

iWAREHOUSE Field Sense System

Check Out Station

Model: 1370755

User's Manual v1.0



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1 Overview

The Check Out Station (COS), model #1370755, is an auxiliary component for the iWAREHOUSE Field Sense System. This device, built by Frederick Energy Products, performs a functional test of an iWAREHOUSE Personal Alarm Device (PAD), model # 1329196.

Mechanical geometry of the COS model # 1370755 is specifically designed to test PAD model # 1329196. This PAD is comprised of a Base Module and a Warning Module connected to the Base Module via a flexible cable. Thus, the COS design includes slots that exactly fit the PAD Base Module geometry and includes a slot to exactly fit the Warning Module geometry.

1.1 Theory of Operation

The COS contains three miniature magnetic field generator elements that create small magnetic fields for a PAD to sense and respond to. The COS evaluates the interaction with a PAD to verify that the PAD properly detects and responds to the COS magnetic fields. It also tests and verifies that a PAD has a proper LED and sounder response to the magnetic field.

Functions of the Check Out Station are:

- To generate small 73 kHz magnetic fields.
- To receive 916.48 MHz RF response signals from a PAD.
- To measure the output sound level from a PAD Sounder when the PAD responds to the COS magnetic fields.
- To detect LED output from a PAD Sounder when the PAD responds to the COS magnetic fields.
- To turn on a PASS indicator light if the PAD passes all functional tests or turn on a FAIL indicator light if any functional test is not successfully passed. .

Each of the above functions are performed sequentially to test each PAD function.

1.2 Frequency of Operation

The Check Out Station will generate a pulsing magnetic field on a frequency of 73 kHz and receive on a frequency of 916.48 MHz.

1.3 FCC/IC Information

The FCC ID for the Check Out Station QUI-FS-ICOS. This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received including interference that may cause undesired operation.

Any intentional or unintentional changes or modifications to the configuration of the Personal Alarm Device, not expressly approved by Frederick Energy Products LLC, could void the user's authority to operate the equipment.

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 not 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.*

Conformité aux normes FCC Cet équipement a été testé trouvé conforme aux limites pour un dispositif numérique de classe B, conformément à la Partie 15 des règlements de la FCC. Ces limites sont conçues pour fournir une protection raisonnable contre les interférences nuisibles dans une installation résidentielle.

Cet équipement génère, utilise et peut émettre des fréquences radio et, s'il n'est pas installé et utilisé conformément aux instructions du fabricant, peut causer des interférences nuisibles aux communications radio.

Rien ne garantit cependant que l'interférences ne se produira pas dans une installation particulière. Si cet équipement provoque des interférences nuisibles à la réception radio ou de télévision, qui peut être déterminé en comparant et en l'éteignant, l'utilisateur est encouragé à essayer de corriger les interférence par une ou plusieurs des mesures suivantes:

- Réorienter ou déplacer l'antenne de réception.*
- Augmenter la distance entre l'équipement et le récepteur.*
- Branchez l'appareil dans une prise sur un circuit différent de celui auquel le récepteur est connecté.*
- Consulter le vendeur ou un technicien radio / expérimenté.*

Les changements ou modifications à cet appareil sans expressément approuvée par la partie responsable de conformité pourraient annuler l'autorité de l'utilisateur de faire fonctionner cet équipement.

The required notices are specified in the RSS documents (including RSS-Gen) applicable to the equipment model. **These notices are required to be shown in a conspicuous location in the user manual for the equipment, or to be displayed on the equipment model. If more than one notice is required, the equipment model(s) to which each notice pertains should be identified.** Suppliers of radio apparatus shall provide notices and user information in **both English and French.**

This device complies with Industry Canada license-exempt RSS-standards(s). Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme avecx Industrie Canada exempt de licence Rss standard(s). Son fonctionnement est soumis aux deux conditions suivantes:

- (1) cet appareil ne peut causer d'interférence, et*
- (2) cet appareil doit accepter toute interférence, y compris des interférences qui peuvent provoquer un fonctionnement indésirable du périphérique.*

2 Operation

2.1 Installation Information

The Check Out Station can be placed on any table or desk near a 110-240 VAC electrical source. However, it is best located near the place PAD batteries are being charged, and thus, convenient for conducting a PAD tests when PADs are removed from the charger and being readied for use. Another good location is at entrance points to areas where PADs must be worn to protect from moving vehicles. The COS is activated as soon as it is connected to a 110-240 VAC power source via a 12 VDC Wall Wart Power Converter.

