

**GPS&GSM/GPRS
Vehicle Tracker Protocol
(V1.03)**

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The protocol is applied for our GPS vehicle tracker products.

It adopts UDP connection to connect Tracker and GPRS_SERVER, there are 2 types:

1. TRACKER transmits to GPRS_SERVER, message format is: Message head + message body,

GPRS_SERVER transmits to TRACKER, message format is: Message head + message body +message end signal

1. Tracker → GPRS_Server

1.1 Message Format

Tracker send to GPRS_Server message: Message_Head+Message_body

No.	Field	TYPE	Length	description
1	packetLen	short	2	Message length
2	CMD	short	2	Command ID: 0x0008 upload position 0x8009 control response 0x0003 Alarm message 0x0000 Shake hand 0x0200 image size 0x0201 image packet
3	MsgBody			

1.2 Upload position Message body

CMD_PosReq 0x0008

No.	Field	TYPE	Length	description
1	bEnable	unsigned char	1	Status: 0bit is locating 1bit Main power ;2,3,4,5bit is NULL;

				6bit ACC status ; 7bit poff
2	bAlarm	unsigned char	1	Default 0x80
3	nSpeed	char	1	Speed
4	nDirection	short	2	Direction angle
5	fLongitude	double	4	Longitude
6	fLatitude	double	4	Latitude
7	nDateTime	long	4	Date
8	sUserID	char	11	Device ID
9	nIOState	char	1	I/O status
10	nOilState	char	1	Value of Fuel

1.3 Response of control Message body

CMD_CommandResp 0x8009

No.	Field	TYPE	Length	description
1	nGisIp	int	4	GIS User IP
2	nPort	Unsigned int	4	GIS User ID
3	bEnable	unsigned char	1	Status 0 is locating ; 1bit main power; 2,3,4,5bit NULL; 6bit ACC status; 7pOff
4	bAlarm	unsigned char	1	0x80;
5	nSpeed	char	1	Speed
6	nDirection	short	2	Direction angle
7	fLongitude	double	4	Longitude
8	fLatitude	double	4	Latitude
9	nDateTime	long	4	Date
10	sUserID	char	11	Device ID
11	nIOState	char	1	I/O status
12	nOilState	char	1	Value of fuel
13	cErrorCode	Char	1	1-OK,0-failed

1.4 Upload the alarm Message body

CMD_AlarmReq 0x0003

No.	Field	TYPE	Length	description
1	bEnable	unsigned char	1	Status: 0bit is locating

				1bit Main power ;2,3,4,5bit is NULL; 6bit ACC status ; 7bit poff
2	bAlarm	unsigned char	1	(0x80)1:='SOS Alarm'; 2:='over_speed alarm'; 3:='e_fence alarm'; 9:='Cut Main power'
3	nSpeed	char	1	Speed
4	nDirection	short	2	Direction angle
5	fLongitude	double	4	Longitude
6	fLatitude	double	4	Latitude
7	nDateTime	long	4	Date
8	sUserID	char	11	Device ID
9	nIOState	char	1	I/Ostatus
10	nOilState	char	1	Value of fuel

1.5 Shake_hand Message_body

CMD_ShakeHandReq 0x0000

No.	Field	TYPE	Length	description
1	sUserID	char	11	Device ID

1.6 Upload image

CMD_UploadFileReq 0x0200

No.	Field	TYPE	Length	description
1	sUserID	char	11	Device ID
2	nDate	long	4	date
3	nTime	long	4	time
4	nFileLen	unsigned short	2	Size of image

1.7 Packet of image (TRACKER → GPRS_SERVER)

CMD_SendJpgReq 0x0201

No.	Field	TYPE	Length	description
1	sUserID	char	11	Device ID
2	nPage	unsigned short	2	Number of packet

3	nPageLen	unsigned short	2	Packet length
4	sData	char	506	Image data

2. GPRS_Server → TRACKER

3.1 Message format

GPRS_Server send to Tracker format: message_head+message_body+message_end

No.	Field	TYPE	Length	description
1	sMark	char	6	Flag of message (\r\n*KW)
2	packetLen	short	2	Message Length
3	CMD	short	2	Command ID
4	MsgBody			
5	sEnd	char	2	message end "\r\n"

3.2 Response of Shake hand

CMD_ShakeHandResp 0x8000

No.	Field	TYPE	Length	description
1	cErrorCode	char	1	status

3.3 Response of control

CMD_CommandReq 0x0002

No.	Field	TYPE	Length	description
1	nGisIp	int	4	GIS User IP
2	nPort	short	2	GIS User port
3	sData	Char	50	Control command is ASCII TEXT: *KW→ Data start flag 000→ ID; YYY →command ID ; HHMMSS→ time, PARA1, PARA2→paramter

