THE ULTIMATE POWER QUALITY PROGRAM

WHAT IS TPD?

The mission of Transient Protection Design is to ensure that the best power protection devices are in place to stop or limit the effects of imperfect power.

Each design drawing in this catalog helps to explain where surge protection and voltage regulation devices are needed in a wide variety of sample applications. The drawings in this catalog can be used as a starting block to many power solutions.

If you have any questions, please reach out to us at:

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TABLE OF CONTENTS

The TPD Whole Home Power Quality Program 4

The TPD Power Quality Pyramid 6

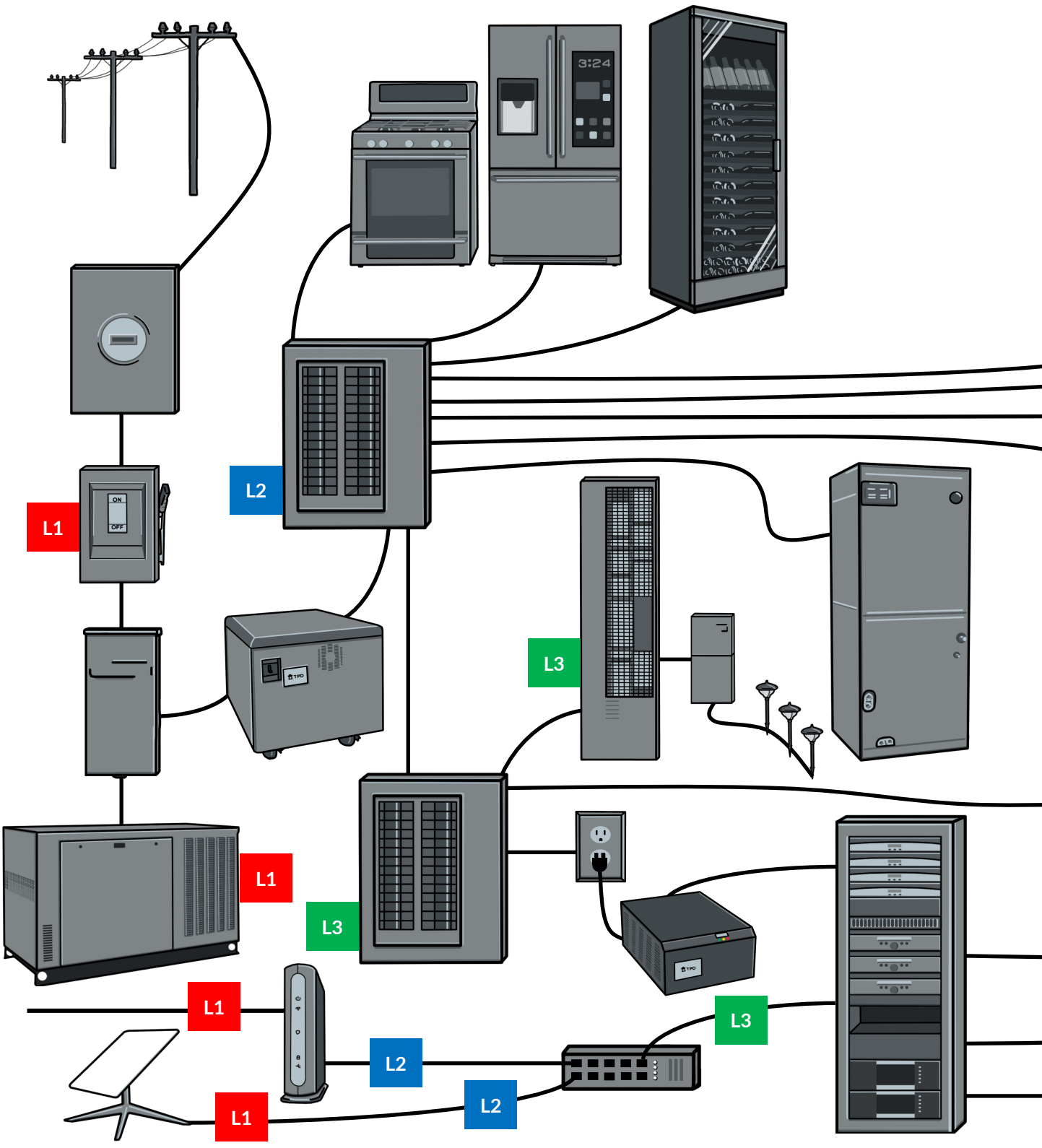
TPD Sample Home Drawing 7

TPD Surge Protection Packages

- Power Panels 8
- Cable, Satellite, Starlink 9
- Outdoor Cameras and WAPs 10
- Outdoor Speakers 11
- Lighting Systems 12
- Pool House Equipment 13
- Gate Electronics 14
- Generator and ATS 15
- HVAC Systems 16
- Access Control Systems 17
- Modems, Routers, Switches 18

TPD Voltage Regulation

- Plug In Voltage Regulation 19
- Hardwired Voltage Regulation 20
- Individual Equipment and Panel Voltage Regulation 21
- 120/240V Voltage Regulation 22
- Whole Home Voltage Regulation 23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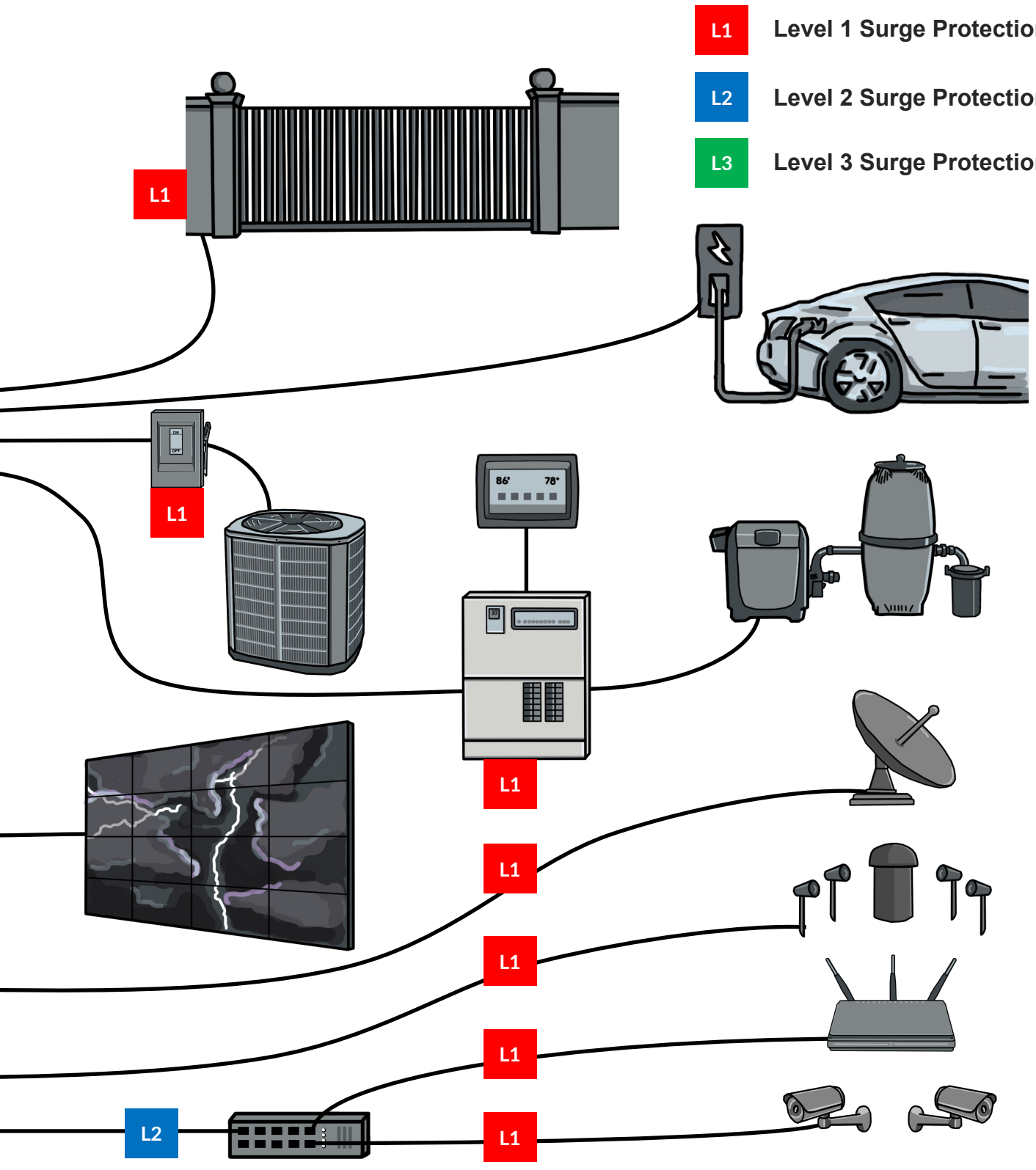
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Level 1 Surge Protection
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Level 2 Surge Protection
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Level 3 Surge Protection
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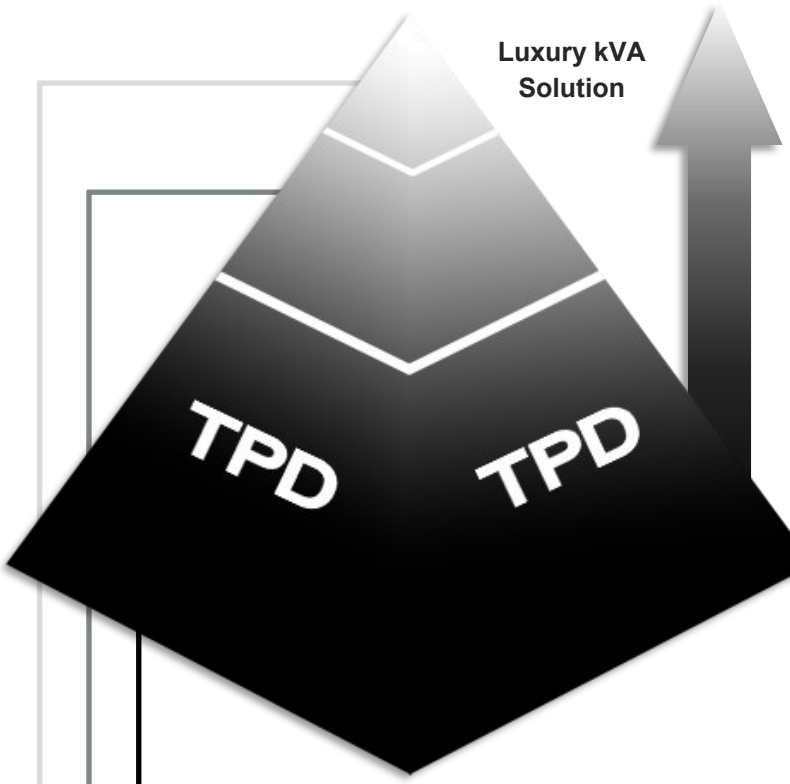
Do You Have a Power Quality Program?



