Franklin Electric
EV SYSTEMS

NEXPHASE™ SMART EV SWITCHGEAR

The NexPhase™ Smart EV Switchgear is an all-in-one switchgear panel containing the entire infrastructure required between the utility service and up to four 150 kW Level 3 DC fast chargers. Unlike any switchgear of its kind, the NexPhase™ Smart EV Switchgear features cutting-edge grid intelligence for switchgear and EV charger remote monitoring and control.

DESIGN SIMPLIFIED

INSTALLATION MADE EASY

CONNECTION ENABLED

HIGHLIGHTS & TECHNOLOGY

Eliminates the lengthy design process of traditional post-and-frame systems, which require additional costs to design and source a mixed-manufacturer panel system.

Requires minimal on-site connections for the incoming power and outgoing charger connections, drastically reducing on-site installation time and costs.

An embedded monitoring system provides remote access to real-time health data with remote power cycling capabilities and automated alarms to facilitate condition-based maintenance planning.

Integrated emergency-stop capabilities for NFPA compliance and added safety capabilities including EV charger crash detection and flammable vapor monitoring with automatic shutdown and remote alerts.

Combines the Current Transformer (CT) cabinet, 480 V 3-Phase breaker panel, 240/120 V single phase breaker panel, and transformer into a single enclosure.

Integrated 250 A breakers (qty 4 - 1 for each EV charger) capable of supporting up to four 150 kW DC fast chargers.

Integrated communication via both Ethernet and Cellular connection for remote applications.

The on-board NexPhase Hub™ Power/Health Monitor provides power and switchgear monitoring with cloud-based access to data via a remote user interface.

Helps ensure charger uptime and facilitates predictive maintenance by providing remote access to key EV charger health indicators including incoming power measurements, charging state, and energy usage.

Provides ongoing EV charger state-of-charge data, enabling charger operators to accurately pinpoint EV charger outages and deploy maintenance only when and where it is needed. Many EV charger deficiencies may be solved with the remote power cycling capability.

APPLICATION

In support of the National Electric Vehicle Infrastructure (NEVI) Formula Program, NexPhase™ enables rapid deployment of the electric vehicle charging infrastructure by offering a turnkey switchgear solution that provides real-time monitoring and alerts, making it easy to provide evidence of the required 97% uptime.

SPECIFICATIONS

ELECTRICAL

Incoming Feeder Circuit	480 VAC Wye Connected, 3-Phase, 1,000 A
AC Input Connection	3-Phase, L1, L2, L3, Neutral & GND
Utility Connections	Lug Cable Size 3 x 600 MCM, Copper or Aluminum
Current Transformer (CT)	Bar Type Mounting Plate
Mounting Pattern	Built to utility specification
Main Service Circuit Breaker	480 VAC Wye Connected, 3-Phase, 1,000 A
Short-Circuit Current Rating (SCCR)	50 KA
Number of 480 V Branch Breakers	5
Rated at 480 V, 3-Phase, 250 A	4
Rated at 480 V, 3-Phase, 40 A	1
Number of 150 kW Chargers to supply	4
Current (Max) Each Charger	250 A
480 V: 120V Transformer	1
Number of 120 V Breakers	7
Number Remote Resettable 120 V Breakers for EVSE Auxiliary Power	4
Technician-Ready GFCI Outlet	1

MONITORING

Transaction Summary	Average Power, Voltage, Current, Accumulated Energy each Post
Daily/Weekly Summary	Average Power, Voltage, Current, Accumulated Energy each Post

INTERFACE

Remote Connectivity	Ethernet, Cellular Modem
Cloud Based Data Acquisition	MQTTS Protocol
User Interface	UNITE™ web-based, remote user interface
Web Browser Compatible	Edge®, Chrome OS®, Firefox®

