



## EGP Switchgear

Cat® generator set paralleling switchgear has been designed to integrate with Cat EMCP3 generator set controls. Now you can get greater efficiency, reliability and dependability all in one package, exclusively from your Caterpillar dealer.

Available in both low- and medium-voltage systems applications (up to 15 kV). EMCP 3.S is an advanced, multifaceted microprocessor-based control found exclusively in Cat generator set paralleling switchgear.

### FEATURES

Emergency Generator Paralleling (EGP) Switchgear with EMCP 3.S for up to 5 standard configurable engine generator sets.

- Automatic Start, Synchronize, Parallel and Load Share on a common bus
- Main Lugs Output to feed downstream emergency distribution switchboard
- Optional Emergency Distribution CBs
- Load shed/add
- Generator priority demand
- For use with multiple downstream Automatic Transfer Switches (ATS)
- Cat generator set paralleling switchgear is designed to integrate with Cat Automatic Transfer Switches. EGP is optionally available with direct communication to ATSs to provide "fingertip" control and monitoring of all your facility ATSs from one convenient central location

EMCP 3.S brings the power and reliability of microprocessor technology to your generator power application. Through the use of the operator interface touchscreen display with easy to follow graphical presentations, the EMCP 3.S product merges the features of:

- Power Monitoring
- Switchgear Automation
- Optional Remote Communications

### FAULT TOLERANCE

Caterpillar generator set paralleling switchgear has eliminated the single point of failure found in some controller schemes by integrating the following:

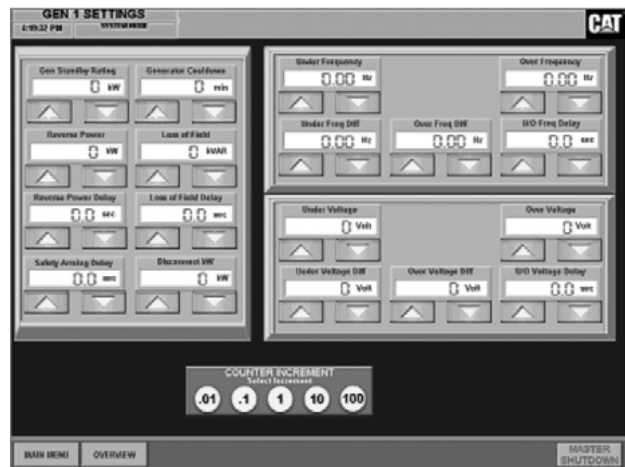
- 1.) True distributed control processors for each power source ensures the system continues to operate even if a single processor fails.
- 2.) Cat generator set paralleling switchgear uses moving master technology. Master control functions, such as, modes of operation, load shed controls, generator demand priority controls, and de-energize bus logic, reside in the generator #1 EMCP 3.S. If generator #1 controller fails for any reason, the master control functions are automatically transferred to the next generator controller. Each generator controller is redundant to the first. As long as a generator set is available, Cat generator set paralleling switchgear will automatically bring it to the bus.
- 3.) If the touchscreen fails, an "Instant Auto" switch is provided to place all software controls in the Auto position, protecting your facility from power outages.
- 4.) Distributed manual control in case the automation feature fails.
- 5.) Redundant networks (for 12" screens and above)

## TOUCHSCREEN INTERFACE

The Cat color touchscreen display is the key to the system's powerful and simple operator interface. The screens give the operator an instantaneous, easily understandable view of the entire system status. To access system controls, simply touch the corresponding portion of the screen.

The easy-to-use touchscreen interface makes it possible to view and monitor:

- Metering
- Engine metering
- Protective relay settings
- Annunciators
- Adjust load shed controls and generator demand priority
- Synchronize and parallel
- Set modes of operations
- Voltage and frequency adjustments



