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JACKSON COUNTY AIRPORT TERMINAL BUILDING

Legacy Electrical Services
2421 Lance Ct.
Suite C
Loganville, GA 30052
ph: 470-545-2130
Brenda Powell
bpowell@legacyesi.com

26-0000 Electrical Gear O&M



SUBMITTAL

Gear

Jackson Co Airport Terminal

10/30/2024

Electrical Contractor:

Legacy Electrical

Attn:

Mark Staples

Quotations Specialist:

Kelly Rodgers

Outside Sales Rep:

Holly Newman





Kelly Rodgers
Gexpro
4555 ATWATER CT STE A
BUFORD, GA 30518
kelly.rodgers@gexpro.com
October 30, 2024
Quote No.: UJH-00060241
Doc Rev. 0
Project: Jackson Co Airport Terminal
PO No.: 0

Dear Valued Customer,

We are pleased to provide a submittal for Jackson Co Airport Terminal. Please review the provided documentation and provide your approval. Thank you for allowing Gexpro to participate on this project. Please do not hesitate to contact us with any questions.

Best Regards,

Kelly Rodgers
Gexpro

PROPRIETARY AND CONFIDENTIAL INFORMATION

This document contains confidential and proprietary information. Upon receipt of this document, the receiver agrees to not to reveal its content, except to those people inside of their own organization to whom concerned to do the evaluation of this proposal. No copies of this document should be made without permission. This document shall be returned upon its written request.



Equipment Submittal

Project: Jackson Co Airport Terminal

Quote No.: UJH-00060241

Doc Rev No.: 0

PO No.: 0

Date Issued: October 30, 2024

Prepared by: Kelly Rodgers, Gexpro

Notice

These drawings represent our best interpretation and compliance with the intent of your requirement. Drawings marked "approved" or "approved as noted" authorize the manufacturer to proceed with manufacturing. Product revisions not in the contract or items specified but not noted on the returned drawings which may require modification to be made after drawing approval and during or after completion of manufacturing may result in a price change and/or shipment delay.

Dimensions and weights shown are approximate until all design parameters are approved. It is recommended to not install conduit equipment pads, etc. until after the approval process is complete and any changes to the drawings submitted are accurately updated and issued accordingly.

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Summarized Bill of Material(s)

Quantity	Description	Item(s)	Mark(s)
2	Panelboard	1	MP
		2	LA
10	Switches and Disconnects	4	600A
		5	
		6	
		7	
		8	
		9	COORDINATION STUDY
1	Services		



Summary of Proposal

Estimated Lead Time

The lead times contained in this proposal are for estimating purposes only and do not include approval drawing cycle, factory holidays/shutdowns, witness testing, or transit time. Lead-times are subject to change and may require staggered shipments beyond stated lead times. Please contact ABB if firm or alternate lead times are required.

Item No.	Product Description	Mark(s)	Estimated Lead Time (Weeks)	Quantity
1	Lighting Panelboard, ReliaGear RQ	MP	8	1
2	Lighting Panelboard, ReliaGear RQ	LA	8	1
4	Switches and Disconnects, Heavy Duty Safety Switch, THF4326AR	600A	CHECK AVAILABILITY	1
5	Switches and Disconnects, Heavy Duty Safety Switch, TH3222		CHECK AVAILABILITY	2
6	Switches and Disconnects, Heavy Duty Safety Switch, TH3221		CHECK AVAILABILITY	2
7	Switches and Disconnects, Heavy Duty Safety Switch, TH4321R		CHECK AVAILABILITY	4
8	Switches and Disconnects, Heavy Duty Safety Switch, TH3221R		CHECK AVAILABILITY	1
9	Service, Power Systems Engineering	COORDINATION STUDY	5	1



Jackson Co Airport Terminal

UJH-00060241 | Jackson Co Airport Terminal - Original Version

October 30, 2024

Panel Summary Report

Item	Qty	Marks	Sect	Type	Service	Ckts	Feed	Mounting	Main	Bus/Trip	CU/AL	Incoming Cable Size/Qty	AIC	Box	Layout	Meter
1	1	MP		RQ	208 3P4W	42	Bottom	Surface	MCB	600/600	CU	1-lug/phase 2-cable/lug 2/0 -500 MCM	22K	AB76B		Auto
												AI - 1-lug/phase 1-cable/lug 2/0 -300				
2	1	LA		RQ	208 3P4W	84	Bottom	Surface	MCB	225/225	CU	MCM Cu - 1-lug/phase 1-cable/lug #1 -250 MCM	10K	AB76B		Auto



Panelboard Submittal Section

Item No.	Product Description	Mark(s)	Quantity
1	Lighting Panelboard, ReliaGear RQ	MP	1
2	Lighting Panelboard, ReliaGear RQ	LA	1



Bill of Material(s)

Item No. Quantity Description

1 1 **Lighting Panelboard, ReliaGear RQ**

Marks: MP

1 Section(s), Nema 1 Enclosure

600 Amps, 3 Phase 4 Wire 208Y/120V, 50/60 Hz

Minimum Interrupt Rating: 22kA Fully Rated

Incoming Feed: Bottom

Surface Mounted

42 Circuits

UL67 / CSA C22.2 No. 29 Certified

cULus Certified

Height: 76.5 Inches; Width: 20 Inches; Depth: 5.75 Inches

1 600 Amps Main Breaker XT5N600

1 TMA

1-lug/phase 2-cable/lug 2/0 -500 kcmil

Main Option Details

1 Silver Plated Copper Bus 1000A PSI

4 Ground-Box bonded TGL2

1 Ground main lug TGL20

1 100% Rated Neutral

1 NEMA 1 Enclosure

Feeders

1 Breaker Device 225 Amps 3 Poles A2N250

1 Breaker Device 60 Amps 3 Poles THHQB

1 Breaker Device 20 Amps 2 Poles THHQB

4 Breaker Device 30 Amps 3 Poles THHQB

2 Breaker Device 35 Amps 2 Poles THHQB

2 Breaker Device 30 Amps 2 Poles THHQB

17 Breaker Space Device 20 Amps 1 Poles THHQB

Modifications

1 Door within Door

1 Screw-On Nameplate

1 Quarter Turn Latch

1 Interior: AQF3426JBX AXQ3B5

1 Box: AB76B

1 Front: AF76SPTU

2 1 **Lighting Panelboard, ReliaGear RQ**

Marks: LA



Bill of Material(s)

Item No. Quantity Description

	1 Section(s), Nema 1 Enclosure 225 Amps, 3 Phase 4 Wire 208Y/120V, 50/60 Hz Minimum Interrupt Rating: 10kA Fully Rated Incoming Feed: Bottom Surface Mounted 84 Circuits UL67 / CSA C22.2 No. 29 Certified cULus Certified Height: 76.5 Inches; Width: 20 Inches; Depth: 5.75 Inches
1	225 Amps Main Breaker A2A225 Al - 1-lug/phase 1-cable/lug 2/0 -300 kcmil Or Cu - 1-lug/phase 1-cable/lug #1 -250 kcmil
Main Option Details	
1	Copper Bus Heat Rated
7	Ground-Box bonded TGL2
1	Ground main lug TGL20
1	100% Rated Neutral
1	NEMA 1 Enclosure
Feeders	
62	Breaker Device 20 Amps 1 Poles THQB
22	Breaker Space Device 20 Amps 1 Poles THQB
Modifications	
1	Power Distribution Panel
1	Door within Door
1	Screw-On Nameplate
1	Interior: AQF3842ABX AXB7
1	Box: AB76B
1	Front: AF76SPU

PANEL MARKS:

MP

TECHNICAL SPECIFICATIONS

PANEL TYPE:	RQ PANELBOARD
QUANTITY:	1
AMPS:	600A
VOLTAGE:	208Y/120V
SYSTEM:	3P4W
KAIC:	22 KAIC SC FULLY RATED
MATERIAL:	COPPER BUS
PLATE:	SILVER PLATE
ENCLOSURE:	NEMA 1 ENCLOSURE
MOUNTING:	SURFACE
SECTION:	1

MAIN DISCONNECT DEVICE

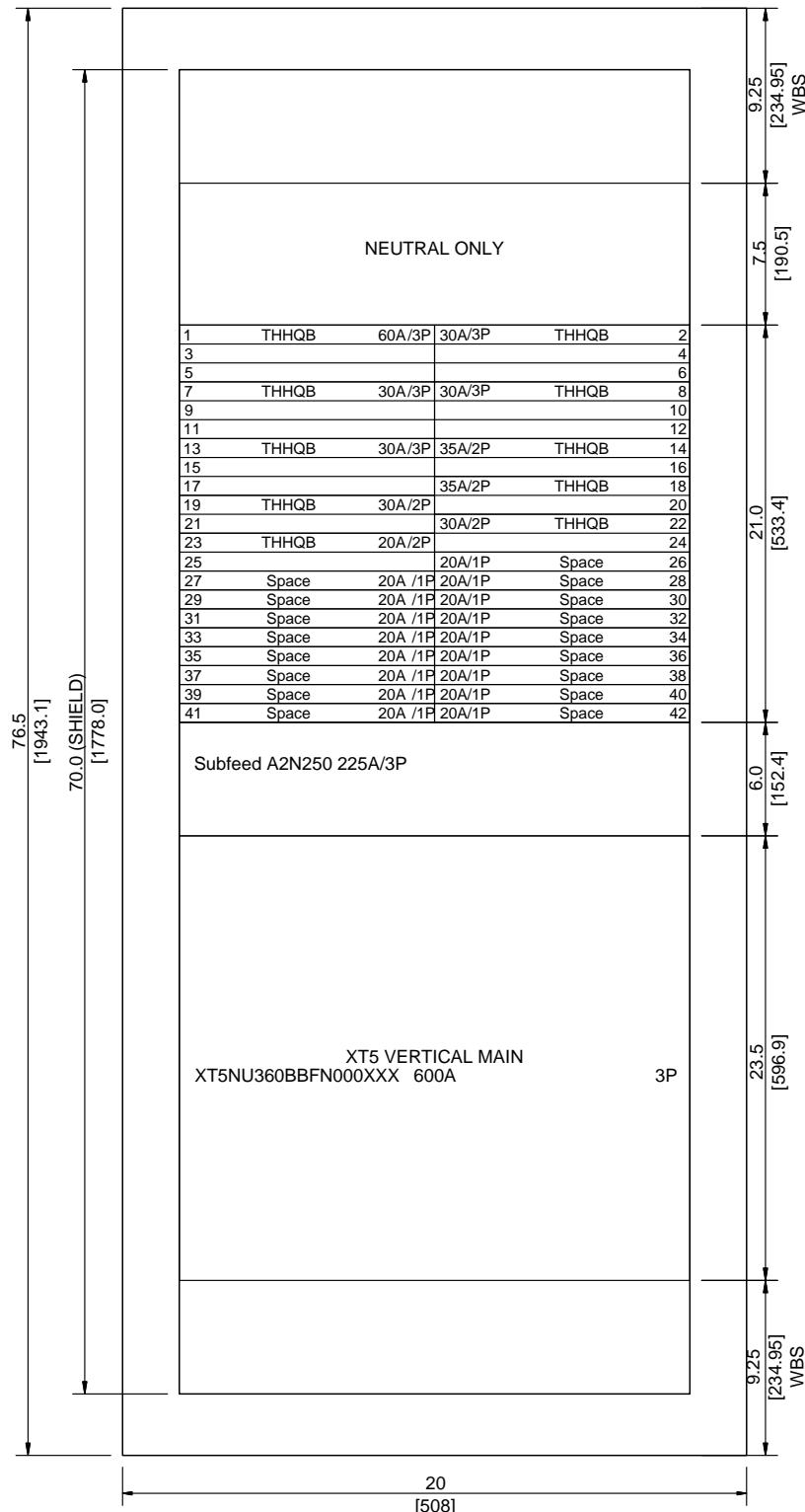
FEED DIR.	Bottom
TYPE:	Breaker
AMPS/SENSOR:	600A/
CATALOG NO.:	XT5NU360BBFN000XXX
POLES:	3
LUGS:	1-lug/phase 2-cable/lug 2/0 -500 MCM
ACCESSORIES:	Trip Unit (TMA)

OPTIONS INCLUDED

QTY	DESCRIPTION
1	Silver Plated Copper Bus 1000A PSI
4	Ground-Box bonded TGL2
1	Ground main lug TGL20
1	Door within Door
1	Screw-On Nameplate
1	Quarter Turn Latch

BRANCH DEVICES

QTY	AMPS/SENSOR/POLES	DESCRIPTION
1	225A / - / 3P	A2N225TT
1	60A / - / 3P	THHQB32060
1	20A / - / 2P	THHQB2120
4	30A / - / 3P	THHQB32030
2	35A / - / 2P	THHQB2135
2	30A / - / 2P	THHQB2130
17	20A / - / 1P	Space THHQB1120

**PANEL INFORMATION**

INTERIOR	AQF3426JBX AXQ3B5
INTERIOR	
BOX	AB76B
FRONT	AF76SPTU
TRough	
TRough End	
Pull Box	
DIMENSIONS	76.5"X20"X5.75"

1. WBS - WIRE BENDING SPACE.
2. DRAWING NOT TO SCALE.
3. DIMENSIONS ARE IN INCHES[mm].

FACTORY AUTO-LAYOUT. THE LAYOUT IS NOT SPECIFIED, THE FACTORY MAY CHANGE THE LOCATION OF SOME OF THE BREAKERS.

PROJECT NAME :	Jackson Co Airport Terminal
CUSTOMER:	GEXPRO, BUFORD



PANEL ID:	RQ Panelboard
APPROVED BY:	
DATE:	10/30/2024 17:11:29
REVISION NO.	

PRODUCT NAME:
**RELIA GEAR RQLIGHTING
PANELBOARD**

DRAWING NO:
ITEM NO: 1
MARKS: MP
QUOTE NO: UJH-00060241
SHEET: 1 of 46

PANEL MARKS:

LA

TECHNICAL SPECIFICATIONS

PANEL TYPE:	RQ PANELBOARD
QUANTITY:	1
AMPS:	225A
VOLTAGE:	208Y/120V
SYSTEM:	3P4W
KAIC:	10 KAIC SC FULLY RATED
MATERIAL:	COPPER BUS
PLATE:	NO PLATE
ENCLOSURE:	NEMA 1 ENCLOSURE
MOUNTING:	SURFACE
SECTION:	1

MAIN DISCONNECT DEVICE

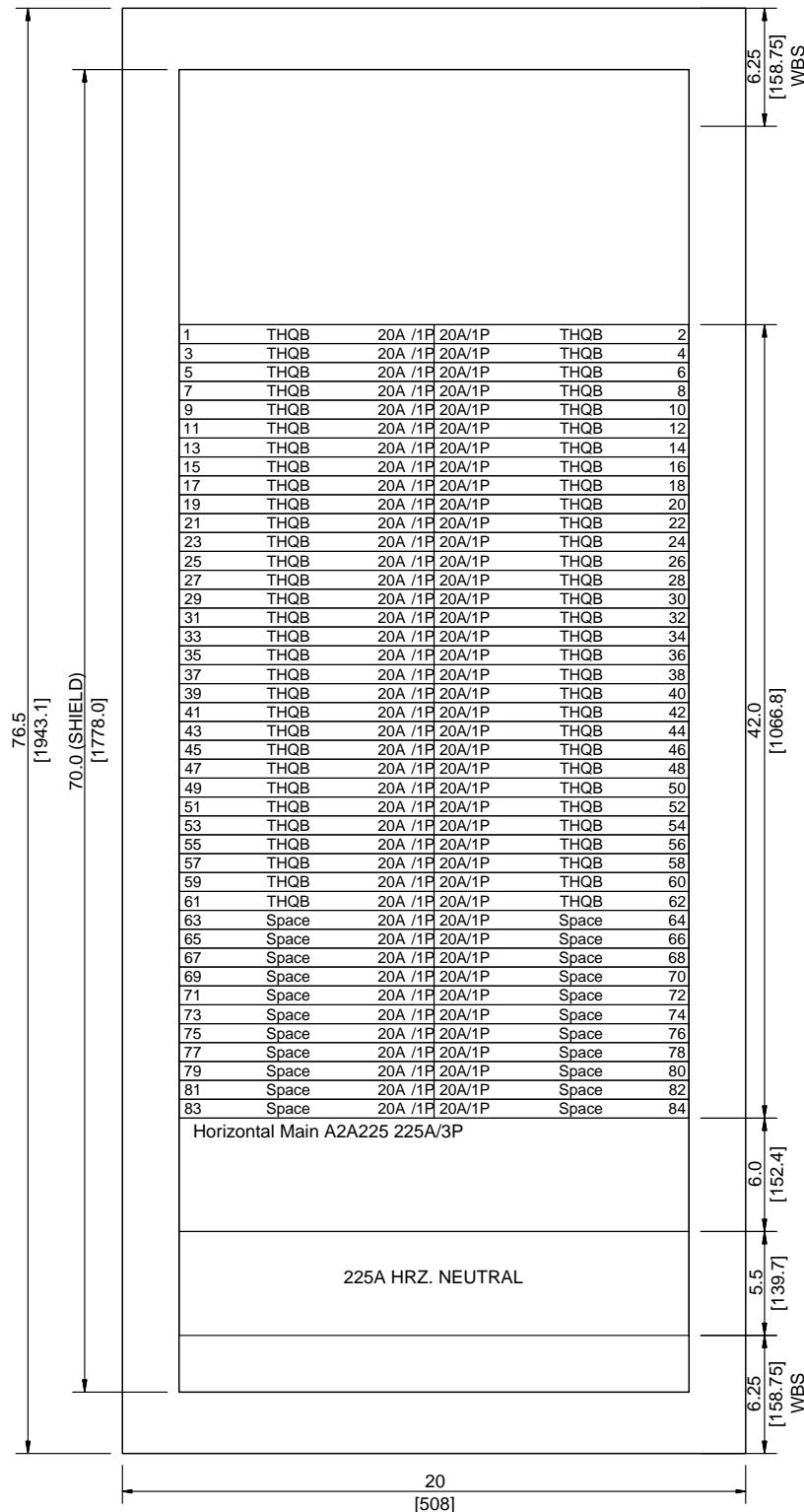
FEED DIR.	Bottom
TYPE:	Breaker
AMPS/SENSOR:	225A/
CATALOG NO.:	A2A225TT
POLES:	3
LUGS:	AI - 1-lug/phase 1-cable/lug 2/0 -300 MCM Or Cu - 1-lug/phase 1-cable/lug #1 -250 MCM

OPTIONS INCLUDED

QTY	DESCRIPTION
1	Copper Bus Heat Rated
7	Ground-Box bonded TGL2
1	Ground main lug TGL20
1	Power Distribution Panel
1	Door within Door
1	Screw-On Nameplate

BRANCH DEVICES

QTY	AMPS/SENSOR/POLES	DESCRIPTION
62	20A / - / 1P	THQB1120
22	20A / - / 1P	Space THQB1120



PANEL INFORMATION	
INTERIOR	AQF3842ABX AXB7
INTERIOR	
BOX	AB76B
FRONT	AF76SPU
TRough	
TROUGH END	
PULL BOX	
DIMENSIONS	76.5"X20"X5.75"

1. WBS - WIRE BENDING SPACE.
2. DRAWING NOT TO SCALE.
3. DIMENSIONS ARE IN INCHES[mm].

FACTORY AUTO-LAYOUT. THE LAYOUT IS NOT SPECIFIED, THE FACTORY MAY CHANGE THE LOCATION OF SOME OF THE BREAKERS.

PROJECT NAME :
Jackson Co Airport Terminal
CUSTOMER:
GEXPRO, BUFORD



PANEL ID:
RQ Panelboard
APPROVED BY:
DATE: 10/30/2024 17:11:29
REVISION NO.