The TPD Power Quality Program:

Ensuring that the best power protection devices are in place to stop or limit the effects of imperfect power.

Loss Prevention/Risk Mitigation

TPD offers affordable solutions that eliminate transients, surges, and voltage fluctuations, accounting for 85% to 95% of all power issues!

Foundation: TPD Surge Protection

Proper bonding and grounding systems, combined with surge protection with power filtering, form the essential first line of defense against electrical disturbances.

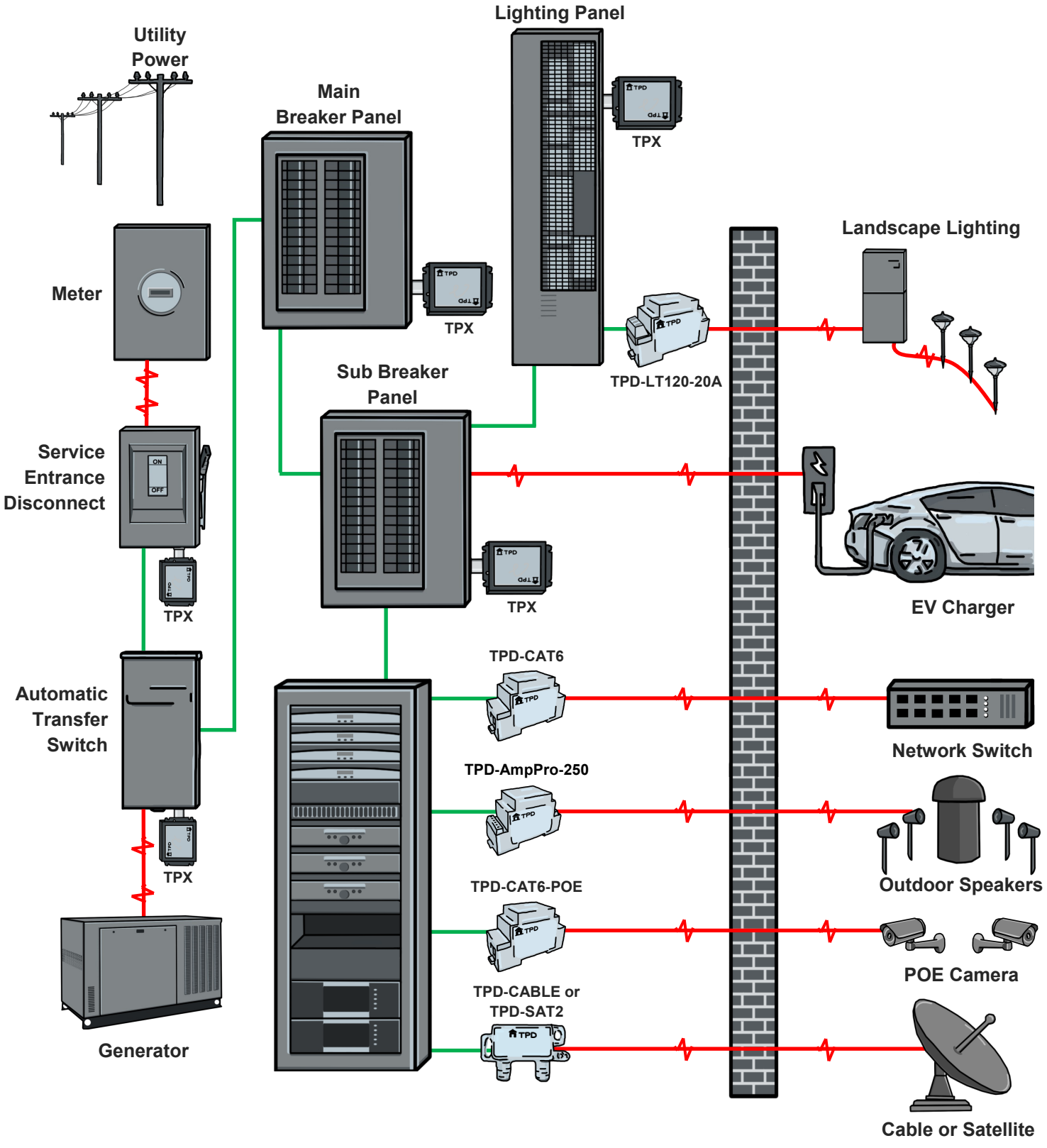
Advanced Protection: TPD Voltage Regulation

The next level addresses voltage fluctuations, such as sags, swells and brownouts, by implementing voltage regulation solutions to protect sensitive electronics and maintain constant voltage.

Power Outage Protection: Backup Solutions

Backup power solutions like generators, battery storage or UPS systems are essential for maintaining power during extended outages, ensuring continued operation.

Surge Protect Sample Home

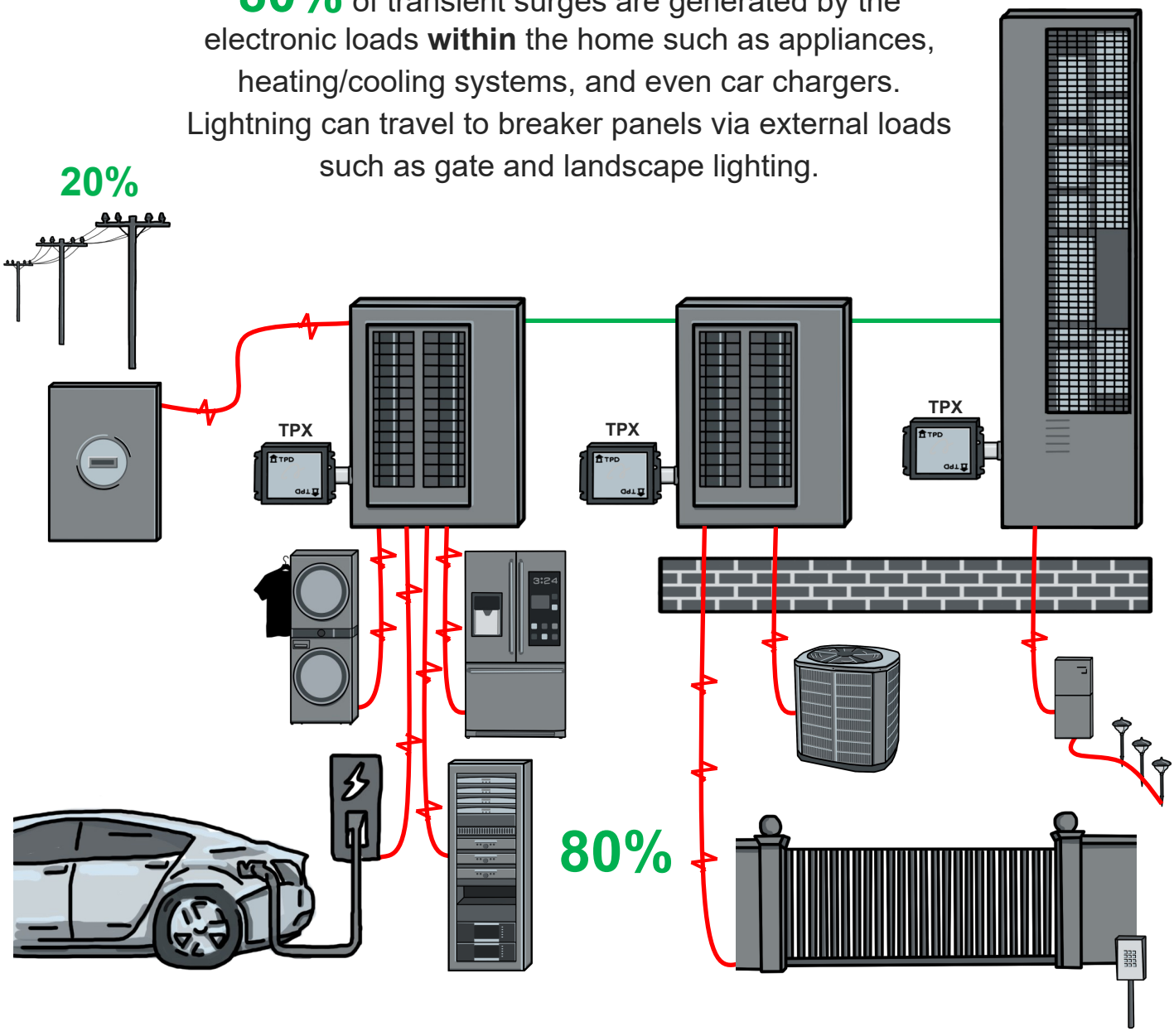


Surge Protect All Power Panels

Surge protect all power panels and lighting panels from externally and internally generated surges.

20% of damaging surges come from the utility.

