**SKM FCS Data Collection List**

1. **OSD Module Data Collection**
   1. **Supported NMEA Sentence and physical data pairing**

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| **Sentence** | **Data fisis** |
| GGA | UTC, position (lat,lon,quality) |
| GLL | UTC, position (lat,lon,status,mode) |
| HDT | heading |
| MWD | wind (speed,direction) |
| MWV | wind (speed,direction,status) |
| RMC | UTC, speed (COG,SOG), position (lat,lon,mode) |
| VHW | waterspeed (speed, course) |
| VTG | speed (SOG, COG) |
| XDR | Weather (Pressure, temperature, humidity) |
| ZDA | UTC, date\_time\_zone |
| FPD | Inertia (heading, pitch, roll, heading rate, pitch rate, roll rate) |
| TTM | track |
| ???? | Inertia (heading, pitch, roll, heading rate, pitch rate, roll rate) |

* 1. **Data collection keys and fields**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Syntax** | **Description** | **Type** | **Runtime Life Circle** | **Example** |
| nmea\_sentence\_ data\_fisis\_list “sentence” “data\_fisis1:data\_fisis2” |  | Hash | Persist | * nmea\_sentence\_ data\_fisis\_list “RMC” “position:UTC:speed |
| data\_fisis “source” “input\_id” “data” “value” |  | Hash | * Change with time expire (10 s or 120 for track) * In manual mode no time expire (Persist) | * position “source” “input\_1” “latitude“ “12.3” “longitude” “-90.2” |
| Data\_fisis:source “score” “source” |  | Sorted sets | Persist | * data\_fisis:source “2” “input\_1” “3” “input\_5” “1” “input\_2” |
| source:data\_fisis “data” “value” |  | hash | Change with time expire (10 s or 120 for track) | * Input\_1:wind: “speed “ “12.3” “direction” “90.2” |
| source:track:Data:id “data” “value” |  | hash | Change with time expire (120 s) | * Input\_1:track:[Data:32](data:32) “range” 9.8 “bearing” 90.3 “speed “ “12.3” “course” “90.2” |
| track:Data:id “data” “value” |  | hash | * Change with time expire (120 s) | * track:[Data:32](data:32) “range” 9.8 “bearing” 90.3 “speed “ “12.3” “course” “90.2” |
| comm\_config:input\_id “mode” value“ “serial” “portname:baudrate:dll” “tcp” “ip:port” “udp” “ip:port” |  | hash | Persist | * Comm\_config:Input\_1 “mode” “serial” “serial” “/dev/ttyS0:9600:8:1:None:No” |
| Data\_fisis\_mode “mode” |  | string | Change by operator | * heading “auto” * position “manual” |
|  |  |  |  |  |

1. **Gun Module Data Collection**
   1. **Data collection keys and fields**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Syntax** | **Description** | **Type** | **Runtime Life Circle** | **Example** |
| Engagement “data” “value” | * Field list : mode, azimuth\_status, azimuth, elevation\_status, elevation, azimuth\_corr, elevation\_corr | Hash | * Change * In manual mode azimuth & elevation status always engageable * In manual mode no time expired (Persist) * In manual mode correction discarded | * Engagement “azimuth\_status” “engageable” “azimuth” “23.4” “elevation\_status” “engageable” “elevation” “2.3” * Engagement “mode” “auto” “azimuth\_status” “not engageable” “azimuth” “123.4” “elevation\_status” “engageable” “elevation” “-2.3” |
| Engagement\_mode “value” |  | string | * Changed by user | * Engagement\_mode “manual”, * Engagement\_mode “auto” |
| fire\_triangle “data” “value” | * Field list : ttff, ttlf, ttff \_x, ttff \_y, ttlf \_x, ttlf \_y | Hash | * Change with time expire | * Fire\_triangle “ttff” “10” “ttff\_x” “8” “ttff\_y” “6” “ttlf” “100” “ttlf\_x” “80” “ttlf\_y” “60” |
| Gun\_control\_status “status” “value” |  | hash | Change | * Gun\_control\_status “servo” “on” “motor “ “on” “fire” “on” |
| Gun\_feedback\_status “status” “value” |  | hash | Change | * Gun\_feedback\_status “servo” “on” “motor “ “on” “fire” “on” “azimuth” “20.3” “elevation” “3.2” “access” “remote” |
| Gun\_op\_status “status” “value” | * Field list : technical, open\_fire, assign\_mode, assign\_source | hash | Change | * Gun\_op\_status “technical“ “standby” “open\_fire” “on” “assign\_mode” “direct” “assign\_source” “track\_1” |
| Gun\_radar\_calibration “parameter” “value” | * Field list : x\_corr,y\_corr,z\_corr, az\_corr,el\_corr,r\_corr | hash | Persist | * Gun\_radar\_calibration “x\_corr” “5.3” “y\_corr “ “4.3” “z\_corr” “3.3” “az\_corr” “2.3” “el\_corr” “-13.2” “r\_corr” “6.2” |
| Gun\_balistic\_data “parameter” “value” | * Field list : orientation, blind\_arc, max\_range | hash | Persist | * Gun\_balistic\_data “orientation” “180.3” “blind\_arc“ “90.3” “max\_range” “8.3” |
| comm\_config:id “parameter” “value” | * Field list : portname,baudrate,data bits,stop bits,parity,flow control | hash | Persist | * Comm\_config:1 “portname” “/dev/ttyS0” “baudrate” “9600” “data\_bit” “8” “stop\_bit” “1” “parity” “None” “flow” “No” |
| Firing\_table “range” “elv:tf” | * Field list : range | hash | Persist | * Firing\_table “100” “0.1:0.1” “500” “0.3:0.2” “2000” “9.4:4.3” |

1. **Track database data structure**
   1. **Track data**

|  |  |  |
| --- | --- | --- |
| **Data** | **Type** | **Units** |
| ID | Integer |  |
| Range | Float | Nautical miles |
| Bearing | Float | Degree |
| Height | Float | meter |
| Speed | Float | Knots |
| Course | float | degree |
| Identity | Enum {Friend/Netral/Hostile/Unknown} | - |
| environment | Enum {Air/Surface/Sub-surface} | - |
| source | Enum {Navigation Radar/EOT} | - |
| Weapon assign | string | - |