

DRONESBENCH CERTIFICATE

Risultati prova:

Certif.number	006	
Certificate name	FynovexBatt	
Date	02/05/2019	
Time	11:09:09	
Customer data	.....	
Customer code	CRGRappre	
Customer name	CRG Rappresentanze	
Phone	3336508611	
Mail	info@cgrappresentanze.it	
Address, city	Traversa Tavernola 58	
Postal code	80053	
Drones	.....	
Brand	FlyTop	
Model	FlyNovex	
Drone's ID	FlyNovex	
Use	Mappatura	
Diam.drone [mm]	820	Diameter of drone between the axis of motors
Frame diam. [mm]	855	Frame diameter
Prop.diameter [mm]	380	Propellers diameter
Prop.number	6	Propellers number
Drone weight [g]	5205	Drone weight with max payload
Max diameter [mm]	1200,0	Max diameter of the drone
Frame width [mm]	20	Medium arm of frame width
Battery weight [g]	805	
Batt.type	LiPo	
C Drones battery	35	
C Max Drones battery	55	
Batt.capac. [mAh]	12400	Drones battery capacity
Batt.voltage [V]	25	Drones battery voltage
Inrush batt. [A]	682	C Drones battery
Batt.current [A]	434	Max battery current of work
Plan area [mmq]	84586	Area in plan of the drone
Form coeff.	1	Factor of form coefficente that takes into account the frame in plan
Cruis area [mmq]	60846	Area at the maximum speed of the drone
Form coeff.	1	Factor of form coefficente that takes into account the frame at the maximum speed
Pictures list	.....	
0: File:	FlyNovex 45°.jpg	dim.:352
1: File:	FlyNovex Alto.jpg	dim.:268
2: File:	FlyNovex Fronte.jpg	dim.:434
3: File:	FlyNovex Lato.jpg	dim.:343
Drone components	.....	
1 Batteria	FullPower	6.2 Ah 6S 35-55C
2 Motori	Tarot	4114 320 KV
3 Eliche	Tarot	15x5.5 Carbon
4 ESC	Afro	30-A opto-esc
5 Imu	V. Robotix	VR Brain STM32F4
6 Frame	Tarot	T960A Hexacopt.

7 GSM	-	GPS w/ comp.
8 Ricevitore	FrSky	Taranis X8R 2.4 G
9 Telecomando	FrSky	Taranis X9D 16 CH
10 Trasmettitore	FrSky	Taranis X9D 16 CH
Wires loss		.....
Cavi motore	0,00000	Length: 0Width 5.26Qty 0
Cavi batteria	0,00107	Length: 210Width 3.31Qty 1
Res.power wires ohm	0,00107	Total electric resistance of power wires [ohm]
Conn.' loss		.....
Conn.motore	0,00200	Model: XT90 Dia: 4.5 Qty: 1R[ohm] 0.002
Conn. batteria	0,00200	Model: XT90 Dia: 4.5 Qty: 1R[ohm] 0.002
Res.plugs ohm	0,00400	Total electric resistance in the plugs [ohm]
Total res. ohm	0,00507	Total electric resistance [ohm]
Test in act		.....
Temperature [°C]	31	Air temperature
Atm.pressure [mbar]	1008	Air pressure
Humidity [%]	28	Air Humidity
Air density [kg/m3]	1,149	Air density
Test duty [s]	46,39	
Samples n.	113	
Hov.Samples	4	
Drone weight [qr]	5203	
Energy used [Wh]	4,985	Energy used by the drone
Energy loss [Wh]	0,000	Energy loss in the Dronesbench connections
Capacity [Ah]	0,219	Battery capacity used during the test
Medium voltage [V]	22,712	
Medium current [A]	27,8	
Capacity [Ah]	0,219	Battery capacity used during the test
Medium power [W]	631,274	
Take off measures		.....
DBIs [mN/W]	86,0	
DBIs min [mN/W]	85,1	
DBIs max [mN/W]	86,6	
DBI error [%]	1,5	
DBI [mN/W]	78,1	
Noisiness [db]	90	Medium loudness received into the head [db]
Fxy [qrF]	662	
Medium voltage [V]	22,900	
Medium current [A]	29,1	
Medium power [W]	666,40	
Max Payload with radiocontrol		.....
Max payload [grF]	3102	
DBIs [mN/W]	72,7	

