CATALOG

Zenith ZTX series Automatic Transfer Switches

Continuous Power. Non-Stop Innovation

For ZTX series ATS, 30-1200 A, 200-480 Vac

- Easy to Install and Commission
- Continuous Operation

Powered by TruONE™ technology, Zenith ZTX series automatic transfer switches incorporate switch and controller in one seamless, self-contained unit, reducing the number of wires and connections. This design saves room in the enclosure and minimizes the potential for connection failures. In addition, the design incorporates modular components to reduce downtime and service costs.

Table of contents

Zenith ZTX series

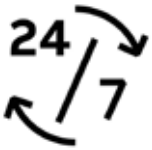
More advantages. Greater power security.

Easy to Install and Commission

Start up in minutes, not hours.

The new Zenith ZTX series weighs up to 30% less than comparable ATS models but has up to 25% more wire-bending space, making it especially easy for contractors to install.

Once sources are connected, an innovative auto-configure function via the HMI sets electrical system parameters in seconds. Because of TruONE™ technology, no additional control wiring or troubleshooting is required on-site. And any programming changes can be done from the HMI with a few keystrokes, making commissioning quick and painless.



Continuous Operation

Minimize unplanned outages.

Zenith ATS solutions are tested to last up to 6,000 cycles. Based on 10 transfers per month, that’s 50 years of reliable operation! If things ever do go wrong, all critical modules are customer-replaceable to simplify service and significantly reduce downtime and service costs. Say goodbye to losing the lights or closing business due to an unplanned outage.

Zenith ZTX series

Greater power security

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Compliant with the standards you trust

- cULus (UL 1008) listed
- NFPA 70, 99, 101, and 110
- IEEE 446 and 241
- NEMA ICS 10
- Seismic (certification in process)
  - IBC-2015
  - IEEE-693-2005
- UL 508
- UL 50, NEMA 250, and NEMA ICS 6

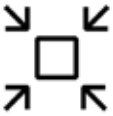
Even more advantages

Speed Up Your Project

Now you can speed up your project even more, thanks to automatic commissioning capabilities. Premade configuration files can be uploaded from your PC to the controller via USB or Bluetooth, minimizing the risk of human error and reducing programming time by 80%.

Optimized Logistics

Leveraging ABB TruONE all-in-one engineering, Zenith features a wide voltage range from 200 to 480 VAC (with +/-20% tolerance), reducing the need to stock multiple SKUs, so you can reduce inventory and save space in the warehouse.



Integrated and Future-Ready

Not ready to make the jump to digital yet? No problem. ABB Zenith features plug-in factory and field-mount accessorizing. You'll never need extra space inside the panel for any future upgrades.

Safety and Protection

Unlike typical ATS solutions, Zenith enables safe emergency manual operation—even under load—without opening the panel door when the HMI is mounted to the ATS frame. With controller and power supply embedded in the power panel, there are no dangerous line voltages to the door, so the risk of operator injury due to equipment malfunction is reduced.

