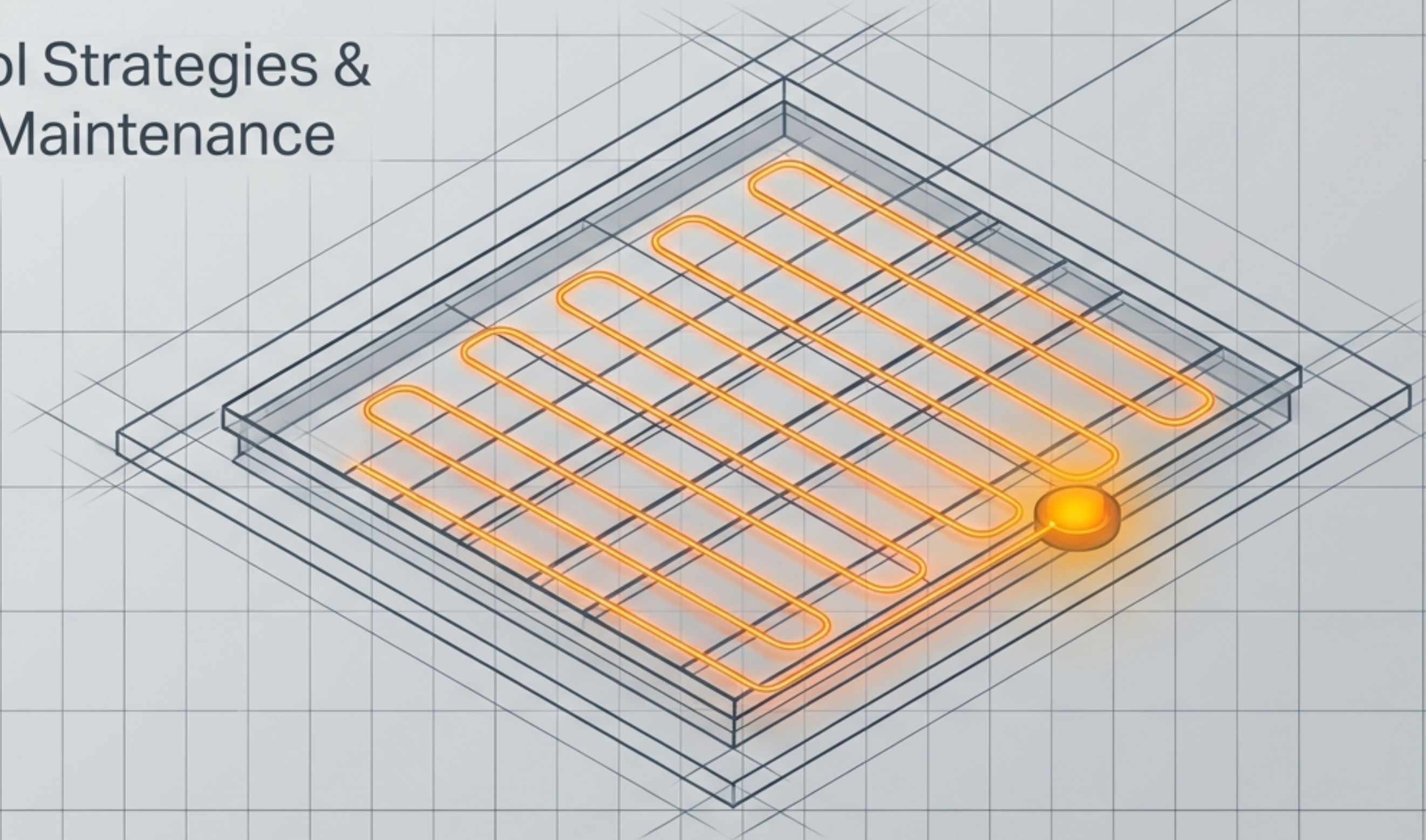


Operational Efficiency

Sizing Control Strategies &
SIM System Maintenance



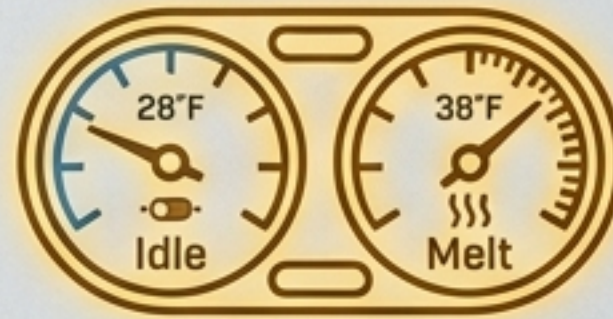
Sizing Control Logics and Operational Efficiency



On/Off Automatic

Cold starts triggered by moisture and freezing air. Drops to off when dry.