				# →end flag
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3.4 Response of upload position

CMD_PosResp 0x8001

No.	Field	TYPE	Length	description
1	cErrorCode	char	1	状态码

3.5 Response of upload image

CMD_UploadFileResp 0x8200

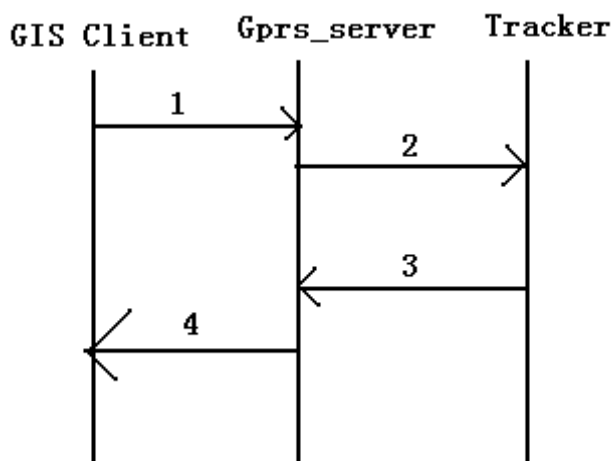
No.	Field	TYPE	Length	description
1	cErrorCode	char	1	Status code

3.6 Response of upload image packet

CMD_SendJpgResp 0x8201

No.	Field	TYPE	Length	description
1	cErrorCode	char	1	Status code

3. Appendix



GPRS_Server will save the last IP and port of tracker, if the GIS client will send the control or set

command ,it will send to gprs_server first, then server send to tracker, Tracker will send the position and alarm data to server ,server will save the data into the DB on the server ,if it is alarm message ,it will send to gis client.

3.1 Get tracker position * KW,000 ,000,HHMMSS#

Server send to tracker

\r\n*KW (sMark:6)	68 (nPackLen:2)	0x0002 (CMD:2)	234567 (nGisIp:4)	1234 (nPort:2)
*KW,000,000,070508# (sData:50)	“\r\n” (sEnd:2)			

note:\r\n

length is

2,HEX: 0x0d0a

respond: Tracker send to server

59 (packetLen:2)	0x8009 (CMD:2)	234567 (nGisIp:4)	1234 (nPort:2)	1 (bEnable:1)	1 (bAlarm:1)
20 (nSpeed:4)	12 (nDirection:4)	113.99907 (fLongitude:4)	22.5477 (fLatitude:4)	NR09B000 01 (sUserID:12)	02-02-10 11:06:30 (sDateTime:18)
1 (cErrorCode:1)					

3.2 Modify device password : * KW, 000,001, HHMMSS, *****,\$\$\$\$\$\$

*****is old password (default is 000000) ,\$\$\$\$\$\$ is new password

Example:

\r\n*KW (sMark:6)	68 (nPackLen:2)	0x0002 (CMD:2)	234567 (nGisIp:4)	1234 (nPort:2)
* KW,000,001,070508 , 000000,111111# (sData:50)	“\r\n” (sEnd:2)			

Respond:

59 (packetLen:2)	0x8009 (CMD:2)	234567 (nGisIp:4)	1234 (nPort:2)	1 (bEnable:1)	1 (bAlarm:1)
20 (nSpeed:4)	12 (nDirection:4)	113.99907 (fLongitude:4)	22.5477 (fLatitude:4)	NR09B000 01 (sUserID:12)	02-02-10 11:06:30 (sDateTime:18)

)	
1 (cErrorCode:1)					

3.3 Real-time respond *KW, 000,002, HHMMSS, interval

interval =0 is stop , interval=[30 ~ 65535 second]

example: 60 second send a position to server

\r\n*KW (sMark:6)	68 (nPackLen:2)	0x0002 (CMD:2)	234567 (nGisIp:4)	1234 (nPort:2)
*KW,000,002,070508,60 # (sData:50)	“\r\n” (sEnd:2)			

Respond:

59 (packetLen:2)	0x8009 (CMD:2)	234567 (nGisIp:4)	1234 (nPort:2)	1 (bEnable:1)	1 (bAlarm:1)
20 (nSpeed:4)	12 (nDirection:4)	113.99907 (fLongitude:4)	22.5477 (fLatitude:4)	NR09B000 01 (sUserID:12)	02-02-10 11:06:30 (sDateTime:18)
1 (cErrorCode:1)					

3.4 Telephone set: * KW, 000,003, HHMMSS,P,TelNumber#

P=[1,3]

TelNumber is the telephone number, max length is 16

\r\n*KW (sMark:6)	68 (nPackLen:2)	0x0002 (CMD:2)	234567 (nGisIp:4)	1234 (nPort:2)
*KW,000,003,070508,2, 3,13500000001# (sData:50)	“\r\n” (sEnd:2)			

Respond:

59 (packetLen:2)	0x8009 (CMD:2)	234567 (nGisIp:4)	1234 (nPort:2)	1 (bEnable:1)	1 (bAlarm:1)
20 (nSpeed:4)	12 (nDirection:4)	113.99907 (fLongitude:4)	22.5477 (fLatitude:4)	NR09B000 01 (sUserID:12)	02-02-10 11:06:30 (sDateTime:18)

