



OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR OSHPD SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY
APPLICATION #: OSP - 0331

OSHPD Special Seismic Certification Preapproval (OSP)

Type: [] New [X] Renewal

Manufacturer Information

Manufacturer: ABB, Inc.
Manufacturer's Technical Representative: Dhirendra Tiwari
Mailing Address: 41 Woodford Ave, Plainville, CT 06062
Telephone: (860) 747-7935 Email: Dhirendra.Tiwari@us.abb.com

Product Information

Product Name: ABB, Inc. ZTG, ZTS, ZT3, ZBG, ZBS, AND ZBT3 Automatic Transfer Switches
Product Type: Automatic Transfer Switch
Product Model Number: ZTG, ZTS, ZT3, ZBG, ZBS, AND ZBT3 - See Attachment for full identification numbers
General Description: Standalone (ZT) and Bypass Transfer Switches that provide manual / automatic power switching
Mounting Description: Rigid floor mounted

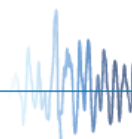
Applicant Information

Applicant Company Name: W.E. Gundy & Associates, Inc.
Contact Person: Travis Soppe SE
Mailing Address: 1199 Shoreline Dr, Ste 300, Boise, ID 83702
Telephone: (208) 342-5898 Ext.115 Email: tsoppe@wegai.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant: [Signature] Date: 6/18/2019
Title: President Company Name: W.E. Gundy & Associates Inc.

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"





**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)

Company Name: W.E. Gundy & Associates, Inc.

Name: Travis Soppe, SE California License Number: S6115

Mailing Address: 1199 Shoreline Dr, Suite 310, Boise, ID 83702

Telephone: (208) 342-5898 Ext. 115 Email: tsoppe@wegai.com

Supports and Attachments Preapproval

- Supports and attachments are preapproved under OPM- _____
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)
- Supports and attachments are not preapproved

Certification Method

- Testing in accordance with: ICC-ES AC156
- Other (Please Specify): _____

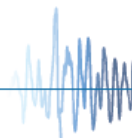
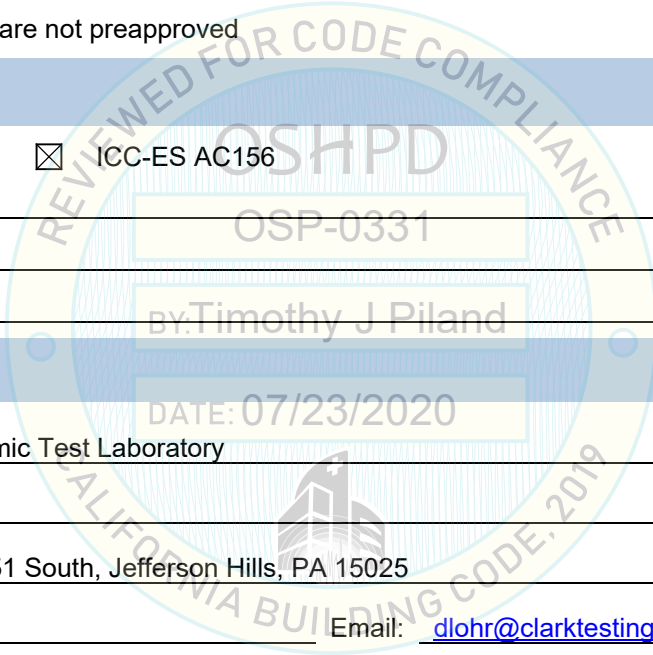
Testing Laboratory

Company Name: Clark Dynamic Test Laboratory

Contact Name: Devon Lohr

Mailing Address: 1801 Route 51 South, Jefferson Hills, PA 15025

Telephone: 412-387-1027 Email: dlohr@clarktesting.com





OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
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Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: [X] Yes [] No

Design Basis of Equipment or Components (Fp/Wp) = 1.13 for SDS = 2.50 at zh = 0; 1.50 for SDS = 2.00 at zh = 1