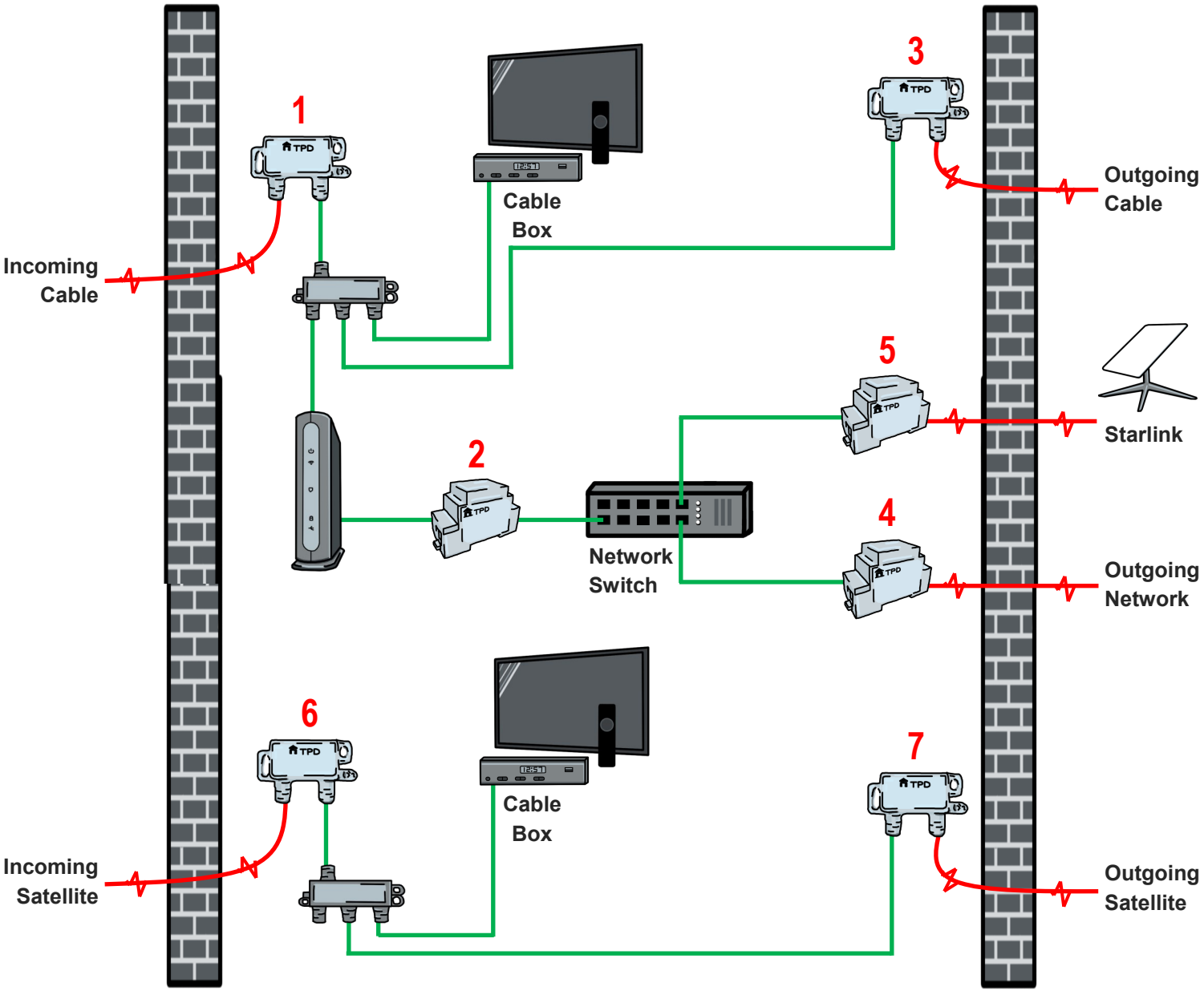
80% of transient surges are generated by the electronic loads **within** the home such as appliances, heating/cooling systems, and even car chargers. Lightning can travel to breaker panels via external loads such as gate and landscape lighting.



Surge Protect Cable, Satellite, and Starlink

Surge Protect:

1. Incoming Cable **TPD-CABLE**
2. After Cable Modem **TPD-CAT6**
3. Outgoing Cable **TPD-CABLE**
4. Outgoing Network **TPD-CAT6**
5. Incoming Starlink **TPD-CAT6-POE**
6. Incoming Satellite **TPD-SAT2**
7. Outgoing Satellite **TPD-SAT2**



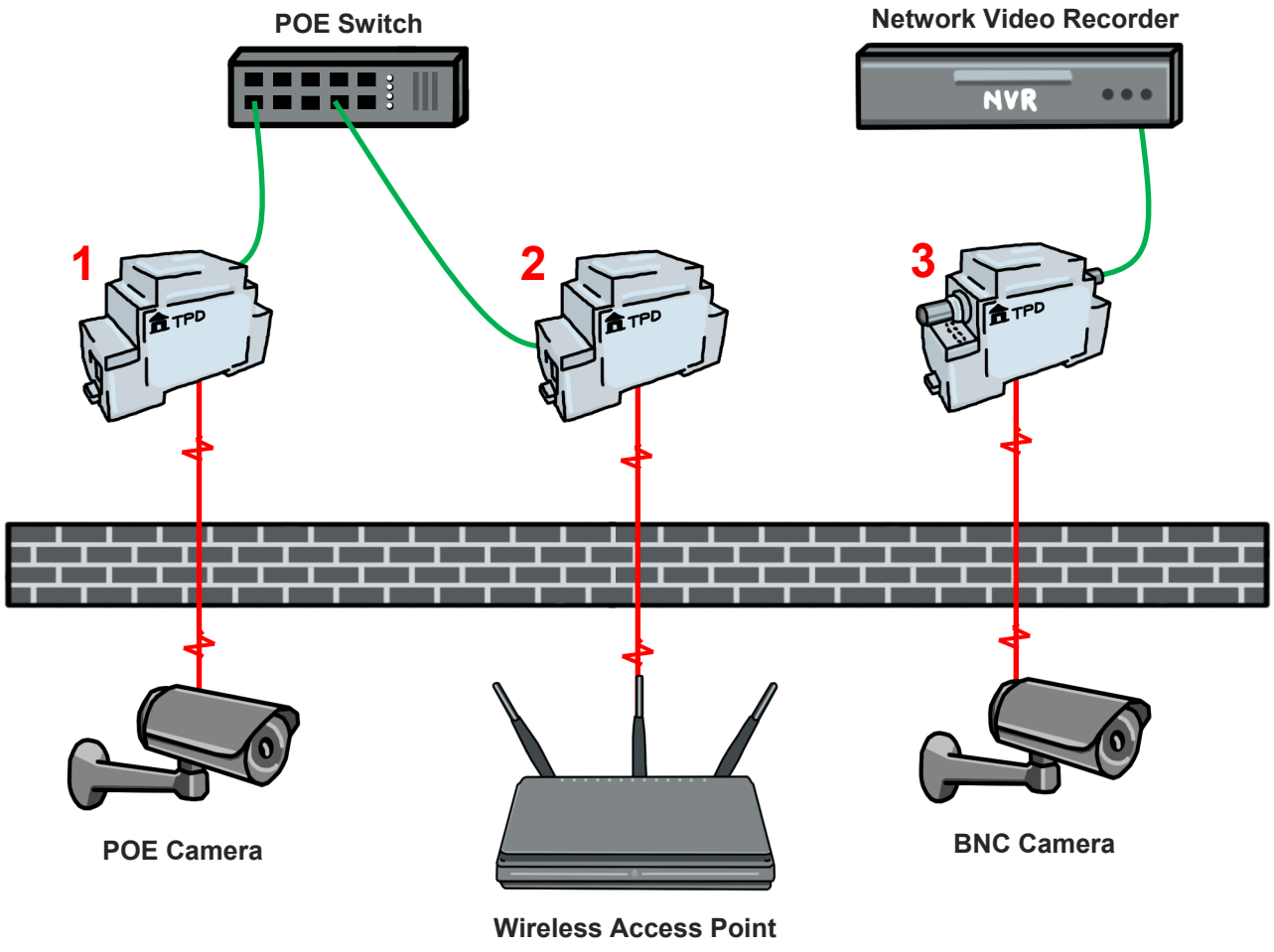
Surge Protect Outdoor Cameras and Wireless Access Points

Surge Protect:

1. Outdoor POE Cameras **TPD-CAT6-POE**

2. Wireless Access Points **TPD-CAT6-POE**

3. Outdoor Cameras with BNC Connections **TPD-CAM-BNC**



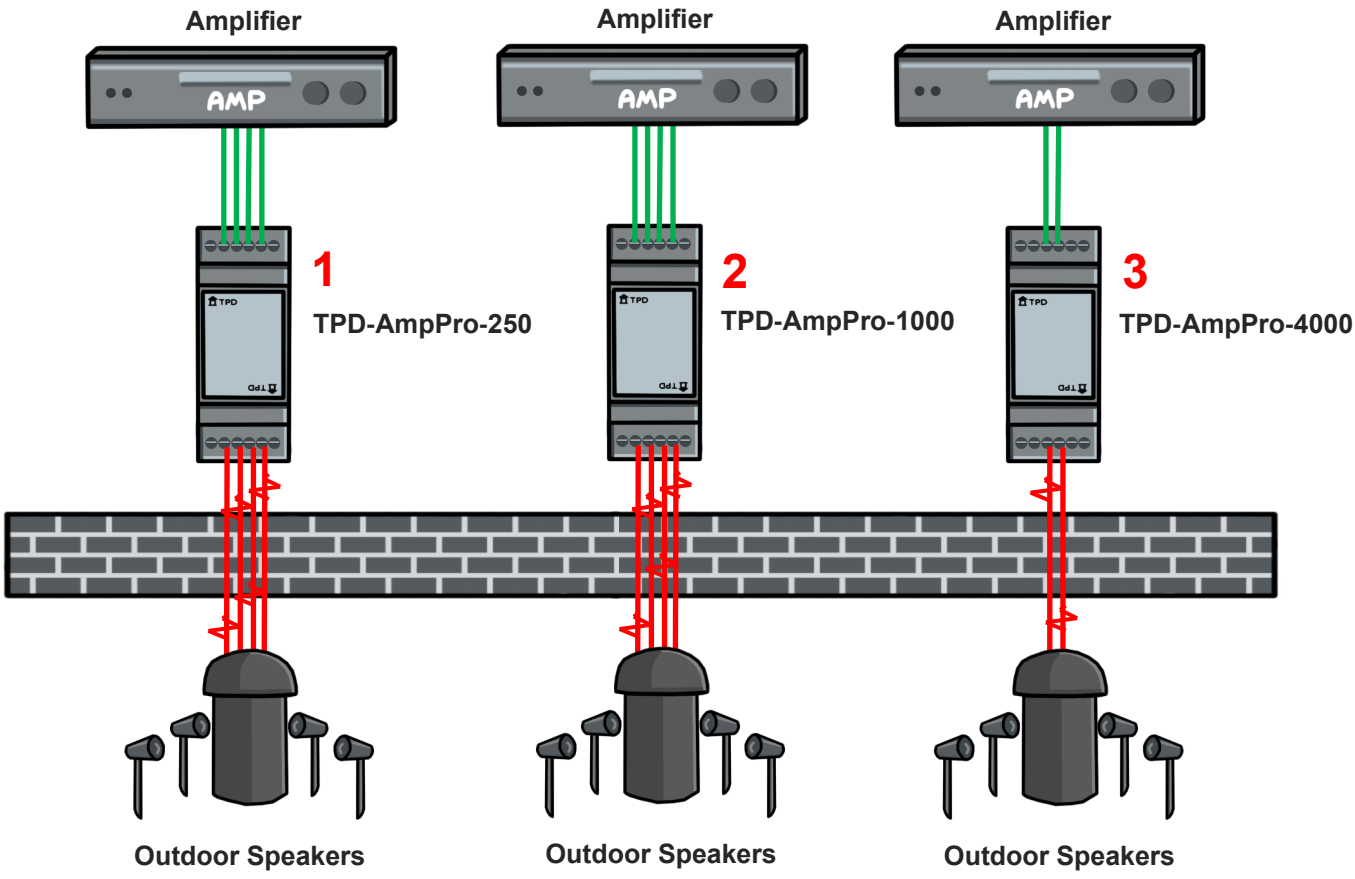
Note: For analog cameras with F connections use **TPD-CAM-BNC-F**

For additional notes on grounding the surge protection, see installations instructions. Whenever possible, isolate outdoor equipment from metal/current carrying objects.

