

UL 1741 CRD Multimode & New Smart Inverter Settings for $\leq 50\text{kW}$

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What is CRD Multimode?



CRD stands for Certification Requirements Decision and is part of UL 1741



Applicable to DER systems that operate as grid following and grid forming



The standard tests applicable inverters and their corresponding Microgrid Interconnection Device (MID) to confirm proper operation (i.e. isolating from and reconnecting to the grid)

Inverter Types

Stand Alone

- Grid forming
- Generate power while not connected to the grid

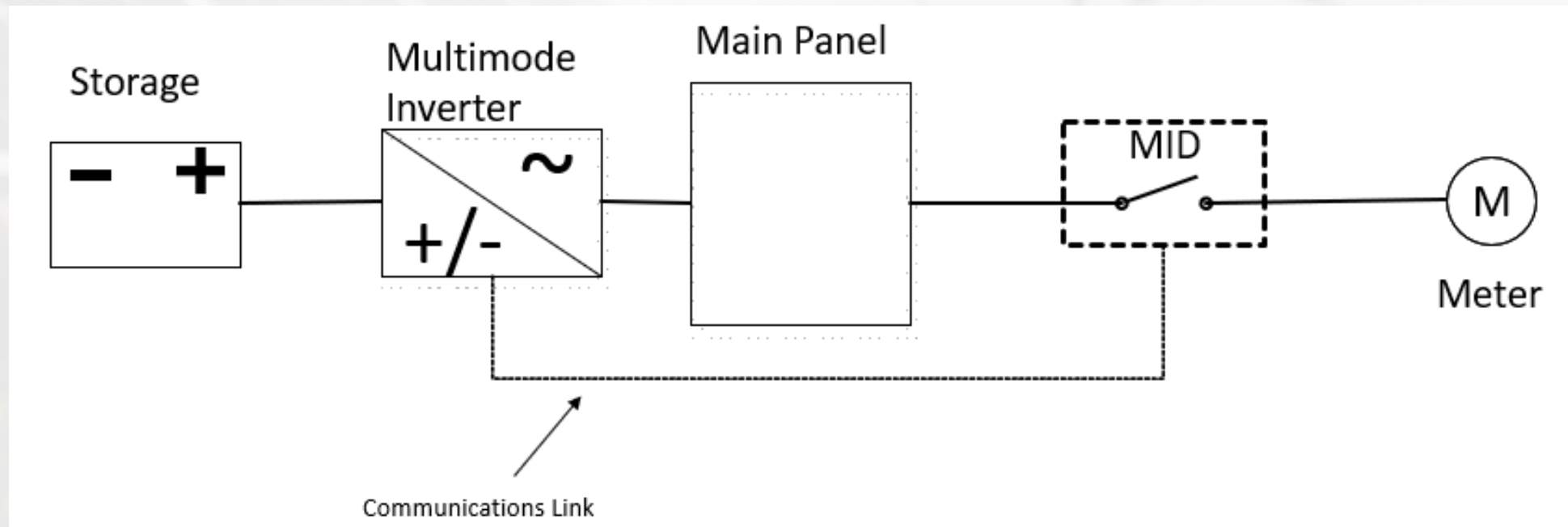
Utility Interactive

- Grid following