PRODUCT NAME:
RELIA GEAR RQLIGHTING
PANELBOARD

DRAWING NO:
ITEM NO: 2
MARKS: LA
QUOTE NO: UJH-00060241
SHEET: 1



Switches and Disconnects Submittal Section

Item No.	Product Description	Mark(s)	Quantity
4	Switches and Disconnects, Heavy Duty Safety Switch, THF4326AR	600A	1
5	Switches and Disconnects, Heavy Duty Safety Switch, TH3222		2
6	Switches and Disconnects, Heavy Duty Safety Switch, TH3221		2
7	Switches and Disconnects, Heavy Duty Safety Switch, TH4321R		4
8	Switches and Disconnects, Heavy Duty Safety Switch, TH3221R		1



Bill of Material(s)

Item No. Quantity Description

4	1	Switches and Disconnects, Heavy Duty Safety Switch, THF4326AR
		Marks: 600A

- 1 Suitable for use as Service Equipment
Heavy Duty 600 Amps
Fusible 3 Poles 240VAC/250VDC
NEMA 3R (Outdoor)
For Use Size With (2) 4-600* Copper or Size (2) 4-600* Aluminum wire
*600MCM restricted to side entry only
Height : 54.5 Width : 25 Depth : 9.35 Weight : 117
Switch is NEC 2020 Article 230.62 compliant for service equipment barriers.

Accessories :

Neutral factory installed

- 1 TGL6 , Equipment Ground Kit, (3) #2-250MCM CU/AL
Standard Fuse Clips Supplied
- 3 TR600R, 600 Amps, RK5 - Time Delay

5	2	Switches and Disconnects, Heavy Duty Safety Switch, TH3222
----------	----------	---

- 1 Suitable for use as Service Equipment
Heavy Duty 60 Amps
Fusible 2 Poles 240VAC/250VDC
NEMA 1 (Indoor)
For Use Size With 12-2 Copper or Size 12-2 Aluminum wire
Height : 17.59 Width : 9.38 Depth : 5 Weight : 15
Switch is NEC 2020 Article 230.62 compliant for service equipment barriers.

Accessories :

Neutral factory installed

- 1 TGL1 , Equipment Ground Kit, (4) 14-8 AWG CU/12-8 AWG AL
Standard Fuse Clips Supplied
- 2 TR35R, 35 Amps, RK5 - Time Delay

6	2	Switches and Disconnects, Heavy Duty Safety Switch, TH3221
----------	----------	---

- 1 Suitable for use as Service Equipment
Heavy Duty 30 Amps
Fusible 2 Poles 240VAC/250VDC
NEMA 1 (Indoor)
For Use Size With 14-8 Copper or Size 12-8 Aluminum wire

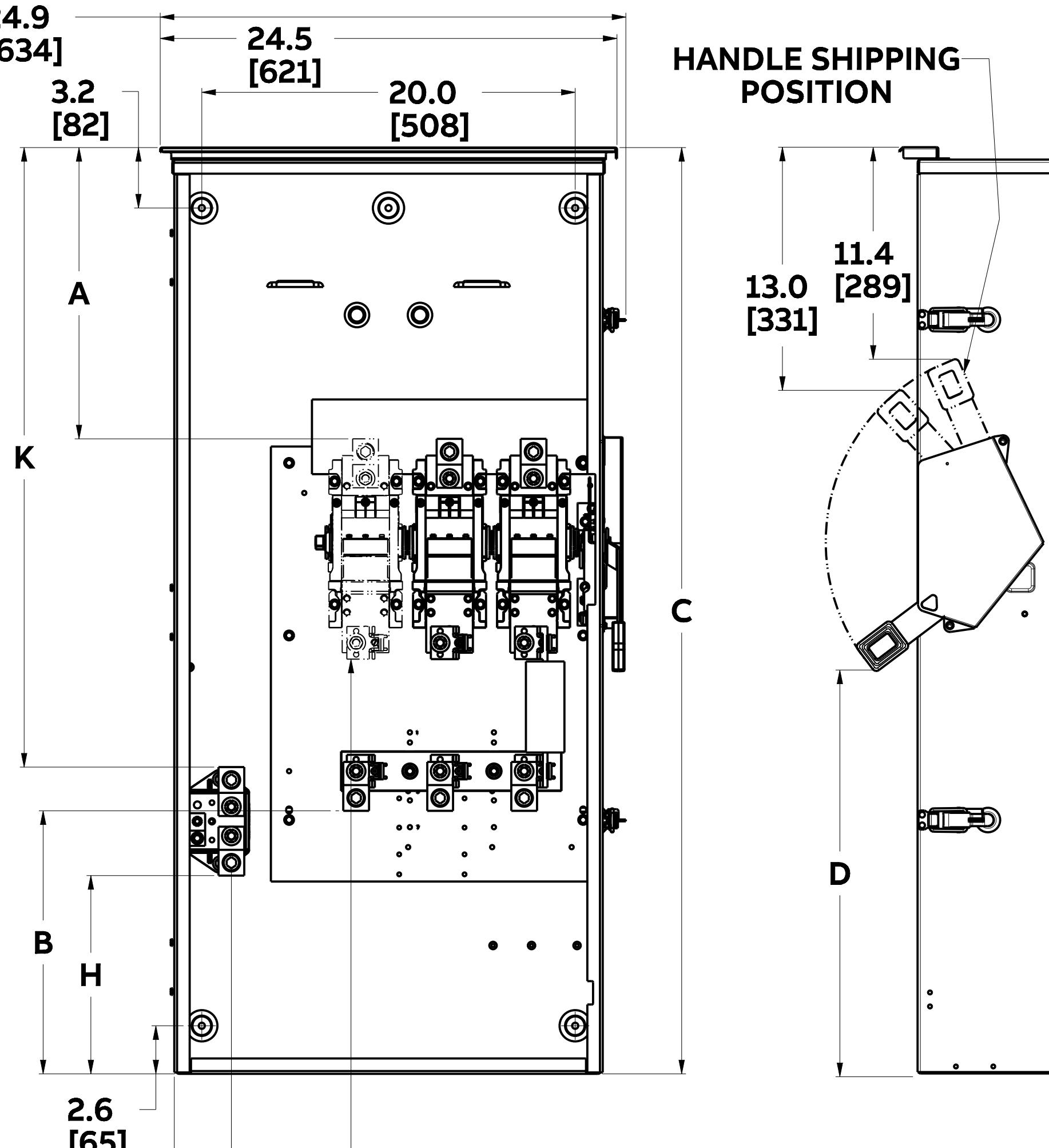


Bill of Material(s)

Item No. Quantity Description

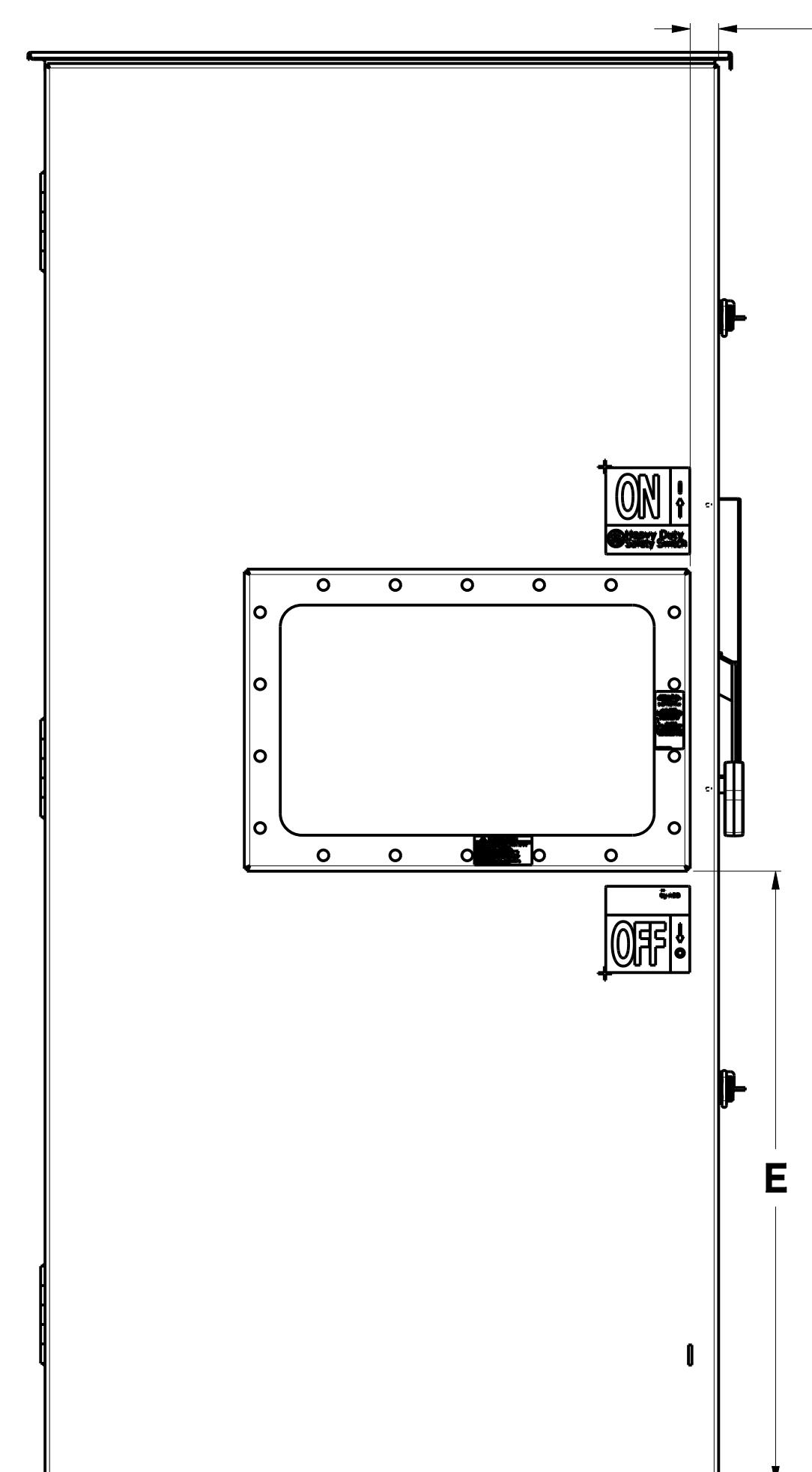
		Height : 10.28 Width : 6.28 Depth : 3.31 Weight : 6 Switch is NEC 2020 Article 230.62 compliant for service equipment barriers. Accessories : Neutral factory installed
1		TGL1 , Equipment Ground Kit, (4) 14-8 AWG CU/12-8 AWG AL Standard Fuse Clips Supplied
2		TR30R, 30 Amps, RK5 - Time Delay
7	4	Switches and Disconnects, Heavy Duty Safety Switch, TH4321R 1 Suitable for use as Service Equipment Heavy Duty 30 Amps Fusible 3 Poles 240VAC/250VDC NEMA 3R (Outdoor) For Use With 14-8 Copper or Size 12-8 Aluminum wire Height : 10.5 Width : 6.2 Depth : 3.14 Weight : 7 Switch is NEC 2020 Article 230.62 compliant for service equipment barriers. Accessories : Neutral factory installed
1		TGL1 , Equipment Ground Kit, (4) 14-8 AWG CU/12-8 AWG AL Standard Fuse Clips Supplied
3		TR30R, 30 Amps, RK5 - Time Delay
8	1	Switches and Disconnects, Heavy Duty Safety Switch, TH3221R 1 Suitable for use as Service Equipment Heavy Duty 30 Amps Fusible 2 Poles 240VAC/250VDC NEMA 3R (Outdoor) For Use With 14-8 Copper or Size 12-8 Aluminum wire Height : 10.5 Width : 6.2 Depth : 3.14 Weight : 7 Switch is NEC 2020 Article 230.62 compliant for service equipment barriers. Accessories : Neutral factory installed
1		TGL1 , Equipment Ground Kit, (4) 14-8 AWG CU/12-8 AWG AL Standard Fuse Clips Supplied
2		TR20R, 20 Amps, RK5 - Time Delay

SKU NUMBER	FUSED	NEUTRAL	POLES	VOLTS	AMP	VW	A	B	C	D	E	H	J	K						
THF3225AR	Y	Y	2	240V	400	N	15.6 396	14.1 358	49.6 1260	21.8 554	NA	11.3 287	3.1 79	33.2 843						
THF3225ARCN		N										-	-	-						
THF3325AR		Y										11.3 287	3.1 79	33.2 843						
THF4325ARCN		N		600V	600			15.8 401				-	-	-						
THF4325AR		Y										16.0 406	3.1 79	33.2 843						
THF3365AR		N										-	-	-						
THF4365ARCN	Y	Y	3	240V	600		14.8 376	17.1 434	54.3 1379	26.1 663		16.0 406	3.1 79	33.2 843						
THN3365AR		N	N									-	-	-						
THF3226AR		Y	2									16.0 406	3.1 79	33.2 843						
THF3226ARCN		N		600V	600			14.1 358				-	-	-						
THF3326AR		Y										16.0 406	3.1 79	33.2 843						
THF4326ARCN		N										-	-	-						
THF4326AR	Y	Y	3	240V	600		25.5 648	14.1 358	54.3 1379	26.1 663		16.0 406	3.1 79	33.2 843						
THF3366AR		N	N									-	-	-						
THF4366ARCN		Y										-	-	-						
THN3366AR		N	N	600V	600							-	-	-						
THF3225ARVW	Y	Y	2	240V	400		15.6 396	14.1 358	49.6 1260	21.8 554	21.3 541	11.3 287	3.1 79	33.2 843						
THF3225ARCNVW		N										-	-	-						
THF3325ARVW		Y										11.3 287	3.1 79	33.2 843						
THF4325ARCNVW		N		600V	600		15.8 401	14.1 358	54.3 1379	26.1 663		16.0 406	3.1 79	33.2 843						
THF4325ARVW		Y										-	-	-						
THF3365ARVW		N	N									16.0 406	3.1 79	33.2 843						
THF4365ARCNVW	Y	Y	3	240V	600		25.5 648	14.8 376	17.1 434	54.3 1379	26.0 660	11.3 287	3.1 79	33.2 843						
THN3365ARVW		N	N									-	-	-						
THF3226ARVW		Y	2									16.0 406	3.1 79	33.2 843						
THF3226ARCNVW		N		600V	600		15.8 401	14.1 358	54.3 1379	26.1 663		-	-	-						
THF3326ARVW		Y										16.0 406	3.1 79	33.2 843						
THF4326ARCNVW		N										-	-	-						
THF4326ARVW	Y	Y	3	240V	600		25.5 648	14.8 376	17.1 434	54.3 1379	21.8 554	16.0 406	3.1 79	33.2 843						
THF3366ARVW		N	N									-	-	-						
THF4366ARCNVW		Y										16.0 406	3.1 79	33.2 843						
THN3366ARVW		N	N	600V	600		15.8 401	14.1 358	54.3 1379	26.1 663		-	-	-						
THF3226ARVW		Y	2									16.0 406	3.1 79	33.2 843						
THF3226ARCNVW		N										-	-	-						
THF3326ARVW	Y	Y	3	240V	600		25.5 648	14.8 376	17.1 434	54.3 1379	21.3 541	16.0 406	3.1 79	33.2 843						
THF4326ARCNVW		N										-	-	-						
THF4326ARVW		Y										16.0 406	3.1 79	33.2 843						
THF3365ARVW		N	N	600V	600		15.8 401	14.1 358	54.3 1379	26.1 663		-	-	-						
THF4365ARCNVW		Y										16.0 406	3.1 79	33.2 843						
THN3365ARVW		N	N									-	-	-						
THF3226ARVW	Y	Y	2	240V	400		15.6 396	14.1 358	49.6 1260	21.8 554	21.3 541	16.0 406	3.1 79	33.2 843						
THF3226ARCNVW		N										-	-	-						
THF3326ARVW		Y										16.0 406	3.1 79	33.2 843						
THF4326ARCNVW		N		600V	600		15.8 401	14.1 358	54.3 1379	26.1 663		-	-	-						
THF4326ARVW		Y										16.0 406	3.1 79	33.2 843						
THF3366ARVW		N	N									-	-	-						
THF4366ARCNVW	Y	Y	3	240V	600		25.5 648	14.8 376	17.1 434	54.3 1379	21.3 541	16.0 406</								

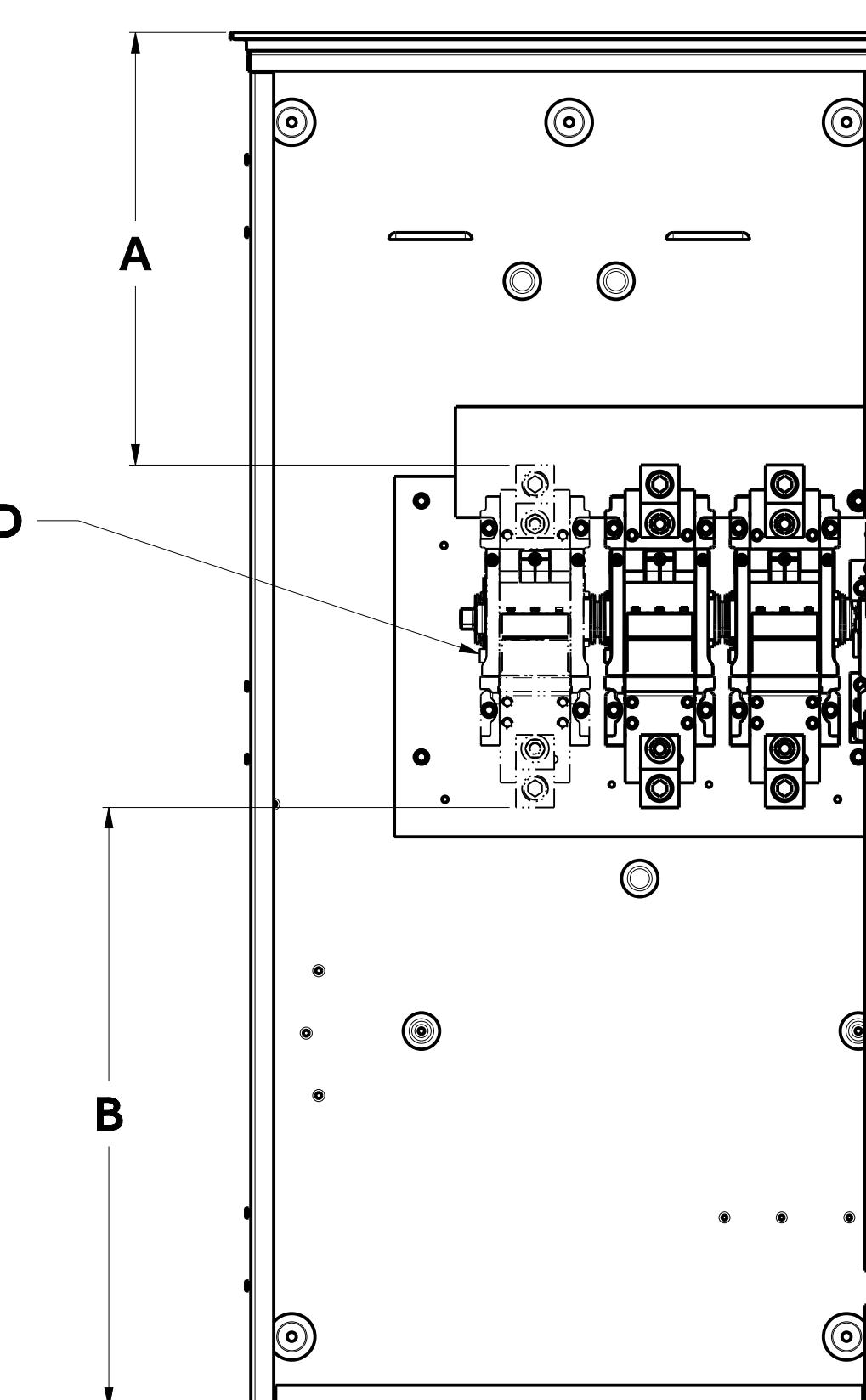


**THIS POLE INSTALLED
ONLY ON 3 POLE
SWITCHES**

FRONT COVER AND LINE SHIELD REMOVED FOR CLARITY

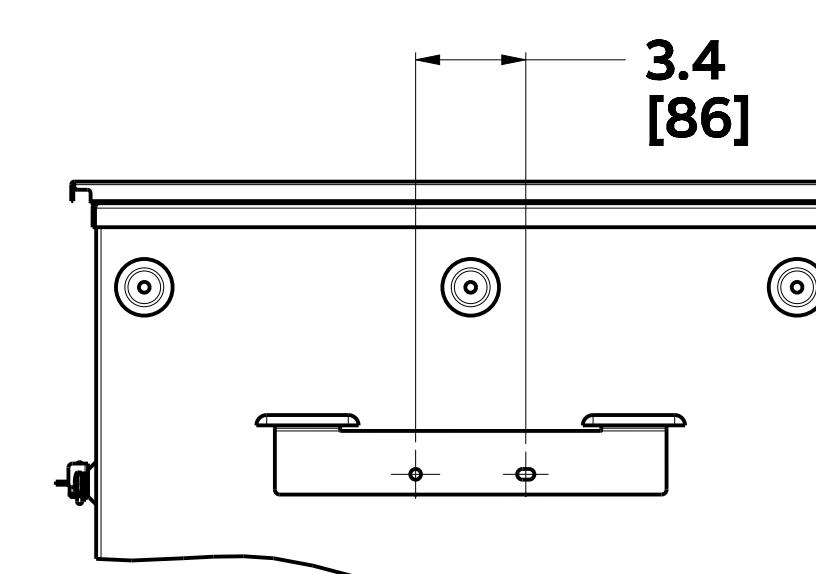


VIEWING WINDOW LOCATION (WHERE APPLICABLE)