Affordable Range

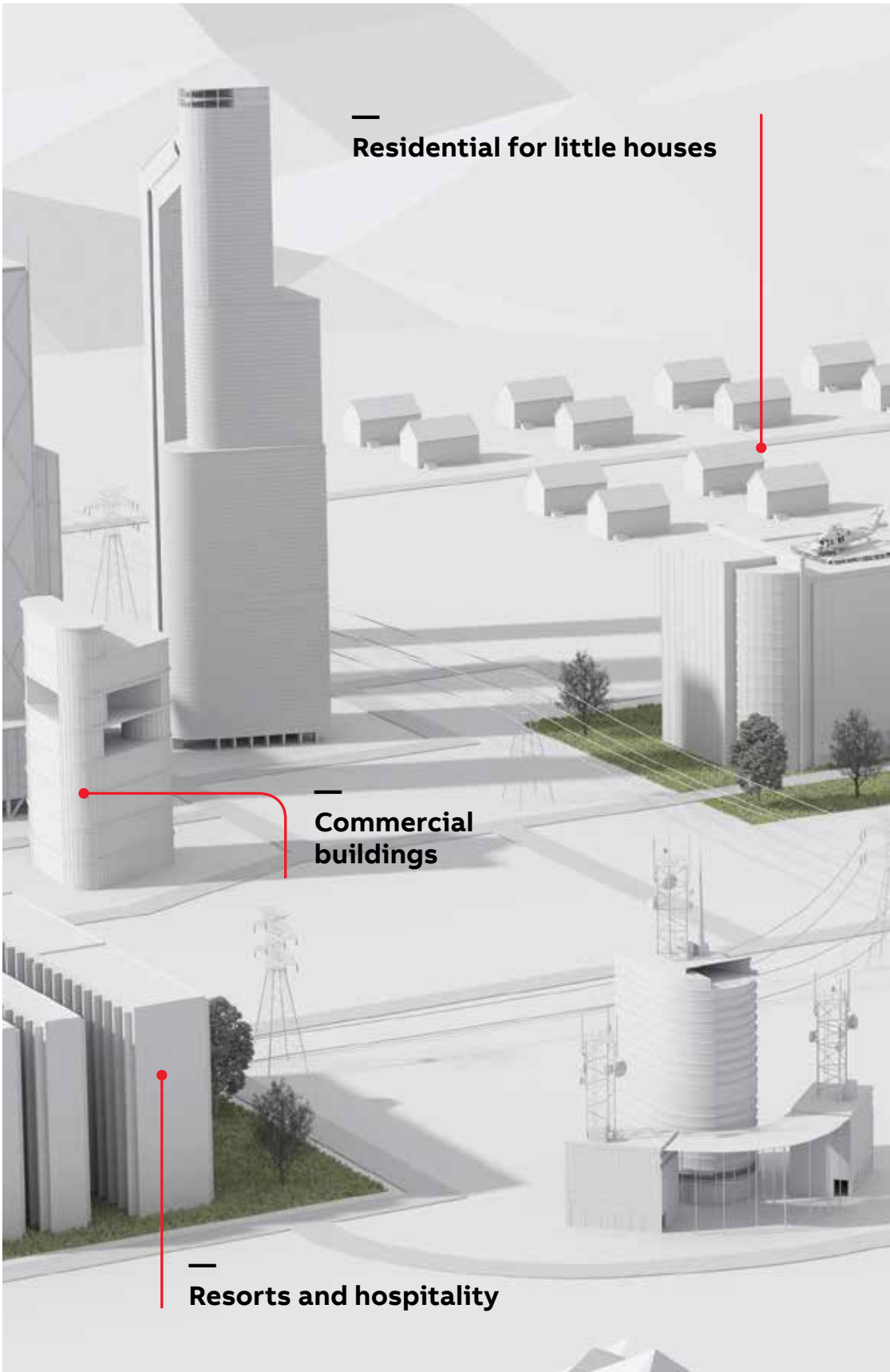
With the right solution to match the application, ABB Zenith provides top value for your specific needs—from optional stand-by power to even the most critical uninterruptable processes—with the most comprehensive ATS portfolio on the market

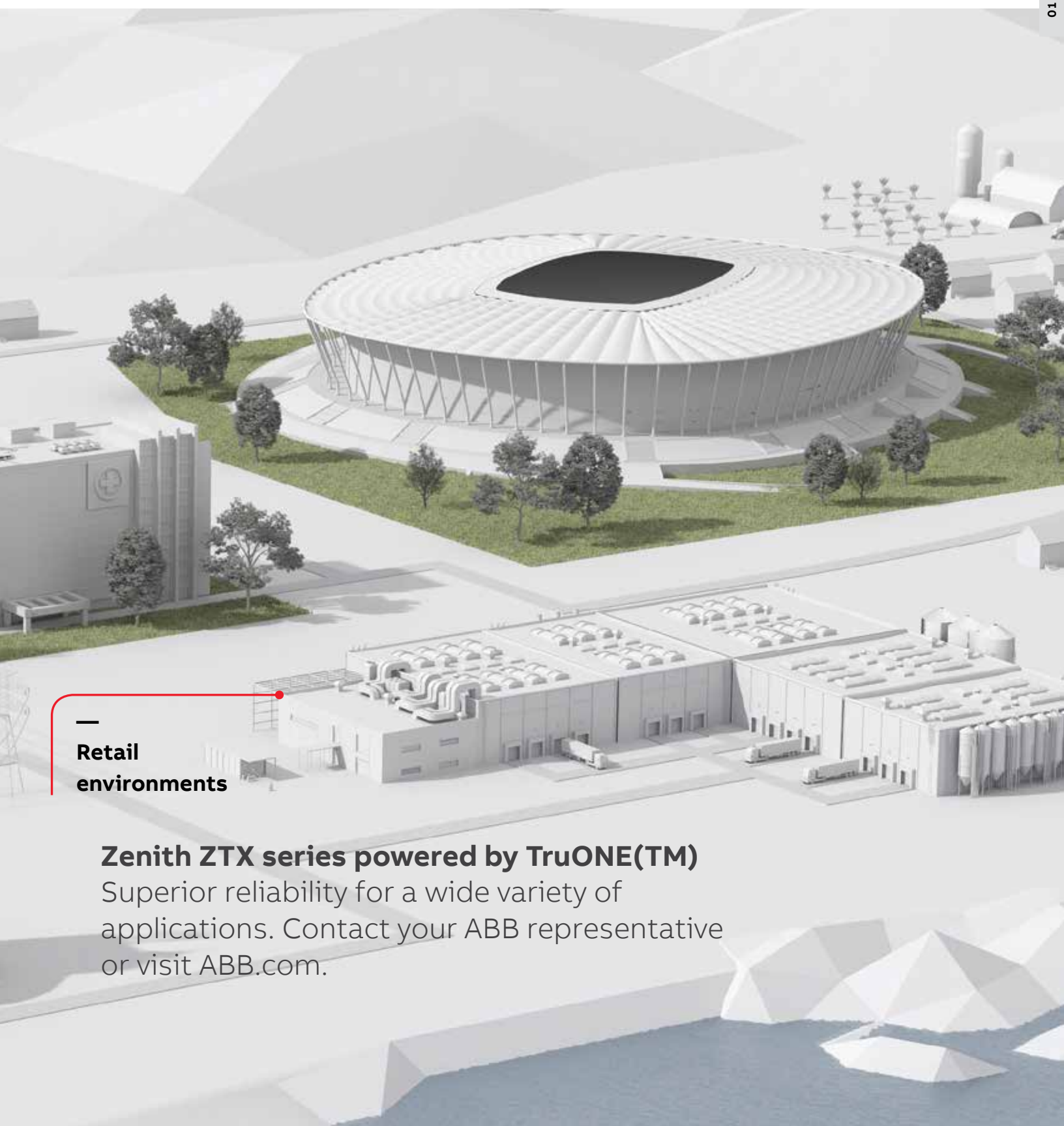
Taking ease of installation to new heights.

