Preparing the Installation Site

Preparing the Site

This chapter provides the following information:

- A summary of customer responsibilities prior to installation
- Power, grounding, and distribution requirements of the DecisioNet System
- DecisioNet System environmental requirements
- DecisioNet System component characteristics

Customer Responsibilities

The customer must do or provide the following:

- When required by NCR, provide the NCR customer service representative with appropriate drawings that indicate:
  - Fixture Plan showing the location of store fixtures
  - Floor Plan showing the location of all interior walls, ceiling heights, and firewalls
  - Site wiring diagrams for power and communication
  - Location of other equipment capable of generating electrical noise, electromagnetic interference, heat, etc.
  - Environmental conditions that could affect RF communication
- Make building alterations necessary to meet wiring and other site requirements
- Provide and install all communications cables, wall jacks, special connectors, and associated hardware
- Provide and install necessary power distribution boxes, conduits, grounds, lightning protection, and associated hardware
- Provide and install auxiliary power or other equipment as required
- Provide storage or service areas as required
- Make sure that the environmental requirements discussed in this chapter are met
- Provide floor coverings and environmental systems that limit or control static electricity build-up and discharge

Warning: Make sure all applicable codes, regulations, and laws (including, but not limited to, electrical, building, safety, and health) are met.

Power, Grounding and Distribution Requirements

Voltage transients, line noise, surges, sags, impulses, and spikes can happen routinely or sporadically. When such phenomena occur, protective devices such as surge protectors may help to ensure proper operation of the equipment.

Power Requirements

The CBS does not have an internal power supply. It receives +60V DC from an external power supply (7710-K100). Each power supply can support up to five CBSs.

For maximum system integrity, install the power supply(s) on a dedicated branch circuit from a distribution panel that does not supply any switched inductive loads (motors, air conditioners, etc.). Do not connect anything else to this branch circuit except other DecisioNet System equipment.

Each power supply circuit should consist of three conductors, including separate wires for the line, neutral, and insulated ground connections to the distribution panel.

The specifications for the CBS power supply are as follows:

Voltage	100 to 240 Volts
Current	1.1 to 2.2 Amps
Watts	130 Watts
Frequency	50 or 60 Hz

Grounding Requirements

Because the DecisioNet System connects logic reference ground to safety ground, a noise-free grounding circuit is necessary for good system integrity.

Use an isolated ground receptacle, such as a Hubbell IG-5262 or equivalent. Make sure the ground conductor is insulated from conduit and neutral wire, and that it is connected to an insulated terminal strip at the distribution panel. DO NOT use this dedicated insulated ground wire as a neutral.

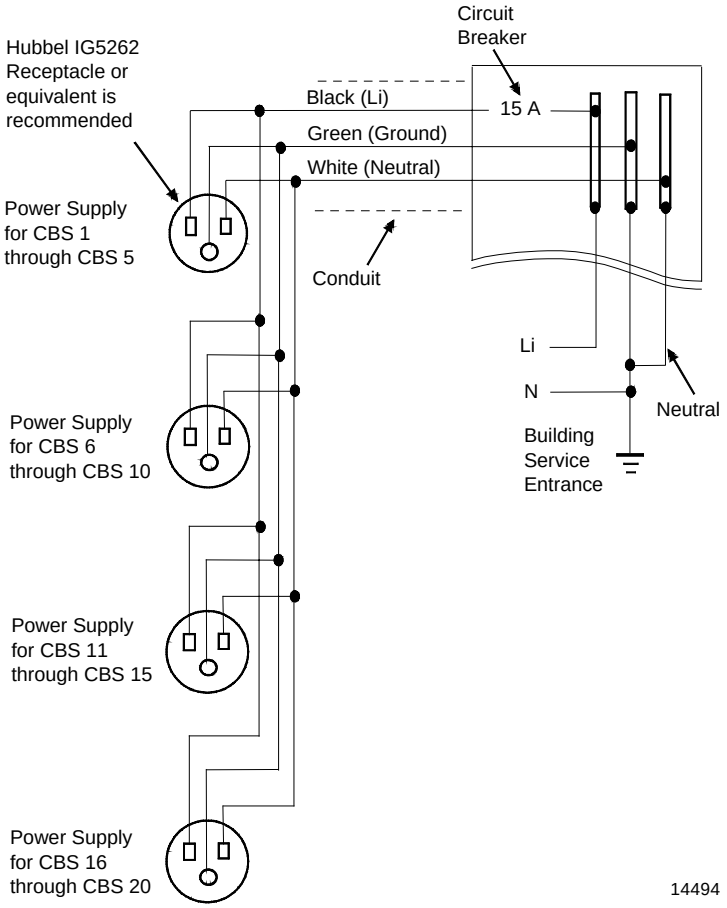
DO NOT use a conduit as a ground. Resistance at the conduit joints may create multiple ground levels within the electrical power distribution system and degrade the reliability of the DecisioNet System.