Surge Protect Outdoor Speaker Pathways

Surge Protect:

1. Outdoor Speakers 250 Watt **TPD-AmpPro-250**
2. Outdoor Speakers 1000 Watt **TPD-AmpPro-1000**
3. Outdoor Speakers 4000 Watt **TPD-AmpPro-4000**

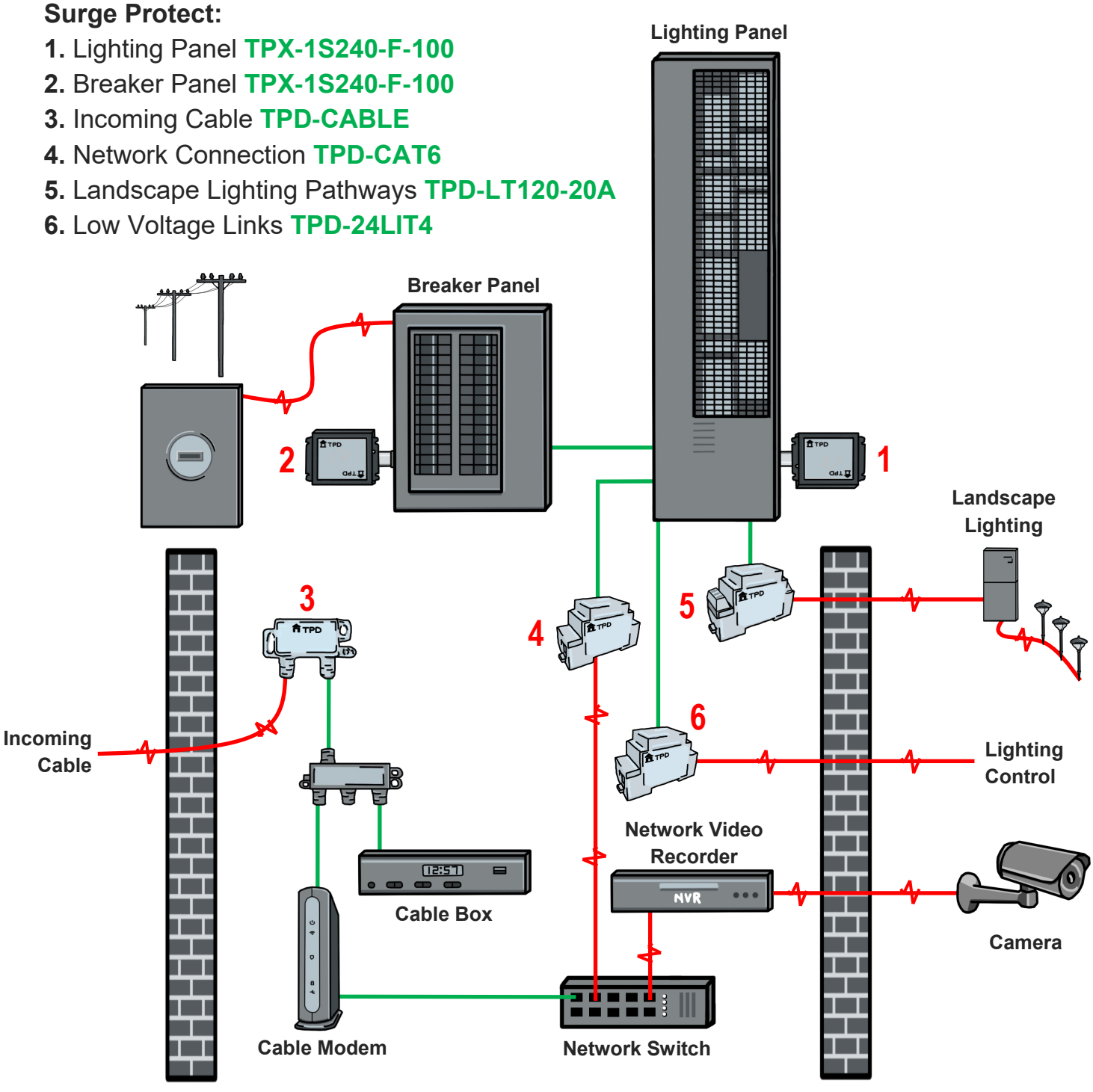


For additional notes on grounding surge protection, see installation instructions.
Whenever possible, isolate outdoor equipment from metal/current carrying objects.

Surge Protect Lighting Systems

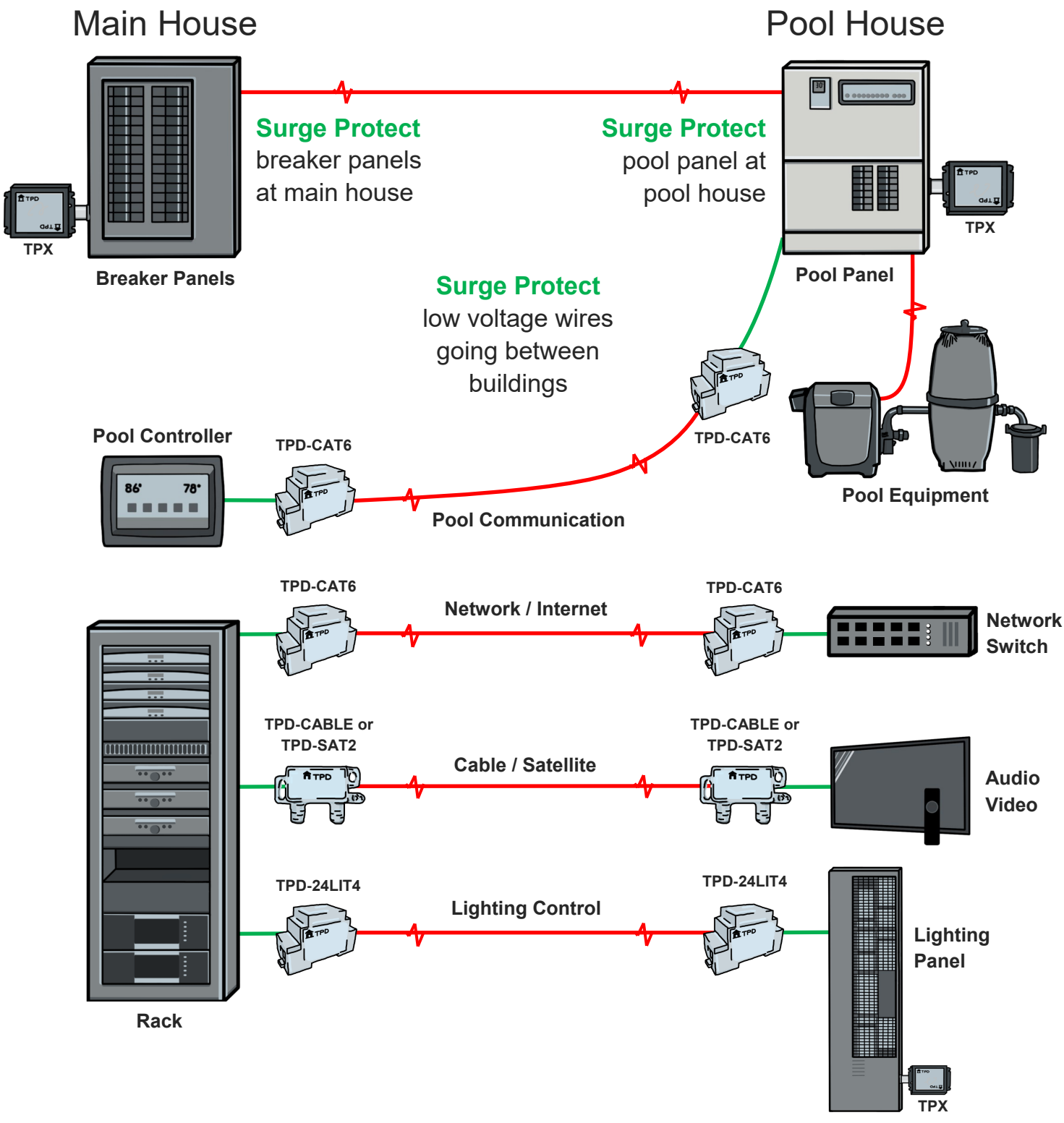
Surge Protect:

1. Lighting Panel **TPX-1S240-F-100**
2. Breaker Panel **TPX-1S240-F-100**
3. Incoming Cable **TPD-CABLE**
4. Network Connection **TPD-CAT6**
5. Landscape Lighting Pathways **TPD-LT120-20A**
6. Low Voltage Links **TPD-24LIT4**



Note: Do not depend on other trades to protect your lighting system! Protection for your lighting systems starts at the lighting system.

