



# PROTEXT - GSM REMOTE CONTROL

- Remote Control From a Mobile Phone
- Easy to Install and Configure using SMS commands (no PC required).
- 4 Digital Inputs (Volt Free)
- Upto 8 Relay Outputs rated 240Vac 5A
- User Can set inputs and outputs Names
- Up to 5 mobiles per input
- Outputs controlled by SMS text message
- Request Status via SMS
- Enclosure Rated IP68 (Pressure Washer Proof)
- Automatically Sends SMS message when input activated
- Accepts all major SIM Cards



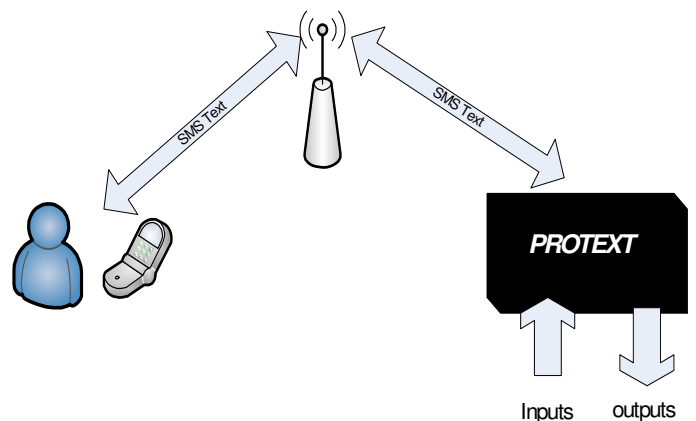
**PROTEXT**



**PROTEXT-DIN RAIL**

## Applications

- Remote control by GSM Mobile phone.
- Remote Maintenance, warnings / Alarms.
- Irrigation Systems.
- Remote system monitoring.
- Plant Maintenance.
- Security Systems
- Alert / Panic caller



## Ordering Information

PART No	Description
PROTEXT	GSM Telemetry System IP68 Enclosure
PROTEXT-DIN	GSM Telemetry System DIN Rail Module
PROTEXT-USA	GSM Telemetry System IP68 Enclosure for use in N. America



# PROTEXT - GSM REMOTE CONTROL

## User Manual

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## 1. Definitions

The following definitions are used throughout this document and generally in connection with the control unit.

**Message** An SMS ('text') message sent from one mobile station to another.

~ **Denotes a 'space' in the format of a message.**

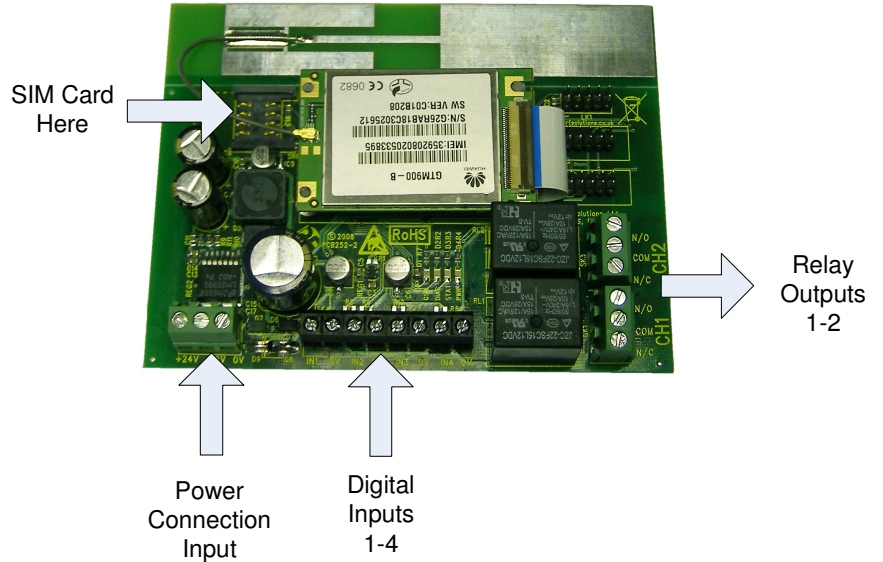
**Alphanumeric.** Characters in the range A to Z (upper and lower case), numbers in the range 0 – 9.

