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Tmax Link Assembler Program

Program overview

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Agenda

What is the Tmax Link Assembler Program?

Benefits

Equipment’s features

How to get it

What is provided by ABB

Tmax Link Assembler Program

What is it? Basic overview

Easy to manufacture

Thanks to their shrewd design, panelboard and switchboard can be produced in a fast and simple way

Mounting straps are in common and no castings, special molded components or special processes are required for their construction

Standoff insulators and consumable have been chosen among the most commonly available on the market

Financial risk reduction

Adopting the program enables to save design expenses using money only to cover production and certification costs

Manufacturer has increased production capabilities, value-add and ownership of the supply chain to offer the shortest possible lead-times

Enhanced competitiveness

Tmax Link design is based on Tmax XT Molded Case Circuit-Breakers (MCCBs) product line, that represents the state of the art in circuit-breaker world

Maximum configuration flexibility combined with the compactness of the design makes these breakers the perfect mates for a successful business

Versatility

No limitation in the use of 100% rated breakers, 1.25" and 1.38" hole spacing design for Switchboard vertical bus, 100A - 1200A frame breakers available in 28", 32" or 38" wide sections are just few of the many options that make this design suitable for any kind of installation need.

Tmax Link Assembler Program

What is it? Basic overview

- A process for Distribution Equipment Manufacturers (DEMs) to use ABB's UL listed design for switchboards (UL 891) and power panelboards (UL 67) under an Assembler Program
- Allows DEMs to achieve an UL certification under their own brand name
- The DEM will then be able to design and manufacture UL 891 switchboards and/or UL 67 power panelboards without the need of design and test
- With Tmax Link, the manufacturer has the ownership of the supply chain to offer the shortest possible lead-times
- Tmax Link group mount design was tested based on UL 891 standard bus density (1000A per sq. in for copper bus & 750A/sq. in for aluminum bus)

Performance

UL interrupting ratings









		A1	A2	XT1	XT2	XT3	XT4	XT5	XT6	XT7-XT7M
In	**[A]**	100	250	15 - 125	10 - 125	60 - 225	25 - 250	400-600	800	800-1200
240 V AC	**[kA]**	25	25	100	200	65	200	200	200	200
480 V AC	**[kA]**	-	-	65	200	35	200	200	65	150
600 V AC	**[kA]**	-	-	25	42	10	100	100	25	65

Tmax Link Assembler Program

Benefits

Commonalities

- Designed for the Tmax XT and Formula families of ABB circuit breakers
- Easy to manufacture mounting straps (no castings, special molded components or special processes are required)
- Universal strap kits for both switchboards and panelboards
- Commonly available stand off insulators
- No limitation in the use of 100% rated breakers
- Possibility to install a communication network down to branch level

Panelboard

- 1.375" hole spacing design for vertical bus
- Main vert. breaker from 250A to 1200A
- 3 phase, 3 wire
- 3 phase, 4 wire (100% rated neutral)

Switchboard

- 1.25" and 1.38" hole spacing designs for vertical bus
- XT5 600A dual mount in 40” construction(1)
- 3phase 3 wires construction

(1) Not yet released

Tmax Link Assembler Program

Equipment features

Withstand and sc ratings

The Tmax Link bus bracing design has a standard short circuit withstand rating of 65kA RMS at 240VAC, 480VAC, and 600VAC

Rated voltage (+/-10%):	S.C.	240VAC	480VAC	600VAC
	65kA	MLO	MLO	MLO
Maximum short circuit ratings: MLO = main lugs only MCB = main circuit breaker Rated frequency (+/- 2%): 50/60Hz	100kA	MCB	MCB	MCB
	150kA	MCB	MCB	-
	200kA	MCB	MCB	-

Enclosure details

ABB has established the minimum widths to be used in the Tmax Link design based on UL wire bending space requirements and arcing distance test results

Mounting configuration	Breaker frame	Width
Dual	100A-250A	28" / 711mm
Dual	400A	38" / 965mm
Dual	600 A	40" / 1000mm
Single	250A-800A	28" / 711mm
Single	1000A - 1200A	32" / 812mm

