

CALL '2' OPEN USING YOUR MOBILE PHONE

Features

Easy to Configure using SMS commands.

User Password Controlled

Relay Output rated 1.2KW

'White List' upto 100 Tel No's

Signal Strength Indication

Internal Antenna

Waterproof Enclosure IP68
(Pressure Washer Proof)

Access Control

Gates / Barriers / Doors

Emergency Alarms

Covert Systems

Remote Control



Easy Operation

User Calls C20

C20 Rejects call

If valid C20 operates Output

Ordering Information

PART No	Description
C20	Call2Open Controller IP68
SIM-02	Contract Simcard SMS Only

Introduction

Call '2' open (C2O) is a self contained access Control Solution which provides relay changover contact output which can be used to operate gates / barriers etc.

When C2O receives a telephone call, if 'White Mode' is enabled It checks the caller's telephone number with its own 'White List' and if valid, C2O operates its relay output momentarily.

Because C2O rejects the call there are no call charges incurred. (Using current call charging structures).

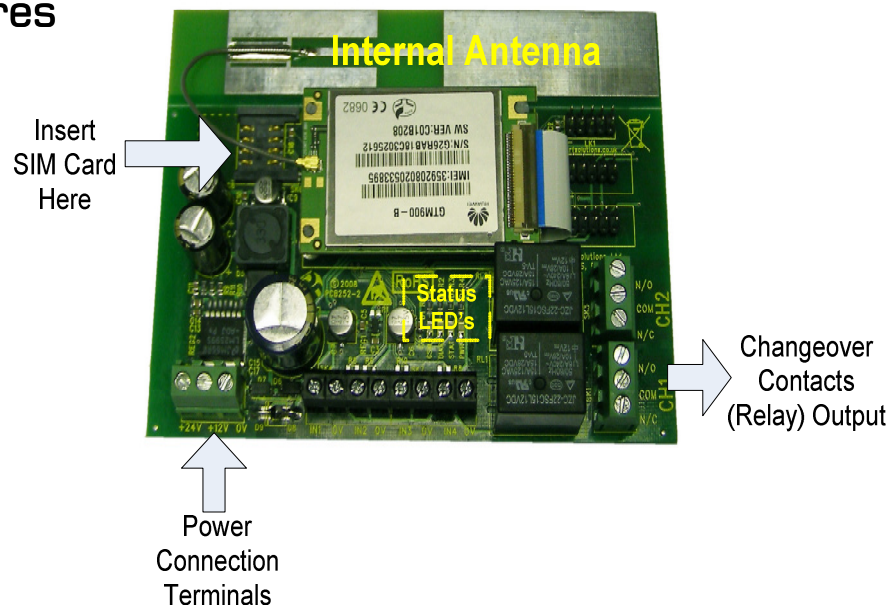
The user can set upto 100 numbers on the white list, or set the C2O 'Open' to any caller

Typical Application Connection:

Normally the C2O output relay is wired across the switch which operates the Gate.

In order to connect the C2O across a standard push switch the relay COM and NO contacts are wired in parallel to the users gate wall push switch.

Hardware Features



SIM card

The unit will accept SIM cards of most types subject to the following restrictions.

The SIM card should be inserted into C2O before applying power

Only 3 Volt SIM cards should be used.

The message memory of the SIM card should be clear before it is fitted to the C2O unit.

SIM cards that have been protected by means of a PIN (in a mobile phone) will not operate in the unit.

Some types of pay-as-you-go SIM cards may require regular call activity (once every 3 - 6 months) to remain registered.

RF Solutions recommends O2 and Videophone SIM card and has carried out extensive testing using the SIM cards we have for these two networks.

Problems have been identified with Orange SIM cards with this product.

No guarantee can be given for the operation of this product with any network except those that have been tested by RF Solutions.