Highlight: Most Economical / Lowest Annual Energy.



Idle/Melt

Idles gently at 28°F during dry cold snaps. Ramps to melting heat (38°F) when snow falls.

Highlight: Fastest Response / High Energy Waste (4-8x more).



Always On

Keeps slab warm constantly. Modulates based on surface temperature.

Highlight: Ultimate Safety / Highest Energy Consumption.
(Reserved for critical zones like hospitals)

Moisture Sensor Positioning Rules

First spot hit by blowing or falling snow.

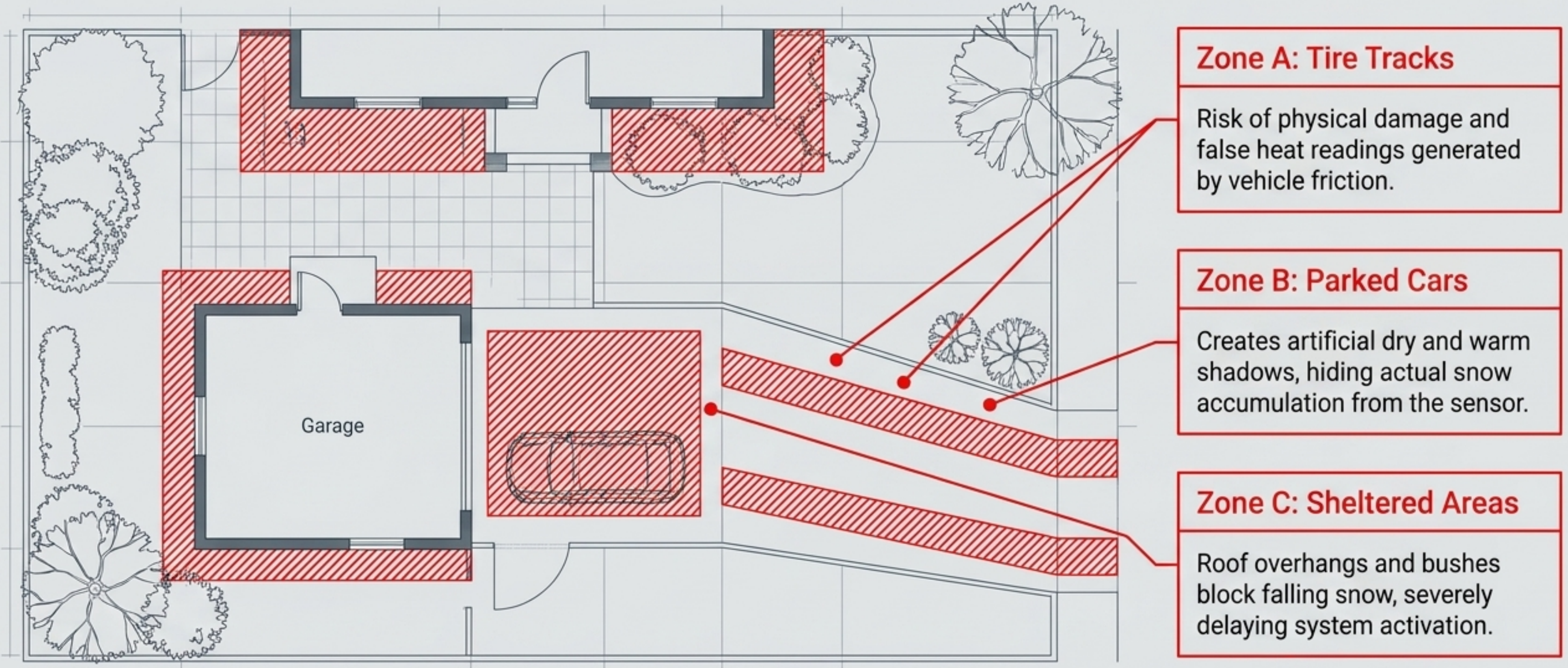
Last area dried by natural drainage.

