Technical Bulletin

Bulletin Number: TB-2018271-RH01 **Date Published:** 09 28 2018

Summary: This bulletin provides instructions for installing the Zukinut Z3 Plus® Presence Detector in a SmartSCAN 2600-020 AEI Reader system.

☐ **Critical (Affects safe operation of system)** ☒ **Informational**

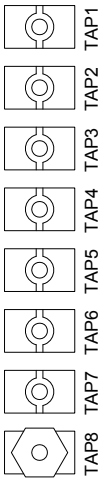
Distribution List: NA

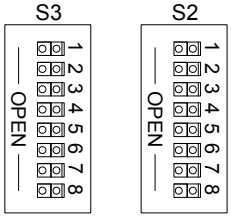
The Z3 Plus® 2-Wire Audio Overlay Presence Detector is the recommended replacement for the Zukinut Zepic III (now obsolete). The Z3 Plus® provides a normally closed relay output which can be tied directly to the Presence inputs of the 2600-020 AEI Controller.

Z3 Plus® Installation Procedure

Step 1 – Set Track Frequency

The Z3 Plus® is field configurable for the following track drive frequencies: 8.2K, 10K, 11.5K, 13.2K, 15K, 17.5K, 20K, 26KHz. To change the track frequency - Remove the Z3 cover, then configure DIP switches S3 & S2 and TAP to select desired frequency (as detailed below).





FREQUENCY SELECTION

S3-1, S2-1, TAP1 = 8.2KHz	S3-5, S2-5, TAP5 = 15KHz
S3-2, S2-2, TAP2 = 10KHz	S3-6, S3-6, TAP6 = 17.5KHz
S3-3, S2-3, TAP3 = 11.5KHz	S3-7, S2-7, TAP7 = 20KHz
S3-4, S2-4, TAP4 = 13.2KHz	S3-8, S2-8, TAP8 = 26KHz

NOTE: Always use same switch # and TAP #. DO NOT MIX!
Example: 26KHz = S3-8 ON, S2-8 OFF, AND TAP8

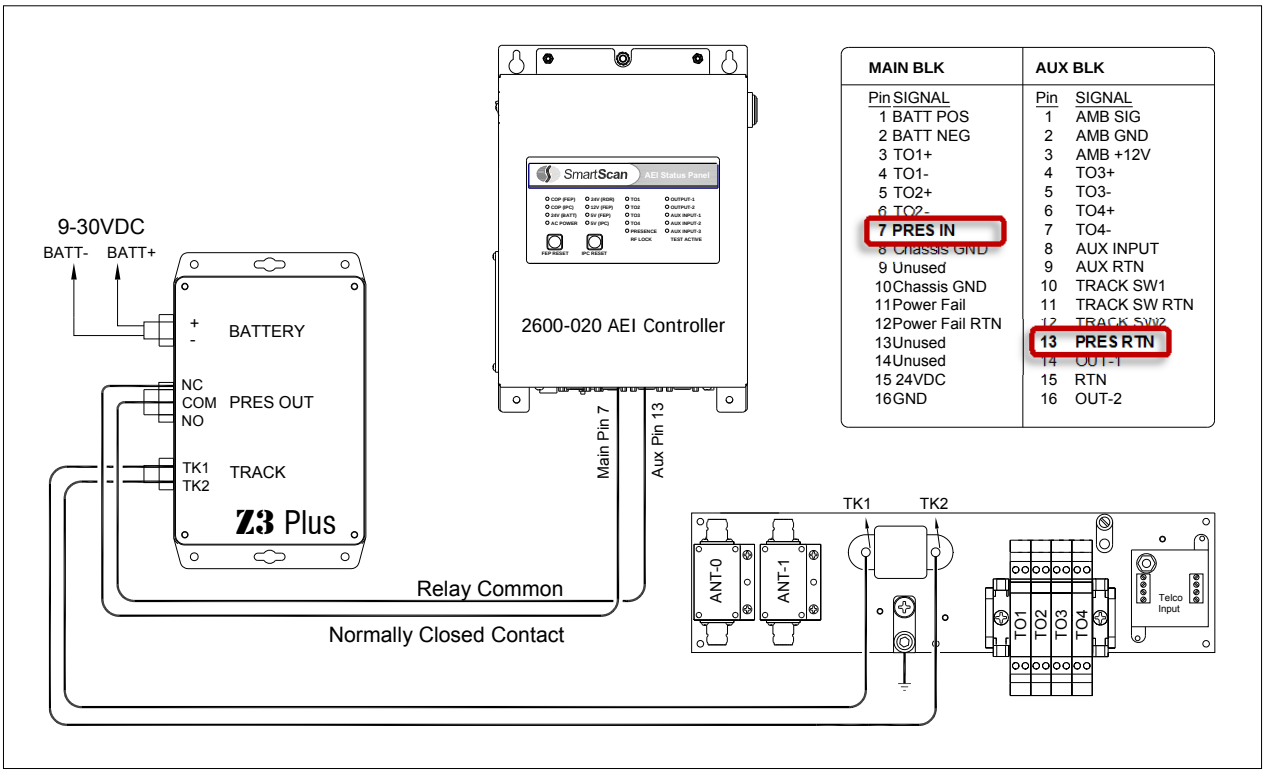
S3	**S2**
All OFF except desired Frequency	All ON except desired Frequency
One and only one on at a time	One and only one off at a time