ENVIRONMENT, COMPLIANCE & SAFETY

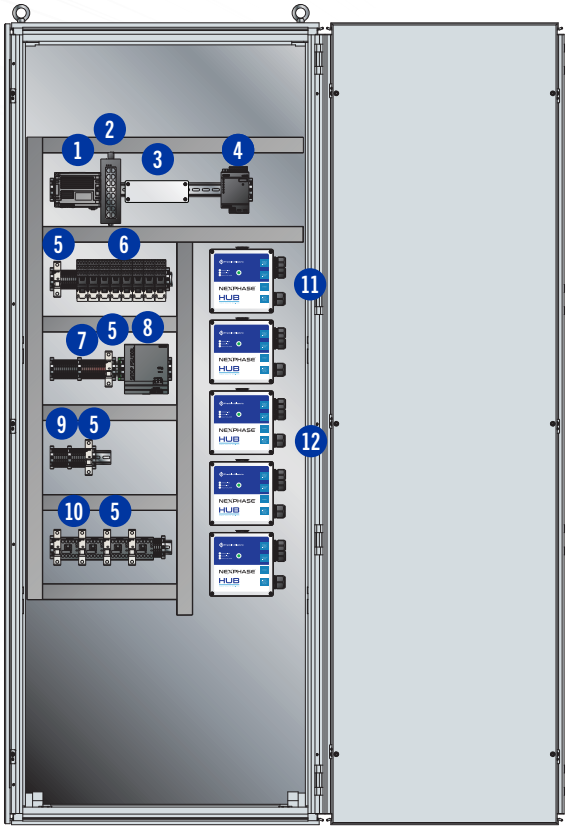
Enclosure	NEMA 3R Indoor/Outdoor Electrical Cabinet
Electrical Code	Designed for NFPA70; NEC2020
Certifications / Approvals	UL Listed, UL891

PHYSICAL

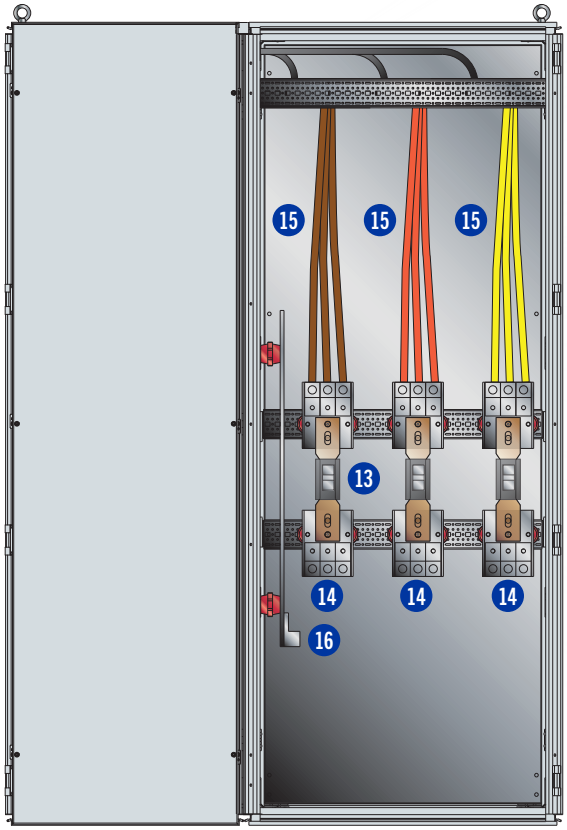
Dimension (HxWxD)	78"x 48" x 56"
Weight	1,500 Pounds / 680 Kilograms

