



English

Technology where your phone is the key

G2

GSM Controlled Switch

Advanced User Manual

Weigand

GSM Controlled Access

Revision 1.07B

NEO

GSM Monitoring & Control

Geo

GSM / GPS DIY Asset Tracking

IMPORTANT

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Preliminary Notes

Thank you for selecting YOKE. In order for you to utilize this device and all its options, we recommend that you read the corresponding instructions in this manual before attempting to install or operate this device, even if you're familiar with handling electronic equipment. Please pay particular attention to the paragraph "Important safety information" Store this manual in a safe place for future reference. Please visit www.yoke.ie for information on updates and amendments.

Warranty

Warranty period is 12 Months
THE WARRANTY DOES NOT APPLY IN CASE OF IMPROPER USE



Declaration

The descriptions and features in the manual only serve as general information and do not represent a guarantee. In order to offer you a product of the highest quality, we reserve the right to make possible improvements or changes without prior notification.

CE compliance

YOKE products labelled with the CE Mark are in accordance with the related European Directives, notably CE Directive 93/68/EEC and Electromagnetic Compatibility Directive 89/336/EEC.
CE marking under the trade brand YOKE is the responsibility of Sigtec Limited, Cork Ireland.



Important Safety Information:



YOKE devices should be installed by qualified personnel only. Sigtec can provide installation training, please contact us for further information. The switching relays used on YOKE have a maximum rating detailed in the Technical Specifications section of this manual; never exceed this rating. Sigtec Ltd. does not assume, and hereby disclaims, any liability for any loss or damage direct or consequential, caused by YOKE, Such losses or damage result from negligence, accident or any other cause. Sigtec Ltd. has made every effort to ensure the accuracy of information contained within this document. However, Sigtec Ltd. makes no warranties with respect to this document and disclaims any implied warranties of merchantability or fitness for a particular purpose. Sigtec Ltd. does not assume, and hereby disclaims, any liability for any loss or damage direct or consequential, caused by errors or omissions in this manual whether such errors or omissions result from negligence, accident or any other cause.

The following information is only for EU-member states:



The use of the symbol indicates that this product may not be treated as household waste. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

Precaution:

Please follow the precautions listed below. Failure to so do may result in damage to the device, and /or the attached equipment and could void the warranty.

- Installation **must** be carried out by a qualified electrician.
- We strongly recommend that you plan the installation carefully. Sigtec is not responsible for damage caused by incorrect installation.
- Do not attempt to modify the device.
- Do not expose the device to damp or wet conditions.
- Never place in a metal container without an external aerial fitted. Failure to do so could drastically effect the units operation and may result in damage to the devices GSM modem and power control circuit.
- Weather protecting the device is the is the responsibility of the installer
- Do not expose this device to temperatures outside the range of 0°C to 40°C when the device is in operation,
- Do not bump, jar or drop the device.
- Do not position the the device in direct sunlight.
- Do not disconnect any cables, while the device is powered on.
- Do not over tighten the housings lid screws.
- Do not exceed the rated voltage or current limits. Failure to do so could result in damage to the device.
- Special care is must be given when fitting or removing the devices aerial.

Enclosure

When installed correctly the enclosure should provide a weather resistant seal. Take care to fit the peel off weather seals to the screw holes located to the rear of the enclosure also seal cable glands with silicone sealant, Extended exposure to direct sunlight may result in the enclosure losing its weather resistance. We highly recommend the units is mounted in a dry and shaded area.



This manual covers the following products



Mobile Phone Controlled Switch



Mobile Phone Controlled Access



Mobile Phone Control and Alarm Monitoring



DIY Asset Management and GPS Tracking

Introduction:

This detailed guide aims at explaining the features available with the YOKE **product range**. It supposes you are familiar with GSM and cellular phones. This guide is not intended to give full details about how GSM works.

Product Description:

YOKE is a series of multipurpose GSM/GPS monitoring, control, switching and tracking devices. YOKE G2 is capable of intelligently operating a single switching relay, in response to a call or SMS. YOKE Neo includes all the functionality of the G2 and adds monitoring of up to 4 digital inputs, a change of state will send an alarm text alert to its contact list. YOKE Wiegand in conjunction with Wiegand compatible access control systems provides advanced access management using mobile phones. YOKE Geo has the same functionality as Neo but includes GPS tracking information on all alarm texts it also allows provides instant location query using simple SMS commands, The Geo includes features for simple phone bases tracking using smart phones with free mapping applications.

YOKE is fully programmable via simple SMS commands described in this manual. YOKE inherently provides basic security functionality called Restricted Access (disabled by default). If Restricted Access is enabled on the device only phone numbers predefined are allowed to activate the relays. Phone numbers may be added to or removed from the Restricted Access List using simple SMS commands. Restricted Access then prevents unauthorised access via phone call or SMS. YOKE's "Easy Text" feature allows users to add or remove themselves from the Restricted Access List with ease. If desired, a numerical password may be enabled on all Administration SMS Commands to secure an individual device's settings. Often this password feature is not needed because the phone number of YOKE's SIM is kept private within a small group.

Sim Card:



The device is designed to work with any GSM SIM card on any GSM network worldwide. Make sure the unit is powered down before attempting to remove or insert a Sim card. The PIN-request option must be disabled on the SIM card. By default the PIN request is enabled on most new SIM cards. The simplest way to disable it is to insert the SIM card into a mobile phone and look for the "PIN request" option, usually found in Phone or Security Settings. Never remove the SIM card while the unit is operating.

YOKE Security:

When using the "Set Password" (SP) command be careful to take a note of it as it is difficult to retrieve a lost password. Sigtec recommends using a password for high security applications. **Tip:** If you set the password from your mobile phone, check the phone's sent text messages. The SMS you sent with the new password may still be saved there.

