

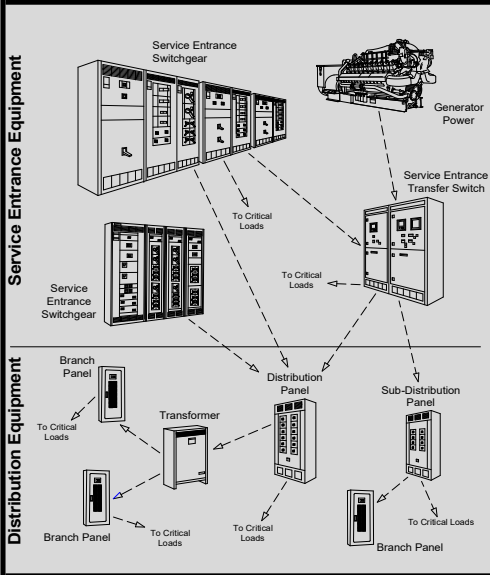


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SITE RISK ASSESSMENT

Proj Name Yard House
Proj Location Bakersfield, CA 93311
Company Nomad Group, LLC
Contact Bill Burnett
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Prepared by Tom Phipps
Date 9/21/2021



Determine Surge Protective Device (SPD) placement within facility. Complete Criteria Selections 1-7 below for each facility location (seven locations can be assessed on form). Total the value (refer to **Table A** for recommended SPD series/size). See **Example Application** below.

| Assessment Criteria Selection | | | | Location(s) | | | | | | | Example Application | |
|--|----|----|----|-------------|---|---|---|--|--|--|---------------------|--------------------------------------|
| 1. Electrical System Ampacity (at installation point) | A | B | C | D | E | F | G | | | | | |
| 9 (2500-6000A) 7 (1200-2000A) 4 (600-1000A) 3 (225-400A) 2 (125-200A) 1 (Up to 100A) | 4 | 4 | 1 | | | | | | | | 9 | 4,000A Switchgear |
| 2. Geographical Location (see Maps below) | | | | | | | | | | | | |
| Isokeraunic Map (Thunderstorm Days/Year): 4 (80-100) 3 (60-70) 2 (40-50) 1 (5-30) | 1 | 1 | 1 | | | | | | | | 3 | Dallas, TX 60 Storm Days |
| Mean Ground Flash Map (Mean Ground Flashes/Yr): 4 (13-16) 3 (9-12) 2 (5-8) 1 (1-4) | 1 | 1 | 1 | | | | | | | | 2 | 8 Flashes |
| 3. System (AC) Voltage | | | | | | | | | | | | |
| 4 (600V) 3 (480V) 2 (240 or 208V) 1 (120V) | 3 | 2 | 2 | | | | | | | | 3 | 480V |
| 4. Distribution System Configuration | | | | | | | | | | | | |
| 3 (3Ø Wye 4W+G) 2 (3Ø Delta 3W+G) 1 (2Ø 3W+G) | 3 | 3 | 3 | | | | | | | | 3 | 3Ø WYE, 4W+G |
| 5. Short Circuit Current (at installation point) | | | | | | | | | | | | |
| 6 (101-200kA) 5 (51-100kA) 3 (26-50kA) 2 (15-25kA) 1 (5-14kA) | 2 | 1 | 1 | | | | | | | | 5 | 72kAIC |
| 6. SPD Location (within electrical system) | | | | | | | | | | | | |
| 8 (Svc Entrance w/Transfer Switch; power from utility) 7 (Svc Entrance w/o Transfer Switch; power from utility) 3 (Dist Panel ≥1000A; power from switchgear) 2 (Sub-dist Panel ≤1000A; power from panel; no Xfmr) 1 (Branch Panel ≤400A; power Xfmr) | 7 | 2 | 1 | | | | | | | | 8 | Svc Entrance w/Transfer Switch |
| 7. Load Criticality Range: 3 (least) to 10 (most) | 7 | 7 | 9 | | | | | | | | 10 | 7x24 Data Ctr |
| 8. Numerical Value Total (see Table A) | 28 | 21 | 19 | 0 | 0 | 0 | 0 | | | | 43 | 43 = Tsr300 |

| Model Number (See Table C) | | | | | | | | | | | Install Location - Description | Qty |
|----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|--------------------------------|-----|
| Key | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | | |
| Example | TSr | i | 300 | F | x | 3Y4 | P | 2 | 01 | BFI | 4000A, 480/277Vac | 1 |
| A | TSr | c | 200 | T | z | 3Y4 | P | 2 | 01 | BF | Panel MDP | 1 |
| B | TSn | c | 150 | W | z | 3Y2 | P | 2 | 01 | | Panel DP | 1 |
| C | TSn | c | 100 | W | z | 3Y2 | P | 1 | 01 | | Panel LP | 1 |
| D | | | | | | | | | | | | |
| E | | | | | | | | | | | | |
| F | | | | | | | | | | | | |
| G | | | | | | | | | | | | |

