

G106 Extended Function Details

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1.Over Speeding

1.1 Overspeed Alarm Function Logic Description

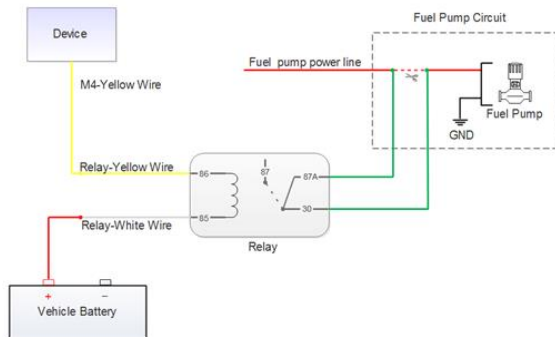
The buzzer should sound immediately after the speed exceeds the threshold value, after the overspeed continues for 20 seconds, the overspeed alarm will be sent to the server via GPRS (20 seconds can be changed by command), after the first 0x82 overspeed alarm, 0x82 overspeed will be sent every 10 seconds Alert, in each A3 data there must be the current speeding status.

1.2 Overspeed Alarm Function Wiring

As shown in the figure below, Relay is connected to M4-Fuel pump control, and Buzzer is connected to I10-Output2:

Pin No.	Pin Name	Wire Color	Description
M1	POWER+	Red	DC 9V-55V input (Standard 12/24 V)
M2	GND	Black	Ground
M3	Ignition (ACC)	White	Digital Input (Positive Triggered for Ignition Detected) Positive trigger: Valid: Voltage input>6.2V Invalid: Voltage input<4V
M4	Fuel pump control	Yellow	Digital Negative Output (For controlling Fuel pump circuit) Valid: low level (0 V) Invalid: open collector Maximum voltage for output open collector (invalid): 45 V Maximum current for output low voltage (valid): 500 mA Connect to an external relay to remotely cut off the vehicle fuel cable or engine power supply
I7	Or Low reserved1	Red	Connected to iButton & Temperature Sensor Negative Triggered-Reserved digital input Negative Trigger: Valid: Voltage input<0.7V Invalid: Voltage input>4V
I8	Analog Input1	Black	AD1: Voltage input 0 to 5 Volts Connect to fuel sensor, load sensor, pressure Sensor...
I9	Analog Input2	White	AD2: Voltage input 0 to 5 Volts Connect to fuel sensor, load sensor, pressure Sensor...
I10	Output2 (Buzzer)	Yellow	Digital Negative Output Valid: low level (0 V) Invalid: open collector Maximum voltage for output open collector (invalid): 45 V Maximum current for output low voltage (valid): 500 mA Connect to an external relay to control other circuit

Schematic diagram of vehicle connection and disconnection circuit: M4-Fuel pump control



1.3 Overspeed Alarm Function Status Bits And Alarm Status Bits

General (0xA3) status bits:

ST1	BIT	Description	Wire connection definition
	BIT7	1 means ACC OFF; 0 means ACC ON	White wire-G101/G102/G200/G500; (High level trigger)
	BIT6	1 means High reserved Or Air condition normal; 0 means high reserved Or Air condition trigger	Brown wire-G500-M (High level trigger) Brown wire-G101/G102-INPUT3
	BIT5	1 means Low reserved normal; 0 means Low reserved trigger	Blue wire-G500-M2 (Low level trigger)
	BIT4	1 means High reserved 3 normal; 0 means high reserved 3 trigger	Green wire-G500-13 (High level trigger)
	BIT3	1 means High reserved 2 normal; 0 means high reserved 2 trigger	Grey wire-G500-11 (High level trigger)
	BIT2	1 means oil /engine circuit normal; 0 means oil /engine circuit break	Yellow wire-G200/G500-M4; Yellow wire-G101/G102-OUT1 G106 Out1 Status
	BIT1	1 means Tamper switch normal; 0 means Tamper switch trigger	GPS tracker Tamper alert Tamper switch
	BIT0	1 means normal; 0 means active	G106 Out2 Status

Alarm (0x82) status bits:

G500 ST	G500 BIT	G500 Event name	G500 Note
	BIT 7	Enter Geofence	
	BIT 6	Exit Geofence	
	BIT 5	Load Sensor Disconnect	
	BIT 4	Low voltage	Low external voltage
	BIT 3	user-defined 5	I/O B-brown black wire
	BIT 2	user-defined 2	I/O M2-blue wire
	BIT 1	High reserved-or (air condition)	I/O M1-brown wire
	BIT 0		
	BIT 7		
	BIT 6	Towing Alarm	
	BIT 5	Vibration Alarm	
	BIT 4		
	BIT 3	Main Power Disconnected	
	BIT 2	Reverse Alarm	I/O H voltage>20V trigger
	BIT 1	Over Speed Alarm	
	BIT 0	SOS Alarm	I/O M2-Blue wire

1.4 Configuration Command

Command: *SPJLX*P:753869*s:1,80,20,1,#

80: 80KM/H, Overspeed Threshold

20: 20s, after continuously overspeed for 20s, overspeed alarm of 0x82 will be generated

1: Whether to control the buzzer after overspending, the default is 1. 0 is not control,1 is control

2. Pulse Detection (RPM)

2.1 Pulse Detection Function Logic Description

The SOS wire in 6PIN is changed to pulse detection in G106. Pulse detection algorithm: the number of pulses detected per second * factor = RPM speed, the factor is configured by the customer's commands, and the default factor is 1.

Alarm principle of RPM function: when the RPM exceeds the set threshold, the 0x82 alarm data will be triggered, and a continuous sound of beep~beep~beep~beep will be emitted (all the time); when the RPM is less than the set threshold, 0x82 will be triggered to end the alarm data, and stop the buzzer sound. The alarm threshold can be modified. When it is 0, this function is disabled, and when it is greater than 0, this function is enabled.

2.2 Pulse Detection Function Wiring

As shown in the figure below, the pulse signal line is connected to M6-Pulse detection, and the Buzzer is connected to I10-Output2:

Pin No. [↵]	Pin Name [↵]	Wire Color [↵]	Description [↵]
M1 [↵]	POWER [↵]	Red [↵]	DC 9V-55V input (Standard 12/24 V) [↵]
M2 [↵]	GN [↵]	Black [↵]	Ground [↵]
M3 [↵]	Ignition (ACC) [↵]	White [↵]	Digital Input (Positive Triggered for Ignition Detected) [↵] Positive trigger: [↵] Valid: Voltage input>6.2V [↵] Invalid: Voltage input<4V [↵]
M4 [↵]	Fuel pump control [↵]	Yellow [↵]	Digital Negative Output (For controlling Fuel pump circuit) [↵] Valid: low level (0 V) [↵] Invalid: open collector [↵] Maximum voltage for output open collector (invalid): 45 V [↵] Maximum current for output low voltage (valid): 500 mA [↵] Connect to an external relay to remotely cut off the vehicle fuel cable or engine power supply. [↵]
M5 [↵]	SOS [↵]	Brown [↵]	Positive Trigger (SOS button) [↵] Positive trigger: [↵] Valid: Voltage input>6.2V [↵] Invalid: Voltage input<4V [↵]
M6 [↵]	Pulse detection [↵]	Blue [↵]	Negative Triggered (Pulse detection) [↵] Negative Trigger: [↵] Valid: Voltage input<0.7V [↵] Invalid: Voltage input>4V [↵]

