Angel Check Point 2

User's Manual

- ANGEL CHECK POINT 2 (hereinafter called ACP2) reads the RFID tags of the chip installed at each measurement position and displays the result on the LCD display.

- ACP2 system consists of a RFID reader, antennas, and a computer (armadillo-640) for reading RFID tags.

- ACP2 can measure up to 20 chips at a time.

- ACP2 is designed to be operated standalone in normal use. But it can be connected to an external MPU with a LAN cable only for maintenance.

- ACP2 automatically starts up when the power switch is turned on and gets ready for measurement.

- ACP2 in normal use operates on AC power.

   Warning: Operation of this equipment in a residential environment could cause radio interference.

Operation Description

- General description
  - ✓ ACP2 is an equipment that counts number of chips and calculates the chip denomination and detects incorrect or illegal chips by utilizing RFID technology. The EUT contains 20 antennas which are placed into each chip slot. Therefore, the EUT is able to count up to 20 chips in one operation. The 20 antennas don't work together and the EUT switches an active antenna one by one to sweep all 20 chip slots.

- Power system
  - ✓ ACP2 is powered by a dedicated AC adapter. (Rated voltage: DC 24 V output, AC 100 - 240V 50/60Hz input, Rated current: 1.4A).

- CPU board and RF operation.
  - ✓ ACP2 is controlled by CPU board Armadillo-640.
  - ✓ The RFID part is controlled by AMI2450XE_Low.
  - ✓ Local oscillator for RFID: 27.12 MHz.
  - ✓ Operation frequency: 13.56 MHz.
    - • Modulation type: ASK
    - • Antenna type: Loop antenna
    - • Antenna gain: Not specified
  - ✓ RFID communication is based on ISO/IEC 18000-3 mode3
  - ✓ Crystal: 528 MHz for digital circuit.

Statement for FCC compatibility

- General 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.

  - ✓ NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

  - ✓ Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

- RF Exposure Statement with distance restriction
  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 0.4 cm between the radiator and a human finger, and with 15 cm between the radiator and a torso of human body in normal use.

Product Specification

Communication standard	ISO/IEC 18000-3 mode3
Operating Frequency	13.56 MHz
Power-supply voltage	AC 100 V - 240 V/ 1.4A max, DC 24V / 65 W
Power consumption	ACP2 Reader: 200mW
Antenna Type	Loop
Operating Temperature	0 ~ +35 C (No condensation)
Dimensions	ACP2 Body Height: 163 mm Width: 318 mm Depth: 390 mm