

GE Consumer & Industrial
Power Quality

ZTS Series

Low-Voltage Automatic Transfer Switches





Since its introduction, the GE Zenith ZTS Series of transfer switches has become a hallmark of quality and performance. Reliability resulting from superior design and heavy duty construction has made the ZTS the industry standard for critical installations. Our emphasis on research and development, design improvements, materials, manu-

facturing methods, quality assurance, and service yields products that have been proven in hundreds of thousands of applications.

Subsequent to the first ZTS units installed, our engineering staff has been dedicated to the improvement and expansion of our line. Today, GE Zenith offers the widest selection of transfer switch products worldwide.

- ZTS Automatic Transfer Switches
40-4000 Amps
- ZTSD Delayed Transition Transfer Switches
40-4000 Amps
- ZTSCT Closed Transition Transfer Switches
100-4000 Amps
- ZBTS Automatic Transition Bypass Switches
100-4000 Amps
- ZBTSD Delayed Transition Bypass Switches
100-4000 Amps
- ZBTSCT Closed Transition Bypass Switches
100-4000 Amps

All ZTS products meet or exceed industry requirements allowing specification and installation confidence.

- UL 1008 listed through 480 VAC
- CSA C22.2 No. 178 listed through 600 VAC
- IEC 947-6-1 listed through 480 VAC

- Codes and Standards
 - ✓ NFPA 70, 99, 101, 110
 - ✓ IEEE 446, 241, 602
 - ✓ NEC 517, 700, 701, 702
 - ✓ NEMA ICS-10
- Controls tested in accordance with:
 - ✓ IEEE 472 (ANSI C37.90A)
 - ✓ EN55022 Class B (CISPR 22)
(Exceeds EN55011 & MILSTD 461 Class 3)
 - ✓ EN61000-4-2 Class B (Level 4)
 - ✓ EN61000-4-3 (ENV50140) 10 v/m
 - ✓ EN61000-4-4
 - ✓ EN61000-4-5, IEEE C62.41
(1.2 X 50µs, 0.5 to 4 kV)
 - ✓ EN61000-4-6 (ENV50141)
 - ✓ EN61000-4-11
- Enclosures meet the requirements of:
 - ✓ UL 508, 50
 - ✓ ANSI C33.76
 - ✓ ICS 6
 - ✓ NEMA 250
- Quality System
 - ✓ ISO 9001 Registered

Specification Assistance

GE Zenith offers a complete range of product guide specifications to help you determine your needs.

For more information, please consult your local GE Zenith representative, our factory or our website at www.geindustrial.com/ats.

ZTS Series Automatic Transfer Switches

The ZTS Series is the building block of our transfer switch product line. This ruggedly built power contactor family of switches has been specifically designed for transfer switch duty with dependability, versatility and user friendliness of prime concern.

ZTS switches are available in open type construction for switchboard installation or nema enclosed to the customer's specifications. The power panel components, consisting of power switching contacts, drive mechanism and terminal lugs, are mounted on a specially formed panel. Logic devices including microprocessor control auxiliary time delays and special accessory equipment are assembled on the door for ease of maintenance and separation from the power section. They are connected with a numbered wiring harness equipped with a disconnect plug that allows isolation of the control panel for maintenance.

ZTS Series Method of Operation

When Source 1 voltage fails or drops to a predetermined point (usually 80% of nominal), if required, a circuit is closed to start the engine generator set. When Source 2 reaches 90% of rated voltage and 95% of rated frequency, the drive solenoid is energized through the Source 2 coil control relay, causing the main contacts to disconnect the load from Source 1 and connect it to Source 2. After the drive solenoid has completed its electrical stroke and is seated, the Source 2 coil control relay opens to disconnect it. The transfer switch is now mechanically locked in the Source 2 position.

When Source 1 voltage is restored to a predetermined point (usually 90% of nominal), the control voltage sensing energizes. The Source 1 side coil relay closes, and after the drive solenoid has completed its electrical stroke and is seated, the coil control relay opens to disconnect it. The transfer switch is now mechanically locked in the Source 1 position.

Drive Mechanism

All GE Zenith ZTS switches employ the simple "over-center" principle to achieve a mechanically locked position in either Source 1 or Source 2 and GE Zenith's high speed drive assures contact transfer in 100ms or less. High contact pressure and positive mechanical lock allow for high withstand and closing ratings, far exceeding UL requirements. All ZTS units are listed with UL umbrella (any) breaker, coordinated breaker and current limiting fuse ratings.