Thrust/weight [%]	160	Ratio between maximum thrust and weight [%]
St.thrust/weight [%]	170	Ratio between standard maximum thrust and weight [%]
Max noisiness [db]	97	Max noisiness received into the head [db]
Fxy [qrF]	795	
Voltaqe [V]	21,400	
Current [A]	58,8	
Power [W]	1258,32	
Max DBI measures		.....
DBIs [mN/W]	108,7	
DBI [mN/W]	98,7	
Thrust var.for dbi	100	Maximum thrust variation to measure DBI
Power var.for DBI	10000	Maximum power variation to measure DBI
Thrust [qrF]	2277	
Fxy [qrF]	468	
Voltaqe [V]	23,300	
Current [A]	9,9	
Power [W]	230,67	
Values from calculation		.....
max altitude m	5195	max theoretical altitude of the drone
St.thrust/weight [%]	170	Ratio between standard maximum thrust and weight [%]
Max pitch [°]	51	Pitch at maximum speed
Diff.Speed air [m/s]	10	Difference between air speed out and in of one propeller
Diff.press. [mbar]	1,25	Difference between pressure in and out of propeller
Max vert.thrust [qrF]	8305	Max vert.thrust in all the measures set
Max vert.acc. [m/s ²]	5,96	Max vertical acceleration computed from zero speed
Max vert.speed [m/s]	7,99	Max vertical speed (the quality of the value depends by the quality of the input data)
Max horiz.thrust [qrF]	6473	Max horizontal thrust
Max horiz.acc. [m/s ²]	12,44	Max horizontal acceleration computed from zero speed
Max horiz.speed [m/s]	13,61	Max horizontal speed (the quality of the value depends by the quality of the input data)
Max falling energy [J]	278,54	Max energy during a fall of the drone at motors off
Max horiz.energy [J]	482	Max impact horiz.energy of the drone
Frame loss [%]	3,4	Loss of thrust dues to drone's frame
Connections loss [W]	4,29	Loss of power dues to cables and connectors during the take off
Base consumption W	13,80	Base consumption with motors off
Classe drone	C4	
Area operazioni	A3: fly far from people	
Emissioni RF irradiate		.....
EN55011-A per ambienti ci	Test not done	
EN55011-B per ambienti in	Test not done	
Emissioni condotte del caricabatteria		.....
EN55011	Test not done	
EN55012	Test not done	
EN55013	Test not done	
EN55014	Test not done	
EN55015	Test not done	
EN55022	Test not done	
CISPR	Test not done	

EN61000-3-3	Test not done
EN60555-3	Test not done
EN61000-5 Test di Burst	Test not done
EN61000-4-5 Test di surge	Test not done
Campi continui	Test not done
Campi alternati 50Hz	Test not done

Operator	.....
Operator	Gianmarco
Name certifying company	DPM Elettronica S.r.l.
Address City	Via Sant'Alfonso De' Liguori 61
Postal code	71121
Phone	3888562491
mail	g.durso@dronesbench.com

Bench loss	.....
Rtesta[mOhm]	5,800

Parameters of the measure head		.....
#0	Dec	Parameter
#1	428	Offset straingage 1
#2	773	Offset straingage 2
#3	673	Offset straingage 3
#4	2975	K straingage 1
#5	2475	K straingage 2
#6	2475	K straingage 3
#7	200	Head diameter
#8	1911	Head weight
#9	40	Maximum strain gage strenght
#10	15000	Maximum drone's weight
#11	6	Head resistance (mOhm]
#12	3873	Current n0
#13	488	Current m
#14	6814	voltage m
#15	1325	Arm weight
#16	9402	Arm length
#17	23150	K straingauge 4
#18	-43	offset straingauge
#19	1039	Measure compensation
#20	-1	Resistance before head
#21	-1	Resistance after head
#22	-1	aux
#23	-1	aux
#24	-1	aux
#25	7478	

