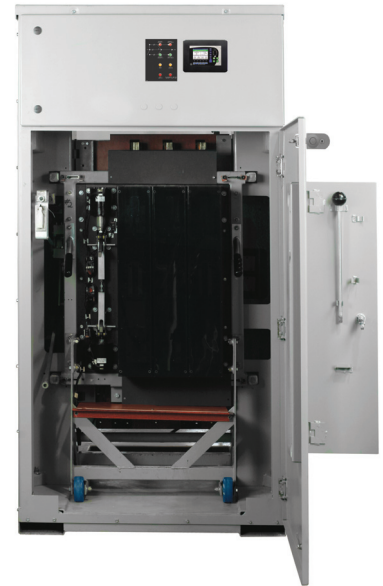


# ZBTE

## Low-Voltage Bypass/Isolation Open Transition Automatic and Manual Transfer Switches

- Ideal for mixed (inductive and resistive) mission critical loads
- Contact transfer speed less than 100 milliseconds
- Bypass/Isolation for ease of ATS maintenance/testing without load loss of power
- Ratings 100 to 4000 amperes



### Ratings & Construction

- Ratings** – Voltage, Ampere and Pole configuration per Order Code
- Certifications** – UL 1008, CSA C22.2
- Certifications** – Third-party Seismic Certification to IBC 2006, 3.2g @ Ip = 1.5 (operation during event)
- Electrical Operator** – Momentarily energized, high-speed solenoid mechanism
- Mechanism** – Mechanically-held with mechanical interlock to inhibit connection of both sources to the load
- Contacts** – GE design and manufactured, silver tungsten alloy with separate arcing contacts on 600A and above ratings for high withstand and close-on capability
- Neutral Pole (4 pole only)** – Identical construction to phase poles with fully rated main and arcing contacts. Operation via same mechanism as phase poles to prevent sustained connection of source neutrals in separately derived systems, as last-break/first-make transfer.

### Controller

- Construction** – Dual-processor based, with dedicated processor for high-speed Serial or Ethernet communications
- Source Sensing** – Direct 120-690V sensing and software configuration of rated voltage and frequency without the need for potential transformers, step-down transformers or DIP switches
- Control Wiring** – All customer connections at one location. All signals in/out relay-isolated via DIN-mounted relay/terminal blocks. All control wiring via factory-installed wiring harnesses.

### Enclosure

- Type** – per Order Code

### Display, Sensing & Time Delays

- Display** – ¼ VGA color graphical with embedded 'HELP' menus
- Annunciation** – High intensity LED for Source Availability (2), Source Connected (2), Transfer Inhibit (not in Auto)
- Source Fail/Restore** – Independently adjustable pickup & dropout of 3-phase U/O voltage, U/O Freq, Volts Balance plus Phase Rotation
- Time Delays** – Gen start, Source 2 stabilize, Source 2 fail override, Retransfer to Source 1, Gen cool down, Independent settings for Fast Test, Time Delay for Generator Voltage Sag
- Remote Access** – All parameters locally (front USB port) or remotely (serial or Ethernet) Adjustable

### Control Group Options (see order code)

- Group A:** All standard features, Field re-programmable I/O (4 inputs, 4 outputs), Control Switches (Test with Load, Test no load, Fast Test, Alarm Reset, Auto/Man Re-transfer Source 1, Auto/Man Transfer both sources, Preferred Source select, Commit/No Commit Transfer to Gen, Time Delay Bypass)
- Group B:** All features from "A" plus: 10 User-configurable Analog & 10 Digital Alarms, 20-channel data logger, 10-channel waveform capture, Auto Load Shed (with voltage, frequency, and kW triggers)
- Group C:** All features from "B" plus: 4 additional field programmable inputs (total 8 inputs, 8 outputs)
- Group D:** All features from "C" plus: 4 additional field programmable inputs (total 12 inputs, 12 outputs) & GE Flexlogic™ user-configurable control logic
- Group M:** Manual ATS configuration

### Additional Standard Features

- Engine Exerciser** – Configurable Periodic Exerciser (7 Event Daily, Weekly, 14 or 28 day) or Clock Exerciser Type (21 Event, 365 day Programmable)
- System Status Screen** – Active state of switch, display of all time delays and alarm conditions
- Event Recorder** – 256 Event, 1ms accuracy, clock sync via Network Time Protocol (NTP)
- Outage & Test Report Screen** – Date/time stamping of: outage or test event, start signal sent, Gen start time, connection to Gen, Max Gen Volts & Freq dip, return of utility, re-transfer to normal
- External Power Supply** – Standard 120VAC input for controller power and communication and 24 VDC input for remote control and annunciation when both sources de-energized
- Flexible Feature Assignment** – Field reassignable I/O for any/all control features
- In-Phase Monitor** – For phase matching prior to Live-Live transfers of load

### Optional Features (see order code)

- Serial Communications** – High speed, up to 115k Baud Modbus RTU
- Ethernet Communications** – Fast Ethernet, (10/100 Mbit), Modbus TCP/IP
- Power Quality Metering** – True RMS metering, including THD% (up to 8<sup>th</sup> order)
- Load Shed** – Ability to transfer to de-energized normal source or center position in event of generator overload
- Integral Surge Protective Device (SPD)** – Load-connected medium or high exposure type
- Integral Battery Charger** – 3 or 10A, 12 or 24VDC type
- Lugs** – Compression lugs in lieu of standard mechanical lugs on 100A-1200A switches
- Lugs** – Mechanical or Compression lugs in lieu of standard rear-bus connection on 1600-4000A switches