THIS POLE INSTALLATION ONLY ON 3 POLE SWITCHES

**FRONT COVER ASSEMBLY, LINE SHIELD, NAME PLATE
AND INSULATING BARRIER REMOVED FOR CLARITY
NON-FUSED VERSION SHOWN**



MOUNTING BRACKET DIMENSION

ABB

15 of 46 00/600A NEMA 3R HD OUTLINE



Catalog No. THF4326AR

Description: SW FUSED HD 600A 3P 240V N3R A

UPC No 783164645040

Home > Switches & Disconnects > Disconnect & Safety Switches > Safety Switches > Heavy Duty

When it comes to getting the job done right, you can count on safety switches from ABB. ABB offers a wide variety of general duty switches for residential and light commercial purposes, while the extensive line of heavy-duty switches is best suited for commercial and industrial applications. For the toughest industrial environments — such as cement foundries, steel mills and processing plants — dust-tight and stainless steel switches are available. We also offer a variety of double throw switches for emergency generators. No matter the application, we've got you covered with a rugged, reliable and easy-to-install Spec-Setter safety switch. SW FUSED HD 600A 3P 240V N3R A

Descriptors

Category	Heavy Duty
GO Schedule	S1

Specifications

Voltage	240 AC
Amperage	600 A
Poles	3
Fusing	Fusible
Enclosure	NEMA 3R (Outdoor)
Options	None
Wire Range (Cu/Al)	(2) 4-600
240 Vac, NEC Std, 1-ph	75.0 hp
240 Vac, NEC Std, 3-ph	200.0 hp
480 Vac, NEC Std, 3-ph	400.0 hp
600 Vac, NEC Std, 3-ph	500.0 hp

Classifications

cUL Listed	Yes
UL Listed	Yes

Dimensions

Height	54.5 in
Depth	9.35 in
Width	25 in
Weight	117 lb

TR-R & TRS-R

Time Delay/Class RK5

UL/CSA LISTED POWER FUSES

THE INDUSTRY'S MOST POPULAR FUSE FOR MOTOR CIRCUIT PROTECTION



With advanced material technology added to the existing product, the Tri-Onic® TR and TRS current-limiting time-delay fuses are engineered for overcurrent protection of motors and transformers, service entrance equipment, feeder and branch circuits. Tri-Onic fuse's proven time-delay characteristic safely handles harmless starting currents and inrush currents associated with today's motors and transformers. Now available with optional SmartSpot® blown fuse indication technology.

FEATURES/BENEFITS:

- Time-delay
- Current-limiting
- AC & DC rated
- Optional solid state SmartSpot blown fuse indicator
- Time-delay for motor start-ups and transformer inrush currents without nuisance opening
- Current-limiting for low peak let-thru current
- Rejection-style design prevents replacement errors (when used with recommended fuse blocks)
- Easy-to-read label for quick brand recognition and replacement
- Metal-embossed date and catalog number for traceability and lasting identification
- Fiberglass body provides dimensional stability in harsh industrial settings
- High-grade silica filler ensures fast arc quenching and high current limitation

RATINGS:

TR-R

- **Volts:** 250VAC; 250VDC (.1-2.8A; 35-400A); 160VDC (3-30A; 450-600A)
- **Amps:** 1/10 to 600A
- **IR:** 200kA I.R. AC / 20kA I.R. DC

TRS-R

- **Volts:** 600VAC; 600VDC (.1-12A; 70-600A); 300VDC (15-60A)
- **Amps:** 1/10 to 600A
- **IR:** 200kA I.R. AC; 1/10A to 60A
-> 20kA I.R. DC; 70A to 600A
-> 100kA I.R. DC

APPLICATIONS:

- Motor circuits
- Mains
- Feeders
- Branch circuits
- Transformers
- Service entrance equipment
- General-purpose equipment

APPROVALS:

- UL listed to standard 248-12 File E2137
- CSA certified to standard C22.2 no. 248.12
- DC listed to UL standard 248 TRS only



CATALOG NUMBERS (AMPS)

250V			600V		
TR1/10R*	TR3-1/2R*	TR50R	TRS1/10R*	TRS3-1/2R*	TRS50R
TR15/100R*	TR4R*	TR60R	TRS15/100R*	TRS4R*	TRS60R
TR2/10R*	TR4-1/2R*	TR70R	TRS2/10R*	TRS4-1/2R*	TRS70R
TR3/10R*	TR5R*	TR75R*	TRS3/10R*	TRS5R*	TRS75R*
TR4/10R*	TR5-6/10R*	TR80R	TRS4/10R*	TRS5-6/10R*	TRS80R
TR1/2R*	TR6R*	TR90R	TRS1/2R*	TRS6R*	TRS90R
TR6/10R*	TR6-1/4R*	TR100R	TRS6/10R*	TRS6-1/4R*	TRS100R
TR8/10R*	TR7R*	TR110R	TRS8/10R*	TRS7R*	TRS110R
TR1R*	TR8R	TR125R	TRS1R*	TRS8R	TRS125R
TR1-1/8R*	TR9R	TR150R	TRS1-1/8R*	TRS9R	TRS150R
TR1-1/4R*	TR10R	TR175R	TRS1-1/4R*	TRS10R	TRS175R
TR1-4/10R*	TR12R	TR200R	TRS1-4/10R*	TRS12R	TRS200R
TR1-6/10R*	TR15R	TR225R	TRS1-6/10R*	TRS15R	TRS225R
TR1-8/10R*	TR17-1/2R	TR250R	TRS1-8/10R*	TRS17-1/2R	TRS250R
TR2R*	TR20R	TR300R	TRS2R*	TRS20R	TRS300R
TR2-1/4R*	TR25R	TR350R	TRS2-1/4R*	TRS25R	TRS350R
TR2-1/2R*	TR30R	TR400R	TRS2-1/2R*	TRS30R	TRS400R
TR2-8/10R*	TR35R	TR450R	TRS2-8/10R*	TRS35R	TRS450R
TR3R*	TR40R	TR500R	TRS3R*	TRS40R	TRS500R
TR3-2/10R*	TR45R	TR600R	TRS3-2/10R*	TRS45R	TRS600R

Note: Optional blown fuse visual indication available. To order, place "ID" at the end of the catalog number. Example: #TRS30R-ID

* Not available with optional blow fuse indicator.

Tin plated end caps are available on Non-ID fuses less than 60A. Example Part # TRP30R, TRSP30R

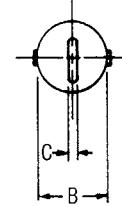
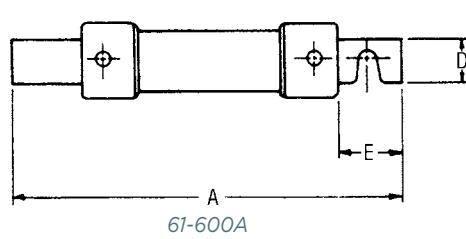
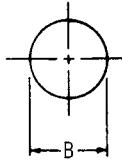
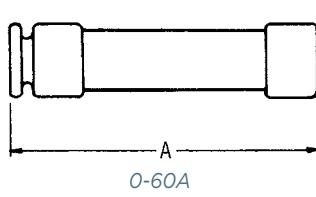
RECOMMENDED
FUSE BLOCKS WITH
BOX CONNECTORS FOR
TRI-ONIC® CLASS RK5 FUSES

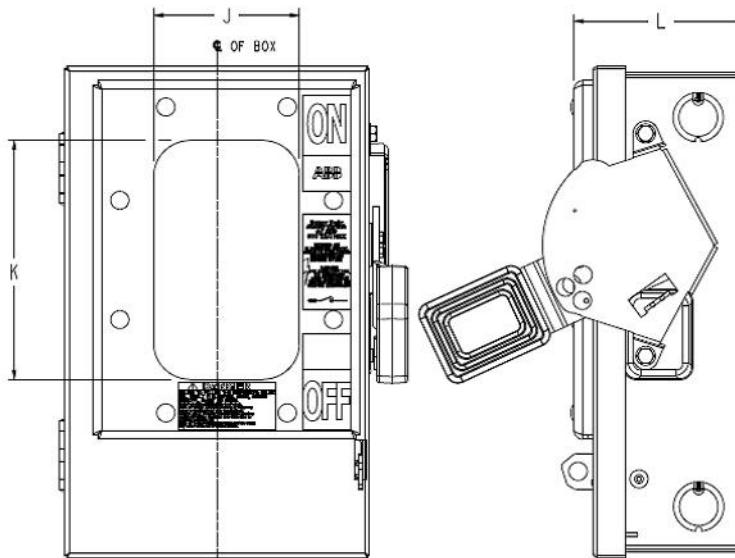
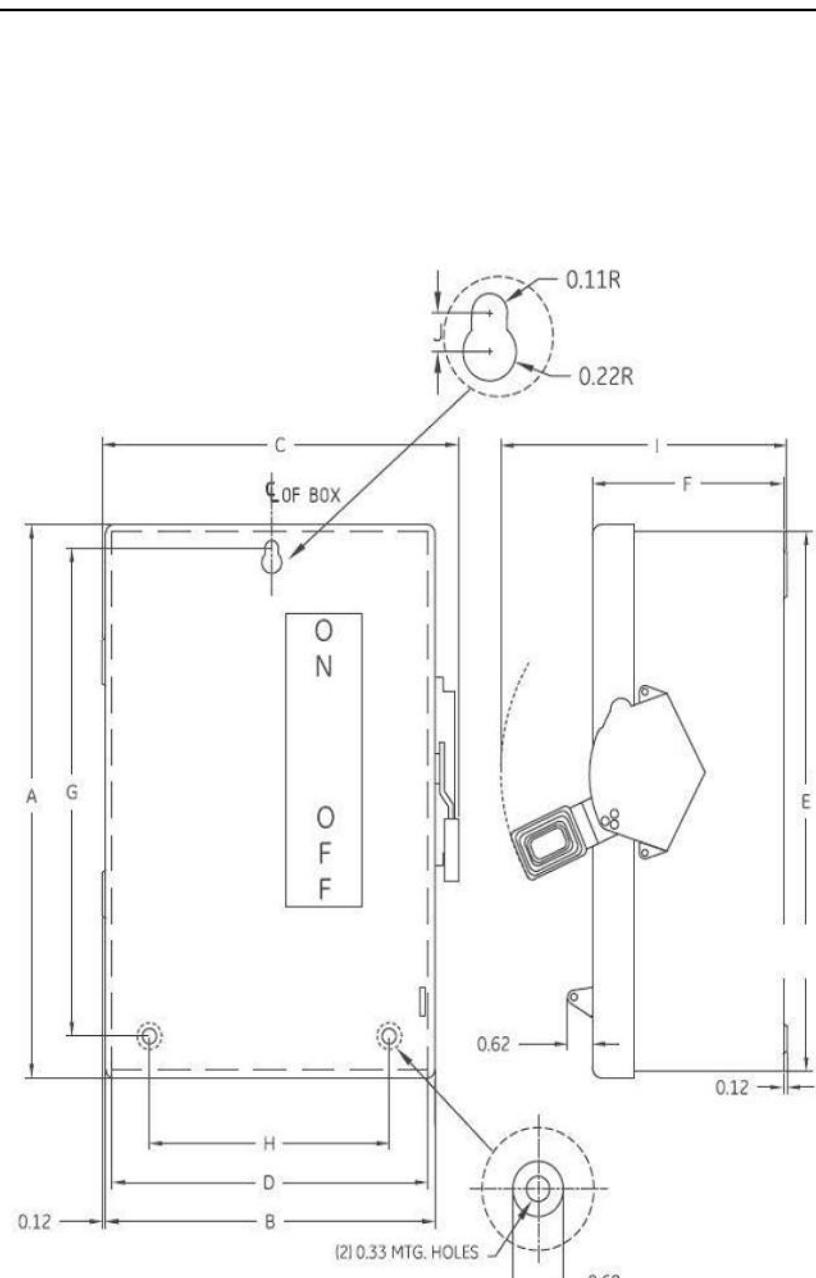
Fuse Ampere Rating	Catalog Number			
	250V		600V	
	1-Pole	3-Pole	1-Pole	3-Pole
0-30	20306R	20308R	60306R	60308R
31-60	20606R	20608R	60606R	60608R
61-100	21036R	21038R	61036R	61038R
101-200	22001R	22003R	62001R	62003R
201-400	24001R	24003R	64001R	64003R
401-600	2631R	2633R	6631R	6633R

A variety of pole configurations and termination provisions are available. Refer to Section FB for details.

DIMENSIONS

Ampere Rating	In.	A mm	In.	B mm	In.	C mm	In.	D mm	In.	E mm
250V-TR Fuses										
0-30	2	51	9/16	14	-	-	-	-	-	-
31-60	3	76	13/16	21	-	-	-	-	-	-
61-100	5-7/8	149	1-1/16	27	1/8	3	3/4	19	1	25
101-200	7-1/8	181	1-9/16	40	3/16	5	1-1/8	28	1-3/8	35
201-400	8-5/8	219	2-1/16	53	1/4	6	1-5/8	41	1-7/8	48
401-600	10-3/8	264	2-9/16	66	1/4	6	2	51	2-1/4	57
600V-TRS Fuses										
0-30	5	127	13/16	21	-	-	-	-	-	-
31-60	5-1/2	139	1-1/16	27	-	-	-	-	-	-
61-100	7-7/8	200	1-5/16	34	1/8	3	3/4	19	1	25
101-200	9-5/8	244	1-13/16	46	3/16	5	1-1/8	28	1-3/8	35
201-400	11-5/8	295	2-9/16	66	1/4	6	1-5/8	41	1-7/8	48
401-600	13-3/8	340	3-1/8	80	1/4	6	2	51	2-1/4	57



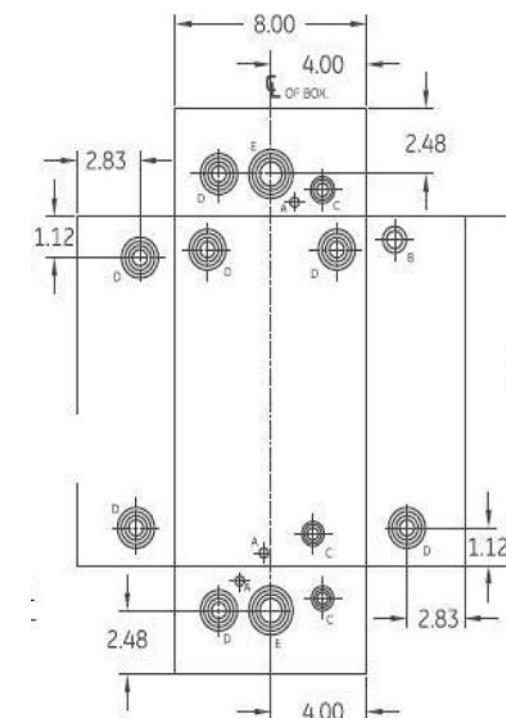
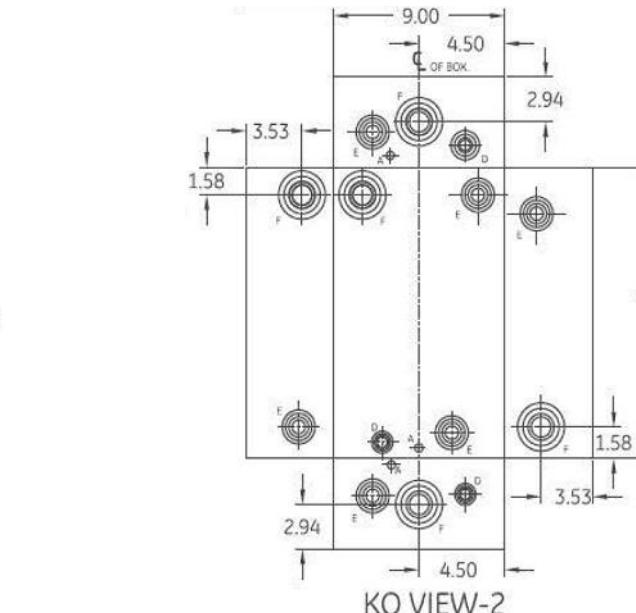
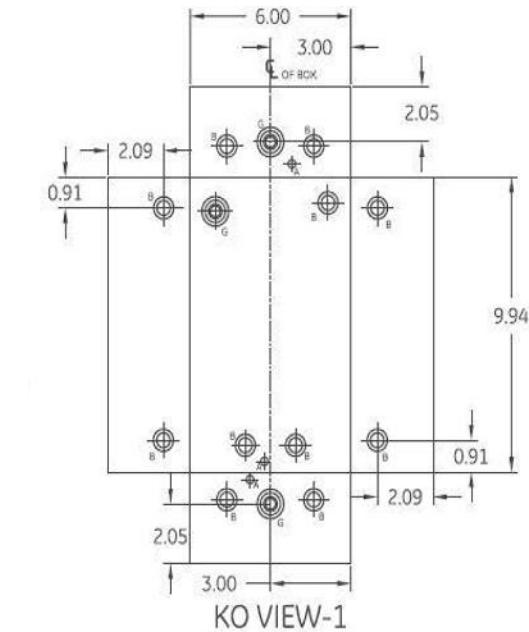


VIEWING WINDOW

NON-VIEWING WINDOW

DIMENSION TABLE

GCAT NO.	KO VIEW	A	B	C	D	E	F	G	H	I	J	X	Y	J	K	L
TH3221,TH3221VW TH4321,TH4321VW THN3321,THN3321VW	1	10.28	6.28	7.12	6.09	10.07	3.31	8.57	4.50	6.12	0.31	-	-	3.00	5.00	3.60
TH3222,TH3222VW TH4322,TH4322VW THN3362,THN3362VW THN2262DC,THN2262DCVW	2	17.59	9.38	10.05	9.12	17.32	5.00	15.81	7.50	9.00	0.44	-	17.19	5.00	9.00	5.30
THN3361,THN3361VW THN2261DC,THN2261DCVW	3	10.31	8.31	9.25	8.09	10.07	4.00	8.57	6.50	7.72	0.31	9.94	-	5.00	9.00	4.30
TH3361,TH3361VW TH2261DC,TH2261DCVW TH4361,TH4361VW	3	12.56	8.31	9.50	8.09	12.32	4.00	10.82	6.50	7.62	0.31	12.19	-	5.00	9.00	4.30
TH3362,TH3362VW TH2262DC,TH2262DCVW TH4362,TH4362VW	2	21.34	9.12	9.38	9.00	21.12	5.00	19.56	7.50	8.62	0.44	-	20.99	5.00	13.00	5.30



KO VIEW-3

NOTES:

1. ALL DIMENSIONS ARE IN INCHES.
2. ALL DIMENSIONS HAVE ± 0.125 TOLERANCE.
3. ALL DIMENSIONS IN DIMESNION TABLE IN J, K, L COLUMNS FOR VIEWING WINDOW CATALOGS ONLY.

