Genesis

t-DL1000
t-DL2000

simulated track load

FEATURES

- Simulates a Track Load for Testing Motion Sensors and Predictors
- Two Versions – 1000' or 2000' Approach Length
- Flexible Rubber Insulated Test Leads
- Insulated "Alligator" Test Clips
- Rugged, Compact Enclosure

BENEFITS

- Enables Signal Maintainer to determine without question if a false activation problem is with the motion sensor / predictor or the track circuit
- Easy hookup – six leads provided – eliminates need for "jumper wires"
- Compact and rugged enclosure enables unit to be easily stored and available for field use

Why Do I Need a Dummy Track Load?

If you're a signal maintainer and you've had trouble trying to determine if a false activation problem is in the track or with the motion sensor or grade crossing predictor, you've had a need for a simulated track load, or as some call it, a "dummy" track load.

The Genesis Simulated Track Load enables you to determine without question if the problem is with the track or with the MS or GCP.

How? Well, the t-DL1000/2000 dummy track load is a "known" good track circuit that is substituted for the "real" track circuit that is in question.

How does it work? The rails and the shunts, whether hard-wired or narrow-band, make up an electrical circuit with resistance, capacitance, and inductance properties. The dummy track-load simply emulates a real-world track circuit for the GCP/HXP or MS/MD (predictor or motion sensor) to "see" as its track circuit. The t-DL1000/2000 may have somewhat different characteristics than your actual track circuit, but it's "in the ballpark" and should allow you to adjust the GCP/HXP or MS/MD such to keep the XR relay up.

But before you substitute the t-DL1000/2000 in the place of the real track circuit, there's one thing you absolutely must remember:

CAUTION: Once you wire in the t-DL1000/2000, the crossing equipment will NOT detect an approaching train!

In other words, **while the t-DL1000/2000 is being used as a track circuit, you must take whatever precautions your railroad's operating rules require to protect the crossing.** You probably don't need reminded of such obvious matters of safety, but we all occasionally have our attention diverted just enough to forget something that is crucially important. Of course don't forget to remove the track load and restore the crossing back to normal operation before you leave.

Check and double-check. Test and re-test. You'll never regret those few extra minutes taken to make certain everything's in good order.

The Genesis t-DL1000 simulates 1000 ft. approaches, and the t-DL2000 simulates 2000 ft. approaches, with good (actually perfect) ballast conditions and hardwire shunts. If you're operating a predictor or motion sensor at one of the higher frequencies, say above 750Hz, the unit may not calibrate or adjust quite like you might expect, since the higher frequencies work better with approaches that are shorter than 1000 ft.

Not to worry, though. If you can get the unit to pick up the XR relay using the t-DL1000 or t-DL2000, then you've established that the electronics are OK, and it's time to go out and walk the approaches looking for a problem with the track.

ORDERING INFORMATION

- To order the t-DL1000 Dummy Track Load (Simulates 1000' Approaches), order p/n 98035-1000
- To order the t-DL2000 Dummy Track Load (Simulates 2000' Approaches), order p/n 98035-2000

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DESCRIPTION

The t-DL1000 or t-DL2000 Dummy Track Load by Genesis Technologies may be used with electronic railroad signal equipment to electrically simulate the resistive and inductive characteristics of a track circuit with hardwire or narrow-band shunts.

The Dummy Track Load is typically used with railroad grade crossing predictor or motion sensor equipment as a troubleshooting aid to isolate trouble in an overall system made up of the predictor or motion sensor and the track it is connected to. This is done by substituting a "known and working" track circuit in the form of the Dummy Track Load in place of the "unknown" actual track circuit. By substituting a "known and working" element in place of one that may be faulty, a signal maintainer can, by process of elimination, determine if the trouble is in the track or the predictor or motion sensor electronics.

GUIDELINES FOR USE

CAUTION: DANGER!!! APPROACHING TRAINS WILL NOT BE DETECTED WHEN TRACK WIRES ARE DISCONNECTED OR WHEN THE t-DL1000/2000 IS CONNECTED IN PARALLEL WITH THE PREDICTOR, MOTION SENSOR, OR OTHER TRAIN DETECTION EQUIPMENT.

You must take the appropriate steps to protect the crossing and/or other equipment and personnel as the SIGNALS WILL BE INOPERATIVE WHEN THE t-DL1000/2000 IS CONNECTED!!!

After taking precautions to protect the crossing, (vehicles and persons that the signals, gates and flashers normally protect – see CAUTION above), carefully mark or note the terminal location of each track wire, then remove the track wires from the terminals of the motion sensor or predictor.

To connect the t-DL1000 or t-DL2000, do the following:

1. Connect the red wires to all transmit and receive terminals marked for rail "1." Terminal nomenclature may read T1, R1, ISL1, CHK1, etc.
2. Connect the black wires to all transmit and receive terminals marked for rail "2." Terminal nomenclature may read T2, R2, ISL2, CHK2, etc.
3. In the unusual circumstance where the island track wires are not already connected in parallel with the approach track wires, connect the remaining red and black wires to the appropriate island track wire terminals.
4. Reset the predictor or motion sensor to clear any high signal, low phase or other sensed track problems, and allow the unit to stabilize.
5. Before making any changes to system settings, be sure to write down all parameters that you change so you can restore the system to its original settings.
6. Adjust the RX or ED as necessary to meet the adjustment parameters specified by the manufacturer for a "first-time" installation.
7. If necessary, change the approach length to more closely match that of the t-DL1000/2000.

The RX or ED adjustment when the t-DL1000/2000 is connected may be somewhat different from that of the actual track even when it is a "good" track circuit. This is because the characteristics of each track circuit vary from location to location due to approach lengths, ballast conditions, electrical quality of rail bonds and track wire connections, type of termination shunts, other signal equipment circuits on the rails, and many other conditions. This may require you to make some changes to RX or ED and possibly change the approach length of the unit to match that of the t-DL1000/2000.

The important thing to remember is that if the unit "picks up" the XR relay using the t-DL1000/2000 and will not do so otherwise, the problem is very likely in the track.

When finished and before you leave, be sure to complete the following:

1. Reconnect all track wires to the motion sensor or predictor.
2. If you reprogrammed the motion sensor or predictor approach length, reset the track length to the actual length of your approaches.
3. Reset RX or ED according to the manufacturers' instructions.
4. Test the signal system by shunting the approaches and the island with a 0.06 Ohm shunt to verify the signals are operating properly. If possible, observe a train through the crossing for proper operation.

SPECIFICATIONS

TRACK CONNECTIONS

Maximum Continuous Current (all connections total)	5	Amps
Lead Lengths	18 (45.7)	in (cm)

ENVIRONMENT

Operating Temperature	-40 (-40) to 160 (71)	˚F (˚C)
Humidity (non-condensing)	95%	Relative

MEASUREMENTS

Height	2.55 (6.48)	in (cm)
Width (excluding leads)	4.70 (11.94)	in (cm)
Depth	1.60 (4.06)	in (cm)
Weight	0.3 (.136)	lbs (kg)
Lead Length	18 (45.4)	in (cm)

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