CCOM Installation & Operation Manual

880-0017-001 Rev A01

Revision History

Rev	Description of change	Changed by	Effective Date
A00	Originated & Released	Bruggemann	04/08
A01	Updated to include FCC notices and labels	Cullinan	12/08
A02	Minor Updates for FCC notices and external antenna	Cullinan	12/08

MANUFACTURER

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FCC Information

Changes or modifications not expressly approved by the ArKion Systems could void the user's authority to operate the equipment.

IMPORTANT NOTE: To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

 "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.

1) Intended Use:

The CCOM unit is intended for indoor & outdoor use as an unattended data collector for automatic meter metering & control applications. The unit is attached (hard wired) to an external power source, 10- 30 VDC, 15W for the CCOM_DC & 100-240 VAC $\sim$, 50/ 60 HZ, 15W for a CCOM AC. The external power hookup is to meet appropriate local & national electrical codes & be performed by an appropriately licensed professional.

- AC Model (Input Rated 100-240VAC, 15W, 50/60 Hz, -30C-+70C)

- DC Model (Requires an external DC source of 10-30VDC, 15W)

2) Environmental Cautions:

The connection to an external power source should only be performed by the appropriate professional, properly licensed within the local jurisdiction. Outdoors CCOM installation should only be attempted when weather conditions permit safely accomplishing this task.

The lead-acid batteries utilized within this product should be disposed of in the proper manner. Contact Manufacturer for disposal details.

3) CCOM Installation & Operation:

The CCOM unit is a 7.3" x 10.4" x 3.7" NEMA 4 plastic box which contains weighs between 2.5 & 7.5 lbs (depending upon options). It dissipates between 4 watts (standby) & 15 watts (worst case scenario). Typically, the CCOM is fastened to a telephone pole with two screws and then input power is attached & applied.

A typical CCOM unit, having both GPRS (top) & RFDC (bottom) antennas attached is shown below in Figure 1.
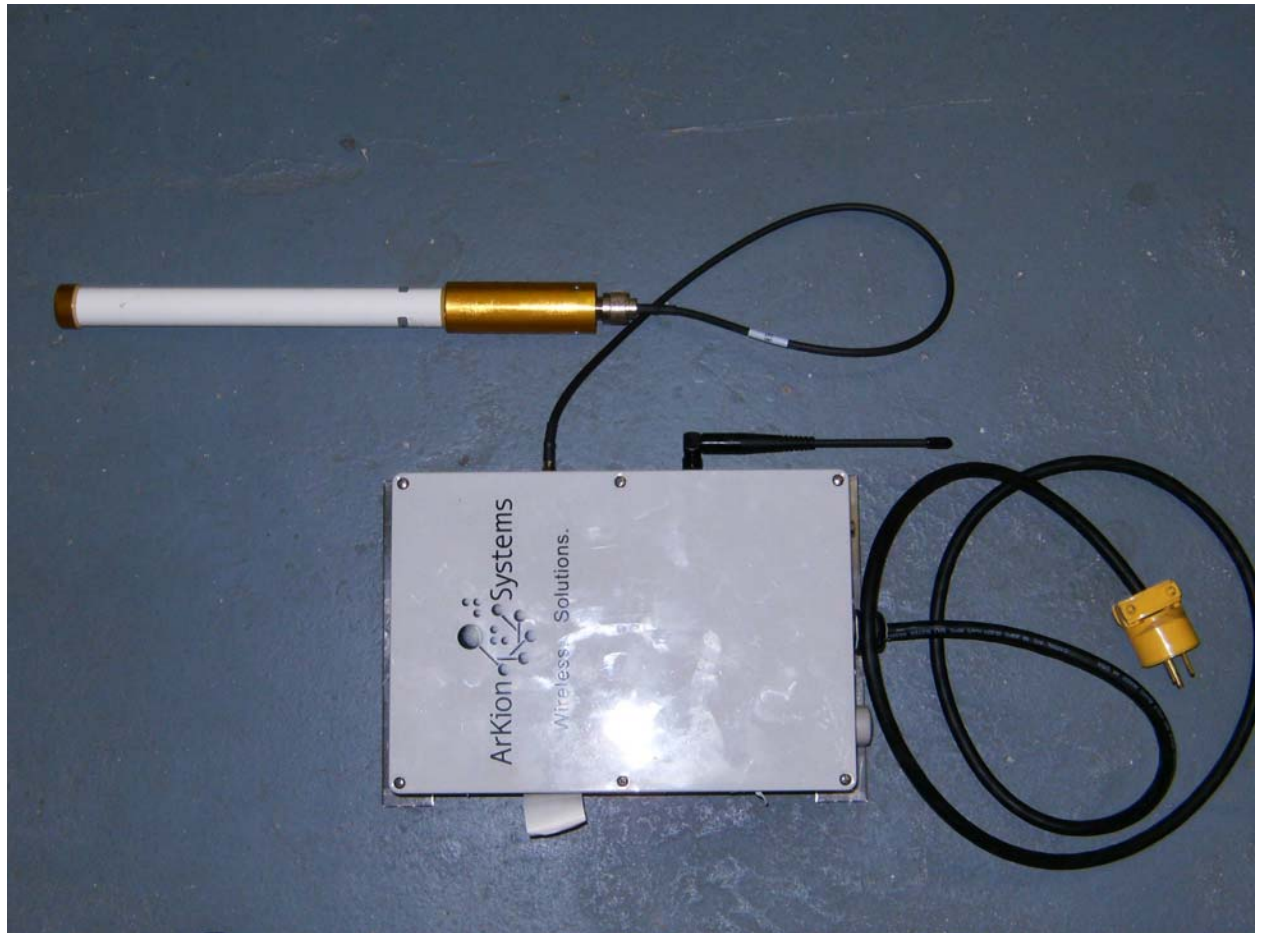
Figure 1: CCOM AC PWR with RFDC & GPRS options.

