GCST900 / GCPG900
User Guide

FC Unwired Hardware

FC Unwired Inc.
Version 0.1

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Change History

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0.1	02 Jul 2021	GY Yang	Initial pass

1 Introduction

Fall prevention system(GCPAD System)

Good Morning Care fall prevention system is a effective active alarming system that can detects and alert caregivers when patients are at risk of falling from their beds With this system, caregivers can provide rapid response to patients when needed.

2 Product components

The Good Morning Care system consists of Bed Sensor Pads, Sensor Transmitters and Wearable Pagers.

Bed Sensor Pad

Sensor Transmitter

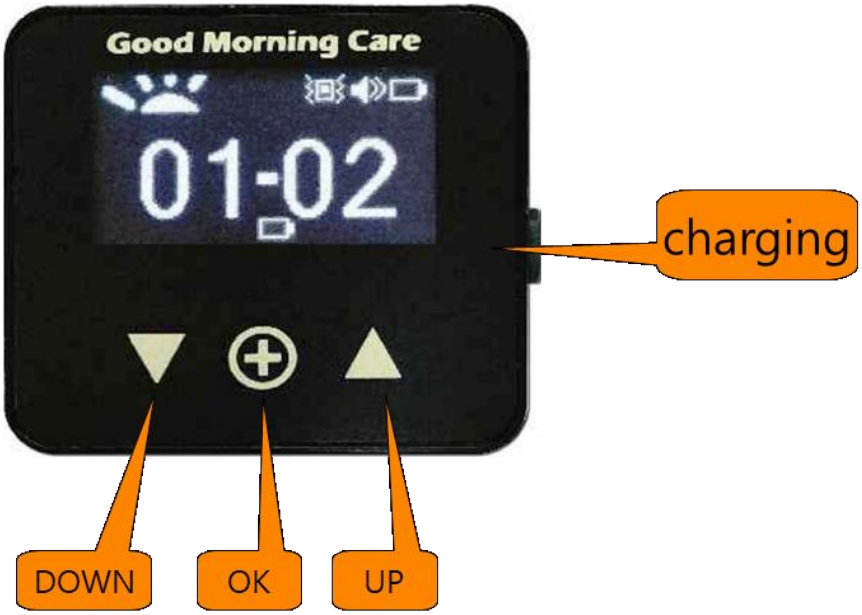
Wearable Pager

2.1 Wearable Pager (GCPG900)

A Wearable pager notifies Sensor Transmitter's alert information to caregivers who are wearing the pagers. The LED display on the pager shows a 4-digit numbers that indicates the location of the alert. The number displayed can be set by the user to identify the room and bed setting off the alert. The simple setup network is established (see section 3.3 for instructions on setting up the network) by adding at least one Sensor Transmitter to the Wearable Pager.

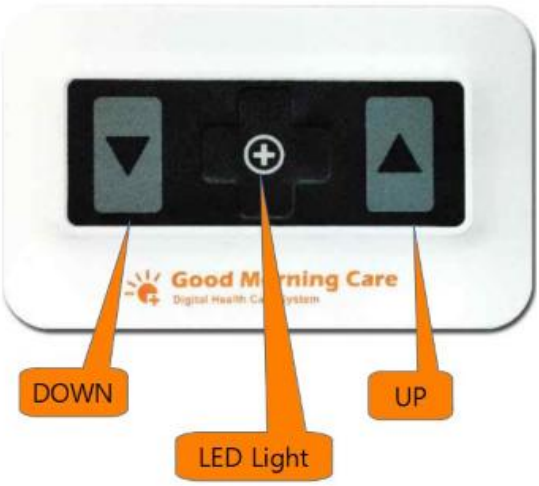
Monitoring battery level of Sensor Transmitter:

The Wearable pager will display a low battery icon below the 4-digit number when the battery of Sensor Transmitter needs to be replaced.



2.2 Sensor Transmitter (GCST900)

The Sensor Transmitter is connected to the Bed Sensor Pad and broadcasts sensor information to Wearable Pagers. The Sensor Transmitter should be registered with the Wearable Pagers before it is transmitted sensor data will be received.

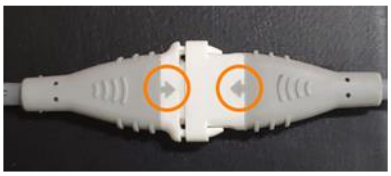


2.3 Bed Sensor Pad (GCPAD4080)

A Bed Sensor Pad is typically use to send an alert to the caregivers when a patient is attempting to sit up in bed. Place the Bed Sensor Pad at the appropriate location on the mattress and cover with a sheet so that the sensor can detect pressure of patient's body. If the patient tries to sit up or get out of bed, the sensor will detect loss of pressure and will send an alert. he Bed Sensor Pad is purely a sensory device and needs a Sensor Transmitter to be connected to it to be able to sound an alert. Care should be taken to align the maker arrows on the connection for proper operation.