Power Distribution Requirements

The following power distribution requirements must be met to minimize the effects of electrical noise generated by equipment outside of the DecisioNet System:

- Give consideration to voltage drops in the power distribution system caused by wiring, circuit breakers, terminal blocks, etc.. Verify that the voltage at the receptacle is within the specifications on the power supply and that all applicable national, state, and local codes are met.
- All wire connections must be electrically and mechanically sound and protected from deterioration. Deterioration of wire connections due to corrosion or electrolysis, especially in a humid or corrosive atmosphere, may result in electrical noise and/or a safety hazard.

The following illustration shows an example of site wiring.



Note: The distribution panel must not furnish power to any inductive loads such as refrigeration equipment, ovens, and motors.

Environmental Requirements

CBSs, SmarTalkers, and SmarTalker IIs operate across a wide range of environmental conditions as shown in the following tables. Avoid using them in continuous operation at or near the temperature limits shown in the tables or in a location where the temperature or humidity may go beyond the limits indicated.

Due to lower atmospheric pressure and air rarefaction at high altitudes, the maximum dry bulb temperature for each working range is decreased linearly by a value of 3.3 °C / 1,000m (1.8 °F / 1,000 ft.) between the altitude of 500m (1,640 ft.) and 3,000 m (9,840 ft.).

Temperature and Humidity

The environmental requirements for the CBS, SmarTalker, and SmarTalker II tags are shown in the following tables.

CBS

	Operating	Transit	Storage
Temperature (Dry bulb)	0°C to 40°C (32°F to 122°F)	-20°C to 60°C (-4°F to 140°F)	-10°C to 50°C (14°F to 122°F)
Max. Temp. Change per Hour	10°C (18°F)	20°C (36°F)	15°C (27°F)
Relative Humidity	10% to 80% No Condensation	5% to 95% No Condensation	10% to 90% No Condensation
Max. Humidity Change per Hour	10%	10%	10%
Barometric Pressure	105 to 79.5 kilo pascals (up to a max. of 2000 m (6560 ft.))	105 to 74.0 kilo pascals (up to a max. of 2500 m (8200 ft.))	105 to 79.5 kilo pascals (up to a max. of 2000 m (6560 ft.))

SmarTalker

	Operating	Transit	Storage
Temperature (Dry bulb)	0°C to 40°C (32°F to 104°F)	-20°C to 60°C (-4°F to 140°F)	-10°C to 50°C (14°F to 122°F)
Max. Temp. Change per Hour	10°C (18°F)	20°C (36°F)	15°C (27°F)
Relative Humidity	10% to 90% No condensation	5% to 95% No condensation	5% to 90% No condensation
Max. Humidity Change per Hour	10%	10%	10%
Barometric Pressure	105 to 79.5 kilo pascals (up to a max. of 2000 m (6560 ft.))	105 to 74.0 kilo pascals (up to a max. of 2500 m (8200 ft.))	105 to 79.5 kilo pascals (up to a max. of 2000 m (6560 ft.))

SmarTalker II (Standard Size and Small Size)

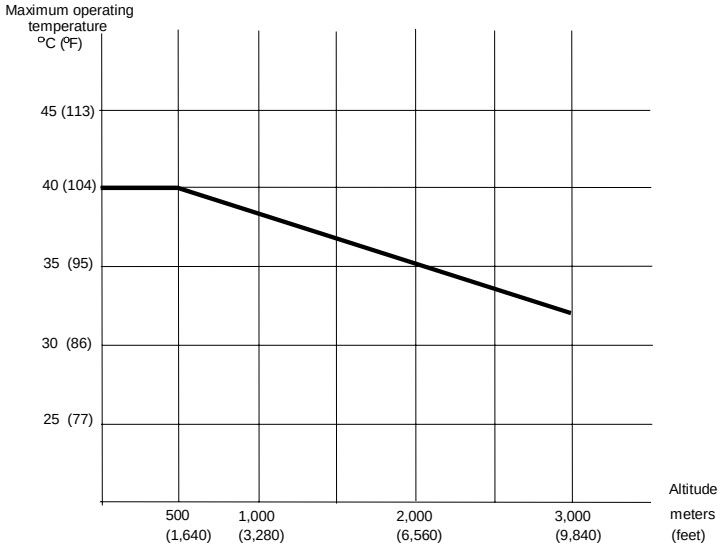
	Operating	Transit	Storage (3 months maximum)
Temperature (Dry bulb)	-20°C to 40°C (-4°F to 104°F)	-20°C to 60°C (-4°F to 140°F)	-10°C to 50°C (14°F to 122°F)
Max. Temp. Change per Hour	10°C (18°F)	20°C (36°F)	15°C (27°F)
Relative Humidity	10% to 90% No condensation	5% to 95% No condensation	5% to 90% No condensation
Max. Humidity Change per Hour	10%	10%	
Barometric Pressure	105 to 70 kilo pascals (up to a max. of 3000 m (9842 ft.))	105 to 70 kilo pascals (up to a max. of 3000 m (9842 ft.))	

