Features

Model ZTG switches are built for standard applications requiring the dependability and ease of operation found in a power contactor switch.

—Ratings 40 to 3000 amps (2, 3 or 4 poles)
—UL 1008 listed at 480 VAC
—CSA certified at 600 VAC (200-260 amp-480V)
—IEC listed at 480V
—Equipment (controls and power section) seismic test qualified to:
  —IBC–2009
  —IEEE–693–2005
—Double throw, mechanically interlocked contactor mechanism
—Electrically operated, mechanically held
—Designed for emergency and standby applications
—Available in standard (ZTG) or delayed transition (ZTGD) models

ZTG switches are equipped with GE Zenith's next-generation MX150 microprocessor panel, which controls the operation and displays the status of the transfer switch's position, timers and available sources. As an embedded digital controller, the MX150 offers high reliability and ease of unattended operation across a range of applications. The MX150 features include:

—Timer and voltage/frequency settings adjustable without disconnection from the power section
—Built-in diagnostics with LCD displays for immediate troubleshooting
—LED/LCD indicators for ease of viewing and long life
—Nonvolatile memory—clock battery backup not required for standard switch operation
—Processor and digital circuitry isolated from line voltage
—Inputs optoisolated for high electrical immunity to transients and noise
—Communications header for network interface

Fully Approved

—UL, CSA and IEC listed
—IBC–2009
—IEEE–693–2005
—Ringing wave immunity per IEEE 472 (ANSI C37.90A)
—Conducted and Radiated Emissions per EN55022 Class B (CISPR 22) (Exceeds EN55011 and 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 per EN61000-4-4
—Surge immunity test per EN61000-4-5 IEEE C62.41 (1.2 X 50µs, 0.5 and 4 kV)
—Conducted immunity test per EN61000-4-6 (ENV50141)
—Voltage dips and interruption immunity EN61000-4-11

Design and Construction Features

—Close differential 3 phase under-voltage sensing of the normal source—factory standard setting 90% pickup, 80% dropout (adjustable); under-frequency sensing of the normal source factory setting 95% pickup (adjustable)
—Voltage and frequency sensing of the emergency source—factory standard setting 90% pickup voltage, 95% pickup frequency (adjustable)
—Test switch (fast test/load/no load) to simulate normal source failure—automatically bypassed should the emergency source fail
—Type 1 enclosure is standard—also available in open style or Types 3R, 4, 4X or 12

Options

6A	Test Switch, Maintained
6AP	Test Switch, Maintained Programmable
A1	Auxiliary Contact, operates on Source 1 line failure
A1E	Auxiliary Contact, operates on Source 2 line failure
A3	Auxiliary Contacts: Closed when the transfer switch is in Source 2 position
A4	Auxiliary Contacts: Closed when the transfer switch is in Source 1 position
A62	Sequential Universal Motor Load Disconnect Circuit. Normally closed Auxiliary contacts for Motor Loads. Open 0-60 seconds pior to transfer, after transfer, or both in either direction then reclose in timed sequence after transfer.
ATGEW-X	Extended annual parts and labor warranty (1-4 years for a total of 5 years max.)
CTAP	Alarm panel on transfer to emergency w/silence button & light
DS	Inhibits transfer in either direction when in inhibit. Allows automatic operation when in Auto (Standard on 800A and above)
HT	Heater and Thermostat
LCM	LonWorks Communication Module
MCM	Modbus RTU Communication Module

M90 Series Power Measurement Meters
(Not available in NEMA 4 enclosure)

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
OCVR-1SG	Lockable see-through microprocessor cover for NEMA 3R or 12
OCVR-1SS	Lockable see-through microprocessor and meters cover for NEMA 3R or 12
T3/W3	Elevator Pre-Signal Auxiliary Contacts: Open 0-60 seconds prior to transfer to either direction, re-closes after transfer.
UMD	Universal Motor Load Disconnect Circuit: Auxiliary Contact opens 0-5 minutes prior to transfer in either direction, re-closes after transfer. Can be configured by end user for Pre-transfer, Post-transfer, or both.
VI	Voltage Imbalance Monitor (Three Phase)

NOTE: For applications requiring additional options or other configurations, use GE Zenith Factory.

