Zenith ATS

ZTG T-series Automatic Transfer Switches

1600-3000 A

⊕
- Simplify your business
- Maximize uptime
- Plan for a safe and sustainable future

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Zenith ZTG T-series
Continuous power. Non stop innovation.

Simplify business operations

Business is complicated, so why not choose equipment that makes things simpler? The ZTG T-series is equipped with an intuitive full-color touchscreen HMI and is compatible with ABB-common Ekip™ Connect software to ease commissioning and operation, maximize flexibility with a wide 200-480V range and an array of standard programmable functions and IO, and finally, simplify service with unique modular components that are easier to stock and replace in the field. Whether you're an engineer, dealer, contractor, or end-user, Zenith ZTG T-series will help make your business simpler.

Maximize uptime

Whether it's to save lives, protect key assets, or maximize efficiency, emergency and standby power systems are meant to keep the power on. But they are only as strong as the weakest link… which is why ZTG T-series is built for high performance and incorporates design elements for simple service. Taking it to the next level, the ZTG range is compatible with ABB Ability™ advanced cloud monitoring capable of alerting users to system anomalies anywhere, any time. Don't let your ATS be the weak link in your power system.

Plan for a safe and sustainable future

A safer workplace not only protects personnel from injury but can also lower costs through increased productivity, quality, and employee well-being. The ZTG T-series lineup has unique advances in safety with faster switching and no line voltages connected at the door. Similarly, creating a sustainable operation is not just something owed to future generations, but a cultural shift becoming a key proposition of a successful business. ZTG leverages future proof upgradability features and ABB Ability™ Energy and Asset Manager to empower users to lower their carbon footprint. Plan for a safe and sustainable future, today.

Zenith ZTG
Greater convenience and reliability
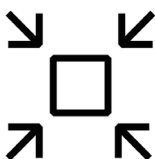
Simplified service

- Quick-swap HMI
- Modular components and field replaceable modules
- ABB HMI navigation and programming tool common to all ABB LV components

Easier to install, commission and operate

- Large LCD HMI with intuitive menu navigation, measurements display, and 250 event log
- Auto configure feature to easily set system settings upon startup
- Ekip Connect software helps reduce commissioning time by 50%
- Five factory programmed packages available; IO can be re-programmed in seconds