SmarTalker II (Signage)

	Operating	Transit (1 week maximum)	Storage (3 months maximum)
Temperature (Dry bulb)	0°C to 40°C (32°F to 104°F)	-20°C to 60°C (-4°F to 140°F)	-10°C to 50°C (14°F to 122°F)
Max. Temp. Change per Hour	10°C (18°F)	20°C (36°F)	15°C (27°F)
Relative Humidity	10% to 90% No condensation	5% to 95% No condensation	5% to 90% No condensation
Max. Humidity Change per Hour	10%		
Barometric Pressure	105 to 70 kilo pascals (up to a max. of 3000 m (9842 ft.))	105 to 70 kilo pascals (up to a max. of 3000 m (9842 ft.))	

Altitude and Temperature

The following graph shows how altitude affects the operating temperature of CBSs and SmarTalkers. As altitude increases, the maximum operating temperature decreases.



Health and Safety

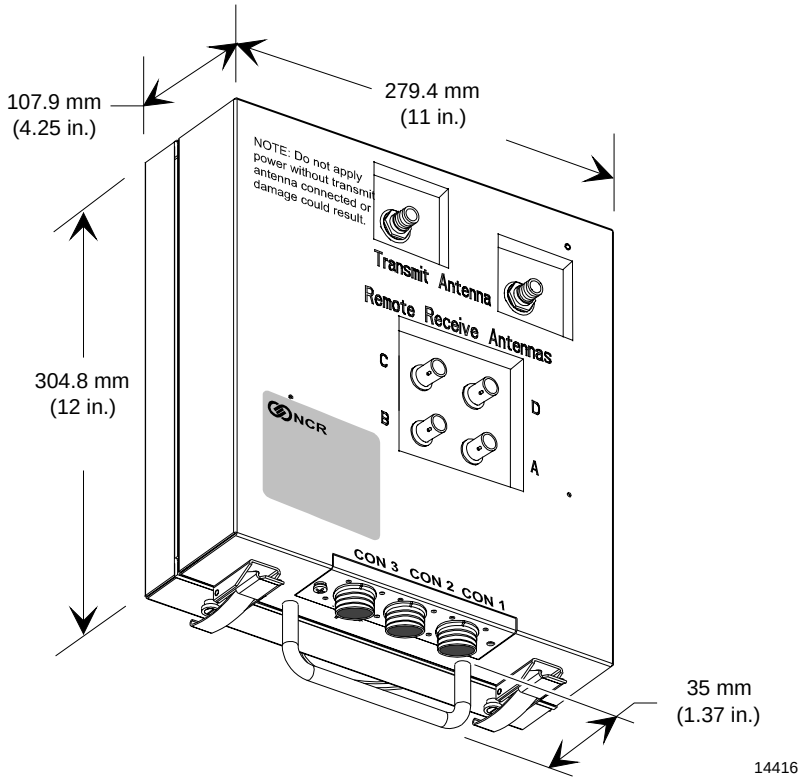
CBSs meet the following safety and radio frequency interference requirements.

- ANSI C95.1-1990
- UL 1950
- UL 2043
- CSA C22.2 No. 950
- FCC Class A
- FCC Part 15.249
- DOC Class A

Component Characteristics

CBS

The CBS weighs 5.0 kg (11.0 lb.). The following illustration shows the dimensions of the CBS.