Bring the highest level of convenience, efficiency and critical power security to your product, project or facility.

ZTX is the superior solution for:
- Generator dealers
- Distributors

ZTX provides superior critical power security for:
- Residential buildings
- Commercial buildings
- Resorts and hospitality
- Retail environments
- And more





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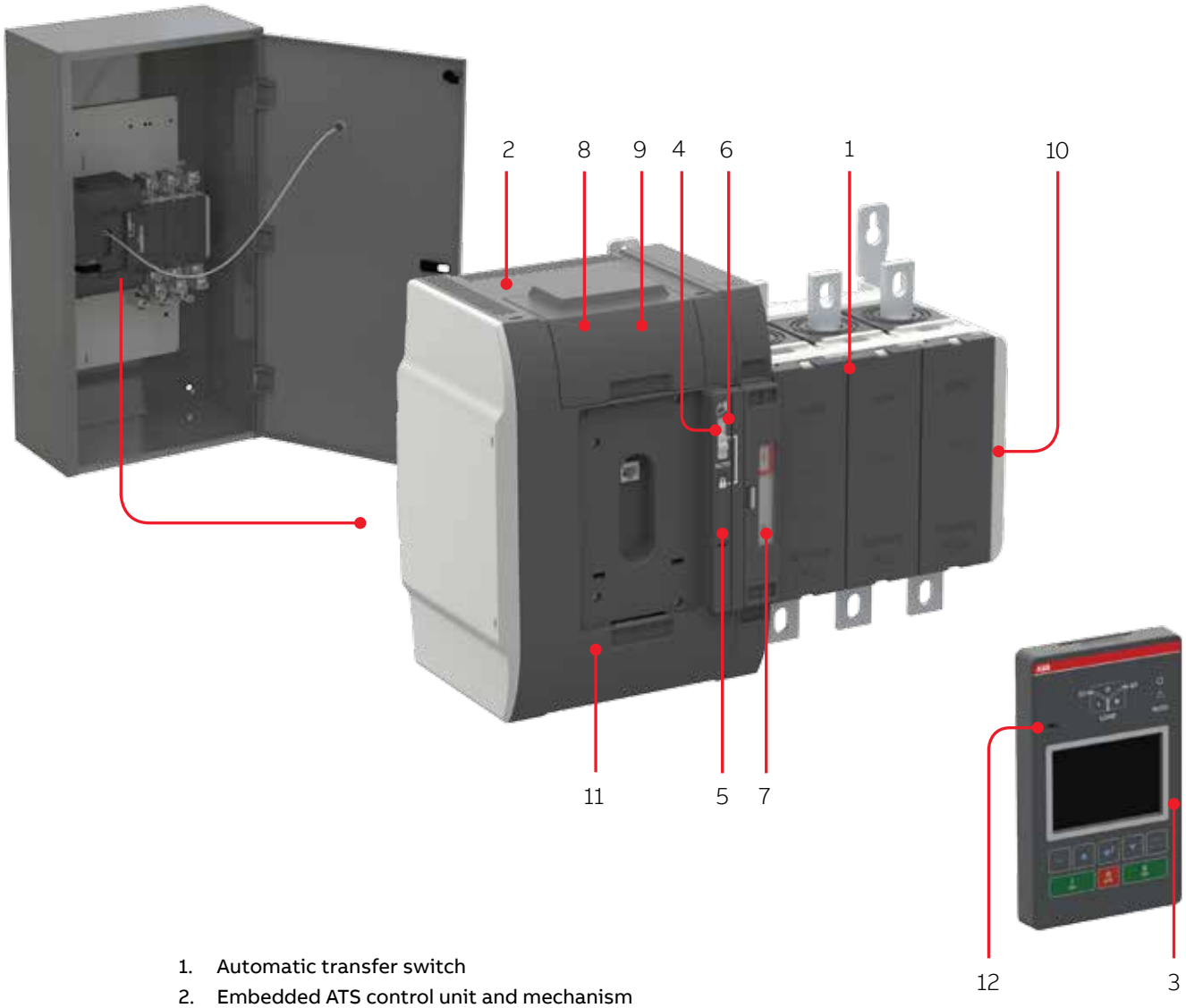
Retail environments

