



ENGINE PARALLELING AND INTEGRATION CONTROL

The Engine Paralleling and Integration Control (EPIC) is a free standing remote mounted system that is an alternative to switchgear mounted controls and is designed for low voltage applications from 208V through 27 kV.

The EPIC system eliminates the need for traditional hard-wired components such as synchronizers, power factor controllers, load share modules, cross-current compensation devices, annunciators, switches and meters by replacing them with the industry proven EMCP 3.S dedicated controller and color touch screen interface. Simple configuration screens allow for easy setup, installation and startup by your local Cat® dealer.

MASTER CONTROL PANEL

The Master Control Panel operates and controls two Cat engine-generators and their electrically operated circuit breakers. The modular design allows for an additional eight EPIC Generator Control Panels to be added to the system. For systems that require paralleling to the utility grid, an EPIC Utility Control Panel may also be added to the system.

FEATURES

- Controls Two Cat Generator Sets and Breakers
- EMCP 3.S Generator Controller
- Circuit Breaker Control Switch
- Circuit Breaker Closed Indicator – Red LED
- Circuit Breaker Opened Indicator – Green LED
- Horn and Silence Button
- Easy Connectivity to Generator Mounted Electrically Operated Circuit Breaker or Freestanding Switchgear with Electrically Operated Breaker
- High Speed Ethernet Supervisory Network
- Redundant Master Technology
- Bumpless Backup of Master Control Functions
- System and Generator Parameter Monitoring
- Password Protection for Critical Settings
- Generator Set Control and Protective Functions
- Automatic Start/Stop
- Automatic Load and VAR Sharing
- Automatic “Dead Bus” Coordination
- Automatic Power Factor Control when in Parallel with Utility Power
- Programmable Load Shed / Load Add Functions
- 12 Inch Graphical Color Touch Screen (HMI) Display
- Step By Step User Configuration
- Simple Set Up
- Intuitive Operation
- System Voltage Configurable from 208V to 27 kV
- Comprehensive Documentation
- Caterpillar Warranty and Support
- Free Standing Control Enclosure

SWITCHGEAR

GENERATOR CONTROL PANEL

FEATURES

- Controls One Cat Generator Set and Breaker
- Additional Panels May be Added to Control Generators 3 - 10
- EMCP 3.S Generator Controller
- Engine-Generator Control Protective Functions
- Circuit Breaker Control Switch
- Circuit Breaker Closed Indicator – Red LED
- Circuit Breaker Opened Indicator – Green LED
- Wall Mount Enclosure



UTILITY CONTROL PANEL

FEATURES

- Controls One Utility Main / Breaker per System
- EMCP 3.S Utility Controller
- Closed Transition Soft Transfer and Utility Control for One Low Voltage Circuit Breaker
- Utility Control and Protective Functions
- Circuit Breaker Control Switch
- Circuit Breaker Closed Indicator – Red LED
- Circuit Breaker Opened Indicator – Green LED
- Utility Close Lockout Switch
- Wall Mount Enclosure



