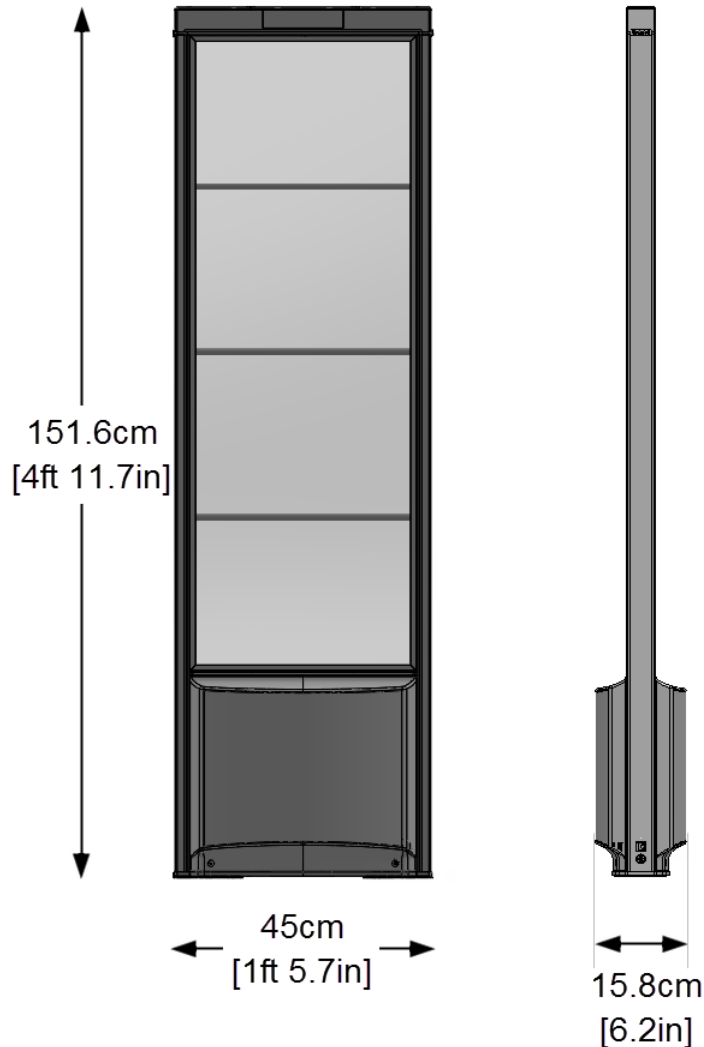


This device is certified for mobile applications in which the antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons.



**Ferrite cores:**

- 1) Fair Rite P/N 73420 (Order No. 2865-000-202): 1 on each Light and Buzzer cable with 2 turns through the ferrite.
- 2) Würth 742 71111: 1 ferrite on the RX/TX cable with one turn through the ferrite.
- 3) Würth 7427122, KITAGAWA SFC-10, Fair Rite P/N 284760 (Order No. 0443806406) or GRFC-10: 1 ferrite on DC cable of the power supply with three turns through the ferrite.

**EVOLVE E10 2.0** RFID-Ready (RF) and RFID-enabled systems

**Antenna Placement – FCC Region**

With standard 410 EP series EAS tags, the maximum on-center aisle width is **182cm [72 in]** between antennas.

Dual Aisle (3 pedestal) and Multi-Aisle Layouts are applicable for wider exits.

The minimum distance between any door frame and antenna is **45.72cm [18 in]**.

**Antenna Installation – Physical Requirements**

Mounting:

Each antenna is mounted to the floor with two (2) anchor bolts.

**Concrete:** 1.3cm [0.5 in.] anchor bolts

**Wood:** 9.5mm [0.375 in.] lag bolts

*Antennas are typically mounted by Checkpoint Field Service personnel.*

Wiring Routing Methods:

**Floor:**

- Conduit Size: **4cm [1.5 in.]** diameter – route between each antenna (ensure conduit access under frame) and to power supply location.
- Placement Constraints: Conduit must be placed **68.5cm [27in]** or further back from the door frame.  
*The customer is typically responsible for conduit installation.*
- Trench Dimensions: 9mm [0.375in] wide X 44mm [1.75in] deep  
*Floor trenching can be performed by the customer or by authorized Checkpoint personnel.*

**Vertical:**

- Conduit: 4cm [1.5 in.] diameter – route from the floor level to the power supply location (typically above the ceiling line, in the soffit)  
*The customer is typically responsible for vertical conduit installation (work with GC at site).*
- In wall/mullion: Provide pull strings from the floor level to the ceiling level. Wiring is pulled through hollow wall or mullion. See PSU Requirements.  
*The customer is typically responsible for providing pull strings (at new construction or remodel sites)*

**Cable Requirements**

Power Cable: **12 AWG** 2-conductor for 12 VDC (RFID); see maximum length details.

