Power Generation

Automatic Transfer Switches

Global



Our energy working for you.™

The Power of One™

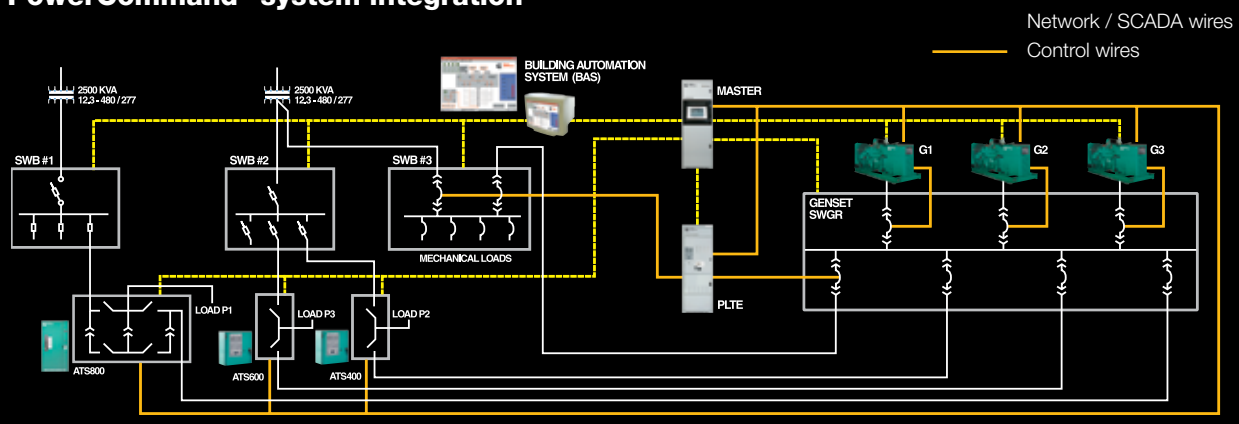
Used for switching power between the primary (utility) and secondary (backup or supplemental) power sources, Cummins automatic transfer switches feature PowerCommand control technology for easy operation, and a robust, high-contact-force design to withstand thousands of switching cycles. A full line of standard switches is available from 40 to 4,000 amps for the entire range of power systems with common bus communication language. Key features include:

- Open, closed or programmed transition transfers
- Bypass isolation configurations
- Withstand and closing ratings up to 200 kA
- Service entrance configurations to 1,000 amps
- Global agency approvals, including: UL1008, IEC, CSA, NFPA, IEEE, IBC and NEMA ICS 10

Together as a system, PowerCommand® transfer switches, digital paralleling systems, generator sets and digital master controls provide you with peace of mind unmatched by others in the industry.

- Custom-engineered switches are available to fit unique project requirements
- Installed in more than 100,000 applications globally
- Convenient front-panel display to easily review power and load conditions, make adjustments, review events and check network status

PowerCommand® system integration

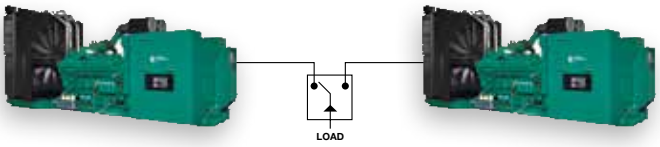


Cummins Power Generation offers a wide range of automatic transfer switches for seamless transfer of power between the power sources in your application. Included as part of a completely integrated power system, PowerCommand transfer switches rely on proven technology to deliver fail-safe performance in critical applications.

At Cummins Power Generation, we engineer our transfer switches with flexibility and ease-of-operation in mind. Paired with a PowerCommand generator set, the result is a robust power system capable of ensuring reliable performance while maximizing cost effectiveness.

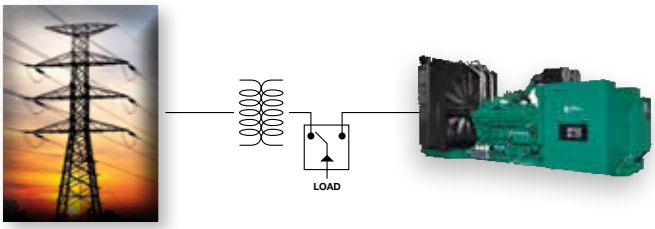
Reliable, flexible, easy to use

PowerCommand® transfer switches provide safe, dependable power transfer between sources.



