Paad Control Keysan Co.

PCK BusWay System

Catalogue Rev 1.1

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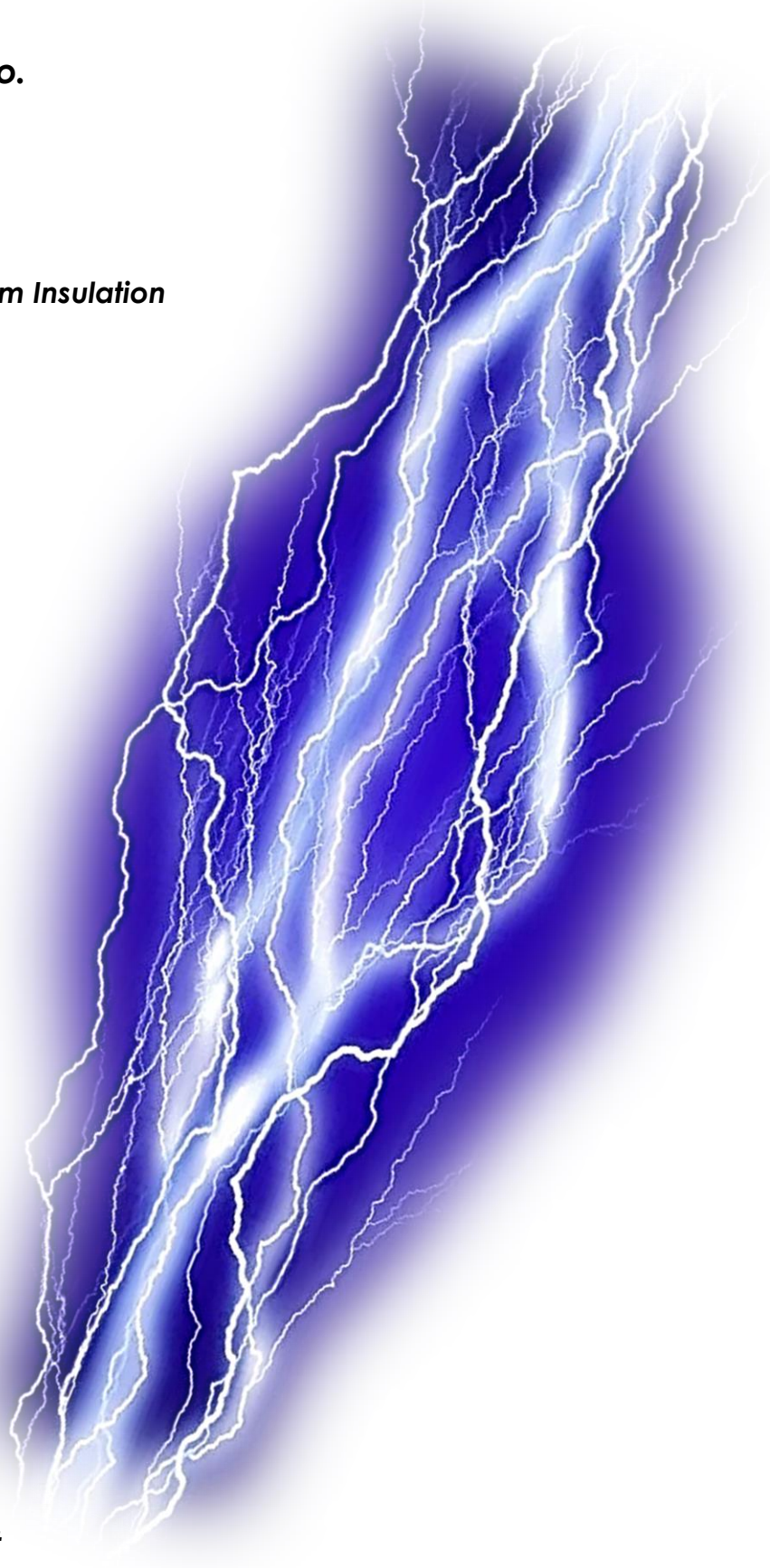


About Paad Control Keysan Co.

Paad Control Keysan Co. is a leading manufacturer of low voltage (LV) and medium voltage (MV) busduct systems, with a legacy of excellence in design, production, and testing. Backed by a highly experienced management team, we leverage decades of expertise in busduct systems, switchgear, and transformers to deliver superior electrical distribution solutions. Our comprehensive in-house capabilities, from R&D to manufacturing, ensure that we meet the highest industry standards with each product we produce.

Our Mission

At Paad Control Keysan, our mission is to empower industries with cutting-edge busduct systems that guarantee safety, efficiency, and reliability. We are committed to providing products that are meticulously engineered to meet the energy distribution needs of modern infrastructure while adhering to the latest international standards.