Onboard LED's Indication / Signal Strength

There are four LEDs on the circuit board. The Green LED indicates power is applied
The three Red LEDs indicate the status of C20 as below

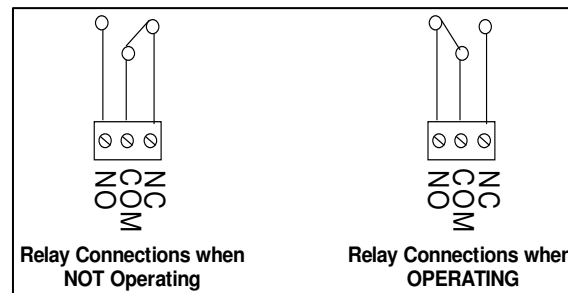
During Initialisation After Power UP	
RED LED Action	Description
LED's illuminate alternately	Power-up initialisation (can take many seconds)
All LED's flash together	No network found

Normal Operation	
RED LED Action	Description
No LEDs	No signal
One LED on Steady	Low signal strength
Two LEDs on Steady	Medium signal strength
Three LEDs on Steady	High signal strength

When Transmitting or Receiving a TEXT	
RED LED Action	Description
One LED Flashing	SMS being Received
TWO LED's Flashing	SMS being Transmitted

Changeover Contact Outputs

Two relay outputs are provided on C20 and C20-DIN, which provide a 'switch' output as below.



Power Connections

The C20 unit can be powered from 12 or 24Vdc, a mains power supply is also available. Power is connected via the Power Screw Terminal.

Extending the Antenna

For low signal areas the internal antenna may be replaced with an external antenna. We offer the following options.

Please Note: Fitting the bulkhead connector in the enclosure will mean that the enclosure is no longer IP68! Additional water sealing will be required if the unit is exposed.

CBA-UFLSMA-1

This cable connects onto the GSM Engine and provides a bulkhead mounting SMA connector which may be fitted to the enclosure, The external antenna below connect directly.



Optional External Mount Gain Antenna



ANT-GSM5WM

Wall Mount Whip Antenna
Gain +5dB
Height ~250mm
3m Connecting Lead

OUTSIDE-TSMA

Wall Mount Antenna
Gain +3dB
Dimensions 130 x 45 x 27mm
3m Connecting Lead



GSM20-ANT

Magnetic mount type Whip Antenna
Gain +3db
Height ~ 236 mm (including magnetic base)
Cable length 2.5m



ANT-GSMPUKS

Rugged Low Profile 'Puck' Antenna
+2dBi Gain
3metres Cable



ANT-GSMSTUB4

Stubby Magnetic Mount
Gain: +4dBi
Height ~110mm
3m Connecting Lead



Waterproof Power Supply PSU12V1AIN-IP

Waterproof Resin Potted Unit (IP67)
Size 83 x 37 x 30mm
Input 100-240Vac Output 12Vdc 1A
Wall Fixing Lugs
Supplied with 3.3m lead



Sending Text Commands

~ means a 'space' in the message.

Command	Description
<p>Unit Password</p> <p>(UPW)</p>	<p>This is the first command that must be sent within 5 minutes from initial power up. The UPW can be any combination of letters/numbers from 5 to 10 characters. If for any reason the unit password is lost or miss-entered the user must remove all power to the unit for 1 minute, when power is reapplied the user may then use the UPW command to set a new unit password.</p> <p>Command Example: UPW~Password123</p> <p>Response: UPW~OK ***NOTE THIS COMMAND IS CASE SENSITIVE!***</p>
<p>Output delay time</p> <p>(ODEL)</p>	<p>This command sets an activation time of the relay outputs. If 't' is set to a value from 1 to 9 then this sets the number of seconds for which the output remains on after an ON command. If 't' is set to '0', then the output will Latch 'ON' permanently</p> <p>Command Example: Password123~ODEL1~7</p> <p>Response: UID~ODEL1~7~OK</p>
<p>Unit Identity</p> <p>(UID)</p>	<p>The <UNIT ID> is an alphanumeric string consisting 4 to 10 characters.</p> <p>This string of characters sets the 'identity' of the C20 unit, and is included in any response to identify the C20 unit to the user</p> <p>Command: Password123~UID~Identity7</p> <p>Response: Identity7~UID~OK</p>