SWITCHGEAR

FUNCTIONAL DESCRIPTION SPECIFICATION

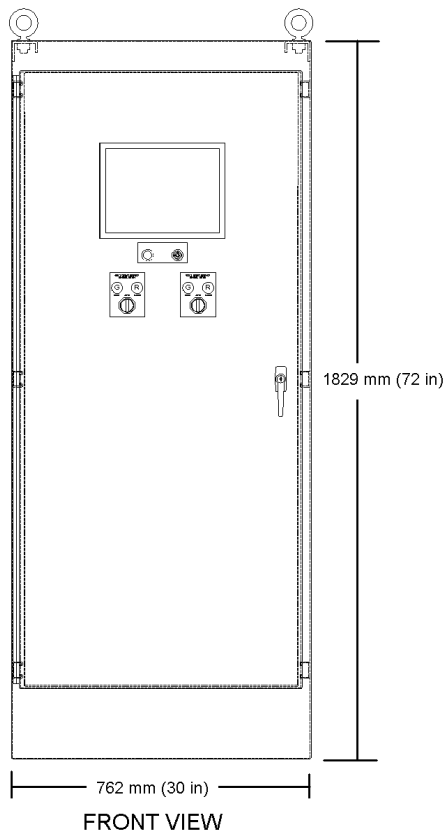
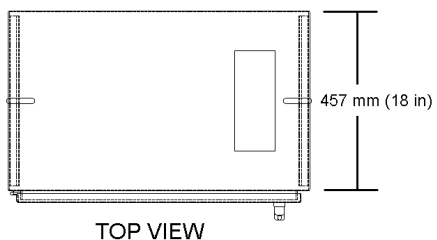
Generator Set Compatibility (International)	
Generator Set Range	C9-C32, 3300, 3400, 3500, C175
Quantity	2 - 10 Generator Sets
Voltage and Frequency	208V - 27 kV, 50/60Hz
System Control Voltage	
Circuit Breaker Control	40A @ 120 Vac, 3A @ 480 / 600 Vac, 50 / 60
Voltage (Current Rating)	10A @ 110 VDC, 4A @ 225 VDC resistive
EPIC Controls Nominal	24 VDC
EPIC Controls Range	18-40 VDC
Environmental Parameters	
Certifications	UL / cUL 508A
Humidity	95% Non-Condensing
Operating Temperature	0°C to 55°C
Storage Temperature	-20°C to +60°C
Master Control Panel Sealing	NEMA 12
Generator Protective Functions	
Relaying	15/25, 27/59, 81 O/U, 32, 40, 90 (Industrial Grade)
Metering	V, A, PF, kVAR, kW, Hz, kWhr, kVarH
Accuracy	Voltage L-L, Current Frequency (0.5%), Power, kW Power Factor, kVAR (1%)
Utility Protective Functions	
Relaying	15/25, 27/59, 81 O/U, 32, 47 (Industrial Grade)
Metering	Voltage L-L, Current Frequency (0.5%), Power, kW Power Factor, kVAR, (1%)
Options	
Supplemental Hardware 25 Relay (Synch Check)	Synchronization Protection for the Synchronizing Circuit Breaker
Data Table Interface (DTI)	Monitoring of all System Parameters via Modbus / Modbus TCP
Load Demand Functions	Generator Demand Priority
EPIC Generator Control Panel	Provides Synchronization and Control for 1 Additional Generator
EPIC Utility Control Panel	Provides Closed Transition and Utility Control for 1 Remote Utility Circuit Breaker

The EPIC control system is intended to interface with a generator set mounted or free standing electrically operated circuit breaker. The circuit breaker shall be equipped with 2 auxiliary contacts (1A & 1B), a bell alarm contact, a circuit breaker open input, a circuit breaker close input, and integral short circuit protection. For non-utility paralleling installations, it is recommended to have maximum 12 cycle circuit breaker open/close. For utility paralleling applications, it is recommended to have a 5 cycle open/close.

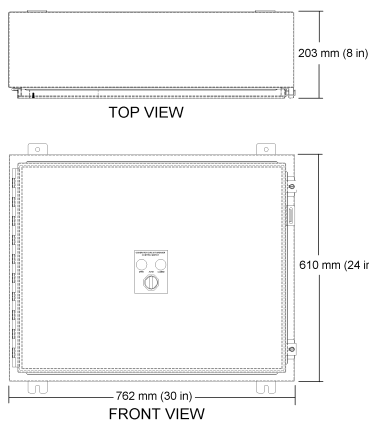
In addition to the set mounted or floor standing circuit breaker, the EPIC control system requires three phase voltage and current (0-5A) sensing from the generator set.

SWITCHGEAR

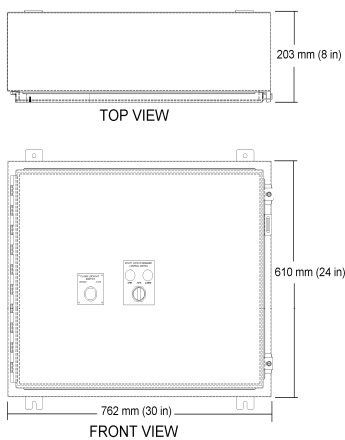
Enclosure Dimensions & Weights	
Master Control Panel	72H x 30W x 18D Inches , 250 lbs.
	Top or Bottom Conduit Access, Free Standing
Generator / Utility Control Panels	24H x 30W x 8D Inches, 74 lbs.
	Bottom Conduit Access, Wall Mount



Master Control Panel



Generator Control Panel



Utility Control Panel

Materials and specifications are subject to change without notice.

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