Notes on Caller ID:

If a users "Caller ID" sending is turned off , the controller will not be able to check the number against the restricted access list and will reject the call, access will be denied. Caller ID settings are usually found under Call Settings on a phone. **Tip:** You will know that your caller ID sending is disabled if you call another phone and see "Private Number" or "Call" appear on the other phone's screen. Some GSM networks allow temporary caller ID forwarding by adding a certain prefix to the number e.g. *86< *phone number*>. These codes are network specific, please contact your network provider for more information.

Programming YOKE:

Simple Text based commands are used to configure YOKE's settings and to add (or remove) phone numbers from the Restricted Access List. User Commands are used to Set and Reset the Relay(s). If a password is set it must precede all Administrative SMS Commands. No password is required for the User Commands. Refer to the next section for more information on User Commands. Each command description will indicate which version of the command is applicable, (See page tabs) some commands are applicable to all versions, some are limited to specific versions.



Correct use of the command.



Incorrect use of the command.



This symbol highlights additional information and advice.

Configuration and operational commands are specific to the models listed on the page tabs

G2

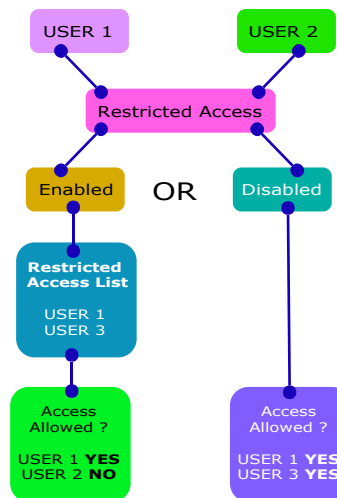
Wiegand

NEO

GEO

Explanation of Restricted Access

To illustrate how Restricted Access works on YOKE the diagram below shows two users attempting to phone YOKE at different times. **User 1** is listed in the Restricted Access List but **User 2** is not. The flow on the left of the diagram shows what happens when Restricted Access is enabled: User 1 is allowed access and User 2 is not because his phone number is not in the Restricted Access List. The flow on the right demonstrates what happens when Restricted Access is disabled: both Users are allowed access. Note: Using the "SR D" command to disable Restricted Access does not change the Restricted Access List. "SR E" could be used to temporarily enable Restricted Access at nighttime or weekends.



Setting UP YOKE for the First Time.

Once YOKE is installed correctly and communicating with a GSM network, all further configuration is controlled using simple intuitive sms text commands. YOKE will operate straight from the box and sometimes further configuration may not be necessary.

HP-HELP

The HP command sent on its own (with no additional parameters) returns an SMS containing the basic commands accepted by the device. Use the 'help' command to find out what the syntax is for a particular command by sending HP + the command that you require more information on.

Syntax HP <command>? where <command> = any valid (2-letter) SMS command.



Example 1: Seek Help.

SMS Sent

HP

SMS Received

Send '<command>?' for more information on an individual command. Where
 <command> =
 AN, AC, AD, AM, DN, DM, LN, TS, TQ, SP, SR, RM, RA, MR, RI, NR, QR, CM, ED, HP, RS, IE, IS, ID, I
 R, I A, CA, CD, IC, QI, WN, GM.



Example 2: Seek help for AN command.

SMS Sent

AN?

SMS Received

Add Number. Syntax 'AN<n>', <n>=phone number to add to Restricted Access List. Example 'AN +353851234567'.

Managing user access

SR - SET RESTRICTED ACCESS

The *SR* command is used to enable or disable YOKE's Restricted Access mode. If Restricted Access is disabled any phone number can trigger the relay(s). If Restricted Access is enabled only the Phone Numbers present in YOKE's Restricted Access List are allowed to trigger the relay(s). Restricted Access is disabled by default. Please note that the *SR* command does not modify the Restricted Access List itself in anyway. This property of the *SR* command is useful if you wish to temporarily allow anybody access to the relay(s) or for permanently disabling the phone-number-checking security feature of YOKE

Syntax SR <Enable/Disable where <Enable/Disable>= E (to enable Restricted Access) or D (to disable Restricted Access).



Example 1 Enable Restricted Access

SMS Sent

SRE [or SR E]

SMS Received

SR: Restricted Access Disabled



Example 2 Disable Restricted Access

SMS Sent

SRD [or SR D]

SMS Received

SR: Restricted Access Enabled.

AN - ADD NUMBER (WITHOUT CONFIRMATION)

Adds a phone number to the Restricted Access (User) List. This command does not return a confirmation SMS when a number has been successfully added. For confirmation use the AC Command. If the number already exists an SMS is returned to that effect.

Syntax AN <phone number> where <phone number> = the phone number to be added to the Restricted Access call list. The number can be presented in international or national format e.g. +353851234567 or 00353851234567 or 0851234567.



Example 1: Adding a number to the user list.

SMS Sent

```
AN +353217654321 [or AN 00353217654321 or AN 0217654321]
```

SMS Received

None



Example 2: Adding an invalid number to user list.

SMS Sent

```
AN 08576543
```

SMS Received

The number you tried to add hasn't been added because it's not a valid number.

AC - ADD NUMBER (WITH CONFIRMATION)

Adds a phone number to the Restricted Access List. This command returns a confirmation SMS when a number has been successfully added to the List. If the number already exists an SMS is returned to that effect.

Syntax AC <phone number> where <phone number> = the phone number to be added to the Restricted Access call list. The number can be presented in international or national format e.g. +353851234567 or 00353851234567 or 0851234567.



Example 1: Adding a number with confirmation request.

