

Protocol of data interchange with dashboard via UDP.

Client connects to UDP-server in dashboard through UDP-port (menu 'File/Parameters' in dashboard).

Dashboard can also send the packets 0x0001 and 0x0011 to selected host without request.

The transmitted and received data are represented in binary format.

Multibyte values are transmit starting from low byte (little endian).

1. Request from client to read coordinates of the beacon.

1.1. Packet with cm resolution coordinates

Format of request

Offset	Size	Type	Description	Value
0	1	uint8_t	Address of the beacon	
1	1	uint8_t	Type of packet	0x47
2	2	uint16_t	Code of data in packet	0x0001
4	1	uint8_t	Reserved	0x04
5	2	uint16_t	Reserved	0x0000
7	1	uint8_t	Data size to read (bytes)	0x10
8	2	uint16_t	Reserved	

Format of reply from dashboard

Offset	Size	Type	Description	Value
0	1	uint8_t	Address of the beacon	
1	1	uint8_t	Type of packet	0x47
2	2	uint16_t	Code of data in packet	0x0001
4	1	uint8_t	Data size (bytes)	0x10
5	4	uint32_t	Timestamp – time from running of dashboard in 1/64 seconds on the moment of receiving coordinates	
9	2	int16_t	Coordinate X of beacon, cm	
11	2	int16_t	Coordinate Y of beacon, cm	
13	2	int16_t	Coordinate Z of beacon, cm (dashboard v4.37+)	
15	8	8 bytes	Reserved (0)	

1.2. Packet with mm resolution coordinates (dashboard V4.92+, modem/beacon V5.35+)

Format of request

Offset	Size	Type	Description	Value
0	1	uint8_t	Address of the beacon	
1	1	uint8_t	Type of packet	0x47
2	2	uint16_t	Code of data in packet	0x0011
4	1	uint8_t	Reserved	0x04
5	2	uint16_t	Reserved	0x0000
7	1	uint8_t	Data size to read (bytes)	0x16
8	2	uint16_t	Reserved	

Format of reply from dashboard

Offset	Size	Type	Description	Value
0	1	uint8_t	Address of the beacon	
1	1	uint8_t	Type of packet	0x47
2	2	uint16_t	Code of data in packet	0x0011
4	1	uint8_t	Data size (bytes)	0x16
5	4	uint32_t	Timestamp – time from running of dashboard in 1/64 seconds on the moment of receiving coordinates	
9	4	int32_t	Coordinate X of beacon, mm	
13	4	int32_t	Coordinate Y of beacon, mm	
17	4	int32_t	Coordinate Z of beacon, mm	
21	8	8 bytes	Reserved (0)	