**STANDARD & OPTIONAL EQUIPMENT****STANDARD EQUIPMENT**

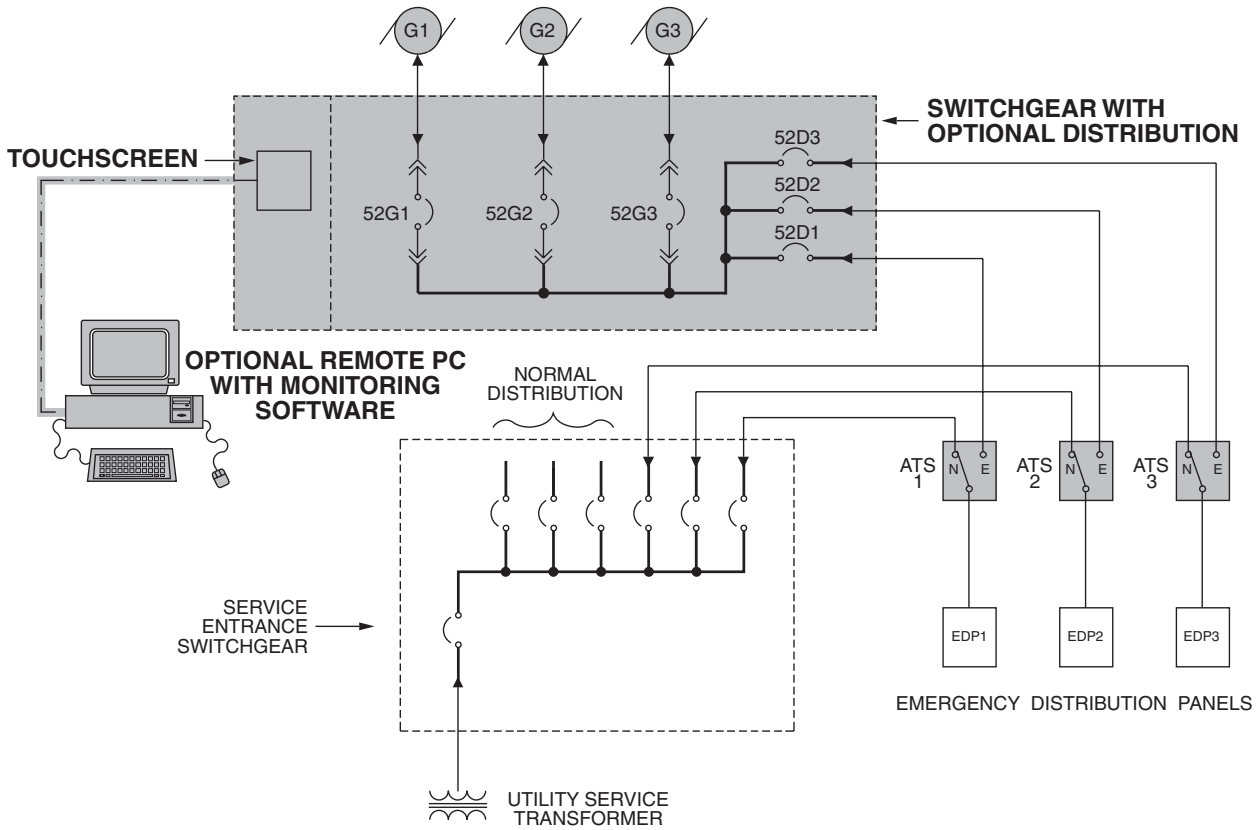
- Operator Interface Touchscreen Options
  - 15" Surface Acoustic Wave TFT Color Touchscreen
  - 12" Resistive TFT Color Touchscreen
  - 6" Resistive LCD Monochrome Touchscreen for EGP2, 10" Resistive Monochrome Touchscreen for EGP3 – EGP5
- Direct Data Communication to Cat® microprocessor based engine generator set control network
- System Overview screen with One Line Mimic Diagram which depicts real time metering, status and control
- Full Function 0.25% Accuracy Analog and Digital AC Metering for Generators: Voltage 1-2, 2-3, 3-1; Current 1, 2, 3; Frequency; Power Factor; kW; kVAR
- Full Function Engine Gauges: RPM, DC Battery Voltage, Oil Pressure, Engine Coolant Temperature, Engine Hours, Number of Starts
- 3-D Engine Data
- Full Function Synchronizing and Paralleling Controls with Selection for Automatic or Manual Synchronizing
- NFPA 110 Engine/Generator Status, Pre-Alarm and Shutdown Fault Annunciation with color display and 85 dbA alarm horn with silence button
- Full Function 0.25% Accuracy Analog and Digital AC Metering for System: Voltage 1-2, 2-3, 3-1; Current 1, 2, 3; Frequency; Power Factor; kW; kVAR
- System Control Functions for Auto (Standby for Emergency), Test without Load and Test with Load
- Automatic Load Shed Control with On-Screen Operator Adjustments for Essential (1 level of essential for each generator in the system) and 1 level of Non-Essential Automatic or Manual Load Shed/Load Add Control
- Automatic Generator Demand Priority with On-Screen Operator Adjustments for Automatic Addition and Removal of Generator to the Load Bus
- System Status and Alarm Annunciation with color display and 85 dbA alarm horn with silence button
- Password secured Settings and Adjustments for Generator and System Setups and Protective Relaying
- Alarm Summary Reports
- Settings Reports

