



Cat® EMCP 4.4 Master Control Panel

XLM Configuration

Caterpillar is leading the power generation marketplace with power solutions engineered to deliver unmatched flexibility, expandability, reliability, and cost effectiveness.

Image shown may not reflect actual configuration

General Description

The EMCP 4.4 master control panel is a wall-mounted system that monitors and controls up to eight (8) Cat® EMCP 4.4 equipped generator sets.

The EMCP 4.4 master control panel will support emergency standby as well as parallel the common generator bus with a single utility source.

Together with the EMCP 4.4 generator set controllers, this cost-effective approach provides centralized, automatic controls and communications through an intuitive graphic interface.

Features

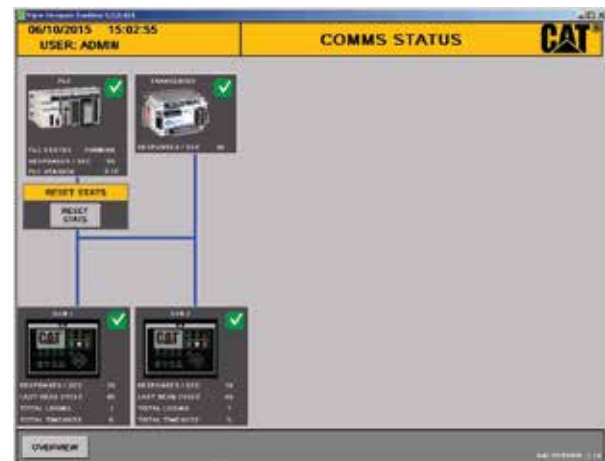
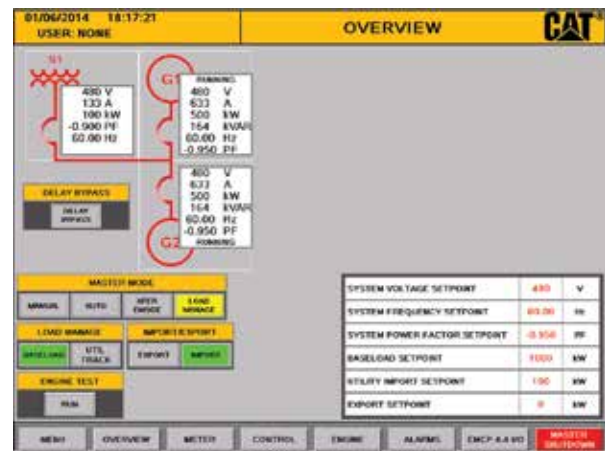
- 15" color, touchscreen operator interface
- Integral protective functions
- Annunciation and alarm history
- Selectable transition modes to and from generator power
- Selectable load sense/load demand mode to avoid unnecessary generator set operation and reduce fuel consumption
- Automatic load shed/load add control based on available capacity to prevent generator set overloading
- High-speed communications with individual EMCP 4.4 generator set controls provide the operator with control and data acquisition capability of each generator set from a centralized location
- Easy-to-follow, step-by-step installation and start-up instructions
- Password security system for user interface
- Interface capability with SCADA system
- Two-year standard Caterpillar warranty

Operating Modes

- Emergency standby
 - Closed transition (with soft unload) or open transition on return to normal service
- Optional utility parallel, import power from grid
 - Minimum import kW setpoint is maintained
- Optional utility parallel, export power to grid
 - Target export setpoint is maintained
- Optional utility parallel, base load operations
- Load sense/load demand
 - Generator set priority or engine-hour balancing
 - Automatically matches on-line generator capacity to the loads
- Load shed/load add
 - Automatic or manual load shed up to eight (8) stages
- No load test mode

User System Requirement

- All Cat diesel engine generators are required to be packaged with EMCP 4.4 configured for Multiple Genset Data Link (MGDL)
- The EMCP 4.4 master control panel requires an ethernet connection to the EMCP 4.4 generator control on each generator set
- For utility control, the utility circuit breaker should be provided with:
 - Two (2) auxiliary contacts (1A & 1B)
 - Bell alarm contact
 - Circuit breaker open circuit
 - Circuit breaker close circuit
 - Integral short circuit protection
- The utility source must be furnished with voltage sensing (3-phase, 4-wire) on both the source side and bus side and current sensing (3-phase, 5 amp secondary)