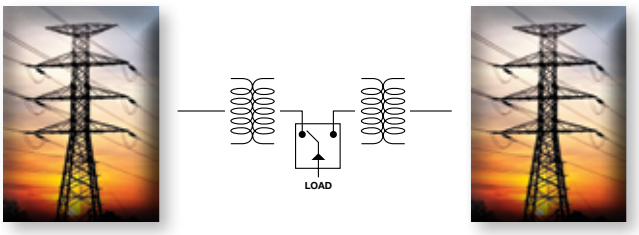
Generator-to-generator

For facilities with a prime power system using multiple on-site generators. If the primary generator fails, the transfer switch sends a start signal to the second generator and then transfers the load.



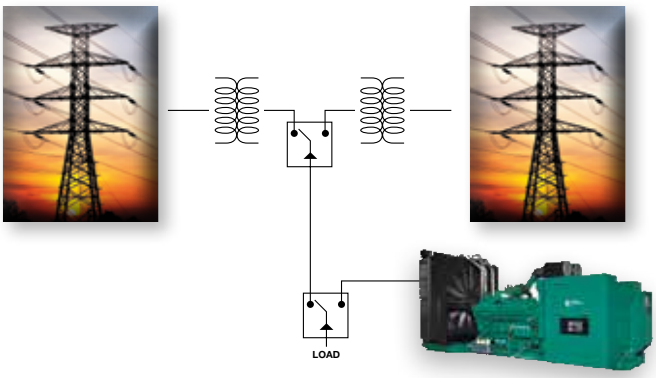
Utility-to-generator

For facilities with a standby power system and a single utility feed. The transfer switch senses when utility power has been lost, sends a start signal to the standby generator and transfers the load.



Utility-to-utility

For use in facilities with redundant utility feeds but no standby generator. If one utility feed fails, the transfer switch automatically connects the load to the second utility feed.



Three-source system

For facilities with a standby power system and two utility feeds. The utility transfer switch controls the feeds from the two utilities based on a pre-established priority. If both utility feeds fail, the generator transfer switch sends a start signal to the standby generator and transfers the load.

Another three source system uses a standby generator in place of the second utility (dual standby). If the utility fails, the first transfer switch sends a start signal to the primary standby generator and transfers the load. If the primary standby generator fails, the transfer switch sends a start signal to the second generator set and transfers the load.

Dependable power transfer

Open, closed or programmed-transition transfer



OTPC

> Open, closed or programmed transition
> 40-4000 amps
> 3- and 4-pole
> UL-listed

.....6



CHPC

> Closed transition
> 125-800 amps
> 2-, 3- and 4-pole
> UL-listed

.....10



OHPC

> Open or programmed transition
> 125-800 amps
> 2-, 3- and 4-pole
> UL-listed

.....10



OTEC

> Open (in-phase) or programmed transition
> 40-1000 amps
> 3- and 4-pole
> UL-listed

.....11



GTEC

> Open or programmed transition
> 40-2000 amps
> 2-, 3- and 4-pole
> IEC and CE-labeled

.....12

Bypass isolation load transfer



BTPC

> Open, closed or programmed transition
> 150-4000 amps
> 3- and 4-pole
> UL-listed

.....8

Choice of transfer modes

PowerCommand® transfer switches optimize system reliability and performance, reduce maintenance costs and enhance your entire system with unique capabilities.

Open-transition transfer

Break-before-make switching action: The most basic type of transfer; the connection to one source is opened before the connection to the second source is closed. The sync-check feature included in the open-transition transfer control monitors both sources and initiates the transfer—avoiding out-of-phase closing.

Applications: Emergency, code-required and optional standby systems; resistive loads; small motor loads

Closed-transition transfer

Make-before-break switching action for uninterrupted power transfer. The transfer switch provides a seamless transfer of the load from one source to another by momentarily paralleling both sources (<100 milliseconds) during the transfer period.