Pin No. [↵]	Pin Name [↵]	Wire Color [↵]	Description [↵]
I7 [↵]	1-Wire [↵] Or Low reserved1 [↵] (Vehicle Door) [↵]	Red [↵]	Connected to iButton & Temperature Sensor [↵] Negative Triggered-Reserved digital input [↵] Negative Trigger: [↵] Valid: Voltage input<0.7V [↵] Invalid: Voltage input>4V [↵]
I8 [↵]	Analog Input1 [↵]	Black [↵]	AD1: Voltage input 0 to 5 Volts [↵] Connect to fuel sensor, load sensor, pressure Sensor... [↵]
I9 [↵]	Analog Input2 [↵]	White [↵]	AD2: Voltage input 0 to 5 Volts [↵] Connect to fuel sensor, load sensor, pressure Sensor... [↵]
I10 [↵]	Output2 [↵] (Buzzer) [↵]	Yellow [↵]	Digital Negative Output [↵] Valid: low level (0 V) [↵] Invalid: open collector [↵] Maximum voltage for output open collector (invalid): 45 V [↵] Maximum current for output low voltage (valid): 500 mA [↵] Connect to an external relay to control other circuit [↵]

2.3 Pulse Detection Function Status Bits And Alarm Status Bits

General (0xA3) status bits:

ST2	BIT7	1 means SOS button normal; 0 means trigger SOS button	Blue wire M2-(Low level trigger) G106 Brown wire M5-(High level trigger)
	BIT6	1 means normal; 0 means over speed alert	
	BIT5	1 means normal; 0 means over parking alert	
	BIT4	1 means normal; 0 means exit geo-fence	
	BIT3	1 means normal; 0 means enter into geo-fence	
	BIT2	1 means normal; 0 means door open	Brown black wire-G500-I9-(Low level trigger)
	BIT1	1 mean's Pulse mode 0 mean's GPS mode	working mode Only Speed Limiter support
	BIT0	1 mean's Pulse wire connected 0 mean's Pulse wire disconnected	Pulse wire status G106 Blue wire M6-(Negative Trigger)
	BIT7	Reserve	
ST3	BIT6	1 means platform should send response command: 0x21 to confirm the data; 0 means Platform doesn't need to response this data.	
	BIT5	1 means normal; 0 means the pulse signal value is greater than the preset value	Pulse wire alert status G106 Blue wire M6-(Negative Trigger)

Alarm (0x82) status bits:

ST	G500/G106 BIT	G500/G106 Event name	G500/G106 Note
	BIT 7	Enter Geofence	
	BIT 6	Exit Geofence	
	BIT 5	Load Sensor Disconnect	
ST1	BIT 4	low voltage	Low external voltage
	BIT 3	user-defined 5	I/O I9-brown black wire
	BIT 2	user-defined 2	I/O M2-blue wire
	BIT 1	High reserved-or (air-condition)	I/O M1-brown wire
	BIT 0		
	BIT 7		
	BIT 6	Towing Alarm	
	BIT 5	Vibration Alarm	
ST2	BIT 4	RPM Alarm	G106 M6-Blue wire
	BIT 3	Main Power Disconnected	
	BIT 2	Reverse Alarm	I/O I4 voltage>20V trigger
	BIT 1	Over Speed Alarm	
	BIT 0	SOS Alarm	I/O M2-Blue wire

2.4 Configuration Command

Query: *SPJLX*P:753869*RPM:0#

Reply: <*RPM:1000>

Reply value expanded 1000 times

Set: *SPJLX*P:753869*RPM:1,10#

Reply: <*RPM:10000>

RPM reaches threshold alarm:

*SPJLX*P:753869*RPMA:1,40,2#

Set the alarm threshold to 40RPM and the duration to 2s. If you want quick check you can configure it to 0s.

<*RPMA:40,2>

Query: *SPJLX*P:753869*RPMA:0#

Reply: <*RPMA:40,2>

Disable RPM reaches threshold alarm:

*SPJLX*P:753869*RPMA:1,0,0#

2.5 Extended Byte Upload

Speed RPM Extended Byte ID=0x57

0x57 0x02 0x0A 0x6B

0x02 length two bytes

0x0A 0x6B = 2667 RPM

2.6 Extended Byte Alarm Byte Upload Test Process and Results

RPM is 0, threshold is 40, no alarm data:

2929A3004533D1D708220224113031022424821141591800000000FB0000007F7E3C0000160A6400000A00001D21020076220364104B290C0001EE82000000000000000057020000A10D

57:0x57 Extended command keyword, indicating speed data

02: Extended data length,0x02 = 2 Bytes

0000: Rotating speed,0x00 0x00 = 0 RPM

RPM is 16, threshold is 40, no alarm data:

2929A3004533D1D708220224113830022424821141591800000033FB0000007F7F3B0000090B6400000B00001D21020076220364104B290C0001F0620000000000000000570200106C0D

57:0x57 Extended command keyword, indicating speed data

02: Extended data length,0x02 = 2 Bytes

0010: Rotating speed,0x00 0x10 = 16 RPM

RPM is 50, threshold is 40, 0xA3 data:

2929A3004533D1D708220224114130022424821141591800000033FB0000007F7F1A0000090B6400000B00001D21020076220364104C290C0001F116000000000000000057020032640D

57:0x57 Extended command keyword, indicating speed data

02: Extended data length,0x02 = 2 Bytes

0032: Rotating speed,0x00 0x10 = 50 RPM

RPM is 50, threshold is 40, start alarm data(0x82):

292982002333D1D70822022411411202242482114159180000003380000000100000000000000000E80D

RPM is 50, threshold is 40, end alarm data(0x82):

292982002333D1D7082202241145580224248211415917000000338000000010000000000000000080290D

Transparently transmit ASCII data to COM1:

*SPJLX*P:753869*TRANS:A,1,SGBRAS|044|011|2|095|0000002368|#

A: Indicates that the data content is ASCII

1: indicate COM1

SGBRAS|044|011|2|095|0000002368|: 表示格式为 ASCII 的数据内容

Transparently transmit Hex data to COM2:

*SPJLX*P:753869*TRANS:H,2,5347425241537C3034347C3031317C327C3039357C303030303030323336387C#

H: Indicates that the data content is Hex

2: indicate COM2

5347425241537C3034347C3031317C327C3039357C303030303030323336387C: Represents the data content in the format of Hex

3.4 Extended Byte Upload

Extended Byte Command Word:0x56

A maximum of 128 bytes of data can be uploaded.