Testing Standards

UL, CSA and IEC listed	UL 1008, CSA 22.2 No. 178, IEC 947-6-1
Ringing wave immunity	IEEE 472 (ANSI C37.90A)
Conducted and Radiated Emissions	EN55022 Class B (CISPR 22) (Exceeds EN55011 & MILSTD 461 Class 3)
ESD immunity test	EN61000-4-2 Class B (Level 4)
Radiated RF, electromagnetic field immunity test	EN61000-4-3 (ENV50140) 10v/m
Electrical fast, transient/burst immunity test	EN61000-4-4
Surge immunity test	EN61000-4-5 IEEE C62.41 1.2 X 50µs, 0.5 & 4 kV
Conducted immunity test	EN61000-4-6 (ENV50141)
Voltage dips and interruption immunity	EN61000-4-11

ZTG AL/CU UL Listed Solderless Screw-Type Terminals for External Power Connections[1]

Normal, Emergency and Load Terminals			
Switch Size (Amps)	**Cables per Phase & Neutral**	**Range of Wire Sizes**	
40	1	#8 to 3/0	8-85 mm^2
80			
100	1	#6 to 250 MCM	13-127 mm^2
150			
200, 225			
260	1	#6 to 350 MCM	13-177 mm^2
400		#4 to 600 MCM	21-304 mm^2
600	2	#2 to 600 MCM	33-304 mm^2
800, 1000, 1200	4		
1600, 2000, 2600, 3000	8	#2 to 600 MCM	33-304 mm^2

[1] For ZTGD series data, contact the GE Zenith factory

Standard MX150 Control Setting Ranges

	Control Function	Range	Factory Setting
MSTDG	Source 1 Line Sensing – Under-voltage Dropout/Pickup	75-98%	80%
		85-100%	90%
	Source 2 Line Sensing – Under-voltage Dropout/Pickup	75-98%	80%
		85-100%	90%
	Source 2 Line Sensing – Under-frequency Dropout/Pickup	88-98%	90%
		90-100%	95%
	Time Delay – Engine Start (Acc. P1)	0-10 seconds	3 seconds
	Time Delay – Engine Cool Down (Acc. U)	0-60 minutes	5 minutes
	Time Delay – Transfer to Source 2 (Acc. W)	0-5 minutes	1 second
	Time Delay – Retransfer to Source 1 (Acc. T)	0-60 minutes	30 minutes
	Time Delay – Motor Disconnect or Transfer Presignal (Acc. UMD, or T3/W3)	0-60 seconds	20 seconds
	Delayed Transition Time Delays (DT, DW)	0-10 minutes	5 seconds
	Event Exerciser (CDT)	5-60 min.-1,7,14 or 28 days load or no load	20 min. - 7 days no load
MEXEG	Programmable Event Exerciser (CDP)	365 day cycle, load or no load	0 min. - 7 days no load
	Voltage Imbalance (VI)	5-20% nominal; 10-30 sec.	10% Fail, 8% Restore; 30 sec.
Options	Elevator Pre-Signal (T3/W3)	0-60 seconds	20 seconds
	Sequential Motor Load Disconnect (A62)	0-5 minutes	20 seconds
	Motor Load Disconnect (UMD)	0-60 seconds	5 seconds

Ordering Information

Model/Type	Control Panel	Application	Ampere Size	Switched Poles	Enclosure Type	Operational Voltage	Accessories
Z _ _ _ _ _	A 0	_	_ _ _	_	– Z E C _ _	Z V C _ _	_ _ _ _

Model/Type
- Z T G 0 0 0 — Standard (Open Transition)
- Z T G D 0 0 — Delayed Transition