Last area warmed by the sun (to prevent false dry readings).



Critical Note: Sensors must be installed exactly parallel and flush with the pavement slope.
Brush off sand and dirt regularly.

Sensor Avoidance Zones



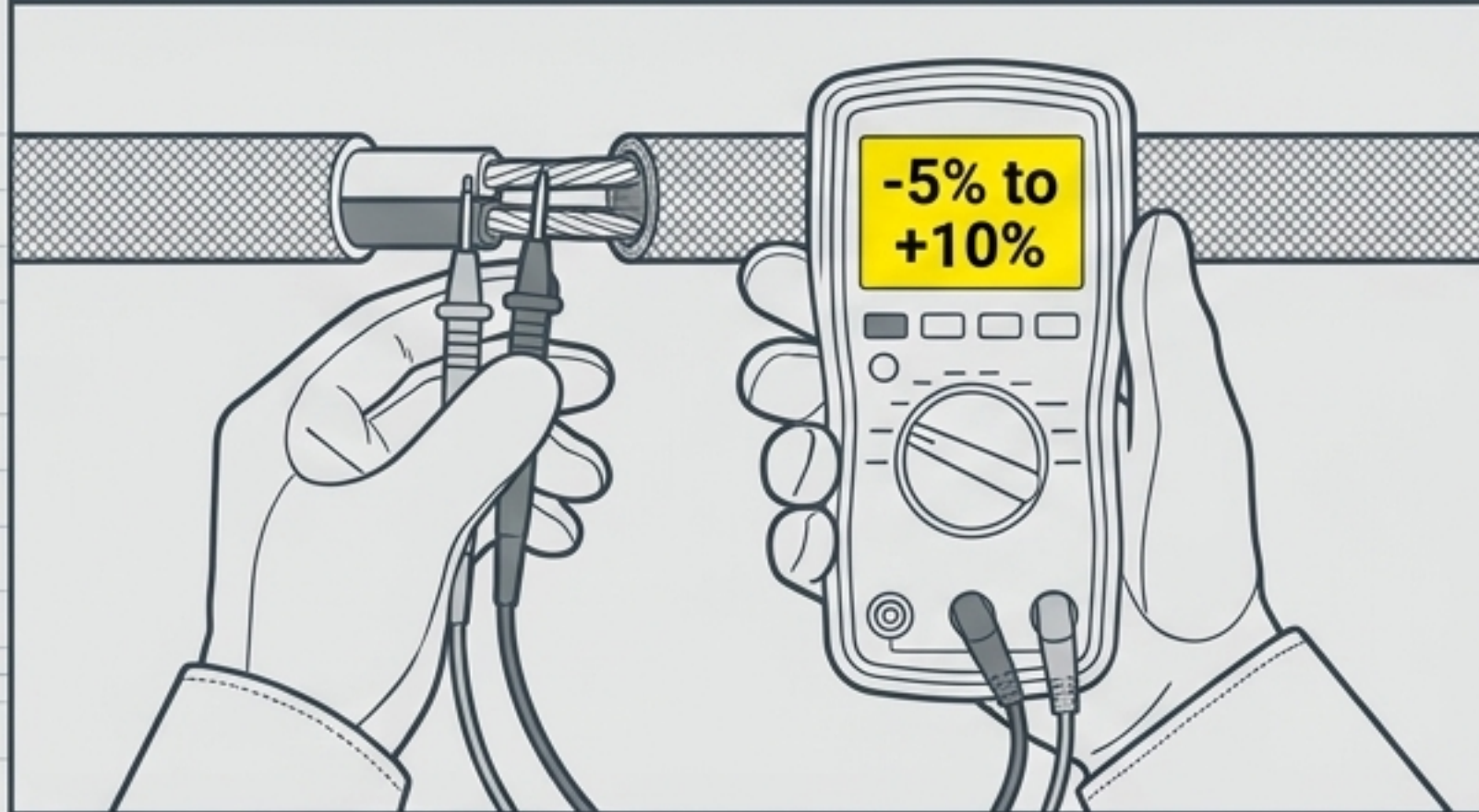
Pre-Season Electrical Sizing and Validation

