# VT-268 COMMUNICATION PROTOCOL

### Instructions

AP is command for upstream and BP is command for server downstream.

### Commands

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| **Command** | **Direction** | **Server respond** | **Remark** |
| AP00 | Device 🡪 server | BP00 | Log in |
| AP01 | Device 🡪 server | BP01 | Position upload |
| AP10 | Device 🡪 server | BP10 | Alarm and report position |

### Definition

* Log in package (upstream protocol: AP00, respond BP00)

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| Example | |
| **TRVAP00353456789012345#**  **TRV: identification tag**  **AP00: Command word**  **353456789012345: Device IMEI, 15 numerals**  **#: statement terminator** | |
| **Respond**: | Server responds **TRVBP00#** |
| **Remark**: | Every time that the device disconnects with the server, it will need to re-send the log in package. |

* Device position, GPS + LBS + Status combination package   
  (upstream **AP01**, respond **BP01**)

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| **Message field** | **Field Value** | **Type** | **Length (byte)** | **Remark** |
| Starting identifier | TRV | CHAR | 3 |  |
| Command word | AP01 | C\_STRING | 4 |  |
| Message body |  | C\_STRING |  |  |
| Message content | GPS, LBS, status data | | | |
| Ending identifier | # | CHAR | 1 |  |

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| **example：** | |
| **TRVAP01080524A2232.9806N11404.9355E000.1061830323.8706000908000102,460,0,9520,3671#**  ***Explanation:***  **TRV:** identifier  **AP01**: command ward  **080524**: May 24, 2008  **A**: “**A**” means data is valid, ”**V**”means data is invalid. If it is **V**, then it will load LBS data  **2232.9806N11404.9355E000.1**: north latitude 22 degree 32.9806 cent, east longitude 114 degrees 04.9355 cent. Speed is 000.1km/h.  If longitude and latitude is invalid, then it is default by 0. For example, 00000.0000N00000.0000E  061830: GMT 06 clock 18 minute 30 second  **323.87**: direction angel / bearing 323.87°  **06000908000102**:   * **060** is GSM signal * **009** is numbers of satellite connected * **080** is remaining battery capacity * **0** is ACC stataus. **1** is ON, **2** is OFF, **0** means no ACC connected * **01** is in arm status, **02** is working status ,(when in arm statusif work status is 00, then it is not in work status or not set)   **460,0,9520,3671** : LBS base station data. **MCC** is country code, **460** is China, **0**: is MNC, **9520**: LAC, decimal format, **3671**,CID, decimal format  If the status in the GPS data package is V, or the longitude & latitude is 0000.0000N0000.0000E, it will load LBS data. | |
| Respond: | Server to respond BP01  **TRVBP01#** |
| Remark: | This command applied to all models. |

* Device alarm, respond with position (upstream AP10, respond BP10)

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| **Example：** | |
| **TRVAP10080524A2232.9806N11404.9355E000.1061830323.8706000908000502,460,0,9520,3671, 00,zh-cn,00#**  ***Explanation:***  **TRV:** identifier  **353456789012345**: Device IMEI, 15 numerals  **AP10**: Command word  **080524**: May 24, 2008  **A**: “**A**” means data is valid, ”**V**” means data is invalid. If it is **V**, then it will load LBS data  **2232.9806N11404.9355E000.1**: north latitude 22 degree 32.9806 cent, east longitude114 degrees 04.9355 cent. Speed is 000.1km/h.  If longitude and latitude is invalid, then it is default by 0. For example, 00000.0000N00000.0000E  **061830**: GMT 06 clock 18 minute 30 second  **323.87**: direction angel / bearing 323.87  **06000908000102**:   * **060** is GSM signal * **009** is numbers of satellite connected * **080** is remaining battery capacity * **0** is ACC stataus. **1** is ON, **2** is OFF, **0** means no ACC connected * **01** is in arm status, **02** is working status ,(when in arm statusif work status is 00, then it is not in work status or not set)   **460,0,9520,3671** : LBS base station data. **MCC** is country code, **460** is China, **0**: is MNC, **9520**: LAC, decimal format, **3671**,CID, decimal format  **00** is alarm status   * **00** no alarm * **01**: SOS * **02**: power off alarm * **03**: vibration alarm * **04**: enter Geo-fence * **05**: exit Geo-fence * **09**: movement alarm * **14**: low battery alarm   All numbers are decimal format  **zh-cn**: device language, **zh-cn**: Chinese **en-us** English  **00**: first **0**: if an address info is included in the respond. **0**: address not included, **1**, address included  2nd **0**: if a URL is included in the respond; **0**: URL not included, **1**, URL included | |
| Respond： | Server responds BP10, if the address is not included, then the address part in the respond is left empty.  TRV**BP10**6df157335e0253575c71533a53576d7759279053003100300037003953f7002000200068007400740070003a002f002f007700770077002e006700700073002e0063006f006d002f006d00610070002e0061007300700078003f006c00610074003d00320033002e0031003200330026006c006e0067003d003100310033002e003100320033**#**  Server respond UNICODE in HEX coding. Above is an example for a address in Shenzhen, China.  <http://www.gps.com/map.aspx?lat=23.123&lng=113.123>  **Content language is determined automatically by the language in the AP10 data package. If the URL is included in the respond is also determined automatically by AP10 status** |
| Remark: | This command applied to all models. |