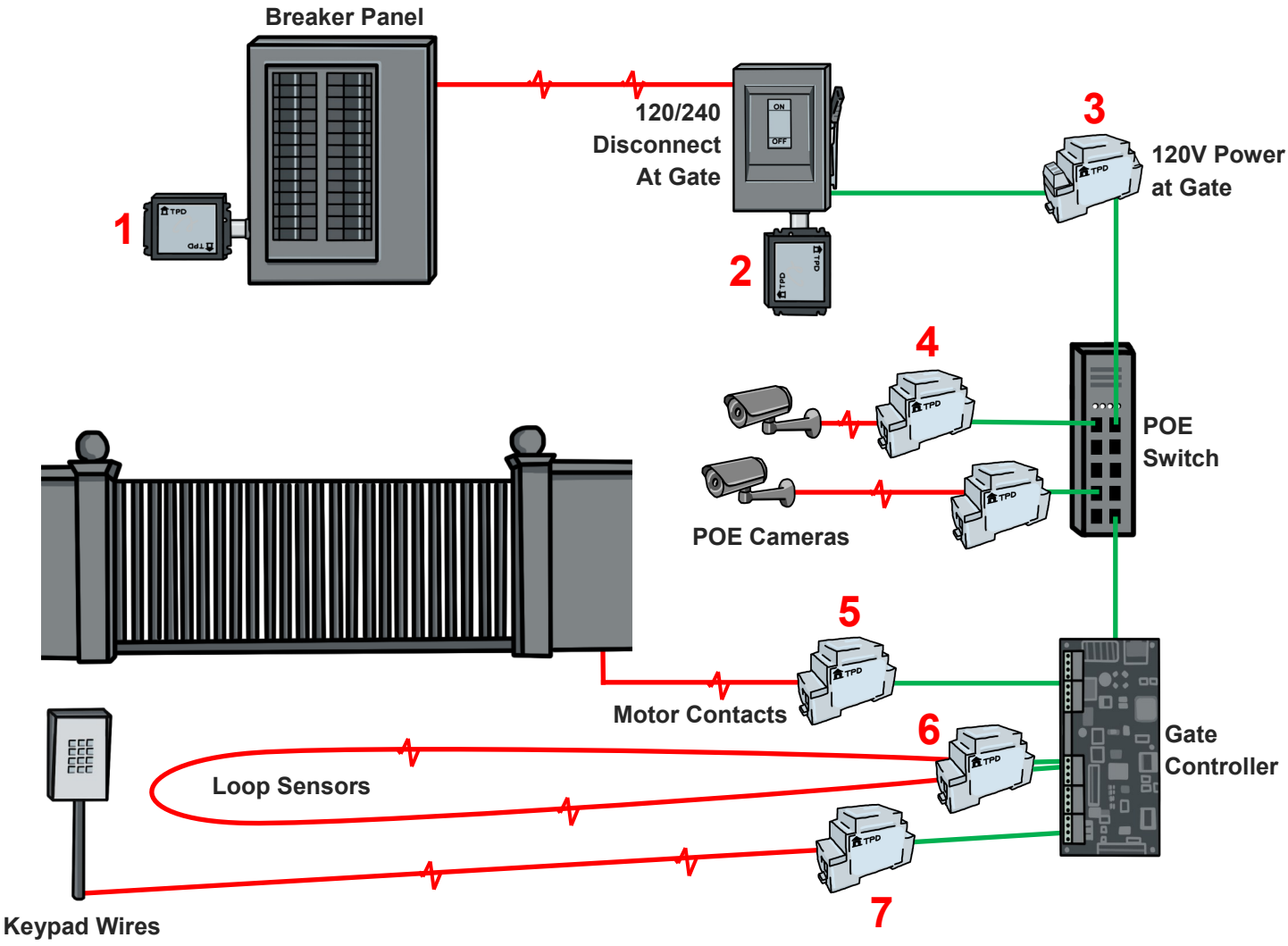
Surge Protect Pool House Equipment



Surge Protect Gate Electronics

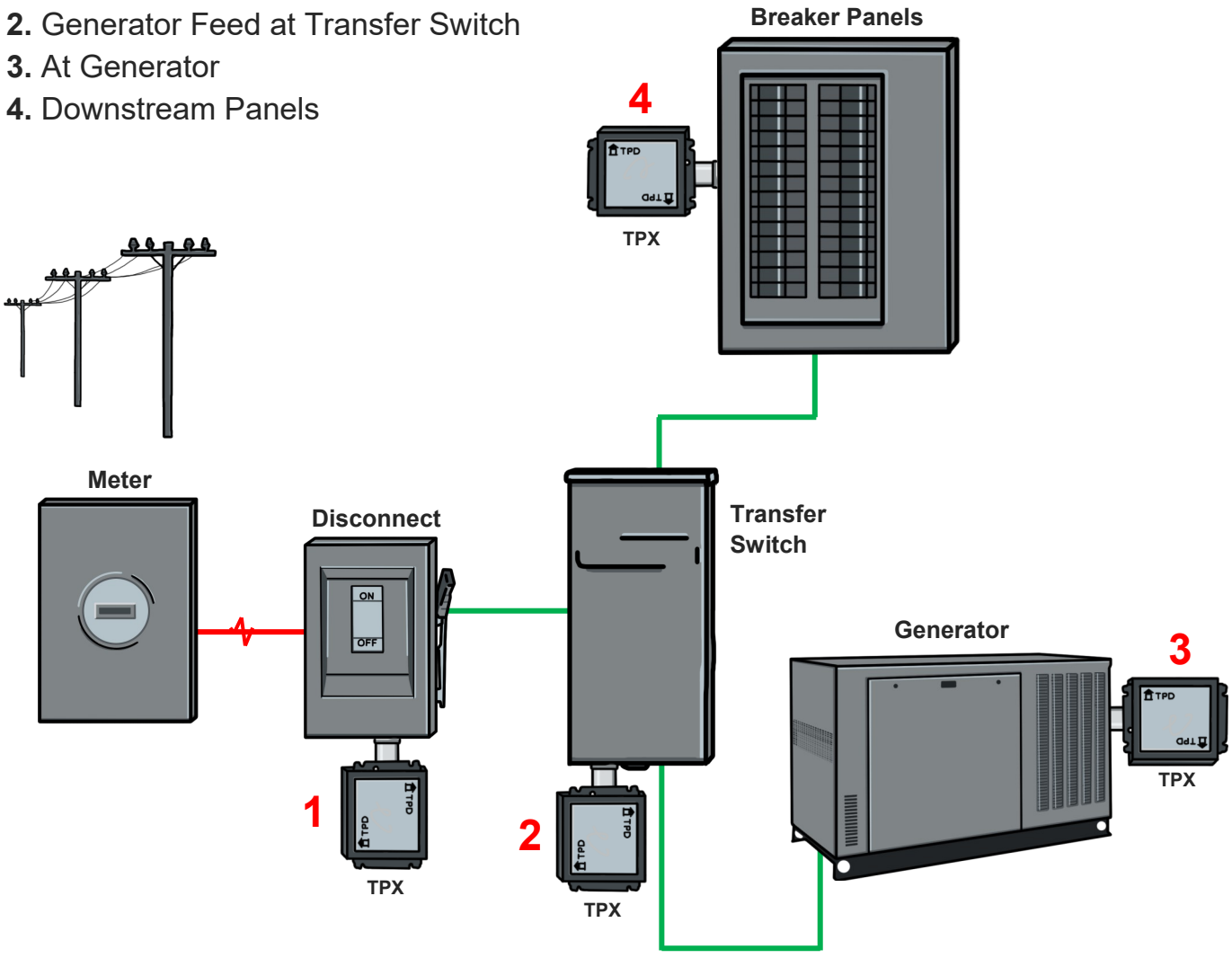
Surge Protect:

1. Breaker Panel **TPX-1S240-F-100**
2. Disconnect At Gate **TPX-1S240-F-100**
3. 120V Power At Gate **TPD-LT120-20A**
4. Outdoor POE Cameras **TPD-10SLP6**
5. Motor Contacts **TPD-10SLP6**
6. Loop Sensors **TPD-10SLP6**
7. Keypad Wires **TPD-10SLP6**



Use the TPX Series to Surge Protect:

1. Service Entrance Disconnect
2. Generator Feed at Transfer Switch
3. At Generator
4. Downstream Panels

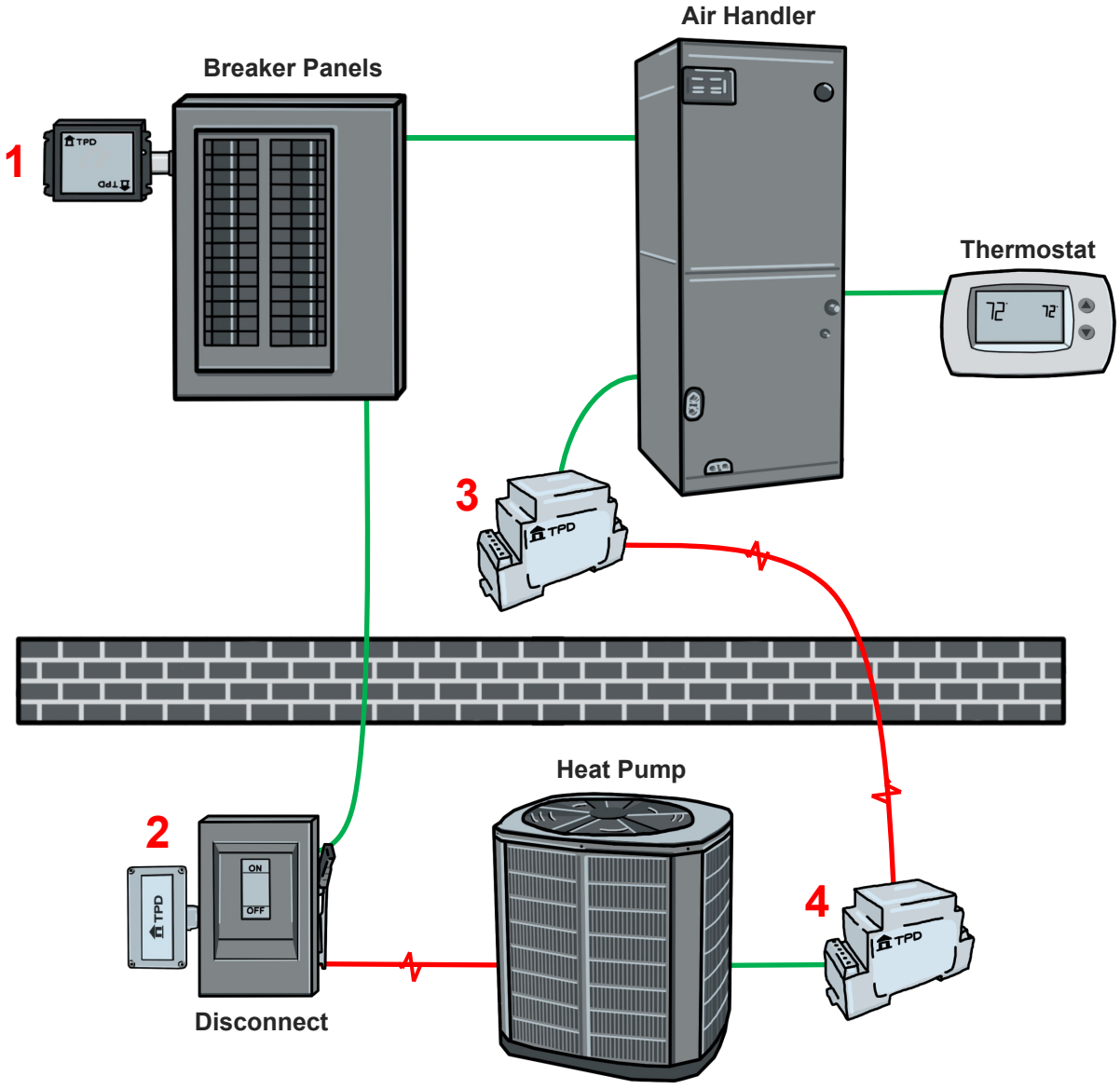


Note: Additional surge protection can be placed on the output of the transfer switch. This is done when the transfer switch is placed outside and is at risk of surges from lightning.