Device transparent transmission, extended ID=0x56, the longest transparent transmission data is 128 bytes

3.5 Test Process And Results

Peripherals transparently transmit data to the server:

e.g.: The end of the agreement is *, *= 0x2A (0x2A = 42)

Send: *SPJLX*P:753869*DTU:1,1,1,115200,0,42#

Reply: <*DTU:1,COM1,115200,0,42>

Send: *SPJLX*P:753869*DTU:1,1,2,115200,10,0#

Reply: <*DTU:1,COM1+COM2,115200,10,42>

e.g.:

2929A300423099934C2011041323280224246611415917000000007B000000FFFF110000E7001E000000
00001A2102007822031E0E0655090C110101F401F4000057020097A70D2929A300593099934C20110413232
70224246611415917000000007B000000FFFF110000E7001E0000000000312102007822031E0E0655090B110
101F401F400005615313233343536373839307E21402324255E262A282957020097B30D

56: 0x56 Extended command word, indicating transparent data transmission

15: 0x15 Extended data length, 0x15 = 21 Bytes

313233343536373839307E21402324255E262A2829: Extended data, 1234567890~!@#\$\$%^&*()

Server transparently transmits data to peripherals:

Trans data to COM1: *SPJLX*P:753869*TRANS:A,1,SGBRAS|044|011|2|095|0000002368|#

Trans data to COM2: *SPJLX*P:753869*TRANS:A,2,SGBRAS|044|011|2|095|0000002368|#

4. iButton And RFID

4.1 iButton And RFID Functional Logic Description

Precondition:

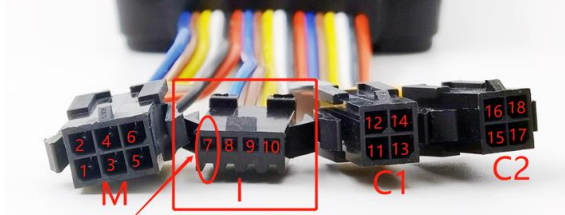
Correctly connect the normally closed relay (generally control the oil pump circuit), and configure the whitelist **10-digit iButton card number** or RFID card number. By default, the firmware supports iButton using the last ten digits of the iButton ID, and loads the RFID driver through command.

Swipe logic description:

Use a normally closed relay to connect the fuel pump electricity wire. **If the RFID card is not swiped in advance, when the ACC is turned on, the relay will be disconnected immediately**, At this time, the driver swipes the ibutton or RFID card. After swiping the RFID card, the registration data is issued. The driver turns the key on the ignition and starts the car. When the acc off state lasts for 60 seconds, the sign-out data will be issued (can be modified by command). If you swipe the card with a different RFID card number when the acc is opened, it is the one before the cancellation and the last one for the registration. **Acc on, swipe the RFID card, the relay does not work (normally closed, the wire is on), after acc off ten seconds, the relay has been working (open circuit state); each 0xA3 data needs to bring the card swipe ID**

4.2 iButton And RFID Functional Wiring

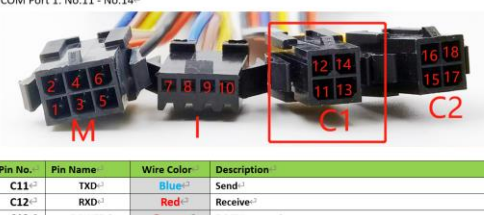
iButton Wiring



The diagram shows a 4-pin connector with pins labeled 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18. Pins 1, 2, 3, 4, 5, 6 are grouped as M. Pins 7, 8, 9, 10 are grouped as I. Pins 11, 12, 13, 14 are grouped as C1. Pins 15, 16, 17, 18 are grouped as C2.

Pin No.	Pin Name	Wire Color	Description
17 ⁽¹⁾	Or Low reserved1 ⁽²⁾ (Vehicle Door) ⁽³⁾	Red ⁽⁴⁾	Connected to iButton & Temperature Sensor ⁽⁵⁾ Negative Triggered-Reserved digital input ⁽⁶⁾ Negative Trigger: ⁽⁷⁾ Valid: Voltage input<0.7V ⁽⁸⁾ Invalid: Voltage input>4V ⁽⁹⁾
18 ⁽¹⁾	Analog Input1 ⁽²⁾	Black ⁽⁴⁾	AD1: Voltage input 0 to 5 Volts ⁽⁵⁾ Connect to fuel sensor, load sensor, pressure Sensor... ⁽⁶⁾
19 ⁽¹⁾	Analog Input2 ⁽²⁾	White ⁽⁴⁾	AD2: Voltage input 0 to 5 Volts ⁽⁵⁾ Connect to fuel sensor, load sensor, pressure Sensor... ⁽⁶⁾
110 ⁽¹⁾	Output2 ⁽²⁾ (Buzzer) ⁽³⁾	Yellow ⁽⁴⁾	Digital Negative Output ⁽⁵⁾ Valid: low level (0 V) ⁽⁶⁾ Invalid: open collector ⁽⁷⁾ Maximum voltage for output open collector (invalid): 45 V ⁽⁸⁾ Maximum current for output low voltage (valid): 500 mA ⁽⁹⁾ Connect to an external relay to control other circuit ⁽¹⁰⁾

RFID Wiring



The diagram shows a 4-pin connector with pins labeled 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18. Pins 1, 2, 3, 4, 5, 6 are grouped as M. Pins 7, 8, 9, 10 are grouped as I. Pins 11, 12, 13, 14 are grouped as C1. Pins 15, 16, 17, 18 are grouped as C2.

COM Port 1: No.11 - No.14⁽¹⁾

Pin No.	Pin Name	Wire Color	Description
C11 ⁽²⁾	TXD ⁽³⁾	Blue ⁽⁴⁾	Send ⁽⁵⁾
C12 ⁽²⁾	RXD ⁽³⁾	Red ⁽⁴⁾	Receive ⁽⁵⁾
C13 ⁽²⁾	POWER ⁽³⁾	Brown ⁽⁴⁾	DC 5V output ⁽⁵⁾
C14 ⁽²⁾	GND ⁽³⁾	Black ⁽⁴⁾	Ground ⁽⁵⁾

COM Port 2: No.15 - No.18⁽¹⁾



The diagram shows a 4-pin connector with pins labeled 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18. Pins 1, 2, 3, 4, 5, 6 are grouped as M. Pins 7, 8, 9, 10 are grouped as I. Pins 11, 12, 13, 14 are grouped as C1. Pins 15, 16, 17, 18 are grouped as C2.

Pin No.	Pin Name	Wire Color	Description
C15 ⁽²⁾	TXD ⁽³⁾	Blue ⁽⁴⁾	Send ⁽⁵⁾
C16 ⁽²⁾	RXD ⁽³⁾	Brown ⁽⁴⁾	Receive ⁽⁵⁾
C17 ⁽²⁾	POWER ⁽³⁾	White ⁽⁴⁾	DC 5V output ⁽⁵⁾
C18 ⁽²⁾	GND ⁽³⁾	Blue ⁽⁴⁾	Ground ⁽⁵⁾

4.3 Configuration Command

Query iButton function enable: *SPJLX*P:753869*IBUTTON:#

Reply: <*IBUTTON:1>

Disable iButton functionality: *SPJLX*P:753869*IBUTTON:1,0#

Reply: <*IBUTTON:0>

Enable iButton function: *SPJLX*P:753869*IBUTTON:1,1#

Reply: <*IBUTTON:1>

Enable RFID & Disable ibutton command: *SPJLX*P:753869*W:0,16,0,0#

Reply: <SET*W: Device OK>

Enable iButton & Disable RFID command: *SPJLX*P:753869*W:0,0,0,0#

Reply: <SET*W: Device OK>

1>Query current working mode

*SPJLX*P:753869*Q:0#

2>Configure working mode

*SPJLX*P:753869*Q:1,workingMode#

3>Query a group of card numbers

*SPJLX*P:753869*Q:2,groupNumber#

4>Configure card number

*SPJLX*P:753869*Q:3,groupNumber,numberOfCards,1,2,3,4...15,#

5>Clear a card in a group

*SPJLX*P:753869*Q:4,groupNumber,numberOfCards,1,2,3,,#

6>Clear all card numbers in a group

*SPJLX*P:753869*Q:4,groupNumber#

7>Clear all card numbers

*SPJLX*P:753869*Q:4#

8>Restart command: *SPJLX*P:753869*B:#

Finally, a restart command must be sent, and the whitelist will take effect after restarting.