To select TAP, unscrew the hex stnd-off and move to desired TAP. DO NOT over tighten.

Z3 Plus® Frequency Options

Step 2 – Connect the Z3 Plus® to the 2600-020 AEI System

Mount the Z3 Plus® in the desired location, then complete all wiring as detailed below.



Z3 Plus® Wiring Schematic

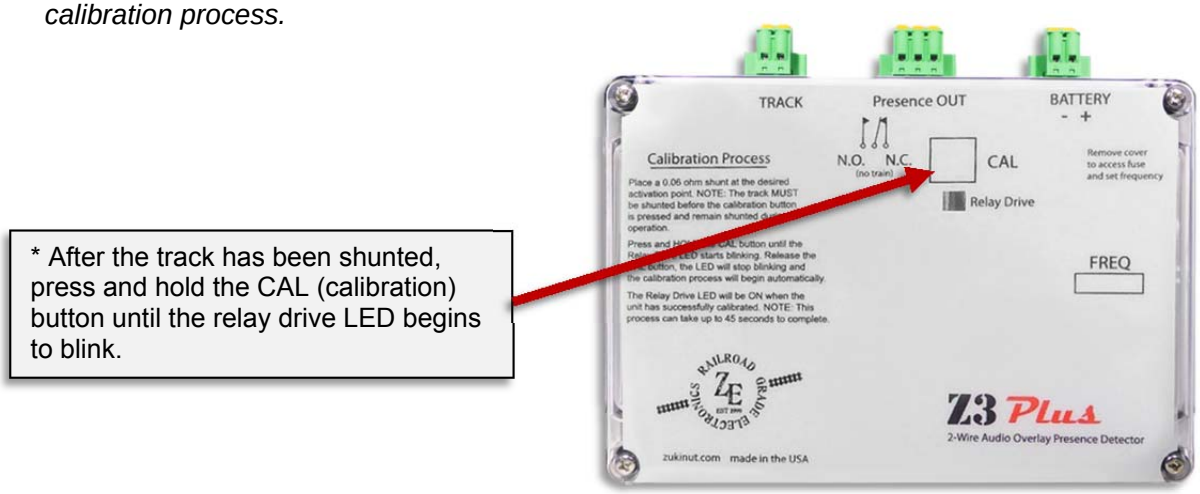
Step 3 – Calibrate the Track Circuit

i. From the center of one of the double-wheel detectors (wheel detector pairs), measure the shortest distance you want the track circuit to pick up the presence of a train. The distance must be at least 50' (15.2 m) and no more than 150' (45.7 m).

ii. At the point just measured, place a 0.06Ω shunt across both rails.

**** IMPORTANT: The track must be shunted before calibration button is pressed.***

iii. Press and HOLD the CAL (calibration) button until the Relay Drive LED starts blinking. Release the CAL button and the LED will stop blinking. The Z3 Plus® will automatically begin the calibration process. *The track shunt MUST remain in place throughout the calibration process.*



iv. The Relay Drive will pick up (LED on) when the unit has successfully calibrated. *This process can take up to 45 seconds to complete.* If the **Z3 Plus®** cannot achieve calibration, it will blink the Relay Drive LED three (3) times in rapid succession, indicating a calibration error. The unit will continuously repeat the calibration procedure (there is no need to press the CAL button), allowing you to troubleshoot the track circuit, wiring, and battery. Once the issue has been corrected, repeat the calibration procedure outlined above.

Step 4 – Verification

i. After calibration, lift the shunt and the relay drive should drop (LED off). Replace the shunt and the relay drive will pick up (LED on).

ii. Move the shunt at least 20' farther out from the calibration point. The relay drive should not pick up (LED stays off).

iii. The **Z3 Plus®** is now operating properly and will activate at an equal distance on either side of the track feed point.