SYM	SIZE	QTY		
		VIEW1	VIEW2	VIEW3
A	9/32 KO	3	3	3
B	1/2X3/4 KO	11	-	1
C	1/2X3/4X1 KO	-	-	3
D	1/2X3/4X1X1-1/4 KO	-	3	7
E	3/4X1X1-1/4X1-1/2 KO	-	6	2
F	1X1-1/4X1-1/2X2 KO	-	5	-
G	3/8X1/2X3/4X1 KO	3	-	-

OUTLINE DRAWING-HEAVY DUTY SAFETY SWITCH 100 & 60A NEMA-TYPE 1 ENCLOSURE, WITH & WITHOUT VW 190146		
DWG NO.	DATE	REV

ABB

10103091SH102 Aug-07-24 H



Representative Image

Catalog No. TH3222

Description: 60A 2P HD N1 240V FUSIBLE SWITCH

UPC No 783164008975

Home > Switches & Disconnects > Disconnect & Safety Switches > Safety Switches > Heavy Duty

When it comes to getting the job done right, you can count on safety switches from ABB. ABB offers a wide variety of general duty switches for residential and light commercial purposes, while the extensive line of heavy-duty switches is best suited for commercial and industrial applications. For the toughest industrial environments — such as cement foundries, steel mills and processing plants — dust-tight and stainless steel switches are available. We also offer a variety of double throw switches for emergency generators. No matter the application, we've got you covered with a rugged, reliable and easy-to-install Spec-Setter safety switch. 60A 2P HD N1 240V FUSIBLE SWITCH

Descriptors

Category	Heavy Duty
GO Schedule	S1

Specifications

Voltage	240 AC
Amperage	60 A
Poles	2
Wires	3
Fusing	Fusible
Enclosure	NEMA 1 (Indoor)
Options	None
Wire Range (Cu/Al)	12-2
240 Vac, NEC Std, 1-ph	3.0 hp
240 Vac, Time Delay, 1-ph	10.0 hp
250 Vdc	10.0 hp
GSA Compliance	Yes

Classifications

cUL Listed	Yes
UL Listed	Yes

Dimensions

Height	17.60 in
Depth	5.00 in
Width	9.40 in
Weight	15.0 lb



Representative Image

Catalog No. TH3221

Description: 30A 2P HD N1 240V FUSIBLE SWITCH

UPC No 783164008951

Home > Switches & Disconnects > Disconnect & Safety Switches > Safety Switches > Heavy Duty

When it comes to getting the job done right, you can count on safety switches from ABB. ABB offers a wide variety of general duty switches for residential and light commercial purposes, while the extensive line of heavy-duty switches is best suited for commercial and industrial applications. For the toughest industrial environments — such as cement foundries, steel mills and processing plants — dust-tight and stainless steel switches are available. We also offer a variety of double throw switches for emergency generators. No matter the application, we've got you covered with a rugged, reliable and easy-to-install Spec-Setter safety switch. 30A 2P HD N1 240V FUSIBLE SWITCH

Descriptors

Category	Heavy Duty
GO Schedule	S1

Specifications

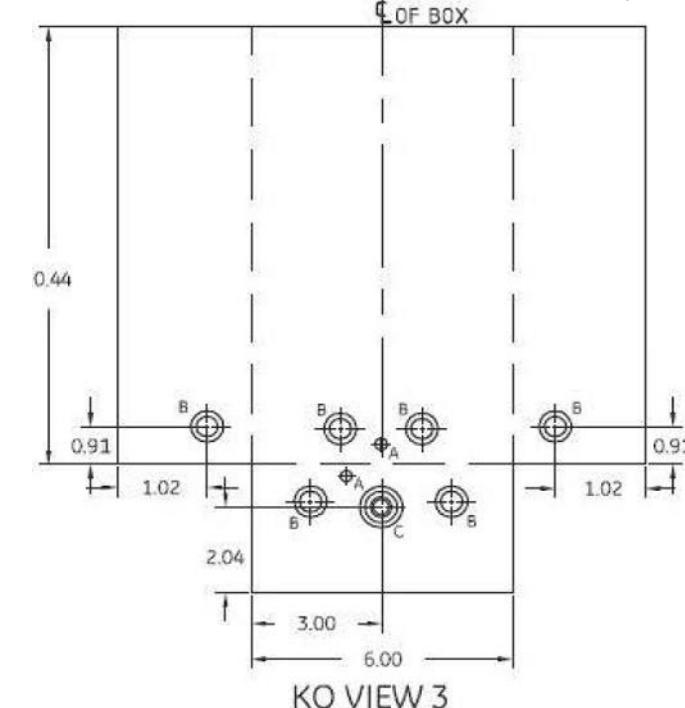
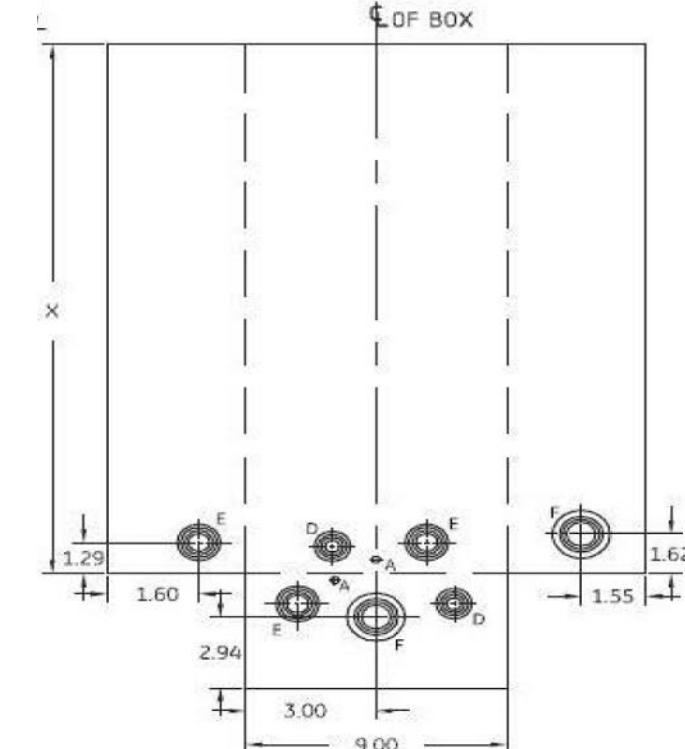
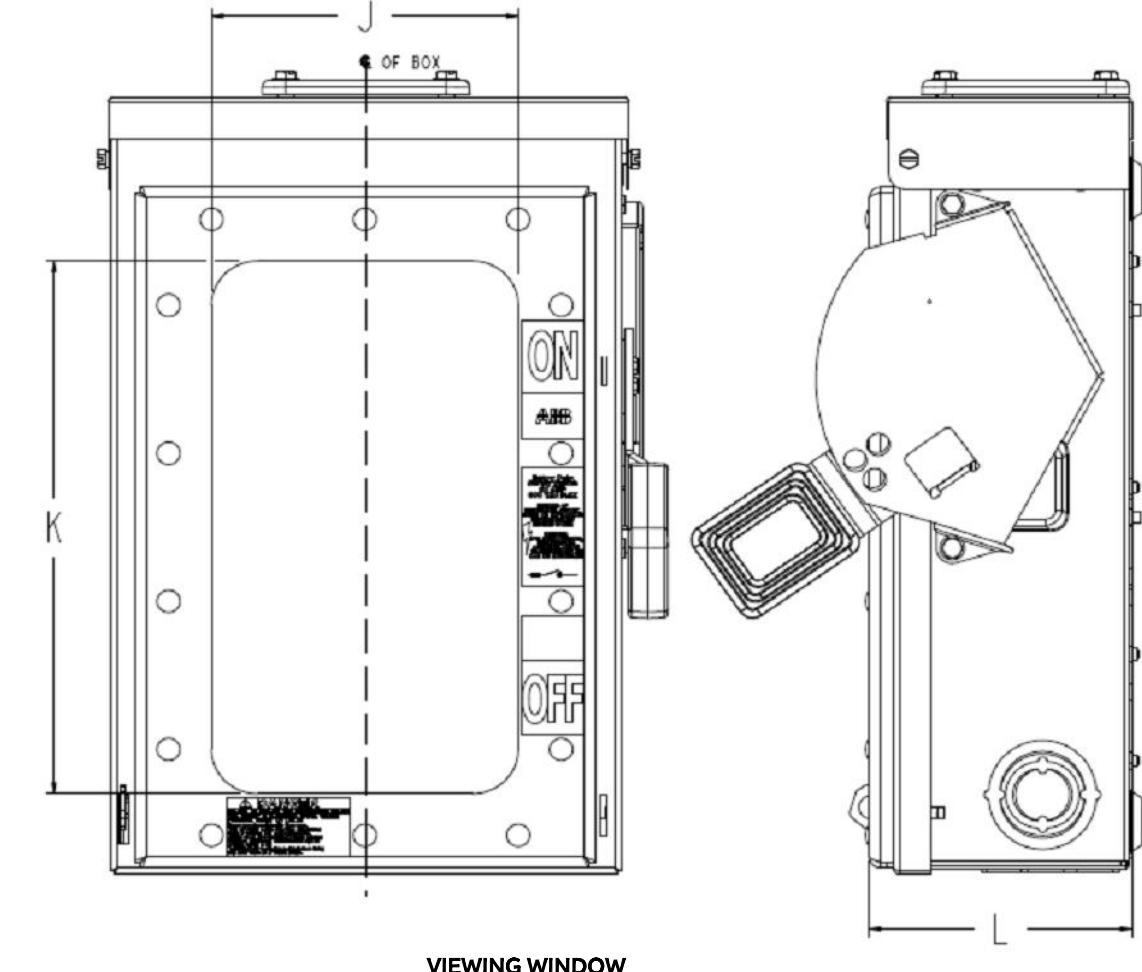
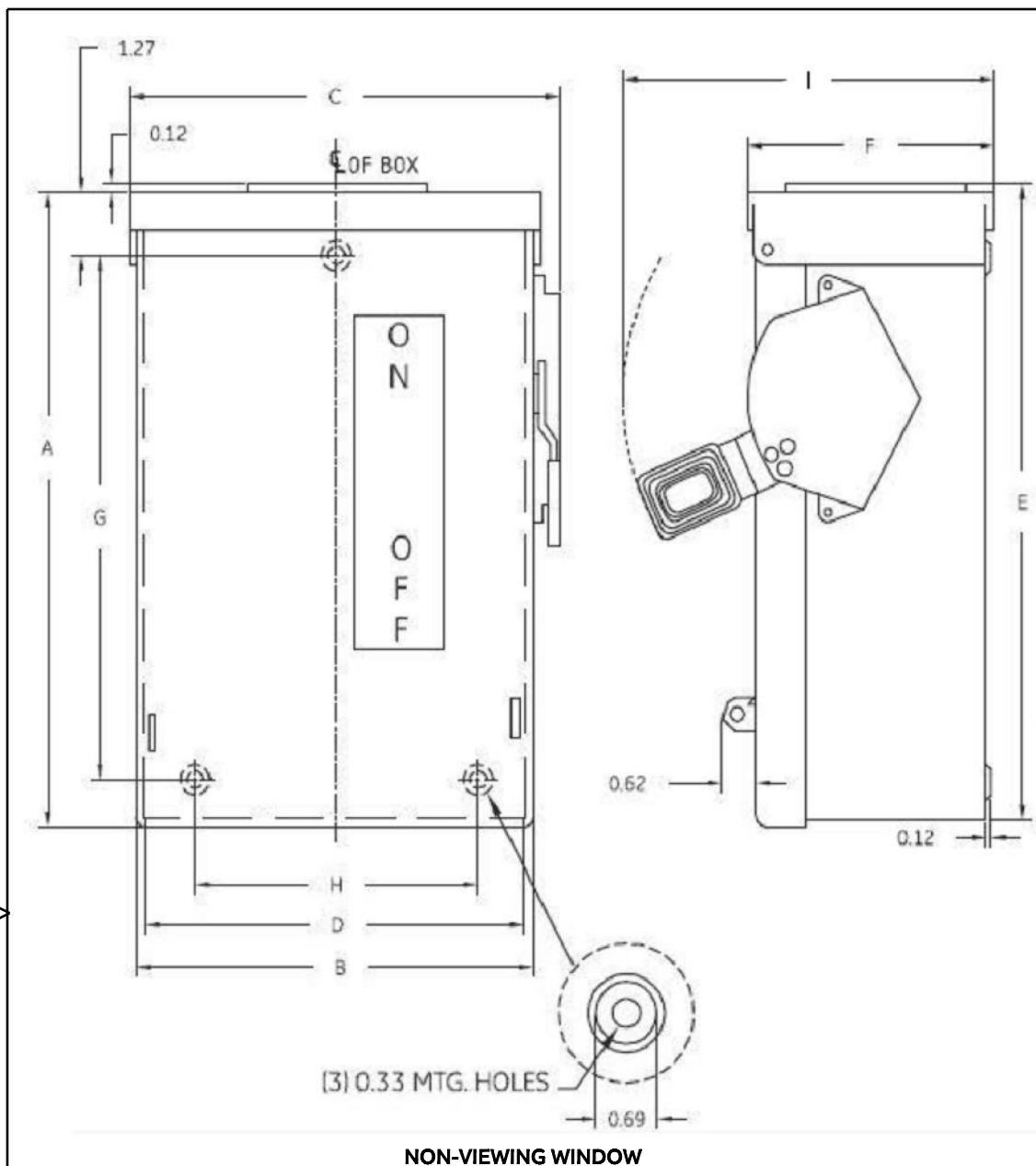
Voltage	240 AC
Amperage	30 A
Poles	2
Wires	3
Fusing	Fusible
Enclosure	NEMA 1 (Indoor)
Options	None
Wire Range (Cu/Al)	14-8 CU;12-8 AL
240 Vac, NEC Std, 1-ph	1.5 hp
240 Vac, Time Delay, 1-ph	3.0 hp
250 Vdc	5.0 hp
GSA Compliance	Yes

Classifications

cUL Listed	Yes
UL Listed	Yes

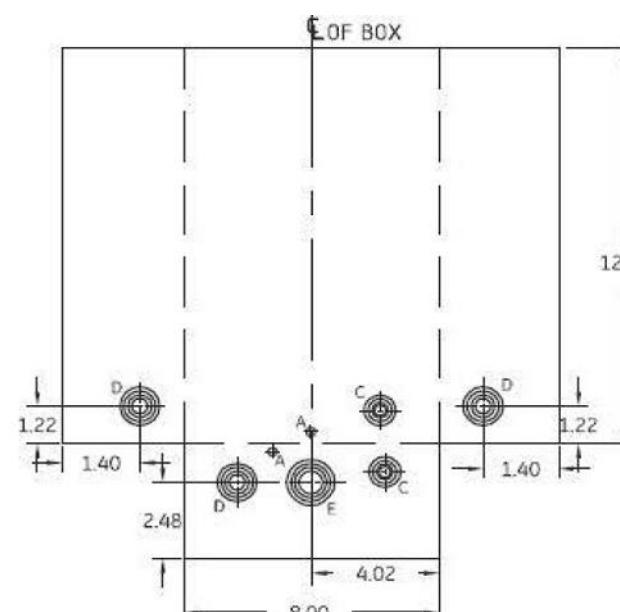
Dimensions

Height	10.30 in
Depth	3.30 in
Width	6.30 in
Weight	6.0 lb



DIMENSION TABLE

GCAT NO.	KO VIEW	A	B	C	D	E	F	G	H	I	X	J	K	L
TH3361R,TH3361RVW TH2261RDC,TH2261RDCVW TH4361R,TH4361RVW	1	13.10	8.22	8.86	8.00	13.13	4.00	10.68	6.50	7.85	-	5.00	9.00	4.30
THN3361R,THN3361RVW THN2261RDC,THN2261RDCVW	1	13.10	8.22	8.86	8.00	13.13	4.00	10.68	6.50	7.85	-	5.00	9.00	4.30
TH3221R,TH3221RVW	3	10.50	6.20	6.64	6.00	10.63	3.14	8.31	4.50	7.66	-	3.00	5.00	3.60
TH4321R,TH4321RVW	3	10.50	6.20	6.64	6.00	10.63	3.14	8.31	4.50	7.66	-	3.00	5.00	3.60
TH4322R,TH4322RVW TH3222R,TH3222RVW THN3362R,THN3362RVW THN2262RDC,THN2262RDCVW	2	17.23	9.22	9.70	9.00	17.38	4.83	14.96	7.50	7.85	17.19	5.00	9.00	5.30
TH3362R,TH3362RVW TH2262RDC,TH2262RDCVW TH4362R,TH4362RVW	2	21.98	9.22	9.70	9.00	22.13	4.83	19.71	7.50	7.85	21.94	5.00	13.00	5.30



KO VIEW 1

SYM	SIZE	QTY		
		VIEW1	VIEW2	VIEW3
A	9/32 KO	2	2	2
B	1/2 X 3/4 KO	-	-	6
C	3/8 X 1/2 X 3/4 X 1 KO	2	-	1
D	1/2 X 3/4 X 1 X 1-1/4 KO	3	2	-
E	3/4 X 1 X 1-1/4 X 1-1/2 KO	1	3	-
F	1 X 1-1/4 X 1-1/2 X 2 KO	-	2	-

ABB

OUTLINE DRAWING-HEAVY DUTY SAFETY SWITCH
22001-40
200804 NEMA - TYPE 3R ENCLOSURE, WITH & WITHOUT VW,
DWG NO. 10103091SH101 DATE Aug-07-24 REV F

NOTES:
1. ALL DIMENSIONS ARE IN INCHES.
2. ALL DIMENSIONS HAVE ± 0.125 TOLERANCE.
3. ALL DIMENSIONS IN DIMENSION TABLE IN J, K, L COLUMNS
FOR VIEWING WINDOW CATALOGS ONLY.



