

## **Front End Converters Provide High Performance And Flexible Input Options**

[Murata's](#) D1U54T-M-2500-12-HxxC and D1U54-D-2500-12-HxxC series rack-mountable front-end converters are designed specifically for high-performance, high-power applications requiring high power density and efficiency standards (see the figure). Target markets include artificial intelligence, edge computing, networking equipment, storage and server applications.

In the case of the "M" models, these power converters deliver 2500 W of continuous 12-V output power and a standby output from an input of 90 to 277 Vac or 190 to 400 Vdc while achieving >96% efficiency at 50% load, reducing energy consumption in large-scale redundant deployments. In contrast, the "D" models operate from a -40.8 to -72 dc input range, achieving >95% efficiency at 50% load. Offered in compact 54.5-mm x 321.5-mm x 40.0-mm packages, the converters in both series achieve a power density of >58 W/in<sup>3</sup>.

These converters provide complete protection against temperature, current, and voltage faults. Additionally, the multi-function status LED indicator and hardware signals provide real-time status indication while the PMBus 1.2-compliant digital communications bus supports a comprehensive command list, enabling systems to avoid faults and maximize uptime.

The M series also features N+1 redundancy and is hot pluggable. It also has active ISHARE for the main output including ORing isolation for both outputs.

The D series is also N+1 redundant but is only hot-swap capable. In addition it offers active (digital) current sharing on the main output plus integral ORing/isolation for both outputs. An internal, variable-speed cooling fan is included in the D series too.

For more information, see the D1U54T-M-2500-12-HxxC [datasheet](#) and the D1U54-D-2500-12-HxxC [datasheet](#).



*Figure. The D1U54T-M-2500-12-HxxC is a series of 2500-W 54.5-mm wide highly efficient ac and HVDC input front end power modules that provide a 12-Vdc main output and a standby output. The low-profile units achieve >58 W/in<sup>3</sup> and provide active current sharing capability, a multifunction status LED, hardware logic signals, and PMBus digital communications. This power module is well suited for delivering reliable power to servers, workstations, storage systems and other 12-V distributed power architectures. The D1U54-D-2500-12-HxxC is a series of highly efficient low-voltage dc (LVDC) input front end power supplies with similar features.*