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

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.
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.
Open, closed or programmed-transition transfer

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

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

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

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

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

Bypass isolation load transfer

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

**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

**Closed-transition transfer**

*Break-before-make* 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

**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

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**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.

**Break-before-make switching action** provides uninterrupted power transfer. The switch closes the connection to the second source before opening the connection to the first source.
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**
  Safeguards against unauthorized adjustments or operation.

> **Front panel security lock**
  Provides safety shield for operations.

> **Override button**
  Bypasses time delays.

> **PowerCommand networking capability**
  Monitors the entire Cummins Power Generation power system.

> **Automatic transfer switch**
  Standard and optional features:
  
  > **Lamp test button**
  > **Front panel security lock**
  > **Override button**
  > **PowerCommand networking capability**
  > **Lamp test button**
  > **Front panel security lock**
  > **Override button**
  > **PowerCommand networking capability**

> **Manual operating handle**

> **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**

> **Mechanical lugs or optional compression lugs**
  Offers flexible terminal connections.

> **Easy access terminal block**
  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).
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

- **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
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.

**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.

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 accessories 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

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<th>Level-2 (OTPC/OHPC/CHPC/BTPC control)</th>
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<td>3-Phase voltage-sensing utility</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>3-Phase voltage-sensing generator</td>
<td>— single phase</td>
<td>— single phase</td>
<td>●</td>
</tr>
<tr>
<td>Electrical isolation from AC mains</td>
<td>● high impedance</td>
<td>● transformer</td>
<td>● transformer</td>
</tr>
<tr>
<td>Voltage-sensing accuracy</td>
<td>+/-2%</td>
<td>+/-1%</td>
<td>+/-1%</td>
</tr>
<tr>
<td>O/U voltage-sensing utility</td>
<td>U/V only</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>O/U voltage-sensing generator</td>
<td>U/V only</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>O/U frequency-sensing utility</td>
<td>—</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>O/U frequency-sensing generator</td>
<td>U/F only</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Voltage imbalance</td>
<td>—</td>
<td>—</td>
<td>●</td>
</tr>
<tr>
<td>Phase rotation</td>
<td>—</td>
<td>—</td>
<td>●</td>
</tr>
<tr>
<td>Loss of phase</td>
<td>●</td>
<td>●</td>
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<tr>
<td>Single control package for sensing/timing</td>
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<tr>
<td>Voltage surge immunity</td>
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<tr>
<td>Optically isolated customer I/O</td>
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<tr>
<td>LED configuration</td>
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<tr>
<td>Front panel, service software</td>
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<tr>
<td>Number of time/date-stamped events</td>
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<tr>
<td>On-board diagnostics/fault detection</td>
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<tr>
<td>Field-upgradeable software, PC diagnostics</td>
</tr>
<tr>
<td>Fully adjustable timers, sensors and control parameters</td>
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<tr>
<td>Mode control keyscale interface with control</td>
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<td>LED configuration for sensor/timer adjustments</td>
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<tr>
<td>Number of exercise programs</td>
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<tr>
<td>Power output for external timer</td>
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<td>Exercise exceptions</td>
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<td>Front-panel test</td>
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<td>Front-panel TD override</td>
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<tr>
<td>Front-panel lamp test/fault reset</td>
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<tr>
<td>Front-panel set exerciser</td>
</tr>
<tr>
<td>Color-coded bar graph meters for voltage, current, frequency, KW &amp; power factor</td>
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<tr>
<td>Calendar-based exerciser with real-time clock</td>
</tr>
<tr>
<td>Once/week exerciser</td>
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<tr>
<td>Number of exercise programs</td>
</tr>
<tr>
<td>Power output for external timer</td>
</tr>
<tr>
<td>Exercise exceptions</td>
</tr>
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</table>
PowerCommand controls optimize the reliability and performance of the power generation system while keeping costs competitive and providing unique capabilities for the entire system.

<table>
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<tr>
<th>Time delays</th>
<th>GTEC/OTECELEC</th>
<th>Level-1 (OTPC/OHPC control)</th>
<th>Level-2 (OTPC/OHPC/CHPC/BTPC control)</th>
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<tr>
<td>Displays timer delay countdown</td>
<td>—</td>
<td>●</td>
<td>●</td>
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<tr>
<td>Field-adjustable time delays</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Time-delay engine start</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Time-delay transfer (normal to emerg)</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Time-delay retransfer (emerg to norm)</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Time-delay engine cool down</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Time-delay elevator pre-transfer</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Time-delay programmed transition (delayed neutral)</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Time-delay override/bypass feature</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Automatic generator-generator changeover timer</td>
<td>—</td>
<td>—</td>
<td>●</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Customer inputs/outputs</th>
<th>GTEC/OTECELEC</th>
<th>Level-1 (OTPC/OHPC control)</th>
<th>Level-2 (OTPC/OHPC/CHPC/BTPC control)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote test with load/transfer to generator</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Remote engine start</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Transfer inhibit</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Re-transfer inhibit</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Generator (source-2) common alarm</td>
<td>—</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Utility (source-1) common alarm</td>
<td>—</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Panel security lock</td>
<td>—</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Load shed input</td>
<td>—</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Generator battery charger status input</td>
<td>—</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Remote time delay override/bypass</td>
<td>●</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Remote lamp test/fault reset</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Synchronizer enable</td>
<td>—</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Bypass switch position contacts</td>
<td>—</td>
<td>—</td>
<td>●</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Generator interface</th>
<th>GTEC/OTECELEC</th>
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<th>Level-2 (OTPC/OHPC/CHPC/BTPC control)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generator (1) start contact (relay)</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Generator (2) start contact</td>
<td>—</td>
<td>—</td>
<td>●</td>
</tr>
<tr>
<td>3-wire generator start compatible (use LT for this feature)</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relay outputs</th>
<th>GTEC/OTECELEC</th>
<th>Level-1 (OTPC/OHPC control)</th>
<th>Level-2 (OTPC/OHPC/CHPC/BTPC control)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source-1 connected</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Source-2 connected</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Source-1 available</td>
<td>—</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Source-2 available</td>
<td>—</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>ATS not in auto</td>
<td>—</td>
<td>—</td>
<td>●</td>
</tr>
<tr>
<td>Test/exercise active</td>
<td>—</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Pre-transfer/load disconnect</td>
<td>● relay drives</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Load shed active</td>
<td>—</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Failure to disconnect</td>
<td>—</td>
<td>—</td>
<td>●</td>
</tr>
<tr>
<td>Failure to close/open</td>
<td>—</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Failure to sync</td>
<td>—</td>
<td>●</td>
<td>●</td>
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<thead>
<tr>
<th>Remote communications</th>
<th>GTEC/OTECELEC</th>
<th>Level-1 (OTPC/OHPC control)</th>
<th>Level-2 (OTPC/OHPC/CHPC/BTPC control)</th>
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<tbody>
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Our global operations:

40,000 employees
190 countries
88 manufacturing facilities
5,200 sales & service centers
500 distributor locations.