Before Install

During Install

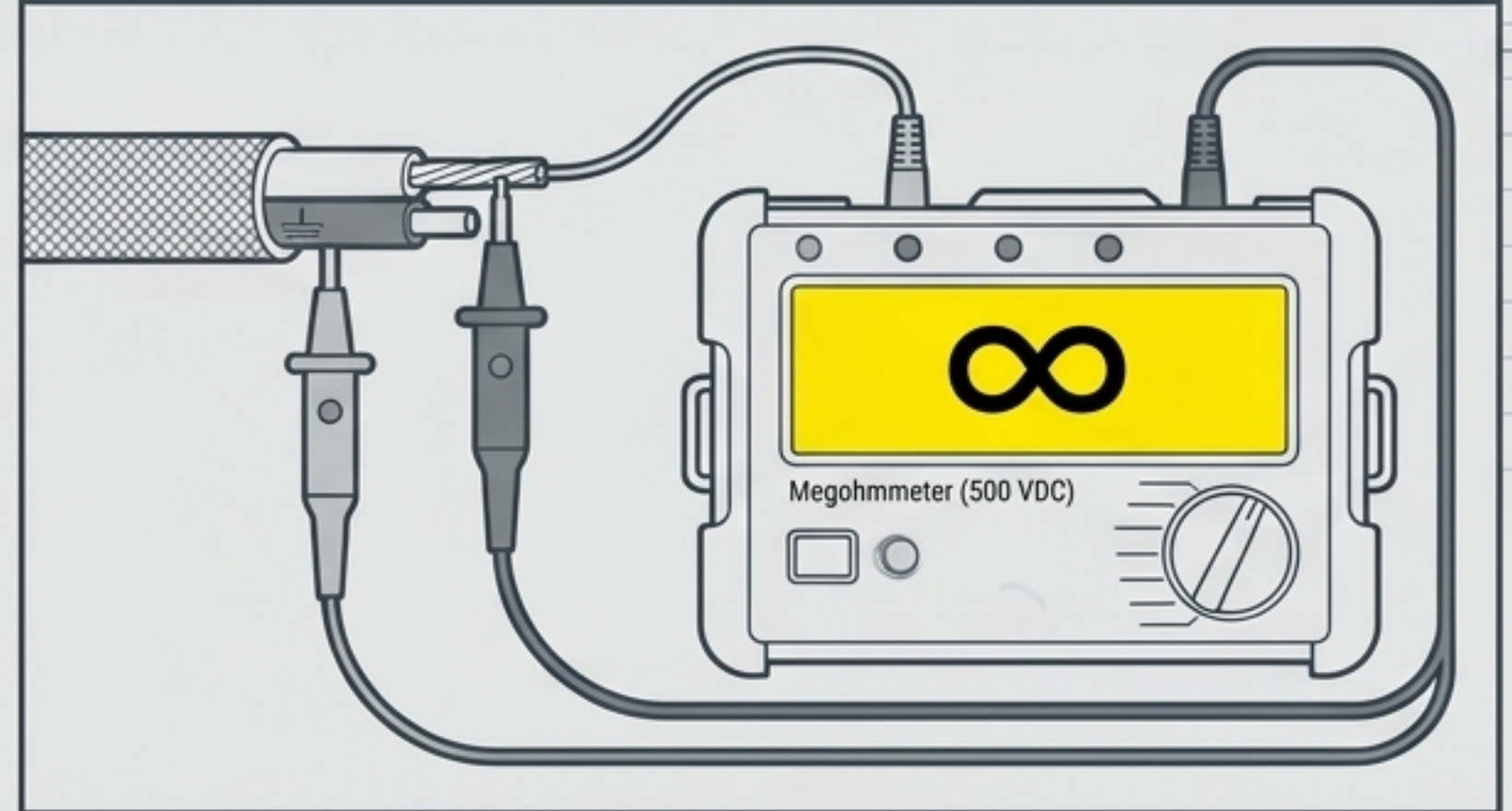
After Install

Total Resistance Test



Target: Nominal CSA label specification.

