MESHSYSTEMS ES10 Communications Module User Manual

Contents

MESHSYSTEMS

MESHSYSTEMS ES10 Communications Module

- Product Name: ES10 Communications Module
- Model Number: ES10

Date	Revision	Description
July 8, 2024	1	· Confirmed that the product is not portable · Confirm use case distance · Transmission schedule and events
July 9, 2024	2	· Antenna Location within the dispenser
August 8, 2024	3	· Updated according to optimized placement of the U.FL antenna (OBIP) · Added section on FCC Compliance Statements

The ES10 communications module is a piece of hardware that provides connectivity and additional functionality to the ES10 Pump assembly (Dispenser). The ES10 Module is responsible for:

- Communicating (Relaying) all the dispenser data to the gateway (Telemetry, Properties and Events)
- Detecting and communicating the ID of the badged individual triggering a dispense
  This module mates with the ES10 Integrated Pump Assembly (IPA) to produce the optical alignment necessary to communicate with it via Infra-Red. See Figures 1, 2 below.

General Requirements

- The ES10 Communications module is not a stand-alone module. It requires an ES10 Sanitizer or Soap dispenser to fulfill its purpose.
- The ES10 Communications module is not a wearable or portable device.
- Under general use-case conditions, users are expected to be standing at about 2 to 3 ft. of distance from the ES10 Module. This is the average separation between the body of the user and a dispenser unit as a sanitizing event is triggered.

Telemetry Schedule and Events

The ES10 module will transmit data after:

- A dispensing is triggered
- Any status change – Open/Close of enclosure or change of sanitizer refill
- Any configuration change.
- No dispensing, status or configuration change has occurred – timeout set to 15 minutes.

Communications Module Technical Data

- Batteries: AA x 4
- Nominal Voltage: 6V
- Communication Interfaces in the ES10 Module:
  - Integrated Pump Assembly (IPA) to Comms. Module: Infra-Red – IR (Inbound)

- Comms. Module to Gateway: BLE (Outbound)
- Comms. Badge to Module: BLE (Inbound)

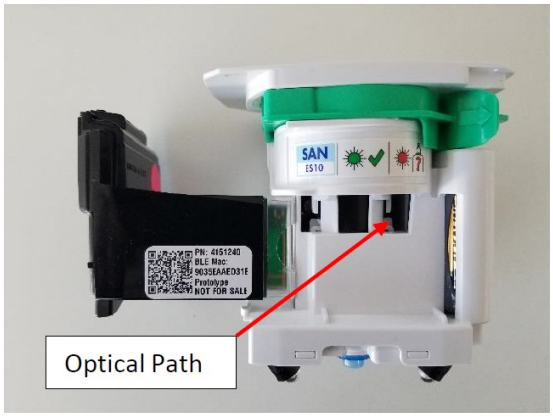


Figure 1 - ES10 Communications Module (left) and IPA (Right)

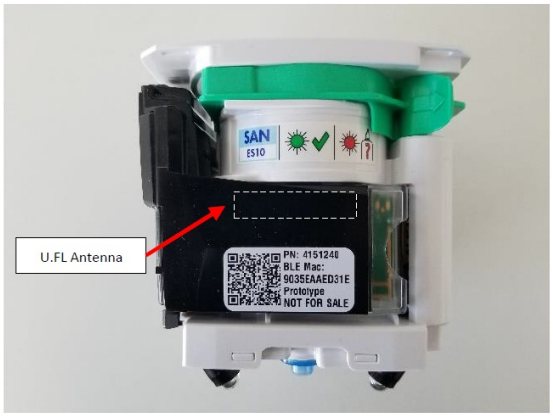
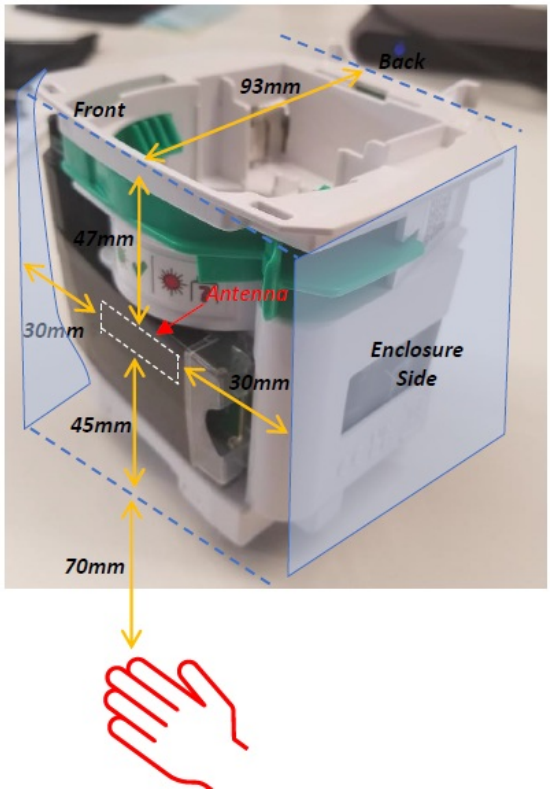


Figure 2 - ES10 IPA-Communications Module Assembly

Location of the Antenna within the Dispenser
Note: The dimensions are approximately.



Internal Positioning of the Antenna
The image below shows the positioning of the U.FL antenna as seen from the back of the ES10 comms. Module.

Compliance Statements

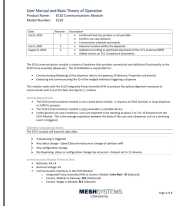
FCC compliance statement
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

FCC Radiation Exposure statement
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 15mm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Documents / Resources

	MESHSYSTEMS ES10 Communications Module [pdf] User Manual X7HG2400A, O76-X7HG2400A, O76X7HG2400A, x7hg2400a, ES10 Communications Module, ES10, Communications Module, Module

References

- **User Manual**