Representative Image

Catalog No. TH4321R

Description: 30A 3P HD N3R 240V FUSIBLE SW

UPC No 783164009200

Home > Switches & Disconnects > Disconnect & Safety Switches > Safety Switches > Heavy Duty

When it comes to getting the job done right, you can count on safety switches from ABB. ABB offers a wide variety of general duty switches for residential and light commercial purposes, while the extensive line of heavy-duty switches is best suited for commercial and industrial applications. For the toughest industrial environments — such as cement foundries, steel mills and processing plants — dust-tight and stainless steel switches are available. We also offer a variety of double throw switches for emergency generators. No matter the application, we've got you covered with a rugged, reliable and easy-to-install Spec-Setter safety switch. 30A 3P HD N3R 240V FUSIBLE SW

Descriptors

Category	Heavy Duty
GO Schedule	S1

Specifications

Voltage	240 AC
Amperage	30 A
Poles	3
Wires	4
Fusing	Fusible
Enclosure	NEMA 3R (Outdoor)
Options	None
Wire Range (Cu/Al)	14-8 CU;12-8 AL
240 Vac, NEC Std, 1-ph	1.5 hp
240 Vac, NEC Std, 3-ph	3.0 hp
240 Vac, Time Delay, 1-ph	3.0 hp
240 Vac, Time Delay, 3-ph	7.5 hp
250 Vdc	5.0 hp
GSA Compliance	Yes

Classifications

cUL Listed	Yes
UL Listed	Yes

Dimensions

Height	10.50 in
Depth	3.10 in
Width	6.20 in
Weight	7.0 lb



Representative Image

Catalog No. TH3221R

Description: 30A 2P HD N3R 240V FUSIBLESWITCH

UPC No 783164008944

Home > Switches & Disconnects > Disconnect & Safety Switches > Safety Switches > Heavy Duty

When it comes to getting the job done right, you can count on safety switches from ABB. ABB offers a wide variety of general duty switches for residential and light commercial purposes, while the extensive line of heavy-duty switches is best suited for commercial and industrial applications. For the toughest industrial environments — such as cement foundries, steel mills and processing plants — dust-tight and stainless steel switches are available. We also offer a variety of double throw switches for emergency generators. No matter the application, we've got you covered with a rugged, reliable and easy-to-install Spec-Setter safety switch. 30A 2P HD N3R 240V FUSIBLESWITCH

Descriptors

Category	Heavy Duty
GO Schedule	S1

Specifications

Voltage	240 AC
Amperage	30 A
Poles	2
Wires	3
Fusing	Fusible
Enclosure	NEMA 3R (Outdoor)
Options	None
Wire Range (Cu/Al)	14-8 CU;12-8 AL
240 Vac, NEC Std, 1-ph	1.5 hp
240 Vac, Time Delay, 1-ph	3.0 hp
250 Vdc	5.0 hp
GSA Compliance	Yes

Classifications

cUL Listed	Yes
UL Listed	Yes

Dimensions

Height	10.50 in
Depth	3.10 in
Width	6.20 in
Weight	7.0 lb



Services Submittal Section

Item No.	Product Description	Mark(s)	Quantity
9	Service, Power Systems Engineering	COORDINATION STUDY	1



Bill of Material(s)

Item No. Quantity Description

9 1 Service, Power Systems Engineering

Marks: COORDINATION STUDY

Project Type: New Construction Project

State of Installation: Georgia

Specification Available: No

One Line Drawing Available: Yes

Government Project: No

Power System Study Scope

Publication Reference (PSS***)

Short Circuit (PSS030)

Coordination (PSS040)

Utility Services (PSS070)

Standard Arc Flash Label (PSS090)

EasyPower Analysis Software (PSS160)

2 **Panelboard(s)**

11 Circuit Breakers with Adjustable Trip

Low Voltage Disconnect(s)

2 Fused Disconnects 480/460V

Total Power System Study

Total Arc Flash Label

Normal working hours are 8 hours, Monday - Friday, 08:00-17:00, excluding holidays And weekends.



SERVICES, POWER SYSTEMS ENGINEERING

EMPOWER QUOTED SERVICES

Services, Power Systems Engineering

General Clarifications

Introduction

ABB's Power System Engineering group is pleased to offer this Firm-Fixed Proposal to perform a Power System Study.

An ABB Power System Study will provide a power system study for the Jackson Co Airport Terminal project.

Contract Price

The Power System Study and Scope of Work described in this proposal are solely based on the References Provided to ABB's Power System Engineering group. These documents are listed below.

Power System Study Scope

The Power System Study includes:

1. Development of a one-line diagram model using EasyPower software
2. Short-Circuit Analysis with Device/Equipment Evaluation
3. Protective Device Coordination
4. Arc-Flash Hazard Analysis
5. Delivery of up to 1 Standard Arc Flash Labels

Arc-Flash Hazard Labels

ABB will provide up to 2 Standard Arc-Flash Hazard Labels for designated bus locations throughout the facility.

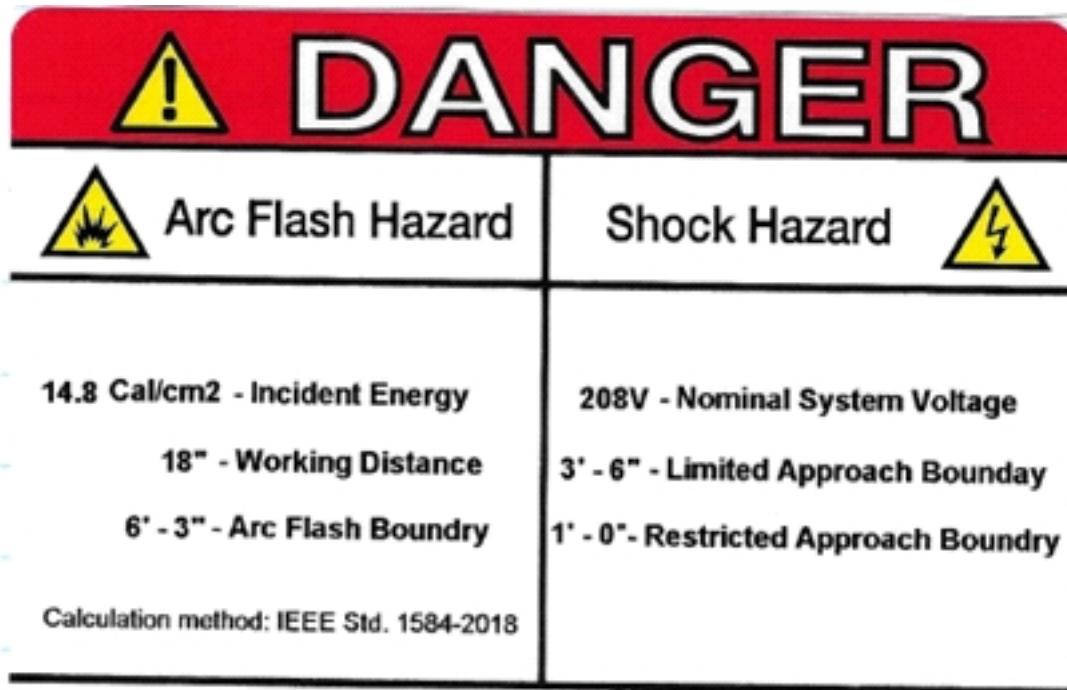


Figure 1 – ABB Standard Arc-Flash Hazard Label

Schedule and Delivery

Data Collection Schedule

The ABB Power System Engineering group will issue a Request for Information (RFI) within two (2) weeks of receiving an order which will identify the types of information needed to proceed with the Power System Study. Additional RFI's may be issued, as deemed necessary by ABB, at any time throughout the performance of the Power System Study.

In order for the Power System Study to progress in a timely manner, all RFI's must be (i) answered and returned to ABB no later than four (4) weeks after issuance of an RFI, or (ii) immediately scheduled to be answered and returned to ABB at a later (mutually agreed upon) date. In either case, all RFI's must be submitted in one (1) complete package. Should the RFI not be fully answered and returned within the four (4) week period (or mutually agreed upon scheduled date), ABB will progress with the Power System Study by making any conservative assumptions necessary to advance the Power System Study to substantial completion.

Delivery of Arc-Flash Hazard Labels

Once the Arc-Flash Hazard Label spreadsheet is submitted by ABB, the Buyer will have three (3) weeks to (i) review, (ii) make any needed changes to the optional comment lines and (iii) return the spreadsheet with the approved Customer Authorization Form. This assures that each label's comment line has the best description of equipment names or designations on site. At the end of three (3) weeks, if no approval has been received, all responsibilities will be considered as having been met. Furthermore, any delay in approval which subsequently causes an increase in ABB's cost and/or time required to perform any part of the work under this contract, an equitable adjustment will be made to the price and/or schedule of this contract.

Project Completion

The Power System Study shall be considered “Substantially Complete” upon submittal of the final Power System Study Report. A Punch-List shall be developed upon Substantial Completion and ABB’s standard warranty shall provide coverage (when applicable) for issues that occur after Substantial Completion. Note: The delivery of Arc-Flash Hazard Labels will be handled as a Punch-List item. Project completion shall be reached when all contractual responsibilities have been met.

Buyer’s Responsibilities

The Buyer’s responsibilities shall include, but are not limited to, the following:

General

1. Buyer will designate an authorized individual to resolve any questions and coordinate the Buyer’s responsibilities. This authorized individual shall be responsible for completing any ABB-issued Requests for Information (RFI’s) in a timely manner.
2. If requested, the Buyer shall provide any documents needed for the study, including but not limited to: one-line diagrams, three-line diagrams, elementary diagrams, datasheets, previous power system studies, project specifications, bill of materials, utility rate schedules and electrical power consumption data for the past 12 months.

Data Collection

1. The Buyer is responsible for supplying all relevant power system information, as determined by ABB for the performance of the Power System Study. ABB will issue a Request for Information (RFI) to which the Buyer is responsible for answering/completing.

Note: The RFI will be based on the References Provided for this proposal. If the Buyer RFI submittal is (i) late, (ii) incomplete, (iii) conflicts with the References Provided, and/or (iv) contains additional or different equipment than originally considered by ABB, which subsequently causes an increase in ABB’s cost and/or the time required to perform any part of the work under this contract, an equitable adjustment will be made to the price and/or schedule of this contract. Similarly, if changes are needed after an initial RFI submittal, ABB shall be entitled to an equitable price adjustment.

2. Buyer shall provide contact information (name, phone number, and email) of the utility serving the facility and provide notice to the utility of Buyer’s authorization to provide information to ABB for the Power System Study. Buyer shall also aid, when needed, in obtaining the minimum and maximum available fault MVA and X/R ratios from the utility as well as information for the utility’s first upstream protective device. Utility-owned transformer information may also be needed. Buyer is responsible to pay any fees that are charged by the utility (or others) for furnishing the necessary information for the Power System Study. ABB will issue an RFI with a Utility Data Request Form, which must be completed and returned to ABB in a timely manner for the study to progress.
3. Prior to the start of the on-site work, Buyer shall familiarize ABB personnel with their safety practices, regulations in effect at jobsite, and any chemical and physical hazards, including process safety issues associated with the work environment. ABB shall be under no obligation to commence work unless safety practices are acceptable to ABB. As a safety precat~~gation~~ prior to the commencement of work, access to a nearby telephone with the ability to call outside the facility will be provided by Buyer, as well as telephone numbers for local emergency services.

4. The Buyer shall provide/operate/maintain services for drinking water, sanitary facilities, parking, trash containers, and lighting.
5. The Buyer shall supply a minimum power supply of 120V, single-phase, power source, if necessary.

Implementation of Recommendations

1. Buyer is responsible for making any changes or modifications to equipment or the electrical system as required to accomplish compliance with the Power System Study including report recommendations.

Arc-Flash Hazard Label Installation

1. It is the sole responsibility of the Buyer to affix Arc-Flash Hazard Labels to the equipment.
2. Buyer shall be responsible for securing a qualified electrical worker who is knowledgeable of the electrical system to affix each Arc-Flash Hazard Label to the correct piece of equipment as per the description on the last line of each label.
3. Where only partial system changes are being made, it is the Buyer's responsibility to assure that Arc-Flash Hazard Labels are not applied to affected equipment still requiring changes. The full study results (and labels) are only valid after all changes have been implemented.

Assumptions and Clarifications

ABB-Issued Requests for Information (RFI's)

1. In order for the Power System Study to progress in a timely manner, all RFI's must be (i) answered and returned to ABB no later than four (4) weeks after issuance of an RFI, or (ii) immediately scheduled to be answered and returned to ABB at a later (mutually agreed upon) date. In either case, all RFI's must be submitted in one (1) complete package. Should the RFI not be fully answered and returned within the four (4) week period (or mutually agreed upon scheduled date), ABB will progress with the Power System Study by making any conservative assumptions necessary to advance the Power System Study to substantial completion. Note: If the Buyer RFI submittal is (i) late, (ii) incomplete, (iii) conflicts with the References Provided, and/or (iv) contains additional or different equipment than originally considered by ABB, which subsequently causes an increase in ABB's cost and/or the time required to perform any part of the work under this contract, ABB shall issue a Change Order to adjust the price and/or schedule of this contract. Similarly, if changes are needed after an initial RFI submittal, ABB shall issue a Change Order to account for the new/additional information. If an agreement is not made with the Change Order request, ABB will continue to work with the initial information provided to advance the Power System Study to substantial completion.

Power System Study

1. ABB relies on the assumption that any information furnished by the Buyer is accurate and complete.
2. Any Power System Study results, recommendations or conclusions including all Arc-Flash

Hazard Labels supplied, as well as any other Power System Study deliverable within the scope of this proposal are only valid for and limited to: (i) the specific equipment and/or device(s), or portion(s) of the power system studied, (ii) the conditions and assumptions considered in ABB's model one-line diagram and (iii) the power system switching scenario's analyzed.

Furthermore, Power System Study results and deliverables are only considered valid with the implementation of ABB's recommendations, such as corrective actions and compliance with recommended protective device settings including adequate field-testing, verification and commissioning practices.

3. ABB's model one-line diagram may appear different than the Project One-line Diagram, which may include additional fictitious equipment, alternate naming conventions and lumped devices, due to scenario modeling techniques and/or simplifying assumptions made.
4. The Power System Switching Scenario's to be analyzed shall be limited to: (i) Normal, (ii) Alternate, and (iii) Alternate-to-Normal Transitional states and assumes all equipment to be in those states simultaneously. Note: Additional scenarios can be quoted on request.
5. Short-circuit current contributions must be considered from all sources for accurate results. Inaccuracies may introduce significant errors in protective device evaluations, reported protective device tripping times, and arc-flash hazard incident energy calculations. If the Power System Scope of Work in this proposal does not apply to a facility-wide Power System Study including all sources, i.e. utilities, generators, motors, etc. and their interconnecting impedances, i.e. cables, transformers, etc., the results for the power system study may not be accurate.
6. If overdutied equipment or devices are identified within the scope of the Power System Study, Arc-Flash Hazard results and labels for the affected portions of the overdutied system(s) will not be provided. Note: Affected portions may include the entire bus containing the overdutied device as well as downstream buses supplied by the upstream overdutied device.
7. Overcurrent protective device settings compliance with NEC Sections: 210.20 (A), 215.3 and 225.39 or any calculated load related requirement is not the responsibility of ABB and is excluded from the scope altogether. For purposes of setting/sizing protective devices, the calculated load for any service conductor, feeder or branch circuit will be assumed to be equal to the conductor ampacity permitted in NEC Sections 310.15(B) or 310.60(C), with no temperature correction or adjustment factors applied, and limited to the conductor temperature ratings specified in 110.14 (C)(1).
8. Protective Device Coordination will be limited to overcurrent protective device functions. No settings will be provided for power-, phase-, voltage- or frequency-based relays.
9. Providing separate overload device settings for low-voltage motors are excluded from the Protective Device Coordination scope unless motor nameplate full-load current ratings are provided.
10. No guarantees for complete system selectivity are made since selective coordination is dependent on, and constrained by, equipment limitations.
11. Only AC Arc-Flash Hazard Analysis calculations are included in the Scope of Work, ^{33 of 46} DC Analysis will be performed.
12. A single Arc-Flash Hazard Label will be provided for each piece of equipment other than:

- (i) Compartmentalized Switchgear – which will have separate Arc-Flash Hazard Labels for each front and rear door access point, and
- (ii) Busways – which will have, at a minimum, two Arc-Flash Hazard Labels, one for the start and one for the end of the busway. Additional labels may be considered in between for long or riser application busways with access points on more than two levels/locations.

13. Actual bus gap dimensions of equipment should be used in Arc-Flash Hazard Analysis to provide a more accurate result of incident energy exposures. ABB will utilize default values provided in IEEE Std 1584™-2018 only if actual values are not provided.

14. Power System Study services and Deliverables shall be considered “substantially complete” when the services to be performed by ABB or the designated portion thereof, are sufficiently complete in accordance with the Scope of Work, such that the Buyer can occupy or use the products, services or portions thereof.

Arc-Flash Hazard Labels

1. Additional charges will be incurred by the Buyer if it is determined that more than the quoted amount of Arc-Flash Hazard Labels will be required or if any Arc-Flash Hazard Labels will need to be reproduced. Furthermore, all Arc-Flash Hazard Labels will be produced by ABB at the same time.
2. If there is a delay in having the equipment be available for affixing the Arc-Flash Hazard Labels and/or the Arc-Flash Hazard Labels need to be reapplied and this subsequently causes an increase in ABB's cost and/or the time required to perform any part of the work under this contract, an equitable adjustment may need to be made to the price and/or schedule of this contract.

Offer Exclusions

1. The proposed Scope of Work does not include the direct supervision and control of a Licensed/Registered Professional Electrical Engineer in the state of Georgia. The practice of Professional Engineering is not a service offered, expressed or implied herein.
2. The quoted price does not include Data Collection efforts by ABB.
3. The proposed Scope of Work does not include the correction of overdutied equipment or protective device miscoordination related issues resulting from improper application engineering performed by others (non-ABB).
4. The proposed Scope of Work does not include Selective Coordination.
5. The quoted price does not include any hours for consultation time to provide clarifications and/or guidance after the final Power System Study Report is submitted.
6. The proposed Scope of Work does not include Arc-Flash Hazard Mitigation.
7. The proposed Scope of Work does not include Arc-Flash Hazard Mitigation.

8. The proposed Scope of Work does not include making any changes or modifications to equipment or the electrical system as required to accomplish compliance with the Power System Study including report recommendations.
9. The proposed Scope of Work does not include updating panel schedules, load summaries or equipment labels .
10. The quoted price does not include providing operation and maintenance documents, such as equipment operation, maintenance procedures or operation and maintenance manuals.
11. The quoted price does not include providing the EasyPower model software files or associated data and library files.
12. The quoted price does not include generation of relay settings files, relay integration or functional logic programming; i.e. digital I/O, controls, status, indication, alarm, communications or any auxiliary/ancillary functions or elements.
13. The quoted price does not include Field-Testing, Start-Up or Commissioning Services.
14. Any items or services not specifically outlined herein are not included.
15. ABB expressly objects to any requirements, methods or conditions contained in Buyer's request that are not specifically addressed in this document, and such requirements, methods and conditions, if any, are outside the scope of this proposal.

Contract Price

Applicable taxes, permits, and licensing fees are not included in the quoted price. This offering expires 30 days from the date of issuance unless terminated sooner by notice.

Payment Terms

Payment is due upon receipt of the invoice for reaching the Substantially Complete milestone. Invoices remaining unpaid after 30 days from the date of the invoice will be subject to a late payment penalty at the rate of 1.5% per month. Disputed portions of an invoice shall not be cause for nonpayment or delay of payment of any undisputed portions of an invoice. Electronic Funds Transfer is available and is encouraged.

Conditions of Sale

The sale of any service and products, and the integration thereof, is expressly conditioned upon the Terms and Conditions for Sale of Products and Services, Form ES 104 (Rev 4) as attached in Appendix B. Any additional or different terms and conditions proposed by the Buyer at any time are expressly objected to and will not be binding upon ABB unless specifically agreed to in writing by ABB's authorized representative. Any order for, or any statement of intent to purchase hereunder, or any direction to perform work and ABB's performance of work shall constitute assent to the Terms and Conditions for Sale of Products and Services, Form ES 104 (Rev 4). Oral agreements and/or commitments to perform services are not enforceable.

Power System Study Addendum

Any order for, or any statement of intent to purchase the proposed Power System Study hereunder, or any direction to perform such work and ABB's performance of work shall constitute assent to the Power System Study Addendum to Terms and Conditions as attached in Appendix C.

Consideration on 2019-nCoV (Coronavirus Outbreak)

If after submission of ABB's bid or during the term of the agreement there are any measures taken by authorities, by ABB or others in connection with the current coronavirus (2019-nCoV) outbreak which affect the performance of the agreement, the parties agree that ABB will be entitled to cost compensation, time extension, or other reasonably required contract adjustments if any consequences in any way related to the coronavirus outbreak lead to delays in delivery of goods or provision of services or otherwise affect ABB's contractual obligations or duties.

Appendix A —

Power System Study Addendum

Power System Study Addendum

FORM ES104 (Rev 4): POWER SYSTEM STUDY ADDENDUM TO TERMS AND CONDITIONS

FOR SALE AND LEASE OF PRODUCTS AND SERVICE The provision of any goods or services for Power System Studies shall be subject to the following special terms and conditions. In the event of a conflict between the terms of this Addendum and FORM ES104 (Rev4): TERMS AND CONDITIONS FOR SALE AND LEASE OF PRODUCTS AND SERVICES, the terms of this Addendum shall take precedence to the extent of the conflict.