Applications: Critical power requirements, including hospitals and data centers

Programmed-transition transfer

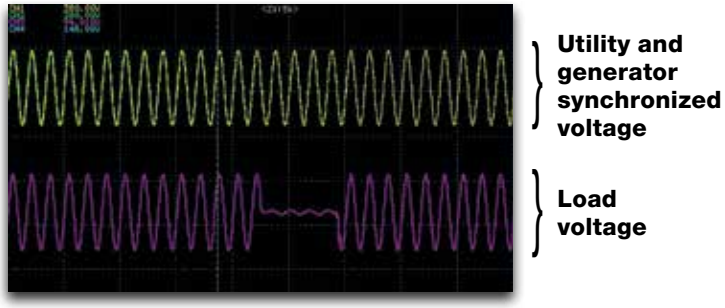
Similar to open-transition transfer. The switch opens the connection to one source, pauses for an adjustable delay time, then closes the connection to the second source. The adjustable time between sources allows the decay of residual voltage before connecting to the second source.

Applications: Inductive (motor) loads; recommended by some manufacturers of UPS and VFD equipment

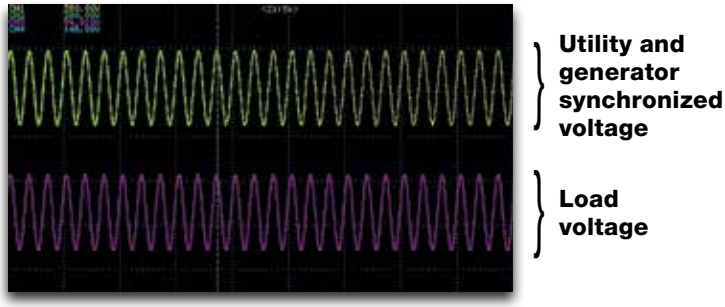
Bypass isolation transfer

Allows maintenance to the main ATS without disconnecting the load. By having two transfer switches connected in parallel, the bypass transfer switch adds redundancy to the system.

Applications: Critical power and maintenance requirements, including healthcare and data center



Break-before-make switching action opens the connection to one source before closing the connection to the second source. Shown: open transition with sync check.



Make-before-break switching action provides uninterrupted power transfer. The switch closes the connection to the second source before opening the connection to the first source.

OTPC
automatic transfer switches

OTPC 40-4000 amp series
PowerCommand automatic transfer switches

Premium-featured OTPC PowerCommand transfer switches are ideal for emergency, code-required and optional standby power applications. The OTPC transfer switch is available in several different control configurations to meet the requirements of your load transfer application.

1008 ICS10



PowerCommand® automatic transfer switches feature microprocessor-based control technology for easy operation and robust, high-contact-force design.

> PowerCommand control
Microprocessor-based controls are developed specifically for automatic transfer switch operation

> Robust control system design
Optically-isolated logic inputs and high-isolation transformers for AC power inputs provide high-voltage surge protection

> Communications capability
Transfer switch communicates via a SCADA network or LonWorks

> Easy service/access
Plug connections, door-mounted controls, ample access space, compatible terminal markings simplify access

> Advanced transfer switch mechanism
Bi-directional linear motor actuator provides virtually friction-free, constant-force, straight-line transfer switch action with no complex gears or linkages

> Break-before-make action
Independent break-before-make action is used for both 3-pole and 4-pole/switched neutral switches

> Main contacts
Heavy-duty silver alloy contacts with separate arcing surfaces and multi-leaf arc chutes are rated for total system transfer including overload interruption

> Mechanical interlock
Prevents simultaneous closing of normal and emergency contacts

> Service entrance option available

Features:

> Long-life, high-visibility LED indicators

Designed to last the life of the control; include “not in auto” and “test/exercise active” monitoring

