VT202 GPS Tracker

GPRS Protocol

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Content

1.1 *Introduction*

1.2 *Writing purpose*

This file is about GPRS protocol, for platform developer protocol integration. As per this file, developer could test device data if correct and platform troubleshooting.

1.3 *Protocol Introduction*

This protocol is used for VT202 GPS Tracker.

2 Protocol Explanation

2.1 *Protocol List*

Protocol Code	Description	Need Answer?	Uplink/Downlink
AP00	Login Packet	Need	Uplink
AP01	Location Packet	No need	Uplink
CP01	Heartbeat Packet	Need	Uplink
BP02	Remote Arm/Disarm	Need	Downlink
BP03	Remote Cut off Petrol/Power	Need	Downlink
BP04	Remote Restore Petrol/Power	Need	Downlink
BP07	Set Time Interval	Need	Downlink
AP14	AGPS	Need	Uplink
BP08	Set Device Language	Need	Downlink
DP29	Set Device Stationary Speed	Need	Downlink
INFO	Report Device Info	Need	Uplink
BP72	Set Timing Enable Arm	Need	Downlink
BP73	ON/OFF SMS Alarm	Need	Downlink
BP74	Set Over Speed	Need	Downlink

AP76	Server and Tracker Time Synchronization	Need	Uplink
YP02	Report Device IMSI and ICCID to Server	Need	Uplink
AP10	Alarm Packet and Address Reply	Need	Uplink
DP16	Set SOS Number	Need	Downlink
CP17	Device Report SOS Number	Need	Uplink
DP25	Device Report Time Interval	Need	Downlink
DP18	Set Device Moving Speed Filter	Need	Downlink
DP19	Set Secondary IP, Port	Need	Downlink
BP59	ON/OFF Vibration Sensor	Need	Downlink
DP21	ON/OFF Sleep Status When Device Stationary	Need	Downlink
DP22	Set Deep Sleep to Trigger Voltage and Recover Voltage	Need	Downlink
BP62	Initialization	Need	Downlink
BP61	Remote Reboot	Need	Downlink
DP20	Set Device IP and Port	Need	Downlink
DP23	Set External Low Power Alarm	Need	Downlink
DP24	Set Heading Change Alarm	Need	Downlink
DP26	Remote Turn Off Device	Need	Downlink
DP35	Ask for Location	Need	Downlink
DP36	ON/OFF ACC Alarm	Need	Downlink

2.2 *Protocol Explanation*

Name	Explanation
Device------Server	Uplink
Server------Device	Downlink
Header	IW
Ending	#
Separator	,(comma) |(vertical line) These specific symbol is used for data separator

2.3 Protocol Notice

1. The GPS information part of the positioning package and alarm packet please follow the protocol to ensure the consistency of the length and protocol.
2. If the protocol involves Chinese names or Chinese characters will be converted using Unicode encoding.
3. In the process of interaction may be due to network and other reasons to cause combined package, device to prevent this situation occurred, it is recommended to carry out multiple-package solution resolution

3 Protocol content

3.1 Login Packet(Uplink Code:AP00, Answer:BP00)

Uplink

Example			
TRV**AP00**353456789012345#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
AP00	Protocol Code		
353456789012345	IMEI	Default 15-bit device unique identification	If the uploaded device IMEI number is greater than or less than 15 digits does not apply this protocol, please contact protocol provider
#	Ending		

Answer

Example
TRV**BP00**#

Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Protocol Code		
BP00	IMEI		
#	Ending		

Note: Each time the device disconnects from the server, the login packet needs to be sent again (the server must respond)