Installing Sensor pad and Sensor Transmitter to bed

Place Bed Sensor Pad on the bed and cover it with bed sheets. To detect when the patient is awake and sitting up in bed, place the Bed Sensor Pad below the upper back of patient. To detect when the patient gets out of bed, place Bed Sensor Pad in the middle of the bed, just below the patient's buttocks. If possible, place the Sensor Transmitter on the wall or bed post, 30 cm above the ground.

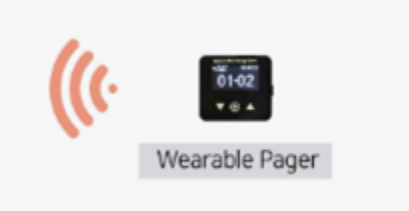


3 Getting started

For basic functionality, the user needs to create a network to establish communication between all the devices that constitute the system. Just as one would pair a Bluetooth device, each transmitter must be paired or group with every receiver. Transmitter is the following:

- Bed Sensor Pad + Sensor Transmitter pair

A receiver is a Wearable Pager.

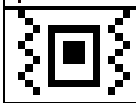


3.1 Menu tree of Wearable Pager

3.1.1 Menu

Alarm	Vibration	Set Alarm mode to vibration only
	Bell	Set alarm mode to bell only
	Bell & Vib.	Set alarm mode to bell and vibration
Group	00 ~ 49	Set the group number of Wearable Pager
Registration	Pad	Register Sensor Pad
	Mat	Register Floor Mat
	Transfer	Transfer Network Setting to Wearable Pager or Central Monitor
	Receive	Receive Network Setting from Wearable Pager or Central Monitor
	Initialize	Erase all network Setting (reset?)
Channel	01 ~ 03	Set Radio Channel
Language	한국어	Korean
	English	English

3.1.2 Notification Icons

	Charging	Device is charging.
	OK	Last operation was successful
	Failed	Last operation failed
	Vibration	Vibration alarm mode enabled
	Bell	Bell alarm mode enabled

3.2 Before Starting

3.2.1 Charging Wearable Pager

- Charge Wearable Pager with the included charging cable
- Use only 5V USB charger or a computer's USB port for charging.
- The Wearable Pager's display will turn off and it will go into sleep mode when it is not charging.

3.2.2 Setting up the Group for Wearable Pager

Within a network, specific sensors can be grouped together (for region or functionality, eg. all sensors in the intensive care unit or all sensors in a general ward) to one or more Wearable Pagers. Set the group ID to non-zero value (01 ~ 49). Sensor location information will only be transmitted on the Wearable Pager with same group ID. To receive sensor information from all Sensor Transmitters and Call Buttons, set the group ID of the Wearable Pager to 00. This group ID as well as the location ID information will be transferred to Sensor Transmitters and Call buttons when they are registered to a Wearable Pager.

1. From the IDLE mode, press [OK] → [OK] → [UP] buttons to enter [2. Group Setting] menu.
2. The Wearable Pager will display current group number or 00 and wait for user input.
3. To receive sensor information from all sensors set the Group ID of the Wearable Pager to 00 by pressing [OK] twice.
4. This group ID will be transferred to Sensor Transmitter when they are registered.
5. If you want to set Wearable Pager's group ID to 01 ~ 49, use [UP], [DOWN] and [OK] to set Group ID.
6. You can go back to previous menu or previous position by holding down the [OK] button for more than 3 seconds.
7. Once the Group ID is set up, the Wearable Pager will go back to IDLE mode.