> Momentary push buttons

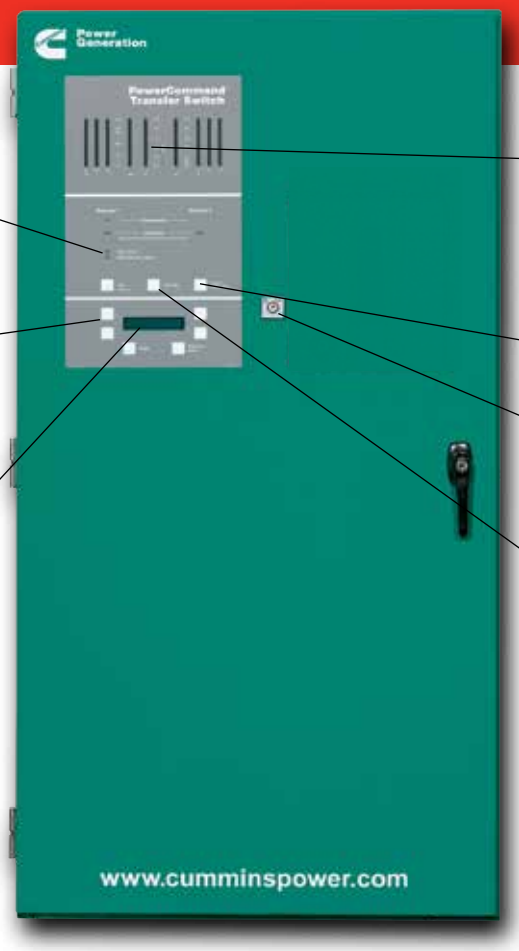
Allow for quick, one-touch testing and retransfer of power

> Digital vacuum fluorescent displays

Feature 2-line-by-20-character for easy reading at a distance; superior to LCD-type displays at extreme operating temperatures

> Sync command

Works with PowerCommand generator set for highly reliable closed-transition and in-phase transfers



> LED bar graph

Displays color-coded and easy-to-read load status including 3-phase AC voltage, current, frequency, kW and power factor

> Lamp test button

> Front panel security lock

Safeguards against unauthorized adjustments or operation

> Override button

Bypasses time delays

> PowerCommand networking capability

Monitors the entire Cummins Power Generation power system

Automatic transfer switch standard and optional features

> Manual operating handle

> Mechanical lugs or optional compression lugs

Offers flexible terminal connections

> Stored-energy actuator

Provides consistent high-speed transfers

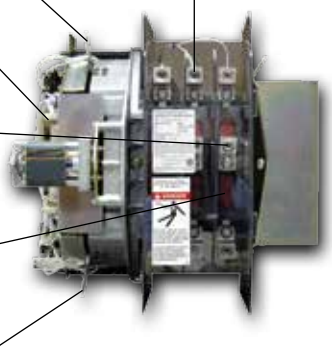
> Front access terminals

Allow for ease of installation

> Blow-on contactor

Provides for high survivability in short circuit conditions

> Manual operating handle



Closed-transition transfer switch mechanism

> Easy access terminal block

> Barriers over all live parts

Provides safety shield for operations

> Spring-loaded overcenter mechanism

Provides automatic, fast and consistent manual operation and reliable speed of transfer (40-1000 amps)

> Linear motor operator

Provides simple direct motion, constant force and smooth program transition without gears or links (40-1000 amps)

> Permanently attached manual operator handles

Allows for manual operation and easy servicing (40-100 amps)



Open-transition transfer switch mechanism

BTPC
bypass-isolation transfer switches

PowerCommand® bypass-isolation transfer switches are ideal for critical-need applications where any disruption of supply power, even for routine maintenance, is unacceptable.

BTPC series transfer switches combine the features of our advanced automatic transfer switch with a closed-door drawout isolation mechanism, a two-source bypass switch and exclusive microprocessor-based controls. The switch allows maintenance, service and testing of the automatic transfer switch without disrupting power to critical loads. The resulting power transfer redundancy helps ensure constant, reliable power for critical applications.

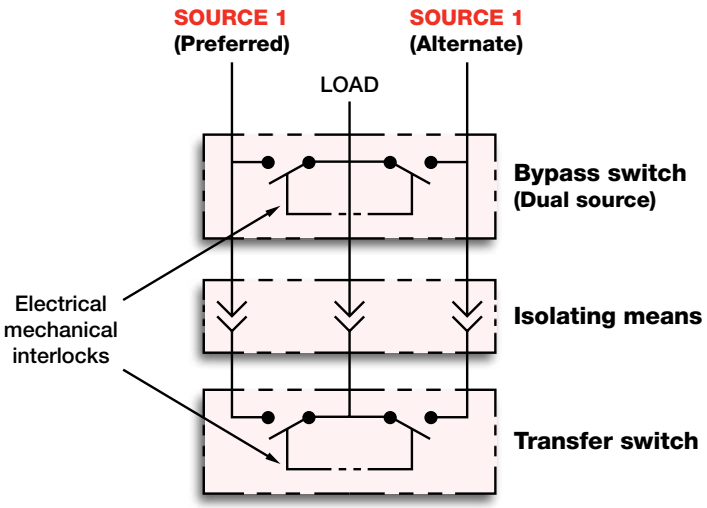


BTPC 150-4000 amp series PowerCommand bypass-isolation transfer switch

These switches feature non-load break bypass operation that maintains service to critical loads when the automatic transfer switch is drawn out of service.