**Mobile.** A mobile telephone that is used to send and receive SMS messages.



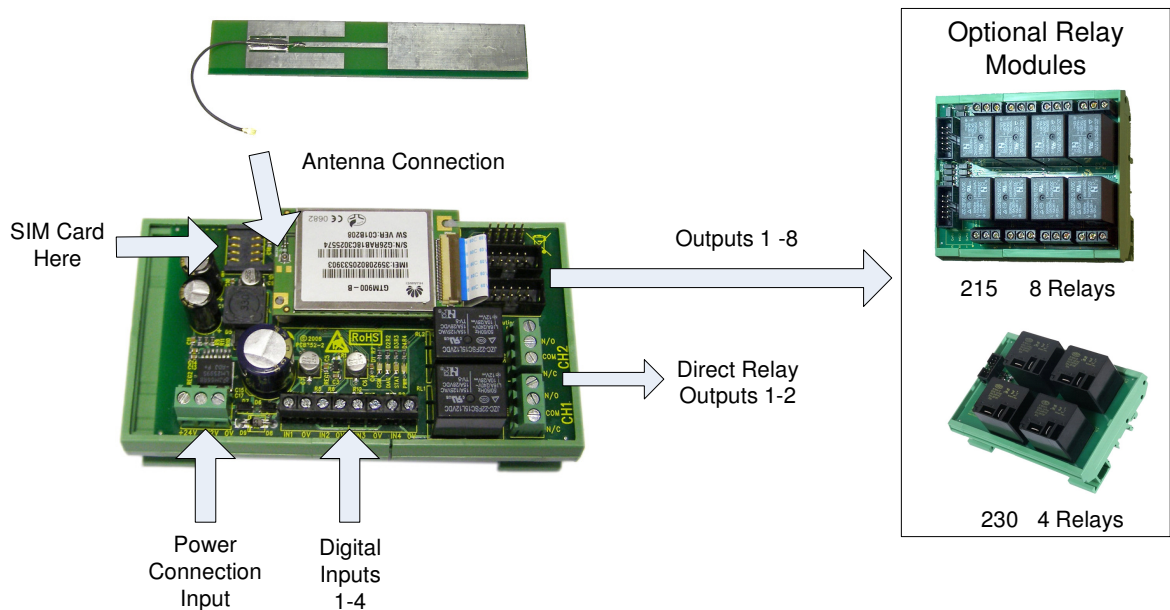
## 2. PROTEXT Features

- Integrated Antenna connector
- 2 x Relay outputs



## 3. PROTEXT DIN Features

- External Antenna connector via UFL connector
  - 2 x Relay outputs on board
  - 8 Outputs using Relay Module
- (These simply plug and play no additional connections required)





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## 4. SIM card

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

1. Only 3 Volt SIM cards will be correctly read and older 5 Volt types will be ignored.
2. **The message memory of the SIM card should be clear before it is fitted to the PROTEXT unit.**
3. **SIM cards that have been protected by means of a PIN (in a mobile phone) will not operate in the unit.**
4. Some types of pay-as-you-go SIM cards may require regular call activity (once every six months) to remain registered.
5. It is recommended to barr Incoming voice calls to the SIM card before it is used in the PROTEXT unit to avoid any error messages being sent back to the user. This can be achieved by calling the service provider.

The SIM card should be inserted into PROTEXT before applying power

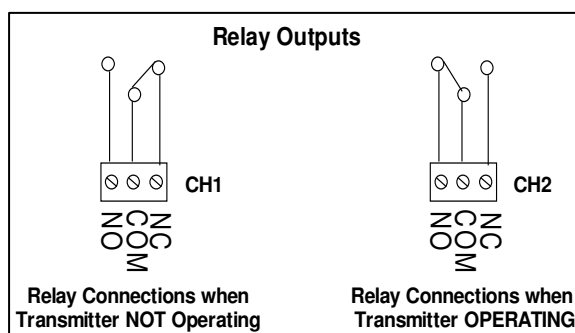
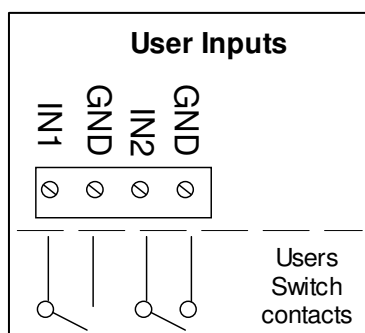
## 5. Inputs Circuits and Output Relays