1. No Warranty of Software or Compatibility: Seller makes no representation or warranty with respect to any software that Buyer or other parties may use to access or manipulate any electronic data or information provided to Buyer by Seller, or with respect to the interaction of any software with such data or information.

2. Accuracy of Information: Buyer acknowledges and agrees: (a) the quality of Seller's Services, including the accuracy of any conclusions reached or recommendations made, is dependent upon the quality, accuracy and completeness of the data and other relevant information supplied by Buyer, Buyer's agents, employees, contractors, utilities, Buyers or affiliates to Seller, and (b) Seller shall have no liability for any conclusions reached or recommendations made incorporating or based upon inaccurate, incorrect or incomplete data from Buyer, Buyer's agents, employees, contractors, utilities, Buyers or affiliates. Buyer agrees to release, indemnify, defend and hold Seller harmless with respect to any and all claims for damages, expenses or losses, including, without limitation, claims of property damage and/or personal injury, including death, resulting from or related to Seller's Services, including recommendations made or the implementation of such recommendations, based on inaccurate, incorrect or incomplete data or other information provided to Seller.

3. Configuration Studied: Buyer acknowledges that all analysis performed, and any recommendations made by Seller as part of the Services shall be strictly limited to the specific configuration(s) studied which

1. Configuration(s) shall be included in Seller's written analysis and recommendations. In the event of any system change, such as but not limited to, equipment or line additions or removals, any analysis, results or recommendations prepared for Buyer by Seller shall be null and void and automatically withdrawn by Seller without the requirement of further notice. Buyer shall release, indemnify, defend and hold Seller harmless with respect to any and all claims for damages (including personal injury), expenses or losses resulting from or related to the application of Seller's analysis or recommendations to a different system configuration than configuration(s) studied as set forth in Seller's written analysis.

4. Compliance: Seller makes no representation, express or implied, that implementation or use of or adherence to the recommendations or analyses delivered by Seller as a part of the Services will guarantee or constitute compliance with any standards, regulations or other applicable legal requirements.

5. Arc-Flash Hazard Analysis Safety Labels: Buyer assumes all responsibilities for and bears all risk of correctly affixing any labels prepared by Seller, including arc-flash hazard labels, in or onto the corresponding equipment and Buyer agrees to release, indemnify, defend and hold Seller harmless with respect to any and all claims for damages (including personal injury), expenses or losses resulting from or related to the incorrect placement of such labels.



Electrification U.S.A.

Service Rates

Jan 1, 2024

ABB's field service engineers and consulting experts are on call to provide a wide range of service and repairs on both ABB and non-ABB equipment and engineered systems in Industrial and Balance-Of-Plant Power Plant Systems.

8-Hour Daily Rates

Classification	Weekday	Saturday	Sunday
		Holiday	
Field <input type="checkbox"/> Service Center			
Class I - Specialized	<input type="checkbox"/> 3,124	<input type="checkbox"/> 4,548	<input type="checkbox"/> 5,972
Field Engineer/Specialized Field Technician			
Class II - Field Engineer <input type="checkbox"/>	<input type="checkbox"/> 2,564	<input type="checkbox"/> 3,708	<input type="checkbox"/> 4,852
Service Center Specialist			
Class III - Service Technician	<input type="checkbox"/> 2,004	<input type="checkbox"/> 2,868	<input type="checkbox"/> 3,732
Phone Support		<input type="checkbox"/> 1,725/case	
Emergency Standby Retainer		<input type="checkbox"/> 6,500/month	

Tooling Rates

IR Camera	<input type="checkbox"/> 120/day, <input type="checkbox"/> 480/week
Vibration Test Set	<input type="checkbox"/> 175/day, <input type="checkbox"/> 700/week
Online Motor Test Set	<input type="checkbox"/> 350/day, <input type="checkbox"/> 1,400/week
Offline Motor Test Set	<input type="checkbox"/> 350/day, <input type="checkbox"/> 1,400/week
Primary Current Injection Set	<input type="checkbox"/> 500/day, <input type="checkbox"/> 2,000/week
Relay Test Set	<input type="checkbox"/> 600/day, <input type="checkbox"/> 2,400/week
Power Factor Test Set	<input type="checkbox"/> 600/day, <input type="checkbox"/> 2,400/week

Class I - Specialized Field Engineer

These services include installation, commissioning, repair, service, maintenance, and upgrade work associated with:

- Medium voltage motors, generators
- Paralleling Switchgear
- Synchronous motors generators, including excitation
- Legacy control systems including: Series 5 Series 6
- Specialty power system studies, including: Harmonic, Transient Switching Grounding
- Shipboard and offshore work, with a minimum 14-hour / day billing. Platform work requires a pay differential.
- Gas Insulated Substation (GIS)

Class II - Field Engineer & Service Center Specialist

Service is technical advice and counsel from field personnel based on sound engineering, manufacturing, installation, and operation practices as applicable to the equipment. Such services may include analysis, adjustment, programming, and other similar services. They do not include supervision or management of purchaser's employees, agents or other contractors and design effort.

Class III - Service Technician

Craftsmen experienced in the inspection, test, installation, service, and repair of one or more of the following equipment types:

- Transformer (Mechanical, Electrical, Fluid)
- Motors, Electrical Controls Equipment
- Switchgear
- Mechanical
- Hydro (Electrical, Mechanical Controls)

Typical Installations, Services, Repairs, and Products

- Transformer (Including Mechanical, Electrical, Fluid)
- Power Delivery Equipment
- Motors, Electrical and Controls Equipment
- Distributed Control Systems and Programmable Logic Controls
- Instrumentation Related to Process Control and Automation Systems
- Marine Electrical Systems
- Power System Studies

Rate Terms

1. Work greater than 8 hours per day is billed per hour:	Overtime	Double Time
<u>Class I - Specialized Field Engineer</u>	<input type="checkbox"/> 534.00	<input type="checkbox"/> 712.00
<u>Class II - Field Engineer/Service Center Specialist</u>	<input type="checkbox"/> 429.00	<input type="checkbox"/> 572.00
<u>Class III - Service Technician</u>	<input type="checkbox"/> 324.00	<input type="checkbox"/> 432.00

For less than 24-hour response, a 1.40 multiplier is used for all rates.

Overtime applies to billable weekday hours 9-12 or outside of 7:00am to 6:00pm. Double Time applies to billable weekday hours greater than 12, Saturday hours greater than 8, Sundays and holidays.

2. Preparation, travel, and report writing time will be charged at the applicable rate (i.e., daily rates, overtime and double time) on a round trip basis with point of departure based on the location of the ABB Representative's office/service center.
3. Additional travel and living expenses include:

Overnight stay	<input type="checkbox"/> 235 per day
Air Travel / Rental Car charges	Cost <input type="checkbox"/> 20%

Notes Additional TOL charges may apply for high cost of living areas.

4. Travel and living expenses outside the continental U.S.A., will be billed at a cost plus 20% minimum, or consult with your local ABB representative for a local per diem rate.
5. Materials, subcontract labor and equipment if required will be provided at cost 35%.
6. All equipment is F.O.B. shipping point, seller's dock, with freight prepaid and charged 3% of material price (a minimum per shipment charge of 100.00 shall apply). Seller reserves the right to select the method of transportation provided for all products unless specified by the client not less than 72 hours prior to shipment. Any premium transportation or required special handling is in addition and shall be for the account of the Buyer.
7. Consult with local ABB office to determine applicable charges for other special tooling and/or test equipment or any taxes, fees or VAT that may be in addition to the above rates. Minimum daily billing of 8 hours for all services provided including standby time. A minimum order of 500.00 shall apply for a parts/material only order.
8. All rates are for hours worked, traveled, or on standby and are based on ABB's standard terms and conditions of sale. Price and data subject to change without notice. This quotation is not valid for PCB services, off shore or confined locations.
9. Phone Support is a service provided on the phone by a Field Engineer for limited hardware and software troubleshooting services.
10. Employee screening costs as required by the customer will be provided as follows:

<u>Custom drug screen or background check</u>	<input type="checkbox"/> 150
<u>TWIC Card</u>	<input type="checkbox"/> 300
<u>BOSIET <input type="checkbox"/> HUET</u>	<input type="checkbox"/> 2,500

All travel time to complete the screenings will be billed at the applicable hourly rate as set forth in 1 above plus expenses. All other specialty training will be billed at cost 20%.

11. All time to complete site specific training will be billed at the applicable hourly rate as set forth in 1 above plus expenses.
12. A Critical Power Emergency Standby Retainer provides access to a qualified ABB Field Engineer at the customer site on the same day the need is identified by the customer. All time to support the emergency service, including travel to and from the customer site, will be billed at the applicable hourly rate as set forth in 1 above, however the 1.40 multiplier applied to work less than 24hrs notice is waived.
13. The Standard and Applicable rates shown on this sheet assume that services are being performed at a location that is not subject to a Location Premium which is an additional charge/rate that may be assessed for remote, inconvenient, confined or offshore work sites. Please contact ABB to see if a Location Premium applied to your location.



TERMS AND CONDITIONS OF SALE

General Policies and Conditions

1. This Proposal is offered subject to the following: 1) attached TERMS AND CONDITIONS OF SALE, 2) an executed Master Supply Agreement ("MSA"), and 3) ABB Inc.'s current general Terms and Condition of Sale. Any conflict among the documents comprising the terms of this Proposal shall be resolved in accordance with the following order of precedence: (i) an executed MSA incorporating the following Terms and Conditions of Sale (ii) attached TERMS AND CONDITIONS OF SALE incorporating ABB Inc. General Terms and Conditions of Sale (iii) or ABB Inc. General Terms and Conditions of Sale. Non-ABB preprinted PO terms have no force and/or effect and are hereby rejected by ABB.
2. Buyer represents and warrants that there are no federal, state, or local (collectively "Governmental") contracting provisions, regulations, flow-downs, or requirements that apply to this transaction, including without limitation any Governmental domestic preference or prevailing wage, other than such terms that have been disclosed and agreed to by Seller in writing. Buyer assumes sole responsibility for any costs associated with non-compliance of terms not agreed by Seller in writing. Unless expressly provided in writing, Seller makes no representation that the quoted product(s) or service(s) comply with any Governmental contracting provisions and regulations.
3. This proposal expires in 30 calendar days, unless terminated sooner by notice. This proposal is not inclusive of taxes of any kind, unless explicitly stated.
4. Orders not requiring engineered drawings for approval must be released by Buyer for manufacture within 90 days of PO receipt. If engineered drawings are required, they must be returned and approved by Buyer for release within 60 days of mailing. If not, and/or shipment is delayed for any reason the price will increase by 1.5% for each partial/full month that shipment release is delayed after the 90-day period. If project is delayed 6 months or more after PO receipt, project will be repriced based off current market values.
5. For MV Transformers (including Padmount, Substation, & Power transformers), refer to the factory proposal for applicable terms and conditions including, but not limited to quote validity, price validity, escalation, warranty, cancellation, estimated delivery, and freight terms.

Payment Terms

1. Net 30 days from the date of invoice
2. For projects up to \$1,000,000 net, terms of payment are 100% upon invoicing.
3. If project value exceeds \$1,000,000 net, progress payments are required payable at the following milestones. These milestones will be applied at a line-item level and will be tailored to the project schedule.
 - 20% upon delivery of drawings
 - 30% upon release of equipment
 - 50% upon shipment

Warranty

1. The warranty for Products shall expire one (1) year from date of installation or eighteen (18) months after date of shipment, whichever occurs first, except that software is warranted for ninety (90) days from delivery. The warranty for Services shall expire one (1) year after performance of the Service, except that software related Services are warranted for ninety (90) days.
2. Additional 12 months available for 2% adder, 24 months for 4% adder. Engage ABB representative if longer durations are needed.
3. All warranty claim remedies are provided under the General Terms and Conditions of Sale, or any applicable MSA, whichever is applicable between the parties.

Order Cancellation - Schedule of Charges

1. 10% - Order received.
2. 30% - Drawings for approval submitted, if required.
3. 50% - Revisions to approval drawings submitted, if required.
4. 80% - Order released for manufacturing and shipment.
5. 100% - Production started.

Delivery and Transportation

1. CPT/FCA ABB's facility, place of manufacture or warehouse (Incoterms 2020). Title and risk of loss passes upon shipment.
2. ABB will assume the risk of loss or damage to the destination for a 2% adder (but not less than \$500 net) applied to the total price of the equipment. "Destination" is defined as ABB's common carrier's delivery point nearest first destination or point of export within the continental U.S.
3. Transportation and handling are prepaid and billed, unless otherwise noted in this quotation or MSA.
4. Shipment via Air or Open Top/Flatbed/Lift gate truck not included unless specifically listed herein.
5. Special Instruction - The Receiving Associate is required to sign, date, and note specific visible or concealed damage on Bill of Lading at time of delivery. Freight Company Associate is required to witness Receiver's signature, date, and damage claim annotations. ABB's Post Sales Service Department must be provided with copy of annotated BOL within five (5) days of delivery or Shipper's responsibility ends.

Other Notes

1. Standard factory test procedures will be performed. Customer inspections, customer witness tests, and any other non-standard test procedures are not included unless specifically noted herein.
2. The accompanying Bill of Material is our interpretation of what is required to meet the intent of the listed Drawings and Specifications. Please review thoroughly for accuracy and completeness and advise immediately if any revisions are required. This proposal is limited to the attached Bill of Material only. Selective coordination of the system should be verified by a qualified engineer and may require changes to the design, Bill of Material, and price.
3. The Parties are aware of the shortage of raw materials, electronic components worldwide which is likely to last for the foreseeable future, as well as, of market fluctuations in the availability and cost of other raw materials, commodities, other critical components, and transportation capacities. Notwithstanding anything to the contrary in the contract terms and conditions / purchase order, if after the date of ABB's proposal / offer or during the term of the performance of the contract / purchase order there are any changes to availability and / or market conditions for electronic components, raw materials, commodities, and transportation capabilities directly or indirectly affecting ABB's performance, ABB shall be entitled to relief in the schedule of the performance or delivery of the directly or indirectly affected scope of work under the contract / purchase order. In such circumstances, the Parties shall meet without delay and discuss in good faith to find a mutually agreeable solution, with equitable adjustment to the contract / purchase order date of delivery or completion. Customer hereby acknowledges and agrees that in said circumstances ABB may not be able to comply with the originally agreed delivery or completion schedule and that ABB shall not be liable for any liquidated or actual damages in connection thereto.



ABB INC. GENERAL TERMS AND CONDITIONS OF SALE

(2024-01 U.S.)

1. General.

The terms and conditions contained herein, together with any additional or different terms contained in ABB's proposal, quotation and/or invoice ("Proposal"), if any, submitted to Purchaser (which Proposal, Policies, Addendum(s), if any, submitted to Purchaser shall control over any conflicting terms), constitute the entire agreement (the "Agreement") between the parties with respect to the purchase order and supersede all prior communications and agreements regarding the purchase order. Acceptance by ABB of the purchase order, or Purchaser's acceptance of ABB's Proposal, is expressly limited to and conditioned upon Purchaser's acceptance of these terms and conditions, payment for or acceptance of any performance by ABB being acceptance. These terms and conditions may not be changed or superseded by any different or additional terms and conditions proposed by Purchaser to which terms ABB hereby objects. Unless the context otherwise requires, the term "Equipment" as used herein means all of the equipment, parts, accessories sold, and all software and software documentation, if any, licensed to Purchaser by ABB ("Software") under the purchase order. Unless the context otherwise requires, the term "Services" as used herein means all labor, supervisory, technical and engineering, installation, repair, consulting or other services provided by ABB under the purchase order. As used herein, the term "Purchaser" shall also include the initial end user of the Equipment and/or services; provided, however, that Article 14(a) shall apply exclusively to the initial end user.

2. Prices.

(a) Unless otherwise specified in writing, all Proposals expire thirty (30) days from the date thereof and may be modified or withdrawn by ABB before receipt of Purchaser's conforming acceptance. All quoted prices are subject to revision at any time in the event of any increase in raw material, energy costs or governmental actions such as tariffs.
(b) Unless otherwise stated herein, Services prices are based on normal business hours (8 a.m. to 5 p.m. Monday through Friday). Overtime and Saturday hours will be billed at one and one-half (1 1/2) times the hourly rate; and Sunday hours will be billed at two (2) times the hourly rate; holiday hours will be billed at three (3) times the hourly rate. If Services rate sheet is attached hereto, the applicable Services rates shall be those set forth in the rate sheet. Rates are subject to change without notice.
(c) The price does not include any federal, state or local property, license, privilege, sales, use, excise, gross receipts, or other like taxes which may now or hereafter be applicable. Purchaser agrees to pay or reimburse any such taxes which ABB or its suppliers are required to pay or collect. If Purchaser is exempt from the payment of any tax or holds a direct payment permit, Purchaser shall, upon purchase order placement, provide ABB a copy, acceptable to the relevant governmental authorities of any such certificate or permit.
(d) The price includes customs duties and other importation or exportation fees, if any, at the rates in effect on the date of ABB's Proposal. Any change after that date in such duties, fees, or rates, shall increase the price by ABB's additional cost.

3. Payment.

(a) Unless specified to the contrary in writing by ABB, payment terms are net cash, payable without offset, in United States Dollars, 30 days from date of invoice by wire transfer to the account designated by ABB in the Proposal. ABB is not required to commence or continue its performance unless and until invoiced payments have been received in a timely fashion. For each day of delay in receiving required payments, ABB shall be entitled to a matching extension of the schedule.
(b) If in the judgment of ABB, the financial condition of Purchaser at any time prior to delivery does not justify the terms of payment specified, ABB may require payment in advance, payment security satisfactory to ABB and suspend its performance until said advance payment or payment security is received or may terminate the purchase order, whereupon ABB shall be entitled to receive reasonable cancellation charges. If delivery is delayed by Purchaser, payment shall be due on the date ABB is prepared to make delivery. Delays in delivery or nonconformities in any installments delivered shall not relieve Purchaser of its obligation to accept and pay for remaining installments.
(c) Purchaser shall pay, in addition to the overdue payment, a late charge equal to the lesser of 1 1/2% per month or any part thereof or the highest applicable rate allowed by law on all such overdue amounts plus ABB's attorneys' fees and court costs incurred in connection with collection. If Purchaser fails to make payment of any amounts due under any purchase order and fails to cure such default within ten (10) days after receiving written

notice specifying such default, then ABB may by written notice, at its option, suspend its performance under the purchase order until such time as the full balance is paid or terminate the purchase order, as of a date specified in such notice. In the event of suspension, cancellation or termination hereunder, ABB will be entitled to recover all costs for work performed to date, costs associated with suspension, cancellation or termination of the work and all other costs recoverable at law.

4. Changes.

(a) Any changes requested by Purchaser affecting the ordered scope of work must first be reviewed by ABB and any resulting adjustments to affected provisions, including price, schedule, and guarantees mutually agreed in writing prior to implementation of the change.
(b) ABB may, at its expense, make such changes in the Equipment or Services as it deems necessary, in its sole discretion, to conform the Equipment or Services to the applicable specifications. If Purchaser objects to any such changes, ABB shall be relieved of its obligation to conform to the applicable specifications to the extent that conformance may be affected by such objection.

5. Delivery.

(a) All Equipment manufactured, assembled or warehoused in the continental United States is delivered FCA ABB point of shipment, Incoterms® 2020 unless otherwise mutually agreed in writing. Equipment shipped outside the continental United States is delivered FCA Incoterms® 2020 United States port of export unless otherwise mutually agreed in writing. Purchaser shall be responsible for any and all demurrage or detention charges.
(b) If the scheduled delivery of Equipment is delayed by Purchaser or by Force Majeure, ABB may move the Equipment to storage for the account of and at the risk of Purchaser whereupon it shall be deemed to be delivered.
(c) Shipping and delivery dates are contingent upon Purchaser's timely approvals and delivery by Purchaser of any documentation required for ABB's performance hereunder.
(d) Claims for shortages or other errors in delivery must be made in writing to ABB within ten (10) days of delivery. Equipment may not be returned except with the prior written consent of and subject to terms specified by ABB. Claims for damage after delivery shall be made directly by Purchaser with the common carrier.

