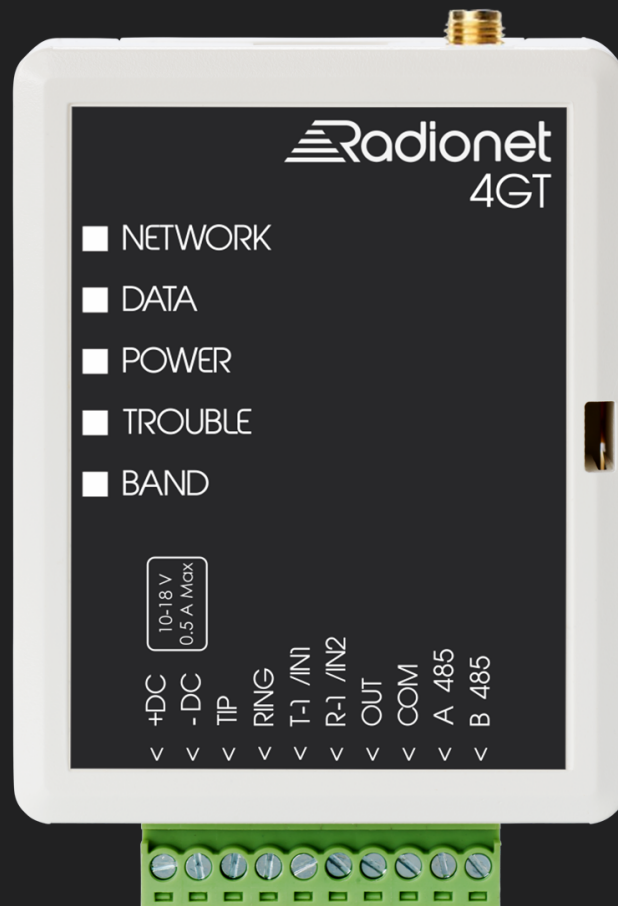




4GT LTE Cat-M1

INSTALLATION MANUAL

2019

Changes	Version	Date
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Safety requirements

The communicator should be installed and maintained by qualified personnel.

Prior to installation, please read this manual carefully in order to avoid mistakes that can lead to malfunction or even damage to the equipment.

Disconnect the power supply before making any electrical connections.

Changes, modifications or repairs not authorized by the manufacturer shall void your rights under the warranty.



Please act according to your local rules and do not dispose of your unusable alarm system or its components with other household waste.

1 DESCRIPTION

Radionet 4GT Multi Band Transmitter

4GT LTE Cat-M1 can be connected to any alarm panel that has a landline dialer and supports dialing in Contact ID protocol with DTMF tones.

The communicator can transmit full event information to the security company's monitoring station receiver.

The communicator works with the myRadionet and myMonitoring apps. Users can control their alarm system remotely and receive notifications about events. myMonitoring app works with all security alarm panels to which the communicator is connected to, regardless of manufacturer. Communicator can transmit event notifications to the Central Monitoring Station and work with myMonitoring simultaneously.

4GT LTE Cat-M1 are certified to the highest EN50131 Grade 4 security rating.

1.1 Features

Connects to panel's landline dialer:

- Communicator can be connected to control panel's landline dialer with 2 or 4 wires.
- When connected with 4 wires, the landline between the panel and communicator will be monitored.

Sends events to monitoring station receiver:

- Sends events to any monitoring software.
- Can send event messages in Ademco 685 CID or Surgard MLR2 formats.
- Connection supervision by polling as low as every 30 seconds (or by requested period).
- Backup channels and server room locations will be used if connection with the primary path is lost.
- With parallel communication paths events can be sent to two receivers at same time (Optional)

Works with myRadionet and myMonitoring:

- "Push" notifications and special sounds informing about events. [**For more information see the user manual on the myMonitoring App.**](#)
- Remote system Arm/Disarm.
- Remote control of connected devices (lights, gates, ventilation systems, heating, sprinklers, etc.).
- Remote temperature monitoring (with iO or iOR-WL expanders).
- Different user rights for administrator, installer and user.

Notifies users:

- Users can get event and control notifications through myMonitoring.