Surge Protect HVAC Systems

Surge Protect:

1. Breaker Panels Powering HVAC Equipment **TPX-1S240-F-100**
2. Disconnect Powering Outside Heat Pump **TPX-1S240-CN**
3. Low Voltage Communication at Air Handler **TPD-24SLP6**
4. Low Voltage Communication at Heat Pump **TPD-24SLP6**

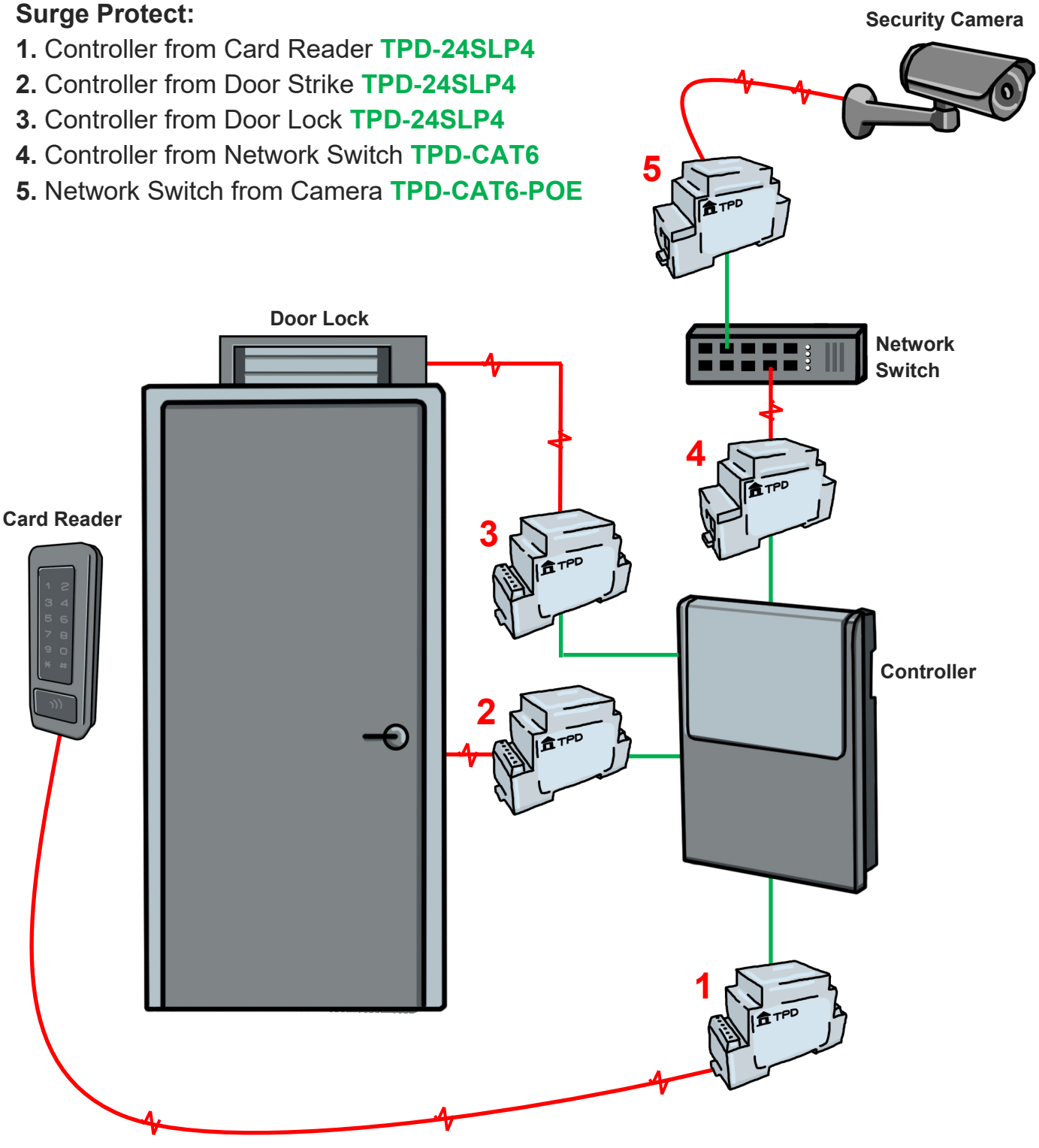


Note: Surge protect low voltage communication coming from outdoor heat pump at or before the air handler. This will protect thermostat and home automation systems from surge traveling in on low voltage lines.

Surge Protect Access Control Systems

Surge Protect:

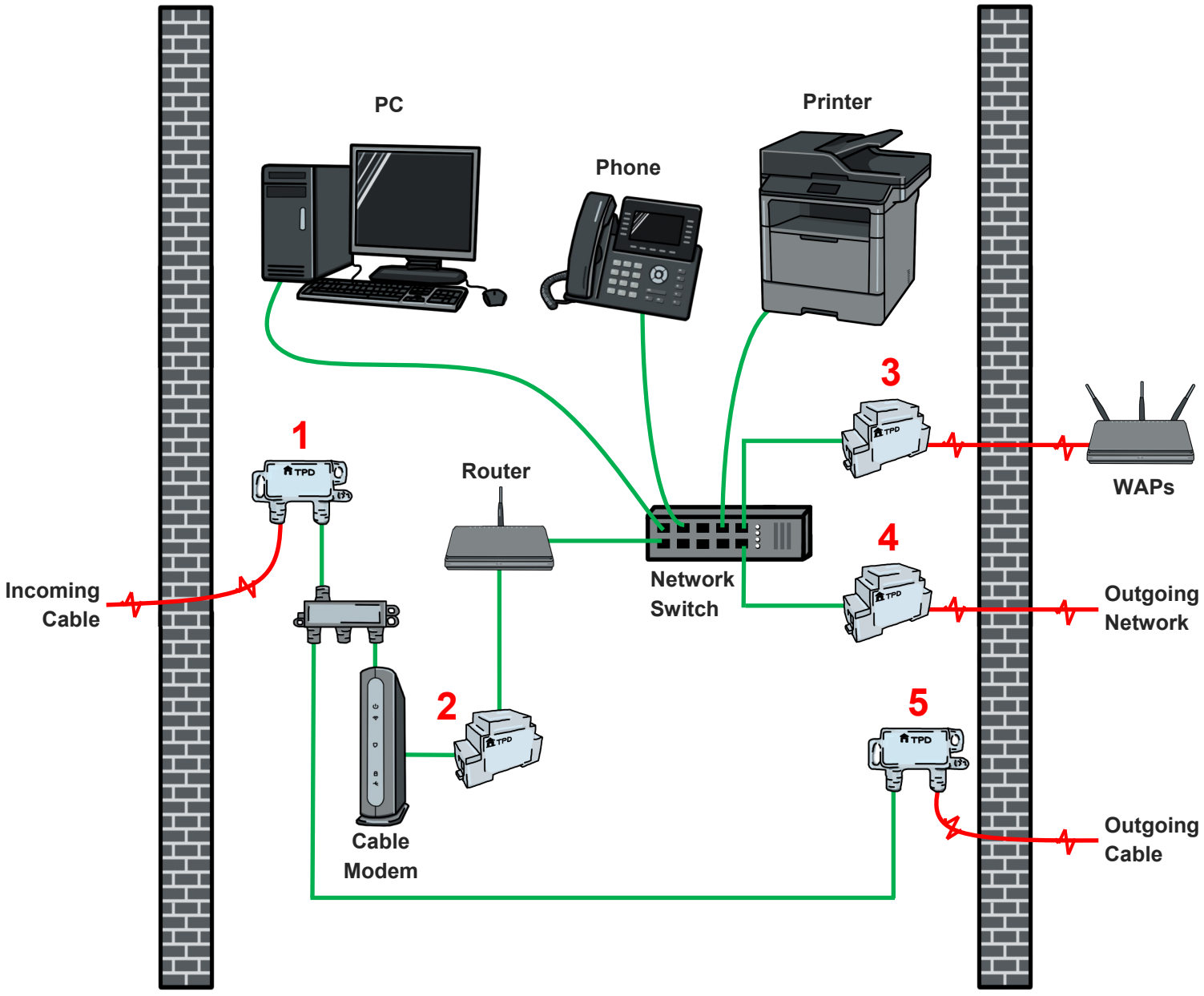
1. Controller from Card Reader **TPD-24SLP4**
2. Controller from Door Strike **TPD-24SLP4**
3. Controller from Door Lock **TPD-24SLP4**
4. Controller from Network Switch **TPD-CAT6**
5. Network Switch from Camera **TPD-CAT6-POE**



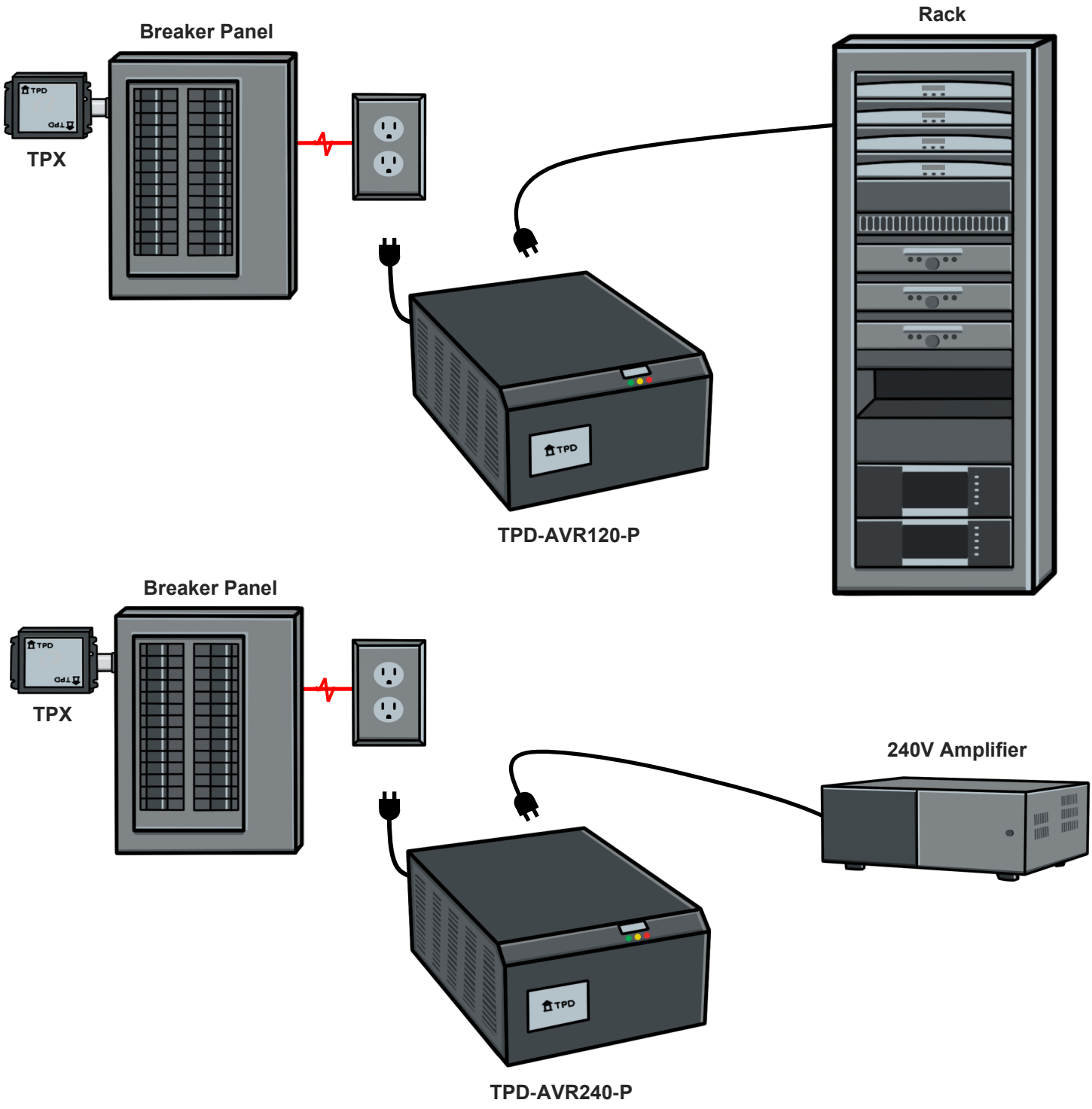
Surge Protect Modems, Routers, and Switches