The four inputs are provided via screw terminals

GND/IN1  
GND/IN2  
GND/IN3  
GND/IN4

These are volt-free digital inputs are designed to be actuated by contact 'switch' closures across the input pins.

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



PROTEXT-DIN can also provide a further six additional outputs by using the Relay Modules which connect directly to the PROTEXT-DIN.

## 6. Power up

The PROTEXT unit can be powered from 12 or 24Vdc, a mains power supply is also available. Connecting to the 3 pin terminal block provides the PROTEXT with power.

On power up the PWR LED will illuminate steady green.

The GSM engine takes several seconds to warm-up. The GSM LED may flash when the GSM engine is active.

The GSM will come on after several seconds and should start to blink, indicating that the GSM modem has registered with the network and that the unit is ready to accept user commands. The STAT LED blinks whenever there is GSM activity, I.E. the unit is sending or receiving a text.

## 7. Power Loss

In the event of power loss to the PROTEXT the unit will maintain the user configured data entered during the User set-up sequence, as this information is stored in non-volatile memory. However the status of the relays will be lost.

## 8. User Set-Up of PROTEXT

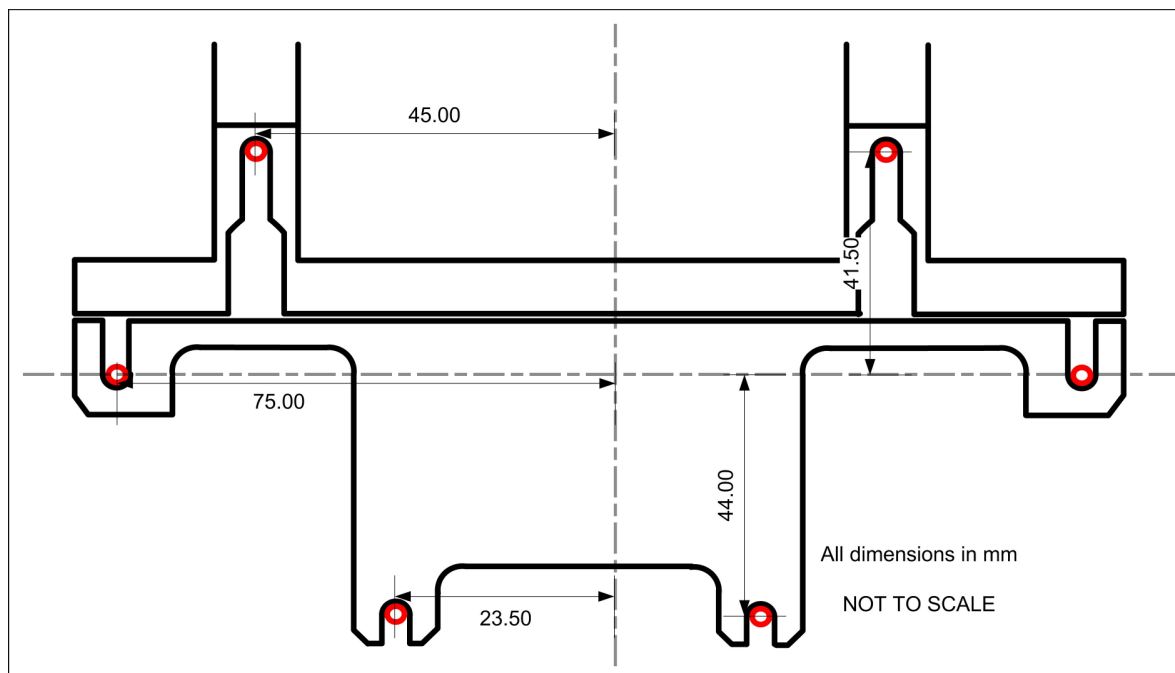
Prior to usage, it is necessary to program the PROTEXT unit with the following parameters. (Some are optional)

Note that the User Password **is** case sensitive but the commands are **not** case sensitive and will be converted into upper case before the unit handles them. This means that any user command responses, which echo the original command will do so in upper case.