Tmax Link Assembler Program

Equipment features

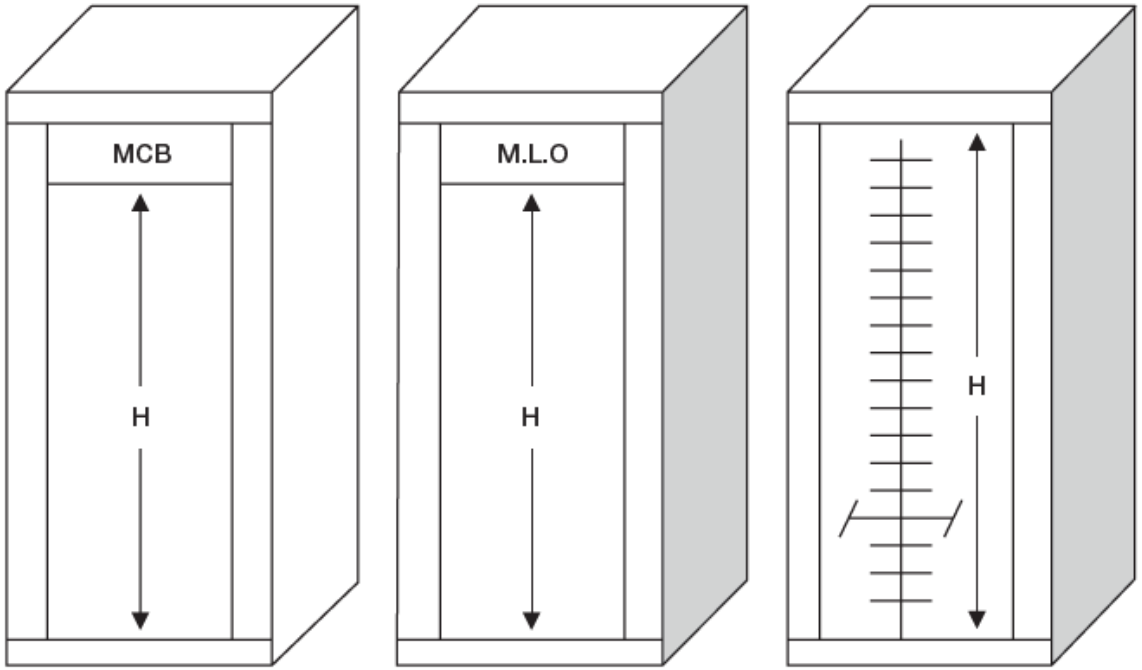
Switchboard layout

The height and depth of the enclosure is to be determined by the manufacturer and the application the switchboard will operate in:

- Interior height is 68.75” / 1,746mm

Depending on supply conditions:

- An integral (chassis mounted) main circuit breaker with group mounted feeder circuit breakers in one structure
- A main lug only supply connection with group mounted feeder circuit breakers
- A through-bus (horizontal/main bus) fed chassis with group mounted feeder circuit breakers



Tmax Link Assembler Program

Equipment features

Panelboard layout

- An integral (vertical or horizontal mounted) main circuit breaker with group mounted branch circuit breakers
- A main lug only (MLO) supply connection with group mounted branch circuit breakers
- Equipped with feed through or sub-feed lugs
- X= 1.375“ / 35mm

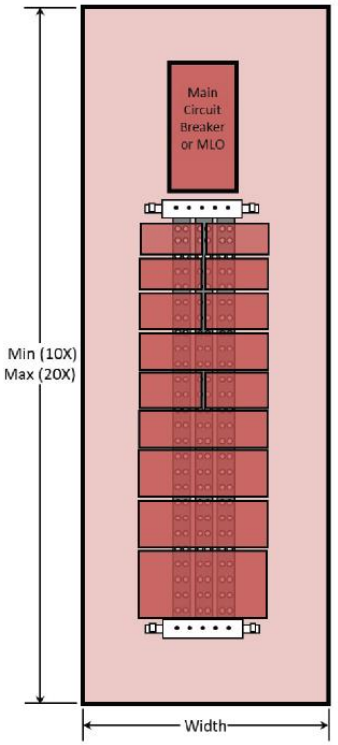
Vertical bus rating [A]	Tmax XT		10X	20X
400A	XT4	250A	34.25"	48.00"
400A	XT5	400A	34.25"	48.00"
600A	XT6	600A	39.50"	53.25"
800A	XT6	800A	43.25"	57.00"
1200A	XT7	1200A	48.00"	61.75"

Inches

	10X	20X
Min	34.25"	48.00"
Max	48.00"	61.75"