SDS (Design spectral response acceleration at short period, g) = 2.50 at zh = 0; 2.00 at zh = 1

ap (In-structure equipment or component amplification factor) = 2.5

Rp (Equipment or component response modification factor) = 6.0

Omega_0 (System overstrength factor) = 2.0

Ip (Importance factor) = 1.5

z/h (Height factor ratio) = 0 and 1

Equipment or Component Natural Frequencies (Hz) = See Attachments

Overall dimensions and weight (or range thereof) = See Attachments

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: [] Yes [X] No

Design Basis of Equipment or Components (V/W) =

SDS (Design spectral response acceleration at short period, g) =

SD1 (Design spectral response acceleration at 1 second period, g) =

R (Response modification coefficient) =

Omega_0 (System overstrength factor) =

Cd (Deflection amplification factor) =

Ip (Importance factor) = 1.5

Height to Center of Gravity above base =

Equipment or Component Natural Frequencies (Hz) =

Overall dimensions and weight (or range thereof) =

Tank(s) designed in accordance with ASME BPVC, 2010: [] Yes [X] No

List of Attachments Supporting Special Seismic Certification

[X] Test Report(s) [] Drawings [] Calculations [X] Manufacturer's Catalog

[X] Other(s) (Please Specify): OSP Listing Documents, Subcomponent Certification Letter

OSHPD Approval (For Office Use Only) - Approval Expires on December 31, 2025

Signature: [Handwritten Signature]

Date: July 23, 2020

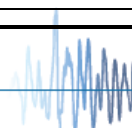
Print Name: Timothy J. Piland

Title: SSE

Special Seismic Certification Valid Up to: SDS (g) = See Above

z/h = See Above

Condition of Approval (if applicable):



**ABB, Inc. ZTG, ZTS, ZT3, ZBG, ZBS, and ZB3
AUTOMATIC TRANSFER SWITCH CERTIFIED PRODUCT LINE MATRIX**



ID Number	Frame Size	Pole	Ampre Rating	Voltage	NEMA Rating	Enclosure Width	Enclosure Depth	Enclosure Height	Service Weight (lbs)	Representative UUT	
Non-Bypass	ZTG, ZTS, ZT3 - 3P - 1	40LA	3	801 - 3000	120 - 600	1	36.5"	23.5"	90.0"	867-972	extrapolated
	ZT3 - 3P - 1	40LA	3	3000	600	1	36.5"	23.5"	90.0"	917	UUT-1
	ZTG, ZTS, ZT3 - 4P - 1	40LA	4	801 - 3000	120 - 600	1	36.5"	23.5"	90.0"	923-1062	interpolated
	ZTG, ZTS, ZT3 - 3P - 1	40LA	3	801 - 3000	120 - 600	1	36.5"	32.5"	90.0"	950-1055	interpolated
	ZTG, ZTS, ZT3 - 4P - 1	40LA	4	801 - 3000	120 - 600	1	36.5"	32.5"	90.0"	1007-1145	interpolated
	ZTG, ZTS, ZT3 - 3P - 1	40LA	3	801 - 3000	120 - 600	1	36.5"	38.5"	90.0"	1033-1138	interpolated
	ZTG, ZTS, ZT3 - 4P - 1	40LA	4	801 - 3000	120 - 600	1	36.5"	38.5"	90.0"	1090-1228	interpolated
	ZTG, ZTS, ZT3 - 3P - 1	40LA	3	801 - 3000	120 - 600	1	36.5"	53.5"	90.0"	1157-1262	interpolated
	ZTG, ZTS, ZT3 - 4P - 1	40LA	4	801 - 3000	120 - 600	1	36.5"	53.5"	90.0"	1231-1352	interpolated
	ZTG, ZTS, ZT3 - 3P - 3R, 4, 12	40LA	3	801 - 3000	120 - 600	3R, 4, 12	38.8"	41.5"	90.0"	1273-1339	interpolated
	ZT3 - 4P - 3R, 4, 12	40LA	4	3000	600	3R, 4, 12	38.8"	41.5"	90.0"	1295	UUT-2
	ZTG, ZTS, ZT3 - 4P - 3R, 4, 12	40LA	4	801 - 3000	120 - 600	3R, 4, 12	38.8"	41.5"	90.0"	1330-1429	extrapolated
Bypass	ZBG, ZBS, ZB3 - 3P - 1	40LB	3	801 - 3000	120 - 600	1	45.5"	50.0"	90.0"	2280-2506	extrapolated
	ZB3 - 3P - 1	40LB	3	3000	600	1	45.5"	50.0"	90.0"	2350	UUT-3
	ZBG, ZBS, ZB3 - 4P - 1	40LB	4	801 - 3000	120 - 600	1	45.5"	50.0"	90.0"	2486-2749	interpolated
	ZBG, ZBS, ZB3 - 3P - 1	40LB	3	801 - 3000	120 - 600	1	45.5"	60.0"	90.0"	2416-2643	interpolated
	ZBG, ZBS, ZB3 - 4P - 1	40LB	4	801 - 3000	120 - 600	1	45.5"	60.0"	90.0"	2623-2885	interpolated
	ZBG, ZBS, ZB3 - 3P - 3R, 4, 12	40LB	3	801 - 3000	120 - 600	3R, 4, 12	45.5"	63.0"	90.0"	2756-2869	interpolated
	ZB3 - 4P - 3R, 4, 12	40LB	4	3000	600	3R, 4, 12	45.5"	63.0"	90.0"	2895	UUT-4
	ZBG, ZBS, ZB3 - 4P - 3R, 4, 12	40LB	4	801 - 3000	120 - 600	3R, 4, 12	45.5"	63.0"	90.0"	2960-3112	extrapolated

