SIEMENS

USER'S HANDBOOK

ELECTRONIC BELL (A80301)

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PROPRIETARY INFORMATION

TRANSLATIONS

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SALES AND SERVICE LOCATIONS

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2400 NELSON MILLER PARKWAY
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FAX: (502) 618-8810
SALES & SERVICE: (800) 626-2710
WEB SITE: http://www.rail-automation.com/

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DOCUMENT HISTORY

Version	Release Date	Sections Changed	Details of Change
A	Januarry 2005		Initial release
A.1	October 2005	1	Page 1-2: • Deleted "average power consumption 6 watts" from Voltage - Electronic Specifications paragraph. Page 1-3: • Added Power Consumption specification information to Electronic Specifications paragraph.
A.2	June 2014	all	Rebrand for Siemens

NOTES, CAUTIONS, AND WARNINGS

Throughout this manual, notes, cautions, and warnings are frequently used to direct the reader's attention to specific information. Use of the three terms is defined as follows:

⚠ WARNING

WARNING

INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, COULD RESULT IN DEATH OR SERIOUS INJURY. WARNINGS ALWAYS TAKE PRECEDENCE OVER NOTES, CAUTIONS, AND ALL OTHER INFORMATION.

⚠ CAUTION

CAUTION

REFERS TO PROPER PROCEDURES OR PRACTICES WHICH IF NOT STRICTLY OBSERVED, COULD RESULT IN A POTENTIALLY HAZARDOUS SITUATION AND/OR POSSIBLE DAMAGE TO EQUIPMENT. CAUTIONS TAKE PRECEDENCE OVER NOTES AND ALL OTHER INFORMATION, EXCEPT WARNINGS.

NOTE

NOTE

Generally used to highlight certain information relating to the topic under discussion.

If there are any questions, contact Siemens Industry Inc., Rail Automation Application Engineering.

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1.0 OVERVIEW

1.1 INTRODUCTION

The Safetran Electronic Bell System is installed at railroad crossings to alert vehicular and pedestrian road traffic to an approaching train. Use the Electronic Bell as part of the crossing protection system devices, such as flashing lights and gates. The Electronic Bell is a non-vital device.

The Safetran Electronic Bell includes an integral Bell Sensor. This allows it to be used with a Safetran crossing monitoring and diagnostic system. The microphone inside the Electronic Bell "listens" for the sound of the bell and reports to other equipment. When the Electronic Bell is used with a Mini Trackside Sensor in the gate mechanism and a SEAR II Event Recorder in the bungalow, the diagnostic information can alert the railroad of a bell system failure.

The Electronic Bell is installed on the top of a 4-inch or 5-inch diameter mast at the crossing. Two wires supplying power run inside the mast and attach to the ¼" studs (standard AAR terminal block) on the bottom of the Electronic Bell. Three bolts secure the unit to the mast. These bolts are 5/16-18 hex heads and can be easily installed/removed using a standard AAR terminal wrench. This wiring method prevents rain and other weather from damaging the wiring.

Figure 1-1 Electronic Bell

The Electronic Bell can be ordered with 2 horn tones - Loud or Soft - and 2 horn speeds - Fast or Slow. Both tone and speed are factory set. For more information, see section 1.2.2.

The Electronic Bell connects to the equipment as shown in figure 1-2, however installation may be slightly different depending on the user's requirements.