Zenith ZTX series powered by TruONE(TM)
Superior reliability for a wide variety of applications. Contact your ABB representative or visit ABB.com.

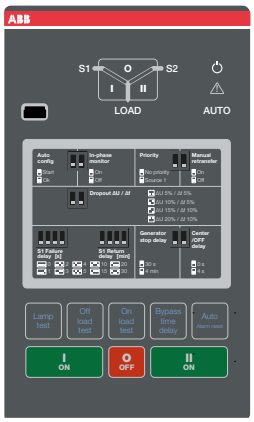
Construction



1. Automatic transfer switch
2. Embedded ATS control unit and mechanism
3. HMI unit, type ZTX DIP
4. Slide switch (Hand - Locking - AUTO) for selection of the operation mode
5. Padlocking the automatic transfer switch to prevent automatic and manual operation
6. Handle for manual operation
7. Position indication
8. Terminals for control circuit connections (behind the cover)
9. Place for connectivity modules (aux power supply, com and signaling)
10. Place for auxiliary contact block
11. Location of product identification label
12. Programming port, only for Ekip Programming module and Ekip Connect software

Features

Main features in the table below.
Consult ABB for more information.

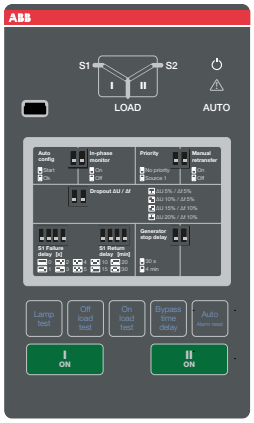


Feature comparison

	ZTX Controls
Ampere sizes available	UL: 30-1200 A
Rated voltage	200-480Vac
Rated frequency	50 / 60 Hz
Phase system	Single and Three
Number of poles	2, 3 and 4
Neutral configuration	
Switched	Yes
Product type	
Open transition (I-II)	Yes
Delayed transition (I-O-II)	No
Voltage and frequency settings	
Pick up Voltage Source 1	Fixed 2% above drop out
Drop out Voltage Source 1 *	+/-5, 10, 15, 20%
Pick up Voltage Source 2	Fixed 2% above drop out
Drop out Voltage Source 2 *	+/-5, 10, 15, 20%
Pick up Frequency Source 1	Fixed 1% above drop out
Drop out Frequency Source 1	+/-5, 10 %
Pick up Frequency Source 2	Fixed 1% above drop out
Drop out Frequency Source 2	+/-5, 10 %
Time delay settings	
Override momentary Source 1 Outage, sec	0, 1, 2, 3, 4, 5, 10, 15, 20, 25, 30
Transfer from Source 1 to Source 2, sec	Fixed 2 seconds
Override momentary Source 2 Outage, sec	Fixed 1,5 seconds
Transfer from Source 2 to Source 1, min	0, 1, 2, 3, 4, 5, 10, 15, 20, 25, 30
Generator stop delay, min	30 secs or 4 mins
Center-OFF delay, sec	0 or 4
Pre-transfer delay S1 to S2, sec	No
Post-transfer delay S1 to S2 , sec	No
Pre-transfer delay S2 to S1, sec	No
Post-transfer delay S2 to S1, sec	No
Load shed delay, sec	No
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.