All commands are sent as text messages from a mobile phone.

## 9. PROTEXT Mounting Template

PROTEXT is designed to mount to a flat wall.





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## 10. User Set-Up Commands

PLEASE NOTE: ~ Denotes a 'space' in the format of a message

Command	Description	Command Syntax	Example
<b>Unit Password</b> (UPW)	<p>The string &lt;UNIT PW&gt; is an alphanumeric string containing from 4 to 10 characters.</p> <p>Selection of the UPW must be completed within 5 minutes from power applied. Setting the UPW is carried out by sending a text message to the unit.</p> <p>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>	UPW~<UNIT PW>	Command: UPW~Password38  Response: UPW~OK
<b>Unit Identity</b> (UID) <i>(Optional)</i>	<p>The &lt;UNIT ID&gt; is an alphanumeric string consisting 4 to 10 characters.</p> <p>This string of characters sets the 'identity' of the PROTEXT unit, and is included in any response to identify the PROTEXT unit to the user</p>	<UNIT PW>~UID~<UNIT ID>	Command: Password38~UID~Identity7  Response: Identity7~UID~OK
<b>Input number-to-text</b> (INUM) <i>(Optional)</i>	<p>This command sets the mobile number that the SMS Text message is sent to when input 1 or 2 is changed.</p> <p>The number must be in full international format including country code and leading zeros.</p> <p>Note the country code for the United Kingdom is 44.</p> <p>Note the PROTEXT can store up to 5 mobile number per input.</p>	<UNIT PW>~INUMn~<num to text>  n=1 for input1 n=2 for input 2	Command: Password38~INUM1~0033612345678  Response: Identity7~INUM1~0033612345678~OK  This example selects a French mobile (country code 33) with national number 06 12 34 56 78 (leading 0 omitted), this number will be text if IN1 changes state.



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## User Setup Commands cont..

PLEASE NOTE: ~ Denotes a 'space' in the format of a message

Command	Description	Command Syntax	Example
<b>Power Failure number-to-text</b> (PNUM) (Optional)	This command is used to identify the mobile number which is to be text if power has be removed from the PROTEXT. PNUM can store up to 5 mobile numbers.	<UNIT PW>~PNUMn~ <number to text>  Where n=1 for power fail	Command: Password38~PNUM1~0033612345678
<b>Deleting numbers-to-text</b>	If either of INUMn or PNUM contain a mobile number that is already present in the phone number list then this number will be deleted. After deletion a text will be sent to the user to confirm the deletion of that number.	<UNIT PW>~x~<num to text>  Where x represents either INUMn or PNUM1	Command: Password38~PNUM1~0033612345678  Response: UID~PNUM1~<0033612345678>~deleted
<b>Output delay time</b>  (ODEL)  (Optional)	This command sets an activation time of the relay outputs. The default is to remain on following an ON command and turn off following an OFF command.  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. The OFF command is then ignored. If 't' is set to '0', then the output returns to default setting	<UNIT PW>~O DELn~t  n=Relay number t=Delay time (seconds)	Command: Password38~ODEL1~7  Response: Identity7~ODEL1~7~OK
<b>Response on/off</b>  (RESPONSE)  (Optional)	This command is used to control the responses that are to be sent from the unit following receipt and carrying out of a command.  NOTE: messages which specifically demand a response such as requests for input status will always be responded to as will the UPW, UID and RESP~OFF messages.  The default setting is for the response messages to be turned of.	<UNIT PW>~RESPONSE~x  x=ON or OFF	Command: Password38~RESPONSE~ON  Response: Identity7~RESPONSE~ON~OK







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## Control Commands Cont...

