

Note: The byte order for multibyte values is little endian

Byte offset	Length (bytes)	Data type	Meaning	Scale factor [Units]
0	6	ASCII character string	Callsign "ER1TUM"	N/A
7	4	unsigned 32-bit integer	Elapsed mission time	1.0 [seconds]
11	1	unsigned 8-bit integer	OBC boot count	N/A
12	1	8-bit bitfield	OBC reset flags	N/A
13	4	unsigned 32-bit integer	Elapsed time from last boot-up	1.0 [seconds]
17	2	unsigned 16-bit integer	File system error counter	N/A
19	1	unsigned 8-bit integer	last file system error code (refer to FATFS specifications)	N/A
20	2	unsigned 16-bit integer	RF baudrate	1.0 [bits/sec]
22	4	unsigned 32-bit integer	RF transceiver on time from last power-on	N/A
26	1	signed 8-bit integer	RF transceiver temperature	1.0 [degr. C]
27	1	8-bit bitfield	Antenna rods deployment state (4 least significant bits, 1:released, 0: closed)	N/A
28	1	signed 8-bit integer	Panel X+ temperature	1.0 [degr. C]
29	1	signed 8-bit integer	Panel X- temperature	1.0 [degr. C]
30	1	signed 8-bit integer	Panel Y+ temperature	1.0 [degr. C]
31	1	signed 8-bit integer	Panel Y- temperature	1.0 [degr. C]
32	1	signed 8-bit integer	Panel Z+ temperature	1.0 [degr. C]
33	1	signed 8-bit integer	Panel Z- temperature (not used, no data)	1.0 [degr. C]
34	1	signed 8-bit integer	Panel X+ sun sensor output	dimensionless units
35	1	signed 8-bit integer	Panel X- sun sensor output	dimensionless units
36	1	signed 8-bit integer	Panel Y+ sun sensor output	dimensionless units
37	1	signed 8-bit integer	Panel Y- sun sensor output	dimensionless units
38	1	signed 8-bit integer	Panel Z+ sun sensor output	dimensionless units
39	1	signed 8-bit integer	Panel X- sun sensor output	dimensionless units
40	1	signed 8-bit integer	X axis solar panels voltage	0.025 [V]
41	1	signed 8-bit integer	X- panel current	0.008 [A]
42	1	signed 8-bit integer	X+ panel current	0.008 [A]
43	1	signed 8-bit integer	Y axis solar panels voltage	0.025 [V]
44	1	signed 8-bit integer	Y- panel current	0.008 [A]
45	1	signed 8-bit integer	Y+ panel current	0.008 [A]
46	1	signed 8-bit integer	Z axis solar panels voltage	0.025 [V]
47	1	signed 8-bit integer	Z- panel current	0.008 [A]
48	1	signed 8-bit integer	Z+ panel current	0.008 [A]
49	1	unsigned 8-bit integer	Battery voltage	0.025 [V]
50	1	unsigned 8-bit integer	Battery current	0.008 [A]
51	1	signed 8-bit integer	Battery cell 1 temperature	1.0 [degr. C]
52	1	signed 8-bit integer	Battery cell 2 temperature	1.0 [degr. C]
53	1	unsigned 8-bit integer	Battery charger input voltage	0.025 [V]
54	1	unsigned 8-bit integer	Battery charger input current	0.008 [A]
55	1	unsigned 8-bit integer	5V rail output current	0.008 [A]
56	1	unsigned 8-bit integer	3.3V rail output current	0.008 [A]
57	1	8-bit bitfield	EPS output flags	N/A
58	1	8-bit bitfield	EPS error flags	N/A
59	1	signed 8-bit integer	EPS MCU temperature	1.0 [degr. C]
60	1	unsigned 8-bit integer	EPS reboot counter	N/A
61	2	signed 16-bit integer	X axis magnetometer 1 raw data	100/1711 [uT]
63	2	signed 16-bit integer	Y axis magnetometer 1 raw data	100/1711 [uT]
65	2	signed 16-bit integer	Z axis magnetometer 1 raw data	100/1711 [uT]
67	2	signed 16-bit integer	X axis magnetometer 2 raw data (not used)	100/1711 [uT]
69	2	signed 16-bit integer	Y axis magnetometer 2 raw data (not used)	100/1711 [uT]
71	2	signed 16-bit integer	Z axis magnetometer 2 raw data (not used)	100/1711 [uT]
73	2	signed 16-bit integer	X axis accelerometer raw data	0.98 [mg]
75	2	signed 16-bit integer	Y axis accelerometer raw data	0.98 [mg]
77	2	signed 16-bit integer	Z axis accelerometer raw data	0.98 [mg]
79	2	signed 16-bit integer	X axis gyro raw data	0.07326 [degr/s]
81	2	signed 16-bit integer	Y axis gyro raw data	0.07326 [degr/s]
83	2	signed 16-bit integer	Z axis gyro raw data	0.07326 [degr/s]
85	1	signed 8-bit integer	X axis magnetorquer power level (negative value represent reversed polarity drive)	1.0 [%]
86	1	signed 8-bit integer	Y axis magnetorquer power level (negative value represent reversed polarity drive)	1.0 [%]
87	1	signed 8-bit integer	Z axis magnetorquer power level (negative value represent reversed polarity drive)	1.0 [%]
88	2	unsigned 16-bit integer	pictures taken count	N/A
90	1	ASCII character	Camera rezolution code (ASCII hex)	N/A
91	1	ASCII character	Camera image type (ASCII hex)	N/A
92	1	unsigned 8-bit integer	Camera reset count	N/A
93	1	ASCII character	Camera state (ASCII hex)	N/A
94	4	unsigned 8-bit integer	Byte offset from the beginning of the beacon message where the value 0x0d (carriage return) occurred and replaced with 0xff. Maxf 4 paddings per beacon message	N/A