Up to
50%
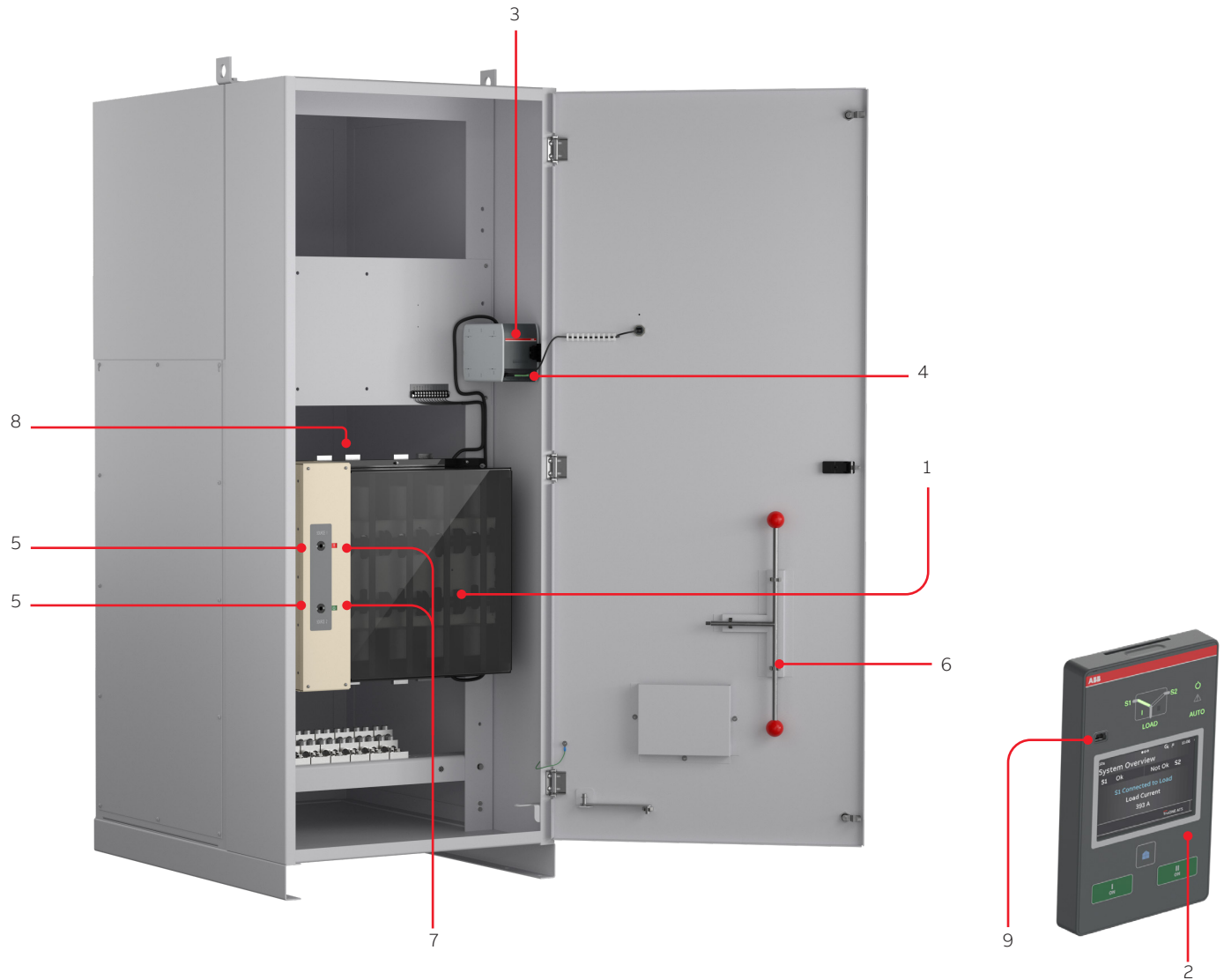**faster commissioning with Ekip™ Connect**

High performance

- Extensive coordinated withstand and closing ratings (WCR), with a minimum level of 100kA
- Fast controller response to outage recovery and fast switching (<50ms)

Fast switching
<50ms

Construction 1600-3000A

1. Automatic transfer switch power panel and mechanism
2. HMI unit, type ZTG LCD interface
3. TruCONTROL module
4. Place for customer control connections and connectivity modules (aux power supply, com and signaling)
5. Handle connection points for manual operation
6. Handle for manual operation
7. Position indicator
8. Phase and neutral terminal lugs, behind power panel
9. Programming port, for Ekip Programming module and Ekip Connect software

Main features

For more information, consult ABB

	ZTG Controls
Ampere sizes available	UL: 1600-3000 A
Rated voltage	200-480Vac
Rated frequency	50 / 60 Hz
Phase system	Single and Three
Number of poles	3 and 4
Neutral configuration	
Switched neutral	Yes
Solid neutral	Yes
Product type	
Open transition (I-II)	Yes
Delayed transition (I-O-II)	Yes
Voltage and frequency settings	
Pick up Voltage Source 1	71-99%, 101-119%
Drop out Voltage Source 1 *	70-98%, 102-120%
Pick up Voltage Source 2	71-99%, 101-119%
Drop out Voltage Source 2 *	70-98%, 102-120%
Pick up Frequency Source 1	80.5-99.5%, 100.5-119.5%
Drop out Frequency Source 1	80-99%, 101-120%
Pick up Frequency Source 2	80.5-99.5%, 100.5-119. 5%
Drop out Frequency Source 2	80-99%, 101-120%
Time delay settings	
Override momentary Source 1 Outage, sec	0-60
Transfer from Source 1 to Source 2, sec	0-3600
Override momentary Source 2 Outage, sec	0-60
Transfer from Source 2 to Source 1, min	0-120
Generator stop delay, min	0-60
Center-OFF delay, sec	0-300
Pre-transfer delay S1 to S2, sec	0-300
Post-transfer delay S1 to S2 , sec	0-300
Pre-transfer delay S2 to S1, sec	0-300
Post-transfer delay S2 to S1, sec	0-300
Elevator Pre-signal delay S1 to S2, sec	0-60
Elevator Post-signal delay S1 to S2, sec	0-60
Elevator Pre-signal delay S2 to S1, sec	0-60
Elevator Post-signal delay S2 to S1, sec	0-60
Load shed delay, sec	0-300
Source failure detections	
No voltage	Yes
Undervoltage	Yes
Overvoltage	Yes
Phase missing	Yes
Voltage unbalance	Yes
Invalid frequency	Yes
Incorrect phase sequence	Yes