Controllable outputs and inputs:

- 1 output, controlled via:
 - myMonitoring app.
 - SMS message.
- 2 inputs, selectable type: NC; NO; NC/EOL; NO/EOL; NC/DEOL; NO/DEOL.
- Add additional inputs and controllable outputs with wired and wireless iO expanders.

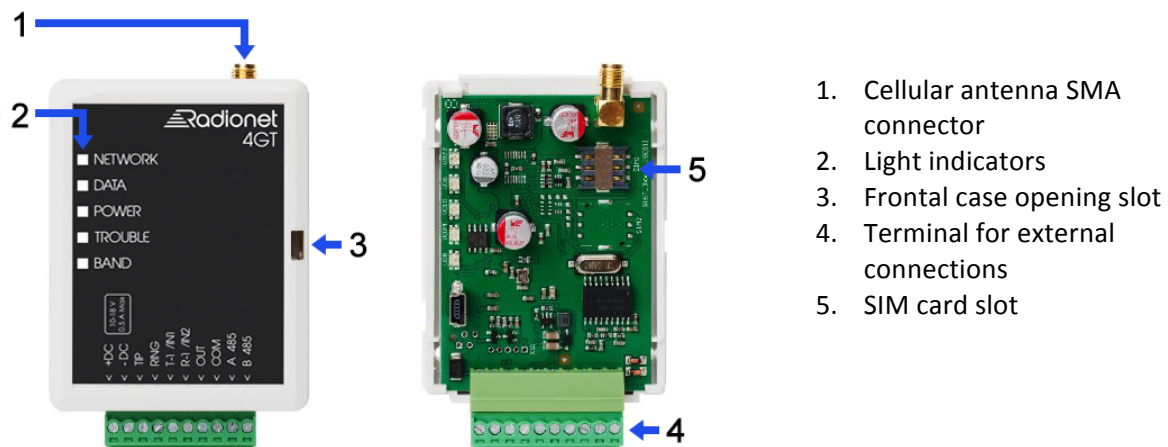
Quick setup:

- Remote configuration and firmware updates

1.2 Specifications

Parameter	Description
Connects to Panel	Landline dialler (TIP RING contacts)
Inputs	2 selectable type inputs, NC; NO; NC/EOL; NO/EOL; NC/DEOL; NO/DEOL Expandable with iO series expanders
Output	1, OC type, up to 0,15 A, 30 V max Expandable with iO series expanders
2G modem frequencies	850 / 900 / 1800 / 1900 MHz
4G modem frequencies	Depends on region See https://www.vodafone.co.nz/iot/lpwan/
Power supply voltage	10-18 V DC
Current consumption	60-100 mA (on standby) Up to 250 mA (while sending data)
Transmission protocols	Surgard MLR2 or Ademco 685
Message encryption	AES 128
Changing settings	myRadionet App or contact the Radionet Office
Operating environment	Temperature from -10 °C to 50 °C, relative humidity - up to 80% at +20 °C
Communicator dimensions	92 x 65 x 26 mm
Weight	80 g

1.3 Communicator elements



1. Cellular antenna SMA connector
2. Light indicators
3. Frontal case opening slot
4. Terminal for external connections
5. SIM card slot

1.4 Purpose of terminals

Terminal	Description
+DC	+10 V/+18 V power supply
-DC	+10 V/+18 V power supply
TIP	Terminal to connect with security control panel TIP terminal
RING	Terminal to connect with security control panel RING terminal
T-1/IN1	Terminal for monitoring the telephone line or an input terminal, selectable type: NC; NO; NC/EOL; NO/EOL; NC/DEOL; NO/DEOL
R-1/IN2	Terminal for monitoring the telephone line or an input terminal, selectable type: NC; NO; NC/EOL; NO/EOL; NC/DEOL; NO/DEOL
COM	Common terminal (negative)
OUT	Output terminal (OC type), current up to 0,15 A
A 485	RS485 bus A contact
B 485	RS485 bus B contact