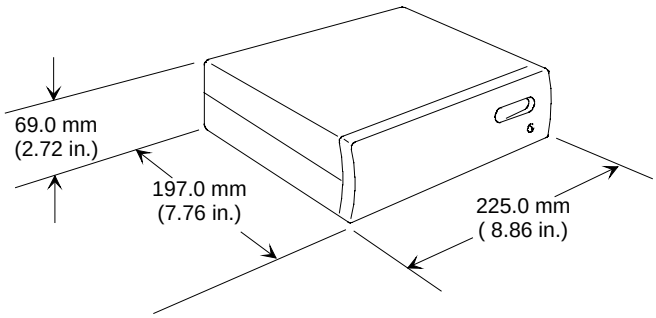
Note: Some CBSs may have minor cosmetic differences.

The CBS does not have ventilation holes, but it does require the service clearances indicated in following table.

Direction	Distance in mm	Distance in inches
Top	380	15.0
Bottom	100	3.9
Right	100	3.9
Left	100	3.9
Front	915	36
Back	0	0

Power Supply

The power supply weighs 1.5 kg (3.31 lb.). The following illustration shows the dimensions of the power supply.



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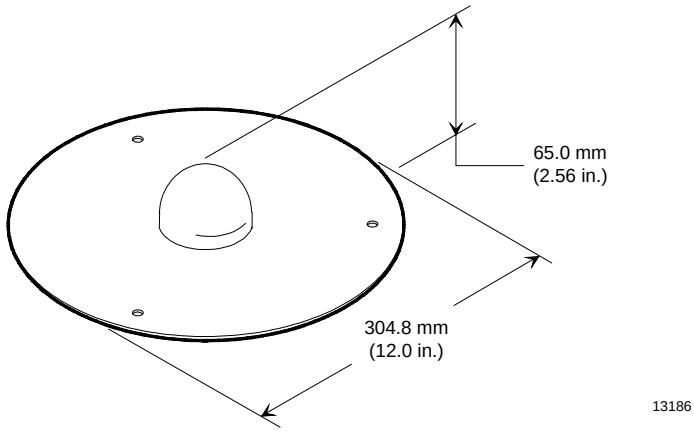
The power supply has rear ventilation holes, so it requires the air flow and service clearances indicated in the following table.

Direction	Distance in mm	Distance in inches
Top	100	3.9
Bottom	0	0
Right	100	3.9
Left	100	3.9
Front	100	3.9
Back	100	3.9

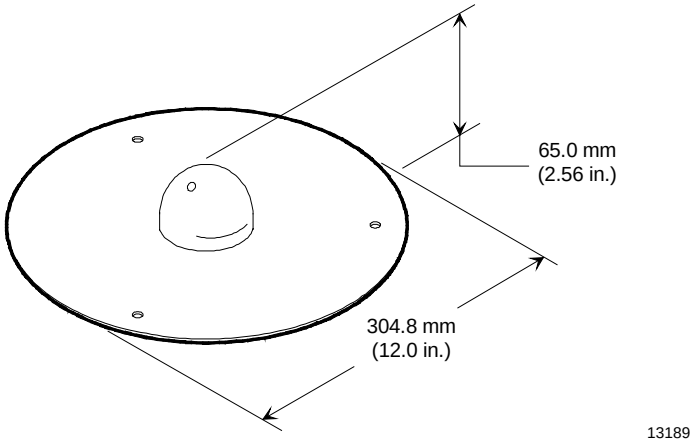
Transmit Antenna

The transmit antenna weighs 0.71 kg (1.57 lb.). The following illustration shows the dimensions of the transmit antenna.



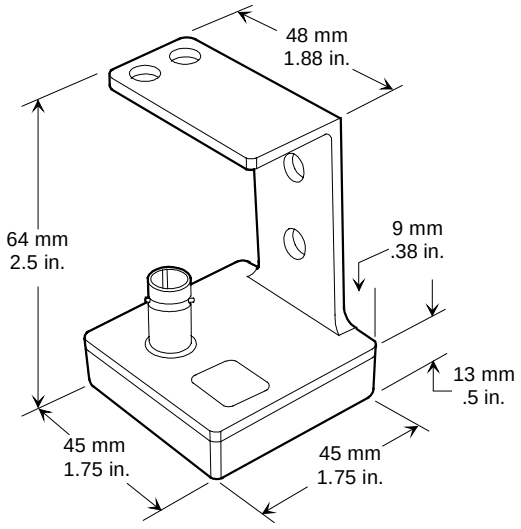
Receive Antenna

The receive antenna weighs 0.71 kg (1.57 lb.). The following illustration shows the dimensions of the receive antenna.