SMS Sent

AC +353217654321 [or AC 00353217654321 or AC 0217654321]

SMS Received

AC: Phone number +353217654321 added successfully.



Example 2: Adding a invalid number

SMS Sent

AC 08512345

SMS Received

The number you tried to add hasn't been added because it's not a valid number.

DN - DELETE NUMBER

Remove a phone number from the restricted access list. If the number is successfully removed, a confirmation SMS is returned. If the number is not found the controller returns an SMS to that effect.

Syntax DN <phone number> where <phone number> = the phone number to be removed from the Restricted Access call list. The number can be presented in international or national format e.g. +353851234567 or 00353851234567 or 0851234567.



Example 1: Delete number +353217654321.

SMS Sent

DN +353217654321 [or DN 00353217654321 or DN 0217654321]

SMS Received

DN: Phone number +353217654321 has been removed from the Restricted Access List.



Example 2: Attempting to delete an invalid number.

SMS Sent

DN 08512345

SMS Received

Delete Number: The phone number you sent is not valid. Please recheck and try again.

LN - LIST RESTRICTED ACCESS PHONE NUMBERS

The LN command returns an SMS containing every number in the Restricted Access List. If the numbers do not fit into a single SMS, multiple SMS's are sent. (up to 200 numbers can be stored on YOKE)

Syntax LN



Example : Download a list of restricted access numbers.

SMS Sent

LN

SMS Received

LN: 2 Numbers. +353217654321 0851234567

Relay switching parameters

RM – RELAY MODE

The Relay Mode command is used to define the operating mode of each relay: Timed or Latched. If a relay is in the Latched mode, a call or SMS command will change its state and it will stay in the new state indefinitely. If a relay is in the Timed mode, a call or SMS command will change its state and start a countdown timer, when the countdown timer reaches zero the relay will return to its original state. The time interval is set by the *TS* command and has a default value of 6 seconds. By default Relay 1 & 2 operate in the Timed Mode ("T") i.e. an incoming call or SMS command activates the countdown timer. The *RM* command may be used to change the Relay Mode as described below. The *QR* (Query Relay) command may be used to obtain a summary of the Relay's configuration.

Syntax: *RM* <relay> <mode> where <relay> = 1 (Relay n°1) or 2 (Relay n°2), <mode> = "T" (timed-relay), "L" (latched-relay).



Example 1: Set Relay 1 to Latched Mode.

SMS Sent

```
RM 1L [or RM 1 L]
```

SMS Received

```
RM: Relay 1 is now operating in Latched Mode.
```



Example 2: Changed Relay 2 to Timed Mode.

SMS Sent

```
Rm2t [or RM 2T or RM 2 T]
```

SMS Received

```
RM: Relay 2 is now operating in Timed Mode.
```

TS- RELAY TIMER SET

The Timed Relay switches for period set by the command TS. This duration may be changed using the *TS* command followed by the new time. The time can be any interval from 1 second up to 24 hours. The default value is 6 seconds.

Syntax TS <relay> <hour>:<minute>:<second>

where <relay>=1 (relay n°1) or 2 (relay n°2), <hour> = the time in hours, <minute> = the time in minutes, <second> = the time in seconds that the timed-relay stays toggled after it is triggered. The separation character can be a colon ":", a semi colon ";", a comma ",", or a full stop "."



Example 1: Change the timed interval of Relay 1 to 30 Seconds

SMS Sent

```
TS 1 0;0;30 [or TS 1 00.00.30]
```

SMS Received

```
TS: new time for the Timed Relay 1 is 0 hour 0 minutes 30 seconds.
```



Example 2: Missing Relay Number in the Command

SMS Sent

```
TS 1:30:20
```

SMS Received

```
TS: Failed. Non numeric characters detected in the time parameter.
```

RA – RELAY ACTIVATION

The Relay Activation command defines whether Relay 1 and Relay 2 are enabled or disabled. By default both relays are set to "E" (Enabled). This command does **not** change a Relay's state.

Syntax RA <relay> <activation> where <relay> = 1 (Relay n°1) or 2 (Relay n°2), <activation> = "E" (Enable-relay), "D" (Disable-relay).



Example 1: Enable relay 1

SMS Sent

```
RA 1E (or RA 1 E)
```

SMS Received

```
Relay 1 has been enabled
```



Example 2: Disable relay 2

SMS Sent

```
RA 2D (or RA 2 D)
```

SMS Received

```
Relay 2 has been disabled
```

TQ - TIMED-RELAY QUERY

The Timer Query command returns an SMS displaying the interval that the timed-relay in question stays toggled after it's triggered.

```
Syntax TQ <relay> where <relay> = 1 (for relay n°1) or 2 (for relay n°2)
```



Example: Query Relay 1

SMS Sent

```
TQ 1
```

SMS Received

```
TQ: Timed Relay 1 = 0 hour 0 min 6 sec
```

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CM – CALL MODE

The Call Mode defines how the relays react to an incoming call. SMS User Commands are not affected by the call mode. By default Call Mode is set to "E" (Enabled) i.e. an incoming call activates both Relays. The "CM" command is used to change the Call Mode as described below. The Call Mode feature is useful for applications where each Relay is used to perform a different function. For example, Relay 1 can be set up to respond to an incoming call and Relay 2 to an SMS user command.

Syntax CM <relay> <activation> where <relay> = 1 (Relay n°1) or 2 (Relay n°2), <activation> = "E" (Enable-relay), "D" (Disable-relay).