- Engine and Generator Load Charts
- Engine Trend Data (available only with 15" TFT Touchscreen)
- UL 891 listed and labeled or UL 1558 listed and labeled
- NEMA 1, deadfront freestanding construction
- UL or CSA Listed
- Copper Bus, braced for 100 kA
- 3-phase, 4-wire, 100% neutral, ¼" × 2" copper ground bus
- Available in 600 V or, 480/277 V, 60 Hz
- UL 1066 listed Power Circuit Breakers, 100 kAIC. Two-step stored energy drawout mounted electrically operated with long-time and instantaneous trip, local AC ammeter (optional), and circuit breaker control switch with lights
- Continuous cross bus ratings up to 6000 amperes at 600 VAC
- Mechanical lugs for incoming and outgoing conductors
- Top or bottom conduit entry
- Plug together control connections across shipping split

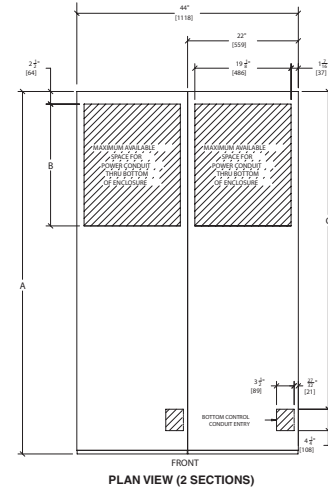
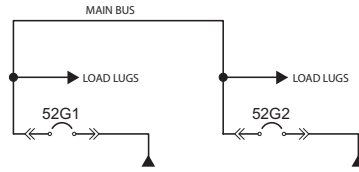
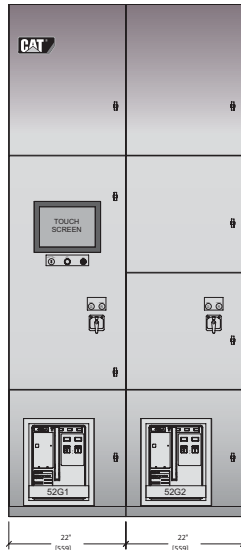
**OPTIONAL EQUIPMENT**

- Fixed Mounted Power Circuit Breakers
- Distribution Sections with Fixed or Drawout Mounted Circuit Breakers
- Circuit Breaker Trip Functions – Short Time and/or Ground Fault (in addition to Long Time and Instantaneous)
- Steel Barriers between Switchboard or Switchgear Sections for compartmentalization
- Bus/Cable Barriers
- Also available in 150 kA or 200 kA bus bracing configurations
- Also available in 8000 and 10,000 amperes continuous cross bus ratings at 600 VAC.
- Also available in 120/208 Volts, 60 Hz
- Also available in 5 kV and 15 kV configurations
- Software for Additional On-Site Monitoring and Control Work Stations
- Software for Off-Site Monitoring and Control
- Building Automation Data Concentrator – Modbus or Ethernet
- Remote Notification
- Historical Data Trending
- Communication to Cat ATS
- Extended Warranty

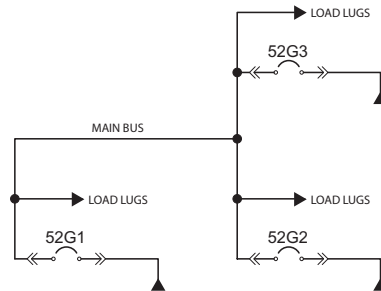
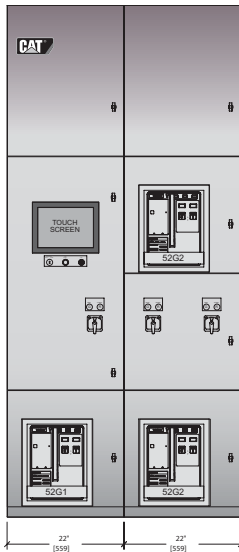
## TYPICAL APPLICATION