3.2 *Location Packet (Uplink Code:AP01, Answer:BP01)*

Uplink

Example			
TRV**AP01**080524A2232.9806N11404.9355E000.1061830323.8706000908000102,460,0,9520,3671#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Protocol Code		
AP01	IMEI		
080524	Time	May.24th, 2018	
A	GPS Signal	A= GPS signal valid V= GPS signal invalid	GPS signal invalid or coordinates is 0000.0000N00000.0000E use LBS data
2232.9806	Latitude	22 degree 32.9806 min. Format= ddmm.mmmm Add 0 before it when length insufficient	Invalid latitude, all defaults to 0, eg.: 0000.0000N00000.0000E
N	Southern and Northern Latitude Flag	N= northern latitude S= southern latitude	
11404.9355	Longitude	114 degree 04.9355min Format= dddmm.mmmm Add 0 before it when	

		length insufficient	
E	East and Western Longitude Flag	E= east longitude W= west longitude	
000.1	Speed	Uni: km/h	
061830	GMT	06:18 :30 24-hour system	
323.87	Direction	Direction degree 323.87°	
06000908000102	Device Status	060:GSM signal 009:located satellite numbers 080:battery value 0:ACC status. 1=ACC On, 2:ACC Off, 0=ACC invalid 01: Armed status 02=working mode (Armed, 00=invalid or no setting)	
460	MCC Base Station Country Code	In decimal	
0	MNC Operator Code		
9520	LAC Base Station Cell Code		
3671	CID Base Station Tower Code		
#	Ending		

Answer

Example
TRV**BP01#**
Explanation

Sample	Fieldname	Note	Special Explanation
TRV	Header		
BP01	Protocol Code		
#	Ending		

Note: 1. Server can save some traffic without responding this location packet, need confirm with server weather answer this location packet.

2. The location packet is resolved by length (before the first comma), and the packet length and data bit content must be consistent with the Protocol, otherwise the package resolves an exception.

3.3 *Heartbeat Packet (Uplink Code: CP01, Answer:DP01)*

Uplink

Example			
TRV**CP01**, 060009080002003010101002011 1,0125#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
CP01	Protocol Code		
060009080002	Status	060: GSM signal 009: Located satellite numbers 080: Battery Value 0: ACC Status.1=ACC ON, 2=ACC OFF, 0= ACC invalid 02: Working Mode(00=invalid or no settting)	

003010101002011	Status	0030: GPRS time interval, unit = 30seconds 1: Manually Arm ON/OFF (vibration alarm). 1 =open, 2=close 010: Sensitivity of vibration sensor, 1-100 1: Auto Arm ON/OFF. 1=open,2=close 0020: Set Auto Arm Time, Unit = 20seconds 1: Petrol/power status. 1=petrol/power connected ,2=petrol/power disconnected 1: External power status. 1=external power connected, 2=external power disconnected, 0=no external power 1: Device moving status, 1= device is moving, 2= device is stationary, 0=status invalid	
0125	Status	0125: external power value. 0125/10=12.5V	

#	Ending		

Answer

Example			
TRV**DP01**#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
DP01	Protocol Code		
#	Ending		

Note: 1. When the device is stationary, it can be connected with the platform and the static drift is resolved by this command. 2. Heartbeat packet upload frequency do not exceed 5 minutes, suggest 3 minutes advisable. Time is too long to cause the communication disconnected.

3.4 *Remote Arm/Disarm (Downlink Code:BP02, Answer:AP02)*

Downlink

Example			
TRV**BP02**000001**0**#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
BP02	Protocol Code		
000001	Serial Number	Server send serial number, device return	
0	Flag of Arm/Disarm	0=arm, 1=disarm	
#	Ending		

Answer

Example

TRV**AP02**0000010#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
AP02	Protocol Code		
000001	Serial Number	Server send serial number, device return	
0	Command execution status	0= successful, 1=failed	
#	Ending		

3.5 *Remote cut off petrol/power (downlink code:BP03, Answer:AP03)*

Downlink

Example			
TRV**BP03**0000020#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
BP03	Protocol Code		
000002	Serial Number	Server send serial number, device return	
0	Flag of cut off petrol/power	0= cut off petrol, 1=cut off power	
#	包尾		