Example 1: Enable Call Mode for Relay 1

SMS Sent

```
CM 1E [or CM 1 E]
```

SMS Received

```
CM: Call mode has been Enabled for Relay 1.
```



Example 2: Disable Call Mode for Relay 2

Note: SMS User Commands can still be used to activate Relay 2

SMS Sent

```
cm2d [or CM 2D or CM 2 D]
```

SMS Received

```
CM: Call mode has been Disabled for Relay 2.
```



Example 3: Enable Call Mode for Relay 3

SMS Sent

`CM 1E [or CM 1 E]`

SMS Received

`CM: Call mode has been Enabled for Relay 1.`



Example 2: Disable Call Mode for Relay 2

Note: SMS User Commands can still be used to activate Relay 2

SMS Sent

`cm2d [or CM 2D or CM 2 D]`

SMS Received

`CM: Call mode has been Disabled for Relay 2.`

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User Commands

SMS User Commands

This command is distinct from the Administrative Commands because it never requires a password and is used to set / reset a relay. If Restricted Access is enabled then the Phone Number that the User Command SMS came from must be in the Restricted Access List in order for the command to be accepted.

RS – RELAY SET

The *RS* command is used to Set or Reset (Switch ON or OFF) and individual relay on YOKE.

Syntax `RS <relay> <state>`
 where `<relay>` = 1 (for relay n°1) or 2 (for relay n°2), `<state>` = S (to set the specified relay), R (to reset the specified relay).



Example 1 Set Relay 1 to ON.

SMS Sent

`RS 1S [or RS 1 S]`

SMS Received

`RS: Relay 1 has been set`



Example 2 Set Reset 2 to OFF.

SMS Sent

`rs2r [or RS 2R or RS 2 R]`

SMS Received

`RS: Relay 2 has been reset.`

Security

SP - SET SMS COMMANDS PASSWORD

The SP command sets a password for all SMS Administrative Commands (see example 1 below). Caution is advised when setting or changing a password as confirmation is not requested and it is impossible to retrieve it later if it is lost. It is recommended that you save the SMS after it has sent for your own reference. If you have lost or forgotten your password please contact your supplier for assistance. To remove the password so that it no longer has to precede every SMS Admin command see example 8. Please note that resetting or changing the password requires knowledge of the current password. If the password is set to 0000 (this is the default setting on the device) no password is required when issuing commands via SMS. As soon as a non-zero password is set, all SMS commands must be preceded by that password from then on.

```
Syntax SP <password> where <password> = any four digit number (0001 - 9999)
```



Example 1: Set password to 1234

SMS Sent

```
SP 1234
```

SMS Received

```
SP: Password set to 1234. NB: All commands must now be preceded by the password.
Use: '1234 SP 0000' to clear the password
```



Example 2: Send a command when password 1234 is set

SMS Sent

```
1234 LN
```

SMS Received

```
LN: 2 Numbers. +353217654321 0851234567
```

Example 3: Set a password with non-numeric password

SMS Sent

SP 12a4

SMS Received

Non-numeric digit found in password.

 Example 4: Command sent with incorrect password.

SMS Sent

4321 HP

SMS Received

Incorrect password. Please resend your command preceded by the correct password.

 Example 5: Command sent without password when one is required

SMS Sent

LN

SMS Received

No SMS is returned.

 Example 6: Change password from 1234 to 4321

SMS Sent

1234 SP 4321

SMS Received

SP: Password set to 4321. NB: All commands must now be preceded by the password. Use: '4321 SP 0000' to clear the password.

 Example 7: Remove current password of 4321

SMS Sent

4321 SP 0000

SMS Received

SP: Password cleared. Commands do not need to be preceded by a password

MR – MASTER RESET

The Master Reset command forces YOKE to perform a master reset. "MR" restores all settings to their default values. On receipt of the command the controller automatically resets. YOKE will enter in restart mode after receipt of the command.

Syntax MR



Example:



Master reset deletes all settings including stored phone numbers, passwords and alarm settings.

SMS Sent

MR

SMS Received

No SMS is returned.

RI – REQUEST IMEI & IMSI & FIRMWARE NUMBERS

This command instructs YOKE to return an SMS containing the IMSI number of the SIM card, the IMEI number of the GSM modem, the firmware version of the micro controller and GSM modem.

Syntax RI



Example:

SMS Sent

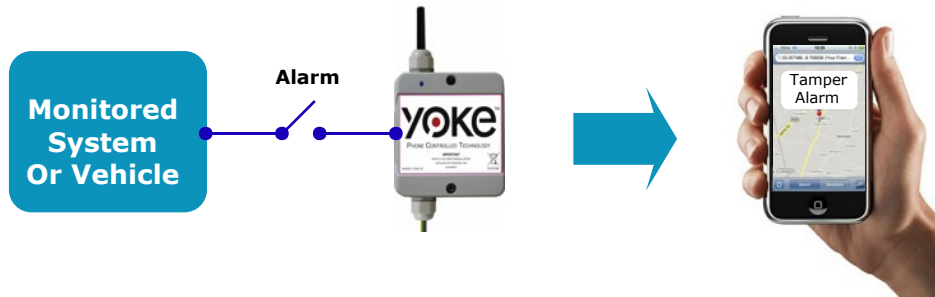
RI

SMS Received

IMSI:245067694576056, IMEI:350675754659476, Firmware Vers YOKE 056,
FirmwareVersGSM: 07.03.400

Explanation of SMS Text Based Alarming

YOKE Neo and Geo include an alarm messaging capability. Up to four volt-free digital alarm inputs can be set up independently with unique alarm and reset messages, alarm repeat, call-lists (up to 8 numbers in each) and debounced (delayed) activation. When an input changes state (e.g. input 2, configured as normally open, closes) your message is sent as an SMS to every phone number in that input's call list. The applications for Neo and Geo are endless because you decide the messages that are sent. Use YOKE to switch and get instant feedback from almost anything electrically or mechanically operated device. "So what would you use it for?" Here are some ideas for the home. Have the Neo text you when your alarm is activated, Control your heating while travelling home from the office, Use Geo to prevent the theft of cars, boats, caravans or any movable machinery. Turn on and off your home's lights when away on holiday.