Table C MODEL NUMBER

Example Model #: **TSr300Fx 3Y4 P201 BFI**

| Key | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| (1) Thor Series | TSr | i | 300 | F | x | 3Y4 | P | 2 | 01 | BFI |
| TSr Modular | | | | | | | | | | |
| TSn Non-Modular | | | | | | | | | | |
| (2) Type * | | | | | | | | | | |
| i Industrial (w/ SADs) | | | | | | | | | | |
| c Commercial (w/o SADs) | | | | | | | | | | |
| * NOTE: | | | | | | | | | | |
| If Assessment #7, Load Criticality, is 8 or higher, an Industrial Series is Recommended. | | | | | | | | | | |
| (3) Surge Current Rating | | | | | | | | | | |
| TSn or TSr | | | | | | | | | | |
| 050 (50kA/Mode) | | | | | | | | | | |
| 100 (100kA/Mode) | | | | | | | | | | |
| 150 (150kA/Mode) | | | | | | | | | | |
| 200 (200kA/Mode) | | | | | | | | | | |
| 250 (250kA/Mode) | | | | | | | | | | |
| 300 (300kA/Mode) | | | | | | | | | | |
| (4) Input Connection Type | | | | | | | | | | |
| D Dist. Block (Up to 1/0AWG) [TSr Only] | | | | | | | | | | |
| F Fused Disconnect (Up to #6AWG [TSr Only]) | | | | | | | | | | |
| T Terminal Block (Up to #4AWG) [TSr Only] | | | | | | | | | | |
| W Pre-Wired with #10AWG Wire [TSn Only] | | | | | | | | | | |
| (5) SAD Type | | | | | | | | | | |
| s 1.5kW Series | | | | | | | | | | |
| x 15kW Series | | | | | | | | | | |
| z No SAD's | | | | | | | | | | |
| (6) Voltage Configuration | | | | | | | | | | |
| 2S1 (240/120V Single Phase, 3W+G) | | | | | | | | | | |
| 2S2 (240V Single Phase, 2W+G) | | | | | | | | | | |
| 2S4 (480V Single Phase, 2W+G) | | | | | | | | | | |
| 3Y2 (208/120V Three Phase, 4W+G) | | | | | | | | | | |
| 3Y4 (480/277V Three Phase, 4W+G) | | | | | | | | | | |
| 3D2 (240V 3-Phase Delta, 3W+G) | | | | | | | | | | |
| 3D4 (480V 3-Phase Delta, 3W+G) | | | | | | | | | | |
| 3H1 (240V Hi-Leg Delta, 4W+G) | | | | | | | | | | |
| * 3R2 (208/120V H-Resis Gnd, 3W+G) | | | | | | | | | | |
| * 3R4 (480/277V H-Resis Gnd, 3W+G) | | | | | | | | | | |
| *SPD Built as Delta Configured - Neutral Conductor is not Connected | | | | | | | | | | |

| | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|
| (9) Options | | | | | | | | | | |
| 00 No Options | | | | | | | | | | |
| 01 Form C | | | | | | | | | | |
| 02 Extended EMI/RFI Filter | | | | | | | | | | |
| 03 Phase Loss Contact | | | | | | | | | | |
| 04 Multi-Function Relay | | | | | | | | | | |
| 05 Combo of 01 & 02 | | | | | | | | | | |
| 06 Combo of 01 & 03 | | | | | | | | | | |
| 07 Combo of 01 & 04 | | | | | | | | | | |
| 08 Combo of 02 & 03 | | | | | | | | | | |
| 09 Combo of 03 & 04 | | | | | | | | | | |
| 10 Combo of 01, 02 & 03 | | | | | | | | | | |
| 11 Combo of 01, 03 & 04 | | | | | | | | | | |
| (8) Monitor Type | | | | | | | | | | |
| 1 Status Lights Only | | | | | | | | | | |
| 2 Status Lights, Surge Counter & Audible Alarm | | | | | | | | | | |
| 3 Status Lights & Audible | | | | | | | | | | |
| (7) Enclosure Type | | | | | | | | | | |
| P Fiberglass, NEMA 4X [TSr Only] | | | | | | | | | | |
| S Polyarbonate [TSn Only] | | | | | | | | | | |
| S Stainless Steel [TSr Only] | | | | | | | | | | |

| Table A | Recommended kA per Mode | | |
|---------|-------------------------------|----------------|----------------|
| | Numeric Total | Rating kA/Mode | Product Series |
| | 42 - 48 | 300kA | TSr300 |
| | 35 - 41 | 250kA | TSr250 |
| | 28 - 34 | 200kA | TSr200 |
| | 21 - 27 | 150kA | TSr/TSn150 |
| | 16 - 20 | 100kA | TSr/TSn100 |
| | 11 - 15 | 50kA | TSr/TSn050 |
| Table B | OCPS Size per Thor SPD Series | | |
| | Series TSr - 60A OCPD | | |
| | Series TSn - 30A OCPD | | |
| Table D | Ground Improvement Req'd? | | |
| | < 5 Ohms | Best | No |
| | 5-10 Ohms | Typical | No |
| | > 10 Ohms | High | Yes |

