

# Telguard<sup>®</sup> Digital Model TG-9

## Digital Cellular Alarm Communicator

### Installation and Operating Instructions

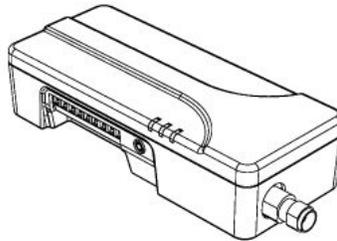
#### **Important: Read Before Installing Model TG-9**

**The following tools are required for installation:**

Screwdriver and appropriate mounting screws

**Confirm the presence of all required parts:**

- 1x TG-9 Cellular Alarm Communicator
- 1x Dipole Antenna
- 6x End-Of-Line resistors



**Before going to the site:**

- Fill out and submit the Telular TG-9 Digital Cellular Service Activation Form.
- Fax the activation form to 678-945-1651 or submit the activation form on the internet at Telular.com

**Note:**

*Ensure that you have the correct wiring diagram for the selected TG-9 Operation Profile.*



**Technical Support: 800-229-2326**  
**M-F 8:00AM – 8:00PM EST**  
**Saturday 9:00 AM – 5:00 PM EST**

**April 27, 2007**

## Device Profile Options

The Telguard TG-9 Profile is stored in the Telular Communications Center and defines how each unit operates. One profile may be used for multiple units. The profile is uploaded to the Telguard TG-9 when it is activated, there is no field programming needed.

### Trip and Restore Reporting

The TG-9 is programmed to send trips on all zones (not restorals). The profile can be set so that restores are transmitted. Changes will affect all trip zones.

- **Profile Options:** Report Restoral / Do Not Report Restoral

### Zone 1: Trip Input or Bell Input

Zone 1 on the TG-9 can be programmed as a normal trip input (default), or as a Bell Input. Bell input is ANSI standard Fire (3 rings, pause) and Burg (steady on).

- **Profile Options:** Trip Input / Bell Input
  - Note:** *Do not connect E.O.L. resistor if using bell input.*
  - Note:** *If using Bell input, Bell must be connected per Table 1 on page 5 before activating. Make sure there are no Bell alarms in progress before activating.*

### Zone 6: Trip Input or Shunt

Zone 6 on the TG-9 can be used as a shunt (default) or as a normal trip input. When in shunt mode, a switch can be used to enable or disable alarm functions. When the switch is in an "ON or SHORTED" state alarm functions will be disabled.

- **Profile Options:** Shunt / Trip Input  
Report Shunt Activity / Do Not Report Shunt Activity

### Zones 2 - 5: Trip inputs

Zones 2 - 5 are standard trip inputs.

### Swinger Option

The TG-9 can be programmed for a swinger setting. Should a single zone trip more than X times in Y minutes, the system will send no more events for that zone until Z minutes have passed with no trips.

- **Profile Options:** Swinger Option On / Off
  - Number of Events (1 – 99)
  - During Time Period (1 – 99 Minutes)
  - Time to Restore (1 – 99 Minutes)

### STC Trip Output

The STC trip output is a Normally Closed contact with four modes.

**Mode 1:** It acts as a supervisory output, monitoring for No Cellular Service (NSC), Power Failure (PFC), Failure to Communicate (RFC),

**Mode 2:** It acts as an alarm or bell driver, tripping the alarm system or sounding an alarm bell when a zone or zones on the TG-9 are tripped. Output will time out after 15 minutes.

**Mode 3:** It acts as an auxiliary output, which will close or open based on incoming signals.

**Mode 4:** the output is disabled

- **Profile Options:** Mode 1 / Mode 2 / Mode 3 / Mode 4

## Installation Instructions

### **WARNING! DO NOT MOUNT THE UNIT YET!**

**This unit is a cellular communications device.  
THE ANTENNA MUST NOT BE INSTALLED IN THE BASEMENT!**

**1. Connect the power.**

Connect the Telguard TG-9 to the 12v DC power output from the alarm panel or to a 9-15v DC (250 mA minimum) power supply. Ensure that the LEDs come on.

**Important:** *The 2.5mm port on the side of the TG-9 is for programming and diagnostics only. It is not a power input and installer shall not insert any type of jack or other device into this port.*

**2. Check the signal strength.**

Look at LED 1 and compare it to the following chart.

Green Solid	Good Signal Strength
Green Flashing	Acceptable Signal Strength
Yellow Flashing	Weak Signal Strength
Red	No Signal Strength

If the light is not green flashing or green solid, move the unit or antenna around until a green flashing or green solid is achieved.

**3. Activate the unit.**

Short Trip Input 6 (the bottom two terminals). LED 2 should go from **RED** to **SOLID GREEN**. This indicates that the unit is registered and active. This may require up to 3 minutes.