6. Title & Risk of Loss.

Except with respect to Software (for which title shall not pass, use being licensed) title to Equipment shall transfer to Purchaser upon delivery according to the applicable freight term. Notwithstanding any agreement with respect to delivery terms or payment of transportation charges, risk of loss or damage with respect to the sale of Equipment shall pass from ABB to Purchaser at delivery as defined in this Agreement.

7. Inspection, Testing and Acceptance.

(a) Any inspection by Purchaser of Equipment on ABB's premises shall be scheduled in advance to be performed during normal working hours and subject to rules and regulations in place at the ABB premises.
(b) If the purchase order provides for factory acceptance testing, ABB shall notify Purchaser when ABB will conduct such testing prior to shipment. Unless Purchaser states specific objections in writing within ten (10) days after completion of factory acceptance testing, completion of the acceptance test constitutes Purchaser's factory acceptance of the Equipment and its authorization for shipment.
(c) If the purchase order provides for site acceptance testing, testing will be performed by ABB personnel to verify that the Equipment has arrived at site complete, without physical damage, and in good operating condition. Completion of site acceptance testing constitutes full and final acceptance of the Equipment. If, through no fault of ABB, acceptance testing is not completed within thirty (30) days after arrival of the Equipment at the site, the site acceptance test shall be deemed completed and the Equipment shall be deemed accepted.

8. Warranties and Remedies.

(a) Equipment and Services Warranty. ABB warrants that Equipment (excluding Software, which is warranted as specified in paragraph (d) below) shall be delivered free of defects in material and workmanship and that Services shall be free of defects in workmanship. The Warranty Remedy Period for Equipment (excluding Software and Spare Parts) shall end twelve (12) months after installation or eighteen (18) months after date of shipment,



whichever first occurs. The Warranty Remedy Period for new spare parts shall end twelve (12) months after date of shipment. If the purchase order includes the sale of refurbished or repaired parts, the Warranty Remedy Period for such parts shall end ninety (90) days after date of shipment. The Warranty Remedy Period for Services shall end ninety (90) days after the date of completion of Services.

(b) **Equipment and Services Remedy.** If a nonconformity to the foregoing warranty is discovered in the Equipment or Services during the applicable Warranty Remedy Period, as specified above, under normal and proper use and provided the Equipment has been properly stored, installed, operated and maintained and written notice of such nonconformity is provided to ABB promptly after such discovery and within the applicable Warranty Remedy Period, ABB shall, at its option, either (i) repair or replace the nonconforming portion of the Equipment or re-perform the nonconforming Services or (ii) refund the portion of the price applicable to the nonconforming portion of Equipment or Services. If any portion of the Equipment or Services so repaired, replaced or re-performed fails to conform to the foregoing warranty, and written notice of such nonconformity is provided to ABB promptly after discovery and within the original Warranty Remedy Period applicable to such Equipment or Services or thirty (30) days from completion of such repair, replacement or re-performance, whichever later, ABB will repair or replace such nonconforming Equipment or re-perform the nonconforming Services. The original Warranty Remedy Period shall not otherwise be extended.

(c) **Exceptions.** ABB shall not be responsible for providing temporary power, removal, installation, reimbursement for labor costs or working access to the nonconforming Equipment, including disassembly and re-assembly of non-ABB supplied equipment, or for providing transportation to or from any repair facility, or for any other expenses incurred in connection with the repair or replacement, all of which shall be at Purchaser's risk and expense. ABB shall have no obligation hereunder with respect to any Equipment which (i) has been improperly repaired or altered; (ii) has been subjected to misuse, negligence or accident; (iii) has been used in a manner contrary to ABB's instructions; (iv) is comprised of materials provided by or a design specified by Purchaser; or (v) has failed as a result of ordinary wear and tear. Equipment supplied by ABB but manufactured by others is warranted only to the extent of the manufacturer's warranty, and only the remedies, if any, provided by the manufacturer will be allowed.

(d) **Software Warranty and Remedies.** ABB warrants that, except as specified below, the Software will, when properly installed, execute in accordance with ABB's published specification. If a nonconformity to the foregoing warranty is discovered during the period ending one (1) year after the date of shipment and written notice of such nonconformity is provided to ABB promptly after such discovery and within that period, including a description of the nonconformity and complete information about the manner of its discovery, ABB shall correct the nonconformity by, at its option, either (i) modifying or making available to the Purchaser instructions for modifying the Software; or (ii) making available at ABB's facility necessary corrected or replacement programs. ABB shall have no obligation with respect to any nonconformities resulting from (i) unauthorized modification of the Software or (ii) Purchaser-supplied software or interfacing. ABB does not warrant that the functions contained in the software will operate in combinations which may be selected for use by the Purchaser, or that the software products are free from errors in the nature of what is commonly categorized by the computer industry as "bugs".

(e) **THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES OF QUALITY AND PERFORMANCE, WHETHER WRITTEN, ORAL OR IMPLIED, AND ALL OTHER WARRANTIES INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USAGE OF TRADE ARE HEREBY DISCLAIMED. THE REMEDIES STATED HEREIN CONSTITUTE PURCHASER'S EXCLUSIVE REMEDIES AND ABB'S ENTIRE LIABILITY FOR ANY BREACH OF WARRANTY.**

9. Intellectual Property Infringement.

(a) ABB shall defend at its own expense any action brought against Purchaser alleging that the Equipment or the use of the Equipment to practice any process for which such Equipment is specified by ABB (a "Process") directly infringes a patent in effect in the United States, an European Union member state or the country of the Site (provided there is a corresponding patent issued by the U.S., UK or an EU member state), or any copyright or trademark registered in the country of the Site and to pay all damages and costs finally awarded in any such action, provided that Purchaser has given ABB prompt written notice of such action, all necessary assistance in the defense thereof and the right to control all aspects of the defense thereof including the right to settle or otherwise terminate such action in behalf of Purchaser.

(b) ABB shall have no obligation hereunder and this provision shall not apply to: (i) any other equipment or processes, including Equipment or Processes which have been modified or combined with other equipment or process not supplied by ABB; (ii) any Equipment or Process supplied according to a design, other than an ABB design, required by Purchaser; (iii) any products manufactured by the Equipment or Process; (iv) any use of the Equipment or Process contrary to ABB instructions; (v) any patent issued after the date hereof; or (vi) any action settled or otherwise terminated without the prior written consent of ABB.

(c) If, in any such action, the Equipment is held to constitute an infringement, or the practice of any Process using the Equipment is finally enjoined, ABB shall, at its option and its own expense, procure for Purchaser the right to continue using said Equipment; or modify or replace it with non-infringing equipment or, with Purchaser's assistance, modify the Process so that it becomes non-infringing; or remove it and refund the portion of the price allocable to the infringing Equipment. **THE FOREGOING PARAGRAPHS STATE THE EXCLUSIVE LIABILITY OF ABB AND EQUIPMENT MANUFACTURER FOR ANY INTELLECTUAL PROPERTY INFRINGEMENT.**

(d) To the extent that said Equipment or any part thereof is modified by Purchaser, or combined by Purchaser with equipment or processes not furnished hereunder (except to the extent that ABB is a contributory infringer) or said Equipment or any part thereof is used by Purchaser to perform a process not furnished hereunder by ABB or to produce an article, and by reason of said modification, combination, performance or production, an action is brought against ABB, Purchaser shall defend and indemnify ABB in the same manner and to the same extent that ABB would be obligated to indemnify Purchaser under this "Intellectual Property Indemnification" provision.

10. Waiver of Consequential Damages.

In no event shall ABB, its suppliers or subcontractors be liable for special, indirect, incidental or consequential damages, whether in contract, warranty, tort, negligence, strict liability or otherwise, including, but not limited to, loss of profits or revenue, loss of data, loss of use, loss of use of any of the Equipment or any associated equipment, cost of capital, cost of substitute equipment, facilities or services, downtime costs, delays, and claims of customers of the Purchaser or other third parties for any damages.

11. Limitation of Liability.

(a) ABB's aggregate liability for all claims whether in contract, warranty, tort, negligence, strict liability, or otherwise for any loss or damage arising out of, connected with, or resulting from this Agreement or the performance or breach thereof, or from the design, manufacture, sale, delivery, resale, repair, replacement, installation, technical direction of, installation, inspection, operation or use of any equipment covered by or furnished under this Agreement, or from any services rendered in connection therewith, shall in no case (except as provided in the section entitled "Intellectual Property Indemnification") exceed the purchase order price.

(b) All causes of action against ABB arising out of or relating to this Agreement or the performance or breach hereof shall expire unless brought within one (1) year of the time of accrual thereof.

(c) In no event, regardless of cause, shall ABB be liable for penalties or penalty clauses of any description or for indemnification of Purchaser or others for costs, damages, or expenses arising out of or related to the Equipment and/Services.

(d) The rights and remedies of the parties contained under these terms and conditions shall be sole and exclusive.

12. Laws and Regulations.

ABB does not assume any responsibility for compliance with federal, state or local laws and regulations, except as expressly set forth herein, and compliance with any laws and regulations relating to the operation or use of the Equipment or Software is the sole responsibility of the Purchaser. All laws and regulations referenced herein shall be those in effect as of the Proposal date. In the event of any subsequent revisions or changes thereto, ABB assumes no responsibility for compliance therewith. If Purchaser desires a modification as a result of any such change or revision, it shall be treated as a change per Article 4. Nothing contained herein shall be construed as imposing responsibility or liability upon ABB for obtaining any permits, licenses or approvals from any agency required in connection with the supply, erection or operation of the Equipment. This Agreement shall in all respects be governed by, and construed, interpreted and enforced in accordance with the laws of the State of New York, USA, excluding its conflicts of laws rules and the provisions of the United Nations Convention on Contracts for the International Sale of Goods, and both parties hereby agree that any litigation concerning, arising out of, or related to this Agreement, whether claims are based on contract, tort, equity or otherwise,



shall be conducted only in the state or federal courts functioning in the State of New York, New York County and waive the defense of an inconvenient forum in respect to any such litigation. If any provision hereof, partly or completely, shall be held invalid or unenforceable, such invalidity or unenforceability shall not affect any other provision or portion hereof and these terms shall be construed as if such invalid or unenforceable provision or portion thereof had never existed.

13. OSHA.

ABB warrants that the Equipment will comply with the relevant standards of the Occupational Safety and Health Act of 1970 ("OSHA") and the regulations promulgated thereunder as of the date of the Proposal. Upon prompt written notice from the Purchaser of a breach of this warranty, ABB will replace the affected part or modify it so that it conforms to such standard or regulation. ABB's obligation shall be limited to such replacement or modification. In no event shall ABB be responsible for liability arising out of the violation of any OSHA standards relating to or caused by Purchaser's design, location, operation, or maintenance of the Equipment, its use in association with other equipment of Purchaser, or the alteration of the Equipment by any party other than ABB.

14. Software License. (a) ABB owns all rights in or has the right to sublicense all of the Software, if any, to be delivered to Purchaser under this Agreement. As part of the sale made hereunder Purchaser hereby obtains a limited license to use the Software, subject to the following: (i) the Software may be used only in conjunction with equipment specified by ABB; (ii) the Software shall be kept strictly confidential; (iii) the Software shall not be copied, reverse engineered, or modified; (iv) the Purchaser's right to use the Software shall terminate immediately when the specified equipment is no longer used by the Purchaser or when otherwise terminated, e.g. for breach, hereunder; and (v) the rights to use the Software are non-exclusive and non-transferable, except with ABB's prior written consent.

(b) Nothing in this Agreement shall be deemed to convey to Purchaser any title to or ownership in the Software or the intellectual property contained therein in whole or in part, nor to designate the Software a "work made for hire" under the Copyright Act, nor to confer upon any person who is not a named party to this Agreement any right or remedy under or by reason of this Agreement. In the event of termination of this License, Purchaser shall immediately cease using the Software and, without retaining any copies, notes or excerpts thereof, return to ABB the Software and all copies thereof and shall remove all machine-readable Software from all of Purchaser's storage media.

15. Intellectual Property, Inventions and Information.

(a) "Intellectual Property Rights" means all current and future rights in copyrights, trade secrets, trademarks, mask works, patents, design rights, trade dress, and any other intellectual property rights that may exist anywhere in the world, including, in each case whether unregistered, registered or comprising an application for registration, and all rights and forms of protection of a similar nature or having equivalent or similar effect to any of the foregoing. "Technology" means all inventions, discoveries, ideas, concepts, methods, code, executables, manufacturing processes, unique compositions, mask works, designs, marks, and works of authorship fixed in the medium of expression, and materials pertaining to any of the preceding; whether or not patentable, copyrightable or subject to other forms of protection.

(b) ABB shall maintain all right, title and interest in any Technology and Intellectual Property Rights that ABB owned, created, conceived or discovered prior to entering into this Agreement, or owns, creates or discovers separately from the activities contemplated by this Agreement. Unless otherwise agreed in writing by ABB and Purchaser, ABB shall have all right, title and interest in any Technology and Intellectual Property Rights that ABB creates, conceives or discovers in furtherance of this Agreement, and ABB shall have all right, title and interest in any Technology and Intellectual Property Rights embodied in the Equipment and Services. Any design, manufacturing drawings or other information submitted to the Purchaser remains the exclusive property of ABB. Purchaser shall not, without ABB's prior written consent, copy or disclose such information to a third party, unless required by a public information request from a governmental body. Such information shall be used solely for the operation or maintenance of the Equipment and not for any other purpose, including the duplication thereof in whole or in part.

16. Force Majeure.

ABB shall neither be liable for loss, damage, detention or delay nor be deemed to be in default for failure to perform when prevented from doing so by causes beyond its reasonable control including but not limited to acts of war (declared or undeclared), delays attributable to outbreaks, epidemics and pandemics (including any variations),

Acts of God, fire, strike, labor difficulties, acts or omissions of any governmental authority or of Purchaser, compliance with government regulations, insurrection or riot, embargo, delays or shortages in transportation or inability to obtain necessary labor, materials, or manufacturing facilities from usual sources or from defects or delays in the performance of its suppliers or subcontractors due to any of the foregoing enumerated causes. In the event of delay due to any such cause, the date of delivery will be extended by period equal to the delay plus a reasonable time to resume production, and the price will be adjusted to compensate ABB for such delay.

17. Cancellation.

Special order, custom designed, and made-to-order Equipment are non-cancellable and non-returnable. Any other purchase order may be cancelled by Purchaser only upon prior written notice and payment of termination charges as set forth in the cancellation schedule included in the Proposal or payment of, including but not limited to, the purchase price of the work performed prior to the effective date of notice of termination, the costs identified to the purchase order incurred by ABB for work not completed, and all expenses incurred by ABB attributable to the termination, plus a fixed sum of ten (10) percent of the final total price to compensate for disruption in scheduling, planned production and other indirect costs.

18. Termination.

(a) No termination by Purchaser for material default shall be effective unless, within fifteen (15) days after receipt by ABB of Purchaser's written notice specifying such default, ABB shall have failed to initiate and pursue with due diligence correction of such specified default.

(b) If the event of termination for a material default, ABB shall reimburse Purchaser the difference between that portion of the Agreement price allocable to the terminated scope and the actual amounts reasonably incurred by Purchaser to complete that scope, and Purchaser shall pay to ABB the portion of the Agreement price allocable to Equipment completed and any amounts due for Services performed before the effective date of termination.

(c) ABB may terminate the Agreement (or any affected portion thereof) immediately for cause if Purchaser becomes insolvent/bankrupt, or materially breaches the Agreement, including, but not limited to, failure or delay in Purchaser making any payment when due, or fulfilling any payment conditions.

19. Export Control.

(a) The following definitions apply to this Article 19:
"Trade Control Laws" means all applicable trade and economic sanctions laws and regulations, specifically including but not limited to the U.S. International Traffic in Arms Regulations ("ITAR"), 22 C.F.R. 120 et seq.; the Export Administration Regulations ("EAR"), 15 C.F.R. 730-774; the Foreign Assets Control Regulations ("FACR"), 31 C.F.R. 500-598; the Foreign Trade Regulations ("FTR"), 15 C.F.R. 30-199; and, any administrative or regulatory decisions or guidelines adopted pursuant to Trade Control Laws.
"Purchaser Entities" means Purchaser's officers, directors, employees, parent company, subsidiaries and other affiliates, and if the Equipment, Software and/or Services are subject to resale or other distribution, Purchaser's customers and end-users of the same.

(b) Purchaser shall comply in all respects with Trade Control laws and shall not export, re-export, transfer, disclose or otherwise provide or make accessible the Equipment, Software, data or other information provided to Purchaser by ABB hereunder, to any non-U.S. person or entity (including Purchaser's dual and/or third-country national employees or third party contractors) without first complying with all requirements of the applicable Trade Control Laws. If Purchaser is a U.S. entity and is engaged in the business of either exporting or manufacturing (whether exporting or not) Defense Articles or furnishing Defense Services as defined in the ITAR, Purchaser represents that it shall maintain an active registration with the U.S. Department of State's Directorate of Defense Trade Controls ("DDTC"), as required by the ITAR, throughout the performance of this Contract, and that it maintains an effective export and import compliance program in accordance with the ITAR. If Purchaser is a U.S. entity and will export ABB's Equipment, Software, and/or data, Purchaser will be considered an exporter within the meaning of the U.S. export regulations. Therefore, ABB should not be listed as the exporter or U.S. Principal Party in Interest ("USPPI") on any documentation or filings relating to any export. Purchaser acknowledges it's acting on its own behalf and not as ABB's agent for export or any other purposes.

(c) Purchaser represents and warrants that the Equipment, Software and Services provided hereunder, and the "direct product" thereof are intended for civil use only and will not be used, directly or indirectly, for the production of chemical or biological

weapons or of precursor chemicals for such weapons, or for any direct or indirect nuclear end use or any other end use prohibited by Trade Control Laws.

(d) Purchaser represents and warrants that: (1) neither Purchaser nor any Purchaser Entity is included on any of the restricted party lists maintained by the U.S. Government, including the Specially Designated Nationals List administered by the U.S. Treasury Department's Office of Foreign Assets Control ("OFAC"), Denied Parties List, Unverified List or Entity List maintained by the U.S. Commerce Department's Bureau of Industry and Security ("BIS"), or the List of Statutorily Debarred Parties maintained by the U.S. State Department's Directorate of Defense Trade Controls, listed in the ITAR §126.1 Restricted Parties List, or the consolidated list of asset freeze targets designated by the United Nations, European Union, and United States or any similar list maintained by the European Union or European member state (collectively "Restricted Parties List"); and (2) no entity or person listed on the Restricted Parties List (or owned directly or indirectly, in whole or in part, by an entity or person on the Restricted Parties List) has any property, financial or other interest in the Equipment, Software or Services, and that the same shall not be transferred, reexported, disclosed to or otherwise provided to an entity or person on the Restricted Parties List. Purchaser shall notify ABB immediately if Purchaser or a Purchaser Entity becomes listed on the Restricted Party List.

(e) Purchaser shall notify ABB immediately upon awareness of any breach or suspected breach of this Article 19. Any violation of Purchaser's obligations under this Article 19 is a material breach of this Agreement and ABB reserves the right to terminate the Agreement immediately upon written notice for Purchaser's default. Purchaser shall indemnify, defend and hold harmless ABB, its officers, directors, employees, agents, affiliates, successors, and permitted assigns from and against all claims, causes of action, damages, liabilities, and expenses, including attorney's fees arising from Purchaser's breach of this Article 19 and any resulting termination of this Agreement.

(f) If agreed to by the Parties pursuant to a written statement of work or elsewhere in this Agreement, ABB shall file for a U.S. export license, but only after appropriate documentation for the license application has been provided by Purchaser. Purchaser shall furnish such documentation within a reasonable time after purchase order acceptance. Any delay in obtaining such license shall suspend performance of this Agreement by ABB. If an export license is not granted or, if once granted, is thereafter revoked or modified by the appropriate authorities, this Agreement may be canceled by ABB without liability for damages of any kind resulting from such cancellation. At ABB's request, Purchaser shall provide to ABB a Letter of Assurance and End-User Statement in a form reasonably satisfactory to ABB.