Answer

Example			
TRV**AP03**0000020#			
Explanation			
Sample	**Fieldname**	**Note**	**Special**

			Explanation
TRV	Header		
AP03	Protocol Code		
000002	Serial Number	Server send serial number, device return	
0	Command execution status	0= successful, 1=failed	
#	Ending		

3.6 *Remote restore petrol/power (downlink code:BP04, Answer:AP04)*

Downlink

Example			
TRVBP040000030#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
BP04	Protocol Code		
000003	Serial Number	Server send serial number, device return	
0	Restore petrol/power	0= restore petrol, 1= restore power	
#	Ending		

Answer

Example			
TRV**AP04**0000030#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
AP04	Protocol Code		
000003	Serial Number	Server send serial number,	

		device return	
0	Command execution status	0= successful, 1=failed	
#	Ending		

3.7 *Set GPRS Time Interval (Downlink Code:BP07, Answer:AP07)*

Downlink

Example			
TRV**BP07**0000080020#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
BP07	Protocol Code		
000008	Serial Number	Server send serial number, device return	
0020	Time interval	GPRS time interval, unit=second	
#	Ending		

Answer

Example			
TRV**AP07**0000080#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
AP07	Protocol Code		
0	Serial Number	Server send serial number, device return	
#	Command execution status	0= successful, 1=failed	

	Ending		

3.8 *AGPS (Uplink Code:AP14, Answer:BP14)*

Uplink

Example			
TRV**AP14**,460,0,9520,3671#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
AP14	Protocol Code		
460,0,9520,3671	LBS Base Station data	MCC: country code 460: China 0:MNC 0: China Mobile 9520:LAC, in decimal 3671,CID, in decimal	
#	Ending		

Answer

Example			
TRV**BP14**,23.113,113.123#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
BP14	Protocol Code		
23.113,113.123	Coordinates	Latitude, Longitude	
#	Ending		

Note: 1. The platform must respond back. 2. Responded latitude and longitude after the decimal point is recommended to retain only 5 digits, if too long, please consult the device supplier whether there is an impact.

3.9 *Set device language (Downlink Code:BP08 Answer:AP08)*

Downlink

Example			
TRV**BP08**000009,zh-cn#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
BP08	Protocol Code		
000009	Serial Number	Server send serial number, device return	
zh-cn	Language	International standard, eg.: English = en-us, French=fr	
#	Ending		

Answer

Example			
TRV**AP08**0000090#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
AP08	Protocol Code		
000009	Serial Number	Server send serial number, device return	
0	Command execution status	0= successful, 1=failed	
#	Ending		

3.10 *Set Device Stationary Speed (Downlink Code : DP 29, Answer : CP29)*

Downlink

Example			
TRV**DP29**000008010#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
DP29	Protocol Code		
000008	Serial Number	Server send serial number, device return	
010	Stationary Speed	The first two digits are integral parts, and the third is a decimal part 010=lower than 1km/h as static	Hardware default filter less than 3km/h location pack
#	Ending		

Answer

Example			
TRV**CP29**0000080#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
CP29	Protocol Code		
000008	Serial Number	Server send serial number, device return	
0	Command execution status	0= successful, 1=failed	
#	Ending		

Note: When G-sensor is closed, if the speed is set, device filters the location packet which speed slow than preset value, and the device default to static state

3.11 *Report Device Info (Uplink Code: INFO)*

Uplink

Example			
TRV**INFO**,355512345678910,W20_IN_V1_27_20140624,CKT50D_3232_11B_HW,100,gps.sdwzt.net,8011,cmet,30,1,7,1,1,1,1#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
INFO	Protocol Code		
355512345678910	IMEI	Device Unique identification	
W20_IN_V1_27_20140624	Firmware Version	Device current firmware version	
CKT50D_3232_11B_HW	Hardware version	Device current hardware version	
100	GSM signal		
gps.sdwzt.net	IP/port	Device set server domain or IP	
8011	Port	Device set port	
cmnet	APN		
30	GPRS time interval	Device current GPRS time interval, unit=second	
1	GPS status	1 =Normal, 0=Abnormal	
7	Satellite numbers		
1	ON/OFF power cut alarm	1=open, 0=close	
1	Power Cut status	1 =Normal, 0=Abnormal	
1	ON/OFF vibration alarm	1=open, 0=close	The device enters the manual arm or the automatic arm condition, namely vibration alarm to open, the other state vibration alarm is off.
1	Vibration status	1 =Normal, 0=Abnormal	

