://fr.aliexpress.com/item/1005006049595637.html</a>
29	1	To buy	C14 - Handle centre dist. 88mm (Mentor 3270.0883)	\$15	Farnell 4216398
30	1	To buy	C15 - Brake (type Nema 11) SWB-003	\$55	<a href="https://fr.aliexpress.com/item/1005006548662343.html">https://fr.aliexpress.com/item/1005006548662343.html</a>
31	1	To buy	C16 - SMA to U.FL cable (15 cm)	\$2	<a href="https://fr.aliexpress.com/item/32806195194.html">https://fr.aliexpress.com/item/32806195194.html</a>
32	1	To buy	C17 - U.FL GPS ant. 25x25mm L15 cm (2108852-1)	\$17	Radiospares 235-1412
33	1	To buy	C18 - Vixen plate (here L80mm)	\$10	<a href="https://fr.aliexpress.com/item/1005008496465572.html">https://fr.aliexpress.com/item/1005008496465572.html</a>
34	1	To buy	C19 - Wifi Antenna	17€	Radiospares 235-1412
35	2	To buy	C20 - Screw Button M6x40 (D<28mm)	\$1	<a href="https://fr.aliexpress.com/item/1005003126830447.html">https://fr.aliexpress.com/item/1005003126830447.html</a>
36	1	To buy	C21 - Viewfinder support (Neewer LS-15)	\$16	Neewer.com
37	1	PCB	PCB01 - TeenAstro HEMY 2.6.5M	\$25	<a href="https://jlpcb.com/">https://jlpcb.com/</a>
38	1	PCB	PCB02 - Lilygo T-01 C3	\$6	<a href="https://fr.aliexpress.com/item/1005007250044931.html">https://fr.aliexpress.com/item/1005007250044931.html</a>
39	1	PCB	PCB04 - Teensy 4.0 MicroMod M2 (DEV-16402)	\$21	Sparkfun.com
40	1	PCB	PCB05 - Brake Driver 1.1	\$16	<a href="https://jlpcb.com/">https://jlpcb.com/</a>
41	2	PCB	PCB06 - TMC5160	\$14	Farnell 3019059
42	3	Screw	S01 - Chamfered plain washer M2		
43	20	Screw	S02 - Chamfered plain washer M3		
44	2	Screw	S03 - Chamfered plain washer M5		
45	3	Screw	S04 - Hex socket head cap M2x0.40 x 10		
46	6	Screw	S05 - Hex socket head cap M3x0.50 x 10		
47	18	Screw	S06 - Hex socket head cap M3x0.50 x 30		
48	6	Screw	S07 - Cone point hex socket set M3x0.5 x 3		
49	8	Screw	S08 - Socket button head M5x0.8 x 10		
50	3	Screw	S09 - Hex thin nut grade A & B M2		
51	23	Screw	S10 - Hex thin nut grade A & B M3		
52	2	Screw	S11 - Socket button head M3x0.5 x 10		
53	6	Screw	S12 - Socket button head M3x0.5 x 12		
54	4	Screw	S13 - Socket button head M3x0.5 x 16		
55	16	Screw	S14 - Socket button head M3x0.5 x 30		
56	4	Screw	S15 - Socket button head M3x0.5 x 35		
57	4	Screw	S16 - Socket button head M3x0.5 x 5		
58	5	Screw	S17 - Socket button head M3x0.5 x 6		
59	6	Screw	S18 - Socket button head M4x0.7 x 10		
60	10	Screw	S19 - Socket button head M4x0.7 x 6		
61	8	Screw	S20 - Socket button head M4x0.7 x 8		