**PLEASE NOTE:** ~ Denotes a 'space' in the format of a message

<p>Customising input names (ISTRING)</p>	<p>The &lt;ISTRING&gt; is an alphanumeric string consisting of up to 62 characters.</p> <p>This string of characters sets the custom input name. For example if input 1 is a detector on a door then input 1 can be assigned the name DOOR.</p>	<p>&lt;UNIT PW&gt;~ISTRINGn~name</p> <p>n=Input number to assign to. name=Custom name to assign.</p>	<p>Command: Password38~ISTRING1~AIRCON</p> <p>Response: Identity7~ISTRING1~AIRCON~OK</p>
<p><b>Customising output names</b> (OSTRING)</p>	<p>The &lt;OSTRING&gt; is an alphanumeric string consisting of up to 62 characters.</p> <p>This string of characters sets the custom name for outgoing data. For example if output 1 is used to open/close a vent then output 1 can be assigned the name VENT.</p>	<p>&lt;UNIT PW&gt;~OSTRINGn~name</p> <p>n=Output number to assign to. name=Custom name to assign.</p>	<p>Command: Password38~OSTRING1~AIRCON</p> <p>Response: Identity7~OSTRING1~AIRCON~OK</p>
<p><b>Activate and deactivate outputs using custom names</b> (OUT)</p>	<p>This command is used to turn a relay on or off using its custom name</p>	<p>&lt;UNIT PW&gt;~OUTn~name~x</p> <p>n=Relay number = 1 or 2 x=Relay Status = ON, OFF name=Custom name</p>	<p>Command: Password38~AIRCON~ON</p> <p>Response: Identity7~AIRCON~ON~OK</p>

## Control Commands Cont...



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**PLEASE NOTE:** ~ Denotes a 'space' in the format of a message

<p><b>Retrieve saved numbers to text for INUMn</b></p>	<p>This command requests the mobile phone numbers for input 1 or 2 (INUMn) to be returned to this caller.</p>	<p>&lt;UNIT PW&gt;~ SETTINGS~INUMn</p>	<p>Command: Password38~settings~INUM1</p> <p>Where n=1 for input1 or n=2 for input 2</p> <p>Response: &lt;UNIT ID&gt;~SETTINGS~INUM1~&lt;numbers to text&gt;</p> <p>For example: Identity7~SETTINGS~INUM1~0033124557784</p>
<p><b>Retrieve saved numbers to text for PNUM1</b></p>	<p>This command requests the mobile phone numbers to text in the event of power failure to be returned to this caller.</p>	<p>&lt;UNIT PW&gt;~ SETTINGS~PNUM1</p>	<p>Command: Password38~settings~PNUM1</p> <p>Response: &lt;UNIT ID&gt;~SETTINGS~PNUM1~&lt;numbers to text&gt;</p> <p>For example: Identity7~SETTINGS~PNUM1~0033124557784</p>



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## 12. Messages generated by PROTEXT

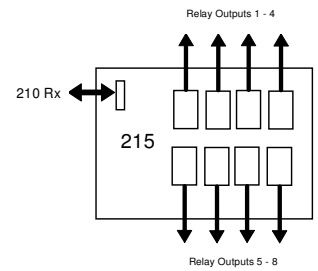
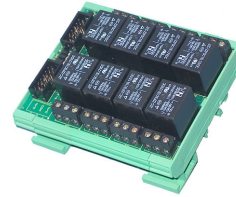
PLEASE NOTE: ~ Denotes a 'space' in the format of a message