External manual operation capability for the automatic transfer switch provides safe, reliable operation while lead source interlocks prevent the operator from connecting loads to a failed utility or generator source. The full mechanical interlock system prevents accidental interconnection of the power sources.





Features:



> Bypass to any viable source at any time

Allows for normal or emergency power, whichever is required

> Mechanical flags

Indicate bypass position

> Easy manual operation

Allows manual transfer to any available source at any time

> PowerCommand control

> Permanently mounted instructions

> Drawout positions

Are connected, tested and isolated with door closed for safety

> Heavy-duty 3-point latches

Insures door will stay closed without the need for screw-in fasteners

Bypass isolation transfer switches standard and optional features

> Cabinet space for "all top" or "all bottom" cable connections

> Touch barrier over field connections

> Drawout automatic transfer switch

> Dead source electrical interlock

Prohibits closing to a dead source

> Clear Lexan® barriers

Allow viewing of contact position

> Control disconnect plugs for faster and safer service



> Automatic safety shutters

Drop into place as the bypass is engaged, covering the primary disconnects as the transfer switch is withdrawn

> Stationary bypass switch

> Lexan shutter

Covers drawout stabs for touch protection

> Convenient drawout rails

Allow automatic transfer switch to be quickly rolled out and replaced

Bypass-isolation switch mechanism

CHPC/OHPC
automatic transfer switches

CHPC closed-transition 125-800 amp series PowerCommand automatic transfer switches

Designed specifically for uninterrupted, closed-transition operation, the revolutionary design incorporates proven PowerCommand micro-processor control with an innovative High-Endurance Mechanism (HEM) for uncompromising reliability.

1008 ICS10



OHPC open-transition 125-800 amp series PowerCommand automatic transfer switches

For open-transition operation, OHPC transfer switches also incorporate PowerCommand microprocessor control and a reliable High-Endurance Mechanism. The OHPC is ideal for utility-to-utility, utility-to-genset and genset-to-genset applications.

> UL-listed 30-cycle ratings

OHPC is listed for short-time ratings of 25,000 amps at 10 cycles for 125-260 amps, 30,000 amps at 30 cycles for 300-600 amps, and 42,000 amps at 30 cycles for 800 amps.

> PowerCommand microprocessor control

Fully-featured, field-programmable microprocessor control; easy setup and accuracy

> Surge protection

Optically-isolated logic inputs and high isolation transformers for AC power inputs provide high-voltage surge protection

> Selectable transfer method (OHPC)

The switch automatically transfers the load back either by using the fast transfer or delayed-transition mode of operation

> Manual operation

Manual operating handles and stored-energy transfer mechanism allow effective manual operation

> Easy service/access

Plug connections, door-mounted controls, ample access space and compatible terminal markings simplify access

> Main contacts

Heavy-duty silver alloy contacts and multi-leaf arc chutes are rated for total system transfer

> Stored-energy mechanism

Allows the mechanism to be switched between sources even when no source is available

OTEC
automatic transfer switches

OTEC 40-1000 amp series automatic transfer switches

The OTEC series transfer switch provides the basic features you need for primary source and generator set monitoring, generator set starting and load transfer functions for emergency standby power applications.

1008 ICS10



Cummins Power Generation switches are built to withstand thousands of switching cycles, ensuring reliable operation.