Millimeters

	10X	20X
Min	870mm	1220mm
Max	1220mm	1570mm

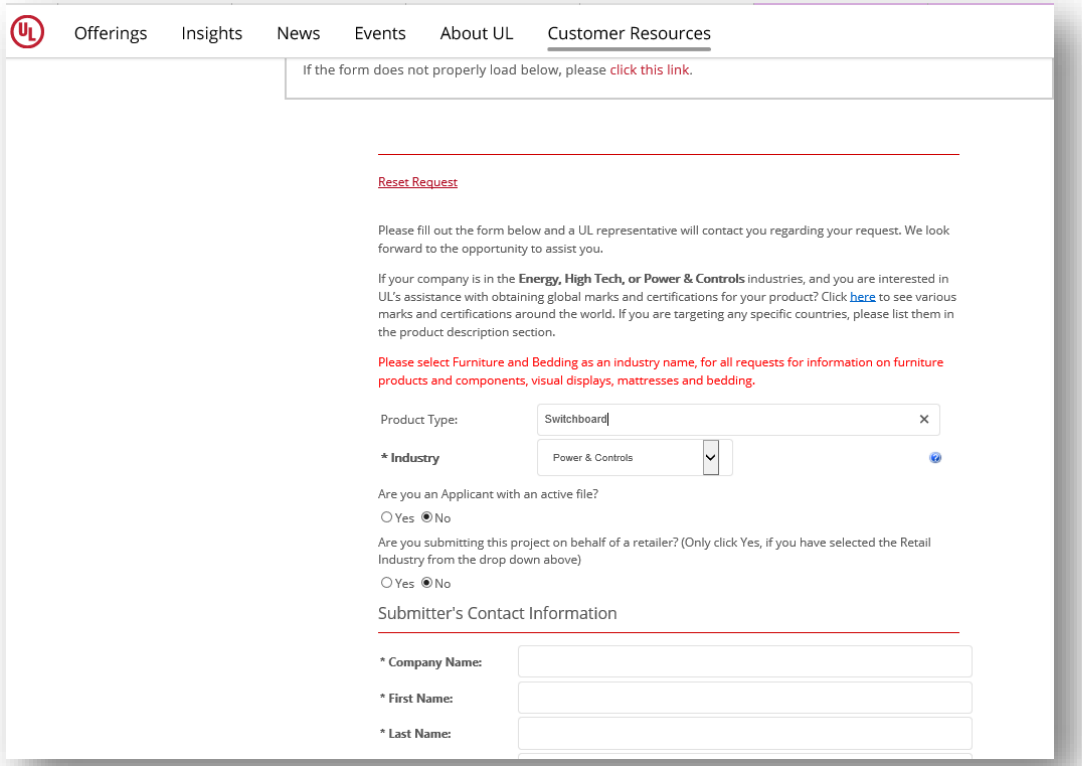


Tmax Link Assembler Program

How to get it?

Requirements

- Submit a request for quote to Underwriters Laboratories LLC under their existing MyHome page: https://www.ul.com/customer-resources/request-for-quote
- Enter requestor's contact information
- In product description request either the UL 891 Switchboard assembler program referencing File Number E466042 or UL 67 power panelboard File Number: E475757
- Attach any document with your request; such as a list of control components that will be used within your equipment
- Submit Request
- Allow for 2-3 days for quotation from UL