Notes:
 1) All Transferswitches are delay, closed, and open switches.
 2) Enclosures of constructed of bolted and welded carbon steel.
 3) The ZTG, ZTS, and ZT3 Non-Bypass transfer switches are of identical construction.
 4) The ZBG, ZBS, and ZB3 Bypass transfer switches are of identical construction.

**ABB, Inc. ZTG, ZTS, ZT3, ZBG, ZBS, and ZB3
AUTOMATIC TRANSFER SWITCH CERTIFIED SUBCOMPONENT MATRIX**



Component ID Number	Description	Manufacturer	Width	Depth	Height	Weight (lbs)	Representative UUT
Carbon Steel Enclosures ¹⁾							
F-3000MP	NEMA1 bolted carbon steel	Genesis Inc.	36.5"	23.5"	90.0"	na	UUT-1
F-3000MP+26h-1946	NEMA1 bolted carbon steel	Genesis Inc.	36.5"	32.5"	90.0"	na	interpolated
F-3000MP+26h-1947	NEMA1 bolted carbon steel	Genesis Inc.	36.5"	38.5"	90.0"	na	interpolated
F-3000MP+26h-1980	NEMA1 bolted carbon steel	Genesis Inc.	36.5"	53.5"	90.0"	na	interpolated
F-3001MP	NEMA3R,4,12 welded carbon steel	Genesis Inc.	38.8"	41.5"	90.0"	na	UUT-2
F-3003MP	NEMA1 bolted carbon steel	Genesis Inc.	45.5"	50.0"	90.0"	na	UUT-3
F-3003MP+26h-1948	NEMA1 bolted carbon steel	Genesis Inc.	45.5"	60.0"	90.0"	na	interpolated
F-3004MP	NEMA3R,4,12 welded carbon steel	Genesis Inc.	45.5"	60.0"	90.0"	na	UUT-4
Electrical Panel / Controller Components							
50P-1160/61	MX150 and MX250 Controller	Sienna	11.0"	4.0"	14.0"	12.0	UUT-1, UUT-3
MX250: 26P-3176	Electrical Panel	Precision	31.0"	1.0"	18.0"	1.0	UUT-1, UUT-3
MX350 HMI	Controller	GE	6.0"	1.0"	7.0"	2.0	UUT-2, UUT-4
MX350 CPU	Controller	GE	4.0"	5.0"	12.0"	3.0	UUT-2, UUT-4
50P-3041	MX350 Input Module	Sienna	3.5"	5.2"	2.5"	1.0	UUT-2, UUT-4
50P-3042	MX350 Output Module	Sienna	3.5"	5.2"	2.5"	1.0	UUT-2, UUT-4
MX350: 26P-3177	Electrical Panel	Precision	31.0"	1.0"	18.0"	1.0	UUT-2, UUT-4
CPS Box Components ²⁾							
50P-1224	CPS Box, 120V	Sienna	5.0"	3.0"	10.0"	7.0	UUT-1, UUT-3
50P-1225	CPS Box, 208-220V	Sienna	5.0"	3.0"	10.0"	7.0	interpolated / extrapolated
50P-1226	CPS Box, 230-240V	Sienna	5.0"	3.0"	10.0"	7.0	interpolated / extrapolated
50P-1227	CPS Box, 277V	Sienna	5.0"	3.0"	10.0"	7.0	interpolated / extrapolated
50P-1228	CPS Box, 380-400V	Sienna	5.0"	3.0"	10.0"	7.0	interpolated / extrapolated
50P-1229	CPS Box, 416-440V	Sienna	5.0"	3.0"	10.0"	7.0	interpolated / extrapolated
50P-1230A	CPS Box, 480V	Sienna	5.0"	3.0"	10.0"	7.0	interpolated / extrapolated
50P-1261RPL	CPS Box, 575-600V	Sienna	5.0"	3.0"	10.0"	7.0	interpolated / extrapolated