Neutral Switching

The GE Zenith ZTS Series is available in true four pole designs for multi-source power systems that require neutral switching. The neutral contact is on the same shaft as the associated main contacts. This ensures positive operation, and avoids any possibility that the neutral contact will fail to open or close, as is possible when the neutral pole is an add-on accessory. The neutral contacts are identical to the main contacts, having the same current carrying and high withstand/closing ratings as the mains. They are designed to break last and make first to reduce the possibility of transients while switching the neutral.

Safe Manual Operation

The ZTS manual operator consists of a large, easy-to-use handle that fits securely for manual operation during installation and maintenance or in an emergency.

The ZTS may be provided with an operator inhibit switch to disconnect the electrical drive prior to maintenance. Fully enclosed wrap-around arc covers shield the main contacts and mechanical components, preventing operator exposure during manual operation.

Transferring Large Motor or Highly Inductive Loads

Some loads, especially large motors, receive severe mechanical stress if power is transferred out of phase while the motor is still rotating. Also, back EMF generated by a motor may result in excess currents that can blow fuses or trip circuit breakers. GE Zenith offers four solutions to these problems:

Universal Motor

Disconnect (UMD): This load control disconnects a large motor via its control circuit for an adjustable period of time prior to transfer in either direction. For switching multiple motors, GE Zenith Accessory A62 disconnects the motors prior to transfer and brings them back on line sequentially.

Accessory R50: This is an in-phase monitor that compares the phase angle between both sources of power and prevents transfer until the two are approximately

in phase (within a self-adjusting range). GE Zenith's high speed transfer action, coupled with the MX series microprocessor control logic, ensure closures at or near zero degree phase difference.

Series ZTSD: GE Zenith offers delayed transition switching on transfer switches rated 40 amperes and above – the GE Zenith ZTSD Series. This programmed center-off position allows for the full decay of rotating motors or transformer fields. It can also be used for load shedding of selected circuits or

other applications which require a means to disconnect the load from either source. Major UPS system manufacturers recommend delayed transition switches for proper restart sequencing of their systems.

Series ZTSC: GE Zenith's series of closed transition switches combine ZTSD operation during a source failure with a highly engineered control system that allows momentary paralleling (100 ms) of two acceptable sources, thereby limiting the impact of transfer on the load.

Electrical Ratings

- Ratings 40 to 4000 amperes
- 2, 3 or 4 Poles
- Open type, NEMA 1, 3R, 4, 4X and 12
- Available to 600 VAC, 50 or 60 Hz
- Suitable for emergency and standby applications on all classes of load, 100% tungsten rated through 400 amps
- UL 1008 listed at 480 VAC
- CSA C22.2 No. 178 certified at 600 VAC
- IEC 947-6-1 listed at 480 VAC

Performance Features

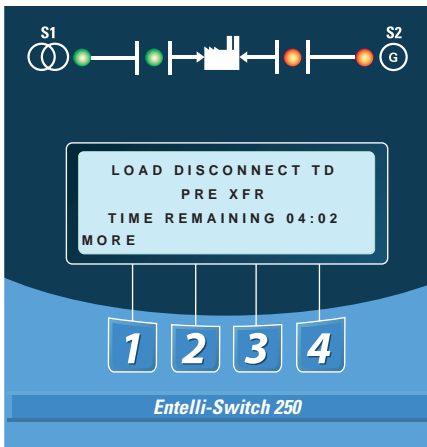
- Contact transfer speed less than 100 milliseconds
- High close-in and withstand capability
- Temperature rise test per UL 1008 conducted after overload and endurance tests - exceeds UL requirements
- Available in ZTS (utility-generator), ZTSU (utility-utility), ZTSG (generator-generator) and ZTSM (manual) configurations

Design and Construction Features

- Double throw, interlocked operation
- Electrically operated, mechanically held by a simple, over-center mechanism

- Segmented silver tungsten alloy contacts with separate arcing contacts on 225 amp and above
- Arc quenching grids, enclosed arc chambers, and wide contact air gap for superior source-to-source isolation on all units
- Control circuit disconnect plug and drive inhibit switch for safe maintenance
- Components accessible for inspection and maintenance without removal of the switch or power conductors
- Mechanical indicator and contact chamber cover designed for inspection, safety and position designation

MX250 Series Microprocessor Controller



Enhanced Display and Settings

LEDs are used in a recognizable line configuration for continuous monitoring of switch position. The LCD display shows source availability, exercise time delay operation and system source condition. A simplified adjustment is featured for voltage, frequency and time delay settings.