1.5 LED indication of operation

Indicator	Light Status	Description
Network	Off	No connection to cellular network.
	Yellow blinking	Connecting to cellular network.
	Green solid with yellow blinking	Communicator is connected to cellular network. Sufficient cellular signal strength for 2G is level 5 (five yellow flashes) and for 4G network - level 3 (three yellow flashes).
Data	Off	No unseen events.
	Green solid	Unsent events are stored in buffer.
	Green blinking	(Configuration mode) Data is transferred to/from communicator.
Power	Off	Power supply is off or disconnected.
	Green solid	Power supply is on with sufficient voltage.
	Yellow solid	Power supply voltage is not sufficient ($\leq 11.5V$).
	Green solid and yellow blinking	(Configuration mode) Communicator is ready for configuration.
	Yellow solid	(Configuration mode) No connection with computer.
Trouble	OFF	No operation problems.
	1 red blink	SIM card not found.
	2 red blinks	SIM card PIN code problem (incorrect PIN code).
	3 red blinks	Programming problem (No APN).
	4 red blinks	Registration to GSM network problem.
	5 red blinks	Registration to mobile data network problem.
	6 red blinks	No connection with the receiver.
	7 red blinks	Lost connection with control panel.
	Red blinking	(Configuration mode) Memory fault.
	Red solid	(Configuration mode) Firmware is corrupted.
Band	1 Green Blink	None
	2 Green Blinks	GSM
	3 Green Blinks	GPRS
	4 Green Blinks	EDGE
	5 Green Blinks	CAT-M1
	6 Green Blinks	CAT-NB1

1.6 Startup Process



Step 1 Apply power to the uni. The 4GT will go through an internal power up procedure



Step 2 The 4GT will search for available networks. This is indicated with the network LED flashing amber



Step 3 Once the 4GT has established a network connection the Network, Data and Power LED's will all stay on for a brief moment



Step 4 With the 4GT in indle mode the Network and Power LED's will all stay on

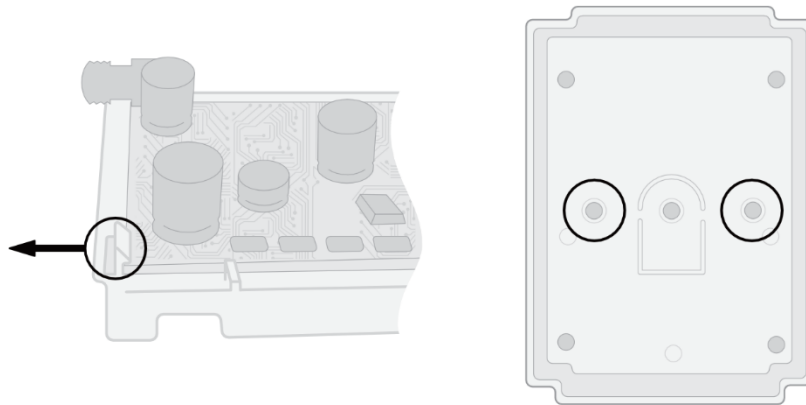
2 INSTALLATION

Physical installation process

For your convenience there are two methods of mounting the 4GT

Screw on method

1. Remove the top cover and pull out the contact terminal
2. Remove the PCB board



3. Fix the bottom part to the suitable place with screws
4. Place the PCB board back into the case, insert contact terminal
5. Screw cellular antenna on
6. Close the top cover

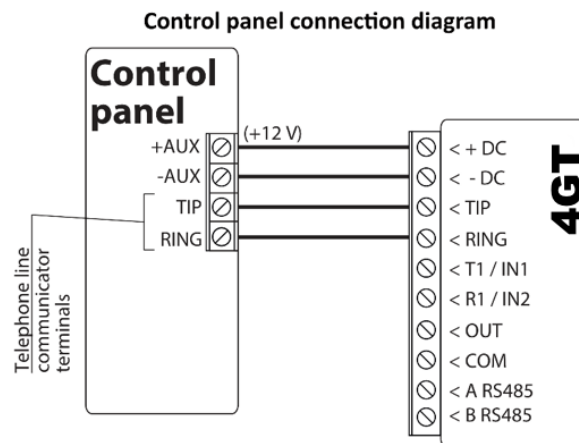
Stick on method

Using the supplied double-sided tape or velcro, fasten the 4GT to any suitable surface that accomodates adhesive tape