**ABB, Inc. ZTG, ZTS, ZT3, ZBG, ZBS, and ZB3
AUTOMATIC TRANSFER SWITCH CERTIFIED SUBCOMPONENT MATRIX**



Transformer Components

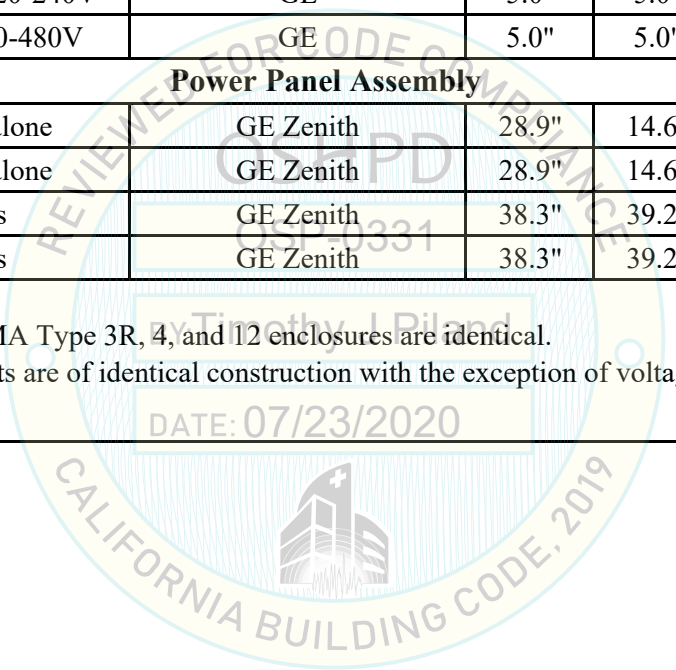
9T58K0070	Transformers, 0.5KVA, 230-575V	GE	5.0"	5.0"	7.0"	20.0	UUT-3, UUT-4
9T58K0090	Transformers, 0.5KVA, 208-380V	GE	5.0"	5.0"	7.0"	20.0	UUT-2
9T58K3717	Transformers, 0.5KVA	GE	5.0"	5.0"	7.0"	20.0	interpolated
9T58K3718	Transformers, 0.75KVA	GE	5.0"	5.0"	7.0"	20.0	UUT-1
9T58K2913	Transformers, 0.5KVA, 120-240V	GE	5.0"	5.0"	7.0"	20.0	interpolated
9T58K2930	Transformers, 0.5kVA, 240-480V	GE	5.0"	5.0"	7.0"	20.0	UUT-4

Power Panel Assembly

23c-4001	3-Pole Power Panel Standalone	GE Zenith	28.9"	14.6"	28.6"	450.0	UUT-1
23c-4002	4-Pole Power Panel Standalone	GE Zenith	28.9"	14.6"	28.6"	450.0	UUT-2
26p-4007	3-Pole Power Panel Bypass	GE Zenith	38.3"	39.2"	55.5"	1400.0	UUT-3
26p-4007	4-Pole Power Panel Bypass	GE Zenith	38.3"	39.2"	55.5"	1400.0	UUT-4

- Notes:
- 1) The size, construction material and coating of NEMA Type 3R, 4, and 12 enclosures are identical.
 - 2) The tested and interpolated CPS Box Components are of identical construction with the exception of voltage ratings.