Our Vision

We envision becoming a leader in electrical distribution systems, renowned for our innovation, technical expertise, and high-quality products. By continuously advancing our in-house technologies and focusing on customer satisfaction, we aim to set new standards for performance and reliability in the busduct, switchgear, and transformer markets.

Our Strategy

Our strategy is built on a foundation of technical excellence and customer focus:

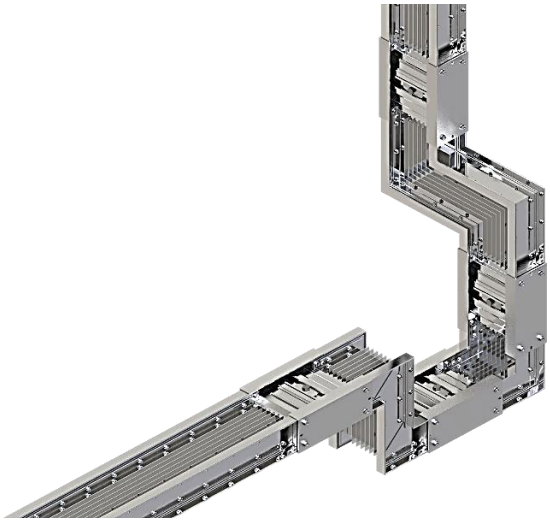
1. *Proven Expertise & Quality* – With years of experience, our team ensures that every busduct system is designed, produced, and tested to the highest standards. Our products are fully type-tested according to the latest IEC standards, ensuring world-class reliability and safety.

2. *In-House R&D Innovation* – All of our technology is developed in-house by our dedicated R&D department. We are constantly innovating to provide the most advanced busduct systems, while maintaining full control over the quality and performance of our products.

3. *Holistic Solutions* – Drawing from our deep knowledge in switchgear, transformers, and electrical systems, we provide comprehensive solutions tailored to our clients' specific needs. We offer end-to-end support, from design and customization to installation and after-sales service.

4. *Commitment to Compliance* – All of our products undergo rigorous type testing in accordance with the latest IEC standards, ensuring that they meet global safety and performance requirements.

At Paad Control Keysan Co., we are proud to combine our vast industry experience with innovative technologies to deliver the most reliable and efficient busduct systems available today.



Standard & Specification

Compliance of Standards

- ✓ ***IEC 61439-6*** Busbar Trunking System (Busway)
- ✓ ***IEC 61439 1&2*** Low voltage switchgear and controlgear assemblies
- ✓ ***IEC 60529*** Degree of protection
- ✓ ***IEC 60947-2*** Circuit breakers
- ✓ ***IEC 60331*** Resistance to fire

RATED CURRENT Aluminum conductor 400A to 5000A Copper conductor - 400A to 6000A.

RATED OPERATIONAL VOLTAGE AC 1000V and less DC 1500V and less

RATED INSULATION VOLTAGE AC 1000V and less

RATED FREQUENCY 50Hz / 60Hz

SYSTEM CONFIGURATION 3P3W/3P3W+PE 3P4W/3P4W+PE 3P4W(200%N)/3P4W (200% N+PE)

CONDUCTORS Busbars Fabricated from high strength and high conductivity Copper or pure aluminum with a conductivity. Copper conductor or Aluminum conductor of 99.9% purity the conductor has fully rounded edges which make a smooth and easy connection between the busway.

ENCLOSURES Constructed with high strength extruded aluminum alloy profile and fully painted with epoxy compound power coating. Standard color code is RAL7032/7035 and special colors are available upon request.

INSULATION MATERIAL The phase and neutral bars are insulated with Class F polyester film insulation. The polyester film is applied by an automated fluidized bed process to ensure uniform thickness.

INGRESS OF PROTECTION (IP) The housing is totally enclosed with its fully insulated conductor to provide dust, water & insect protection, as according to IEC 60529 standards. Thus the degree of protection shall be min IP54 up to max. 56