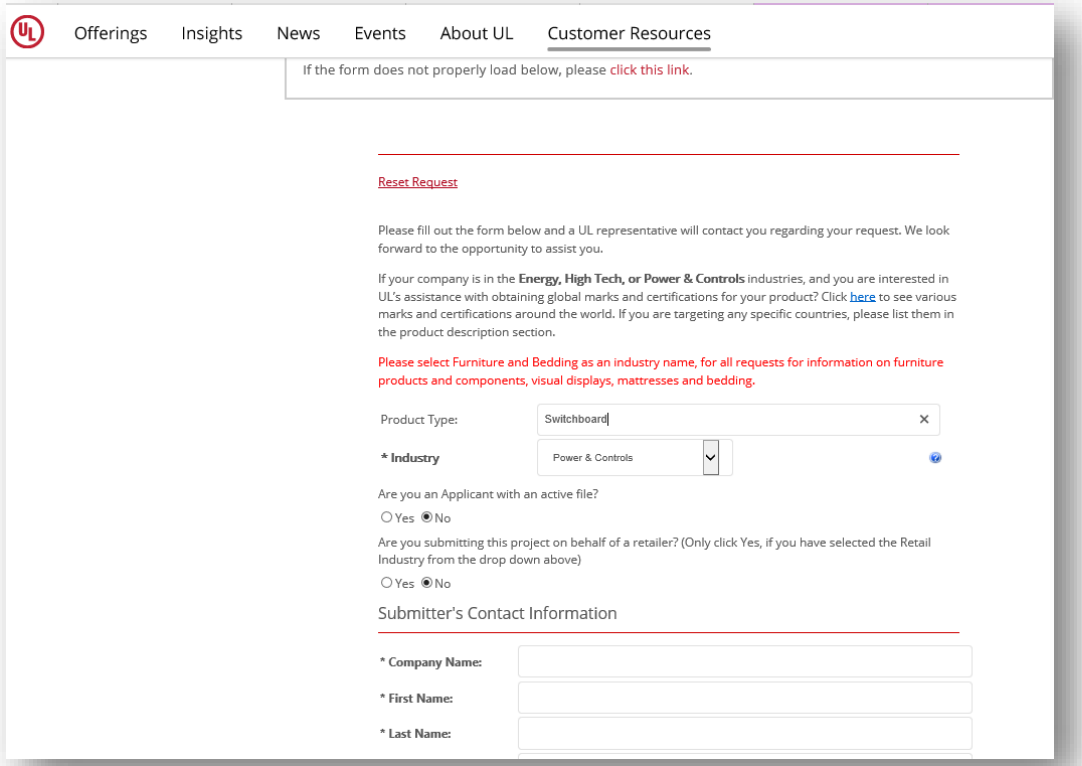


Tmax Link Assembler Program

How to get it?

Additional requirements

- Complete global service agreement with UL
- Estimated costs are based on the assumption that the applicant already has an active UL 891 file and are in good standing with UL. Estimated cost: $2,000
- Regular UL File maintenance and inspections (follow up services) is to be completed by customer



Tmax Link Assembler Program

What is provided by ABB?

Deliverables

Once approved by ABB R&D and UL, ABB will provide the following:

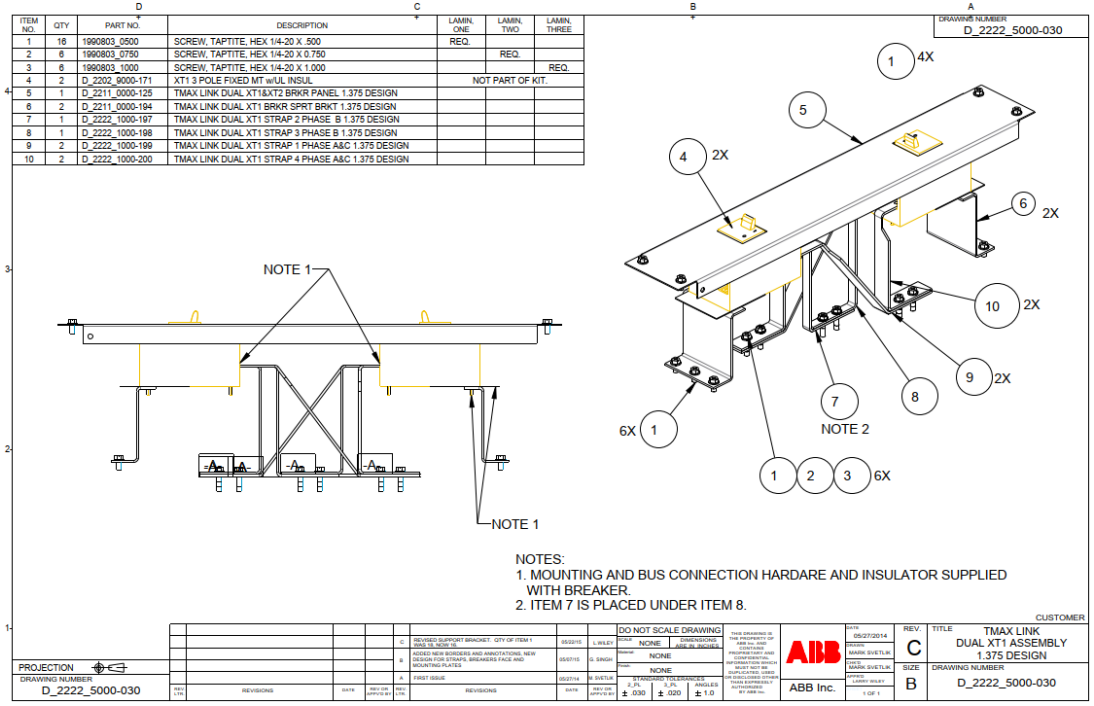
- Drawing package for the 1.375” hole space design + 1.25” hole spacing design for Group Mounted Section
  - Enclosure reference drawing
  - Interior reference drawing
  - Strap kit designs for Tmax XT (XT1 – XT4 / 125 – 250A) Tmax XT5 – XT7 (300 – 1200), and Formula (A1 and A2) including circuit breaker front covers
  - PDF, .dwg and .stp formats
  - Bill of material list
  - Installation guide

Tmax Link Assembler Program

What is provided by ABB?