#	Ending		

Answer

Example			
TRV**INFO**,0K#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
IW	Header		
INFO	Protocol Code		
0K	Analysis results	0K=successful, Fall=failed	
#	Ending		

Note: 1. After the platform receives the TRVINFO packets uploaded by the device, it needs to analyze whether the parameters are correct, return OK if correct, and FALL if the parameter is incorrect. 2. Power Cut Alarm is more special, when the product does not have internal power, the alarm state is certainly abnormal, return 0, so the platform to determine whether the parameters of the device upload correctly, do not check the power cut alarm status is normal. 3. Each time the device is powered on, the packet must be sent to server.

3.12 *Set timing Arm/Disarm (Downlink Code: BP72, Answer:AP72)*

Downlink

Example			
TRV**BP72**000001**30**#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
BP72	Protocol Code		
000001	Serial Number	Server send serial number, device return	
30	Start Arm Time	Time interval 00-60mins, Add 0 for signal distigal	Indicates that the QUIESCE has reached preset time. The vehicle

			enters the Arm condition (unit: minute), 00= cancels Arm
#	Ending		

Answer

Example			
TRV**AP72**0000010#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
AP72	Protocol Code		
000001	Serial Number	Server send serial number, device return	
0	Command execution status	0= successful, 1=failed	
#	Ending		

3.13 *ON/OFF SMS Alarm (Downlink Code:BP73 , Answer: AP73)*

Downlink

Example			
TRV**BP73**0000011#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
BP73	Protocol Code		
000001	Serial Number	Server send serial number, device return	
0	Command execution	1= enable SMS alarm, 0 = disable SMS alarm	

	status		
#	Ending		

Answer

Example			
TRV**AP73**0000010#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
AP73	Protocol Code		
0	Command execution status	0= successful, 1=failed	
#	Ending		

3.14 *Set Over Speed (Downlink Code:BP74 , Answer: AP74)*

Downlink

Example			
TRV**BP74**000001,600,120#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
BP74	Protocol Code		
000001	Serial Number	Server send serial number, device return	
600	Over Speed duration		
120	Over speed	Unit =second	
#	Ending		

Answer

Example			
TRV**AP74**0000010#			
Explanation			

Sample	Fieldname	Note	Special Explanation
TRV	Header		
AP74	Protocol Code		
000001	Serial Number	Server send serial number, device return	
#	Ending		

3.15 *Server and Tracker Time Synchronization (Uplink Code:AP76 Answer: BP76)*

Uplink

Example			
TRV**AP76**#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
AP76	Protocol Code		
#	Ending		

Answer

Example			
TRV**BP76**20150114073900#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
BP76	Protocol Code		
20150114073900	Time	Server current UTC0 time 2015year 01 month 14 data 07 39min 00second	
#	Ending		

3.16 *Report Device IMSI and ICCID to Server (Uplink Code:YP02, Answer:ZP02)*

Uplink

Example			
TRV**YP02**,460023136470163,898602B1191550255484#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
YP02	Protocol Code		
460023136470163	Device IMSI	460: China MCC 02: China Mobile MNC 3136470163: China Mobile's user identification number MSIN	
898602B1191550255484	Device ICCID		
#	Ending		

Answer

Exampl e			
TRV**ZP02**#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
YP02	Protocol Code		
#	Ending		

Note: 1. The platform must respond. 2. Use this protocol at a point in time: After the login package AP00 sent, and get the platform BP00 response, immediately sending YP02.