Features



Feature comparison

	ZTX controls
Features	
Controls	DIP + keys
LED indications for ATS, S1 and S2 status	Yes
Open transition - Standard digital inputs/outputs	0 / 1
Delayed transition - Standard digital inputs/outputs	1 / 1
Programmable digital inputs/outputs	No
Auto config (voltage, frequency, phase system)	Yes
Source priority	Source 1, No priority
Manual re-transfer	Yes
In-phase monitor (synchro check)	Yes
Genset exercising: on-load, off-load	Yes
In-built power meter module	No
Load shedding	No
Real time clock	No
Event log	No
Predictive maintenance	No
Voltage and current harmonics measuring	No
Field-mount accessories	
Auxiliary contacts for position indication	Yes
Digital input/output modules	No
12-24 Vdc aux supply module for controller	No
Communication modules	No
Connectivity capability	
Modbus RTU (RS-485)	No
Modbus/TCP	No
Profibus DP	No
ProfiNet	No
DeviceNet	No
Ethernet IP	No
Monitoring via ABB Ability™: EDCS	No
For applications	
Mains - Mains	Yes
Mains - Generator (minimum size 20kVA)	Yes
UL short circuit withstand ratings	
Coordinated breaker WCR	Yes

Description of basic functionality

Operation of time delays and corresponding relay output signals

Example for SOURCE 1 Priority
SOURCE 2 = Generator

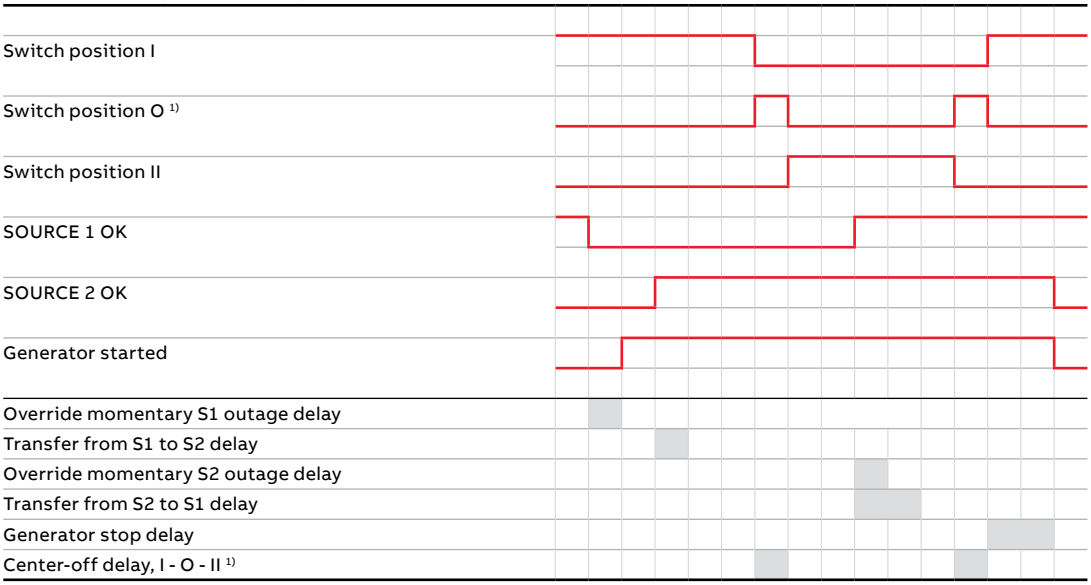
The automatic switching sequence can be summarized in following steps:

- An anomaly occurs on the SOURCE 1
- Override momentary S1 outage delay
- Generator start
- SOURCE 2 OK
- Transfer from S1 to S2 delay
- Pre-transfer signal on
- Load shed signal on
- Pre-transfer S1 to S2 delay
- Load shed delay
- Transfer switch (SOURCE 1) to the position O
- Center-off delay
  (only with Delayed transition I - O - II type)
- Transfer switch (SOURCE 2) to the position II
- Post-transfer S1 to S2 delay
- Pre-transfer signal off

And the re-transfer sequence can be summarized in the following steps:

- The SOURCE 1 is restored
- Transfer from S2 to S1 delay
- Pre-transfer signal on
- Pre-transfer S2 to S1 delay
- Transfer switch (SOURCE 2) to the position O
- Center-off delay
  (only with Delayed transition I - O - II type)
- Transfer switch (SOURCE 1) to the position I
- Load shed signal off
- Generator stop delay
- Post-transfer S2 to S1 delay
- Pre-transfer signal off
- Generator stop
- SOURCE 2 off

