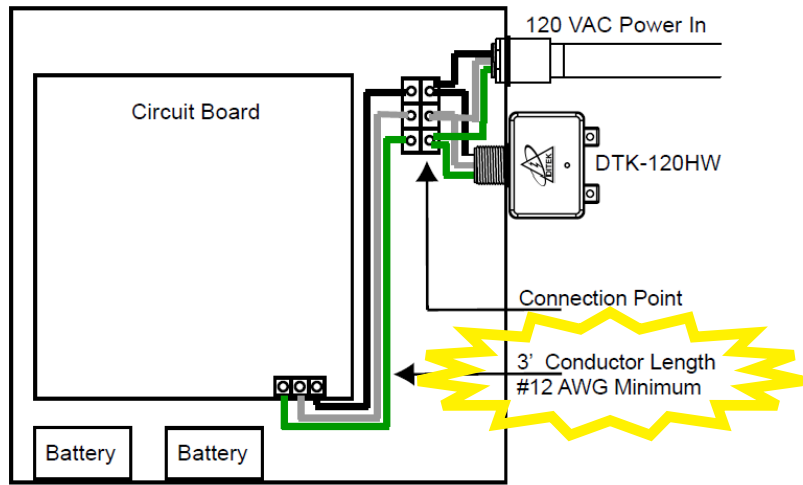




FIRE ALARM SURGE PROTECTION

ALARM PANEL/CONTROL PANEL INSTALLATION DIAGRAM #1



WHAT CAUSES SURGES & SPIKES

EXTERNAL CAUSE

- **LIGHTNING** - A DIRECT HIT, USUALLY CATASTROPHIC
- **PROXIMITY STRIKES** - LIGHTNING STRIKES SEVERAL MILES AWAY CAUSING LARGE VOLTAGE SURGES ALONG TRANSMISSION LINES
- **UTILITY GRID SWITCHING** - UTILITY COMPANIES SWITCHING TRANSMISSION LINES FROM ONE SUPPLY SYSTEM TO ANOTHER
- **BROWNOUTS / BLACKOUTS** - UNDER VOLTAGE OR VOLTAGE SAG FOLLOWED BY A SURGE OR SPIKE

INTERNAL CAUSE

- **INDUCTIVE LOADS** - THE SWITCHING ON AND OFF OF ELECTRIC MOTORS INSIDE OR OUTSIDE A FACILITY, SUCH AS HVAC SYSTEMS, REFRIGERATION EQUIPMENT, PUMPS AND CNC MACHINES
- **MECHANICAL FAILURES** - COMPONENTS OF ELECTRICAL DISTRIBUTION SYSTEM FAILING
- **HUMAN ERROR** - ACCIDENTAL INDUCTION OF AC POWER ON LOW VOLTAGE SYSTEM CIRCUITS

EFFECTS OF SURGES & SPIKES

DEGRADATION – GRADUAL DETERIORATION OF INTERNAL CIRCUITRY, PREMATURE EQUIPMENT FAILURE

DESTRUCTION – INSTANTANEOUS LOSS OF EXPENSIVE EQUIPMENT; ELECTRONICS, MOTORS, CONTROLLERS

DOWNTIME – LOSS OF PRODUCTIVITY AND REVENUE; LOSS OF CRITICAL DATA & INFORMATION

FIRE ALARM SURGE PROTECTION



CODE REFERENCES

NFPA 72 - 2013 , CHAPTER 12 - CIRCUITS & PATHWAYS

- 12.2.4.2 ALL NON-POWER-LIMITED AND POWER-LIMITED SIGNALING SYSTEM CIRCUITS ENTERING A BUILDING SHALL BE PROVIDED WITH TRANSIENT PROTECTION

NFPA 70 NATIONAL ELECTRICAL CODE - 2014

- ARTICLE 760.32 NON-POWER-LIMITED FIRE ALARM CIRCUITS AND POWER-LIMITED FIRE ALARM CIRCUITS THAT EXTEND BEYOND ONE BUILDING AND RUN OUTDOORS SHALL MEET THE INSTALLATION REQUIREMENTS OF PARTS II, III, IV OF ARTICLE 800 AND SHALL MEET THE INSTALLATION REQUIREMENTS OF PART I OF ARTICLE 300.

VALOR'S SOLUTION

INSTALLING CELLULAR COMMUNICATOR



IF CHOOSING TO STAY WITH CURRENT APPLICATION; WE RECOMMEND TESTING SYSTEM FOR PROPER GROUNDING.