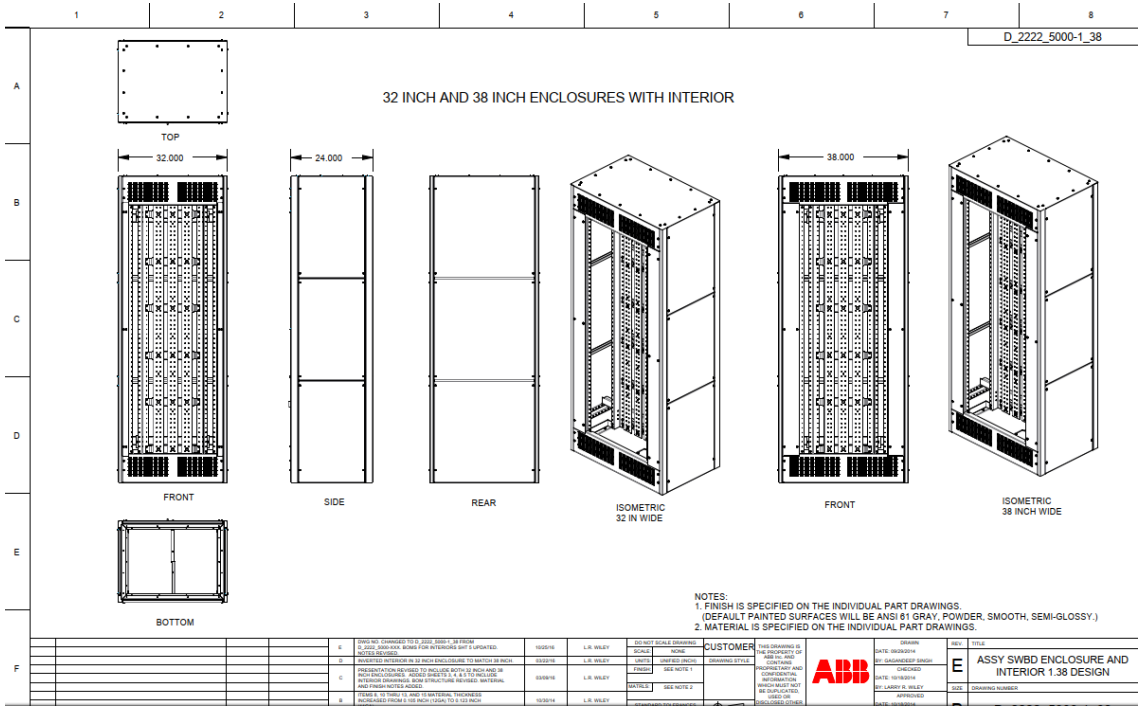
Deliverables

Strap kits for group mounted sections



ITEM NO.	QTY	PART NO.	DESCRIPTION	LAMIN. ONE	LAMIN. TWO	LAMIN. THREE
1	16	1990803_0500	SCREW, TAPTITE, HEX 1/4-20 X .500	REQ.		
2	6	1990803_0750	SCREW, TAPTITE, HEX 1/4-20 X 0.750		REQ.	
3	6	1990803_1000	SCREW, TAPTITE, HEX 1/4-20 X 1.000			REQ.
4	2	D_2202_9000-171	XT1 3 POLE FIXED MT w/UL INSUL	NOT PART OF KIT.		
5	1	D_2211_0000-125	TMAX LINK DUAL XT1&XT2 BRKR PANEL 1.375 DESIGN			
6	2	D_2211_0000-194	TMAX LINK DUAL XT1 BRKR SPRT BRKT 1.375 DESIGN			
7	1	D_2222_1000-197	TMAX LINK DUAL XT1 STRAP 2 PHASE B 1.375 DESIGN			
8	1	D_2222_1000-198	TMAX LINK DUAL XT1 STRAP 3 PHASE B 1.375 DESIGN			
9	2	D_2222_1000-199	TMAX LINK DUAL XT1 STRAP 1 PHASE A&C 1.375 DESIGN			
10	2	D_2222_1000-200	TMAX LINK DUAL XT1 STRAP 4 PHASE A&C 1.375 DESIGN			

Group mount enclosure and interior (reference only)

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