SOURCE 1 priority (SOURCE 2 = generator)



1) Off position included in sequence for delayed transition only

Accessories

16	Ekip Programming module Ekip Bluetooth wireless communication unit
17	Auxiliary contacts

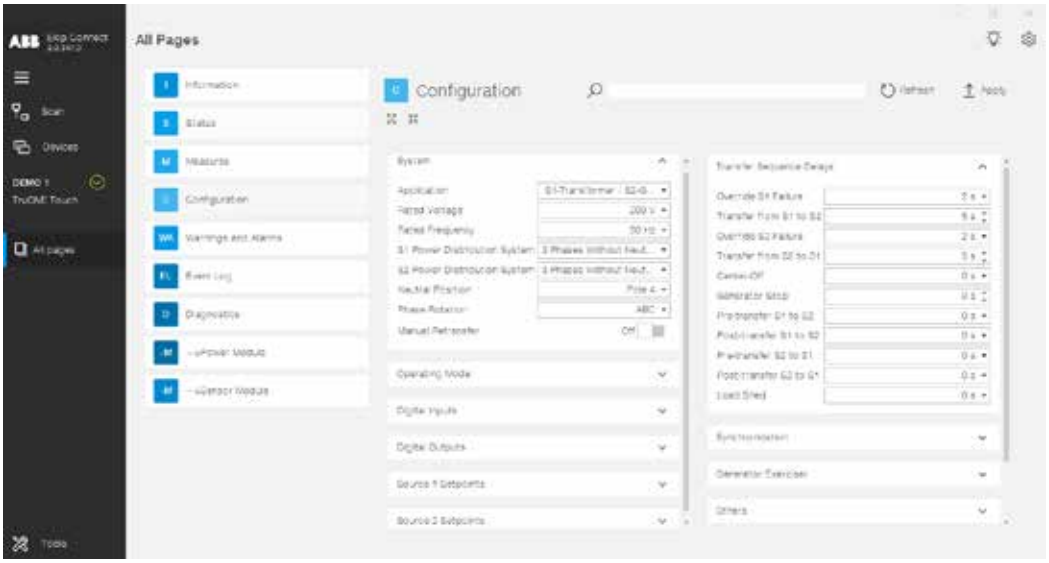
Accessories

Automatic transfer switches

EKIP PROGRAMMING

Ekip Programming module

The Ekip Programming module is used for programming ZEAEKPPGM is a separate accessory used for programming Zenith ZTX via USB to a PC using the Ekip Connect software that can be downloaded library.abb.com. It enables both online (line power available) and offline (no line power available) programming. This accessory is required only for programming engine generator exerciser.



EKIP COM BLUETOOTH

Ekip Bluetooth wireless communication unit

Ekip Bluetooth is used for programming Zenith ZTX and it permits remote connection with the switch by laptop, tablet or smart phone on which Ekip Connect software has been installed. The device is connected to the programming port on the HMI of Zenith ZTX and it supplies the controller by means of a rechargeable Li-ion battery.

Accessories

Automatic transfer switches

OA1G10

OA3G01

Auxiliary contacts

Auxiliary contacts are configurable with Zenith ZTX and ZTG series automatic transfer switches. The aux contacts mount on the right side of the switch, with up to contacts available for both Source 1 and Source 2 position indication contacts total. See ordering information and technical information sections of this catalog for more information.

Function table for auxiliary contacts / Source 1 position (max. 2+2)

Switch position	Main contacts	OA1G10 NO	OA3G01 NC
I	closed	closed	open
0	open	open	closed
II	closed	open	closed

Function table for auxiliary contacts / Source 2 position (max. 2+2)

Switch position	Main contacts	OA1G10 NO	OA3G01 NC
I	closed	open	closed
0	open	open	closed
II	closed	closed	open

Ordering Information

Zenith ZTX 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 products type, Ampere rating, standard classification and number of poles, all in one glance.