**18 AWG** 2-conductor for 24 VDC (RF); no. of lengths depends on aisle and system.

Network: **CAT 5e** Ethernet Cable (standard network patch cable)

RF-EAS LTS/SND cable for Primary – Secondary layout (PSB –SSB config)

RF Sync and inter-pedestal connection: 8-conductor Modular cable

RF Coax for RF-EAS primary to secondary layout (PAB/SAB wiring)

RFID Antennas: **RG316 coax cable**, 2 x 3m lengths for every aisle

*Wiring is provided and typically installed by Checkpoint Installers*



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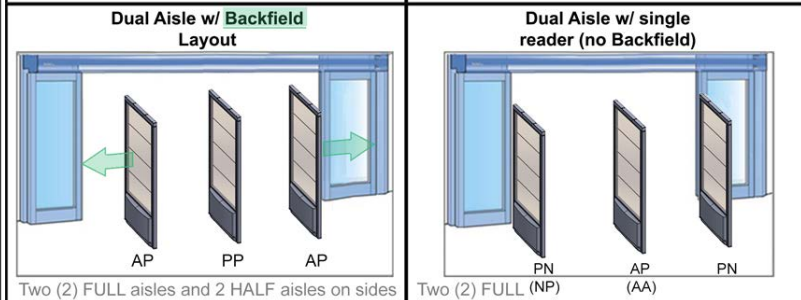
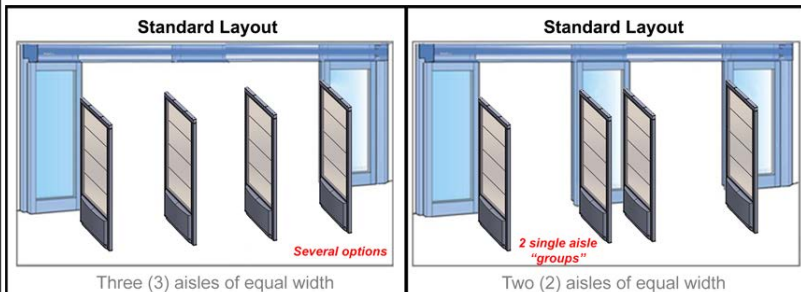
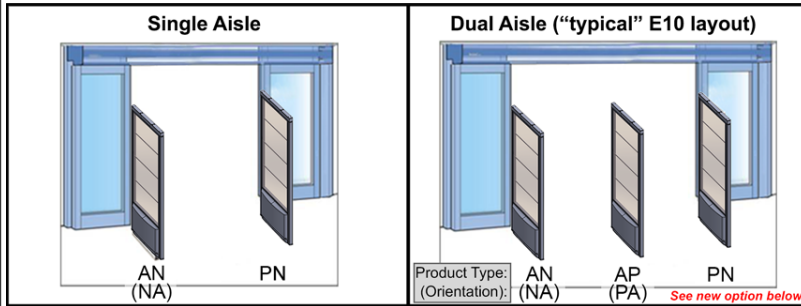
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Specifications for  
EVOLVE Exclusive E10 2.0  
Systems (all models)

Last Revised: May 22, 2015

Content: Physical Dimensions,  
System Description (pg. 1 of 3)



**Floor Layout – Aisle Configurations**

Several aisle configurations are possible. At least one antenna has to be wired to the customer Ethernet port (assuming data service). During site planning the recommend aisle layouts are determined.

Refer to the system Quick Start Guide (CKP P/N 10062884) for additional details on the Supported Aisle Layouts.

**Power Supply Requirements – All Regions**

System Requirements:

Depending on the Antenna model (RF, RFID or Dual RF/RFID), different power supplies are required. For a single aisle, Dual system, two separate supplies (12 VDC and 24DC, for RFID and RF, respectively) are required. This requires an AC Duplex outlet. Access to the PSU or having the outlets on a circuit breaker is recommended.

Each RFID Reader requires +12V DC. There are 2 approved power supply models of varying capacity. The "smaller" PSU is the 5.0A version, and can support 1 Reader. The other PSU has increased current capacity (5.5A) for supporting 2 daisy-chained RFID readers and peripherals/LED. See Part numbers below:

- Small - EOS ZVC60NP12E4 - CKP P/N 7284242
- Large - XP Power AEB70 - CKP P/N 7421850

**Group Planning, Required Floor Cuts**

The power supply must be located at least 1.5m [4ft 11in] away from the nearest antenna and less than 10m [32.8 ft].

There is not a specific requirement for the Ethernet cable to be routed through the same conduit or trench as the power cabling. Whatever path the power wires take, the Ethernet cable usually takes as well. This means that an Ethernet port (network connection) must be supplied at the location of the power supply housing.

If possible, choose a concealed location for the PSU (for example, in a locked closet or under the checkout station.). See below for above-ceiling requirements.

For network sharing purposes, groups are able to be daisy chained. In this scenario, the entrance of the store could be connected via CAT 5e cabling to a storeroom. Ethernet cable could be routed a large distance (from one group / coverage zone to another area) to provide access to a main uplink or control room.

The conduit or channel that arrives at the antenna should enter the front / rear face of the antenna (rather than from the side). See Figure on pg. 3.

Swept 90 degree angles must be cut. See pg. 1 for conduit and/or floor cut details.

**Plenum Installation - Requirements**

When installing the PSU in the soffit, there are special requirements if the space is a plenum. Duct-work and also open areas, but only when used for HVAC ventilation, are considered plenum spaces.