The CCOM power input can be either 10→30 VDC (for the CCOM_DC DC version) and 100→240 VAC 50/60 HZ (for the CCOM_AC AC version). The external appearance will be identical except that the DC version will have a yellow power cord & the AC version has a black power cord. Both versions also have unique external stickers identifying the type & configuration of CCOM.

The bottom of the CCOM has a power cord attached in the middle. To the right of that is an air vent and a green LED to indicate that the unit is powered up. On the right side are two

RF antennas. The top antenna (in this example) is for the GPRS & the bottom is for the RFDC. A pre-drilled mounting plate is attached to both the top & bottom of the CCOM. There are no other (operator/installer) accessible controls or displays.

Any use of the CCOM product in other than the intended manner specified by the manufacturer may impair the protection provided by the equipment.

Installation is achieved as follows:

Installation Instructions:

WARNING! Because the installation is typically to a telephone pole, or a similar high object, and involves connecting the power cord to live power lines, only personnel trained & licensed properly for the local jurisdiction should perform this installation.

A. Pick a safe pole location where the power cord can reach the input power source. Install the CCOM to the telephone (or other wooden) pole by utilizing the screws & the pre-drilled mounting plates located at the top & bottom of the CCOM box. Keep the box vertical/plumb as much as possible.

B. Connect the color coded wires to the power source. This operation should be performed by a properly licensed professional.

C. Color Code: For the CCOM_AC (has a black jacketed power cord), the black wire is the power input (nominally 110VAC) & the white wire is return. For the CCOM_DC (has a yellow jacketed power cord), the white wire is the power input (10-30VDC) & the black wire is return.

D. After connecting input power, verify that the green LED on the bottom of the CCOM is lit.

E. This completes the physical installation. From this time forward, additional steps to control the CCOM are all done remotely via the GPRS RF link.

4) Maintenance:

There are no user serviceable items within a CCOM. No cleaning is required. The fuses & batteries should be replaced by properly trained & licensed personnel only. These

replacements should only be performed after the unit has been removed from the input power source by personnel trained & licensed properly for the local jurisdiction. Used fuses & batteries should be disposed of properly. For all other maintenance issues consult manufacturer.

- The CCOM battery packs are available from the manufacturer. These replacements should only be performed after the unit has been removed from the input power source by personnel trained & licensed properly for the local jurisdiction, or by the manufacturer.

- The CCOM fuses are commercially available. These replacements should only be performed after the unit has been removed from the input power source by personnel trained & licensed properly for the local jurisdiction, or by the manufacturer. The fuse ratings & Characteristics for a CCOM_AC are listed below:

    o The Battery Line Fuse is a 5A slow blow 250V 01218005.HXP, Littelfuse

    o The CCOM_AC PWB fuse (F3) is a 2A fast blow 250V 37312000410, Wickman (Littelfuse)

- The fuse ratings & Characteristics for a CCOM_DC are listed below:

    o The CCOM_DC PWB fuse (F1) is a 2A fast blow 250V 37312000410, Wickman (Littelfuse)

5) Product Identification and Safety Labels & Locations

5.1 Explanation of Hazards with Related Labels and Symbols

Service personnel should be trained to recognize unexpected HAZARDS and to react accordingly. Labels below are used on CCOM product