Explanation of the types ZTX Series

Z	X	O	J	3	X	X	1	2	-	A	X	X	X	X	X	X	X
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

1	**Zenith**
	Z
2	**Product Family**
X	ZTX
3	**Transition Type**
O	Open Transition
4	**Amperage**
A	30 Amps
B	60 Amps
C	100 Amps
D	125 Amps
F	160 Amps
G	200 Amps
J	260 Amps
K	400 Amps
L	600 Amps
M	800 Amps
N	1000 Amps
P	1200 Amps
5	**Phase**
1	1 Phase
3	3 Phase
6	**Neutral**
S	Switched neutral
X	No neutral
B	Solid neutral bar

7	**System voltage (Line to Line)**
X	T1 Panel - Voltage agnostic
8	**Enclosure**
1	Nema 1
3	Nema 3R
9	**Panel Assembly**
2	Std application, Sources on Bottom
10	**(open)**
-	
11	**Aux Contacts**
X	No Aux Contacts
A	2 NO
12	**Metering Options**
X	No meter
13	**Ground Bar**
X	No ground bar, lug on cabinet
14	**Lugs**
X	Mech Standard on ZTX
15/16	**Ekip Modules**
XX	
17	**Open**
X	
18	
X	Standard design

Loose accessories

Zenith ZTX loose accessories order codes

Suitable for switches ZTX 30-1200 A, 200-480 Vac			
Type	**Qty (pcs)**	**Order code**	**Weight (lb)**
Ekip Programming Module	1	ZEAEKPPGM	0.44
Normally Open Auxiliary Contact	10	OA1G10	0.07
Normally Closed Auxiliary Contact	10	OA3G01	0.07

[1] Packing materials must be added to weights provided

Technical data

Technical data

Zenith ZTX series 30-1200 A, 200-480 Vac

Zenith ZTX series technical data

			Zenith switch size (A)					
Data according to UL1008			**30**	**60**	**100**	**125**	**160**	**200**
Rated operational voltage		Vac	200 - 480					
Operating voltage range		Vac	160 - 576					
Rated frequency		Hz	50-60					
Emergency systems - Motor loads or total system		A	30	60	100	125	160	200
Optional standby systems - Motor loads or total system		A	30	60	100	125	160	200
Short-circuit withstand/closing and short-time current ratings		kA	See table A					
Contact transfer time I-II, II-I	Load interrupting time	ms	<50					
Operating transfer time I-II, II-I		ms	<500					
ATS current draw during transfer / time duration		A / ms	35 / <110					
Mechanical endurance	No. of operating cycles		6050	6050	6050	6050	6050	6050
Suitable for applications			Transformer - Transformer, Transformer - Generator					

Zenith ZTX series technical data

			Zenith switch size (A)					
Data according to UL1008			**260**	**400**	**600**	**800**	**1000**	**1200**
Rated operational voltage		Vac	200 - 480					
Operating voltage range		Vac	160 - 576					
Rated frequency		Hz	50-60					
Emergency systems - Motor loads or total system		A	260	400	600	800	1000	1200
Optional standby systems - Motor loads or total system		A	260	400	600	800	1000	1200
Short-circuit withstand/closing and short-time current ratings		kA	See table A					
Contact transfer time I-II, II-I	Load interrupting time	ms	<50					
Operating transfer time I-II, II-I		ms	<500					
ATS current draw during transfer / time duration		A / ms	35 / <110	40 / <130				
Mechanical endurance	No. of operating cycles		6050	4050	3050	3050	3050	3050
Weight without accessories	2-pole switch	pounds	29.3	37.2	37.2			
	3-pole switch	pounds	33.9	42.1	42.1	68.6	68.6	68.6
	4-pole switch	pounds	38.6	47.2	47.2	81.1	81.1	81.1
Suitable for applications			Transformer - Transformer, Transformer - Generator[1)]					

[1)] Minimum generator size: 20kVA

ZTX series Coordinated Breaker Withstand and Close-on Ratings (WCR)

ATS Rating (A)	Max Voltage (V)	Max coordinated breaker WCR (A)	Breaker manufacturers
30 - 200	480	30 000	ABB, GE, Schneider, Eaton
260	480	50 000	ABB, GE, Schneider, Eaton
400	480	150 000	ABB, GE[1], Schneider[1], Eaton[1]
600	480	200 000	ABB[1], GE[1], Schneider, Eaton
800 - 1200	480	85 000	ABB, GE

[1.] The max rating for this manufacturer is less than the noted maximum
[2.] For detailed WCR ratings by ATS and breaker type, please refer to document number 1SCC303015C0201, Zenith short circuit ratings

Technical data

Zenith ZTX series 30-1200 A, 200-480 Vac

ZTX 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

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

Model	Amperage	Cables per phase & neutral	Range of wire sizes	
ZTX	30-200	1	6 AWG - 300 kcmil	(14 - 152 mm²)
	260	1	2 AWG - 600 kcmil	(34 - 304 mm²)
	400	1	2 AWG - 600 kcmil	(34 - 304 mm²)
	600	2	2 AWG - 600 kcmil	(34 - 304 mm²)
	800-1200	4	2 AWG - 600 kcmil	(34 - 304 mm²)