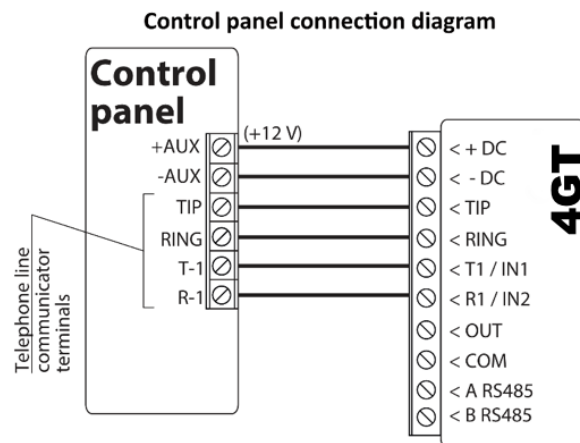
3 WIRING SCHEMATICS

3.1 Wiring the 4GT to the security control panel

Following one of the schematics provided below, wire the communicator to the control panel.



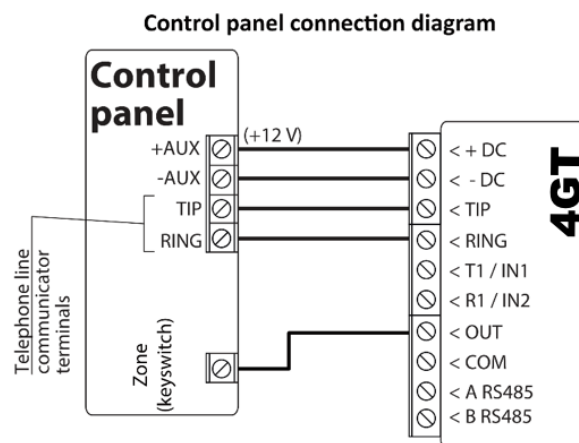
Communicator wiring diagram,
when telephone line supervision is not set.



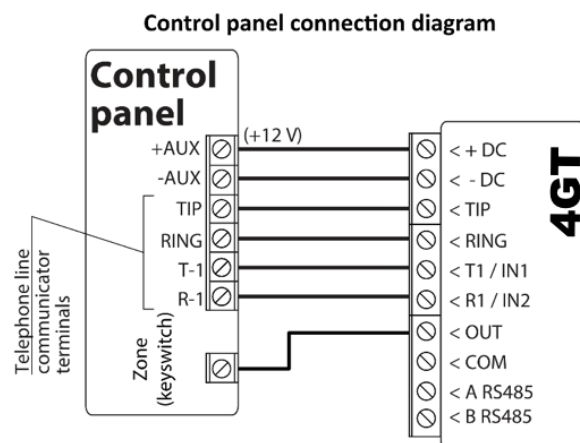
Communicator wiring diagram,
when telephone line supervision is set.

3.2 Wiring the 4GT to a panel key switch zone

Follow these schematics if the control panel will be armed/disarmed with the 4GT PGM output turning on/off the panel's keyswitch zone.



Arming/disarming the panel via keyswitch zone,
when telephone line supervision is not set.