- Generate power while connected in parallel to the grid

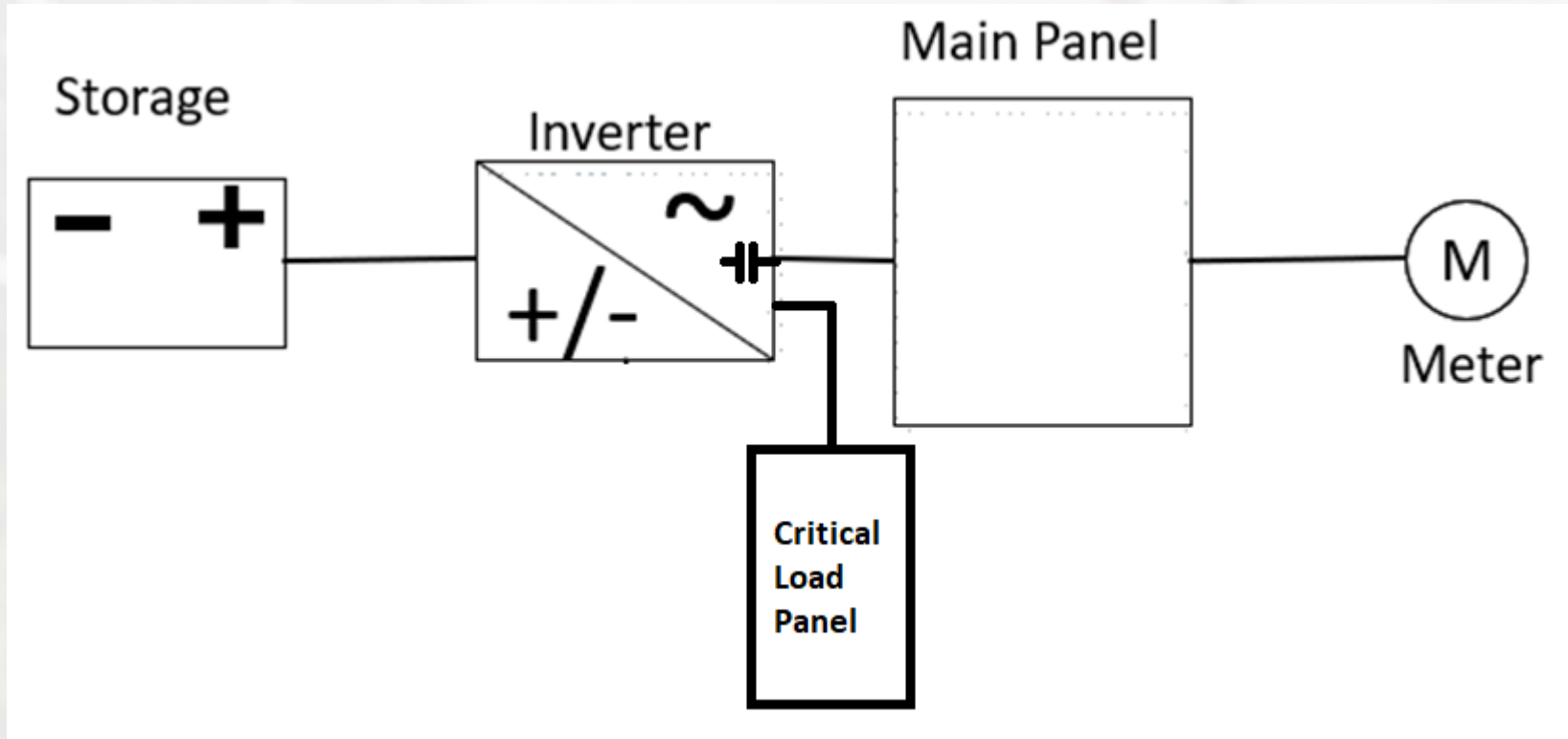
Multimode

- Switches from grid following to grid forming
- Used with Energy Storage

External MID



Internal MID



Current DER System Requirements

(Prior to July 1, 2025)



All DER must comply with UL1741-SB



DER systems that include an inverter and external MID must comply to UL1741-SB as a system



Attestation letter from a Nationally Recognized Testing Laboratory (NRTL) may be accepted if certificate of compliance isn't available

DER System Requirements Starting July 1, 2025



All DER must comply with UL1741-SB



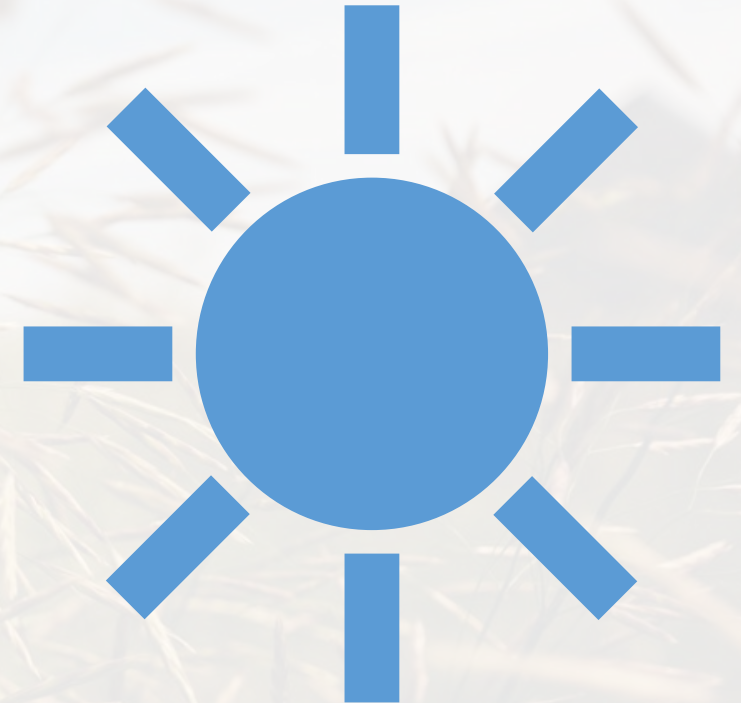
Multimode inverters must comply to CRD Multimode