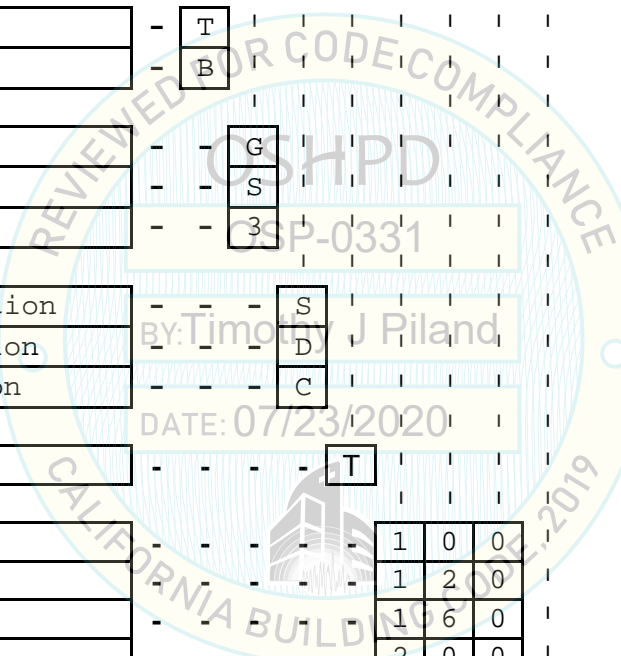
DATE: 07/23/2020



**ABB, Inc. ZTG, ZTS, ZT3, ZBG, ZBS, and ZB3
ATS CERTIFIED PRODUCT LINE NUMBERING SYSTEM**



	Brand	ATS/BYPASS	Model	Transition	Serv. Equip	Amperage			Poles	Dash	voltage	# of Wires, Hx	Enclosure	Application	Control panel	Power Panel Code	reserved for OPTION coding		
	1	2	3	4	5	6	7	8	9	-	11	12	13	14	15	16	17	18	19
Product Numbering System -	↓	↓	↓	↓	↓	↓	↓	↓	↓	-	X	X	↓	X	↓	X	X	X	X
1 Brand	Zenith	Z																	
2 ATS/Bypass	ATS	T																	
	Bypass	B																	
3 Model	ZTG		G																
	ZTS		S																
	ZT30		3																
4 Transition Type	Standard Transition			S															
	Delayed Transition			D															
	Closed Transition			C															
5 Type	Standard				T														
6, 7, 8 Amperage	1000					1	0	0											
	1200					1	2	0											
	1600					1	6	0											
	2000					2	0	0											
	2600					2	6	0											
	3000					3	0	0											
9 Poles	3-Pole									E									
	4-Pole									F									
13 Enclosure	NEMA 1															1			
	NEMA 3R															R			
	NEMA 4															4			
	NAME 12															2			
15 Controller	MX150																		1
	MX250																		2
	MX350																		3

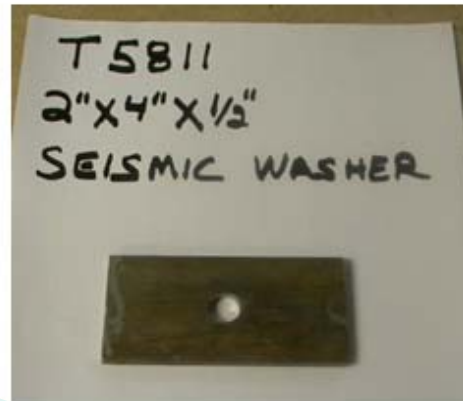


UUT-1

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Rigid floor mount with 6 - 1/2" diameter anchor bolts and 2x4x0.25" plate washers



Use seismic washer at all six anchor bolt locations



REVIEWED FOR CODE COMPLIANCE
OSP-0331
BY: Timothy J. Piland
DATE: 07/23/2020

Manufacturer: ABB, Inc.

Product Line: ZTG, ZTS, ZT3, ZBG, ZBS, and ZB3 Automatic Transfer Switches

Identification Number: ZT3 - 3P - 1

UUT Function: Manual/Automatic power switching from utility power to emergency power

UUT Description: Standalone Non-Bypass 3 Pole Automatic Transfer Switch and Controls housed in NEMA1 steel enclosure.

UUT Component Description: F-3000MP NEMA1 carbon steel enclosure, 23c-4001 3-Pole Power Panel, 50P-1160/61 MX250 Controller, MX250: 26P-3176 Electrical Panel, 50P-1224 CPS Box, and two 9T58k3718 Transformers.

