

## European Solar and Energy Storage Solutions

# Tactical Microgrid Standards



## Overview

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Single point of failure Some deployment More resilient Prototyping today .

DDS Reference Implementation Health and Status Telemetry: Data Diode  
Control Plane Protection: DDS Security Plugin Next Steps Tactical Microgrid  
Power .

Humber-Garick Consulting Engineers & Schweitzer Engineering Laboratories  
TMS Independent Verification Test Ø TMS Overview .

Coordination Optimization Central Management Microgrid Controller Microgrid  
System Manager Operator Source Distribution Load Diesel Renewables Boxes.

The Tactical Microgrid Standard (TMS) is a new power system architecture, developed to meet DoD and industry needs. TMS offers unique features that address challenges faced by existing power systems.

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A proposed Tactical Microgrid Standard (TMS) is a new power grid system architecture, developed to meet Department of Defense (DoD) and industry needs.

The Tactical Microgrid Standard (TMS) lays the foundation for the Center's research by establishing a common language for power units — such as generators and batteries — to communicate with each other. What is a tactical microgrid (TMG)?

Scope. This standard establishes the communication and control interface requirements for Tactical Microgrids (TMGs) to enable TMG components to operate as a single entity to provide electricity in a tactical environment.

What is the tactical micro-grid standard?

Objective Via the Tactical Micro-Grid Standard solicitation, the Army seeks to address the critical need for reliable and flexible power solutions in dynamic

and unpredictable environments, including, but not limited to, directed energy.

What is a tactical microgrid standard (TMS)?

A proposed Tactical Microgrid Standard (TMS) is a new power grid system architecture, developed to meet Department of Defense (DoD) and industry needs. TMS offers unique features that address challenges faced by existing power systems. Data Distribution Service (DDS) provides resilient and secure publish/subscribe communications for TMS.

Why do soldiers need a microgrid?

TMS enables interoperability among different vendors' equipment, and the standard allows for automation of many Soldier tasks for increased simplicity. "One goal of the microgrid is to enable Soldiers to cut down on time spent maintaining and monitoring power sources so they can focus more on the mission," Bohn said.

What is a DC vehicle-based microgrid?

The DC vehicle-based microgrid consists of modified medium tactical vehicles equipped with exportable power components. These vehicles can operate independently or be networked together to create a mobile electric power source, eliminating the need for traditional generators.

What is a hybrid AC microgrid?

The hybrid AC microgrid combines energy storage with traditional tactical generators, enabling demand reduction, reducing generator run time and providing uninterrupted backup power during tactical operations.

## Tactical Microgrid Standards

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### Tactical Microgrid Standardization Update to the EGSA ...

oTo develop standards for Tactical Microgrids including:  
 oSafety, Protection, & Human Factors  
 oElectrical Interconnection  
 oCommunications, Controls, & Cybersecurity  
 oA consortium ...

### Army advances battlefield power systems for mobility, ...

The Tactical Microgrid Standard (TMS) lays the foundation for the Center's research by establishing a common language for power units -- such as generators and batteries -- to communicate with



- 100KWH/215KWH
- LIQUID/AIR COOLING
- IP54/IP55
- BATTERY 6000 CYCLES

### APAN Community

Welcome to the Tactical Microgrid Standard (TMS) MIL-STD-3071 Community This site provides high level information on what the Tactical Microgrid Standard (TMS) or MIL-STD-3071 is. You will find general information on what benefits ...

### Modernizing Tactical Military Microgrids to Keep Pace with

...

datations for the U.S. Army's existing mobile microgrids . to prepare them for the inclusion of DEWs and ECVs. The recommendations are backed with modeling and simulation studies of ...



## 11th ADA demonstrates capabilities of new tactical ...

The hybrid AC microgrid combines energy storage with traditional tactical generators, enabling demand reduction, reducing generator run time and providing uninterrupted backup power during

## Modernizing Tactical Military Microgrids to Keep ...

The tactical battalion command post can serve as the kernel of the mobile military microgrids needs to integrate ECVs and DEWs in brigade combat teams for multi-domain operations. Integrating energy storage and limited renewable energy ...



## Army successfully demonstrates tactical operations ...

Tactical microgrids need to be fully mobile, easily deployable and field rugged. To date, CERDEC CP& I has developed three tactical architectures, and have demonstrated two, said Michael Zalewski

## DOD Demonstrates Mobile Microgrid Technology > ...

Conforming to the Tactical Microgrid Standard, VCMs can distribute power between vehicles and connect to other TMS-compliant power generation, storage and distribution systems under development



## Use Case 2: Tactical Microgrid Standard (TMS)

A proposed Tactical Microgrid Standard (TMS) is a new power grid system architecture, developed to meet Department of Defense (DoD) and industry needs. TMS offers unique features that address challenges faced by ...

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