After modifying the Acc off state for 10 seconds, send the sign-out data: *SPJLX*P:753869*H:2,10#

10: Indicates 10 seconds, the factory default is 60 seconds.

Reply: <SET*H: Param OK>

4.4 Extended Byte Upload

Extended byte command word: 0x05

4.5 Test Process And Results

lbutton Test:



1> Enable iButton function:

Reply: <*IBUTTON:1>

Reply: <SET*W: Device OK>

Reply: <SET*H: Param OK>

Reply: <RFID Mode:4>

Reply: <RFID :4,0>

Reply: <RFID :4,5,1,0001BFB2C2,0015596909,,,,,,,,,,,,,>

Reply: <SET*B:868817040857821,Restart...>

30 30 30 31 43 30 33 44 37 31: total 10 bytes mean's rfid or ibutton number.

000018050B0130 30 30 31 43 30 30 37 33 322102007B2203140DDA110D

RFID Test:



RF200-A

RF200-B

RF200-C

1> Disable iButton function:

Send: *SPJLX*P:753869*IBUTTON:1,0#

Reply: <*IBUTTON:0>

2>Load RFID Driver:

Send: *SPJLX*P:753869*W:0,16,0,0#

Reply: <SET*W: Device OK>

3> Set ACC OFF automatic sign-out time 10 Seconds:

Send: *SPJLX*P:753869*H:2,10#

Reply: <SET*H: Param OK>

4> Configure working mode 4:

Send: *SPJLX*P:753869*Q:1,4#

Reply: <RFID Mode:4>

5> Clear white list(any RFID card number is valid):

Send: *SPJLX*P:753869*Q:4#

Reply: <RFID :4,0>

6> Configure RFID card number(only white list RFID card number is valid):

Send: *SPJLX*P:753869*Q:3,1,2,0016759963,0015596909,,,,,,,,,,,,,#

Reply: <RFID :4,2,1,0016759963,0015596909,,,,,,,,,,,,,>

7> Reboot the device

Send: *SPJLX*P:753869*B:#

Reply: <SET*B:868817040857821,Restart...>

5. Output1 And Output2 Can Be Controlled By Commands

5.1 Functional Logic Description

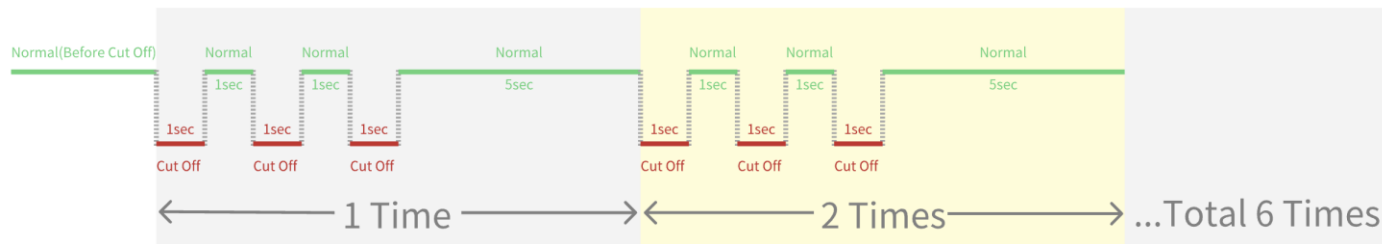
Configure the working mode of the two output ports through the command:

Working mode 1:

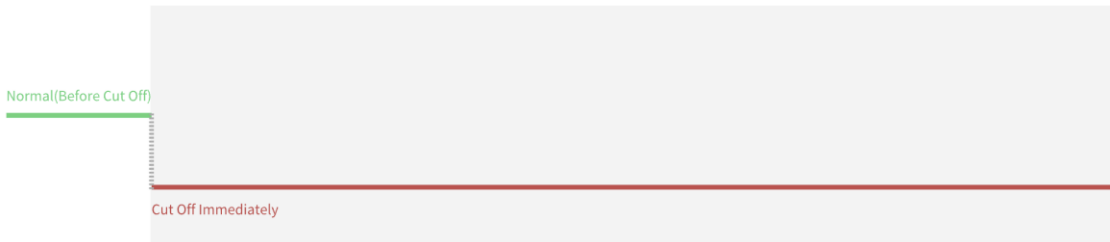
If the speed is > 10, each group will be on for 1 second, then off for 1 second, on for 1 second, off for 1 second, on for 1 second, off for 1 second, and then on for 5 seconds. After 6 groups of cycles, the fuel pump will be cut off regardless of the final speed. If the speed is less than 10, directly cut off the fuel pump power. The logic diagram is as follows:

Remote immobilizer logic diagram

If the speed is more than 10KM/H:



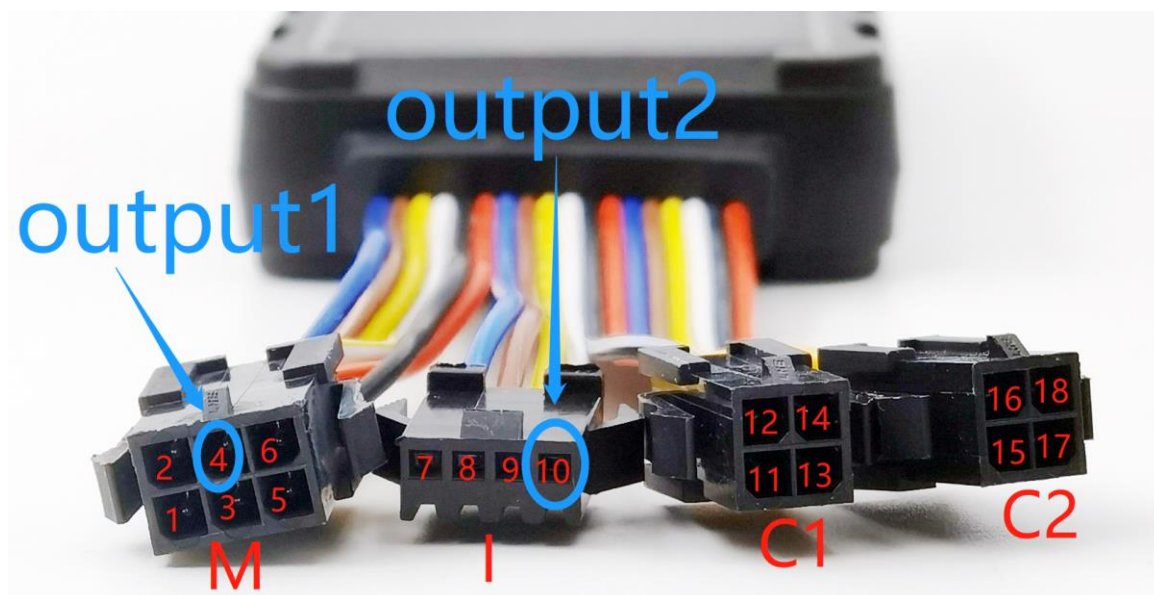
If the speed is less than 10KM/H:



Working mode 2:

After receiving the command, the I/O port directly switches on and off the logic.

