

Short Circuits



The term “short” has become a meaningless phrase in common culture to mean “anything that is wrong with an electrical device”.

A short circuit is a particular fault that can mean one of two things in technical lingo.

Any two circuits that are connecting in an undesigned manner. This would be the case if a control wire had two conductors connected together due to abrasion. Like a Y and G circuit “shorted” in a thermostat wire between the furnace and the thermostat. This would result in the condenser running whenever the blower is energized.

A short can also be described as a no load path between two points of differing charges. This would be a traditional “short to ground” low voltage hot to common connection or a connection between legs of power without first going through a load of appropriate resistance.

Both of these conditions will result in something occurring that should not be occurring. Either something being energized when it shouldn't be or fuses and breakers tripping or blowing or damaged components.

This is different than an Open circuit which is no path at all. So if a load has power applied and NOTHING is happening

it is an open. If power is applied and breakers or fuses trip or blow or something comes on at the wrong time or order, that is a short

– Bryan