Insulation Resistance Test

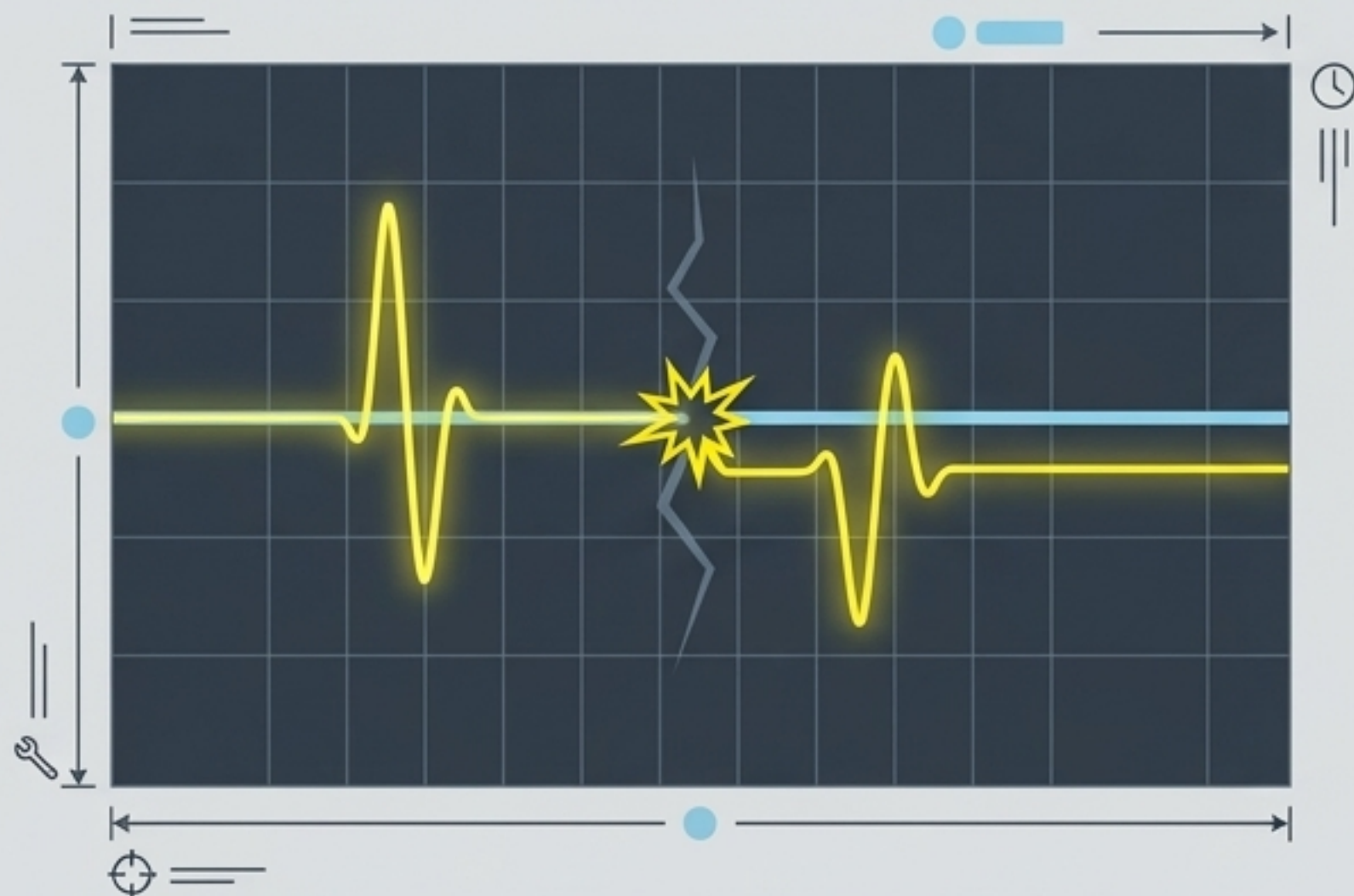


Target: Infinite (∞) Ohms.

Code Compliance Alert: System requires integration with a 30 mA GFEP breaker to supply power.