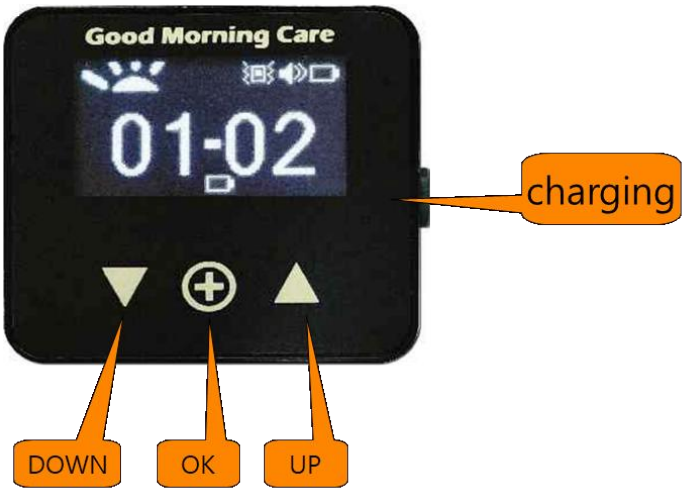
3.3 Personal Care

3.3.1 Fall Prevention (Wearable Pager + Bed Sensor Pad)

3.3.1.1 Setting up Bed Sensor Pad's Location Identifier Information

User can enter 4-digit number to identify Bed Sensor Pad location. For example, upper 2-digit and lower 2-digit can be used to identify room number and bed number respectively. This can be done while registering the Sensor Transmitter as detailed below.

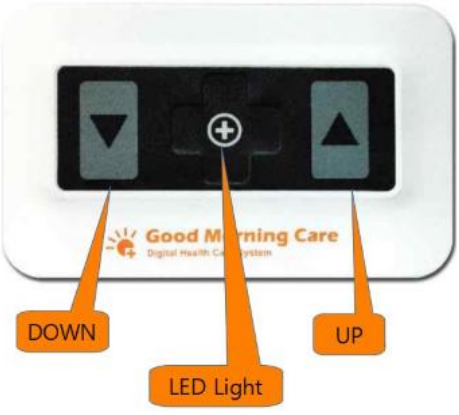
1. From IDLE Mode of the Wearable Pager, Press [OK] → [OK] → [UP] → [UP] → [OK] → [OK] buttons to enter Sensor Information setting menu.
2. The display should show: [3. Registration] → [1. Pad].
3. The Wearable Pager will display 4-digit number from previous setting or 0000.
4. If you want to install Bed Sensor Pad to the 3rd bed in room 15, enter 1503.
5. Use [UP], [DOWN] and [OK] buttons to change and select the entered numbers.
6. Now move to registration menu to register the selected Sensor Transmitter to the Wearable Pager. Press the [OK] button to start registration.
7. Wearable Pager will display will display [Registering] and will wait for the registration request from the Sensor Transmitter



3.3.1.2 Registration

In this step, Group ID and Sensor information will be transmitted to Sensor Transmitter via Radio transmission.

1. Wearable Pager displays [Registering] and waits for the registration request from Sensor Transmitter.
2. Press [UP] and [DOWN] buttons on the Sensor Transmitter simultaneously for more than 3 seconds. The LED on the Sensor Transmitter will blink and it will send a request for registration to the Wearable Pager.
3. After the registration is completed, the Wearable Pager will display “OK” for 2 seconds and return to the Registration Menu.



3.3.1.3 Verify Bed Sensor Pad and Sensor Transmitter

1. To verify registration, connect a Bed Sensor Pad to the Sensor Transmitter.
2. Place Bed Sensor Pad and Sensor Transmitter on a bed or a flat surface. Push down on the Bed Sensor Pad and then release. The Sensor location identifier information should be displayed on the Wearable Pager.

3.3.1.4 To add more Bed Sensor Pad

- The User can add additional Bed Sensor Pads by repeating the procedure outlined in Section 3.3.1.1 to Section 3.3.1.3 with additional Bed Sensor Pads and Sensor Transmitters

4 Disclaimers and Warning

Disclaimer

- The manufacturer shall not be held liable for any claims or damages from the patient falling or wandering.
- This device is designed as a secondary support mechanism the patient's primary motion detection management program.

Warning

- While in use, the operation of sensor pad and sensor mat must be tested regularly for any malfunctions regardless of warranty period.
- Sensor pads and sensor mats can be damaged by sharp objects and should be used with care.

- Wireless communications are sensitive to environmental conditions and should be used only as a secondary device to the patient's movement detection management program.
- Battery charge must be checked regularly for charge and operation.
- The Pager (when used) must be fully recharged.

FCC compliance information

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES.
Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment under FCC rules.

This appliance and its antenna must not be co-located or operation in conjunction with any other antenna or transmitter.
A minimum separation distance of 20 cm must be maintained between the antenna and the person for this appliance to satisfy the RF exposure requirements.

Product Description (GCST900)

DEVICE TYPE	Fall prevention Transmitter
Rated Supply Voltage	DC 3.0 V
OPERATING FREQUENCY	920.5 MHz ~ 923.5 MHz
MODULATION TYPE	CSS
RF OUTPUT POWER	17.16 dBm
NUMBER OF CHANNEL	3 Channel
ANTENNA TYPE	PCB Antenna
ANTENNA GAIN	3.61 dBi
List of each Osc. or crystal Freq.(Freq. >= 1 MHz)	32 MHz