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
917	36.5	23.5	90	6.8	9.0	> 33

SEISMIC TEST PARAMETERS (TESTED 12-20-2012)

Test Criteria	S _{DS}	z / h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2016 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.68	0.68

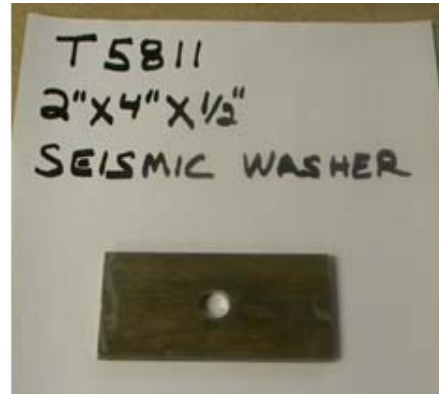
Note: The transfer switch maintained structural integrity and functionality after the ICC-ES AC156 Test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-2

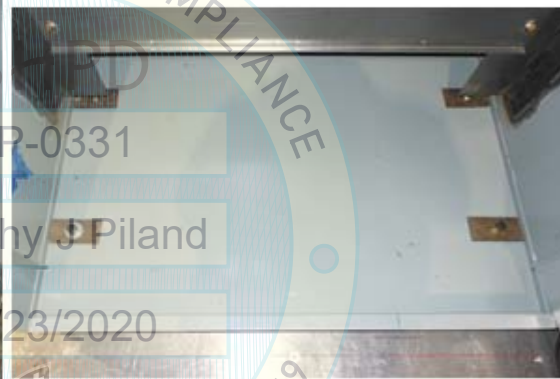
**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Rigid floor mount with 6 - 1/2" diameter anchor bolts and 2x4x0.25" plate washers.



Use seismic washer at all six anchor bolt locations



REVIEWED FOR CODE COMPLIANCE
OSP-0331
By: Timothy J. Piland
DATE: 07/23/2020

Manufacturer: ABB, Inc.

Product Line: ZTG, ZTS, ZT3, ZBG, ZBS, and ZB3 Automatic Transfer Switches

Identification Number: ZT3 - 4P - 3R, 4, 12

UUT Function: Manual/Automatic power switching from utility power to emergency power

UUT Description: Standalone Non-Bypass 4 Pole Automatic Transfer Switch and Controls housed in NEMA3R, 4, 12 steel enclosure.

UUT Component Description: F-3001MP NEMA3R, 4, 12 carbon steel enclosure, 23c-4002 4-Pole Power Panel, MX350 HMI/CPU Controller, MX350: 26P-3177 Electrical Panel, MX350: 50P-3041 and 50P-3042 Input/Output Module, and two 9T58k0090 Transformers.

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
1,295	38.8	41.5	90	19.7	14.7	> 33

SEISMIC TEST PARAMETERS (TESTED 12-20-2012)

Test Criteria	S _{DS}	z / h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2016 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.68	0.68

Note: The transfer switch maintained structural integrity and functionality after the ICC-ES AC156 Test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-3

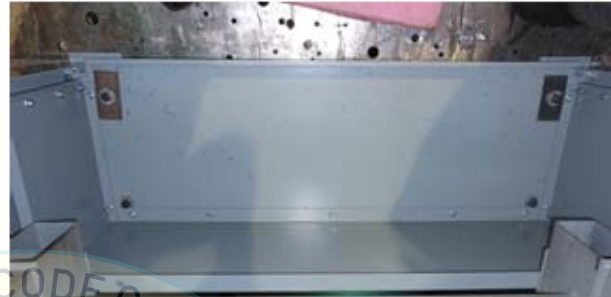
**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Rigid floor mount with 6 - 1/2" diameter anchor bolts and 2x4x0.25" plate washers.