## DIMENSIONS



## DIMENSIONS



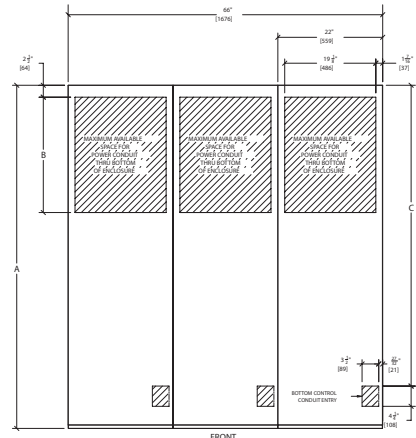
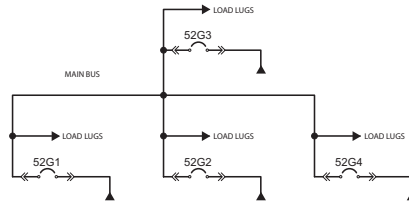
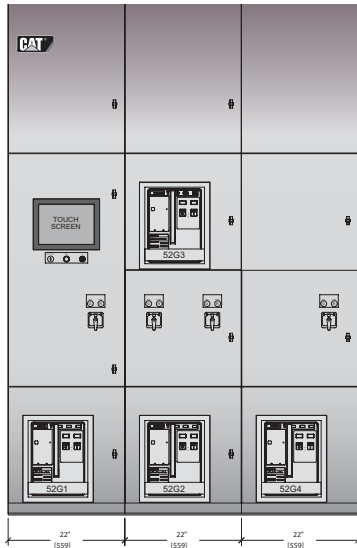
Structure Width		
A	B	C
72"	25.3125	63.125
84"	37.3125	75.125
90"	43.3125	81.125

EGP Switchgear (480 Volt)									
Operating Voltage	Model Number	Minimum Gen kW	Maximum Gen kW	Generator CB Size	Main Bus Size	Load Lugs	500 mcm Lugs per Phase	Drawing Number	Cabinet Depth
480	EGP2-800	0	532	800	1600	2	3	1	72
	EGP2-1600	532	1064	1600	1600	2	4	1	72
	EGP2-2000	665	1330	2000	2000	2	6	1	72
	EGP2-3000	998	2000	3000	3200	2	8	1	84
	EGP3-800	0	532	800	1600	3	3	2	72
	EGP3-1600	532	1064	1600	3200	3	4	2	90
	EGP3-2000	665	1330	2000	4000	3	6	2	>90
	EGP3-3000	998	2000	3000	6000	3	8	2	>90

### EGP Notes

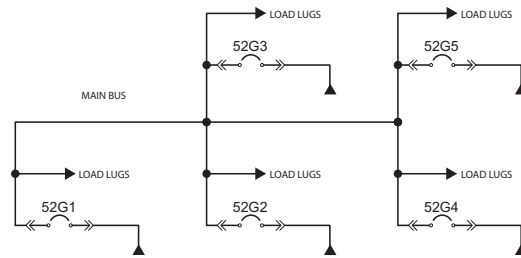
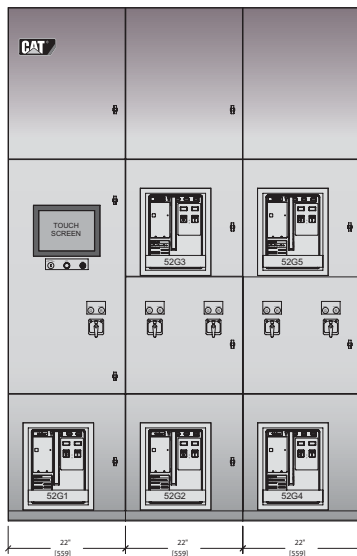
- 1- Switchgear standards using load take offs (Minimum Main bus size shown)
- 2- (>90) – Enclosure greater than 90" deep will require both Top and Bottom entry for adequate cable space

## DIMENSIONS



PLAN VIEW (3 SECTIONS)

## DIMENSIONS



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72"	25.3125	63.125
84"	37.3125	75.125
90"	43.3125	81.125

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	EGP4-1600	532	1064	1600	3200	4	4	3	90
	EGP4-2000	665	1330	2000	4000	4	6	3	>90
	EGP4-3000	998	2000	3000	6000	4	8	3	>90
	EGP5-800	0	532	800	1600	5	3	4	72
	EGP5-1600	532	1064	1600	3200	5	4	4	90
	EGP5-2000	665	1330	2000	4000	5	6	4	>90
	EGP5-3000	998	2000	3000	6000	5	8	4	>90

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