* Drop out voltage settings possible as low as 70% for 240V-480V systems.

Main features

For more information, consult ABB

	ZTG controls
Controls	LCD
LED indications for ATS, S1 and S2 status	Yes
Programmable digital inputs/outputs	Yes
Auto config (voltage, frequency, phase system)	Yes
Source priority	Source 1/2, No priority
Manual re-transfer	Yes
In-phase monitor (synchro check)	Yes
Genset exercising: on-load, off-load	Yes
In-built power meter module	Yes
Load shedding	Yes
Real time clock	Yes
Event log	Yes
Predictive maintenance	Yes
Field-mount accessories	
Auxiliary contacts for position indication	Yes
Digital input/output modules (factory programmed)	Yes
12-24 Vdc aux supply module for controller	Yes
Communication modules	Yes
Connectivity capability	
Modbus RTU (RS-485)	Yes
Modbus/TCP	Yes
Profibus DP	Yes
ProfiNet	Yes
DeviceNet	Yes
Ethernet IP	Yes
Monitoring via ABB Ability™ Energy and Asset Manager	Yes
For applications	
Mains - Mains	Yes
Mains - Generator	Yes
UL short circuit withstand ratings	
Coordinated breaker WCR	Yes

Main features

For more information, consult ABB

The inputs and outputs in the following tables are available and programmable on all ZTG T-series transfer switches. When ordering a switch, an IO package must be selected. This package determines the number of IO and the functions that will be factory programmed. Although factory programmed, all included IO may be re-programmed by the user, password permitting, via the HMI, Ekip Connect, or via communications. See table titled "IO packages" in ordering information section for more details.

Type	Functions	Pre-configured IO packages				
		Base	Plus[1]	Controls	Flex[1]	Motor[1]
Input functions						
No function	Input disabled.	2	-	-	-	-
Emergency Stop	Transfers to O position in delayed transition I-O-II type switches. Disables automatic control mode in both delayed and open transition types.	-	-	-	-	-
Remote Test On Load / Peak shave	Start/stop test on load sequence in rising (NO) or falling (NC) edge of the input signal.	-	1	1	1	1
Remote Test Off Load	Start/stop test off load sequence in rising (NO) or falling (NC) edge of the input signal.	-	-	-	-	-
Inhibit AUTO Mode	Prevent switch control operations, configuration, test sequences and generator start in case of priority source failure.	-	-	1	-	1
Manual Retransfer	Disables automatic transfer back to priority source.	-	-	1	1	1
Source Priority S1	Sets priority for source 1 in transformer-transformer application.	-	-	-	-	-
Source Priority S2	Sets priority for source 2 in transformer-transformer application.	-	-	-	-	-
Inhibit Transfer	Disables automatic transfer from priority source to non-priority source.	-	-	1	-	1
Bypass Running Time Delays	Bypass any currently running time delay.	-	-	1	-	-
Load Shed ATS to S1	Allows back-up generator to signal to ATS to move to S1 to prevent overload. Stays in S1 if S1 restores and input removed.	-	-	1[2]	1[2]	1[2]
Load Shed ATS to OFF	Allows back-up generator to signal to ATS to move to O to prevent overload. If S1 restores, transfer to S1 will occur even it input is maintained.	-	-	1[3]	1[3]	1[3]
Remote Control to S1	Transfer to S1 when active. Overridden by activated 'Remote Control to OFF' signal.	-	-	-	-	-
Remote Control to OFF	Transfer to O position when active.	-	-	-	-	-
Remote Control to S2	Transfer to S2 when active. Overridden by activated 'Remote Control to OFF' or 'Remote Control to S1' signals.	-	-	-	-	-
Reset Alarm	Reset any active switch control alarms (open I failure, close I failure, open II failure, close II failure).	-	-	-	-	-
Manual-Auto Mode	Toggle automatic/HMI control mode, input is active only in rising/falling edge according to contact type.	-	-	-	-	-