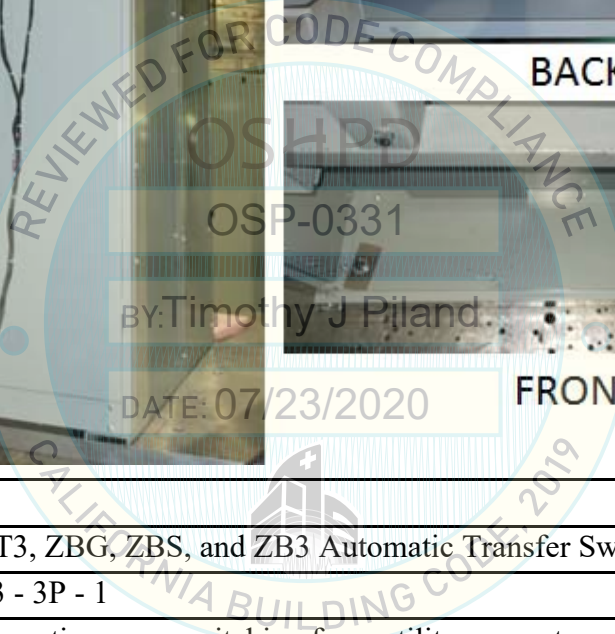
Use seismic washer at front and back anchor locations



BACK



FRONT



Manufacturer: ABB, Inc.

Product Line: ZTG, ZTS, ZT3, ZBG, ZBS, and ZB3 Automatic Transfer Switches

Identification Number: ZB3 - 3P - 1

UUT Function: Manual/Automatic power switching from utility power to emergency power

UUT Description: Bypass 3-Pole Automatic Transfer Switch and Controls housed in NEMA1 steel enclosure.

UUT Component Description: F-3003MP NEMA1 carbon steel enclosure, 26p-4007 3-Pole Bypass Power Panel, 50P-1160/61 MX250 Controller, MX250: 26P-3176 Electrical Panel, 50P-1224 CPS Box, and two 9T58K0070 Transformers.

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
2,350	45.5	50	90	23.2	19.0	> 33

SEISMIC TEST PARAMETERS (TESTED 12-20-2012)

Test Criteria	S _{DS}	z / h	I _p	A _{AFLX-H}	A _{ARIG-H}	A _{AFLX-V}	A _{ARIG-V}
CBC 2016 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.68	0.68

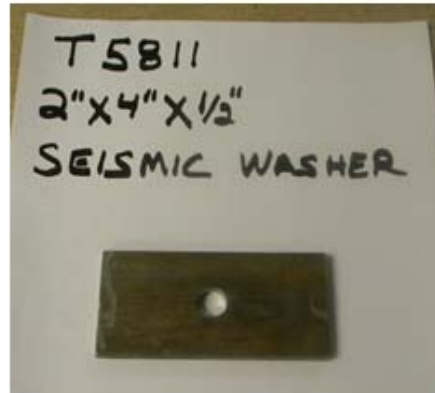
Note: The transfer switch maintained structural integrity and functionality after the ICC-ES AC156 Test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.

UUT-4

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Rigid floor mount with 6 - 1/2" diameter anchor bolts and 2x4x0.25" plate washers.



Use seismic washer at all six anchor bolt locations



REVIEWED FOR CODE COMPLIANCE
OSHPD
OSP-0331
by: Timothy J Piland
DATE: 07/23/2020

Manufacturer: ABB, Inc.

Product Line: ZTG, ZTS, ZT3, ZBG, ZBS, and ZB3 Automatic Transfer Switches

Identification Number: ZB3 - 4P - 3R, 4, 12

UUT Function: Manual/Automatic power switching from utility power to emergency power

UUT Description: Bypass 4-Pole Automatic Transfer Switch and Controls housed in NEMA3R, 4, 12 steel enclosure.

UUT Component Description: F-3004MP NEMA3R, 4, 12 carbon steel enclosure, 26p-4007 4-Pole Bypass Power Panel, MX350 HMI/CPU Controller, MX350: 26P-3177 Electrical Panel, MX350: 50P-3041 and 50P-3042 Input/Output Module, 9T58k0070 Transformer, and 9T58k2930 Transformer.

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
2,895	45.5	63	90	14.43	8.08	11.7

SEISMIC TEST PARAMETERS (TESTED 12-20-2012)

Test Criteria	S _{DS}	z / h	I _p	A _{FLX-H}	A _{RIG-H}	A _{FLX-V}	A _{RIG-V}
CBC 2016 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40	1.68	0.68

Note: The transfer switch maintained structural integrity and functionality after the ICC-ES AC156 Test. The unit maintained structural integrity during and after the ICC-ES AC156 Test.