> Easy service/access

Plug connections, door-mounted controls, ample access space, compatible terminal markings simplify access

> Advanced transfer switch mechanism

Bi-directional linear motor actuator provides virtually friction-free, constant-force, straight-line transfer switch action with no complex gears or linkages

> Break-before-make action

Independent break-before-make action is used for both 3-pole and 4-ppole/switched neutral switches

> Main contacts

Heavy-duty silver alloy contacts with separate arcing surfaces and multi-leaf arc chutes are rated for total system transfer including overload interruption

> Main contacts

Heavy-duty silver alloy contacts with separate arcing surfaces and multi-leaf arc chutes are rated for total system transfer including overload interruption

> Mechanical interlock

Prevents simultaneous closing of normal and emergency contacts

> Positive interlocking

Mechanical and electrical interlocking prevent source-to-source connection through the power or control wiring

> Manual operation

Manual operating handles, shielded termination and over-center type contact mechanisms allow effective, manual operation under de-energized conditions

> Microprocessor control

Fully-featured microprocessor control is standard, with all features, settings and adjustments software-enabled for ease of setup and accuracy

> Service entrance option available

GTEC
automatic transfer switches

GTEC 40-2000 amp series automatic transfer switch

The GTEC automatic transfer switch combines reliability and flexibility in a small, economical package for normal and generator set source monitoring, generator set starting and load transfer functions. GTEC automatic transfer switches are ideal for IEC emergency, standby and optional standby applications.

Not available in North America.



> Microprocessor control

Fully-featured microprocessor control is standard with all settings and adjustments designed for easy operator use via the front display panel

> Operating modes

Open transition with programmed transition (adjustable 0-10 seconds); open transition with sync-check monitor and programmed-transition backup; exercise mode; and test mode

> Manual operation handle (standard)

Allows manual operation of the switch after proper disconnection of power sources

> Easy service/access

Door-mounted controls, ample access space and compatible terminal markings allow for easy access

> Positive interlocking

Mechanical interlocking prevents source-to-source connection through the power contacts

> Solenoid

A powerful and economical solenoid power GTEC transfer switches

> Advanced transfer switch mechanism

True transfer switch mechanism with break-before-make action

> Continuously rated

Can be used in applications up to their nameplate rating

> Main contacts

Long-life, high-pressure silver alloy contacts withstand thousands of switching cycles without burning, pitting or welding and provide 100% continuous current ratings

Remote Monitoring

PowerCommand® remote monitoring devices let you easily manage on-site and off-site power systems from one location.

Whether you're using a desktop computer, a laptop or a cell phone, PowerCommand remote monitoring systems help you reduce power setup time, operation and maintenance.

PowerCommand accesories for reliable web-based monitoring

PowerCommand remote monitoring systems let you monitor generator set and transfer switch functions via the Internet. You can:

- Monitor remotely via wireless connection using cellular or satellite communications
- Communicate via an Ethernet connection, phone line or available wireless configuration
- Connect via an Internet browser on a remote PC
- Send alarms to cell phones, pagers or e-mail addresses
- Display voltage and frequency of each source
- Monitor one or two generator sets and up to four transfer switches



Power Suite™ 5.0 with Transfer Products Selector Tool

Power Suite is Cummins Power Generation's web-based application for sizing and applying on-site power systems. Power Suite is available online at powersuite.cummins.com at no charge; only a brief registration is required.

Power Suite consists of three components: GenSize™, the Transfer Products Selector tool, and the Power Suite Library. After the user enters the project parameters and use Power Suite's intuitive tools to "build" a system, the Transfer Products Selector tool recommends the Cummins Power Generation transfer switches meeting the project needs.

Transfer switch specification sheets, drawings, wiring diagrams and other technical information are available in the Power Suite Library.