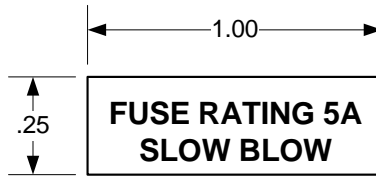 Caution, risk of electric shock (located at Shock Hazards)
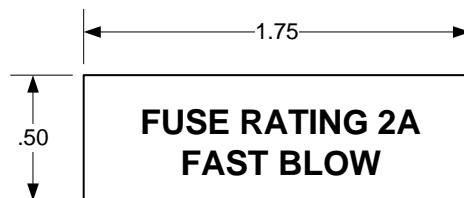
 Label is defined as **"Caution, refer to Manual"**

 Alternating current (see rating / model Label)

5.2 CCOM Unit Labels:

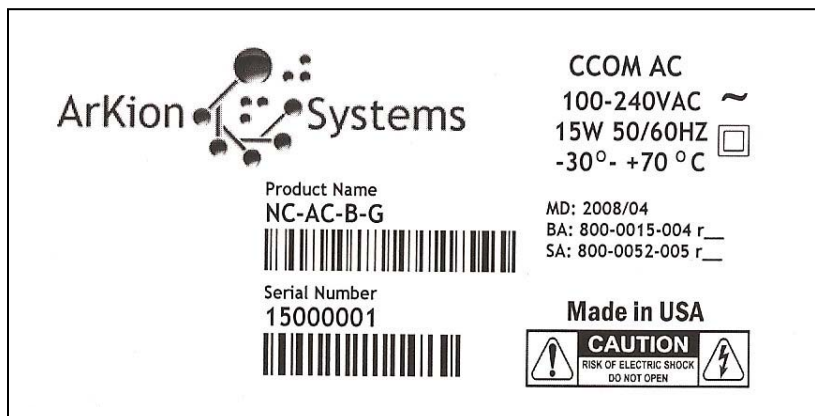Slow Blow Fuse (located next to 5A fuse)

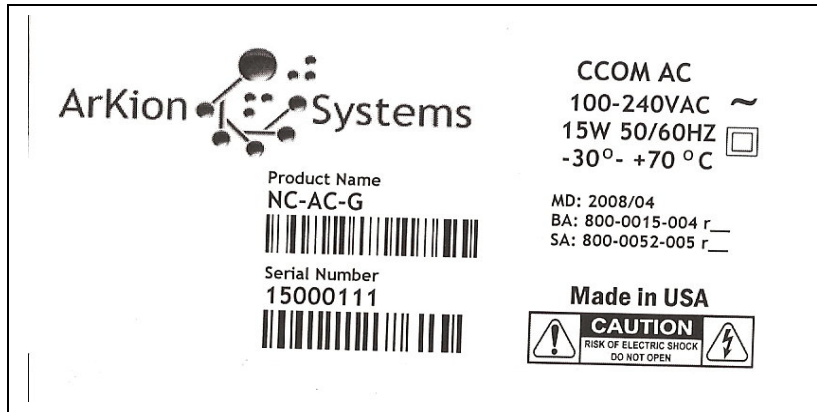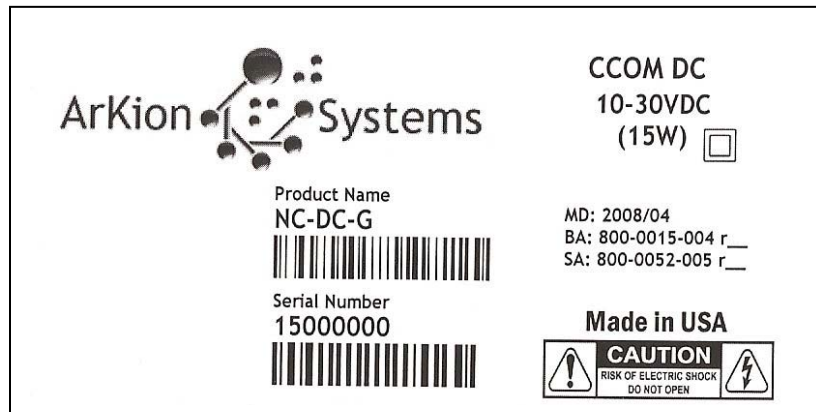Use 2A, Fast Blow Fuse (located next to 2A fuse)