Hov. range gr	10	
Filter	4	Filter of the measures
Filter threshold	1000	Threshold between 2 measures to have the filter working
Auto stop test		.....
Burn in (min)	480	

Autonomia [mV]	Off	
	11000	
	Off	
Gradienti e allarmi		.....
Measure	DM	Min..Max
Tensione [mV]	100	20000..26000
Corrente [mA]	200	..80000
Indice DBI [mN/W]	1	..
Forza X [qr]	300	..500
Forza Y [qr]	300	..500
Forza Z [qr]	300	..2000
Periodo [s]	600	..
Endowment		.....
Dronometer	Off	Rotation of propeller speed measuring enabled
Dronescale	Off	Dronescale measure head
GY521	ON	Acceleration sensor
GY801	Off	Acceleration and air pressure sensor
BMP280	Off	Pressure sensor inside GY801 enabled
BME280	ON	Air pressure, temperature and umidity
DHT22	Off	Air umidity sensor
En. HX711	ON	Enable reading load cells with HX711
4° HX711	ON	Enable the 4° bottom load cell
Temp.sensor	ON	Enable temperature sensor
Pressure sensor	ON	Air pressure sensor running
Umidity sensor	ON	Umidity sensor running
Noise sensor	Off	Installed noise sensor
New tester	ON	New type of current sensor
BlueTooth	Off	Installed blueTooth

Certificato test tramite banco di misura DronesBench

Tabella misure:

Tempo	Rumore	Forza Z	Forza X	Forza Y	Tensione	Corrente	Potenza	Pot.spec.	DBI	Perd.
0,76	34	5203	0	0	24,8	0,0	-0,7	0	0,00	0
2,49	34	5229	2	28	24,7	0,8	21,0	0	0,00	0
2,87	34	5198	2	-2	24,7	0,9	21,1	0	0,00	0
4,39	34	5202	2	1	24,7	1,0	25,2	0	0,00	0
16,36	34	5220	3	11	24,6	2,9	71,3	0	0,00	0
16,55	34	5167	-15	-6	24,7	2,2	54,1	0	0,00	0
19,21	34	4963	18	9	24,5	6,4	156,4	644	15,22	0
19,40	34	4668	86	-59	24,5	4,7	115,9	215	45,52	0
19,78	34	4412	72	-55	24,5	4,5	110,8	139	70,29	0
20,16	34	4348	79	-75	24,5	4,8	116,7	136	72,09	0
20,35	34	4281	77	-86	24,5	5,5	135,0	146	67,19	0
20,54	34	4179	89	-87	24,4	6,0	147,8	144	68,19	0
20,73	34	3931	127	-88	24,4	7,0	171,2	134	73,15	0
20,92	34	3593	159	-82	24,4	9,9	242,3	150	65,48	1
21,11	34	3478	129	-147	24,3	10,8	262,8	151	64,70	1