Additional Commands for using the White List

<p>Enable Call2Open Mode from White List</p> <p>(CTOWHL)</p>	<p>Turns ON White list check. When C20 receives a call, it checks the Caller ID, If it is in the list it will activate the output, then reject the call (so there will be no charge).</p> <p>Command Example: Password123~CTOWHL</p> <p>Response: UID~CTOWHL~OK</p>
<p>Add a number to the White List</p> <p>(WHL)</p>	<p>There is a max of 99 numbers that can be stored. We advise you keep a separate list numbers their positions.</p> <p>Command Example to add 1273898000 to location 4: Password1234~WHL04~1273898000</p> <p>Response: Password123~WHL04~1273898000~OK</p> <p>Note: If your number has more than 23 digits, use the rightmost ones. For example, if your number is 33446665555 you should program 3446665555.</p>
<p>Check a number in the White List</p> <p>(WHL?)</p>	<p>Reports back a telephone number from the White list</p> <p>Command Example to report back the tel no in position 32: Password123~WHL032?</p> <p>Response: Password123~WHL032~1273898000</p>
<p>Delete a number in the White List</p> <p>(WHLD)</p>	<p>Command Example to delete the Tel no at loc'n 01: Password123~WHL01D</p> <p>Response: Password123~WHL01~<0033612345678>~deleted</p>
<p>Delete ALL numbers in the White List</p> <p>(WHLALLD)</p>	<p>This command Deletes all telephone numbers within the White list</p> <p>Command: Password123~WHLALLD</p> <p>Response Password123~WHL~<ALL>~deleted</p>
<p>Enable Call2Open Mode from Any number</p> <p>(CTOANY)</p>	<p>Turns OFF White list check. When C20 receives a call from ANY Tel number, it will activate the output, then reject the call (so there will be no charge).</p> <p>Command Example: Password123~CTOANY</p> <p>Response: UID~CTOANY~OK</p>




Technical Specifications

Storage Temperature: -10 to +70° Celsius. Operating Temperature: 0 to +55° Celsius.
 C20 Enclosure Rating IP68
 C20 Dimensions 169 x 132 x 85mm

Electrical Characteristics	Min	Typical	Max	Dimension	Notes
Supply Voltage for 12Vdc	11	12.0	14	V	
Supply Voltage for 24Vdc	23	24.0	26.0	V	
Supply Current for C20:					
Idle	35	44	100	mA	1
Operating	200	370	1000	mA	2
Mains rated Relay Rating (230Vac)		5	12	A	3

Notes

Refers to maximum supply current required with all components idle.
 Refers to peak supply current required with all components operating. In practice internal reservoir capacitance limits the instantaneous peak current to less than 500 mA.
 The relay contacts in this unit are for functional switching only and must not be used for isolation purposes.

<p align="center">RF Solutions Ltd RECYCLING NOTICE rfsolutions.co.uk Meets the following EC Directives</p> 
DO NOT Discard with normal waste, please recycle.
<p align="center">ROHS Directive 2002/95/EC Specifies certain limits for hazardous substances.</p>
<p align="center">WEEE Directive 2002/96/EC Waste Electrical & Electronic Equipment. This product must be disposed of through a licensed WEEE collection point. RF Solutions Ltd fulfils its WEEE obligations by membership of an approved compliance scheme. <u>Environment Agency producer registration number WEE/JR0104WV</u></p>
<p align="center">Waste Batteries and Accumulators Directive 2006/66/EC Where batteries are fitted, before recycling the product, the batteries must be removed and disposed of at a licensed collection point.</p>

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