Electric Shock Hazard Warning

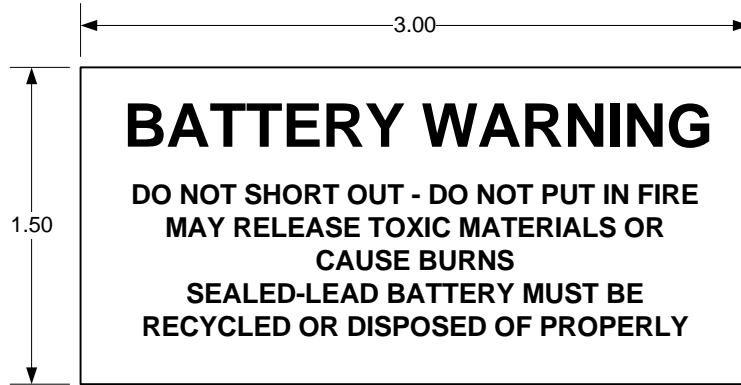Finished Goods Label (CCOM, AC, Battery-backup, GPRS Modem shown)

Finished Goods Label (CCOM, AC, GPRS Modem shown)

Finished Goods Label (CCOM, DC, GPRS Modem shown)

Battery Warning Labels

|←————————————— 3.00 —————————————→|

BATTERY WARNING

**DO NOT SHORT OUT - DO NOT PUT IN FIRE
MAY RELEASE TOXIC MATERIALS OR
CAUSE BURNS
SEALED-LEAD BATTERY MUST BE
RECYCLED OR DISPOSED OF PROPERLY**

1.50

BATTERY WARNING LABEL #1

|←——————— 2.00 ———————→|

DANGER OF EXPLOSION
**IF BATTERY IS INCORRECTLY
REPLACED. REPLACE ONLY
WITH THE SAME TYPE
RECOMMENDED BY THE
MANUFACTURER**

1.00

BATTERY WARNING LABEL #2

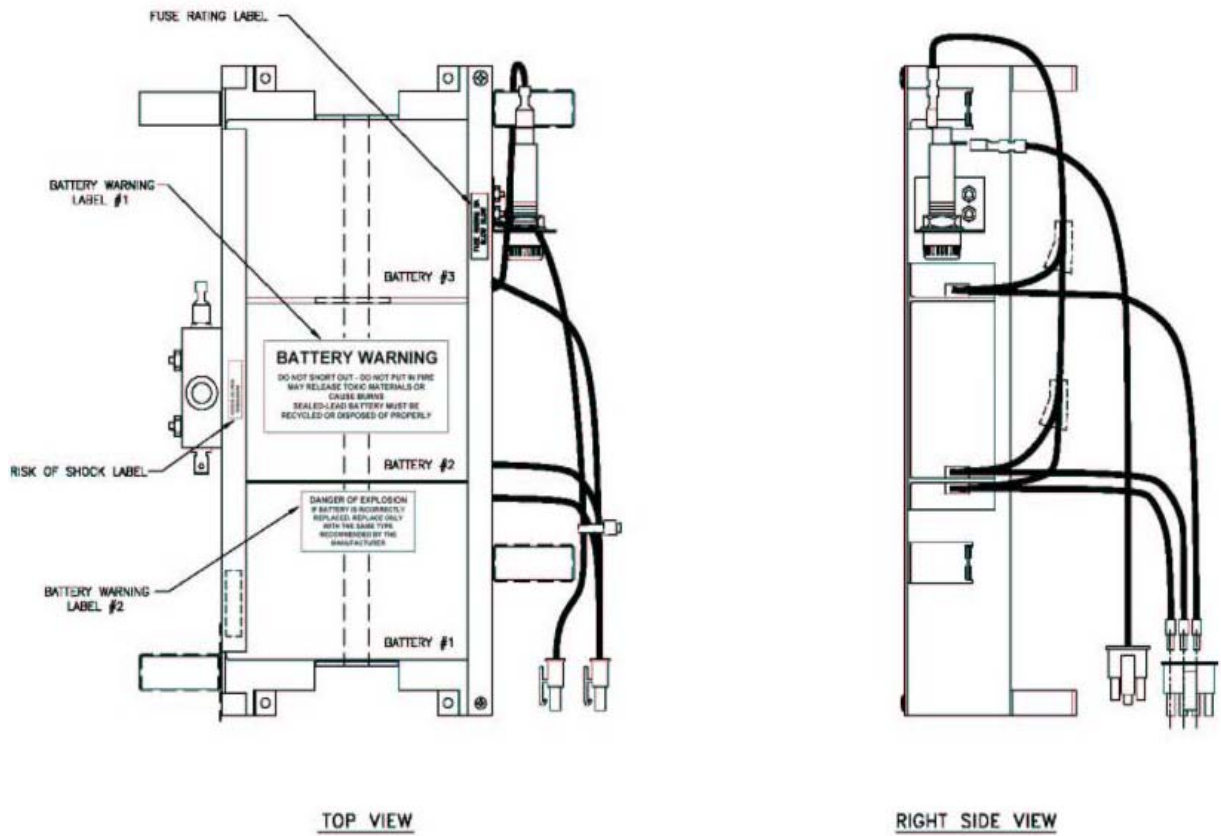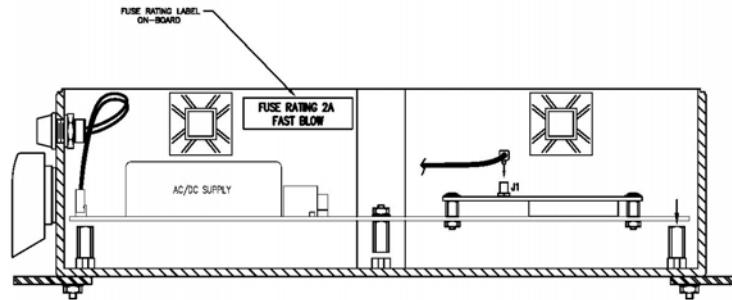## 5.3 Label Locations