Received SMS alarms and tracking
Information in seconds

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IE – INPUT ENABLE

This command enables or disables an alarm input.

Syntax IE <input> <activation>
where <input> = 1,2,3 or 4, <activation> = Y (Enable input) or N (Disable input)



Example 1: Enable Input 1

SMS Sent

IE 1Y [or IE 1 Y]

SMS Received

IE: Alarm has been enabled for the Input 1.



Example 2: Disable Input 2

SMS Sent

IE2n: [or IE 2N or IE 2 N]

SMS Received

IE: Alarm has been disabled for the Input 2

ID – INPUT DEBOUNCE

This command configures the debounce (delay) time on an input, each input can have a different value. The number send by SMS is multiplied by 100 ms, The default value is 100 ms. Maximum debounce is 65500 ms with is equal to 1 minutes and 5 seconds. Debounce is the period between when a change of state is detected and when an SMS alert is initiated.

```
Syntax ID <input> <debounce>
where <input> = 1,2,3 or 4, <debounce> = 1 to 655
```



Example 1: 1 second (1000ms) debounce in Input 1

SMS Sent

```
ID 1 10
```

SMS Received

```
ID: The new time for the alarm delay on the input 1 is set to 1000msec.
```



Example 2: 1 minute (60000ms) debounce on Input 3

SMS Sent

```
ID 3 600
```

SMS Received

```
ID: The new time for the alarm delay on the input 3 is set to 60000msec.
```



Use debounce to prevent spurious alarms caused by rapid fluctuations in alarm activity.

IS – INPUT SETUP (NORMALLY OPEN/CLOSE MODE)

This is the primary command to configure YOKE inputs. This section explains how to setup each input to normally closed or normally open mode. You can choose to have an “alarm ceased” message or not with the clear notification parameter. The alarm message can be up to 39 characters long. If an alarm clear message is required, the message length is reduced to 19 characters to accommodate both the alarm active and clear messages.

Syntax where <input> = 1,2,3 or 4, <setting> = L for normally close or H normally open, <clear notification> Y to get a notification, N for no notification <Alarm message> = Your alarm message, <Alarm cleared message> = Your alarm cleared message if clear notification activated.



Example 1: Setup Input 1 in Normally Open Mode with Clear Notification

SMS Sent

```
IS 1 H Y #INPUT 1 ALARM ON# #INPUT 1 ALARM OFF#
```

SMS Received

None



Example 2: Setup Input 2 in Normally Closed Mode without Clear Notification

SMS Sent

```
IS 2 L N #INPUT 2 ALARM ON#
```

SMS Received

None.

IS – INPUT SETUP (EDGE SENSITIVE MODE)

This section explains how to setup an input to edge trigger mode. You have a specific message for each edge (falling and rising) and the associated message can be up to 19 characters long. This feature is used when you want to be notified by a change of the input state. It is similar to the normally open/close mode but with no repeat notification.

Syntax IS <input> <setting> Y #<Message High>##<Message Low>#
 where <input> = 1,2,3 or 4, <setting> = E for edge sensitive
 <Message High> = Your message for the rising edge (contact opened),
 <Message Low> = Your message for falling edge (contact closed).



Example: Setup Input 4 in Edge Sensitive Mode

SMS Sent

IS 4 E Y #Message for the rising edge# #message for the falling edge#

SMS Received

None



Care should be taken when using this feature as rapidly changing alarm inputs could result in multiple SMS messages in quick succession.

IR – INPUT REPEAT

When an input is in alarm mode, you can enable repeat notification, The delay between each repeat notification is programmable. Default value is 1 hour. Repeat notification can be disabled. Maximum value is 24 hours.

Syntax IR <input> <hour>:<minute>

where <input> = 1,2,3 or 4, <hours> = the time in hours, <minute> = the time in minutes. The separation character can be a colon ":" a semi colon ";" a comma "," or a fullstop "."



Example 1: 2 hour 15 minutes repeat notification on Input

SMS Sent

IR 1 2:15 [or IR 1 02:15]

SMS Received

IR: The new time for the Repeated alarm on the input 1 is set to 2 hour 15 minutes



Example 2: Disable Input 2 Repeat Notification

SMS Sent

IR 2 0:0 [or IR 2 00:00 or IR 2 00:0 or IR 2 0:00]

SMS Received

IR: The new time for the Repeated alarm on the input 2 is set to 0 hour 0 minutes.

CA – ADD A NUMBER TO A CALL LIST

Adds a phone number to a specific call list. Alarms are sent to each of the numbers on a list. This command returns a confirmation SMS when a number has been successfully added. If the number already exists in the list, an SMS is returned to that effect.

```
Syntax CA <input> <phone number>
where <input> = 1,2,3 or 4, <phone number> = the phone number to
be added to the input call list. The number can be presented in
international or national format e.g. +353851234567 or
00353851234567 or 0851234567.
```



Example 1: Add a number to Input 1 Call List

SMS Sent

```
CA 1 +353851234567 [or CA 1 00353851234567 or CA 1 0851234567]
```

SMS Received

```
CA: Phone number +353851234567 added successfully into the call list of
input 1.
```

CD – DELETE A NUMBER IN A CALL LIST

Use the command CD to delete a phone number off a specific call list . This command returns a confirmation SMS when a number has been successfully deleted. If the number does not exists an SMS is returned to that effect.

Syntax CD <input> <phone number>

where <input> = 1,2,3 or 4, <phone number> = the phone number to be added to the input call list. The number can be presented in international or national format e.g. +353851234567 or 00353851234567 or 0851234567.



