



Picture shown may not reflect actual configuration

Cat[®] Engine Paralleling and Integration Control EPIC

The Engine Paralleling and Integration Control (EPIC) family of generator control panels provide an alternative to switchgear mounted controls with a high level of functionality. Available for applications from 208 volts through 27 kilovolts, this flexible offering allows for modular expansion of standard building blocks to match a wide variety of generator paralleling applications. EPIC will support emergency standby as well as utility paralleling applications

MASTER CONTROL PANEL

The Master Control Panel (MCP) provides for master level logic, and operates and controls two Cat engine-generators and their electrically operated circuit breakers. The system interface is housed in the MCP. A variety of configurations of Master Control Panel allow for inclusion of paralleling and non-paralleling tie circuit breaker control to be added. The MCP serves as the communication hub for the system which can be expanded through additional panels to include controls for up to 12 generator sets, a single tie breaker, a single utility breaker, and up to 16 distribution circuit breakers.

FEATURES

- Master Level PLCs
- Gen 1 & Gen 2 Control
- Circuit Breaker Control Switches
- Circuit Breaker Position LEDs
- Horn and Silence Button
- High Speed Ethernet Supervisory Network
- System and Generator Parameter Monitoring
- Password Protection for Critical Settings
- Generator Control and Protective Functions (reference page 3)
- Automatic Start/Stop
- Automatic Load and VAR sharing
- Automatic “Dead Bus” Coordination
- Automatic PF Control when in Parallel with Utility
- Programmable Load Shed/Add (5 levels)
- 19” Graphical Color Touch Screen
- Generator kW and Engine Hour Based priority

OPTIONS

- Paralleling Tie Circuit Breaker Control & Protection (reference page 3)
- Non-Paralleling Tie Circuit Breaker Control
- 22” Graphical Color Touchscreen
- BMS Data Table (RS485 or TCP)
- Redundant Master PLC
- Ring or Redundant Ring Supervisory Network
- Extended Load Shed Levels (10 total)
- Discrete Sync Check (ANSI 25) hardware
- Station Battery adapter kit
- Remote Monitoring

GENERATOR CONTROL PANEL

STANDARD FEATURES

- Controls One Additional Cat Generator Set and Circuit Breaker
- Panels May Be Added to Control Generators 3-12
- Generator Protective Functions (See page 3)
- Circuit Breaker Control Switch
- Circuit Breaker Position LEDs
- Wall Mounted Enclosure

OPTIONS

- Discrete Sync Check (ANSI 25) Hardware
- Individual Generator Set Metering 6" Display



UTILITY CONTROL PANEL

STANDARD FEATURES

- Controls One Utility Main Circuit Breaker per System
- Closed Transition, Soft Transfer and Import/Export Control
- Utility Protective Functions (See page 3)
- Circuit Breaker Control Switch
- Circuit Breaker Position LEDs
- Utility Close Lockout Switch
- Wall Mounted Enclosure

OPTIONS

- Discrete Sync Check (ANSI 25) Hardware
- Individual Utility Metering 6" Display



DISTRIBUTION CONTROL PANEL

STANDARD FEATURES

- Controls Distribution Circuit Breakers
- Provides Power Relays for CB Control through 250VDC/600VAC
- Adds Distribution Breakers to MCP HMI System Level Screen
- Provides Manual Control Through MCP HMI System Level Screen
- Available in 4,8, 12 or 16 CB Configurations
- 4 CB Configuration Available in Wall-Mounted Version

OPTIONS

- Local 6" Control Touchscreen
- Individual CB Control Switches & LED Indication



(Wall Mount Version Shown)

| DESCRIPTION | SPECIFICATION |
|--|--|
| General | |
| Certifications | UL/cUL 508A |
| Generator Set Compatibility | |
| Generator Set Control (EMCP) Requirements | Control Connects direct to VR and Gov. Engine Communications Standard for EMCP 4.2 and EMCP 4.3 Cannot be used with EMCP 4.4 |
| Generator Quantity | 2-12 generator sets |
| Voltage and Frequency | 208V-27kV; 50/60 HZ |
| System Control Voltage | |
| EPIC Control Nominal | 24 VDC |
| EPIC Control Range | 16-40 VDC |
| Circuit Breaker Control Voltage (Current Rating) | 120VAC (40A); 480/600VAC (3A); 110VDC (10A); 225VDC (4A) |
| Environmental Parameters | |
| Humidity | 95% Non-Condensing (relative) |
| Operating Temperature | 0°C to 50°C |
| Storage Temperature | -20°C to +50°C |
| Enclosure Rating | NEMA 1 |
| Generator Protective Functions | |
| Relaying | 15/25, 27/59, 81 O/U, 32, 40, 90 (All Industrial Grade) |
| Electrical Metering | V, A, PF, kVar, kW, Hz, kWhr, kVarH |
| Accuracy | Voltage (L-L), Current, Frequency, Real Power, Reactive Power, PF: 0.5% |
| Tie & Utility Protective Functions | |
| Relaying | 15/25, 27/59, 81 O/U, 32, 47 (All Industrial Grade) |
| Electrical Metering | V, A, PF, kVar, kW, Hz, kWhr, kVarH |
| Accuracy | Voltage (L-L), Current, Frequency, Real Power, Reactive Power, PF: 0.5% |
| Weights and Dimensions | |
| Master Control Panel | 550 lbs (250kg) 72"H x 36" W x 30"D (1829mm H x 887mmW x 762mm D) |
| Utility Control Panel | 125 lbs (57kg) 24"H x 30" W x 8"D (610mm H x 762mmW x 203mm D) |
| Generator Control Panel | 125 lbs (57kg) 24"H x 30" W x 8"D (610mm H x 762mmW x 203mm D) |
| Distribution Control Panel (Wall Mounted) | 126 lbs (57kg) 24"H x 30" W x 8"D (610mm H x 762mmW x 203mm D) |
| Distribution Control Panel (Floor Standing) | 72 lbs (1829kg) 30"H x 18" W x 18"D (1829mm H x 762mmW x 457mm D) |
| Wiring Access | |
| Master Control Panel | Top & Bottom |
| Utility Control Panel | Bottom Only |
| Generator Control Panel | Bottom Only |
| Distribution Control Panel (Wall Mounted) | Bottom Only |
| Distribution Control Panel (Floor Standing) | Top & Bottom |

1) 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 short circuit protection (integral or separate relay). Recommended maximum open/close rating for non utility paralleling is 12 cycles and for utility paralleling is 5 cycles.

2) The EPIC control system requires three phase voltage and current (0-5A) sensing from the generator sets.

3) Reference Cat Switchgear Document DCN0150 for interconnection requirements.

Materials and specifications are subject to change without notice.

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