Message	Description	Message Syntax	Example
<b>Change Of Status Of Inputs</b>  (IN)	<p>This message reports a change of input state to the designated mobile number (set using the INUM command). A message is sent with the following format.</p> <p>A change of input will only be 'valid' after 5mSecs Where the PROTEXT unit is processing an SMS messages then the response time could be up to 250mS.</p>	<p>&lt;UNIT ID&gt;~INn~x</p> <p>n=input channel =1 or 2 x=input status=ON or OFF</p>	Identity7~IN1~ON
<b>Error in received message</b>  (!!ERROR!!)	<p>When an incoming SMS contains an error in the message format, no action will be taken by the unit other than to send an error message back to the calling mobile along with a copy of the erroneous message itself.</p>	<p>&lt;UNIT ID&gt;~m~!!ERROR!!</p> <p>m=Your Message Returned</p>	Identity7~UPW~OUTn~OFF~!!ERROR!!
<b>Text user after power reset: (FAILED)</b>	<p>Texts will be sent to mobile phone numbers stored in PNUM on reboot after a power failure or reset (when power is reapplied).</p> <p><i>Note this feature is enabled or disabled by simply either having mobile phone numbers in PNUM or not.</i></p>	<p>&lt;UNIT ID&gt;~</p> <p>Reboot~power~had~failed</p>	Identity7~Reboot~power~had~failed

## 13. PROTEXT-DIN Optional Modules

### 215 Relay Output Module

- 8 relay switches rated 230Vac at 5A
- Each relay provides 'input' and 'normally open' screw terminals



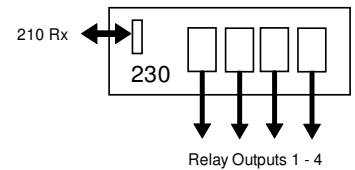
Dimensions: Within DIN Rail: 93 x 82 mm (PCB: 90 x 72mm)  
 Storage Temperature: -10 to +70° Celsius. Operating Temperature: 0 to +55° Celsius.

Electrical Characteristics	Min	Typical	Max	Units
Supply Voltage	From PROTEXT-DIN			
Relay* output Rating Type KB12	Max rating is 3A/220VAC/30VDC			

\*The relay contacts in this unit are for functional use only and must not be used for isolation purposes

### 230 Relay Output Module

- 4 relay (type K7SFA12) outputs rated for up to 30A at 230Vac.
- Each relay provides 'input' and 'normally open' Spade Terminals.



Dimensions: Within DIN Rail: 115 x 82 mm (PCB: 109 x 72mm)  
 Storage Temperature: -10 to +70° Celsius. Operating Temperature: 0 to +55° Celsius.

Electrical Characteristics	Min	Typical	Max	Units
Supply Voltage	From PROTEXT-DIN			
Relay output Rating @ 230Vac* @ 12Vdc			30	A
			20	A

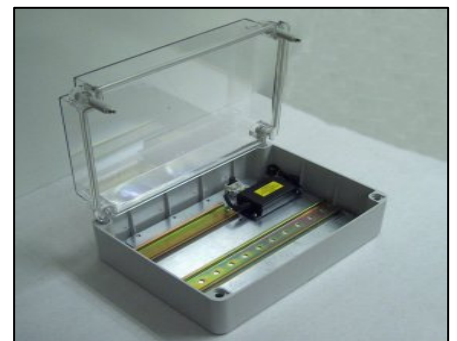
\*The relay contacts in this unit are for functional use only and must not be used for isolation purposes

### Enclosure / Mains Power Supply

- IP56 Insulation Class 2
- DIN Rails mounted on Steel Plate
- 12Vdc 1A PSU incorporated accepts 110-240Vac (5A Fused)

### Dimensions

External	315 x 235 x 130mm
Internal	300 x 220 x 120mm
DIN Rail length 1	285mm
DIN Rail length 2	180mm



Part No	Description
ENC-DA3	DIN Rail Enclosure Assembly, Two Mounting Rails, 12Vdc PSU Fitted
PSU12V1AIN-IP	Power Supply 110-240Vac input, 12Vdc 1A Output



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## 14. Technical Specifications

Storage Temperature: -10 to +70° Celsius. Operating Temperature: 0 to +55° Celsius.  
PROTEXT Enclosure Rating IP68  
PROTEXT 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 PROTEXT:					
Idle	35	44	100	mA	1
Operating	200	370	1000	mA	2
Mains rated Relay Rating (230Vac)		5	12	A	3

### Notes

1. Refers to maximum supply current required with all components idle.
2. 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.
3. The relay contacts in this unit are for functional switching only and must not be used for isolation purposes.

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