5.2 output1&output2Functional Wiring



5.3 Configuration Command

*SPJLX*P:753869*O1M:0#

--- Query working mode of Output1: the current working mode of M4

*SPJLX*P:753869*O1M:1,0#

--- Set working mode: immediately cut off fuel pump power, does not support vehicle cycle fuel pump power cut off logic

*SPJLX*P:753869*O1M:1,1#

--- Set the working mode: default, according to the logic of turning on and off the fuel pump power 3 times according to the previous 20 seconds

*SPJLX*P:753869*OUT1:OP,X#

--- M4 fuel pump power cut off port in main power cord: M4

OP: Operate code, 0 is query, 1 is set.

X: 1 is enable **X:** 0 is Disable

If the working mode is <*O1M:1>, then the M4 control command is as follows:

*SPJLX*P:753869*D:O21# ----- M4 Remote Immobilize

*SPJLX*P:753869*D:O20# ----- M4 Disable Immobilize

If the working mode is <*O1M:0>, then the M4 control command is as follows:

*SPJLX*P:753869*OUT1:1,1# M4 Remote Immobilize immediately

*SPJLX*P:753869*OUT1:1,0# M4 Disable Immobilize immediately

Query the current I/O status of Out1:

Send: *SPJLX*P:753869*OUT1:0#

Reply: <*OUT1:0>

0: Indicates the fuel pump power normal, Non-0 means fuel pump power cut off.

Reply: <*OUT1:61>

61: Indicates the fuel pump power normal, Non-0(**61**) means fuel pump power cut off.

*SPJLX*P:753869*O2M:0#

--- Query the working mode of Output2: the current working mode of I4

*SPJLX*P:753869*O2M:1,0#

---Set the working mode: default, immediately cut off fuel pump power, does not support vehicle cycle fuel cut off logic

*SPJLX*P:753869*O2M:1,1#

--- Set the working mode: default, according to the logic of turning on and off the fuel pump power 3 times according to the previous 20 seconds

*SPJLX*P:753869*OUT2:OP,X# 扩展 I/O: I4

OP: Operate code, 0 is query, 1 is set.

X: 1 is enable **X:** 0 is Disable

If the working mode is <*O2M:0>, then the control command of I4 is as follows:

*SPJLX*P:753869*OUT2:1,1# I4 Remote Immobilize immediately

*SPJLX*P:753869*OUT2:1,0# I4 Disable Immobilize immediately

Query the current I/O status of Out2:

Send: *SPJLX*P:753869*OUT2:0#

Reply: <*OUT2:0>

0: Indicates normal, Non-0 means cut off.

Reply: <*OUT2:61>

61: Indicates normal, Non-0(61) means cut off.

5.4 Status Bit Upload

		ST1	ST2	ST3	ST4
		11111111	11111111	01001010	00000000
ST	BIT	Description		Wire connection definition	
ST1	BIT7	1 means ACC OFF; 0 means ACC ON		White wire-(G101/G102/G200/G500) (High level trigger)	
	BIT6	1 means High reserved Or Air condition normal; 0 means high reserved Or Air condition trigger;		Brown wire-G500-M Brown wire-G101/G102-INPUT3	
	BIT5	1 means Low reserved normal; 0 means Low reserved trigger		Blue wire-G500-M2-(Low level trigger)	
	BIT4	1 means High reserved 3 normal; 0 means high reserved 3 trigger;		Green wire-G500-I3-(High level trigger)	
	BIT3	1 means High reserved 2 normal; 0 means high reserved 2 trigger;		Grey wire-G500-I1-(High level trigger)	
	BIT2	1 means oil /engine circuit normal; 0 means oil /engine circuit break		Yellow wire-G200/G500-M4 Yellow wire-G101/G102-OUT1 G106 Out1 Status	
	BIT1	1 means Tamper switch normal; 0 means Tamper switch trigger		GPS tracker Tamper alert Tamper switch	
	BIT0	1 means normal; 0 means active		G106 Out2 Status	
ST2	BIT7	1 means SOS button normal; 0 means trigger SOS button		Blue wire M2-(Low level trigger) G106 Brown wire M5-(High level trigger)	
	BIT6	1 means normal; 0 means over speed alert			
	BIT5	1 means normal; 0 means over parking alert			
	BIT4	1 means normal; 0 means exit geo-fence			
	BIT3	1 means normal; 0 means enter into geo-fence			
	BIT2	1 means normal; 0 means door open		Brown black wire-G500-I9-(Low level trigger)	
	BIT1	1 mean's Pulse mode 0 mean's GPS mode		working mode Only Speed Limiter support	
	BIT0	1 mean's Pulse wire connected 0 mean's Pulse wire disconnected		Pulse wire status G106 Blue wire M6-(Negative Trigger)	

7. Driver's Driving Behavior

7.1 Functional Logic Description

Use GPS or G-Sensor to determine the driver's rapid acceleration, rapid deceleration, and sharp turns.

7.2 Installation Requirements

7.3 Configuration Command

Algorithm Configuration Command:

Query: `*SPJLX*P:753869*DRIVETYPE:0#`

Reply: `<*DRIVETYPE:1,1>`

Set: `*SPJLX*P:753869*DRIVETYPE:1,0,1#`

Reply: `<*DRIVETYPE:0,1>`

0, Single GPS mode;

1, Single G-Sensor mode

0: Only valid in single G-Sensor mode, indicates the continuous accumulation times value.

To configure single GPS mode: `*SPJLX*P:753869*DRIVETYPE:1,0#`

Configure single G-Sensor mode: `*SPJLX*P:753869*DRIVETYPE:1,1,1#`

Configuration Command:

Driving behavior parameter query: `*SPJLX*P:753869*DRIVER:0#`

Driving behavior parameter reply: `<*DRIVER:50,50,40,60,30,30>`

Driving behavior parameter set: `*SPJLX*P:753869*DRIVER:1,50,50,40,60,30,30#`

Driving behavior parameter reply: `<*DRIVER:50,50,40,60,30,30>`

Single GPS Mode:

`*SPJLX*P:753869*driver,1,50,50,40,60,30,30#`

50: High-speed rapid acceleration threshold, speed increased by 50%

50: Low-speed rapid acceleration threshold, the speed is increased by 50%

40: High speed rapid deceleration threshold, speed reduced by 40%

60: Low speed rapid deceleration threshold, speed reduced by 60%

30: 30-degree change in high-speed turns

30: 30 degree change in low speed turns

Single G-Sensor mode:

`*SPJLX*P:753869*driver,1,50,50,40,60,30,30#`

50: High-speed rapid acceleration threshold, the range is 8g, $50\% \times 8g = 4g$, the Y-axis forward threshold is greater than the threshold