The control operates off a close differential 3 phase under-voltage sensing of Source 1, factory standard setting 90% pickup, 80% dropout; under-frequency sensing of Source 1 factory setting 95% pickup; voltage and frequency sensing of Source 2, factory standard setting 90% pickup voltage, 95% pickup frequency. All factory settings are operator adjustable.

A test function is standard (fast test/load/no load) to simulate Source 1 failure - automatically bypassed should Source 2 fail.

More Enhanced Features

- Available in all transfer modes:
 - ~ Open, Delayed & Bypass/Isolation
 - ~ Closed (with newly integrated transition control)
- User-friendly programmable engine exerciser, used for the engine generator with or without load, at any interval in a one-year period
- Operating voltages available in a single controller for worldwide applications
- Real-time display of ATS status, including active timer(s)
- Multiple levels of user-defined password protection
- Serial communications allowing connectivity with other ATS's, paralleling switchgear, and SCADA systems
- Time-tested synchronous logic automatically measures phase angle and frequency allowing disturbance-free transfer
- Unsurpassed statistical ATS/System monitoring available in real-time
- T3/W3 elevator pre-signal. Automatically bypassed if the selected source fails, minimizing time an elevator is without power
- Universal Motor Disconnect (UMD) sends a pre-signal, post-signal or both to any motor control center. Not bypassed in an outage, the UMD ensures safety in the event of a single phase loss
- Voltage unbalance detection standard
- Extensive 2/5/10 Warranty

Performance Features

- UL, CSA and IEC listed
- Ringing wave immunity per IEEE 472 (ANSI C37.90A)
- Conducted and Radiated Emissions per EN55022 Class B (CISPR 11) (Exceeds EN55011 & MILSTD 461 Class 3)
- ESD Immunity test per EN61000-4-2 Class B (Level 4)
- Radiated RF, electromagnetic field immunity test per EN61000-4-3 (ENV50140) 10v/m
- Electrical fast transient/burst immunity test for EN61000-4-4
- Surge immunity test per EN61000-4-5 (IEEE C62.41) (1.2 x 50µs, 0.5 to 4 kV)
- Conducted immunity test per EN61000-4-6 (ENV50141)
- Voltage dips and interruption immunity EN61000-4-11

Technical Benefits

- Separate line voltage components for controller isolation
- Inputs optoisolated for high electrical immunity to transients and noise
- Built-in electrical operator protection
- Simplified maintenance – major components are easily replaceable
- Close differential under-voltage sensing of the normal source
- Voltage and frequency sensing of the emergency source (all settings are adjustable)



ZTS Series Accessory Definitions

6P

Microprocessor activated test switch (Momentary)

6A

Hardwired test switch (Maintained)

6AP

Microprocessor activated test switch (Maintained)

6B

Hardwired test switch (Maintained Auto - Momentary Test)
Key operated

6C

Hardwired test switch (Maintained Auto - Maintained Test)
Key operated

A1

Auxiliary Contact S.P.D.T. - Normal (Source 1) Failure

A1E

Auxiliary Contact S.P.D.T. - Emergency (Source 2) Failure

A3

Auxiliary Contact - closed in emergency (Source 2) Additional available (10 max.) on ZTS Series and need to be specified

A4

Auxiliary Contact - closed in normal (Source 1) Additional available (10 max.) on ZTS Series and need to be specified

A62

Motor disconnect and staged restart (1 contact)

AB3

Auxiliary Contact - closed in bypass emergency (Source 2) (S.P.D.T.) (Standard up to 400A) Additional available (10 max.) on ZBTS Series and need to be specified

AB4

Auxiliary Contact - closed in bypass normal (Source 1) (S.P.D.T.) (Standard up to 400A) Additional available (10 max.) on ZBTS Series and need to be specified

CALIBRATE

Microprocessor activated calibration feature

CDP

Programmable exerciser daily, 7/14/28/365 days user-selectable, with or without load

CDT

Exerciser no load timer

CTAP

Chicago transfer alarm panel mounted in door of enclosure. Includes 3 aux. contacts and fuse.