21,30	34	3221	138	-201	24,3	9,8	238,1	119	82,01	0
21,49	34	3087	141	-178	24,3	9,5	230,9	109	90,24	0
21,68	34	3126	134	-182	24,3	10,0	241,8	116	84,62	1
21,87	34	3070	183	-183	24,3	8,9	216,5	101	97,03	0
22,06	34	3116	186	-178	24,2	11,1	267,7	128	76,82	1
22,25	34	2861	238	-170	24,2	12,0	290,0	123	79,61	1
22,44	34	2724	247	-204	24,2	11,6	280,4	112	87,12	1
23,39	34	2685	230	-230	24,1	11,9	285,8	113	86,81	1
23,58	34	2452	247	-198	24,0	14,0	337,6	122	80,38	1
23,77	34	2144	250	-223	23,9	16,1	386,5	125	78,12	1
23,96	34	1785	267	-211	23,8	18,5	440,7	128	76,65	2
24,15	34	1430	307	-246	23,8	19,5	463,5	122	80,46	2
24,34	34	1394	319	-295	23,8	19,0	451,8	118	83,33	2
24,53	34	1380	317	-320	23,6	20,6	487,5	126	77,57	2
24,72	34	1082	322	-292	23,7	21,5	509,8	123	79,99	2
24,91	34	1082	329	-347	23,7	21,0	497,2	120	82,00	2
25,29	34	924	312	-332	23,5	23,4	552,0	128	76,77	3
25,48	34	811	334	-372	23,5	23,2	545,4	123	79,74	3
25,86	34	689	339	-348	23,4	25,8	605,2	133	73,94	3
26,05	34	527	398	-399	23,4	25,3	592,2	125	78,25	3
26,24	33	495	381	-411	23,4	25,1	587,2	123	79,44	3
26,43	34	483	361	-401	23,4	25,8	603,5	126	77,53	3
26,62	34	226	401	-397	23,3	27,9	650,2	129	75,95	4
26,81	66	190	408	-420	23,2	28,9	668,9	132	74,39	4
27,00	33	-138	405	-414	23,2	29,9	693,2	128	76,52	5
27,19	34	-115	422	-447	23,2	29,0	672,2	125	78,54	4
27,57	33	-126	432	-433	23,1	29,6	685,3	127	77,21	4
27,95	34	-66	415	-471	23,2	28,9	668,9	125	78,20	4
28,14	34	-40	469	-461	23,1	29,2	674,9	127	77,13	4
28,90	34	-41	452	-465	23,0	28,9	665,3	125	78,24	4
29,09	83	-22	454	-465	23,0	29,5	679,8	128	76,33	4
29,47	34	-4	462	-496	23,0	29,3	675,1	128	76,59	4
29,66	35	-63	464	-481	23,0	29,1	668,9	125	78,16	4
29,85	73	-45	432	-454	23,0	29,3	673,9	127	77,32	4
30,23	34	76	439	-445	23,0	29,0	666,9	128	76,33	4
31,37	33	-2	415	-475	22,9	29,0	665,6	126	77,64	4
31,56	34	-1	425	-489	22,9	29,1	667,2	127	77,45	4