Control Panel
- A 0 — Entelli-Switch 150 Micro-processor Control Unit

Application
- 0 — Utility-Generator
- U — Utility-Utility
- M — Manual Transfer

Ampere Size
- 0 0 4 — 40 amps
- 0 0 8 — 80 amps
- 0 1 0 — 100 amps
- 0 1 5 — 150 amps
- 0 2 0 — 200 amps
- 0 2 2 — 225 amps
- 0 2 6 — 260 amps
- 0 4 0 — 400 amps
- 0 6 0 — 600 amps
- 0 8 0 — 800 amps
- 1 0 0 — 1000 amps
- 1 2 0 — 1200 amps
- 1 6 0 — 1600 amps
- 2 0 0 — 2000 amps
- 2 6 0 — 2600 amps
- 3 0 0 — 3000 amps

Switched Poles
- B — 2 Poles
- E — 3 Poles
- F — 4 Poles

Enclosure Type
- 0 1 — Type 1 Enclosed
- 1 2 — Type 12 Enclosure
- 3 R — Type 3R Enclosure
- 4 0 — Type 4 Enclosure
- 4 X — Type 4X Enclosure
- 0 0 — Open Style Unit

Operational Voltage
- A B — Consult Table Below

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	1	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.

Accessories
- M S T D
- M E X E
- M A N O

Then choose additional accessories

- 6A
- 6AP
- A1
- A1E
- A3
- A4
- A62
- ATGEW-X
- CTAP
- DS
- HT
- LCM
- M90
- M90A
- M90B
- M91
- M91A
- M91B
- MCM
- OCVR-15G
- OCVR-1SS
- T3/W3
- UMD
- VI
- None

Switch Types

—**Standard:** Unless otherwise noted, the standard switch with quick transfer will be supplied.

—**Delayed Transition:** When ordered as the ZTGD, 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. The operation of the delayed transition switch is totally independent of the synchronism of the power sources, eliminating the need for in-phase monitors or extensive motor-disconnect control wiring between the transfer switch and motor control centers.

Product # Example

ZTG000A00040F-ZEC01ZVC40MSTD

This number string shows the correct format for a ZTG Series Automatic Transfer Switch with an MX150 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.

Dimensional and Weight Specifications

Model	Ampere Rating	Poles	NEMA 1 Height (A)	NEMA 1 Width (B)	NEMA 1 Depth (C)	NEMA 1 Ref. Figure	Weight Open Type	Weight NEMA 1	Application Notes
ZTG	40, 80	2, 3	24 (61)	18 (46)	11 (28)	A	21 (10)	57 (26)	1 - 6
		4	24 (61)	18 (46)	11 (28)	A	21 (10)	60 (27)	
	100, 150	2, 3	24 (61)	18 (46)	11 (28)	A	21 (10)	57 (26)	1 - 6
		4	24 (61)	18 (46)	11 (28)	A	21 (10)	60 (27)	
	200	2, 3	24 (61)	18 (46)	11 (28)	A	21 (10)	57 (26)	1 - 6
		4	24 (61)	18 (46)	11 (28)	A	21 (10)	60 (27)	
	225, 260, 400	2, 3	46 (117)	24 (61)	14 (36)	A	70 (32)	175 (80)	1 - 5
		4	46 (117)	24 (61)	14 (36)	A	75 (34)	180 (82)	
	600	2, 3	66 (168)	24 (61)	19.5 (50)	B	165 (75)	400 (450)	1 - 5, 7
		4	66 (168)	24 (61)	19.5 (50)	B	185 (84)	450 (204)	
	800, 1000, 1200	2, 3	74 (188)	40 (102)	19.5 (50)	B	190 (86)	455 (206)	1 - 5, 7
		4	74 (188)	40 (102)	19.5 (50)	B	210 (95)	540 (245)	
	1600, 2000	3	90 (229)	35.5 (90)	48 (122)	C	345 (156)	1010 (458)	1 - 5, 7-8
		4	90 (229)	35.5 (90)	48 (122)	C	450 (204)	1160 (526)	
	2600, 3000	3	90 (229)	35.5 (90)	48 (122)	C	465 (211)	1010 (458)	1 - 5, 7-8
		4	90 (229)	35.5 (90)	48 (122)	C	670 (304)	1160 (526)	
ZTGD	40, 80	2, 3	46 (117)	24 (61)	14 (36)	A	21 (10)	57 (26)	1 - 6
		4	46 (117)	24 (61)	14 (36)	A	21 (10)	60 (27)	
	100, 150	2, 3	46 (117)	24 (61)	14 (36)	A	21 (10)	57 (26)	1 - 6
		4	46 (117)	24 (61)	14 (36)	A	21 (10)	60 (27)	
	200, 225	2, 3	46 (117)	24 (61)	14 (36)	A	21 (10)	57 (26)	1 - 6
		4	46 (117)	24 (61)	14 (36)	A	21 (10)	60 (27)	
	260, 400	2, 3	46 (117)	24 (61)	14 (36)	A	80 (36)	220 (100)	1 - 5
		4	46 (117)	24 (61)	14 (36)	A	85 (39)	230 (102)	
	600	2, 3	66 (168)	24 (61)	19.5 (50)	B	185 (84)	400 (181)	1 - 5, 7
		4	66 (168)	24 (61)	19.5 (50)	B	205 (93)	450 (204)	
	800, 1000, 1200	2, 3	74 (188)	40 (102)	19.5 (50)	B	210 (95)	475 (215)	1 - 5, 7
		4	74 (188)	40 (102)	19.5 (50)	B	230 (104)	560 (254)	
	1600, 2000	3	90 (229)	35.5 (90)	48 (122)	C	365 (166)	1010 (458)	1 - 5, 7-8
		4	90 (229)	35.5 (90)	48 (122)	C	470 (204)	1160 (526)	
	2600, 3000	3	90 (229)	35.5 (90)	48 (122)	C	485 (220)	1130 (513)	1 - 5, 7-8
		4	90 (229)	35.5 (90)	48 (122)	C	690 (313)	1395 (633)	