3.17 *Alarm Packet and Address Reply (Uplink Code : AP10 , Answer : BP10)*

Uplink

Example			
TRV**AP10**080524A2232.9806N11404.9355E000.1061830323.8706000908000502,460,0,9520,3671,00,zh-cn,00#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
AP10	Protocol Code		
080524	Year Month date	May. 24th, 2008	
A	GPS Signal	A= GPS signal valid V= GPS signal invalid	GPS signal invalid or coordinates is 0000.0000N00000.0000E use LBS data
2232.9806N11404.9355E	Coordinates	If coordinates invalid, default as 0,eg.: 0000.0000N00000.0000E Northern latitude 22degree 32.9806mins, East longitude 114degree 04.9355mins	
000.1	Speed	Unit: km/h	
061830	Hour Minute Second	GMT Time 06 Hour 18 min 30 second 06:18:30	
323.87	Heading	Rang : 0°-360°	
06000908000102	Device Status	060:GSM signal 009:located satellite numbers 080:battery value 0:ACC status. 1=ACC On, 2:ACC Off, 0=ACC invalid	

		01: Armed status 02=working mode (Armed, 00=invalid or no setting)	
460,0,9520,3671	LBS Base Station data	MCC: country code 460: China 0:MNC 0: China Mobile 9520:LAC, in decimal 3671,CID, in decimal	
00	Alarm Status	01: SOS 02: external power disconnect 03: vibration 04: Enter in Geo-fence 05: Exit geo-fence 13: Over speed alarm 09: Movement alarm 10: Inner battery low power alarm 26: ACC ON 27 : ACC OFF 33: External power low	
zh-cn	Device Language		
00	SMS Reply settings	The 1st 0: whether reply address? 0=no need reply, 1=need reply The 2nd 0: whether address including URL? 0=not including, 1= including	
#	Ending		

Answer

Example
TRV**BP10**6df157335e0253575c71533a53576d77592790530031003000037003953f70020002 000680074007400700003a002f002f007700770077002e006700700073002e0063006f006d00 2f006d00610070002e00610073007000780003f006c00610074003d00320033002e003100320 0330026006c006e0067003d003100310033002e003100320033#

Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
BP10	Protocol Code		
6df157335e0253 575c71533a5357 6d77592790530 0310030003700 3953f700200020 0068007400740 070003a002f002 f0077007700770 02e00670070007 3002e0063006f0 06d002f006d006 10070002e00610 0730070007800 3f006c00610074 003d003200330 02e00310032003 30026006c006e0 067003d003100 310033002e0031 00320033	SMS content	**The platform response address contains hex Unicode encoding, not plaintext, and the above example is:** 深圳市南山区南海大道1079号 http://www.gps.com/map.aspx?lat=23.123&lng=113.123 Content language according to AP10 data packet language automatic judgment, whether reply URL also according to AP10 state judgment	
#	Ending		

3.18 *Set SOS numbers(Downlink Code :DP16 ,Answer :CP16)*

Downlink

Example			
TRV**DP16,**123456 ,13510212185,13510212186,13510212187#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
DP16	Protocol		

	Code		
123456	Serial Number		
13510212185	SOS No.1		If delete the corresponding number bit is NULL, need placeholder
13510212186	SOS No. 2		
13510212187	SOS No.3		
#	Ending		

Answer

Example			
TRV**CP16**,123456,1#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
CP16	Protocol Code		
123456	Serial Number		
1	Command execution status	0= successful, 1=failed	
#	Ending		

3.19 *Device report SOS number(Uplink code :CP17 ,Answer : DP17)*

Uplink

Example			
TRV**CP17** ,13510212185,13510212186,13510212187#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
CP17	Protocol Code		

13510212185	SOS No.1		If delete the corresponding number bit is NULL, need placeholder
13510212186	SOS No. 2		
13510212187	SOS No. 3		
#	Ending		