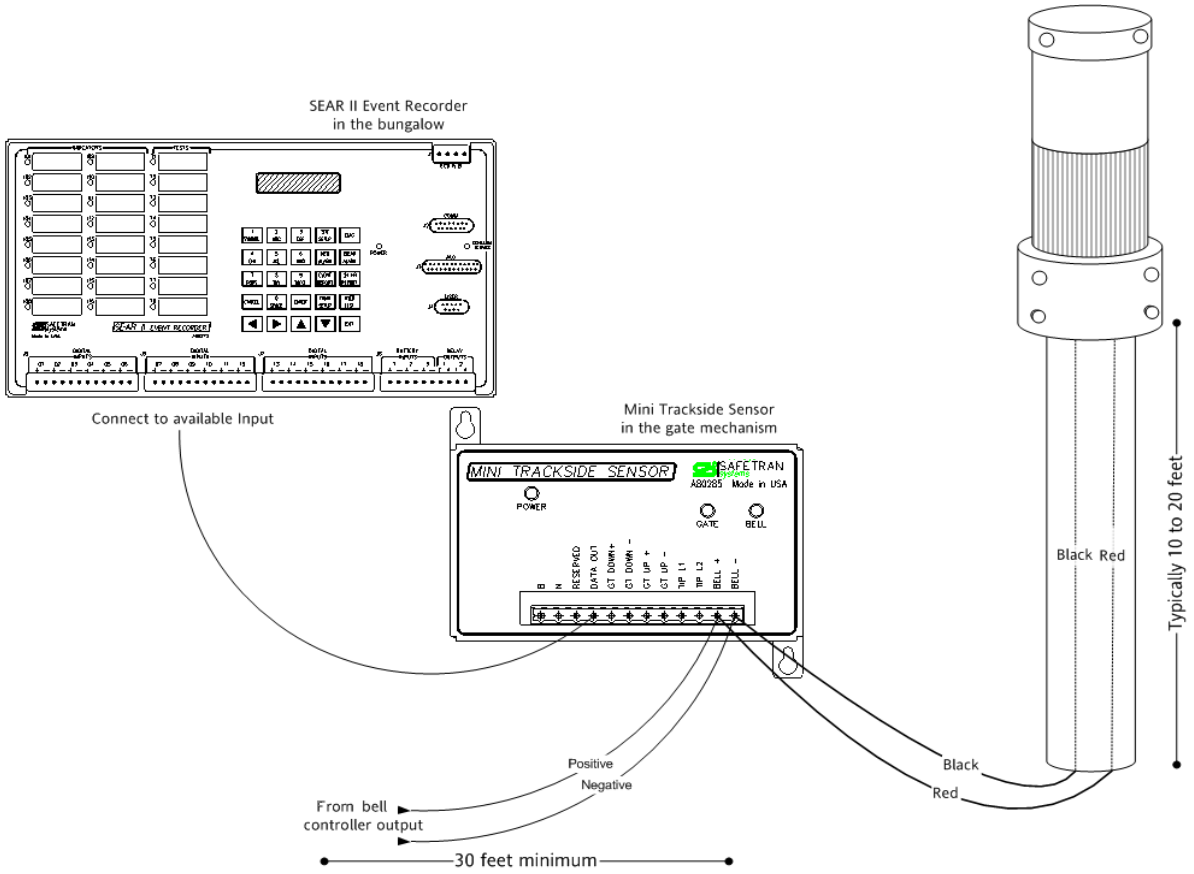

Figure 1-2 General System Overview

1.2 SPECIFICATIONS

This section details the specifications for the Electronic Bell.

1.2.1 Physical Specifications

Dimensions:	20.5 in (52.07 cm) tall 5.75 in (14.61 cm) diameter (excluding screw protrusion)
Weight:	10.50 lbs (4.76 kg)
Housing:	Powder-coated aluminum
Mounting:	5/16 - 18 x 2 inch hex head bolts (3 total) securely attach unit to the pole

1.2.2 Electronic Specifications

Voltage:	9 - 16.5 VDC (nominal 12 VDC) average power consumption 6 watts

Power Consumption:	0.5A (0.9A peak) @ 13.2V 0.6A (1.0A peak) @ 9V 0.5A (0.9A peak) @ 16.5V
Horn:	15 watts, 8 ohm, weather-proof
Sound:	2 tones: • Loud: Approx 94 db • Soft: Approx 82 db 2 repetition rates: • Fast: Approx 200 pulses per minute • Slow: Approx 160 pulses per minute
Bell Sensor:	Interfaces with a Safetran MTSS unit, part number A80285.
Microphone:	Omni-directional, weatherproof, shock/vibration resistant.