DS

Disconnect Switch. Disconnects source voltage to transfer power panel.

DT (DELAYED TRANSITION ONLY)

Time Delay from Neutral Switch position to Source 1 on retransfer

DW (DELAYED TRANSITION ONLY)

Time Delay from Neutral Switch position to Source 2 on retransfer

E

Engine Start Relay

ECM

Ethernet Communication Adapter. Requires MCM (Modbus) Accessory.

EL/P

Event log of last 16 events

F

Fan contact, closed when engine runs.

ZTS Series Accessory Group Matrix

Accessories	Group Packages					
	MSTD	MEXE	MCON	MSEN	MSPE	MPSG
6P	●	●	●	●	●	●
A1	○	●	●	●	●	●
A1E	○	●	●	●	●	●
A3	●	②	②	②	②	③
A4	●	②	②	②	②	③
Calibrate	●	●	●	●	●	●
CDT	●					
CDP	●	●	●	●	●	●
**DS	●	●	●	●	●	●
*DT	●	●	●	●	●	●
*DW	●	●	●	●	●	●
E	●	●	●	●	●	●
EL/P	●	●	●	●	●	●
K/P	●	●	●	●	●	●
L1	●	●	●	●	●	●
L2	●	●	●	●	●	●
L3	●	●	●	●	●	●
L4	●	●	●	●	●	●
*LNP	●	●	●	●	●	●
P1	●	●	●	●	●	●
Q2	○	●	●	●	●	●
Q3	○	○	●	○	●	●
Q7	○	○	●	●	●	●
R1-1	○	○	○	●	●	●
R1-3	○	○	○	●	●	●
R15	○	○	○	○	○	●
*R15D	○	○	○	○	○	●
R16	○	●	●	●	●	●
R50	●	●	●	●	●	●
S5P	◐	◐	◐	●	●	●
S12P	◐	◐	◐	●	●	●
S13P	●	●	●	●	●	●
T	●	●	●	●	●	●
T3/W3	②	②	②	②	②	②
U	●	●	●	●	●	●
UMD	②	②	②	②	②	②
VI	●	●	●	●	●	●
W	●	●	●	●	●	●
YEN	●	●	●	●	●	●

- Standard Accessory included in the group package.
- Optional Accessory not included but can be added to group package.
- ◐ Optional Accessory. Can not be used with accessory having the same symbol.
- N/A
- ② Denotes an Accessory with 2 circuits as a standard.
- ③ Denotes an Accessory with 3 circuits as a standard.
- * Delayed Transition Units Only.
- ** Optional for 40-400 Amp

ZTS Series Accessory Definitions (cont.)

HT(1)(2)

Heater and Thermostat 208/240V (1) 380/600V (2) mounted and interwired in enclosure. (requires larger enclosure for 40-200A)

K

Frequency Meter (Analog) - Door mounted

K/P

Frequency Indication on the controller

LNP

Center-off position LCD-Indicator

L1

LED light indicates Switch in Source 2 position

L2

LED light indicates Switch in Source 1 position

L3

LED light indicates Source 1 available

L4

LED light indicates Source 2 available

ZTS Series Accessory Definitions *(cont.)*

LCM

LonWorks Communication Module

M1

Single Phase Amp Meter (Analog)

M2

Three Phase Amp Meter (Analog)

M90

EPM2000 True RMS Digital Meter with display (Amps, Volts, Power, Energy, Power Factory and Frequency). 3 Line LED Display. 50/60 Hz Universal Operation. 1 or 3 phase. Standard Modbus RTU RS485 communications capability. 40 - 1200 Amps.

M90A

Adds Pre-Wiring for Enervista Viewpoint Monitoring of M90 Accessory & ATS Status using Modbus RS485 Serial Communications

M90B

Adds Pre-Wiring for Enervista Viewpoint Monitoring of M90 Accessory & ATS Status using Ethernet TCP/IP Communications

M91

EPM6000 True RMS Digital Meter with display (Amps, Volts, Power, Energy, Power Factory and Frequency, THD). Certified energy and demand metering. Meets ANSI C12.20 and IEC 687 Accuracy Classes. Front IrDA Port Laptop Connection. Standard Modbus RTU RS485 or DNP 3.0 communications capability.

