

# Busbar Supports Type UBS

**KENTAN**



**Low Voltage Switchboard Equipment**  
Publication UBS 2009

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Since product improvement is a continuing policy, we reserve the right to change specifications without notice.

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## Descriptive

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### Use

These are designed primarily for the support of vertical busbars in motor control centres and switchboards.

Supports are made for 6.35 and 10mm thick busbars. They compliment all composite plug-in switch-fuse units, moulded case circuit breakers and separate busplugs having contacts at 60mm phase centres.

### Ordering Information

Poles	Busbar Thickness (mm)	Cat. No.
3	6.35	UBS3 A/B
3	10	UBS3 A/B (10mm)
4	6.35	UBS4 A/B
4	10	UBS4 A/B (10mm)

A pair of supports is supplied as an A and B.

Pairs made up as 2 x A or 2 x B are available. Specify UBS3 A/A for example.

Slots for other thicknesses (above 6.35mm) can be made to order.

# Technical

## Spacings

Bar Size (mm)	Fault Current		Duration (secs)	Support Distances (mm)	Test Report
	(kA rms)	(kA peak)			
32 x 6	25		1	300	
	35		1	240	
	40		1	220	
40 x 6	25		1	330	
	35		1	240	
	40		1	220	
50 x 6	25		1	380	
	35		1	280	
	40		1	240	
	50	110	1	200	2914
63 x 6	35		1	280	
	40		1	240	
	50		1	200	
	63		1	200	
80 x 6	40		1	260	
	50	112	3	200	2914
	63	138	1	200	2914
100 x 6	40		1	230	
	50		1	200	
	65	143	1	200	101855
125 x 6 (5)	50		1	200	
	65		1	200	
160 x 6 (5)	50		1	200	
	65		1	200	

1. Test voltage 415V 50Hz
2. Tests in accordance with clause 8.2.3 of AS/NZS 3439.1
3. Information provided on arrangements not showing a test report no. are extrapolated.
4. All bars tested 6.35mm thick copper bar.
5. For 125 and 160 x 6 bars at 65 kA, 8mm M/S threaded rod to be used instead of 6mm. Drill out holes in supports to suit.

# Technical

## Material Details

The UBS supports are injection moulded from type 6 30% glass filled NYLON. The grade used has been chosen for its resilience and high thermal, mechanical and electrical strength. The material also enjoys a proved service record in the bracing of busbars in electrical switchboards.

Standard colour is RED.

Other colours available to special order.

	<b>Properties</b>	<b>Test Method</b>	<b>Unit</b>	
Mechanical	Tensile strength (dry)	ISO 527-1	MPa	180
	Impact strength (23° dry)	ISO 180	KJ/m <sup>2</sup>	80
Electrical	Loss factor (50 Hz)	IEC 60250	E-4	50
	Comparative tracking index	IEC 60112	V	CTI 550
	Volume restivity Surface restivity	IEC 60093 IEC 60093	ohm.cm ohm	IE+15 IE+15
Thermal	Heat distortion (1.8MPa)	ISO 75-2	°C	210
	Flammability rating	UL Standard 94	-	94HB
Moisture Absorption	In air 23°C	ISO 62	%	1.9
	In water 23°C	ISO 62	%	6.3

## Technical

### Temperature Rise of Busbars / Short Circuit

Bar Size (mm)	Prospective fault current (kA)				
	25	35	40	50	65
25 x 6.35	128	252	329	514	816
32 x 6.35	79	155	202	315	533
40 x 6.35	50	93	129	201	341
50 x 6.35	32	63	83	129	219
63 x 6.35		40	52	81	137
80 x 6.35			32	50	85
100 x 6.35				32	55
125 x 6.35				21	35
160 x 6.35					21

Bar Size (mm)	Prospective fault current (kA)			
	35	40	50	65
25 x 10	102	133	208	352
40 x 10	40	52	81	137
50 x 10	25	33	52	88
60 x 10		23	36	61
80 x 10			20	34
100 x 10				22
120 x 10				
160 x 10				

- (i) Based on 1 second fault duration.  
(ii) Max temp. rise of 180°C is normally acceptable.

### Ratings

Dielectric Properties	(2) Rated Insulation Voltage $U_i$	1000V
	(3) Rated Impulse Voltage $U_{imp}$	12kV
	(4) Clearance Distance	15.5mm
	(5) Creepage Distance	15.5mm

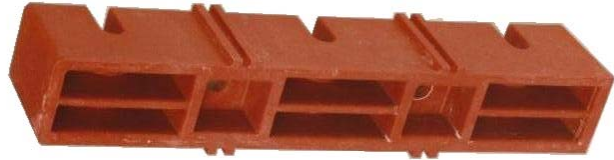
- (1) Standard 3439.1 :2002  
(2) 3500V / 5 secs. As per clauses 8.2.2.2 to 8.2.2.5  
(3) 14.8 kV as per table 13  
(4) Table 14, case B  
(5) Table 16  
(6) Pollution degree 3  
(7) Material group II  
(8) Material is  $400 \geq 400 \text{ CTI} < 600$

# Installation

A support set is made up of two clamps. These differ from each other in the following ways.