CRD Multimode attestation letter from NRTL will **NOT** be accepted

Smart Inverter Settings Updates

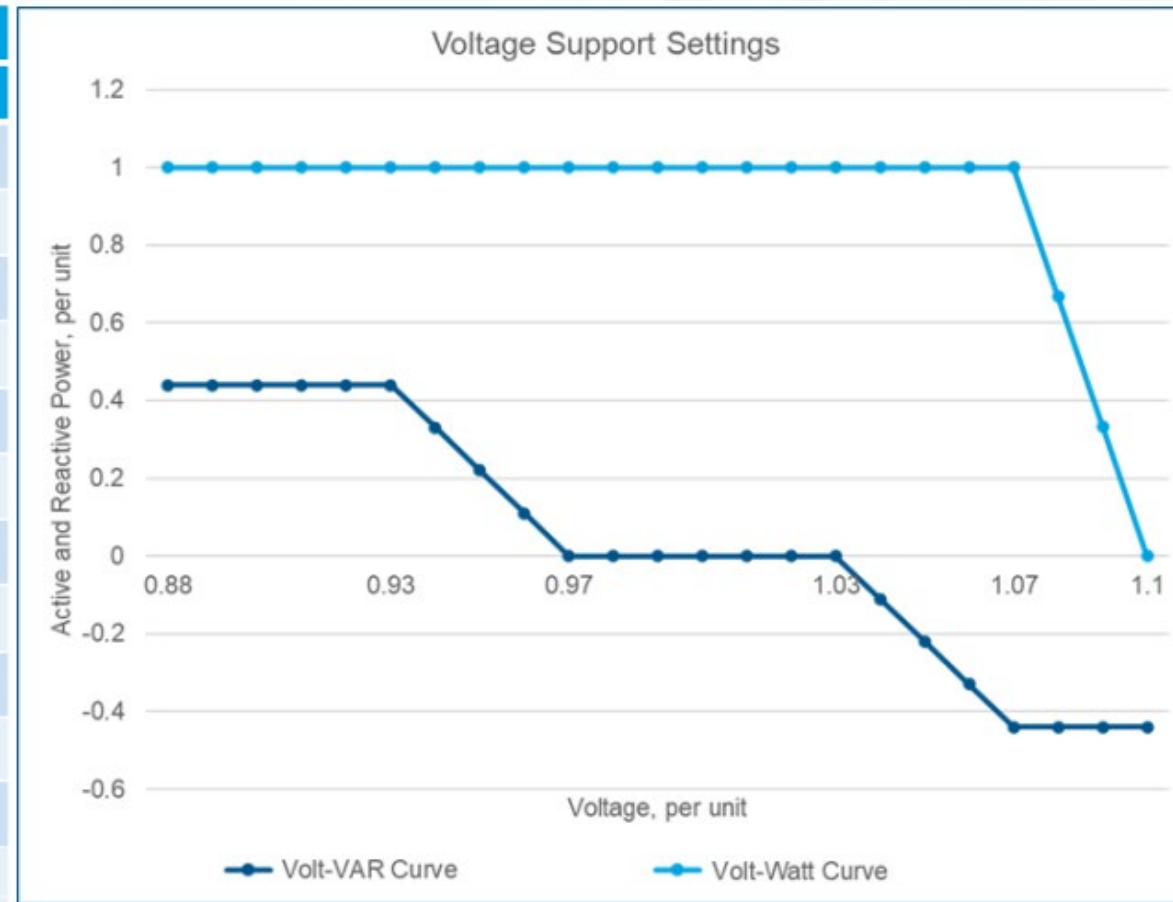
- The change is due to Central Hudson's Conservation Voltage Reduction (CVR) initiative
- CVR is anticipated to go into effect in Q3, 2025
- Only change from $\leq 50\text{kW}$ DER System Inverter Settings dated January 1, 2023:
 - Volt VAr curve Voltage-1 value
 - Volt VAr curve Voltage-2 value



Old Smart Inverter Settings for $\leq 50\text{kW}$

(Jan. 1, 2023 – Aug. 31, 2024)

Volt-VAR Settings	
Parameter	Set Point
Vref ¹	Vn ²
V1	0.93 pu
Q1	44%, injection
V2	0.97 pu
Q2	0 pu
V3	1.03 pu
Q3	0 pu
V4	1.07 pu
Q4	44%, absorption
Open Loop Response Time	5 sec
Enable Autonomous Vref	No
Default Enabled?	Yes



New Smart Inverter Settings for $\leq 50\text{kW}$

(Effective Sep. 1, 2024)

Volt-VAr Settings	
Parameter	Set Point
Vref ¹	Vn ²
V1	0.91 pu
Q1	44%, injection
V2	0.95 pu
Q2	0 pu
V3	1.03 pu
Q3	0 pu
V4	1.07 pu
Q4	44%, absorption
Open Loop Response Time	5 sec
Enable Autonomous Vref	No
Default Enabled?	Yes