Example 1: Delete a Number on Input 1 Call List.

SMS Sent

```
CD 1 +353851234567 [or CD 1 00353851234567 or CD 1 0851234567]
```

SMS Received

```
CD: Phone number +353851234567 has been removed from the call list for the input 1.
```

IC – INPUT CALL LIST

The IC command returns an SMS containing every number in the call list for a specific alarm input or all 4 inputs. Each of the 4 Inputs has a separate call list of up to 8 contact numbers.

Syntax IC <input> where <input> = 1,2,3,4 or A



Example 1: Get the Call List of Input 1.

SMS Sent

IC 1

SMS Received

Call list input 1: 1 number: 0851234567



Example 2: Get Call List for All Inputs

SMS Sent

IC A [or IC ALL]

SMS Received

Call list input 1: 1 number: 0851234567

Call list input 2: 0 number:

Call list input 3: 0 number

Call list input 4: 1 number: 0857654321

QI – QUERY INPUT

This command instructs YOKE to return an SMS containing information on the alarm input configuration. This is a very useful command to check the status and configuration of YOKE inputs.

```
Syntax QI <input>
where <input> = 1,2,3 or 4
```



Example: Query Input 1

SMS Sent

```
QI 1
```

SMS Received

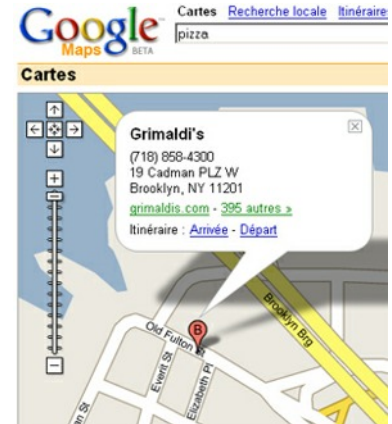
```
IN1 Enabled
Setting: Normally open
Clear notification: Y
Msg: INPUT 1 ALARM ON
Clear Msg: INPUT 1 ALARM OFF
Debounce: 100ms
Repeat: 01H00
State: Open
```

GPS Satellite Asset Tracking



YOKE Geo has the functionality of the YOKE Neo but includes a GPS satellite receiver capable of providing accurate positional information.

A GPS tracking unit is a device that uses the Global Positioning System to determine the precise location of a vehicle, person, or other asset to which it is attached and to report the position of the asset at regular intervals. The reported location data can be easily displayed on free mapping software available on-line or web enabled mobile phones.



WN – Where Now

This command instructs YOKE to return its current GPS location in a format suitable for Google Maps, Google Earth and some in-car navigation systems. This is a very useful command to check the location of YOKE quickly. If satellite coverage is not available, Geo will return the **last** available location.

Syntax WN



Example : WN

SMS Sent

WN

SMS Received

GPS position (current)

Or

GPS position (last)

+51.12345,

-008.34321

Speed 10.5 Km/h

Tracking using the Google Earth Application

Send YOKE the sms command “WN”. Use the copy command to acquire the current location from YOKE’s response sms. Open the Google Earth Application and activate the search feature, use the paste command to enter YOKE’s location and wait for the application to home in on YOKE’s position.

Tracking using web site mapping

www.maps.google.com

www.multimap.com

GM – GPS Me !

This command instructs YOKE to return its current or last recorded GPS location in a format suitable for pasting directly to Google Maps, Google Earth and some in-car navigation systems. If the returned location is terminated with an "L" this indicates no current GPS reading is available, and YOKE returns the last valid location received,

Syntax GM



Example: GM

SMS Sent

GM

SMS Received

+51.61905,-008.23453

or

+51.61905,-008.23453 L (last valid reading)

IPhone Tracking using the Google Earth Application

Send YOKE the sms command "GM". Use the copy command to acquire the current location from YOKE's response sms. Open the Google Earth Application and activate the search feature, use the paste command to enter YOKE's location and wait for the application to home in on YOKE's position.

Tracking using web site mapping

www.maps.google.com

www.multimap.com

Send YOKE the sms command "GM". Use the copy command to acquire the current location from YOKE's response sms. Open the web site Google Maps or Multimaps and paste YOKE's location and wait for the application to home in on YOKE's position.

Status LED Flash Modes

Status	Status Flash Sequence (1 Flash = 0.5 Seconds)														
Start Up	⓪		⓪		⓪		⓪		⓪		⓪		⓪	Green	Takes 10 to 60 Seconds to boot up
Normal Operation	⓪					⓪					⓪			Green	YOKE is operating Correctly
Modem Fault	⓪	⓪	⓪	⓪	⓪	⓪			⓪	⓪	⓪	⓪	⓪	Red	Check that the modem is correctly plugged in
SIM Error	⓪	⓪	⓪	⓪	⓪	⓪			⓪	⓪	⓪	⓪		Red	Check SIM card in phone, ensure PIN request is disabled. Re-insert SIM.
Network Fault	⓪	⓪	⓪	⓪	⓪	⓪			⓪	⓪	⓪			Red	Possible GSM network failure. Yoke automatically. Returns to normal operation when the network is restored.
No LED,s															Check Power Connection

Comments & Recommendations

Note 1:

If you would like to trigger the Relays with an SMS command, please be aware that SMS delivery is not always instantaneous and latency is dependent on how busy the network is at the time the message is sent.

Note 2:

An SMS sent from a web interface generally takes longer to deliver than from a phone because of network traffic. However, free web-based SMS messages do provide an economical means for programming YOKE.

Note 3:

The fastest method of triggering a relay is via the Call Mode, occasionally short network-related delays may still occur.

Note 4:

If YOKE is to be used in a high security application, please contact your dealer for further information first.

