
TI # 041105-1 – Using LoopXSpace and LoopPairing

Starting with version 2.92, the Unicorn/Phoenix/Pegasus series of counters supports two new functions. The first, **LoopXSpace**, is a way to extend vehicles past the end of the final loop activation. This function is particularly useful when poor loop conditions cause a loop to prematurely drop out and result in two vehicles being reported instead of one.

LoopPairing is the ability to assign multiple loops in a lane so that only the next expected loop is turned on. For example, if your sensor mode was Loop-Piezo-Loop, enabling pairing on this lane disables the second loop until the first loop is activated. Once the first loop is activated, it is turned off and then only the second loop is enabled. Once the second loop activates and then deactivates (indicating the vehicle has completely crossed the sensors), the second loop is turned off and the system returns to just using the first loop to wait for the next vehicle.

This pairing of loops allows the system to double the sensitivity of each loop. This is because the loop signal can be scanned twice as long while still maintaining speed accuracy since only one of the two loops in a lane is enabled at any given time. The disadvantage is that only the second loop is actually used for overall vehicle length calculation. This is because it is the only loop that is on for the entire vehicle crossing.

Using LoopXSpace:

First insure that your counter is using EPROM version 2.92 or later and that you are using TrafMan version 6.18 or later. Second, run TrafMan, link to the counter, go into the Configure System menu, and locate the LoopXSpace value. Enter into this value the maximum length of vehicle that should be allowed after the final loop loses activation. This is similar to the Maximum Axle Spacing value that is used in Axle-Axle modes.

Based on the vehicles speed, the traffic counter waits after the final loop loses activation for enough time to pass for that amount of vehicle to cross. Any new loop activations resets the time.

Typically a value of 30 feet or so is used here. This is long enough to catch a high bed truck being dropped out but short enough to not combine two closely spaced vehicles. Be careful what value you enter here, too long will start combining vehicles and two short will not correct drop outs.

Setting LoopXSpace to zero disables the mode and allows the counter to operate normally.

Using LoopPairing:

Like LoopXSpace, you must be using EPROM version 2.92 or later and TrafMan 6.18 or later. In addition, your loop boards must be using a firmware version of 5.2 or later (most loop boards since 1999 use this version or later).

To activate the function, first go into TrafMan – Setup – Counter Options – General Options. Towards the bottom is the question “Ask Loop Pairing Modes”. Set this to yes to enable these options.

Next, link to your counter and select Start Collecting. You will have several new sensor configuration modes available with the word “Pair” in front of it. For example, “Pair Pr-Ax-Pr” is the standard Loop-Axle-Loop mode with loop pairing enabled.

Each lane can be configured independently for loop pairing. In addition, the LoopXSpace function is fully compatible and the modes can be used together. Do not, however, enable LoopPairing and directional mode (they are not compatible).