# 发送定位数据协议

语义交互技术图像定位模块通过UDP协议发送信息

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 序号 | 内容 | 字节数 | 数据类型 | 说明 |
| 0 | 帧头 | 1 |  | 0xEB |
| 1 | 帧头 | 1 |  | 0x22 |
| 2 | 帧头 | 1 |  | 0x90 |
| 3 | 帧头 | 1 |  | 0x99 |
| 4 | 时间戳 | 8 | time\_t | 单位是ms |
| 5 |
| 6 |
| 7 |
| 8 |
| 9 |
| 10 |
| 11 |
| 12 | 时间片 | 2 | uint16\_t | 单位是ms |
| 13 |
| 14 | 位姿映射数 | 1 | uint8\_t | 当前时间戳的uav\_pose总数m |
| 14+49\*m | uav\_pose | 49\*m |  | 每个uav\_pose的信息 |
| 15+49\*m | 目标数 | 2 | uint16\_t | 当前时间戳的目标总数 |
| 16+49\*m |
| 17+49\*m ~N | 目标信息 | N-(16+49\*m) |  | 每个目标的信息 |
| N+1 | 帧尾 | 1 |  | 0xED |
| N+2 | 帧尾 | 1 |  | 0xDC |
| N+3 | 帧尾 | 1 |  | 0xCB |
| N+4 | 帧尾 | 1 |  | 0xBA |

单个uav\_pose：

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 序号 | 内容 | 字节数 | 数据类型 | 说明 |
| 0 | uav\_id | 1 | uint8\_t | 无人机id |
| 1~8 | yaw | 8 | Double | 无人机位姿 |
| 9~16 | pitch | 8 | Double |  |
| 17~24 | roll | 8 | Double |  |
| 25~32 | x | 8 | Double |  |
| 33~40 | y | 8 | Double |  |
| 41~48 | z | 8 | Double |  |

单个目标信息：

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 序号 | 内容 | 字节数 | 数据类型 | 说明 |
| 0 | Global\_id | 4 | uint32\_t | 目标的唯一标识 |
| 1 |
| 2 |
| 3 |
| 4 | Location x | 8 | Double | 三维坐标 |
| 5 |
| 6 |
| 7 |
| 8 |
| 9 |
| 10 |
| 11 |
| 12 | Location y | 8 | Double | 三维坐标 |
| 13 |
| 14 |
| 15 |
| 16 |
| 17 |
| 18 |
| 19 |
| 20 | Location z | 8 | Double | 三维坐标 |
| 21 |
| 22 |
| 23 |
| 24 |
| 25 |
| 26 |
| 27 |
| 28 | 图像映射数 | 1 | uint8\_t | 该目标的uav\_img数 |
| 29~N | uav\_img | N-28 |  | 每个uav\_img的信息 |

单个uav\_img：

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 序号 | 内容 | 字节数 | 数据类型 | 说明 |
| 0 | uav\_id | 1 | uint8\_t | 无人机id |
| 1 | 图像行数 | 4 | uint32\_t | uav\_img |
| 2 |
| 3 |
| 4 |
| 5 | 图像列数 | 4 | uint32\_t | uav\_img |
| 6 |
| 7 |
| 8 |
| 9 | 图像类型 | 4 | int32\_t | CV\_8UC3等类型 |
| 10 |
| 11 |
| 12 |
| 13~N | 图像数据 | N-12 | uint8\_t[] | 数据长度=rows×cols×elemSize() |