50: Low-speed rapid acceleration threshold, the range is 8g, $50\% \times 8g = 4g$, the Y-axis forward threshold is greater than the threshold

40: High-speed rapid deceleration threshold, the range is 8g, $40\% \times 8g = 3200mg$, the negative Y-axis threshold is greater than the threshold

60: Low-speed rapid deceleration threshold, the range is 8g, $60\% \times 8g = 4800mg$, the negative Y-axis threshold is greater than the threshold

30: The high-speed turning angle changes by 30 degrees, and the z-axis changes more than the threshold

30: The low-speed turning degree changes by 30 degrees, and the z-axis change degree is greater than the threshold

8. Network And GPS Positioning

8.1 Network And GPS Positioning Functional Logic Description

Network parameters and GPS module working parameters can be configured by transparently transmitting AT commands.

```
*SPJLX*P:753869*AT+:AT+QICSGP=1,1,"virtueyes.com.br","virtu","virtu",3#
```

8.2 Configuration Command

Steps to switch to CATM or NBloT or LTE and GPRS network:

8.2.1 Set NBloT Only Network

1、Set search network mode to LTE only

Send: `*SPJLX*P:753869*AT+:AT+QCFG="nwscanmode",3,1#`

Reply: `AT+QCFG="nwscanmode",3,1`

Check configuration has been successful

Send: `*SPJLX*P:753869*AT+:AT+QCFG="nwscanmode"##`

Reply: `AT+QCFG="nwscanmode"`

`+QCFG: "nwscanmode",3`

Parameter

<scan_mode>	Integer type. RAT(s) to be searched for.
0	Automatic (GSM and LTE)
1	GSM only
3	LTE only
<effect>	Integer type. When to take effect.
0	Take effect after rebooting
1	Take effect immediately
<err>	Error code. See Chapter 4 for details .

2、Set search network order to CAT-NB2 only

Send: `*SPJLX*P:753869*AT+:AT+QCFG="nwscanseq",030303,1#`

Reply: `AT+QCFG="nwscanseq",030303,1`

Check configuration has been successful

Send: `*SPJLX*P:753869*AT+:AT+QCFG="nwscanseq"##`

Reply: `AT+QCFG="nwscanseq"`

`+QCFG: "nwscanseq",030303`

Parameter

<scanseq>	Integer type. RATs searching sequence, e.g.: 020301 stands for eMTC → NB-IoT → GSM.
00	Automatic (eMTC → NB-IoT → GSM)
01	GSM
02	eMTC
03	NB-IoT
<effect>	Integer type. When to take effect.
0	Take effect after rebooting
1	Take effect immediately

3、Set the network type to CAT-NB2

Send: `*SPJLX*P:753869*AT+:AT+QCFG="iotopmode",1,1#`

Reply: `AT+QCFG="iotopmode",1,1`

Check configuration has been successful

Send: `*SPJLX*P:753869*AT+:AT+QCFG="iotopmode"##`

Reply: `AT+QCFG="iotopmode"`

`+QCFG: "iotopmode",1`

Parameter

<mode>	Integer type. Network category to be searched for under LTE RAT.
0	eMTC
1	NB-IoT
2	eMTC and NB-IoT
<effect>	Integer type. When to take effect.
0	Take effect after rebooting
1	Take effect immediately

4、Query network information

Send: `*SPJLX*P:753869*AT+:AT+QNWINFO#`

Reply: `AT+QNWINFO`

`+QNWINFO: "NBloT","72404","LTE BAND 28",9362`

Band28 Only Command:

`*SPJLX*P:753869*AT+:AT+QCFG="band",0,0,8000000#`

Band Recover Command:

`*SPJLX*P:753869*AT+:AT+QCFG="band",0xf,0x100002000000000f0e189f,0x10004200000000090e189f#`

8.2.2 Set CAT-M Only Network

1、 Set search network mode to LTE only

Send: ***SPJLX*P:753869*AT+:AT+QCFG="nwscanmode",3,1#**

Reply: **AT+QCFG="nwscanmode",3,1**

Check configuration has been successful

Send: ***SPJLX*P:753869*AT+:AT+QCFG="nwscanmode"##**

Reply: **AT+QCFG="nwscanmode"**

+QCFG: "nwscanmode",3

Parameter

<scan_mode>	Integer type. RAT(s) to be searched for. 0 Automatic (GSM and LTE) 1 GSM only 3 LTE only
<effect>	Integer type. When to take effect. 0 Take effect after rebooting 1 Take effect immediately
<err>	Error code. See Chapter 4 for details .

2、 Set search network order to CAT-M only

Send: ***SPJLX*P:753869*AT+:AT+QCFG="nwscanseq",020202,1#**

Reply: **AT+QCFG="nwscanseq",020202,1**

Check configuration has been successful

Send: ***SPJLX*P:753869*AT+:AT+QCFG="nwscanseq"##**

Reply: **AT+QCFG="nwscanseq"**

+QCFG: "nwscanseq",020202

Parameter

<scanseq>	Integer type. RATs searching sequence, e.g.: 020301 stands for eMTC → NB-IoT → GSM. 00 Automatic (eMTC → NB-IoT → GSM) 01 GSM 02 eMTC 03 NB-IoT
<effect>	Integer type. When to take effect. 0 Take effect after rebooting 1 Take effect immediately

3、 Set the network type to CAT-M

Send: ***SPJLX*P:753869*AT+:AT+QCFG="iotopmode",0,1#**

Reply: **AT+QCFG="iotopmode",0,1**

Check configuration has been successful

Send: ***SPJLX*P:753869*AT+:AT+QCFG="iotopmode"##**

Reply: **AT+QCFG="iotopmode"**

+QCFG: "iotopmode",0

Parameter

<mode>	Integer type. Network category to be searched for under LTE RAT. 0 eMTC 1 NB-IoT 2 eMTC and NB-IoT
<effect>	Integer type. When to take effect. 0 Take effect after rebooting 1 Take effect immediately

4、 Query network information

Send: ***SPJLX*P:753869*AT+:AT+QNWINFO#**

Reply: **AT+QNWINFO**

+QNWINFO: "eMTC","72406","LTE BAND 28",9510

8.2.3 Set 2G/LTE Network

1、Set to search Automatic 2G & LTE network mode

Send: `*SPJLX*P:753869*AT+:AT+QCFG="nwscanmode",0,1#`
Reply: `AT+QCFG="nwscanmode",0,1`

Parameter

<scan_mode>	Integer type. RAT(s) to be searched for. <u>0</u> Automatic (GSM and LTE) 1 GSM only 3 LTE only
<effect>	Integer type. When to take effect. 0 Take effect after rebooting <u>1</u> Take effect immediately
<err>	Error code. See Chapter 4 for details .