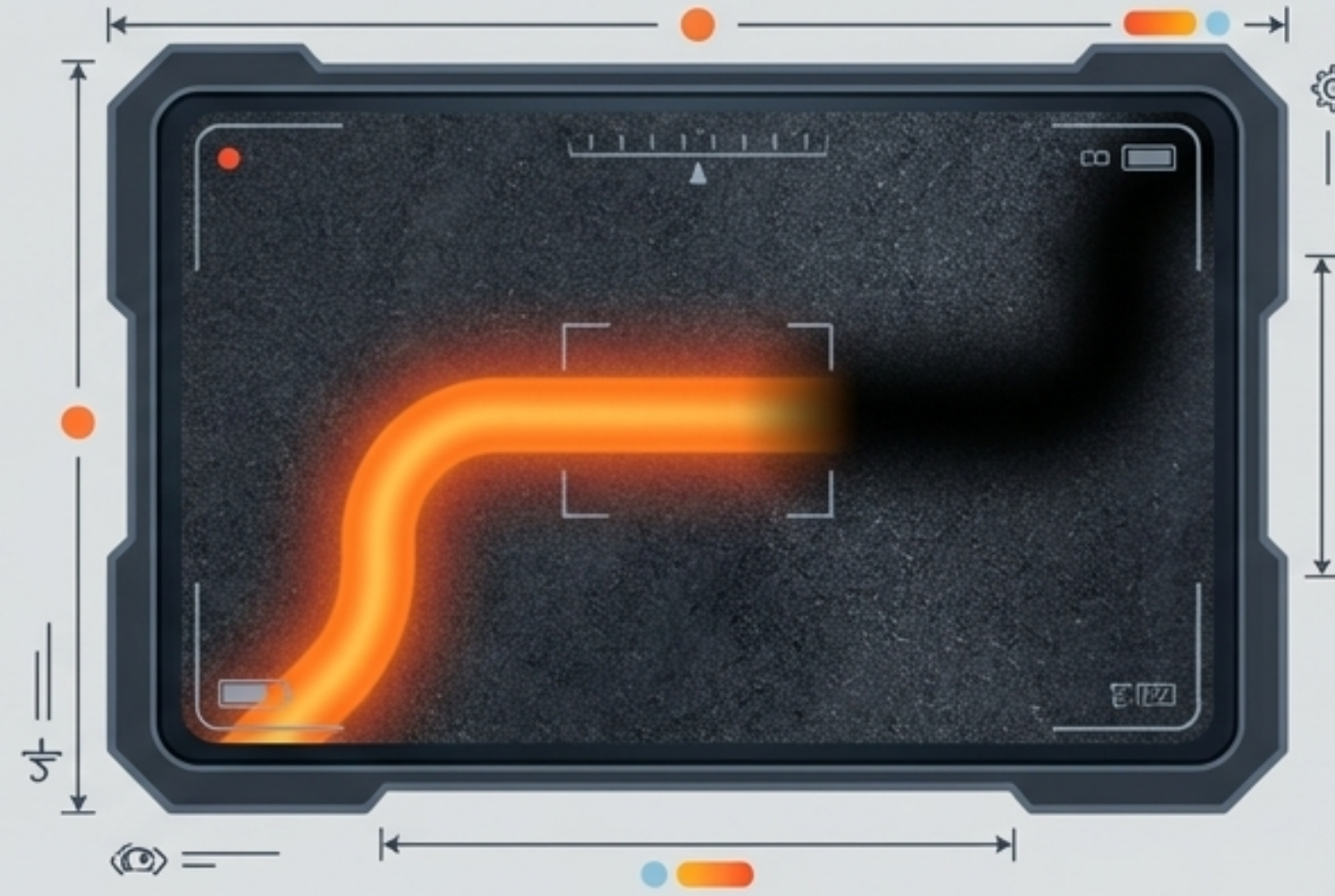
Locating Buried Wire Breaks Without Demolition

ShortStop TDR (Time-Domain Reflectometry)



Measures travel time of a radar pulse to calculate the exact footage distance to the hidden cable fault.

Thermal Imaging with TSK



Connecting a Troubleshooting Kit (TSK) generates a localized, high-frequency heat trail. Track the line with a thermal camera until the heat signature vanishes.