Patch Antenna

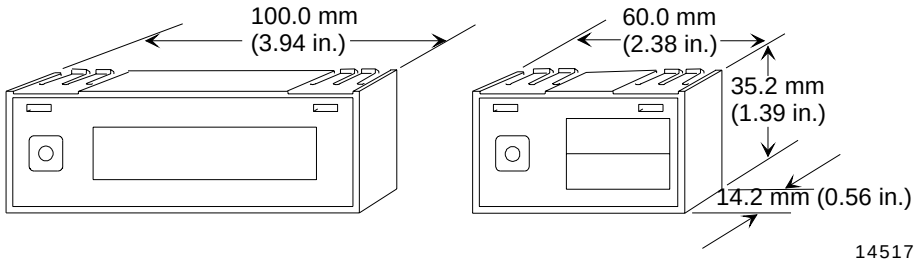
The patch antenna weighs 0.0454 kg (0.1 lb.). The following illustration shows the dimensions of the patch antenna.



SmarTalker

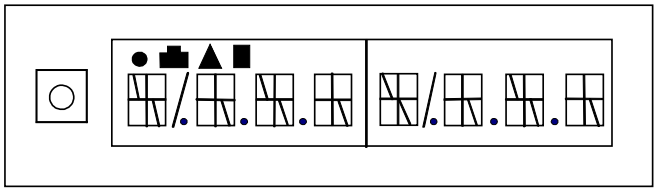
This section describes the physical characteristics of SmarTalkers. SmarTalkers are available in two sizes:

- The standard-size SmarTalker (on the left below) weighs 0.039 kg (0.086 lb.).
- The small–size SmarTalker (on the right below) weighs 0.028 kg (0.063 lb.).

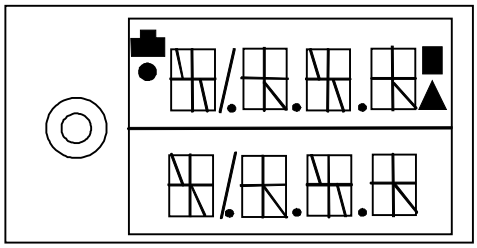


SmarTalker Displays and Symbols

The SmarTalker displays are shown in the following illustrations. The symbols on the displays are explained in the table following the illustrations.



Standard Size



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Small Size

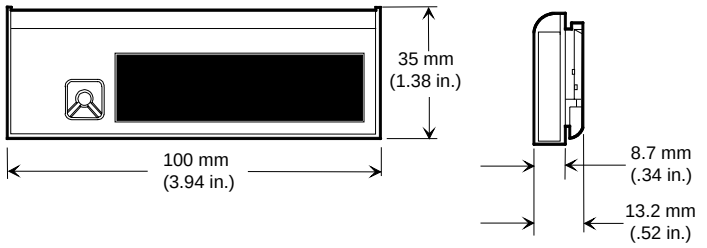
- ● Lights when the SmarTalker is out of synchronization for RF communication.
- ▟ Lights when the battery is low.
- ▲ Available for use in the user application or can be selected using the Promotions option in EPL Maintenance.
- ■ Available for use in the user application or can be selected using the Promotions option in EPL Maintenance.

For SmarTalker configuration information refer to the *NCR DecisioNet System User's Guide* (B005-0000-1087).

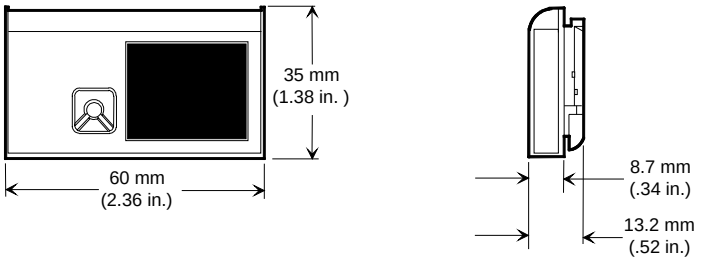
SmarTalker II

This section describes the physical characteristics of SmarTalker IIs. SmarTalker IIs are available in three sizes:

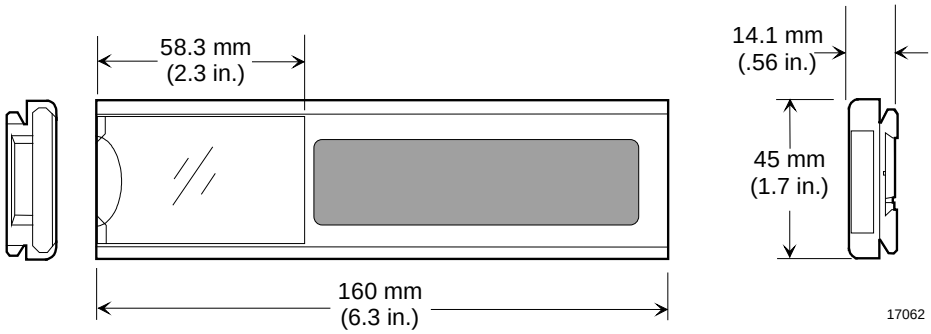
- The 8-character and 2x6-character SmarTalker II standard-size tags have the same physical dimensions and weight 0.035 kg (0.077 lb.).
- The 2x4-character and 2x5-character SmarTalker II small-size tags have the same physical dimensions and weight 0.025 kg (0.055 lb.).
- The 1x6-character SmarTalker II signage tag weighs 75 g (0.16 lb.).



SmarTalker II, Standard Size



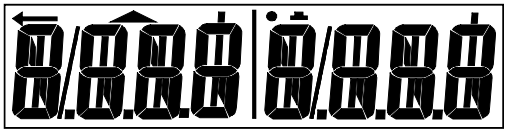
SmarTalker II, Small Size



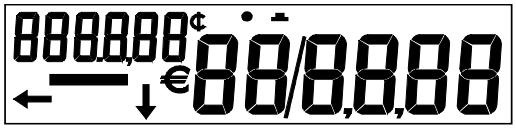
SmarTalker II, Signage

SmarTalker II Displays and Symbols

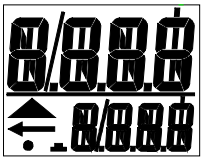
The SmarTalker II displays are shown in the following illustrations. The symbols on the displays are explained in the table following the illustrations.



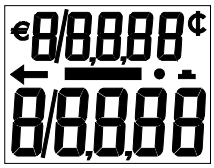
8-Chararacter, Standard Size



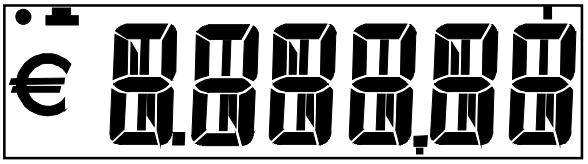
2x6-Chararacter, Standard Size



2x4-Chararacter, Small Size



2x5-Chararacter, Small Size



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1x6-Chararacter, Signage

●	Lights when the SmarTalker II is out of synchronization for RF communication.
▬	Lights when the battery is low.
▲	Indicates that the message on the LCD refers to the wording on the overlay or the items above the tag.
←	Indicates that the message on the LCD refers to the wording on the overlay or the items to the left of the tag.
↓	Indicates that the message on the LCD refers to the wording on the overlay or the items below the tag.
▬	Lights to attract more attention to the message on the tag.
¢	Cents currency symbol
€	Euro currency symbol

For SmarTalker II configuration information refer to the *NCR DecisioNet System User's Guide* (B005-0000-1087).

Weight and Dimension Table

The dimensions and weights of DecisioNet System components are shown in the following table.

Unit and Related Components	Height mm (in.)	Width mm (in.)	Depth mm (in.)	Weight kg (lb.)
CBS	304.8 (12.0)	279.4 (11.0)	107.9 (4.25)	5.0 (11.0)
Power Supply	69.0 (2.72)	225.0 (8.87)	197.0 (7.76)	1.5 (3.31)
Transmit Antenna	65.0 (2.56)	304.8 (12.00)*		0.71 (1.57)
Receive Antenna	65.0 (2.56)	304.8 (12.00)*		0.71 (1.57)
Patch Antenna	64.0 (2.50)	45 (1.75)	45 (1.75)	0.054 (0.1)
SmarTalker 8-character, standard size	35.2 (1.39)	100.0 (3.94)	14.2 (0.56)	0.039 (0.086)
SmarTalker 8-character, small size	35.2 (1.39)	60.0 (2.36)	14.2 (0.56)	0.028 (0.063)
SmarTalker II 8- and 2x6-character, standard size	35 (1.38)	100 (3.94)	22 (0.87)	0.035 (0.077)
SmarTalker II 2x4- and 2x5-character, small size	35 (1.38)	60 (2.36)	22 (0.87)	0.025 (0.055)
SmarTalker II 1x6-character, signage	45 (1.77)	160 (6.29)	14.1 (0.55)	0.075 (0.165)

* Diameter