Auxiliary contacts

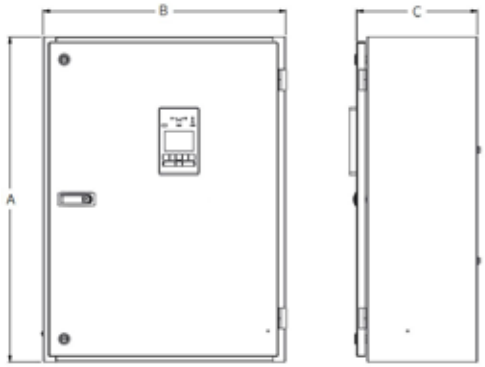
Technical data for auxiliary contacts according to IEC 60947-5-1, for OA1G_, OA3G_

AC15		DC12			DC13	
Ue/[V]	Ie/[A]	Ue/[V]	Ie/[A]	P/[W]	Ie/[A]	P/[W]
230	6	24	10	240	2	50
400	4	72	4	290	0.8	60
415	4	125	2	250	0.55	70
690	2	250	0.55	140	0.27	70
		440	0.1	44		

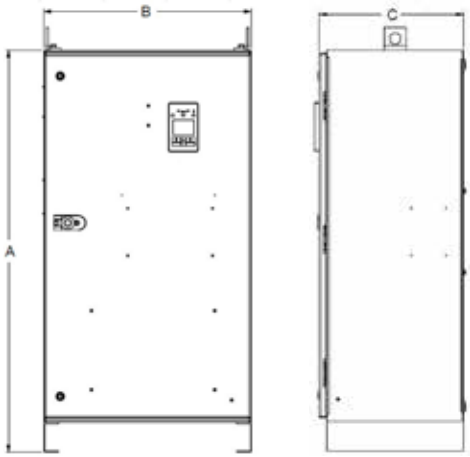
Dimension drawings

Dimension drawings

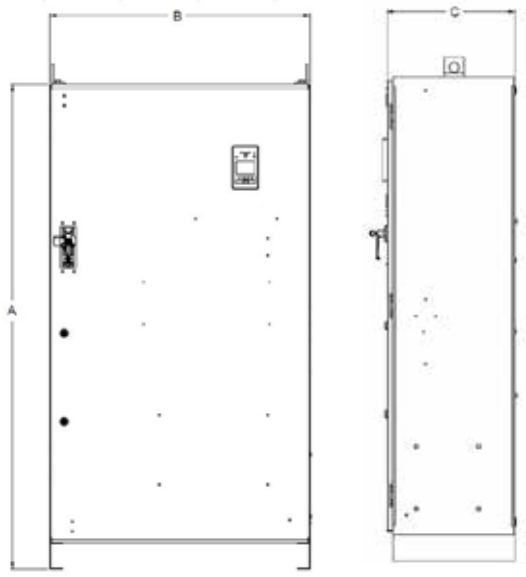
30-400A



600A



800-1200A



ZTX series dimensions and weights, UL Type 1 Enclosure

Model	ATS Rating (A)	Poles	Weight[1] lb (kg)	Dimensions,[2] in (mm) Height (A)	Width (B)	Depth (C)
ZTX	30-200	2	89 (40)	32 (813)	24 (610)	12 (305)
		3	93 (42)	32 (813)	24 (610)	12 (305)
		4	98 (44)	32 (813)	24 (610)	12 (305)
	260	2	145 (66)	46 (1168)	24 (610)	14 (356)
		3	150 (68)	46 (1168)	24 (610)	14 (356)
		4	155 (70)	46 (1168)	24 (610)	14 (356)
	400	2	153 (69)	46 (1168)	24 (610)	14 (356)
		3	159 (72)	46 (1168)	24 (610)	14 (356)
		4	290 (131)	54 (1372)	28 (711)	19.5 (495)
	600	2	278 (126)	54 (1372)	28 (711)	19.5 (495)
		3	284 (129)	54 (1372)	28 (711)	19.5 (495)
		4	290 (131)	54 (1372)	28 (711)	19.5 (495)
	800-1200	3	482 (219)	74 (1880)	40 (1016)	19.5 (495)
		4	515 (234)	74 (1880)	40 (1016)	19.5 (495)

[1] Special Enclosures Type 3R, 12, 4, and 4X weights are up to 22% greater than Type 1 Enclosures/
[2] Special Enclosures Type 3R, 12, 4, and 4X dimensions differ. Consult Tech Support for details.
[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.

Additional information
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