M91A

Adds Pre-Wiring for Enervista Viewpoint Monitoring of M91 Accessory & ATS Status using Modbus RS485 Serial Communications

M91B

Adds Pre-Wiring for Enervista Viewpoint Monitoring of M91 Accessory & ATS Status using Ethernet TCP/IP Communications

MCM

Modbus RTU Communication Module

N1

Running Time Indicator - Door mounted

N2

Operation Counter - Door Mounted

P1

Engine Start Timer (adjustable to 6 sec.)

P2

Engine Start Timer (adjustable to 300 sec.)

Q2

Peak shave/remote load test/area protection - Relay (S.P.D.T.) (Need to specify voltage - 120 VAC, 24 VAC, 24 VDC - 120V default standard)

Q3

Inhibit transfer to emergency (Source 2) (load add relay) - Relay (S.P.D.T.) (Need to specify voltage - 120 VAC, 24 VAC, 24 VDC - 120V default standard)

Q7

Inhibit transfer to normal (Source 1) - Relay (S.P.D.T.) (Need to specify voltage - 120 VAC, 24 VAC, 24 VDC - 120V default standard)

R1-1/R1-3

Over Voltage sensing for normal (Source 1) single (R1-1) or three (R1-3) phase

R15/R15D

Load Shed. Should Source 2 become overloaded, a signal can be given to switch to the Neutral position.

R16

Phase rotation sensing of Normal (Source 1) and Emergency (Source 2)

R26/R26D

Interruptable Power Rate Provisions. Allow transfer out of Source 1 position to Mid position or dead Source 2. Alarm and Pre-Signal circuit included. (Need to specify voltage - 120 VAC, 24 VAC, 24 VDC - 120V default standard)

R50

In Phase monitor between Normal (Source 1) and Emergency (Source 2) to allow transfer

S5P

Microprocessor activated auto/manual retransfer selector switch for transferring to Normal (Source 1) (includes microprocessor activated YN accessory)

S12P

Microprocessor activated auto/manual retransfer selector switch for transferring to Normal (Source 1) (includes microprocessor activated YN & YE accessory)

S13P

Microprocessor activated commit/no commit on transferring to Emergency (Source 2) (with enable/disable settings)

S14

Keyed selector switch for retransfer to normal-test-auto

SW1

Auto/Off/Start Engine control selector - Door mounted (keyed or non-keyed operation available)

SW2

Auto/Off Engine control selector - Door mounted (keyed or non-keyed operation available)

SW3

Source Priority Selector Switch - Door mounted

Allows selection of Source 1 or Source 2 to be the Prime Source. Transfer Switch will transfer to selected Prime Source if that Source is available. (keyed or non-keyed operation available)

T

Retransfer to Normal (Source 1) adjustable time delay

T3/W3

Pre-signal contact on transfer to Normal (Source 1) or Emergency (Source 2) during test

U

Engine stop /cool adjustable cool down timer

UMD

Pre and post transfer output adjustable time range. Functions in both directions. Includes 2 circuits. (Additional circuits available).

VI

Voltage imbalance between phases (3 Phase only)

W

Adjustable time delay on transfer to Emergency (Source 2)

YEN

Bypass transfer timers function (soft key switch in microprocessor)

ZTS Model, Dimensions and Weights								
Ampere Rating	Poles	NEMA 1				Weight		Application Notes
		Height (A)	Width (B)	Depth (C)	Reference Figure	Open Type	NEMA 1	
40, 80	2, 3	24 (61)	18 (46)	11 (28)	A	21 (10)	57 (26)	1 - 7, 11-13
	4					21 (10)	60 (27)	
100, 150	2, 3	24 (61)	18 (46)	11 (28)	A	21 (10)	57 (26)	1 - 7, 11-13
	4					21 (10)	60 (27)	
225	2, 3	46 (117)	24 (61)	14 (36)	A	70 (32)	165 (75)	1 - 7, 12-13
	4					75 (34)	170 (68)	
260, 400	2, 3	46 (117)	24 (61)	14 (36)	A	70 (32)	165 (75)	1 - 7, 12-13
	4					75 (34)	170 (68)	
600	2, 3	74 (188)	40 (102)	19.5 (50)	B	165 (75)	380 (172)	1 - 8, 12-13
	4					185 (84)	430 (195)	
800, 1000, 1200	2, 3	74 (188)	40 (102)	19.5 (50)	B	190 (86)	455 (206)	1 - 8, 12-13
	4					210 (95)	540 (245)	
1600, 2000	3	90 (229)	35.5 (90)	48 (122)	C	345 (156)	1010 (458)	1 - 13
	4					450 (204)	1160 (526)	
3000	3	90 (229)	35.5 (90)	48 (122)	C	465 (211)	1130 (513)	1 - 13
	4					670 (304)	1395 (633)	
4000	3	90 (229)	46.5 (118)	60 (152)	C	770 (349)	1595 (723)	1 - 13
	4					1025 (465)	1850 (839)	