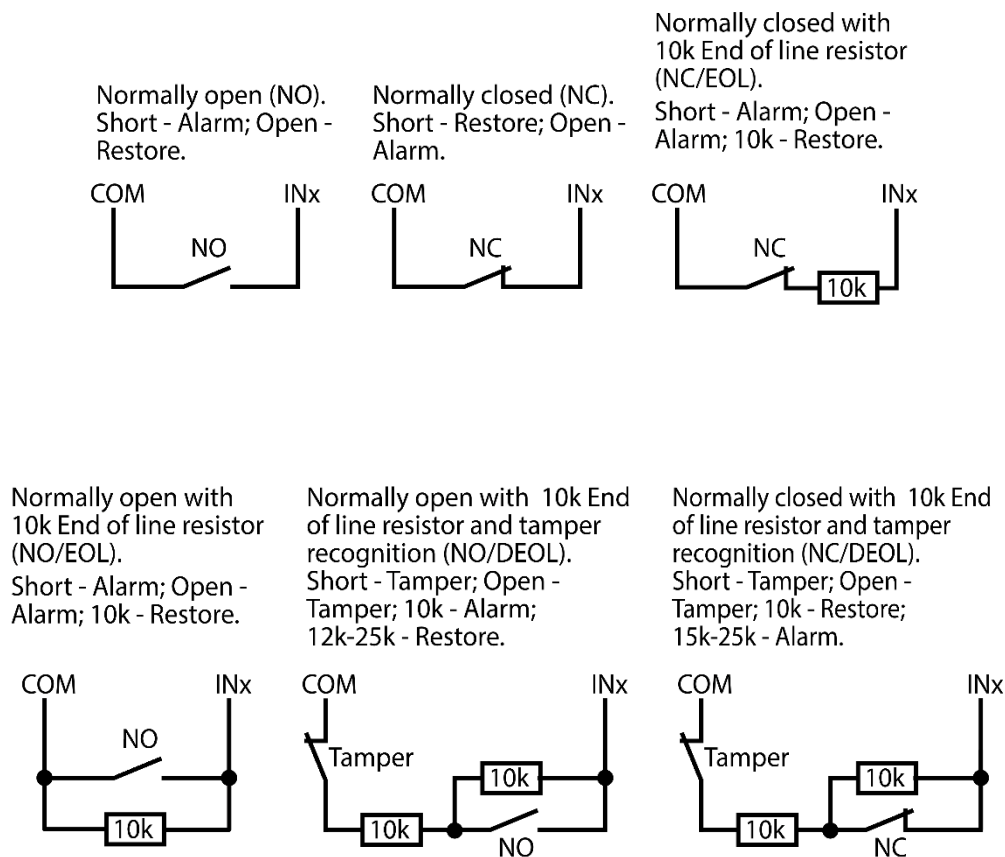
Arming/disarming the panel via keyswitch zone,
when telephone line supervision is set.

Note: The **4GT** communicator has one programmable output OUT, which can control one alarm system partition. Additional partitions can be controlled by adding expanders.

3.3 Schematics for wiring inputs

The 4GT communicator has two input terminals (IN1, IN2) for connecting NO, NC, NO/EOL, NC/EOL, NO/DEOL, NC/DEOL type circuits. Default input setting – NO. The input type can be changed in the myMonitoring App.

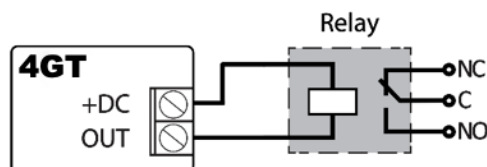
Connect the input according to the selected input type (NO, NC, NO/EOL, NC/EOL, NO/DEOL, NC/DEOL), as shown in the wiring diagrams below.



Note: If more inputs or outputs need to be connected to the communicator, or if you want to connect a temperature sensor, connect the iO series wired or wireless output expander.