Microprocessor controls

● **Standard Features** ○ **Optional Features** — **Not Available**

	GTEC/OTEC control	Level-1 (OTPC/OHPC control)	Level-2 (OTPC/OHPC/ CHPC/BTPC control)
Sensing			
3-Phase voltage-sensing utility	●	●	●
3-Phase voltage-sensing generator	— single phase	— single phase	●
Electrical isolation from AC mains	● high impedance	● transformer	● transformer
Voltage-sensing accuracy	+/-2%	+/-1%	+/-1%
O/U voltage-sensing utility	U/V only	●	●
O/U voltage-sensing generator	U/V only	●	●
O/U frequency-sensing utility	—	●	●
O/U frequency-sensing generator	U/F only	●	●
Voltage imbalance	—	—	●
Phase rotation	—	—	●
Loss of phase	●	●	●
General features/serviceability			
Door-mounted	●	●	●
Controls isolated from switch during service	●	●	●
Single control package for sensing/timing	●	●	●
Voltage surge immunity	●	●	●
Optically isolated customer I/O	—	●	●
Method(s) for sensor/timer adjustments	LED configuration	front panel, service software	front panel, service software
Number of time/date-stamped events	—	50	50
Real-time clock (RTC)	—	●	●
On-board diagnostics/fault detection	●	●	●
Field-upgradeable software, PC diagnostics	—	●	●
Fully adjustable timers, sensors and control parameters	adjustable in steps	●	●
Mode control keyswitch interface with control	—	○	○
Supported voltages			
120V; 200-240V; 380-480V or (220-277V L-N); 600V	●	●	●
Transition modes			
Programmed transition	●	●	●
Open transition with sync-check sensor	—	●	●
In-phase monitor	●	—	—
Closed transition (momentary)	—	—	●
Closed transition (soft loading/paralleling)	—	—	—
Display/metering/user interface			
Display offered/type	—	○ VFD	○ VFD
Front-panel LED status lamps	6-fixed (8 for config.)	6 fixed	6 fixed
Front-panel test	●	●	●
Front-panel TD override	●	●	●
Front-panel lamp test/fault reset	—	●	●
Front-panel set exerciser	●	w/display	w/display
Color-coded bar graph meters for voltage, current, frequency, kW & power factor	—	—	●
Engine-exerciser clock			
Calendar-based exerciser with real-time clock	—	●	●
Once/week exerciser	●	—	—
Exerciser via external clock module	●	—	—
Number of exercise programs	1	1	8
Power output for external timer	—	—	—
Exercise exceptions	—	● 1	● 8

PowerCommand controls optimize the reliability and performance of the power generation system while keeping costs competitive and providing unique capabilities for the entire system.

	GTEC/OTEC control	Level-1 (OTPC/OHPC control)	Level-2 (OTPC/OHPC/ CHPC/BTPC control)
Time delays			
Displays timer delay countdown	–	●	●
Field-adjustable time delays	●	●	●
Time-delay engine start	●	●	●
Time-delay transfer (normal to emerg)	●	●	●
Time-delay retransfer (emerg to norm)	●	●	●
Time-delay engine cooldown	●	●	●
Time-delay elevator pre-transfer	●	●	●
Time-delay programmed transition (delayed neutral)	●	●	●
Time-delay override/bypass feature	●	●	●
Automatic generator-generator changeover timer	–	–	●
Customer inputs/outputs			
Remote test with load/transfer to generator	●	●	●
Remote engine start	●	●	●
Transfer inhibit	●	●	●
Re-transfer inhibit	●	●	●
Generator (source-2) common alarm	–	●	●
Utility (source-1) common alarm	–	●	●
Panel security lock	–	●	●
Load shed input	–	●	●
Generator battery charger status input	–	●	●
Remote time delay override/bypass	●	–	–
Remote lamp test/fault reset	–	–	–
Synchronizer enable	–	●	●
Bypass switch position contacts	–	–	●
Generator interface			
Generator (1) start contact (relay)	●	●	●
Generator (2) start contact	–	–	●
3-wire generator start compatible (use LT for this feature)	–	–	–
Relay outputs			
Source-1 connected	●	●	●
Source-2 connected	●	●	●
Source-1 available	–	●	●
Source-2 available	–	●	●
ATS not in auto	–	●	●
Test/exercise active	–	●	●
Pre-transfer/load disconnect	● relay drives	●	●
Load shed active	–	●	●
Failure to disconnect	–	–	●
Failure to close/open	–	●	●
Failure to sync	–	●	●
Remote communications			
Remote communications module	–	●	●
Remote communications description	–	LonWorks, NCM	LonWorks, NCM
Remote fault dial-out/paging	–	●	●
Remote dial-in access	–	●	●
Event login	–	50	50
ATS load sequencing control	–	●	●
Peer-peer system status data	–	●	●
Internet-accessible sites	–	–	–
Current / load monitoring	–	–	●

Agency approvals, code/standards	GTEC	OTEC	OTPC/OHPC	OTPC/OHPC/CHPC/BTPC
UL1008	–	●	●	●
IEC	●	–	–	–
CSA, NFPA, IEEE	–	●	●	●
IBC	–	●	●	●
NEMA ICS 10	–	●	●	●

Power Generation



Our global operations:

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For more information contact your local Cummins distributor.
To find the one nearest you visit power.cummins.com

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