Answer

Example			
TRV**DP17**,1 #			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
DP17	Protocol Code		
1	Command execution status	0= successful, 1=failed	
#	Ending		

Note: After the SMS Modified SOS number, report the packet

3.20 *Device Report Time Interval (Downlink Code : DP25 , Answer : CP25)*

Downlink

Example			
TRV**DP25**,123456,3#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
DP17	Protocol Code		
123456	Serial Number		
3	Time Interval	Unit = minute	

#			

Answer

Example			
TRV**CP25**,123456,1#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	c		
CP17	Protocol Code		
123456	Serial Number		
1	Command execution status	0= successful, 1=failed	
#	Ending		

3.21 *Set Device Moving Speed Filter(Downlink Code :DP18 , Answer : CP18)*

Downlink

Example			
TRV**DP18**,123456,5#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
DP18	Protocol Code		
123456	Serial Number		
5	Filter moving speed	Unit : km/h, filtering data packet which speed below 5km/h	When device is moving, default set to report data which speed faster than 1km/h
#	Ending		

Answer

Example			
TRV**CP18**,123456,1#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
CP18	Protocol Code		
123456	Serial Number		
1	Command execution status	0= successful, 1=failed	
#	Ending		

3.22 *Set Secondary IP, Port(Downlink Code :DP19 ,Answer : CP19)*

Downlink

Example			
TRV**DP19,** 123456,0,127.0.0.1,8011# or TRV**DP19**,000001,1,gps.123456.com,8011#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
DP19	Protocol Code		
123456	Serial Number		
1	IP or domain Flag	0=IP, 1=Domain	
127.0.0.1 or gps.123456.com	IP or Domain		
8011	Port		
#	Ending		

Answer

Example

TRVCP19,123456,1#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
CP19	Protocol Code		
123456	Serial Number		
1	Command execution status	0= successful, 1=failed	
#	Ending		

Note: The secondary IP port is used to connect after the standby IP port resolution fails

3.23 *ON/OFF Vibration Sensor (Downlink Code : BP59 , Answer : AP59)*

Downlink

Example			
TRVBP59, 123456,1,40#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
BP59	Protocol Code		
123456	Serial Number		
1	ON/OFF Status	1=open, 0=close	Device default set = open
40	Sensitivity	Vibration sensitivity	Sensitivity=1, the maximum Sensitivity Device default set=1
#	Ending		

Answer

Example			
TRV**AP59**, 123456,1,40#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
AP59	Protocol Code		
123456	Serial Number		
1	ON/OFF Status	1=open, 0=close	
40	Sensitivity		
#	Ending		

3.24 *ON/OFF Sleep Status When Device Stationary*

(Downlink Code : DP21 , Answer : CP21)

Downlink

Example			
TRV**DP21**,123456,1#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
DP21	Protocol Code		
123456	Serial Number		
1	ON/OFF Status	1: enable sleep mode when device is stationary 0: disable sleep mode when device is stationary	Device default set = open
#	Ending		

Answer

Example

TRVCP21,123456,1#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
CP21	Protocol Code		
123456	Serial Number		
1	Command execution status	0= successful, 1=failed	
#	Ending		

3.25 *Set Deep Sleep to Trigger Voltage and Recover Voltage (Downlink Code : DP22 , Answer : CP22)*

Downlink

Example			
TRVDP22, 123456,5.0,12.0#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
DP22	Protocol Code		
123456	Serial Number		
5.0	Deep sleep to trigger voltage	5.0V, Unit: V	Default trigger voltage=0V , 0V means disable deep sleep
12.0	Recover Voltage	12.0V, Unit: V	
#	Ending		

Answer

Example
TRVCP22,123456,1#

Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
CP22	Protocol Code		
123456	Serial Number		
1	Command execution status	0= successful, 1=failed	
#	Ending		

Note: The recover voltage can not be lower than trigger voltage.