2、Set search network order to 2G -> CATM -> NBloT

Send: `*SPJLX*P:753869*AT+:AT+QCFG="nwscanseq",010203,1#`
Reply: `AT+QCFG="nwscanseq",010203,1`

Check configuration has been successful

Send: `*SPJLX*P:753869*AT+:AT+QCFG="nwscanseq"#`
Reply: `AT+QCFG="nwscanseq"
+QCFG: "nwscanseq",010203`

Parameter

<scanseq>	Integer type. RATs searching sequence, e.g.: 020301 stands for eMTC → NB-IoT → GSM. <u>00</u> Automatic (eMTC → NB-IoT → GSM) 01 GSM 02 eMTC 03 NB-IoT
<effect>	Integer type. When to take effect. 0 Take effect after rebooting <u>1</u> Take effect immediately

3、Set the network type to CATM and CAT-NB2

Send: `*SPJLX*P:753869*AT+:AT+QCFG="iotopmode",2,1#`
Reply: `AT+QCFG="iotopmode",2,1`

Check configuration has been successful

Send: `*SPJLX*P:753869*AT+:AT+QCFG="iotopmode"#`
Reply: `AT+QCFG="iotopmode"
+QCFG: "iotopmode",2`

Parameter

<mode>	Integer type. Network category to be searched for under LTE RAT. 0 eMTC 1 NB-IoT <u>2</u> eMTC and NB-IoT
<effect>	Integer type. When to take effect. 0 Take effect after rebooting <u>1</u> Take effect immediately

4、Query network information

Send: `*SPJLX*P:753869*AT+:AT+QNWINFO#`
Reply: `AT+QNWINFO
+QNWINFO: "EDGE","72404","GSM 1800",513`

3.1.1.5. AT+QCFG="iotopmode" Configure Network Category to be Searched for under LTE RAT

This Write Command configures the network category to be searched for under LTE RAT or queries the current setting.

AT+QCFG="iotopmode" Configure Network Category to be Searched for under LTE RAT	
Write Command AT+QCFG="iotopmode" [<mode> [<effect>]]	Response If the optional parameters are omitted, query the current setting: +QCFG: "iotopmode", <mode> OK If any of the optional parameters is specified, configure the network category to be searched for under LTE RAT: OK If there is an error related to ME functionality: +CME ERROR: <err> If there is any other error: ERROR
Maximum Response Time	300 ms
Characteristics	<effect> determines when the command will take effect. The configurations will be saved automatically.

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Parameter

<mode>	Integer type. Network category to be searched for under LTE RAT. 0 eMTC 1 NB-IoT 2 eMTC and NB-IoT
<effect>	Integer type. When to take effect. 0 Take effect after rebooting 1 Take effect immediately
<err>	Error code. See Chapter 4 for details.

NOTE

This command is invalid on BG95-M1 module.

3.1.1. Network Related AT Commands

3.1.1.1. AT+QCFG="nwscanmode" Configure RAT(s) to be Searched for

This Write Command configures the RAT(s) to be searched for or queries the current setting.

AT+QCFG="nwscanmode" Configure RAT(s) to be Searched for	
Write Command AT+QCFG="nwscanmode" [<scan_mode> [<effect>]]	Response If the optional parameters are omitted, query the current setting: +QCFG: "nwscanmode", <scan_mode> OK If any of the optional parameters is specified, configure the RAT(s) to be searched for: OK If there is an error related to ME functionality: +CME ERROR: <err> If there is any other error: ERROR
Maximum Response Time	300 ms
Characteristics	<effect> determines when the command will take effect. The configurations will be saved automatically.

Parameter

<scan_mode>	Integer type. RAT(s) to be searched for. 0 Automatic (GSM and LTE) 1 GSM only 3 LTE only
<effect>	Integer type. When to take effect. 0 Take effect after rebooting 1 Take effect immediately
<err>	Error code. See Chapter 4 for details .

NOTE

This command is valid only on BG95-M3, BG95-M5 and BG600L-M3 modules.

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3.1.1.3. AT+QCFG="nwscanseq" Configure RATs Searching Sequence

This Write Command configures the searching sequence of RATs or queries the current setting.

AT+QCFG="nwscanseq" Configure RATs Searching Sequence	
Write Command AT+QCFG="nwscanseq" [<scanseq> [<effect>]]	Response If the optional parameters are omitted, query the current setting: +QCFG: "nwscanseq", <scanseq> OK If any of the optional parameters is specified, configure the RAT searching sequence: OK If there is an error related to ME functionality: +CME ERROR: <err> If there is any other error: ERROR
Maximum Response Time	300 ms
Characteristics	<effect> determines when the command will take effect. The configurations will be saved automatically.

Parameter

<scanseq>	Integer type. RATs searching sequence, e.g.: 020301 stands for eMTC → NB-IoT → GSM. 00 Automatic (eMTC → NB-IoT → GSM) 01 GSM 02 eMTC 03 NB-IoT
<effect>	Integer type. When to take effect. 0 Take effect after rebooting 1 Take effect immediately
<err>	Error code. See Chapter 4 for details.

NOTE

1. The command is invalid on BG95-M1 module.
2. GSM RAT is valid only on BG95-M3, BG95-M5 and BG600L-M3 modules.



LPWA Module Series

8.2.4 GPS Module Configuration Command

Query the working mode of the GPS module:

*SPJLX*P:753869*RMC:#

Query GPS working mode: *SPJLX*P:753869*RMC:#

Judging by the content of the GPS data returned

\$GNRMC---Beidou+GPS

\$BDRMC---Single Beidou

\$GPRMC---Single GPS

Set GPS Module Working Mode:

Single GPS mode: *SPJLX*P:753869*CAS:\$PCAS04,1#

Single Beidou mode: *SPJLX*P:753869*CAS:\$PCAS04,2#

Beidou+GPS mode: *SPJLX*P:753869*CAS:\$PCAS04,3#

Parameter save: *SPJLX*P:753869*CAS:\$PCAS00#

(You need to send a save command after each setting, otherwise the GPS default mode will be restored after power off)

9. Usage Of I8 And I9

9.1 Functional Logic Description

I8 and I9 are AD detection, so the functions of high trigger and AD detection can be realized. If the voltage is greater than 9V, it is considered to trigger high detection.

9.2 Configuration Command

high trigger detection configuration command:

Default state, no need command configuration.

AD detection configuration command(unfinished, to be developed):

I8 is configured as AD detection, and the equipment that can be connected is fuel sensor, load sensor, etc.

I9 is configured as AD detection, and the equipment that can be connected is fuel sensor, load sensor, etc.