Surge Protect:

1. Incoming Cable **TPD-CABLE**
2. After Cable Modem **TPD-CAT6**
3. Outgoing WAP **TPD-CAT6-POE**
4. Outgoing Network **TPD-CAT6**
5. Outgoing Cable **TPD-CABLE**

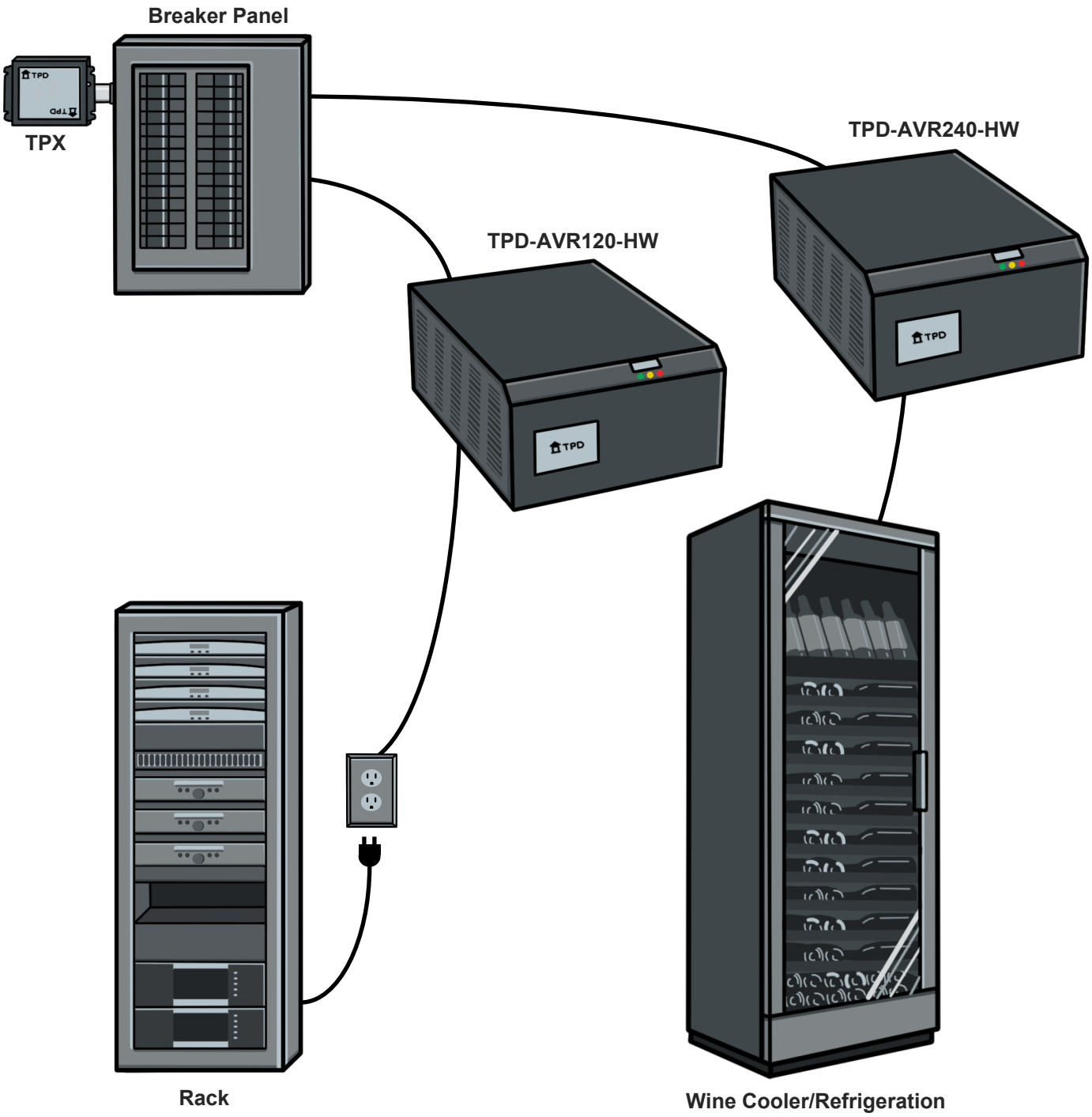


Plug In Voltage Regulation



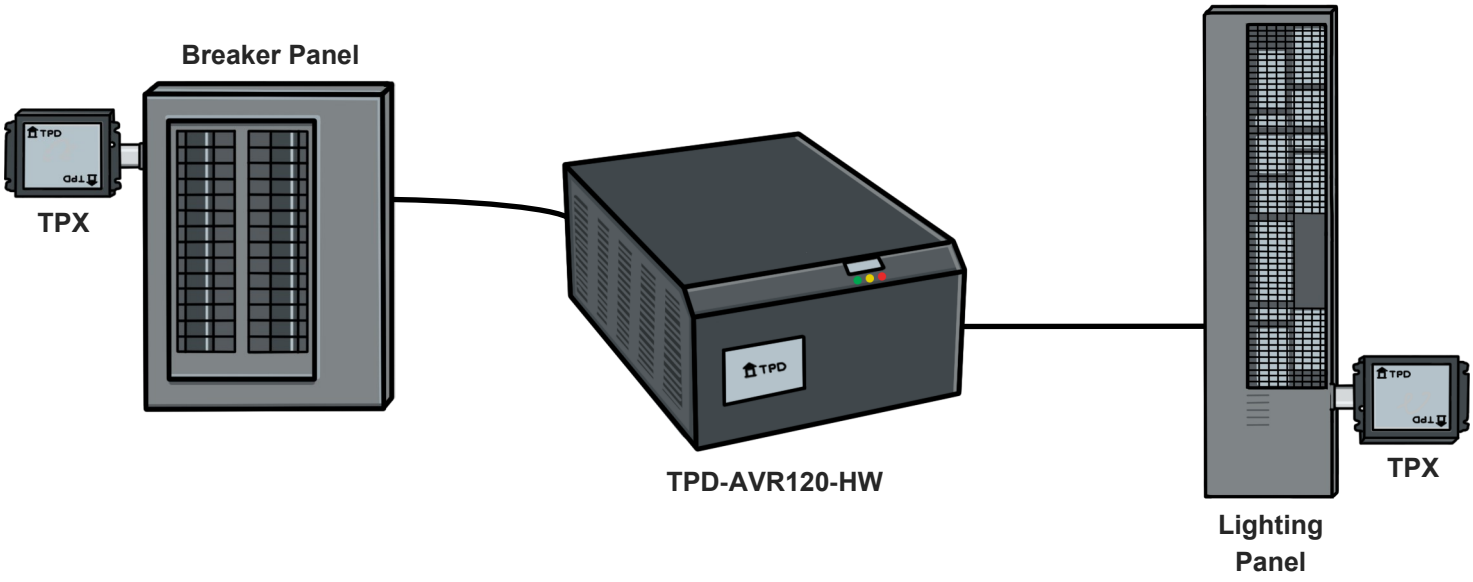
Note: The TPD-AVR series is available in multiple configurations up to 200 Amps!