Technical Specification

Parameter:	Minimum:	Typical	Maximum:	Notes:
Power Supply Voltage Range	9v		30v	Polarity independent
Power Consumption	0.7W (idle)		0.7W to 1.5W (in use)	8W (peak) Peak power consumption is for very short durations.
DC Relay Rating			220Vdc / 0.24A, 30Vdc / 2A	This rating must never be exceeded
AC Relay Rating				
Timed Relay Delay	1 sec		24hrs	Configured via SMS command
Startup Time	15 sec		60 sec	Start-up is dependant on network loading
Operating Temperature Range				

Quad Band (850MHz, 900MHz, 1800MHz & 1900MHz) operation is supported by all YOKE devices. The standard antenna supplied is optimised for Dual Band (800MHz & 1800MHz) operation. 900 & 1900MHz and Quad band antennas are available by special order, please contact your supplier if these are required for your application.

G2

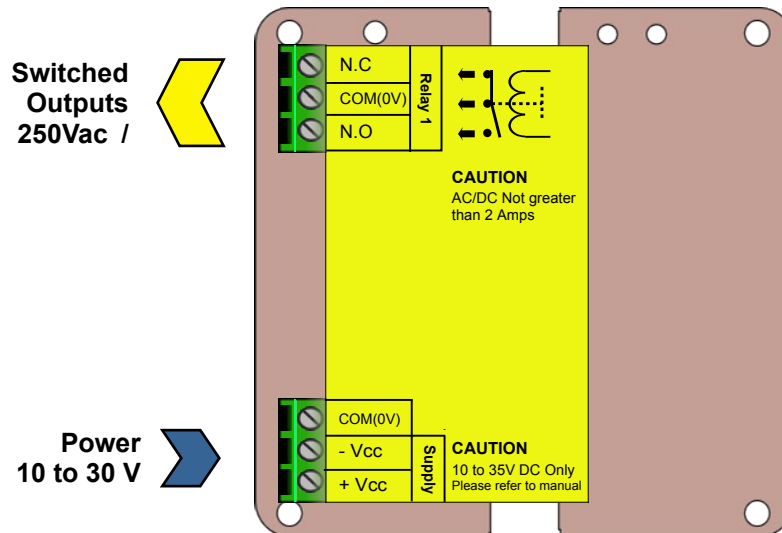
Wiegand

NEO

GEO

YOKE G2 & Wiegand Switched Output

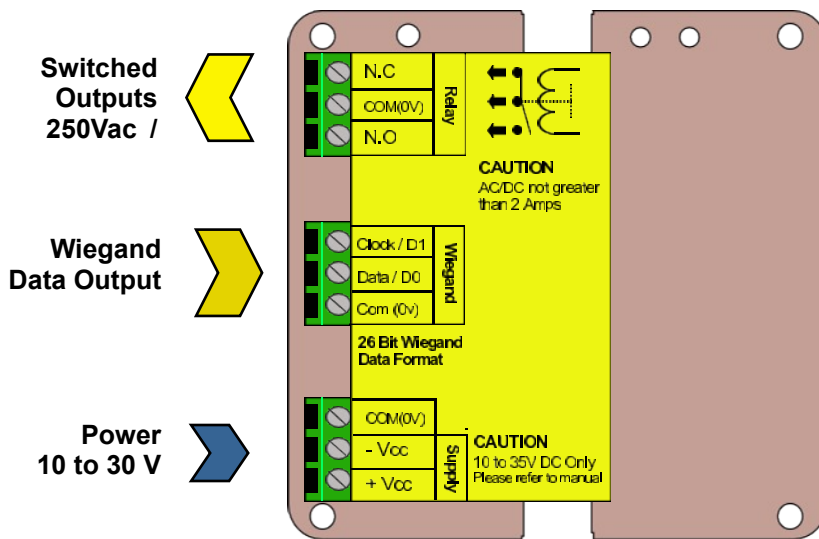
A SPDT (Single Pole Double Throw) relay is available to control the device or appliance. This could be a simple gate opener, heating system or any electrical device. Terminal labelled "COM" the common contact, terminal NC is the normally closed contact and terminal NO the normally open contact.



YOKE Weigand Wiring Diagram

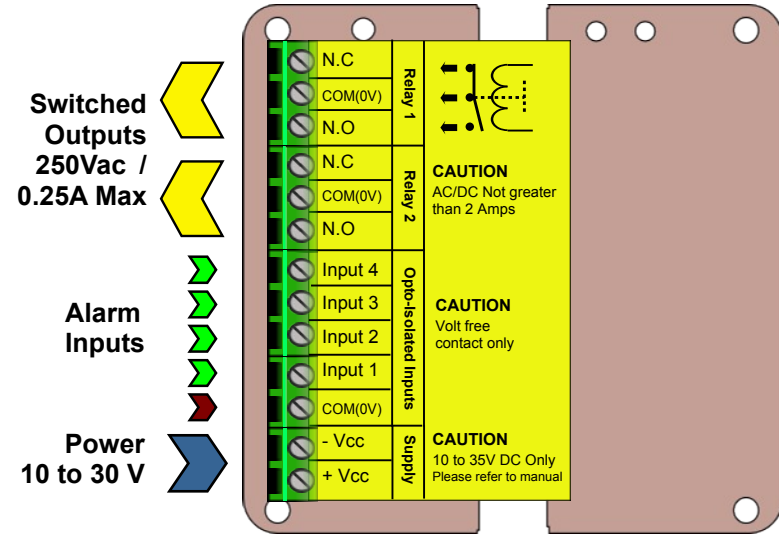
YOKE Weigand interfaced with Weigand compatible access control systems. The information below describes the Paxton Net2 interface. YOKE was also tested on Prastel TTD3000 interface. Further information is available on page 45.

