NEC Code for Solar Installation: Cheat Sheet

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1. Which article covers what

Article	Covers
690	Solar PV systems: voltage, current, disconnects, rapid shutdown, marking
691	Large-scale PV supply stations (5 MW and larger)
705	Interconnected sources: point of connection, 120% rule
706	Energy storage systems
710	Stand-alone systems
250	Grounding and bonding

2. Key calculations

• Maximum voltage (690.7): sum of module open-circuit voltages, corrected for the lowest expected temperature.
• Circuit current (690.8): short-circuit current x 125% x 125% (156%) before sizing conductors and overcurrent devices.
• 120% rule (705.12): main breaker + solar breaker <= 120% of busbar rating. Example: 200 A bus, 200 A main: 240 - 200 = 40 A maximum solar breaker.
• Rapid shutdown (690.12): within 30 s, 30 V or less outside the array boundary and 80 V or less inside, for PV on or in buildings.

3. Labels: 2020 vs 2023

Label	2020	2023
Rapid shutdown building label	690.56(C)	690.12(D)
Rapid shutdown switch	690.56(C)(2)	690.12(D)(2)
Maximum DC voltage	690.53	690.7(D)
Backfed breaker warning	705.12(B)(3)(2)	705.12(B)(2)
Power source identification	705.10 and 690.56	705.10

4. Editions

• No 2021 or 2022 NEC. Editions: 2017, 2020, 2023, 2026 (NFPA 70-2026 effective 9 September 2025).
• 2026 highlights: new rounding rule 690.4(G); engineered PV calculations for any system size; PV disconnects refer to 705.20; supply-side length limit back in 705.11(C)(1); Article 220 renumbered as Article 120.
• Texas: 2023 NEC is the state minimum since 1 September 2023. Cities may add local amendments and permits; utilities set interconnection rules.

5. Fences

The NEC has no general fence rule for residential arrays. Article 691 (5 MW and larger) limits access to authorized personnel and requires fence bonding details in the documentation (691.4, 691.11). Over 1,000 V, see 250.194.

Educational summary, not the NEC text. Verify against the edition and local amendments your inspector enforces. Read the NEC free on NFPA's website. *© Azad Circuit Hub.*