Smart Power - Safe, Scalable Solutions for Smart K-12 Schools

Reference Architecture

Fault Managed Power Systems (FMPS) & PoE

This reference architecture illustrates how Fault Managed Power Systems (FMPS) and Power over Ethernet (PoE) can be deployed across K–12 school campuses to create a safe, energy-efficient, and future-ready smart building infrastructure.

As schools modernize to support digital learning, enhanced safety, and sustainable operations, this architecture provides a clear framework for delivering both high-voltage and low-voltage DC power to distributed systems. FMPS, standardized under UL 1400-1 and NEC Article 726, enables the long-distance, high-power delivery required for large campuses—while maintaining low-voltage installation benefits and intelligent fault protection.

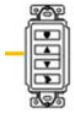
Combined with PoE, which powers smart lighting, automated shades, sensors, and signage, this design supports adaptive environments, centralized control, and cost-effective deployment strategies for both new builds and retrofits.

Legend

Class 4 Power Cable

Wireless Access Point

Multi-Mode Fiber Cable

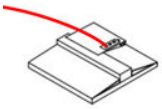


Wall Switch

Traditional AC Power

Occupancy Sensor

Power over Ethernet (PoE)



LED Light Fixture

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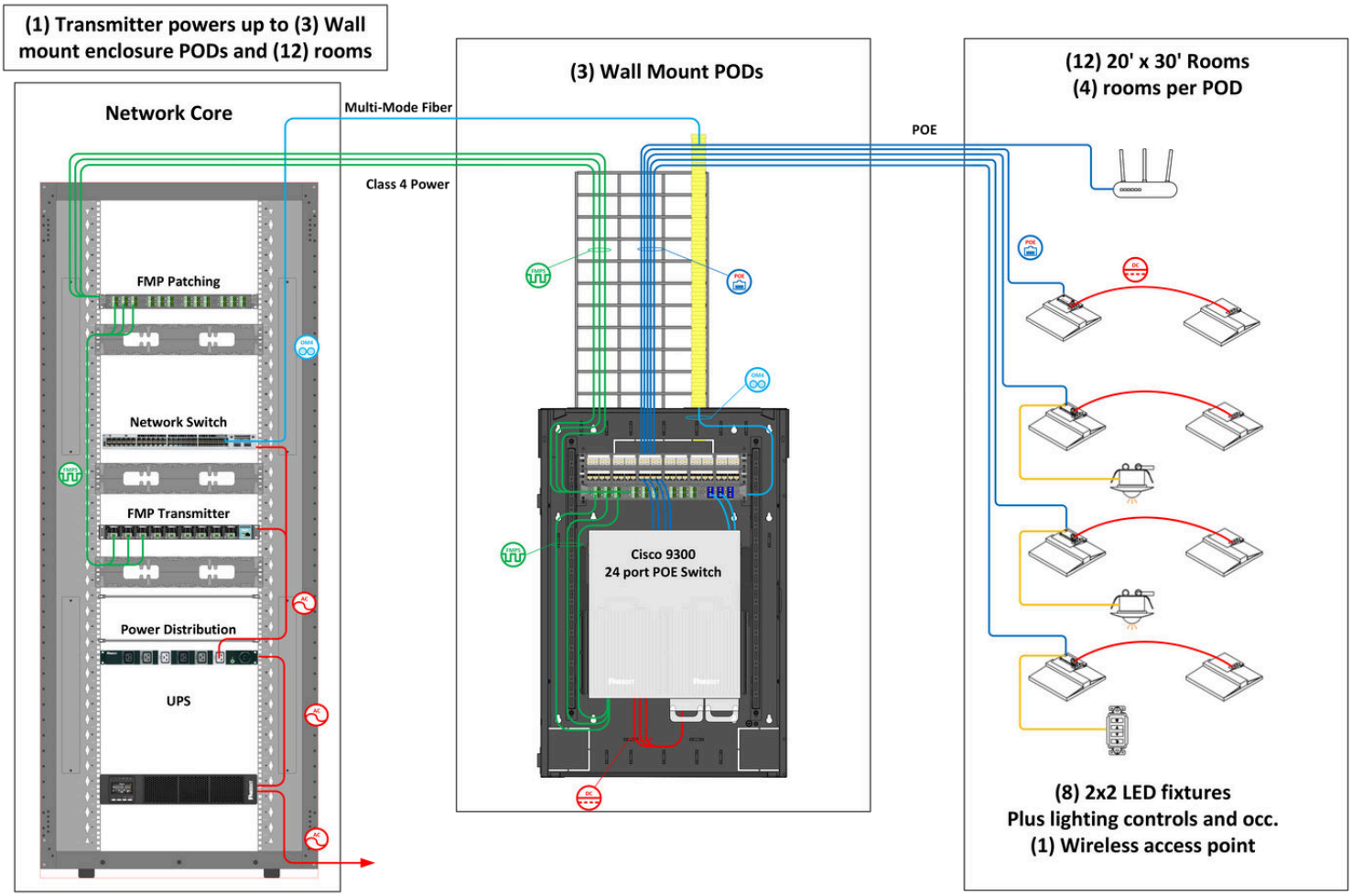
Fault Managed Power Systems (FMPS) & PoE
Reference Architecture Scenario 1