COMPONENTS

HEALTH MONITORING CABINET



UTILITY SERVICE CABINET



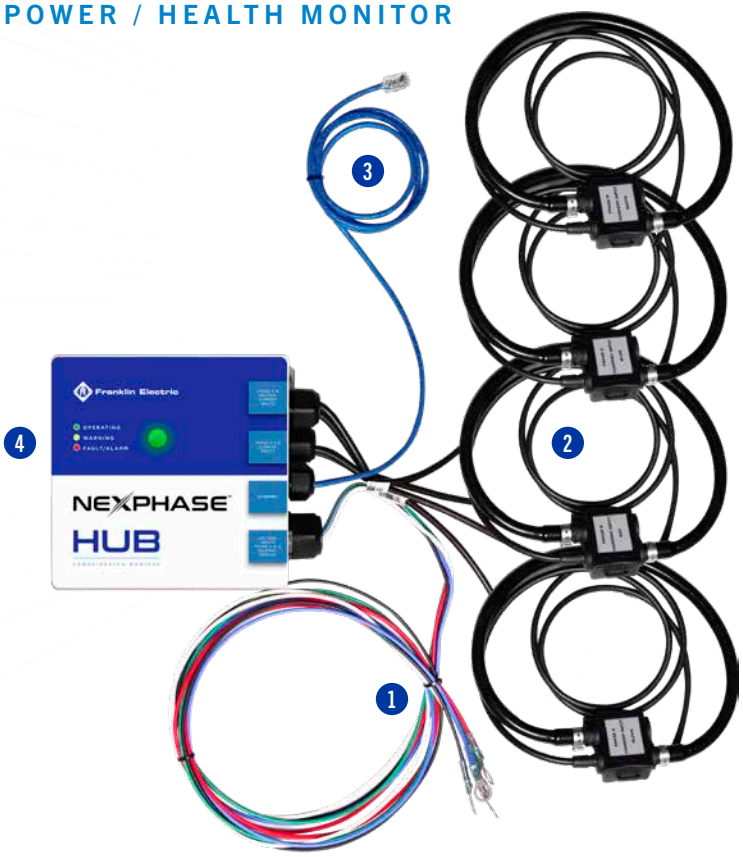
CUSTOMER POWER CABINET

Cabinet layout subject to change.

1. 4G/LTE Cellular Modem
2. Ethernet Switch
3. IO Module
4. Energy Reducing Maintenance Switch (ERMS)
5. 120 VAC Circuit Breakers (Qty 7)
6. Motor Operator Relays for EV Charger Power Cabinet (Qty 8)
7. 24 VDC Terminal Blocks
8. 120 VAC:24 VDC Power Supply
9. 120 VAC Terminal Blocks
10. EV Charger Post Contactors for Remote Power Cycling (Qty 4)
11. NexPhase Hub™ Power / Health Monitor for Main Power
12. NexPhase Hub™ Power / Health Monitor for EV Charger Cabinet (Qty 4)
13. Current Transformers (Provided by Utility)
14. Underground Utility Service Connections
15. 480 VAC, 3-Phase Main Breaker Feeder Cables
16. Utility Neutral Connection
17. 480 VAC:120 VAC Transformer
18. 1,000 A Main Service Circuit Breaker
19. 480 VAC, 3-Phase, 40 A Branch Circuit Breaker
20. 480 VAC, 3-Phase, 250 A EV Charger Power Cabinet Circuit Breakers with Remote Power Cycling (Qty 4)

SPECIFICATIONS

POWER / HEALTH MONITOR



The NexPhase Hub™ is a power and health monitor which provides continuous, precision performance monitoring of switchgear and EV charger performance diagnostics and key state-of-health indicators.

1. Voltage Leads (Qty 5)
2. Split-Core Rogowski Coils (Qty 4)
3. Ethernet Cable
4. Status Indicator LED

REMOTE WEB INTERFACE

An MQTTS Communication Protocol allows the NexPhase Hub™ to securely communicate with the web-based UNITE™ user interface. UNITE™ provides user-friendly access to monitoring information including:

Power Analysis

- Current by Phase
- Power Factor by Phase
- Power Factor vs. Current
- Voltage
- Incoming utility power status
- Max average power

Transaction Analysis

- Energy consumption
- Charge duration
- EV Charger State
- Max average power
- Daily/weekly usage
- Accumulated energy per post

ORDERING INFORMATION

Model	Description
NP-SWG-NEVI600B	NexPhase™ Smart EV Switchgear, up to (4) 150 kW DC Fast Chargers

3760 Marsh Rd. • Madison, WI 53718
www.franklinEVsystems.com • +1 844.344.5025