**Note:** *If using Bell input, Bell must be connected per Table 1 on page 5 before activating. Make sure there are no Bell alarms in progress before activating.*

If a **FLASHING RED** appears on LED 2, the unit has failed registration. This usually indicates that the Activation Form has not been completed. If this occurs, call Telular Technical Support at **800-229-2326**.

**4. Connect the trip inputs.**

The trip inputs on the TG-9 should be connected according to the TG-9 Operation Profile selected for the unit. (Consult the installation diagram on the opposite page.) All zone inputs require an E.O.L. resistor (supplied).

**Note:** *If zone 1 is programmed as a bell input, do not connect E.O.L. resistor.*

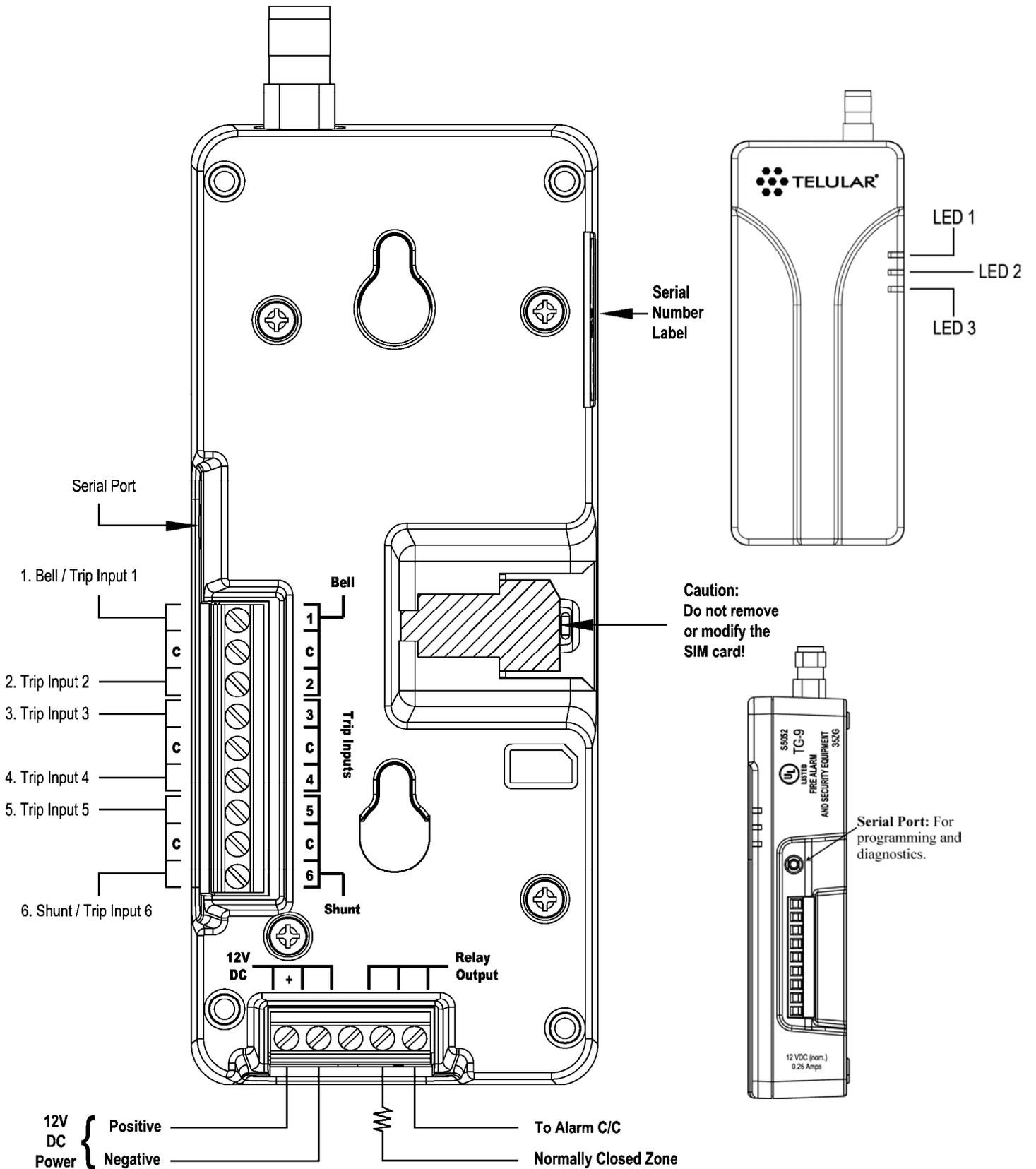
**5. Send test signals.**

Trip zones on the system, and confirm that signals are received at the central station.