Application Notes:

1. Metric dimensions (cm) and weights (kg) shown in parentheses adjacent to English measurements.
2. Includes 1.25" door projection beyond base depth. Allow a minimum of 3" additional depth for projection of handle, lights, switches, pushbuttons, etc.
3. All dimensions and weights are approximate and subject to change without notice.
4. Packing materials must be added to weights shown. Allow 15% additional weight for cartons, skids, crates, etc.
5. Special enclosure (NEMA 3R, 4, 4x, 12, etc.) dimensions and layouts may differ. Consult the GE zenith factory for details.
6. A ZTG(D) 40-225A, when ordered with the following options, will require a larger enclosure: A62(T), Digital Meter, HT, OCVR-1SG, OCVR-1SS. Contact the GE Zenith factory for dimensions.
7. Add 3" in height for removable lifting eyes.
8. Ventilation louvers on side and rear of enclosure at 1600-3000 amps. One set of louvers must be clear for airflow with standard cable connections.

Reference Figures

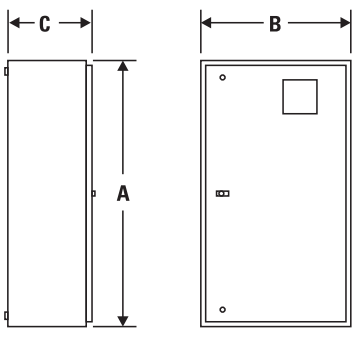

Figure A

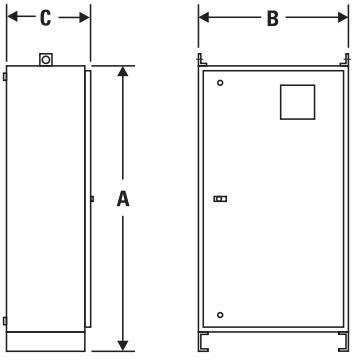

Figure B

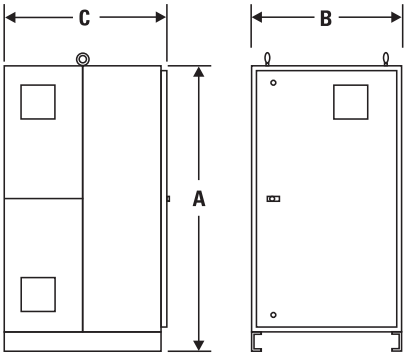

Figure C