1.2.3 Environmental Specifications

Temperature:	-40 °F to +158 °F (-40 °C to +70 °C)
Humidity:	0 – 95% non-condensing

1.2.4 Wiring Specifications

Terminate wires with standard ¼" ring terminals.

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2.0 INSTALLING THE ELECTRONIC BELL

2.1 INTRODUCTION

This section explains how to install the Electronic Bell on a 4- or 5-inch (outside diameter) pole. Following installation, the Electronic Bell should be tested.

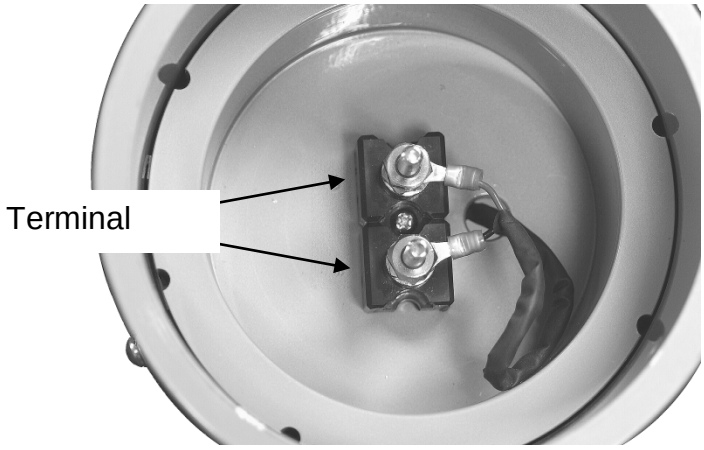

Figure 2-1 Mounting the Electronic Bell

2.2 ATTACHING THE BELL WIRES

The first step is to attach the bell wires from the pole to the Electronic Bell.

1. Locate the bell wires that come out of the top of the pole.
2. On the bottom of the Electronic Bell, locate the black wire terminal post.
3. Attach the negative bell wire to the black wired terminal post.
4. On the bottom of the electronic Bell, locate the red wire terminal post.
5. Attach the positive bell wire to the red wired terminal post.

2.3 ATTACHING THE ELECTRONIC BELL TO THE POLE

After connecting the bell wires to the Electronic Bell, attach the Electronic Bell to the 4- or 5-inch outside diameter pole.

An AAR wrench is necessary for the following steps:

1. Fit the bottom of Electronic Bell over the outside of the top of the pole.
2. Using an AAR wrench, firmly tighten all 3 bolts until they are touching the pole. Make sure the bolts are secure but do not over tighten. The jam nuts can be used to lock the bolts in place after tightening the bolts.

2.4 TESTING THE INSTALLATION

Following installation, test the Electronic Bell as follows:

Testing consists of two parts:

- Making the Electronic Bell sound
- Checking the Bell light on the Mini Trackside Sensor (MTSS)

1. Energize the bell output on the controller and verify that the Electronic Bell sounds.
2. If MTSS is used, verify that when the Electronic Bell sounds, the Bell light on the MTSS is lit. This indicates that the Electronic Bell audio circuit is picking up the bell sound and providing an indication to the MTSS.

3.0 TROUBLESHOOTING

3.1 INTRODUCTION

The Electronic Bell is designed to function without a problem. However, because it connects to other equipment, some troubleshooting may be required.

3.2 FINDING AND FIXING PROBLEMS

Make sure the bell controller output is present, then check the following:

Symptom	Problem	Solution
No sound from bell	Bad wiring or contact	Check for power at the bell terminal block
	Horn Speaker malfunction	Replace unit
	Drive circuit malfunction	Replace unit
MTSS bell light is off	Bad wiring or contact	Check for proper contact at MTSS connector
	Microphone malfunction	Replace unit
	Detection circuit malfunction	Replace unit

3.3 ORDERING INFORMATION

The following table displays the different bell sounds that can be configured from the factory. Use the chart below to select the one to order.

For this sound	Order this product number
Loud, Fast	8000-80301-0001
Loud, Slow	8000-80301-0002
Soft, Fast	8000-80301-0003
Soft, Slow	8000-80301-0004

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