Application Notes:

- Metric dimensions (cm) and weights (Kg) shown in parenthesis adjacent to English measurements in inches and pounds.
- Includes 1.25" door projection beyond base depth. Allow a minimum of 3" additional depth for projection of handle, light, switches, pushbuttons, etc.
- All dimensions and weights are approximate and subject to change without notice.
- Special enclosures (NEMA 3R, 4, 12, etc.) dimensions and layout may differ. Consult the GE Zenith factory for details.
- Normal and emergency may be ordered inverted on any switch. The load may be inverted 600-1200 amps. Consult the factory for details.
- Special lug arrangements may require different enclosure dimensions. For certified drawings, contact the GE Zenith factory.
- Packing materials must be added to weights shown. Allow 15% additional weight for cartons, skids, crates, etc.
- Add 4" in height for removable lifting lugs.
- Lug adapters for 3000-4000 amp limits may be staggered length for ease of entrance. Consult the GE Zenith factory for details.
- Ventilation louvers on both sides and rear of enclosure. Louvers must be clear for airflow with standard cable connections.
- A ZTS 40-150A, when ordered with the following options, will require a larger enclosure of 46"x 24"x 14" (HxWxD): A62(T), Digital Meter, HT, HH, K, LDS, L11, N1, N2, OCVR-1SG, OCVR-1SS, P2, Q2M, Q3M, Q7M, R26(D).
- For Delayed and Closed Transition dimensions and weights, refer to GE Zenith Publication PB-5067 and PB-5069.
- For Bypass/Isolation dimensions and weights, refer to GE Zenith Publication PB-5068.

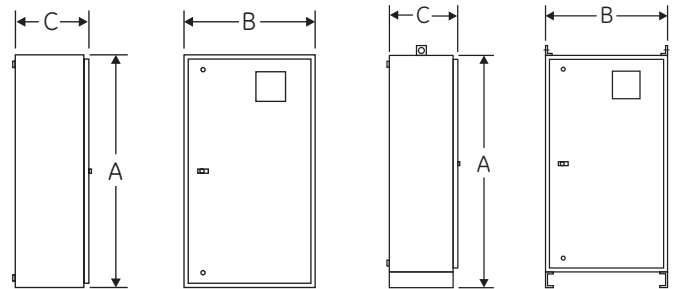


Figure A

Figure B

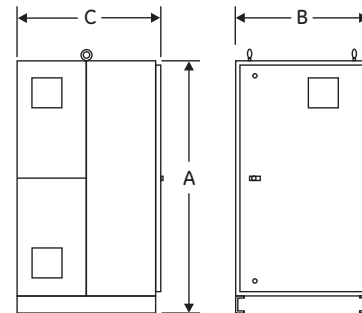


Figure C

AL-CU UL Listed Solderless Screw-Type Terminals for External Power Connections					
Switch Size Amps	Normal, Emergency & Load Terminals		Switch Size Amps	Normal, Emergency & Load Terminals	
	Cables/Pole	Wire Ranges		Cables/Pole	Wire Ranges
40-150	1	#8 to 3/0 AWG	800/1000/1200	4	#2 AWG to 600 MCM
225	1	#4 AWG to 600 MCM	1600	*	
260	1	#4 AWG to 600 MCM	2000		
400	1	#4 AWG to 600 MCM	3000		
600	2	#2 AWG to 600 MCM	4000		

NOTES:

- * Line and load terminals are located in rear and arranged for bus bar connection. Terminal lugs are available as an accessory. Contact GE Zenith factory for more details.
- Special terminal lugs and neutral bars are available at additional cost. Contact factory and advise cable sizes and number of conductors per pole.
 - Fully rated neutral provided on 3 phase, 4 wire system.
 - Special lug arrangements may require different enclosure dimensions. For certified drawings, contact the GE Zenith factory.