)	
1 (cErrorCode:1)					

3.5 Control the engine : *KW,000,007, HHMMSS,0# (0: close, 1: open)

Example

\r\n*KW (sMark:6)	68 (nPackLen:2)	0x0002 (CMD:2)	234567 (nGisIp:4)	1234 (nPort:2)
* KW,000,007,070508, 0 # (sData:50)	“\r\n” (sEnd:2)			

respond

59 (packetLen:2)	0x8009 (CMD:2)	234567 (nGisIp:4)	1234 (nPort:2)	1 (bEnable:1)	1 (bAlarm:1)
20 (nSpeed:4)	12 (nDirection:4)	113.99907 (fLongitude:4))	22.5477 (fLatitude:4)	NR09B000 01 (sUserID:12))	02-02-10 11:06:30 (sDateTime:18)
1 (cErrorCode:1)					

3.6 Over speed set : *KW,000,005, HHMMSS ,XX#

XX is the speed

=00is close the over speed alarm function

=[01<XX<20] (unit: 10Km)

Example: set the max speed is 10Km/H

\r\n*KW (sMark:6)	68 (nPackLen:2)	0x0002 (CMD:2)	234567 (nGisIp:4)	1234 (nPort:2)
*KW,000,005,070508,10 # (sData:50)	“\r\n” (sEnd:2)			

Respond:

59 (packetLen:2)	0x8009 (CMD:2)	234567 (nGisIp:4)	1234 (nPort:2)	1 (bEnable:1)	1 (bAlarm:1)
20 (nSpeed:4)	12 (nDirection:4)	113.99907 (fLongitude:4)	22.5477 (fLatitude:4)	NR09B000 01	02-02-10 11:06:30 (sDateTime:18)

)		(sUserID:12)	
1	(cErrorCode:1))	

3.7 e-Fence Setting: * KW, 000,006, HHMMSS ,XX#

XX = [00,50] (unit :100m)

=00 is close e_Fence function

=01 100m

=02 200m

=03 300m

=04 400m

=05 500m

Example: **Set Distance (1100)M**

\r\n*KW	68	0x0002	234567	1234
(sMark:6)	(nPackLen:2)	(CMD:2)	(nGisIp:4)	(nPort:2)
*KW,000,006,070508,11	“\r\n”			
# (sData:50)	(sEnd:2)			

Respond

note: (the command is Valid only when GPS work well)

59	0x8009	234567	1234	1	1
(packetLen:2)	(CMD:2)	(nGisIp:4)	(nPort:2)	(bEnable:1)	(bAlarm:1)
20	12	113.99907	22.5477	NR09B000	02-02-10 11:06:30
(nSpeed:4)	(nDirection:4)	(fLongitude:4)	(fLatitude:4)	01	(sDateTime:18)
)		(sUserID:12)	
)	
1	(cErrorCode:1)				

3.8 Set the device ID: * KW, 000,009, HHMMSS ,YYYY#

YYYY the device ID

例:

\r\n*KW	68	0x0002	234567	1234
(sMark:6)	(nPackLen:2)	(CMD:2)	(nGisIp:4)	(nPort:2)
*KW,000,009,070508,00	“\r\n”			
1 # (sData:50)	(sEnd:2)			

Respond

59 (packetLen:2)	0x8009 (CMD:2)	234567 (nGisIp:4)	1234 (nPort:2)	1 (bEnable:1)	1 (bAlarm:1)
20 (nSpeed:4)	12 (nDirection:4)	113.99907 (fLongitude:4)	22.5477 (fLatitude:4)	NR09B000 01 (sUserID:12)	02-02-10 11:06:30 (sDateTime:18)
1 (cErrorCode:1)					

3.9 Restart device: * KW, 000,099, HHMMSS

例:

\r\n*KW (sMark:6)	68 (nPackLen:2)	0x0002 (CMD:2)	234567 (nGisIp:4)	1234 (nPort:2)
*KW, 000, 014, 070508# (sData:50)	“\r\n” (sEnd:2)			

Respond

59 (packetLen:2)	0x8009 (CMD:2)	234567 (nGisIp:4)	1234 (nPort:2)	1 (bEnable:1)	1 (bAlarm:1)
20 (nSpeed:4)	12 (nDirection:4)	113.99907 (fLongitude:4)	22.5477 (fLatitude:4)	NR09B000 01 (sUserID:12)	02-02-10 11:06:30 (sDateTime:18)
1 (cErrorCode:1)					

3.10 Shake hand message:

Example:

16 (packetLen:2)	0x0000 (CMD:2)	NR09B00001 (sUserID:12)
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Respond

\r\n*KW (sMark:6)	13 (nPackLen:2)	0x8000 (CMD:2)	1 (cErrorCode:1)	“\r\n” (sEnd:2)
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