**6. Connect the relay output to the alarm panel. (Optional)**

The STC relay output is a Normally Closed (N.C.) contact. The zone on the panel should be programmed as a 24-Hour Supervisory Zone.

**7. Permanently mount the Telguard TG-9**



## LED Functions & Description

### LED 1: Signal Strength

Green Solid	Good Signal Strength
Green Flashing	Acceptable Signal Strength
Yellow Flashing	Weak Signal Strength
Red	No Signal Strength

### LED 2: Operating Mode

Green	Registered and Enabled
Green flash	Transmitting Signal
Yellow	Awaiting Response
Red	Not Registered or Enabled
Red Flashing	Failed Registration, NACK

### LED 3: System Status

Green	All OK
Green Flashing	FOTA in Progress
Yellow Flashing	Standby Mode (Shunt)
Red Flashing	STC
Red	No SIM Card Installed

### LED 3: STC LED Table

One Flash, Pause	Power Failure
Four Flashes, Pause	No Cellular Service
Five Flashes, Pause	Fail To Communicate

### UL SUPPLEMENTAL LISTING:

The following programming and installation requirements must be met:

For commercial applications, the model TG9G0001 shall be secured inside the listed control unit enclosure and only the antenna may protrude out of the enclosure. TNC jumper may be used for mounting the antenna outside of the control unit.

For residential applications, the model TG9G0001 may be mounted in the same protected room outside of the panel enclosure.

The TG-9 panel has been cross listed with the following panels. If connecting Telguard with a cross listed panel please use the following chart for the wiring between the bell output of the alarm panel and the Trip1 input of the Telguard.

TG-9 is for supplemental use only. For UL listed application, do not connect the trip input zones 2 through 6.

Model	Bell polarity Low = connect – to INPUT_1, High = connect + to INPUT_1
Ademco Vista-20	High
Brinks B3000	High
GEM P1632	High
Bosch D7212GV2	High
DMP XR500	High
Napco F-8KIT1	High
DSC5020	Low

**TABLE 1 – Zone 1 Bell Polarity**

Note: the Telguard model TG-9 requires a minimum of 250ma during normal operating mode. Please ensure you **do not exceed** the auxiliary current supply of the alarm panel.

# System Specifications

## Digital Cellular Radio

The Telguard TG-9 radio supports GSM/GPRS cellular protocol. It is equipped with an integrated radio transceiver conforming to all the requirements of the GSM Phase 2+ tests specified in GSM 11.10. The TG-9 transceiver is FCC compliant, meeting all of the requirements of Part 24 and SAR testing. It is also compliant to the PTCRB NAPRD03 requirements.

- Frequency range: GSM 850/1900MHz,
  1. 850: Tx = 824MHz-849MHz & Rx = 869MHz-894MHz
  2. 1900: Tx = 1850MHz-1910MHz & Rx = 1930-1990MHz
- Antenna Port: TNC connector (female), 50-ohm
- Receiver Sensitivity: -102 dBm
- Transmit Power: EGSM 850MHz: Class 4 (2 watts)  
GSM 1900MHz: Class 1 (1 watt)
- FCC ID: O9EQ2426-SK
- Supplied Antenna: Dipole
- Physical Size: 5.9"H x 2.5"W x 1.5"D.
- Weight: 7.3 oz
- Operating Environment: 0° C to +49° C; 0 - 85% humidity (non-condensing).
- **FCC RF Exposure Information**
  - THE EXTERNAL ANTENNAS USED FOR THIS RADIO MODULE MUST PROVIDE A SEPERATION OF AT LEAST 8 INCHES (20 CENTIMETERS) FROM THE GENERAL PUBLIC.

## Power Requirements

- 9-15v DC Power Supply, min. 250mA
- Current Consumption
- 25mA Standby
  - 150mA Transmit

## Warranty

Telular will repair or replace (our option) inoperative units for up to two years from date of manufacture. This excludes damage due to lightning or installer error. Unauthorized modifications void this warranty. Not responsible for incidental or consequential damages. Liability limited to price of unit. This is the exclusive warranty and no other warranties will be honored, whether expressed or implied. An RMA must be assigned by calling tech support 800-229-2326 before returning product to:

Telular Corporation  
Attn: Repair Depot  
1801 South Fulton Drive  
Corinth, MS 38834

**RMA number must be on outside of box or product will not be accepted.**

## General Accessories

<b>ACD-12</b>	12 feet of antenna cable and mounting bracket
<b>ACD-35</b>	35 feet of low loss high performance antenna cable and mounting bracket
<b>ACD-50</b>	50 feet of low loss high performance antenna cable and mounting bracket
<b>ACD-100</b>	100 feet of low loss high performance antenna cable and mounting bracket
<b>HGD-0</b>	High Gain Directional Antenna