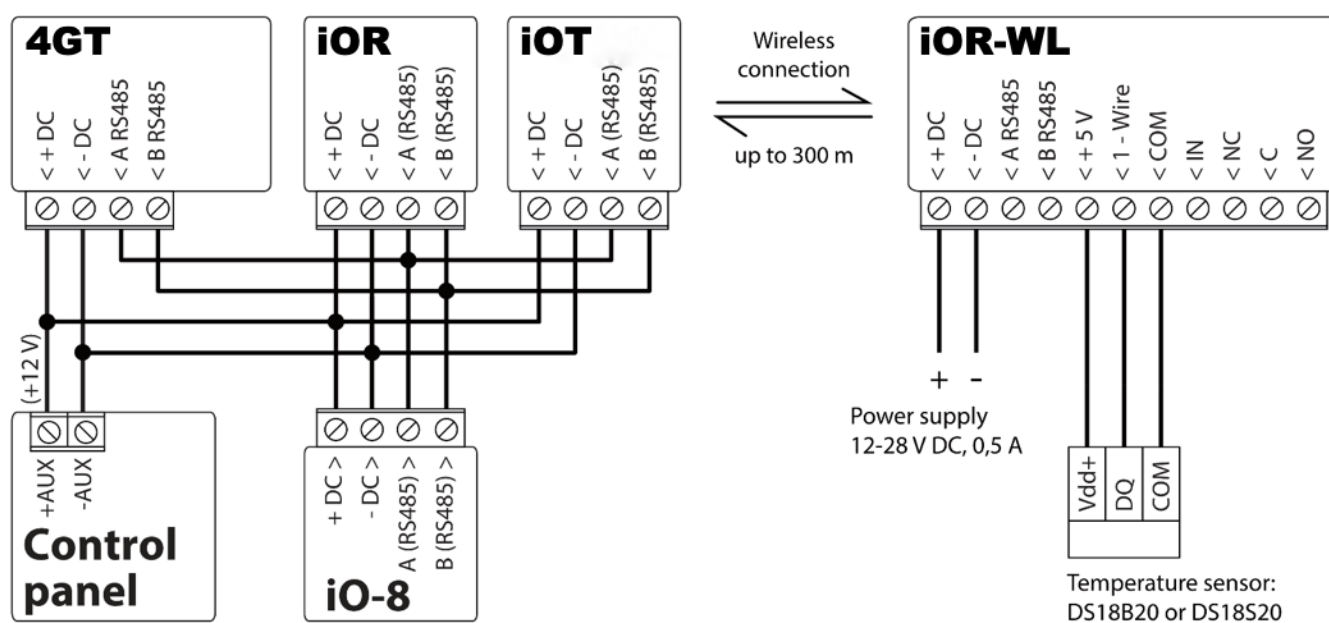
3.4 Schematics for wiring a relay

With relay contacts you can control (turn on/off) various electronic appliances.



3.5 Connecting iO series expansion modules

If more inputs/outputs need to be connected to the communicator, or if you want to connect a temperature sensor, connect the iO series wired or wireless out expander.



3.6 Starting the communicator

To start the communicator, turn on the security control panel's power supply. The LED indication on the 4GT must show:

- "POWER" Led illuminates green when the power is on;
- "NETWORK" LED illuminates green and blinks yellow when the communicator is registered to the network

Note: Sufficient strength of 2G cellular signal is level five (five "NETWORK" indicator flashes in yellow color). Sufficient strength of 4G signal is level three (three "NETWORK" indicator flashes in yellow color).
If you count less yellow "NETWORK" LED flashes, the network signal strength is insufficient. We recommend selecting a different place to install the communicator, or to use a more sensitive cellular antenna.
If you see a different LED indication, it indicates a certain malfunction. Diagnose it following the LED indication table in chapter 1.4 Error! Reference source not found..
If the **4GT** indication does not illuminate at all, check the power supply and connections.

4 PROGRAMMING THE CONTROL PANEL

For the control panel to send events via the landline dialer, it must be turned on and properly set up. Following the panel's programming manual, configure the control panel's landline dialer:

1. Turn on the panel's PSTN landline dialer
2. Enter the monitoring stations receiver telephone number (you may use any number longer than 2 digits. The 4GT will pick up and answer when the panel calls to any phone number)
3. Choose DTMF mode
4. Select Contact ID communication protocol
5. Enter the panel's 4-digit account number

The control panel zone to which the 4GT output OUT is connected should be set to keyswitch zone for arming/disarming the control panel remotely

Note: Keyswitch zone can be momentary (pulse) or level. By default, the 4GT controllable output 'OUT' is set to 3 second pulse mode. You can change the impulse duration or change to level mode in the myMonitoring app. See section [3.2 Wiring the 4GT to a panel key switch zone](#)

CUSTOMER SUPPORT

If you are unable to find what you're looking for in this document, then please contact us through one of our support channels below.

Customer Care & Support	
	admin@radionetmonitoring.co.nz aaron@radionetmonitoring.co.nz

For urgent support issues, please phone **0800 WIREFREE (0800 9473 3733)**