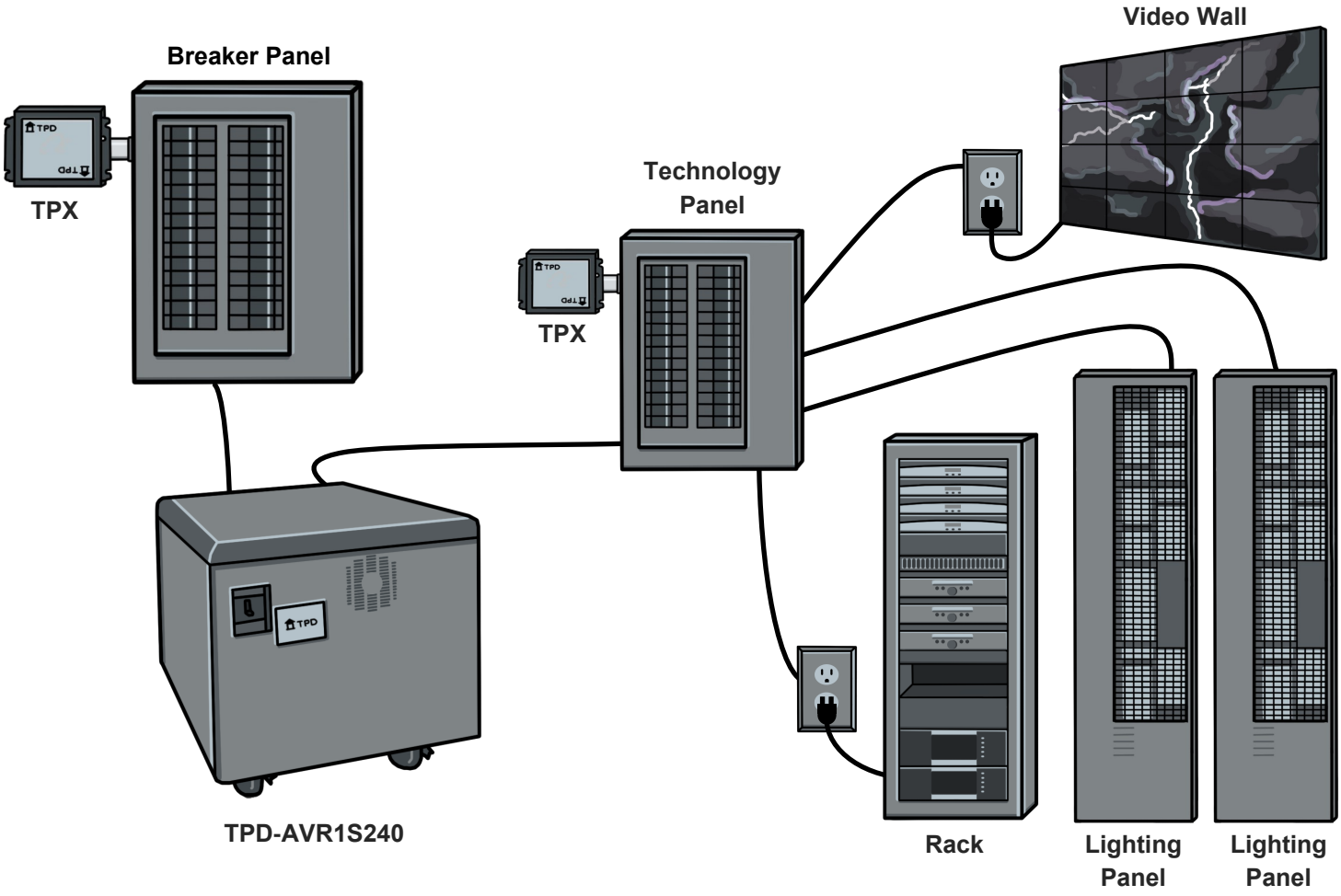
Hardwired Voltage Regulation



Note: The TPD-AVR series is available in multiple configurations up to 200 Amps!

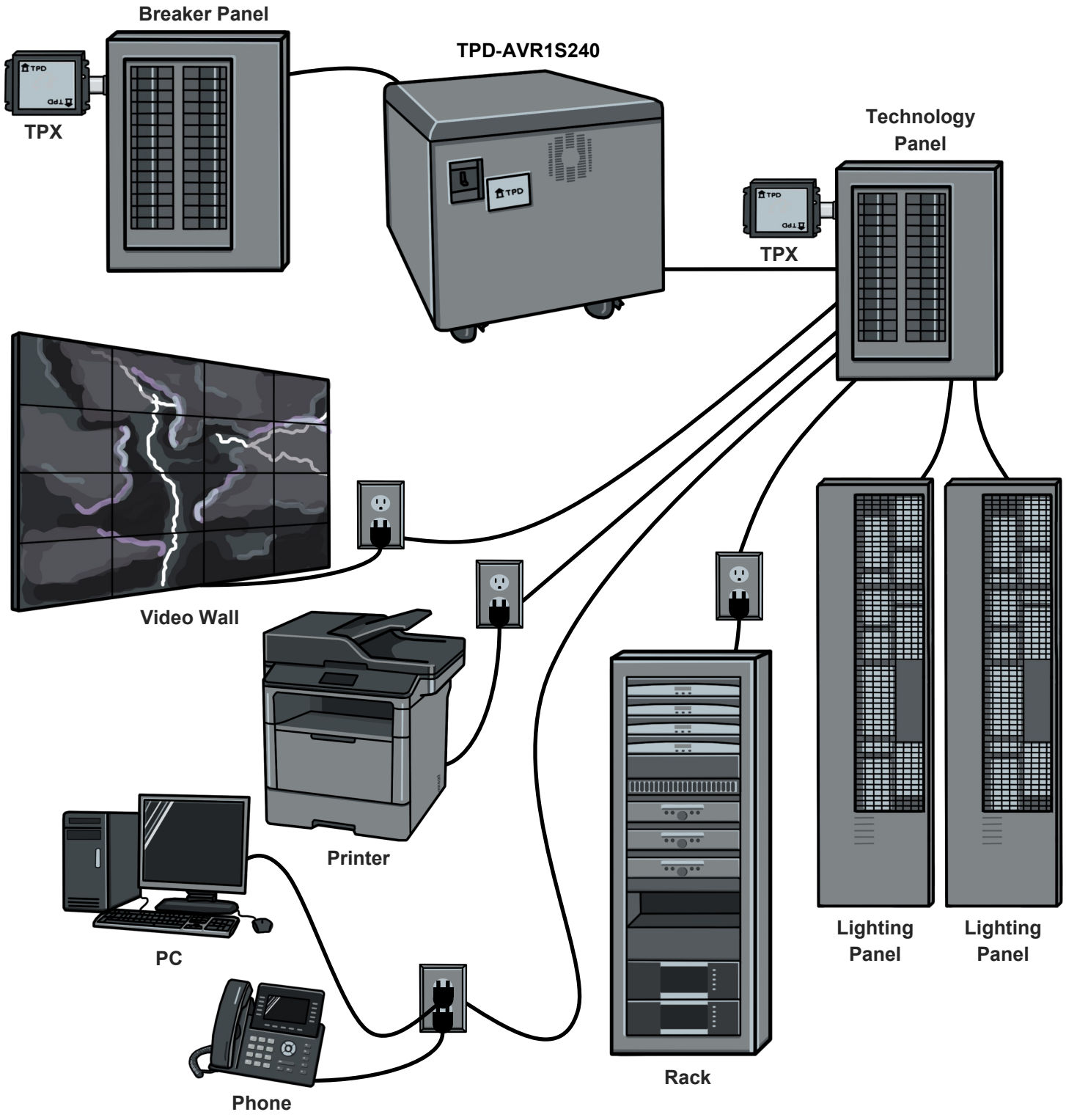
Individual Equipment and Panel Voltage Regulation





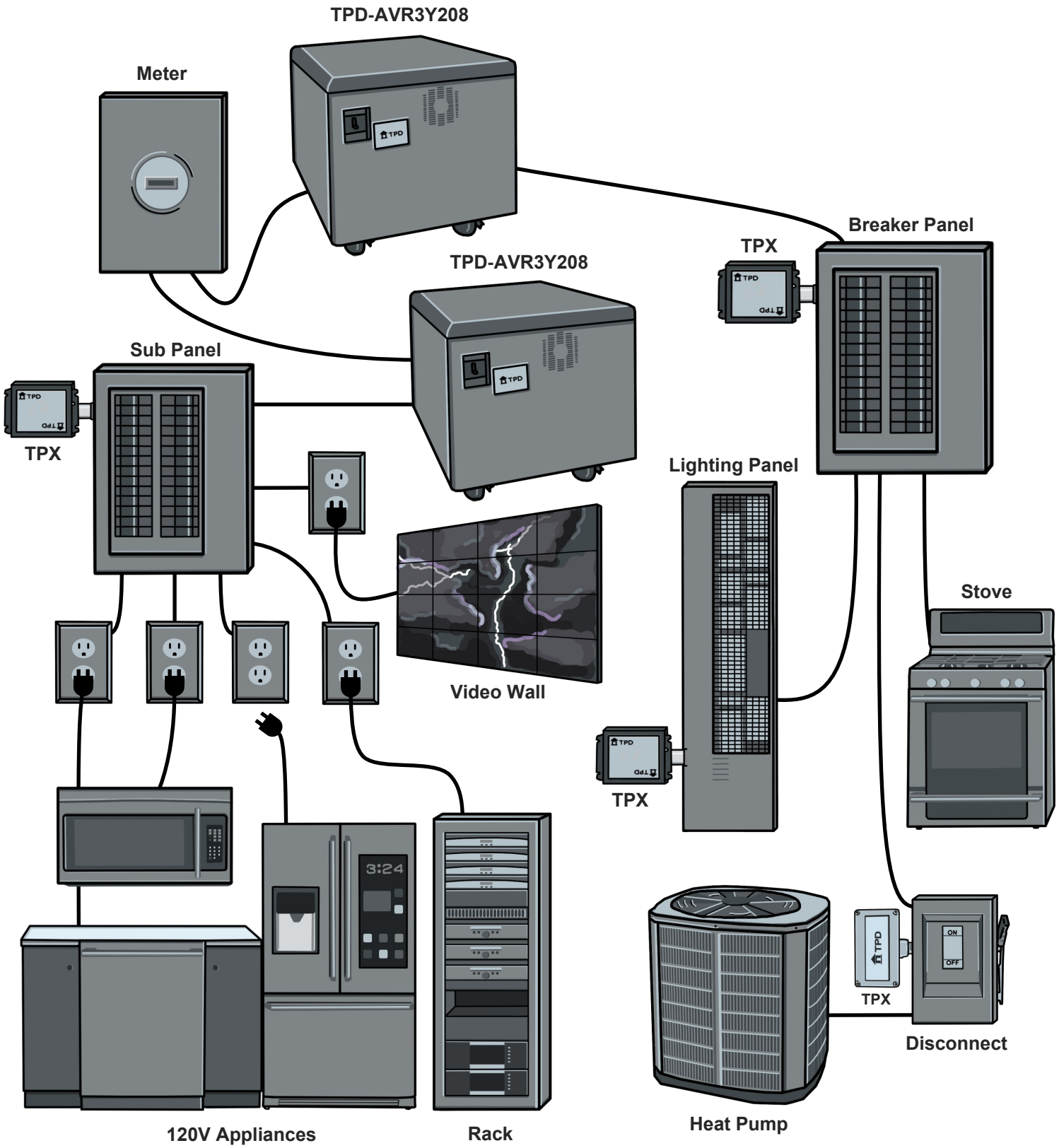
Note: The TPD-AVR series is available in multiple configurations up to 200 Amps!

120/240V Voltage Regulation



Note: The TPD-AVR series is available in multiple configurations up to 200 Amps!

Whole Home Voltage Regulation



Note: Use as many AVRs as needed for larger projects.

TPD STARTING LINEUP

Breaker Panels
TK-TTLP-1S240-FL

Lighting Panels
TPX-1S240-F-100

Generator & ATS
TPX-1S240-F

Disconnects
TPX-1S240-CN

Landscape Lighting
TPD-LT120-20A

Cable TV/Internet
TPD-CABLE

Satellite Cable
TPD-SAT2

Network
TPD-CAT6

Outdoor POE Cameras
TPD-CAT6-POE

Outdoor Speakers
TPD-AmpPro

THE RESERVES

Starlink
TPD-CAT6-POE

Lighting Controls
TPD-24LIT4

Pool Controls
TPD-24SLP4

Gate Motor Contacts
TPD-10SLP6

Gate Loop Sensors
TPD-10SLP6

Gate Keypad Wires
TPD-10SLP6

Thermostat Wires
TPD-24SLP6

Outdoor BNC Cameras
TPD-CAM-BNC

TPD

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