Battery Warning, ROS & Fuse Label locations on Battery Pack

CCOM PWB 2A Fuse Label location inside enclosure

Product & Electrical Shock Warning Label locations outside enclosure

5.4 – ArKion Systems Network Collector Orderable End Items

Network Collector - Central Communications Module (CCOM)	Product Name
Network Collector, AC Power, Back-up battery, Phone Modem	NC-AC-B-P
Network Collector, AC Power, Phone Modem	NC-AC-P
Network Collector, DC Power, Phone Modem	NC-DC-P
Network Collector, AC Power, Battery Back-Up, GPRS/GSM Modem	**NC-AC-B-G**
Network Collector, AC Power, GPRS/GSM Modem	**NC-AC-G**
Network Collector, DC Power, GPRS/GSM Modem	**NC-DC-G**
Network Collector, AC Power, Battery Back-up, CDMA Modem	NC-AC-B-C
Network Collector, AC Power, CDMA Modem	NC-AC-C
Network Collector, DC Power, CDMA Modem	NC-DC-C
Network Collector, AC Power, Battery Back-up, Ethernet	NC-AC-B-E
Network Collector, AC Power, Ethernet	NC-AC-E
Network Collector, DC Power, Ethernet	NC-DC-E
Network Collector, AC Power, Battery Back-up, WiFi	NC-AC-B-W
Network Collector, AC Power, WiFi	NC-AC-W
Network Collector, DC Power, WiFi	NC-DC-W
Network Collector, AC Power, Battery Back-up, MaxStream Radio	NC-AC-B-M
Network Collector, AC Power, MaxStream Radio	NC-AC-M
Network Collector, DC Power, MaxStream Radio	NC-DC-M
Solar Power, including solar panel, battery, and charger - pair with DC powered CCOM	NC-SP

6) <u>FCC Identification Labels</u>
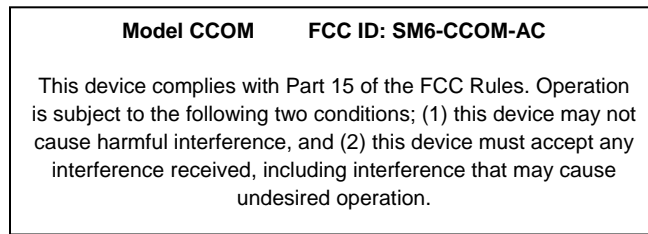
This is illustration of FCC label for CCOM.

Model CCOM   FCC ID: SM6-CCOM-AC

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.

Figure 1. FCC Label

When the CCOM is equipped with GPRS WAN (Wide Area Network) interface the following label is included

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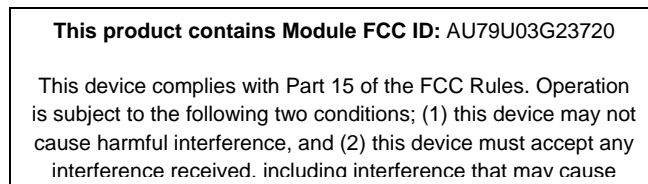**This product contains Module FCC ID:** AU79U03G23720

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

Figure 2. FCC Label