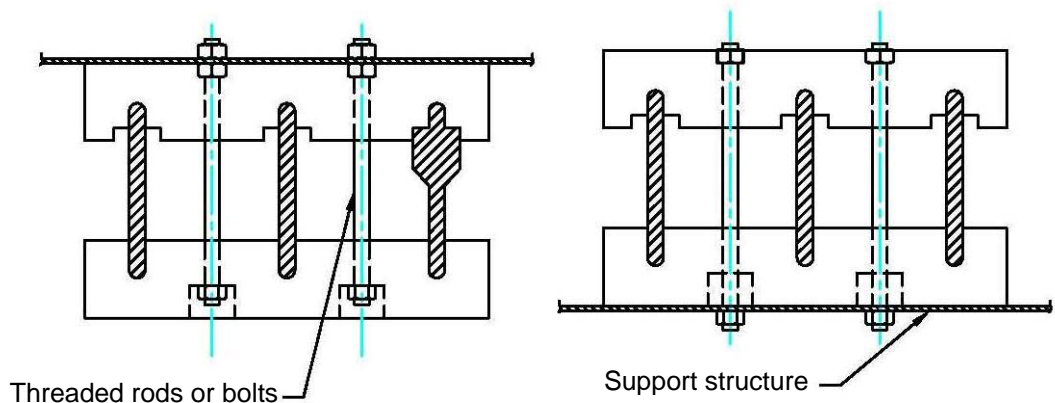
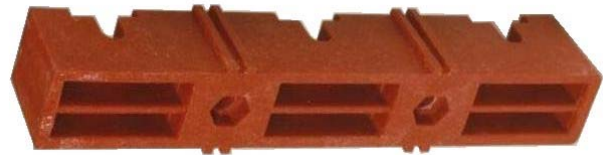
## TYPE A

The area around the clamp bolt holes is recessed.



## TYPE B

The area around the clamp bolt holes is shaped to retain an M6 hex. Nut.  
For 6.35mm bars, the open end of the busbar slots are widened to suit thickened bars.



The two halves of the supports are clamped together by M6 or M8 bolts threaded rods. (Refer to chart on page 3.) These also fix to the structural member (partition or channel) of the switchboard. There is no need to sleeve or insulate the threaded rods or bolts. The tightening of the threaded rods is not critical. However, 6N/M for M6 rods and 10 N/M for M8 rods are recommended. Long bolts or threaded rod is normally mild steel, zinc plated.

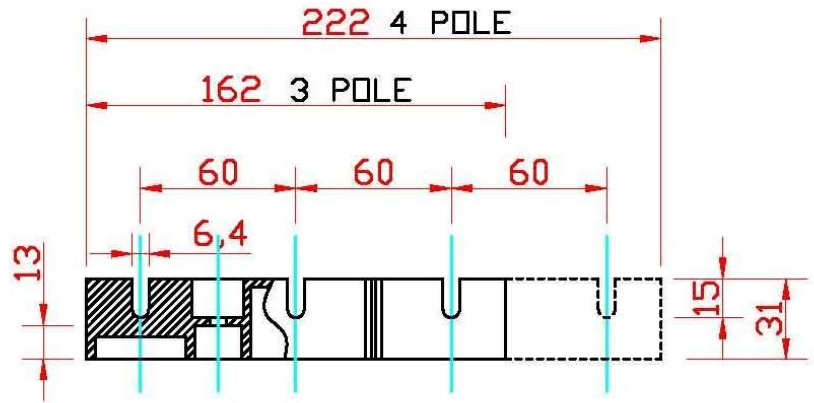
Over tightening of these rods or bolts may be detrimental in the event of a short-circuit fault.