Certificato test tramite banco di misura DronesBench

Tabella misure:

Tempo	Rumore	Forza Z	Forza X	Forza Y	Tensione	Corrente	Potenza	Pot.spec.	DBI	Perd.
31,94	33	-83	437	-454	22,9	29,4	673,1	126	77,98	4
32,32	34	-166	471	-459	22,9	29,7	679,0	125	78,53	4
32,70	34	-52	469	-478	22,9	29,2	668,5	126	78,06	4
33,08	34	14	492	-464	22,9	29,0	664,7	126	77,52	4
33,85	34	104	486	-458	22,8	28,7	655,1	127	77,27	4
34,03	34	105	492	-472	22,8	28,9	660,8	128	76,60	4
34,23	34	2	507	-468	22,8	29,0	662,8	126	77,91	4
34,41	34	-127	492	-428	22,6	36,0	813,4	150	65,27	7
34,60	34	-555	512	-498	22,5	37,1	833,8	142	68,82	7
34,79	34	-813	512	-509	22,4	38,1	853,5	139	70,29	7
34,98	34	-1319	527	-479	22,0	48,3	1060,0	159	61,66	12
35,17	90	-2519	529	-372	21,7	58,8	1277,7	161	60,88	18
35,36	43	-3060	674	-494	21,6	58,8	1269,3	149	65,59	18
35,56	93	-3069	567	-512	21,7	58,3	1266,0	149	65,81	17
35,75	62	-2957	602	-514	21,5	57,6	1240,9	148	66,22	17
35,94	50	-2978	557	-507	21,6	58,6	1264,0	150	65,21	17
36,13	57	-2922	641	-507	21,5	57,3	1232,1	148	66,40	17
36,32	93	-3045	639	-502	21,4	58,9	1262,3	149	65,84	18
36,50	70	-3090	616	-516	21,5	56,7	1216,4	143	68,63	16
36,70	37	-3102	638	-474	21,4	58,8	1257,3	147	66,56	18
36,89	73	-2937	616	-501	21,5	56,6	1217,7	146	67,28	16
37,08	56	-2979	648	-507	21,4	57,9	1236,5	147	66,66	17
37,27	86	-2964	664	-527	21,5	57,2	1229,5	147	66,88	17
37,45	76	-2902	708	-543	21,3	57,5	1226,2	147	66,57	17
37,65	75	-2948	656	-518	21,4	57,8	1236,8	148	66,38	17
37,83	51	-2834	688	-508	21,3	56,9	1212,8	147	66,73	16
38,03	82	-2939	693	-481	21,3	58,3	1240,6	148	66,13	17
38,22	70	-2835	663	-491	21,3	56,6	1204,8	146	67,17	16
38,41	91	-2917	707	-505	21,2	58,2	1236,6	148	66,17	17
38,60	92	-2721	696	-513	21,3	55,9	1193,4	147	66,83	16
38,78	43	-2792	715	-512	21,2	57,7	1223,0	149	65,86	17
38,98	43	-2881	703	-450	21,4	57,0	1217,9	147	66,84	16
39,16	42	-2760	695	-477	21,2	57,1	1210,9	148	66,23	17
39,36	39	-2614	624	-458	21,3	56,8	1210,1	151	65,04	16
39,55	74	-2621	661	-469	21,2	56,3	1193,8	149	65,98	16
39,74	35	-2756	669	-492	21,2	57,1	1211,6	148	66,17	17
39,93	63	-2586	770	-550	21,2	56,0	1185,6	148	66,13	16
40,12	51	-2639	732	-559	21,2	57,1	1207,3	150	65,43	16
40,31	92	-2812	669	-515	21,4	52,5	1120,1	136	71,89	14
40,50	77	-2213	743	-518	21,6	45,2	976,6	129	76,02	10
40,69	52	-1348	717	-546	21,9	36,5	799,1	120	81,71	7
40,88	36	-944	640	-450	22,0	34,6	762,7	122	80,27	6
41,07	49	-562	596	-424	22,1	33,2	734,5	125	78,11	6
41,26	34	-283	616	-437	22,3	28,8	641,4	115	84,94	4
41,45	43	12	605	-414	22,5	25,4	569,5	108	90,37	3
41,64	34	644	574	-415	22,6	19,9	450,7	98	100,04	2
41,83	33	1388	517	-409	22,7	18,5	420,8	109	89,61	2
42,02	34	1468	476	-308	22,8	17,3	394,5	105	93,54	2
42,21	34	1666	441	-310	22,9	15,7	359,3	101	97,18	1
42,40	34	1951	431	-332	23,0	13,3	306,0	94	104,81	1
42,59	34	2163	408	-326	23,1	12,9	297,3	97	100,82	1
42,78	34	2418	416	-328	23,1	10,5	242,4	87	113,17	1
43,16	34	2764	366	-284	23,2	10,1	235,0	96	102,25	1

Certificato test tramite banco di misura DronesBench

Tabella misure:

Tempo	Rumore	Forza Z	Forza X	Forza Y	Tensione	Corrente	Potenza	Pot.spec.	DBI	Perd.
43,54	34	2899	359	-279	23,2	10,5	243,9	105	93,09	1
43,92	34	2926	366	-292	23,3	9,9	230,6	101	97,26	0
44,11	34	3266	278	-343	23,5	3,1	72,7	37	261,58	0
44,30	34	4015	127	-161	23,6	2,0	47,4	40	246,14	0
44,49	34	4333	32	-49	23,6	1,9	45,3	52	188,94	0
44,87	34	4633	10	-46	23,6	2,0	47,4	83	118,21	0
46,39	34	4833	-19	-18	23,7	2,1	50,2	135	72,74	0
46,39	34	4833	-19	-18	23,7	2,1	50,2	135	72,74	0