3.26 *Initialization (Downlink Code : BP62 , Answer : AP62)*

Downlink

Example			
TRVBP62#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
BP62	Protocol Code		
#	Ending		

Answer

Example			
TRVAP62#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
AP62	Protocol Code		
#	Ending		

3.27 Remote Reboot(Downlink Code :BP61, Answer :AP61)

Downlink

Example			
TRV**BP61**#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
BP61	Protocol Code		
#	Ending		

Answer

Example			
TRV**AP61**#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
AP61	Protocol Code		
#	Ending		

3.28 Set Device IP and Port(Downlink Code :DP20 ,Answer : CP20)

Downlink

Example			
TRV**DP20,** 123456,0,127.0.0.1,8011# 或 TRV**DP20,**000001,1,gps.123456.com,8011#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
DP20	Protocol Code		
123456	Serial Number		

1	IP or Domain Flag	0: IP 1: Domain	
127.0.0.1 or gps.123456.com	IP or Domain		
8011	Port		
#	Ending		

Answer

Example			
TRV**CP20**,123456,1#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
CP20	Protocol Code		
123456	Serial Number		
1	Command execution status	0= successful, 1=failed	
#	Ending		

3.29 *Set External Low Power Alarm (Downlink Code : DP23 , Answer : CP23)*

Downlink

Example			
TRV**DP23**, 123456,5.0#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
DP23	Protocol Code		
123456	Serial Number		

5.0	Value of external power low alarm	Unit: V	Default = 0V, means close The alarm only takes effect after Setup
#	Ending		

Answer

Example			
TRV**CP23**,123456,1#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
CP23	Protocol Code		
123456	Serial Number		
1	Command execution status	0= successful, 1=failed	
#	Ending		

3.30 *Set Heading Change Alarm (Downlink Code : DP24 , Answer : CP24)*

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Example			
TRV**DP24**,123456,1,30#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
DP24	Protocol Code		
123456	Serial Number		
1	ON/OFF status	Default set = open 1=open	Default set = open

		0= close	
30	Heading degree	Unit:°	Default set =30°
#	Ending		

Answer

Example			
TRV**CP24**, 123456,1#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
CP24	Protocol Code		
123456	Serial Number		
1	Command execution status	0= successful, 1=failed	
#	Ending		

3.31 *Remote Turn Off Device(Downlink Code :DP26 ,Answer : CP26)*

Downlink

Example			
TRV**DP26**,123456#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
DP26	Protocol Code		
123456	Serial Number		
#	Ending		

Answer

Example			
TRV**CP26**,123456,1#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
CP26	Protocol Code		
123456	Serial Number		
1	Command execution status	0= successful, 1=failed	
#	Ending		

Note: This command works only after device disconnect from external power.

3.32 *Ask for Location(Downlink Code0 :DP35 ,Answer: CP35)*

Downlink

Example			
TRV**DP35**#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
DP35	Protocol Code		
#	Serial Number		

Answer

Example			
TRV**CP35**#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
CP35	Protocol Code		

#	Serial Number		

Note: Device answer after received this command, then open GPS and report GPS location packet if it's GPS located in 3min, report LBS location packet if gsp signal invalid.

3.33 *ON/OFF ACC Alarm (Downlink Code : DP36 , Answer : CP36)*

Downlink

Example			
TRV**DP36**,123456,1#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
DP36	Protocol Code		
123456	Serial Number		
1	ON/OFF Status	1: ACC Alarm enabled 0: ACC Alarm disabled	Default set = 0
#	Ending		

Answer

Example			
TRV**CP36**, 123456,1#			
Explanation			
Sample	**Fieldname**	**Note**	**Special Explanation**
TRV	Header		
CP36	Protocol Code		
123456	Serial Number		
1	ON/OFF Status	1: ACC Alarm enabled 0: ACC Alarm disabled	Default set = 0
#	Ending		

Note: After ACC alarm enabled, ACC ON or OFF more than 5seconds to report this alarm.