Main features

For more information, consult ABB

Type	Functions	Pre-configured IO packages				
Output functions		**Base**	**Plus**[4]	**Controls**[4]	**Flex**[4]	**Motor**[4]
No Function	Output disabled.	1	-	-	-	-
Alarm / Product availability	Signals any active alarms or ATS being disabled for automatic transfer operations.	-	-	-	-	-
Load Connected to S1	Signals switch in position I.	-	-	-	-	-
Load Disconnected	Signals switch in position O.	-	-	-	-	1
Load Connected to S2	Switch in position II.	-	-	-	-	-
Pre-transfer Signal	Signal is activated and transfer is delayed according to pre-transfer delay. Signal is kept activated according to post-transfer delay after transfer.	-	-	1	1	2
Source 1 Available	Signals no anomalies in S1 voltage supply.	-	1	1	1	1
Source 2 Available	Signals no anomalies in S2 voltage supply.	-	1	1	1	1
Load Shed 1	Used for shedding non-essential loads before transferring to non-priority source. Signal is activated before transferring to non-priority source according to load shed delay and kept activated until load is transferred back to priority source.	-	-	-	-	-
Elevator pre-signal	Signal is activated and transfer is delayed according to Elevator pre-signal delay. Signal is kept activated according to Elevator post-signal delay after transfer.	-	-	1	1	1

[1] 3 additional inputs available if selector switch option not selected
[2] Open transition configurations only
[3] Delayed transition configurations only
[4] 1 additional output available if transfer alarm option not selected

Zenith ZTG T-series 1600-3000A ordering information

Part number codes

Understanding the type code keys below will help you quickly identify the correct product for your needs. The simple naming system allows you to see the product type, ampere rating, standard classification and number of poles, all in one table.

Explanation of the types ZTG T-series

Z	G	A	O	1	6	0	P	S	1	M	5	X	P	T	X	X	0
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

1	**Zenith**
Z	ABB Zenith Labeled
2	**Product Family**
G	ZTG T-series
3	**Application**
A	ATS
4	**Transition Type**
O	Open Transition
D	Delayed Transition
567	**Amperage**
160	1600 A
200	2000 A
260	2600 A
300	3000 A
8	**System voltage**
B	208 V 1 Ph
C	220-240V 1 Ph
E	380-415V 1 Ph
F	440-480V 1 Ph
J	208 V 3 Ph
K	220-240V 3 Ph
M	380-415V 3 Ph
P	440-480V 3 Ph
9	**Neutral**
S	Switched Neutral
X	No Neutral
B	Solid Neutral Bar

10	**Enclosure**
X	No Enclosure (configured open style)
1	NEMA 1
2	NEMA 12
3	NEMA 3R
4	NEMA 4
5	NEMA 4X
6	NEMA 1 + heater
7	NEMA 12 + heater
8	NEMA 3R + heater
9	NEMA 4 + heater
0	NEMA 4X + heater
11	**Lugs**
M	Mechanical lugs 600 MCM (1600-3000A)
12	**Ground Bar**
6	(12) #2-600MCM
7	(24) #2-600 MCM
8	(36) #2-600 MCM
X	No ground bar, lug on cabinet
13	**Metering options**
1	M91 Meter
X	No Meter
0	M90 Meter

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Explanation of the types ZTG T-series

Z	G	A	O	1	6	0	P	S	1	M	5	X	P	T	X	X	0
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