9.3 Status Bits After I8 And I9 Are Triggered

6.2.1.1 Vehicle Status[Ⓔ]

From left to right are ST1,ST2,ST3,ST4[Ⓔ]

0xFF 0xFF 0x4A 0x00[Ⓔ]

Likewise, when each byte is converted to binary, BIT7 to BIT0, from left to right, from high bit to low bit.[Ⓔ]

Means ACC off,oil circuit normal,the platform needs to confirm this data.[Ⓔ]

ST	BIT [Ⓔ]	Description [Ⓔ]	Wire connection definition [Ⓔ]
ST1 [Ⓔ]	BIT7 [Ⓔ]	1 means ACC OFF; [Ⓔ] 0 means ACC ON [Ⓔ]	White wire-(G101/G102/G200/G500)- (High level trigger) [Ⓔ]
	BIT6 [Ⓔ]	1 means High reserved Or Air condition normal; [Ⓔ] 0 means high reserved Or Air condition trigger; [Ⓔ]	Brown wire-G500-M ₂ -(High level trigger) [Ⓔ] Brown wire-G101/G102-INPUT3 [Ⓔ]
	BIT5 [Ⓔ]	1 means Low reserved normal; [Ⓔ] 0 means Low reserved trigger [Ⓔ]	Blue wire-G500-M2 ₂ -(Low level trigger) [Ⓔ]
	BIT4 [Ⓔ]	1 means High reserved 3 normal; [Ⓔ] 0 means high reserved 3 trigger; [Ⓔ]	Green wire-G500-I3 ₂ -(High level trigger) [Ⓔ] White wire-G106-I9 ₂ -(High level trigger) [Ⓔ]
	BIT3 [Ⓔ]	1 means High reserved 2 normal; [Ⓔ] 0 means high reserved 2 trigger; [Ⓔ]	Grey wire-G500-I1 ₂ -(High level trigger) [Ⓔ] Black wire-G106-I8 ₂ -(High level trigger) [Ⓔ]
	BIT2 [Ⓔ]	1 means oil /engine circuit normal; [Ⓔ] 0 means oil /engine circuit break [Ⓔ]	Yellow wire-G200/G500-M4 [Ⓔ] Yellow wire-G101/G102-OUT1 [Ⓔ] G106 Out1 Status [Ⓔ]
	BIT1 [Ⓔ]	1 means Tamper switch normal; [Ⓔ] 0 means Tamper switch trigger [Ⓔ]	GPS tracker Tamper alert [Ⓔ] Tamper switch [Ⓔ]
	BIT0 [Ⓔ]	1 means normal; [Ⓔ] 0 means active [Ⓔ]	G106 Out2 Status [Ⓔ]
ST2 [Ⓔ]	BIT7 [Ⓔ]	1 means SOS button normal; [Ⓔ] 0 means trigger SOS button [Ⓔ]	Blue wire M2 ₂ -(Low level trigger) [Ⓔ] G106 Brown wire M5 ₂ -(High level trigger) [Ⓔ]
	BIT6 [Ⓔ]	1 means normal; [Ⓔ] 0 means over speed alert [Ⓔ]	[Ⓔ]

white wire(I9) high(>=9V)

2929A3004533D1D21D220513085143022428001141512900000000FB0001946FFE320000080F6400000F00001D210200762203641065290C0007D3A10000000000000000570200001F0D

white wire(I9) low(<9V)

2929A3004533D1D21D220513085143022428001141512900000000FB0001947FFE320000080F6400000F00001D210200752203641065290C0007D3A10000000000000000570200000C0D

black wire(I8) high(>=9V)

2929A3004533D1D21D220513090702022427981141512900000000FB00019477FE33000006156400001500001D210200752203641065290C0007D739000000000000000057020000160D

black wire(I9) low(<9V)

2929A3004533D1D21D220513090706022427981141512900000000FB0001947FFE33000007146400001400001D210200752203641065290C0007D73D0000000000000000570200001F0D

9.4 Alarm Bit After I8 And I9 Are Triggered

▪ 6.3.1 Alarm Status

G500/G106 Alarm Status:



ST	G500/G106 BIT	G500/G106 Event name	G500/G106 Note
ST1	BIT 7	Enter Geofence	
	BIT 6	Exit Geofence	
	BIT 5	~~Load Sensor Disconnect~~	
	BIT 4	low voltage	Low external voltage
	BIT 3	user-defined 5	I/O I9-brown black wire
	BIT 2	user-defined 2	I/O M2-blue wire
	BIT 1	~~High reserved or (air condition)~~	~~I/O M1-brown wire~~
	BIT 0	G106 I8 high trigger	G106 I8 Black wire
ST2	BIT 7	G106 I9 high trigger	G106 I9 White wire
	BIT 6	Towing Alarm	
	BIT 5	Vibration Alarm	
	BIT 4	RPM Alarm	G106 M6-Blue wire
	BIT 3	Main Power Disconnected	
	BIT 2	Reverse Alarm	I/O I4 voltage>20V trigger
	BIT 1	Over Speed Alarm	
	BIT 0	SOS Alarm	I/O M2-Blue wire
ST3	BIT 7	~~Idling Alarm~~	0x4B command set
	BIT 6	~~Fatigue Driving~~	0xDA command set
	BIT 5		
	BIT 4	Tamper alarm	
	BIT 3	Seat belt is not connected	
	BIT 2		
	BIT 1	Right turn signal	I/O I3 (Right light)
	BIT 0	Left turn signal	I/O I1 (Left light)
ST4	BIT 7 - BIT 0	GeoFence ID or Max Speed	Geofence ID Or over speeding the max value
ST5	BIT 7	Engine fault light	I/O M1
	BIT 6	Turn right without lights	I/O I3 (Right light)
	BIT 5	Turn left without lights	I/O I1 (Left light)
	BIT 4		
	BIT 3		

10.X Command and G Command

10.1 Functional Logic Description Functional logic description

Through the X command, 6 functions can be configured.

Through the G command, you can query the peripherals loaded by RS232 and the functions configured by the X command.

10.2 Command details

X Command Configuration: *SPJLX*P:753869*X:000110#

0: AD(AD Voltage Fuel Sensor)

0: TEMP(Temperature Sensor)

0: If use ACC off lock the position 0: not lock 1:lock positon

1: 0x21 ACK 0: not need ACK 1: need ACK

1: Sleep function 0: disable 1: enable

0: Use SOS wire generated alarm type 'define2' or 'SOS' 0: SOS 1: Define2

G Query Command: *SPJLX*P:753869*G:0#

sp:100,20s stp:0 dr:0,0 idl:0 mv:0 cq:0,0 geo:0 ata:0 msg:720,720 dev:232=10,232=0 x:0,0,0,1,1,0

10.3 Test Process and Results

*SPJLX*P:753869*X:000110#

<SET*X: Enable OK>

*SPJLX*P:753869*G:0#

sp:100,20s stp:0 dr:0,0 idl:0 mv:0 cq:0,0 geo:0 ata:0 msg:720,720 dev:232=10,232=0 x:0,0,0,1,1,0

11. Detection of external power supply voltage

11.1Functional Logic Description Functional logic description

Through the power wire, the power supply voltage of the vehicle battery is detected, and the voltage value is uploaded through the extended byte 0x21 of 0xA3

11.2Test Process And Results Test Process and Results

External Power supply voltage(Charging voltage)	0x21	02	00F1	0x00 0xF1 convert to decimal system value: 241 . the unit is 0.1 V. 241*0.1=24.1 V External power supply voltage is 24.1 Volts
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12.Sleep Command SLP

12.1Functional Logic Description

After this command is set, only Acc On can wake up, and vibration cannot wake up.

12.2Configuration Command

Query command: *SPJLX*P:753869*SLP:?#

Cancel sleep command: *SPJLX*P:753869*SLP:1,0#

Sleep for 5 minutes after acc off setting: *SPJLX*P:753869*SLP:1,5#

? For query, 0 means not to sleep, the unit is minutes

Add sleep mode, the time can be set, regardless of the reporting interval

This command is to set how long it will go to sleep after ACC OFF. If it is set to 60, that is, 60 minutes, it needs to go to sleep after ACC OFF for 60 minutes. Vibration cannot wake up, only ACC ON can wake up.