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1. GPRS uploading data format

<data length><data head><protocol version>,<device IMEI>,<device name>,<GPRS real-time/stored data flag>,<date>,<time>,<GPS fix flag>,<latitude>,<N/S>,<longitude>,<W/E>,<used satellite number of BDS>,<used satellite number of GPS>,<used satellite number of GLONASS>,<HDOP>,<speed>,<course>,<altitude>,<mileage>,<MCC>,<MNC>,<LAC>,<Cell ID>,<GSM signal strength>,<digital input>,<digital output>,<external voltage>,<Ain2>,<Ain3>,<temperature sensor 1>,<temperature sensor 2>,<RFID>,<external accessories status>,<battery percent>,<alert event type>;<checksum><data tail>

2. GPRS uploading data example

0180\$MGV002,860719020193193,DeviceName,R,240214,104742,A,2238.20471,N,11401.97967,E,00,03,00,1.20,0.462,356.23,137.9,1.5,460,07,262C,0F54,25,0000,0000,523,0,0,28.5,28.3,,1,100,Timer;!

3. GPRS uploading data analysis

Name	Description	Example
<data length>	The length of this GPRS data (not include itself), range: 0001~9999, unit: byte.	0180
<data head>	Fixed character '\$'.	\$
<protocol version>	"MG" is fixed character string; "V002" is the changeable version.	MGV002
,	Separator.	,
<IMEI>	IMEI of device fixed in 15 bytes.	860719020193193
<device name>	Device name the user set, range: 0~15 bytes. Note: device name only consist of letters and digits.	DeviceName
<GPRS real-time/stored data flag>	'R' means this GPRS data is real-time data, 'S' means this GPRS data is stored data.	R
<date>	System date, format: DDMMYY (date month year).	240214
<time>	System time, format: HHMMSS (hour minute second).	104742
<GPS fix flag>	'A' means GPS fix successfully, 'V' means GPS can not fix.	A
<latitude>	Latitude value (format of degrees & minutes), format: DDMM.MMMM.	2238.20471
<N/S>	North/South indicator.	N
<longitude>	Longitude value (format of degrees & minutes), format: DDDMM.MMMMM.	11401.97967
<W/E>	West/East indicator.	E
<used satellite number of BDS>	The number of BDS satellite used to fix, range: 00~99.	00
<used satellite number of GPS>	The number of GPS satellite used to fix, range: 00~99.	03
<used satellite number of GLONASS>	The number of GLONASS satellite used to fix, range: 00~99.	00
<HDOP>	Horizontal dilution of precision.	1.20
<speed>	Speed over ground, unit: knot.	0.462
<course>	Course over ground, unit: degree.	356.23
<altitude>	Altitude, unit: meter.	137.9
<mileage>	Mileage, unit: Km.	1.5
<MCC>	Mobile country code.	460
<MNC>	Mobile network code.	07
<LAC>	Location area code.	262C
<Cell ID>	Cell ID.	0F54
<GSM signal strength>	GSM signal strength, range: 00~99.	25
<Digital input>	Digital input status,four value means 4 input status,(0 means low level, 1 means high level)	0000
<Digital output>	Digital output status,four valule means 4 output status,(0 means low level , 1 means high level)	0000
<External Voltage>	This value means the external voltage, range:0~4096	523
<Ain2>	This value means the analog input 2, range:0~4096	0
<Ain3>	This value means the analog input 3,range:0~4096	0
<temperature sensor 1>	Detected value of temperature sensor 1, unit: degree. (only used for vehicle tracker)	28.5
<temperature sensor 2>	Detected value of temperature sensor 2, unit: degree. (only used for vehicle tracker)	28.3
<RFID>	RFID information (reserved). (only used for vehicle tracker)	
<external accessories	Charging flag ('0' means not charging, '1' means charging)	1

status>		
<battery percent>	Battery percent, range: 000~100.	100
<alert event type>	Alert event type, see alert event type table .	Timer
;	End mark.	;
<checksum>	Checksum (reserved).	
<data tail>	Fixed character '!'. !	!

4. Alert event type table

Type name	Description	Example
Restart	Device restart by hardware.	Restart
PowerOn	Device power on by software.	PowerOn
PowerOff	Device power off by software.	PowerOff
Sos	SOS emergency alert.	Sos
Timer	Sending GPRS data by interval.	Timer
CallForSms	Sending SMS by making a call (only for SMS).	CallForSms
LowBattery	Low battery alert.	LowBattery
GeoX(GeoName) In	Going into the geo-fence, 'X' is the sequence of geo-fence, range: 1~5, "GeoName" is the name user set for geo-fence, range: 0~9 bytes.	Geo1(home) In
GeoX(GeoName) Out	Going out of the geo-fence, 'X' is the sequence of geo-fence, range: 1~5, "GeoName" is the name user set for geo-fence, range: 0~9 bytes.	Geo1(home) Out
BeltOn	Belt is connected.	BeltOn
BeltOff	Belt is disconnected.	BeltOff
LocRequest	Real-time location request	LocRequest
Error	Alert type error.	Error