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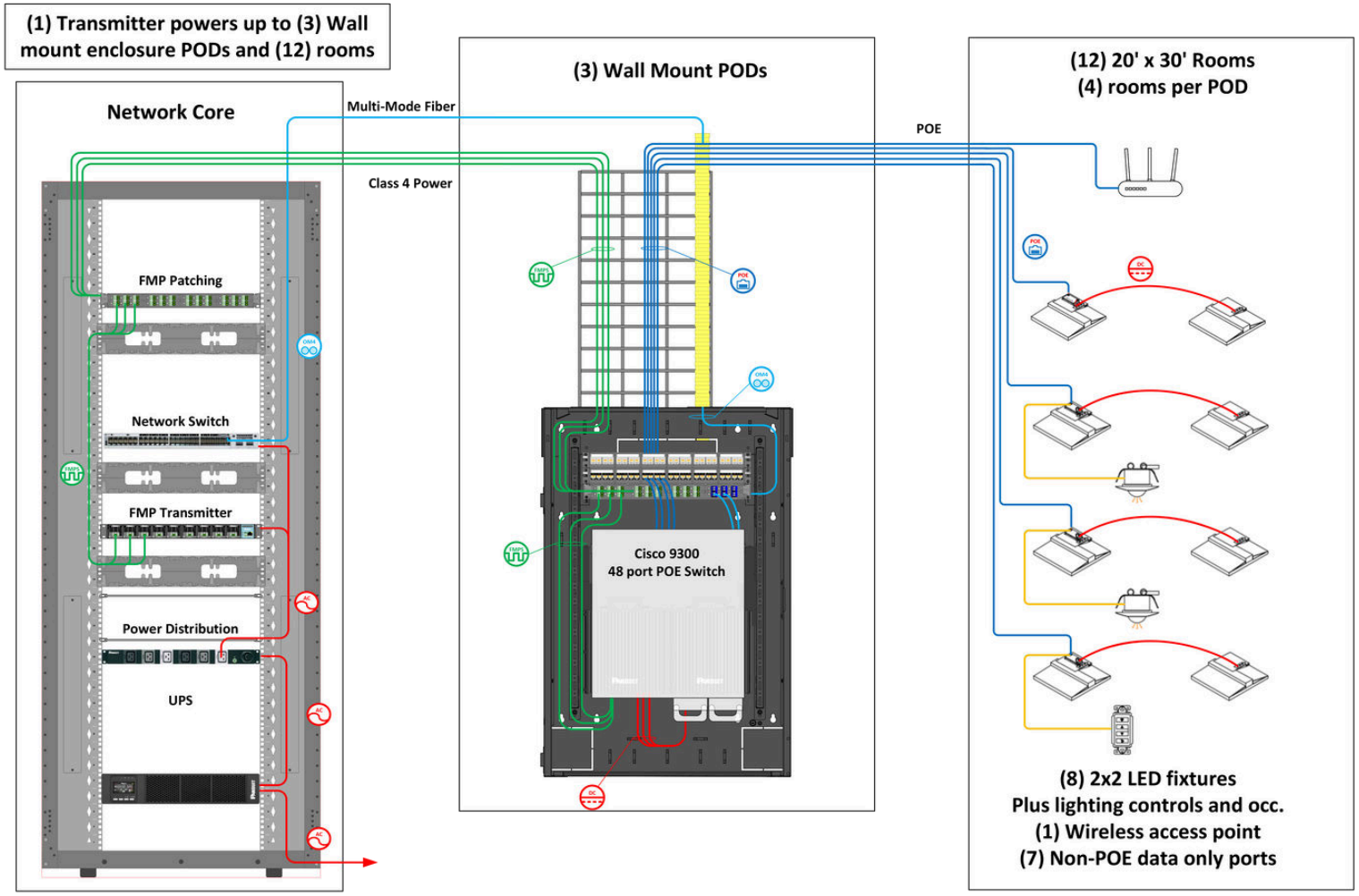
Fault Managed Power Systems (FMPS) & PoE
Reference Architecture Scenario 2



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