The GlobTek PSU can be placed in the plenum but NOT higher than 3m [9ft 10in].

If mounting in a plenum space, use proper plenum-rated wiring and an enclosure kit. A licensed electrician must install per section 300.22 of the NEC.

Warning: Any wiring in plenum areas must be plenum rated. Additionally, ensure that the wire is installed in accordance with applicable (local/national) electrical codes (for example, NEC 300.2 in the US).

There must be access to the power supply location.



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Specifications for EVOLVE Exclusive E10 2.0 Systems (all models)

Approved By:  
CKP Engineering Services

Revision: \*

Content: Aisle Layouts, Groups and Plenum Installation

## Compliance

### WRTZ-2000 TX/RX meets regional UHF broadcast rules:

**FCC:** UHF, 902 – 928 MHz / 4 Watt EIRP (US only)

**ETSI:** UHF, 865 – 868 MHz / 2 Watt ERP at 865.7 – 867.5 MHz  
accordant to ETSI EN 302 208 version 1.3.1 (2009-07) (EU only)

**Singapore:** UHF, 920 – 925 MHz/3.28 Watt EIRP, Modulation ASK,  
7.4 MHz – 8.8 MHz/7.4 dBuA/m, Modulation None

### Evolve System - Peripheral Support

- VisiPlus
- EVOLVE-Store (EV3 board)

### Site Planning

Evaluate how antenna will be mounted: Concrete, Wood, or Tile finished flooring. EAS and RFID power supplies should be planned based on the configuration layout. If using peripherals such as VisiPlus or a DVR relay, the trigger cable and 4C VisiPlus cables are routed from the SEC (if necessary) to PRI (PSB) EAS reader.

Plan the distance to the door-frame, and whether or not specific antenna types are required (see page 2 with options for some common layouts - other "Mall opening" layouts are supported).

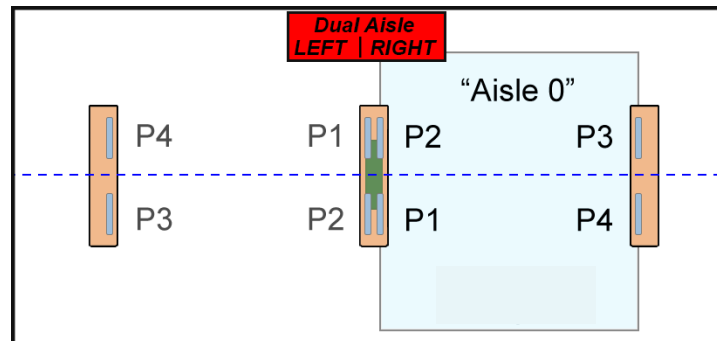
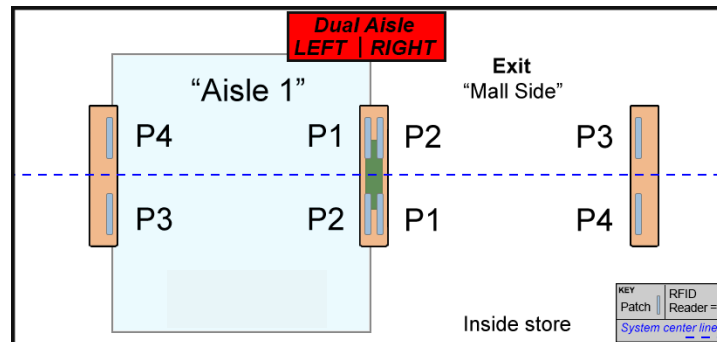
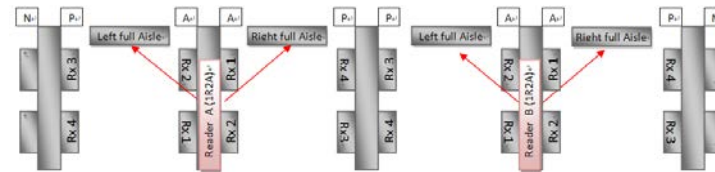
For the best alarm performance (reduced False Alarm counts), customer is expected to maintain the Storefront layout so as to avoid high tag concentrations directly in front of the system.

### RFID Coax Cables and M-to-M Adapter connector for some custom installations



Number 1 (shown at bottom left) shows the RFID Reader with 8 Coax ports.

It is possible for all of the system UHF Antennas to be used simultaneously, and in this case, 8 total Coax Cables are connected to the reader. 4 cables will be routed to the "Active" pedestal's 2 RFID Arrays (4 total patch antennas); and at the opposite sides (on left and right of pedestal in center), the Arrays facing this pedestal will be connected. This is shown in the figure below: where each of 2 readers is shown driving FULL left and right aisle. Specific settings have to be applied to the RFID Reader to allow proper function



#### RX Map:

Left Aisle (1)

RX Map Settings

RxMap 11	12
RxMap 12	43
RxMap 13	33
RxMap 14	44

Right Aisle (0)

RX Map Settings

RxMap 01	34
RxMap 02	21
RxMap 03	33
RxMap 04	44



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Approved By:  
Engineering Services

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