Wiegand



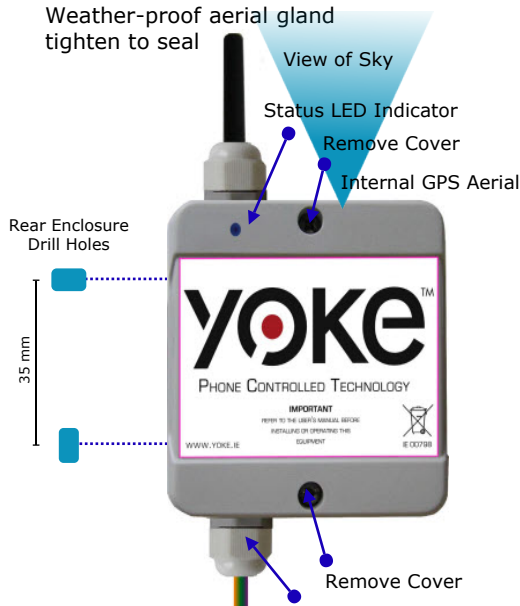
YOKE NEO & Geo Input / Output Information

Two SPDT (Single Pole Double Throw) switching relays are available to control the device or appliance. This could be simple electrolock of a gate opener, heating system or any electrical device. Terminals labelled "COM" is the common contact, terminal NC is the normally closed contact and terminal NO the normally open contact. Inputs marked Opto Input 1 to 4 require a Dry (Volt Free) contact to operated. We recommend dry contact Inputs, but the board can operate with 5 Volt logic.

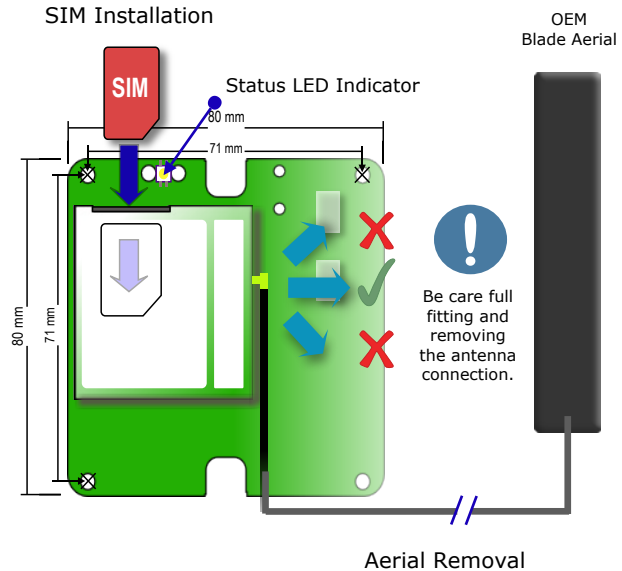


SIM, Aerial & GPS Installation.

Disable the Pin function on the SIM Card before inserting it in to YOKE. Use valid GSM Network sims only. The Geo's GPS aerial is located on the top of the enclosure next to the GSM aerial. This aerial points upwards towards the sky and should NOT be hindered by metal or masonry (Glass or plastic may be ok). When installed check the accuracy of the unit, if "no valid current or last GPS reading" is returned relocate and try again.



Weather-proof cable
Gland, tighten to seal.



IMPORTANT

YOKE must **not** be installed within a metal enclosure unless the aerial is located outside the enclosure and in an area of adequate signal level.

Wiegand Information

YOKE Wiegand provides a standard 26-bit Wiegand Output. When an incoming call is detected by YOKE it outputs the last 7 digits of the phone number expressed in the 26-bit Wiegand format:

EBBBBBBBBBBBBBBBBBBBBBBO where, **E = Even parity bit (for the first 13 bits)**
B = Data bit (24-bit User Code, no Site Code) **O = Odd parity bit(for the last 13 bits)**

The last 7-digits of the phone number are then treated in the same way as, for example, a proximity card by the access control system. YOKE Wiegand was tested on Paxtons Net2 and Net2+ controllers also Prastel TTD3000 using the following settings:

Wiegand 26 user defined

SysCode Start: 1, SysCode Length:0, UserCode Start: 1, UserCode Length: 24

Note: The parallel reader (MPROXMINI) need to be disconnected if using reader 1 input.

Further Security Information

To illustrate lets take the example of phone number i.e. 08<1-digit operator code><7-digits>. For an Irish mobile phone the probability of getting two phone numbers with the same last 7 digits by chance is in the order of 1 in 10,000,000. This makes duplicate numbers extremely unlikely. For very high security applications this chance can be eliminated completely by enabling Yoke's Restricted Access List and entering all of the numbers allowed using YOKE's simple *Add Number* SMS command e.g. "AN 0851234567". See pages 20 and 40 for further information on restricted access.

YOKE Weigand Wiring Diagram

YOKE Weigand interfaced with Weigand compatible access control systems. The information below describes the Paxton Net2 interface. YOKE was also tested on Prastel TTD3000 interface. Further information is available on page 45.

User Information

Sim Phone Number:	GSM Network:	YOKE IMEI No.	YOKE Model
Password Active: Y/N	Password: _ _ _ _ _		
Restricted Access: ON Y/N	Relay 1 Delay:	Relay 1 Delay:	Relay Mode:
User Access Numbers:			
Max 200 Numbers:			
Input	Alarm message description	Contact Numbers	
Alarm Input 1	On:		
Repeat: Delay:	Off:		
Alarm Input 2	On:		
Repeat: Delay:	Off:		
Alarm Input 3	On:		
Repeat: Delay:	Off:		
Alarm Input 4	On:		
Repeat: Delay:	Off:		



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