ZTS Series Ordering Information

MODEL/TYPE	CONTROL PANEL	APPLICATION	AMPERE SIZE	SWITCHED POLES	ENCLOSURE TYPE	OPERATIONAL VOLTAGE	ACCESSORIES
Z T S O O O	B 0	0	0 0 4	B	0 1	A B	M S T D
Standard (Open Transition)	Entelli-Switch 250 Microprocessor Control Unit	Utility - Generator	40 amps	2 Poles	Type 1 Enclosed	Consult Table Below	
Z T S D O O		U	0 0 8	E	1 2		M E X E
Delayed Transition		Utility - Utility	80 amps	3 Poles	Type 12 Enclosure		
Z T S C T O		M	0 1 0	F	3 R		M C O N
Closed Transition		Manual	100 amps	4 Poles	Type 3R Enclosure		M S E N
Z B T S O O		G	0 1 5		4 0		M S P E
Standard (Open Transition) w/Bypass		Gen to Gen	150 amps		Type 4 Enclosure		
Z B T S D O			0 2 2		4 X		M P S G
Delayed Transition w/Bypass			225 amps		Type 4X Enclosure		
Z B T S C T			0 2 6		0 0		M A N O
Closed Transition w/Bypass			260 amps		Open Style Unit		Then choose additional accessories

Switch Types

- Standard:** Unless otherwise noted, the standard switch with quick transfer will be supplied.
- Delayed Transition:** When ordered as the ZTSD, the delayed transition switch offers time delay during transfer from one position to the other. This is primarily for transfer of large motor or inductive loads.
- Closed Transition:** When ordered as the ZTSC, the closed transition switch offers two basic modes of operation. During a failure of one source or an out of specification condition, the ZTSC Model operates as a standard delayed transition switch (ZTSD Model). This sequence allows clear separation of an unreliable source from an available one.
- Bypass:** When ordered as the ZBTS, the bypass transition switch offers a draw-out mechanism, with electrical and mechanical interlocks for secure removal after load bypass. In this way the transfer switch and/or the control panel may be tested, isolated and removed for maintenance without load interruption.

Example

ZTSC0B00040F-ZEC01ZVC40MSTD

This number string shows the correct format for a ZTS Model Automatic Transfer Switch with closed transition, an Entelli-Switch 250 microprocessor control unit, Utility - Generator, 400 amps, 4 pole, NEMA Type 1 enclosure, 120/208V 3φ, 4 wire, 60 Hz system with the standard group of accessories.

UL 1008 Withstand and Closing Ratings

Please refer to GE Zenith Controls Bulletin TB-1102.

A	B	Voltage	Phase	Config.	Hz
1	0	120	1	2 wire	60
2	0	120/240	1	3 wire	60
2	1	120/208	3	3 wire	60
3	0	240	3	3 wire	60
3	1	208	3	3 wire	60
3	2	220	3	3 wire	50
3	3	120/240	3	4 wire	50
3	4	110/220	3	4 wire	60
3	5	139/240	3	4 wire	60
3	8	120/240	3	4 wire	60
4	0	120/208	3	4 wire	60
4	1	127/220	3	4 wire	60
4	2	127/220	3	4 wire	50
5	0	480	3	3 wire	60
5	1	440	3	3 wire	60
5	2	440	3	3 wire	50
5	5	460	1	3 wire	50
5	7	480	1	2 wire	60
5	8	254/440	3	4 wire	60
6	0	575	3	3 wire	60
6	1	347/600	3	4 wire	60
7	0	277/480	3	4 wire	60
7	1	277	1	2 wire	60
7	4	266/460	3	4 wire	60
7	5	460	3	3 wire	60
8	0	120/240	2	4/5 wire	60
8	2	380	1	2 wire	50
9	0	240/416	3	4 wire	60
9	1	220/380	3	4 wire	60
9	2	220/380	3	4 wire	50
9	3	240/416	3	4 wire	50
9	7	380	3	3 wire	60

Note: Operating voltage must be specified at time of order. Only the most common voltages are shown above.



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