14	IO and indication packages
B	Base
P	Plus
C	Controls
F	Flex
M	Motor
15	**Communications**
X	None
R	Modbus RTU
T	Modbus TCP
E	Ethernet/IP
I	IEC 61850
D	DeviceNet
B	Profibus
N	Profinet
A	ABB Ability Ekip Com Hub
1	Modbus RTU + Modbus TCP
2	Modbus TCP + Ethernet/IP
3	Modbus RTU + Ekip Com Hub
4	Modbus TCP + Ekip com Hub
5	Ethernet/IP + Ekip Com Hub
6	DeviceNet + Ekip Com Hub
7	Profibus + Ekip Com Hub
8	Profinet + Ekip Com Hub
16	**Other Options (Switches, Surge protection)**
X	None
S	Switch - Test/Auto/inhibit/Start (keyed)
T	SPD Type 1, Load Side
2	S & T
17	**Extra**
X	None
18	**Extra**
X	None

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Technical data

ZTG T-series 1600-3000A

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ZTG T-series Withstand and Close-on Ratings (WCR) and Short-time Ratings (STR)

ATS frame	ATS rating	Transition types	Coordinated fuse ratings			Coordinated breaker ratings					Time-based ratings		Short-time ratings	
			480V Max withstand	Class	Max fuse size	240V Max withstand	Max breaker size	480V Max withstand	Max breaker size		480V Max withstand	Time-period	480V Max withstand	Time-period
R5	1600-3000A	OT, DT, CT	200kA	Class L	4000A	100kA	no max	100kA	no max		100kA	0.05 sec	65kA	0.5 sec

[1] For detailed WCR ratings by ATS and breaker type, please refer to document number 1SCC303020C0201, Zenith short circuit ratings

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ZTG T-series Testing and Standards Compliance

Description	Standard
UL, cUL listing	UL 1008
Conducted and radiated emissions	CISPR 11:2009, Class A
ESD immunity test	IEC/EN 61000-4-2 Class B
Radiated RF, electromagnetic field immunity test	IEC/EN 61000-4-3 10 V/m
Electrical fast, transient/burst immunity test	IEC/EN 61000-4-4
Surge immunity test	IEC/EN 61000-4-5 0.5 to 2 kV
Conducted immunity test	IEC/EN 61000-4-6
Voltage dips and interruption immunity	IEC/EN 61000-4-11
Harmonic voltage immunity test	IEC/EN 6100-4-13

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ZTG T-series AL/CU UL Listed Solderless Screw-Type Terminals for External Power Connections

Model	Amperage	Cables per phase & neutral	Range of wire sizes	
ZTG	1600-3000	8	2 AWG - 600 kcmil	(34 - 304 mm²)
ZTGD		8	750 kcmil	(380 mm²)

Dimensions

ZTG T-series 1600-3000A

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ZTG T-series dimensions

Model	ATS Rating (A)	Poles	Dimensions,[2] in (mm)			Reference figure
			Height (A)	Width (B)	Depth (C)	
ZTG ZTGD	1600-3000	3	90 (2290)	35.5 (900)	48 (1220)	4
		4	90 (2290)	35.5 (900)	48 (1220)	4

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Figure 1 1600-3000 A

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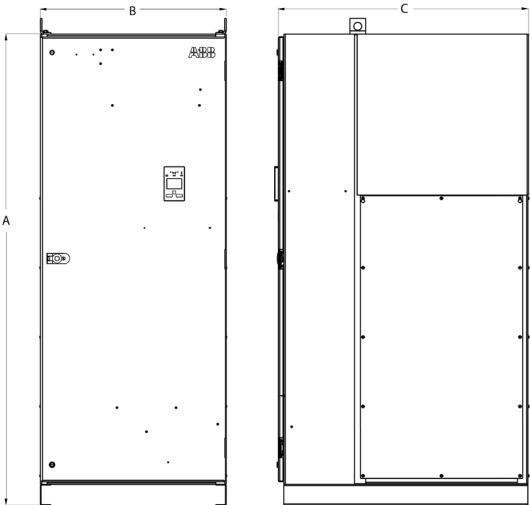
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