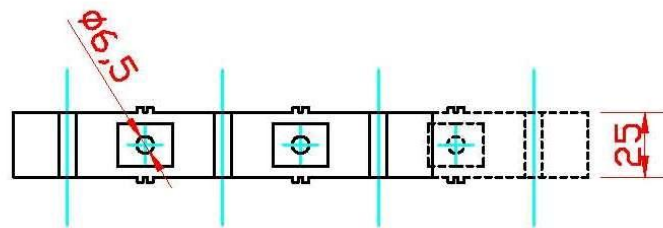
# Dimensions

## For 6.35mm Busbars

Type A

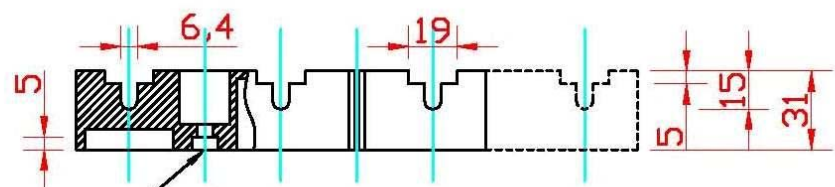


Elevation



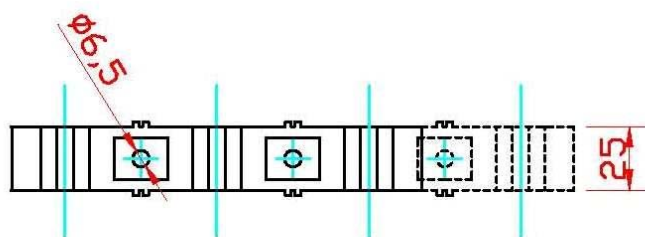
Plan

Type B



Recess for M6 Nut

Elevation

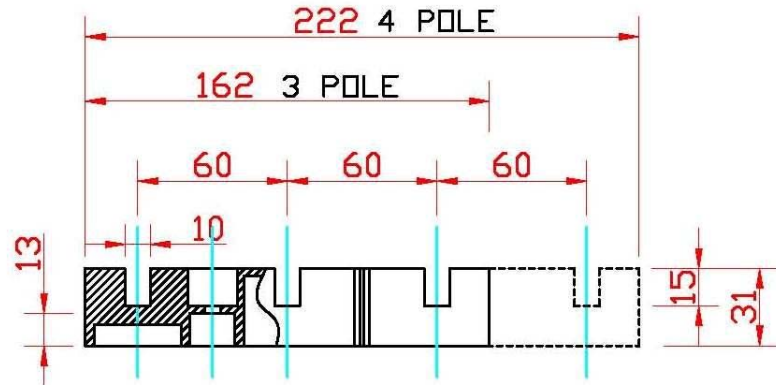


Plan

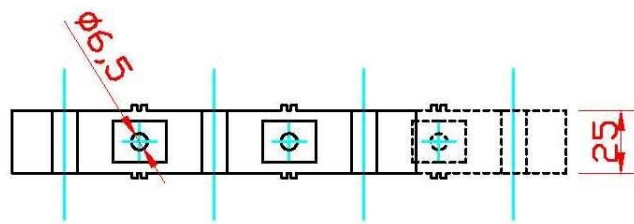
# Dimensions

## For 10mm Busbars

Type A

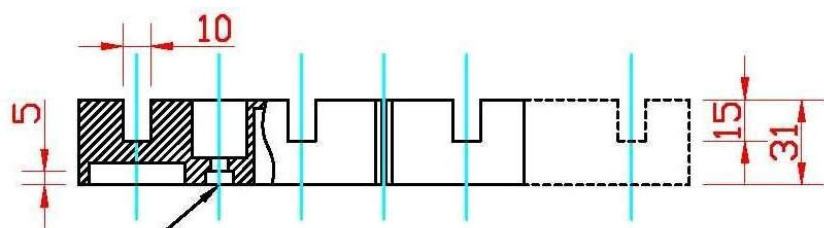


Elevation



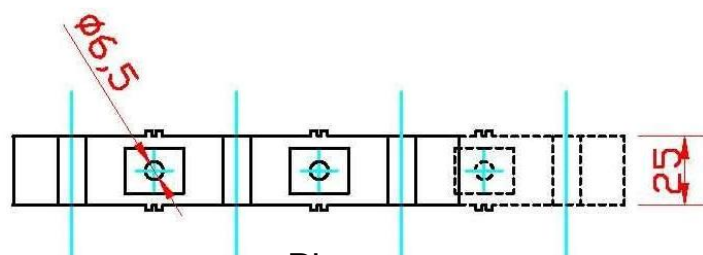
Plan

Type B



Recess for M6 nut

Elevation

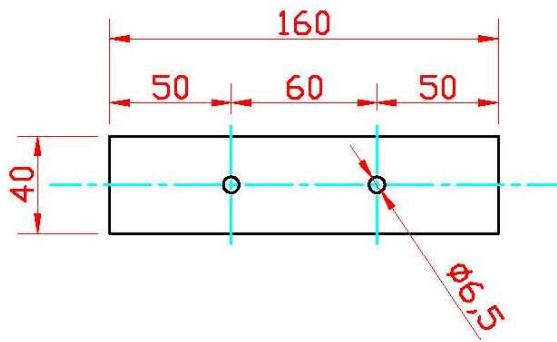


Plan

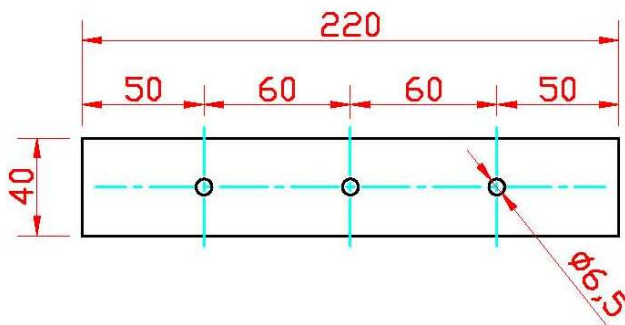
# Dimensions

## Insulation Plates

### 3 Phase



### 3 Phase and Neutral



Material is 2 mm thick polycarbonate sheet.

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