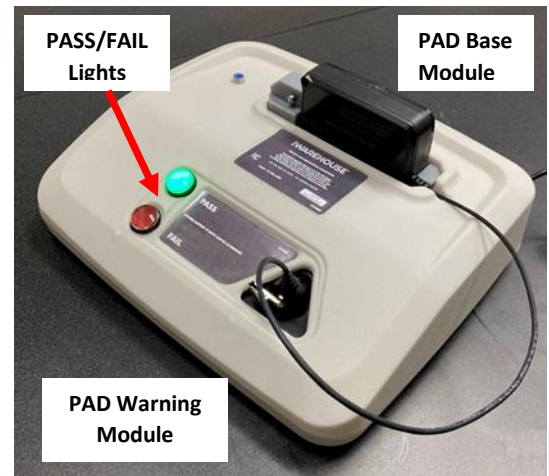
2.1.1 Inoperability Warning

The Check Out Station has no specific warnings for its own inoperability, but there is a blue LED on top of the unit that should be illuminated when the unit is powered on.

2.2 PAD Testing Operation

A PAD functional test is initiated by inserting an iWAREHOUSE PAD model #1329196 into the appropriate slots in the COS using the following sequence:

1. Insert the PAD Warning Module into its designated slot. (see figure on the right) The Warning Module must be oriented so that the metal clip on the Warning Module fits into a pocket provided in the slot.
2. Insert the PAD Base Module into its slot with the Warning Module cable oriented as shown in the figure on the right. A micro switch installed in the Base Module slot is activated when the Base Module is inserted and immediately begins a PAD test operation.



Note: If Step 2 is performed before Step 1, the COS detects that the Warning Module is missing and turns on both PASS and FAIL lights. If this occurs, remove the Base Module and reinstall the Warning Module and Base Module in the correct sequence.

When a PAD test is initiated at the end of Step 2 above, the COS automatically and sequentially performs the following tests on a PAD.

1. During the first 2 seconds, the COS checks whether a PAD is issuing a low battery voltage alert (*2 rapid beeps of the sounder every 1.6 seconds*). If a PAD is issuing a low battery alert, the COS will simultaneously illuminate both the PASS and FAIL lights. If this occurs, remove the PAD and charge the PAD battery.
2. The COS checks the operational status of each of the three magnetic field sensing elements inside the PAD. This step is performed for each of the three sensing elements in the PAD by sequentially energizing small 73 kHz magnetic field generators inside the COS close to each PAD sensing element. If a PAD properly senses the small magnetic field, (1) the PAD transmits a 916.48 MHz RF signal and (2) the PAD turns ON the sounder and LED on its own Warning Module. Thus, proper operation of a sensing element is verified by the COS receiving the 916.48 MHz RF signal and the COS microphone and light meter sensing the sound and light from the PAD Warning Module. The COS microphone and light meter are calibrated to verify that acceptable levels are present. If a check is failed at any sequential test of the PAD, the COS FAIL light is illuminated and testing stops. When all tests are successfully completed, the COS PASS light is illuminated. Note that a PASS or FAIL light illumination stays ON until the PAD is removed from the COS.

2.3 Charging

The Check Out Station plug into a 110-240 VAC outlet via its Wall Wart Power Converter.

2.4 Alerts

The only alerts issued by the Check Out Station is the PASS and FAIL lights illuminated during PAD testing.

2.5 Maintenance

The Check Out Station should be regularly cleaned to reduce buildup of dust and dirt. There is a blue power-LED visible on the COS housing to verify that the COS is receiving electrical power.

2.6 Adjustments

Factory settings of the Personal Alarm Device are expected to be stable and change very little with time.

2.7 Interferences

The Check Out Station should not be used in a location with high electromagnetic interference (EMI) because the EMI can prevent a PAD from properly detecting the magnetic field pulses from the COS.

2.8 Check Out Station Specifications

Part Number: 1370755

Size: 11" x 9.75" x 3.5" / 279mm x 247mm x 89mm

Weight: 2lbs 10oz / 1.2kg

Input Voltage: 12 VDC (from 110 – 240 VAC Wall Wart Power Adapter)

Magnetic Field Frequency: 73 kHz

Receiver Frequency: 916.48 MHz

Transmitter Frequency: N/A

Transmitter Power: N/A

Operating Temperature Range: -30°C to + 70°C ; -22°F to 158°F

Environmental Considerations: N/A

Shipping Considerations: none

3 Revision History

3.1 Version 1.0 – August 10, 2021

Original Release. No revision history.