(g) When applicable, the party considered the exporter of the Equipment, Software, Services and/or data, will apply for the export license in compliance with all applicable Trade Control Laws. If ABB is the applicant of the export license, the Purchaser agrees to immediately provide all the necessary information and documentation (i.e. End-User/End-Use Certificate and Letter of Assurance) required to apply for the license. If an export license is denied or revoked, the applicant must notify the other party immediately and this Agreement may be terminated by ABB without liability for damages of any kind resulting from such termination.

20. Trade Controls

a) The Parties agree to comply with all applicable sanctions and export control laws in connection with this Agreement. Sanctions and export control laws and regulations include any applicable laws, regulations, or administrative or regulatory decisions or guidelines that sanction, prohibit or restrict certain activities including, but not limited to, (i) import, export, re-export, transfer, or trans-shipment of goods, services, technology, or software; (ii) financing of, investment in, or direct or indirect transactions or dealings with certain countries, territories, regions, governments, projects, or specifically designated persons or entities, including any future amendments to these provisions; or (iii) any other laws, regulations, administrative or regulatory decisions, or guidelines adopted, maintained, or enforced by any Sanctions Agency on or after the date of the [Individual Order] (collectively, "Trade Control Laws"). "Sanctions Agency" means any governmental or regulatory body, instrumentality, authority, institution, agency or court that promulgates or administers Trade Control Laws including, but not limited to, the aforementioned governmental and regulatory bodies of (i) the United Nations, (ii) the United States of America (including the U.S. Department of Treasury Office of Foreign Assets Control, U.S. Department of State, and U.S. Department of Commerce), (iii) the European Union or (iv) Switzerland.

(b) The Parties confirm that they have not violated, shall not violate, and shall not cause the other Party to violate, any applicable Trade Control Laws. Each Party represents and warrants that, to the best of its knowledge, at the date of the [Individual Order] neither it, nor any of their respective directors or officers are a Restricted Person. Each Party agrees that it shall promptly notify the other Party if it becomes a Restricted Person.

"Restricted Person" means any entity or person included on a list (including U.S. and EU lists) of targeted parties, blocked parties, or persons subject to asset-freezing or other restrictions introduced under any applicable Trade Control Laws (and includes any entity that is directly or indirectly owned fifty (50) percent or more, in the aggregate or individually, or otherwise controlled by any Restricted Person).

(c) If, as a result of Trade Control Laws issued or amended after the date of the [Individual Order], including, but not limited to, (i) the Purchaser or the end-user is/becomes a Restricted Person, or (ii) any necessary export license or authorization from a Sanctions Agency is not granted, the performance by ABB or any of its affiliates becomes illegal or impracticable, ABB shall be entitled to either immediately suspend the performance of the affected obligation under the [Individual Order] until such time as ABB may lawfully discharge such obligation or unilaterally terminate the [Individual Order] in whole or in part. ABB will not be liable to the Purchaser for any costs, expenses or damages associated with such suspension or termination of the [Individual Order].

(d) The Parties undertake to obtain all the necessary licenses and/or permits from the competent authorities for the import or export, re-export, or in-country transfer of Equipment and Services. Equipment and Software, and the "direct product" thereof, that originate from the United States are subject to the U.S. Export Administration Regulations ("EAR") and must not be exported, re-exported, or transferred (in-country) without obtaining the necessary valid licenses/authorizations of the competent US authorities. At ABB's request, Purchaser shall provide to ABB a Letter of Assurance and End-User Statement in a form reasonably satisfactory to ABB.

(e) The Purchaser represents and warrants that the Equipment and Services are for civil use only. The Purchaser further represents that it will not directly or indirectly sell, export, re-export, release, transmit or otherwise transfer any items received from ABB to any Restricted Parties, or parties that operate, or whose end use will be, in a jurisdiction/region prohibited by ABB including Belarus, Crimea, Cuba, Iran, North Korea, Russia, Syria, as well as the Donetsk, Luhansk, Kherson, and Zaporizhzhia regions of Ukraine (such list may be amended by ABB at any time).

(f) If the Purchaser infringes any obligations in this Trade Controls clause in connection with the [Individual Order], the Purchaser must immediately notify ABB. Failure to comply with these Trade Compliance obligations shall be considered a material breach, and ABB shall have the right to unilaterally terminate the Agreement with immediate effect. Such termination would be without prejudice to all rights of recourse which could be exercised by ABB, and ABB shall not be liable to Purchaser for any claim, losses or damages whatsoever related to its decision to terminate performance under this provision. Further, Purchaser shall indemnify ABB for all liabilities, damages, costs, or expenses incurred as a result of any such violation, breach and/or termination of the Agreement. ABB may report such violations to relevant authorities as required by applicable Trade Control Laws.

(g) For the avoidance of doubt, no provision in this Agreement shall be interpreted or applied in a way that would require any Party to do, or refrain from doing, any act which would constitute a violation of, or result in a loss of economic benefit under, applicable Trade Control Laws.

21. Bribery and Corruption

(a) Purchaser hereby warrants that it will not, directly or indirectly, and it has no knowledge that other persons will, directly or indirectly, make any payment, gift or other commitment to its customers, to government officials or to agents, directors and employees of Seller or any other party in a manner contrary to applicable laws (including but not limited to the Corruption of Foreign Public Officials Act (Canada), the Foreign Corrupt Practices Act (United States) and, where applicable, legislation enacted by member States and signatories implementing the OECD Convention Combating Bribery of Foreign Officials) and shall comply with all relevant laws, regulations, ordinances and rules regarding bribery and corruption.

(b) Nothing hereunder shall render Seller liable to reimburse Purchaser for any such consideration given or promised.

(c) Purchaser's material violation of any of the obligations contained in Article 20(a) above may be considered by Seller to be a material breach hereunder and shall entitle Seller to terminate this agreement with immediate effect and without prejudice to any further right or remedies on the part of Seller hereunder or applicable law. Purchaser shall indemnify Seller for all liabilities, damages, costs or expenses incurred as a result of any such violation of the above-mentioned obligations and termination of this agreement.

(d) Purchaser understands that Seller's Code of Conduct is available for consultation online at <http://www.abb.com/integrity>. Purchaser agrees to perform its contractual obligations hereunder with substantially similar standards of ethical behavior as those found in Supplier's Code of Conduct.

(e) Seller has established the following reporting channels where Purchaser and its employees may report suspected violations of applicable laws,

policies or standards of conduct:
Web portal: www.abb.com/integrity
Telephone: number specified on the above Web portal
Mail: address specified on the above Web portal

22. Assignment.

Any assignment of this Agreement or of any rights or obligations under the Agreement without prior written consent of ABB shall be void.

23. Nuclear.

Equipment and Services sold hereunder are not intended for use in connection with any nuclear facility or activity, and Purchaser warrants that it shall not use or permit others to use Equipment or Services for such purposes, without the advance written consent of ABB. If, in breach of this, any such use occurs, ABB (and its parent, affiliates, suppliers and subcontractors) disclaims all liability for any nuclear or other damage, injury or contamination, including without limitation any physical damage to a nuclear facility itself, resulting from a nuclear incident and, in addition to any other rights of ABB, Purchaser shall indemnify and hold ABB (and its parent, affiliates, suppliers and subcontractors) harmless against all such liability including, but not limited to, any physical damage to the nuclear facility or surrounding properties, if any. Consent of ABB to any such use, if any, will be conditioned upon additional terms and conditions that ABB determines to be acceptable for protection against nuclear liability including but not limited to the requirement that the Purchaser and/or its end user customer shall have complete insurance protection against liability and property damage including without limitation physical damage to a nuclear facility itself or any surrounding properties, if any, resulting from a nuclear incident and shall indemnify ABB, its subcontractors, suppliers and vendors against all claims resulting from a nuclear incident including, but not limited to, any physical damage to the nuclear facility.

24. Resale.

If Purchaser resells any of the Equipment or Services, the sale terms shall limit ABB's liability to the buyer to the same extent that ABB's liability to Purchaser is limited hereunder. Additionally, if the end-user intends to use the Equipment or Services in connection with any nuclear facility or activity, the Purchaser shall require the end-user comply with the financial requirements under Price-Anderson Act (PAA) and secure a written release of liability which flows from the end-user to the benefit of ABB.

25. Environmental, Health and Safety Matters.

(a) Purchaser shall be obligated to maintain safe working conditions at its facility or location (the "Site"), including the implementing of appropriate procedures regarding Hazardous Materials, confined space entry, and energization and de-energization of power systems (electrical, mechanical and hydraulic) using safe and effective lock- out/tag-out ("LOTO") procedures including physical LOTO or a mutually agreed upon alternative method.

(b) Purchaser shall immediately advise ABB in writing of all applicable Site-specific health, safety, security and environmental requirements and procedures. Without limiting Purchaser's responsibilities hereunder, ABB has the right but not the obligation to, from time to time, review, audit and inspect applicable health, safety, security and environmental documentation, procedures and conditions at the Site.

(c) If, in ABB's reasonable opinion, the health, safety, or security of personnel or the Site is, or is likely to be, imperiled by security risks, the presence of or threat of exposure to Hazardous Materials, or unsafe working conditions, ABB may, in addition to other rights or remedies available to it, remove some or all of its personnel from Site, suspend performance of all or any part of the purchase order, and/or remotely perform or supervise work. Any such occurrence shall be considered a Force Majeure event. Purchaser shall reasonably assist in ensuring the safe departure of personnel from the Site.

(d) Purchaser shall not require or permit ABB's personnel to operate Purchaser's equipment at Site.

(e) Purchaser will make its Site medical facilities and resources reasonably available to ABB personnel who need medical attention.

(f) ABB has no responsibility or liability for the pre-existing condition of Purchaser's equipment or the Site, which is the sole responsibility of Purchaser. Prior to ABB starting any work at Site, Purchaser will provide documentation that identifies the presence and condition of any Hazardous Materials existing in or about Purchaser's equipment or the Site that ABB may encounter while performing under this Agreement. The provision of such documentation shall in no way release Purchaser from its responsibility for said conditions. Purchaser shall disclose to ABB industrial hygiene and environmental monitoring data regarding conditions that may affect ABB's work or personnel at the Site. Purchaser shall keep ABB informed of changes in any such conditions.

(g) ABB shall promptly notify Purchaser if ABB becomes aware of: (i) conditions at the Site differing materially from those disclosed by Purchaser,

or (ii) previously unknown physical conditions at Site differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Agreement. If any such conditions cause an increase in ABB's cost of, or the time required for, performance of any part of the work under the Agreement, an equitable adjustment in price and schedule shall be made.

(h) If ABB encounters Hazardous Materials in Purchaser's equipment or at the Site that require special handling or disposal, ABB is not obligated to continue work affected by the hazardous conditions. In such an event, Purchaser shall at its sole cost and expense eliminate the hazardous conditions in accordance with applicable laws and regulations so that ABB's work under the Agreement may safely proceed, and ABB shall be entitled to an equitable adjustment of the price and schedule to compensate for any increase in ABB's cost of, or time required for, performance of any part of the work. Purchaser shall properly store, transport and dispose of all Hazardous Materials introduced, produced or generated in the course of ABB's work at the Site.

(i) Purchaser shall indemnify ABB for any and all claims, damages, losses, and expenses arising out of or relating to any Hazardous Materials which are or were (i) present in or about Purchaser's equipment or the Site prior to the commencement of ABB's work, (ii) improperly handled or disposed of by Purchaser or Purchaser's employees, agents, contractors or subcontractors, or (iii) brought, generated, produced or released on Site by parties other than ABB.

26. Confidentiality.

a) ABB and Purchaser (as to information disclosed, the "Disclosing Party") may each provide the other party (as to information received, the "Receiving Party") with Confidential Information in connection with this Agreement. "Confidential Information" means (a) information that is designated in writing as "confidential" or "proprietary" by Disclosing Party at the time of written disclosure, and (b) information that is orally designated as "confidential" or "proprietary" by Disclosing Party at the time of oral or visual disclosure and is confirmed to be "confidential" or "proprietary" in writing within fifteen (15) days after the oral or visual disclosure. In addition, prices for Products and Services shall be considered ABB's Confidential Information.

(b) Receiving Party agrees: (i) to use the Confidential Information only in connection with the Agreement and use of Products and Services, (ii) to take reasonable measures to prevent disclosure of the Confidential Information to third parties, and (iii) not to disclose the Confidential Information to a competitor of Disclosing Party. Notwithstanding these restrictions, each party shall permit access to the other's Confidential Information only to its employees who: (i) reasonably require access to Confidential Information for purposes approved by this Agreement, and (ii) have undertaken a binding obligation of confidentiality with respect to the confidential information of others entrusted to him or her, and (iii) have been apprised of the confidentiality obligations hereunder. ABB may disclose Confidential Information to its affiliates and subcontractors in connection with performance of the purchase order. A Receiving Party may only disclose Confidential Information to any other third party with the prior written permission of Disclosing Party, and in each case, only so long as the Receiving Party obtains a non-disclosure commitment from any such third party that prohibits disclosure of the Confidential Information and provided further that the Receiving Party remains responsible for any unauthorized use or disclosure of the Confidential Information. Receiving Party shall upon request return to Disclosing Party or destroy all copies of Confidential Information except to the extent that a specific provision of the Agreement entitles Receiving Party to retain an item of Confidential Information. ABB may also retain one archive copy of Purchaser's Confidential Information.

(c) The obligations under this Article 25 shall not apply to any portion of the Confidential Information that: (i) is or becomes generally available to the public other than as a result of disclosure by Receiving Party, its representatives or its affiliates; (ii) is or becomes available to Receiving Party on a non-confidential basis from a source other than Disclosing Party when the source is not, to the best of Receiving Party's knowledge, subject to a confidentiality obligation to Disclosing Party; (iii) is independently developed by Receiving Party, its representatives or affiliates, without reference to the Confidential Information; (iv) is required to be disclosed by law or valid legal process provided that the Receiving Party intending to make disclosure in response to such requirements or process shall promptly notify the Disclosing Party in advance of such disclosure and reasonably cooperate in attempts to maintain the confidentiality of the Confidential Information.

(d) As to any individual item of Confidential Information, the restrictions under this Article 25 shall expire five (5) years after the date of disclosure. This Article 25 does not supersede any separate confidentiality or nondisclosure agreement signed by the parties.

27. Non-Survival.

The following Articles shall not survive termination or cancellation of this Agreement: 5, 7, 8, 17 and 18. All other Articles shall survive the termination or cancellation of the Agreement.

28. Entire Agreement.

This Agreement constitutes the entire agreement between ABB and Purchaser. There are no agreements, understandings, restrictions, warranties, or representations between ABB and Purchaser other than those set forth herein or herein provided. As stated in Article 1 of this Agreement, ABB's Proposal, Policies, Addendum(s), if any, submitted to Purchaser, shall control over any conflicting terms. ABB specifically rejects any exceptions to this Agreement, Proposals, Policies, and/or Addendum(s) on the face of any purchase order. Purchaser shall advise ABB in writing of all conflicts, errors, omissions, or discrepancies among the Proposal, Policies, Addendum(s) and this Agreement immediately upon discovery. This Agreement shall supersede any standard, preprinted terms and conditions that are automatically attached to purchase orders issued by Purchaser.

29. US Government Contracts.

This Article 28 applies only if the Agreement is for the direct or indirect sale, or is funded in whole or in part by, an agency of the U.S. federal government, or a state government, or any other U.S. government instrumentality or political subdivision (collectively "U.S. government entity").

Unless otherwise expressly stated and specifically agreed in ABB's Proposal:

(a) Purchaser agrees that:

(i) all Equipment, Software, and Services provided by ABB meet the definition of "commercial-off-the-shelf" ("COTS") or "commercial product" or "commercial service" or "commercial computer software" as those terms are defined in Federal Acquisition Regulation ("FAR") 2.101.

(ii) ABB technical data and computer software are developed at ABB's private expense and not in performance of the Agreement. ABB retains ownership and proprietary rights in all technical data and computer software provided to Purchaser under the Agreement and under a U.S. Government contract or subcontract. Neither the Purchaser, the U.S. Government nor any higher-tier contractor under a U.S. Government contract will obtain any rights in ABB technical data or computer software beyond the rights provided under ABB's standard commercial licenses consistent with FAR 12.211 and 12.212.

(iii) to the extent the Buy American Act (41 U.S.C. §§ 8301 – 8305, as amended), Trade Agreements Act (19 U.S.C. §§ 2501 – 2581, as amended), Build America, Buy America(Pub. L. 117-58, December 29, 2022, as amended) or other domestic preference requirements are applicable to this Agreement, the country of origin of Equipment or Software is unknown.

(iv) the version of any applicable FAR clause listed in this Article 28 shall be the one in effect on the effective date of this Agreement.

(b) If Purchaser is an agency of the U.S. Government, then as permitted by FAR 12.302, Purchaser agrees that:

(i) all paragraphs of FAR 52.212-4 (except those listed in 12.302(b)) are replaced with these Terms and Conditions.

(ii) only the clauses identified in FAR 52.212-5 apply and only to the extent applicable for sale of COTS and/or commercial products and/or commercial services and as appropriate for the purchase order price.

(iii) any Services offered by ABB are exempt from the Service Contract Act of 1965 (41 U.S.C. §§ 6701 - 6707, as amended).

(iv) all other U.S. Government agency contract provisions are rejected.

(c) If Purchaser is procuring as a contractor, or subcontractor at any tier, on behalf of an agency of a U.S. government entity, then Purchaser agrees that:

(i) only the clauses identified in FAR 52.212-5(e)(1) or 52.244-6(c)(1) (whichever is applicable) apply and only to the extent applicable for sale of COTS and/or commercial products and/or services and as appropriate for the purchase order price.

(ii) Purchaser shall notify ABB prior to transmitting any Controlled Unclassified Information ("CUI") to ABB, and only upon written authorization by ABB may Purchaser transmit CUI to ABB. Purchaser shall transmit CUI to ABB in accordance with applicable CUI safeguarding and/or dissemination authority requirements.

(iii) prevailing wage and related public works labor and employment laws or regulations are not applicable to ABB's services offered in the Proposal.

(iv) Purchaser is solely responsible for its obligations to its customer(s), including validating that ABB's Proposal fulfills Purchaser's U.S. Government contracting obligations, if any. To the extent the terms and conditions of Purchaser's customer contract(s) are different from the terms and conditions of this Agreement, Purchaser shall defend, indemnify and hold ABB harmless from and against all losses, liabilities, cost, expense (including attorney's fees and expenses of litigation and/or settlement), damages, allegations, claims, causes of action and judgments resulting from such difference. In no event will Purchaser withhold payment due to ABB for any dispute or liability incurred between Purchaser and its customer(s).

30. Data Protection.

(a) The parties agree that the protection of Personal Data is very important. If Purchaser discloses Personal Data to ABB, ABB shall comply with all applicable data protection laws and regulations. Purchaser shall comply with all applicable data protection laws and regulations in respect of any Personal Data it receives from ABB in the course of receiving the Equipment or Services.

(b) The parties agree that neither will withhold or delay its consent to any changes to this clause which are required to be made in order to comply with applicable data protection laws and regulations and/or with guidelines and order from any competent supervisory authority, and their application to the Equipment or Services from time to time, and agrees to implement any such changes at no additional cost to the other party.

(c) The parties acknowledge that the processing of Personal Data in accordance with this purchase order may require the conclusion of additional data processing agreements or additional data protection agreements. If and to the extent such additional data processing agreements or additional data protection agreements are not initially concluded as part of the purchase order, the parties shall, and shall ensure that their relevant affiliates or subcontractors shall, upon the other's request promptly enter into any such agreement with an affiliate, as designated by the other party and as required by mandatory law or a competent data protection or other competent authority.