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Specifications

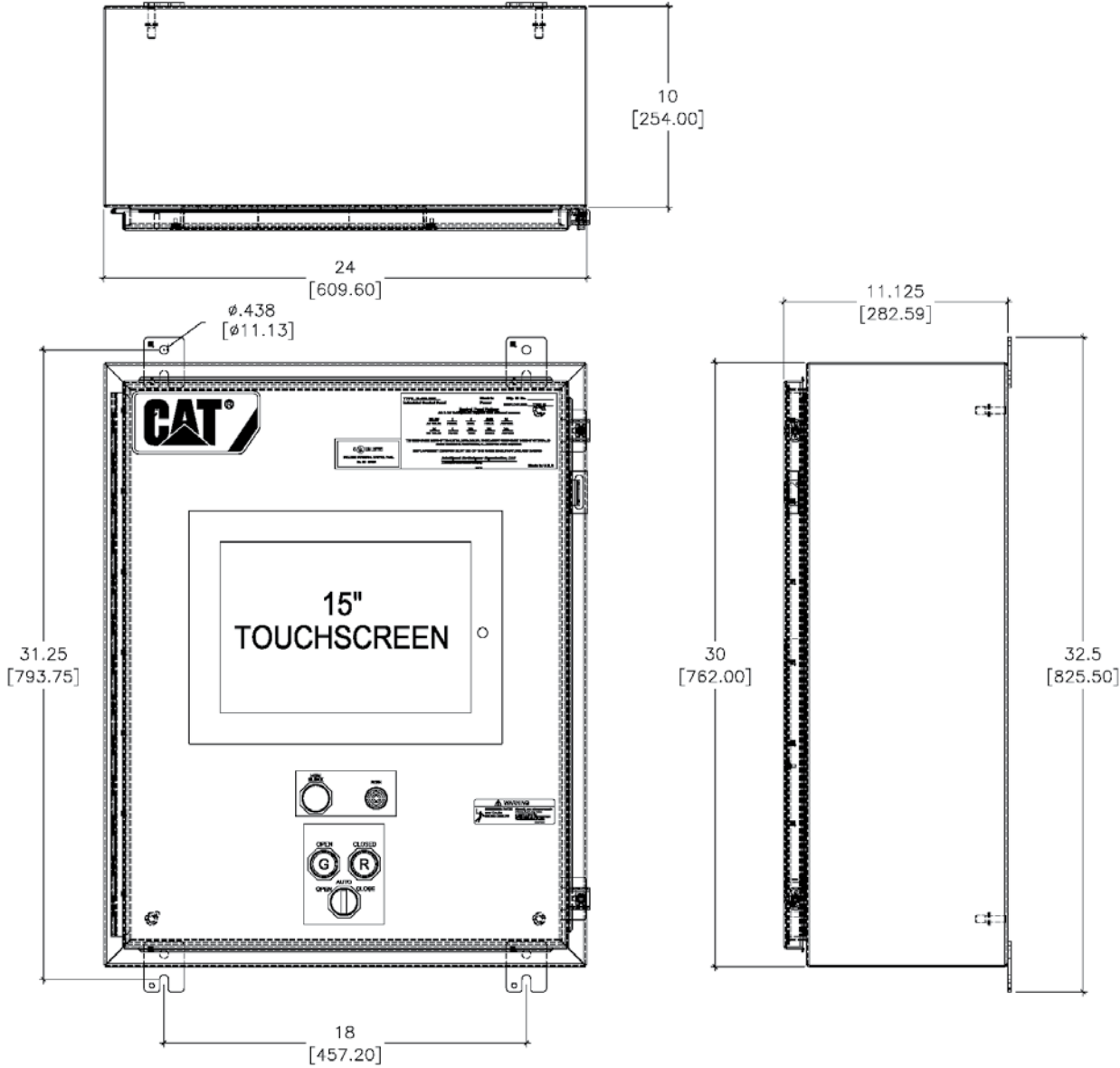
Generator Sets Supported	
Cat Engine-Generators	C9 ACERT™ - C32 ACERT, C175, 3500
System Capacity	2 - 8 generator sets & 1 utility
Voltage and Frequency	208V - 480V, 50/60Hz
System Control Voltage	
Utility Circuit Breaker Control Relay Ratings*	40A @ 120 VAC, 3A @ 480 VAC, 50/60 Hz
Control Relay Ratings	10A @ 110 VDC, 4A @ 225 VDC resistive
Control Voltage Nominal	24 VDC
Maximum Control Voltage Range	10-36 VDC
SCADA Interface	
Modbus RTU [RS 485] 2-Wire	Standard feature
Modbus TCP (Ethernet)	Optional feature
Environmental Parameters	
Certifications	UL 508A/cUL, CSA, OSP-0165-10
Vibration and Shock	SDS(g) = 2.77, z/h = 1.0, Ip = 1.5
Humidity	10%-90% non-condensing humidity
Operating Temperature	0°C to 50°C
Storage Temperature	-10°C to +60°C
Control Panel Enclosure	NEMA 12 Type (IP52)
Utility Protective Devices and Functions**	
ANSI Protective Devices	15/25, 27/59, 81 O/U, 32
Metering***	Voltage L-L, current, frequency (0.5%); power, kW, power factor, kVAR, (1%) of measured values
Enclosure Dimensions & Weights	
	30H x 24W x 11.125 inches, 74 lbs. wall mount

*Generator circuit breaker controlled directly by EMCP 4.4 controller on-package (supplied with generator set).

**EMCP 4.4 master industrial grade protective functions may not satisfy local utility protection requirements. Additional protection may be required within the switchgear to meet local standards.

***Dependent on CT/PT accuracy.

Dimensions



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