

# KBSW180160 Control Bus Protocol

ControlBus slamwarepdfControlBus[ControlBus](#)

Table 1 Request CMD Table

|      |              |     |            |          |                    |
|------|--------------|-----|------------|----------|--------------------|
| u8   | u8           | u8  | u8[]       | u8       |                    |
| Flag | Length       | CMD | Payload[n] | Checksum | Control Bus Packet |
| 0x10 | Length[7:0]  | CMD | Data       | checksum | ----Standard Frame |
| 0x50 | Length[15:0] | CMD | Data       | checksum | ----Long Frame     |

| CMD         | NAME     | DESCRIPTION                  | PAYLOAD[n]         |
|-------------|----------|------------------------------|--------------------|
| 0x00        | SYNC     |                              |                    |
| 0x01        | ECHO     | ECHO Slave                   |                    |
| 0xF8        | CTRL_BUS | Control BusPayload(Table 4). | Control BusTable 4 |
| 0x02 – 0x0F | Reserved |                              | NA                 |

Table 2 Response CMD Table

|      |              |          |            |          |                    |
|------|--------------|----------|------------|----------|--------------------|
| u8   | u8           | u8       | u8[]       | u8       |                    |
| Flag | Length       | Response | Payload[n] | Checksum | Control Bus Packet |
| 0x10 | Length[7:0]  | Resp     | Data       | checksum | ----Standard Frame |
| 0x50 | Length[15:0] | Resp     | Data       | checksum | ----Long Frame     |

| Response | NAME     | DESCRIPTION      | PAYLOAD[n] |
|----------|----------|------------------|------------|
| 0x00     | SYNC     |                  |            |
| 0x01     | ECHO     | ECHO             |            |
| 0x02     | OK       | <OK>             |            |
| 0x03     | ERROR    | <Error>(Table 3) | Table 3    |
| 0xFF     | INVALID  | <Invalid>        |            |
|          | Reserved |                  | NA         |

Table 3 Error Code Table

| Error  | DESCRIPTION |
|--------|-------------|
| 0x10   | Slave       |
| 0x20   | Slave       |
| 0x40   |             |
| 0x8000 | CMD Slave   |
| 0x8001 |             |
| 0x8002 |             |

Table 4 Control Bus Request Table

|             |               |            |                |                |                 |                            |
|-------------|---------------|------------|----------------|----------------|-----------------|----------------------------|
| u8          | u8            | u8         | u8             | u8[]           | u8              |                            |
| <b>Flag</b> | <b>Length</b> | <b>CMD</b> | <b>Request</b> | <b>Data[n]</b> | <b>Checksum</b> | <b>Control Bus Packet:</b> |
| 0x10        | Length[7:0]   | 0xF8       | CTRL_BUS_CMD   | Data           | checksum        | ----Standard Frame         |
| 0x50        | Length[15:0]  | 0xF8       | CTRL_BUS_CMD   | Data           | checksum        | ----Long Frame             |

| Request | NAME                     | DESCRIPTION                | Data[n]          |
|---------|--------------------------|----------------------------|------------------|
| 0x10 *  | CONNECT_BASE             |                            | u8               |
| 0x20 *  | GET_BASE_CONF            |                            |                  |
| 0x21    | GET_BASE_CONF_ADV        | SLAMWARE 0x8000 0x20       |                  |
| 0x30 *  | GET_BASE_STATUS          |                            |                  |
| 0x31 *  | GET_BASE_MOTOR_DATA      |                            |                  |
| 0x32 *  | GET_BASE_SENSOR_DATA     |                            |                  |
| 0x33 *  | GET_BASE BUMPER_DATA     |                            |                  |
| 0x34 *  | GET_CHARGER_DATA         |                            | u8               |
| 0x35    | GET_AUXILIARY_ANCHOR     |                            |                  |
| 0x40 *  | SET_BASE_MOTOR           |                            | s32[4]           |
| 0x41 *  | SET_V_AND_GET_DEADRECKON | Deadreckon                 | Xs32<br>Ys32 s32 |
| 0x50 *  | POLL_BASE_CMD            | SLAMWARE CoreSLAMWARE Core | Table 5          |
| 0x5F *  | POLL_BASE_ANS_CMD        |                            |                  |
| 0x60 *  | SEND_EVENT               | SLAMWARE CORE.(Table 6)    | u8Table 6        |
| 0x90 *  | HEALTH_MGMT              |                            | 0x01             |

\*

Table 5 Control Bus External CMD Table

|             |               |                 |              |                |                 |                            |
|-------------|---------------|-----------------|--------------|----------------|-----------------|----------------------------|
| u8          | u8            | u8              | u8           | u8[]           | u8              |                            |
| <b>Flag</b> | <b>Length</b> | <b>Response</b> | <b>CMD</b>   | <b>Data[n]</b> | <b>Checksum</b> | <b>Control Bus Packet:</b> |
| 0x10        | Length[7:0]   | 0x02            | CTRL_BUS_CMD | Data           | checksum        | ----Standard Frame         |
| 0x50        | Length[15:0]  | 0x02            | CTRL_BUS_CMD | Data           | checksum        | ----Long Frame             |

| CMD  | NAME          | DESCRIPTION   | Data[n] |
|------|---------------|---------------|---------|
| 0x51 | GET_INFO      | SLAMWARE CORE |         |
| 0x52 | RESET_WIFI    | SLAMWARE CORE |         |
| 0x53 | FW_UPGRADING  | SLAMWARE CORE |         |
| 0x80 | START_SWEEP   | ()            |         |
| 0x81 | STOP_SWEEP    | ()            |         |
| 0x82 | SPOT_SWEEP    | ()            |         |
| 0x90 | GET_HEALTH    |               |         |
| 0xA0 | MOVE_FORWARD  |               |         |
| 0xA1 | MOVE_BACKWARD |               |         |
| 0xA2 | TURN_LEFT     |               |         |
| 0xA3 | TURN_RIGHT    |               |         |

|             |                      |  |  |
|-------------|----------------------|--|--|
| <b>0xAF</b> | CANCEL_ACTION        |  |  |
| <b>0xB0</b> | GET_AUXILIARY_ANCHOR |  |  |

**Table 6 Slamcore System Event Table**

| <b>CMD</b>  | <b>NAME</b>        | <b>DESCRIPTION</b> |
|-------------|--------------------|--------------------|
| <b>0x61</b> | LIDAR_CONN_FAIL    | LIDAR              |
| <b>0x62</b> | LIDAR_RAMPUP_FAIL  | LIDAR              |
| <b>0x63</b> | SYSTEM_UP_OK       |                    |
| <b>0x64</b> | FIRMWARE_UPDATE    |                    |
| <b>0x65</b> | CORE_DISCONNECT    |                    |
| <b>0x66</b> | FIRMWARE_UPDATE_OK |                    |
| <b>0x80</b> | START_SWEEP        | ()                 |
| <b>0x81</b> | END_SWEEP          | ()                 |