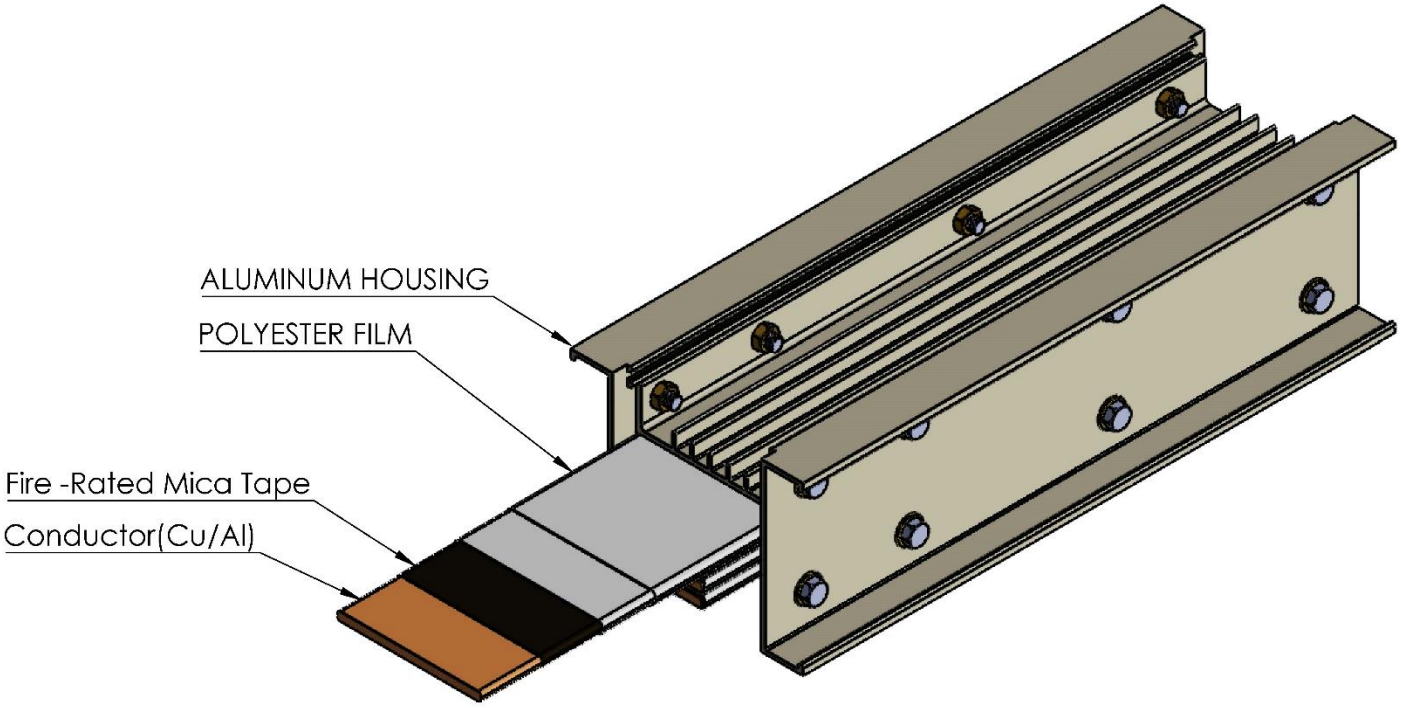
PRODUCT FEATURES

Reliable of Insulation

PCK BUSWAY uses very special high thermal conductivity polyester film insulation (Class F). The polyester film is applied by an automated fluidized bed process to ensure uniform thickness. The uniform thickness and smooth surface provided by polyester film ensures that the insulation will have no cavities or voids and also provides excellent edge coverage to the bars.

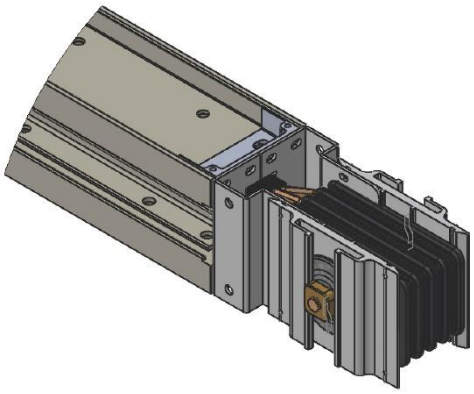
Advantages of Using Polyester Film Insulation:

- Design to withstand glitch and spikes in electrical system
- Design to cater for expansion and contraction during peak and off-peak hour
- Good thermal & mechanical chock resistance
- Good moisture & chemical resistance
- Capable of withstanding heat shock
- High thermal conductivity
- High mechanical strength against impact
- High adhesion
- Halogen free

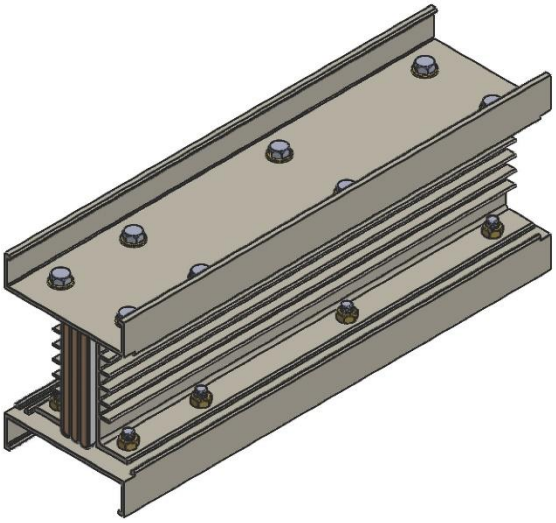


Aluminum Alloy Enclosure

PCK BUSWAY is constructed with high strength extruded aluminum profile and designed with additional cooling fins has resulted in the most compact busway system available.



- Compact size & lightweight
- High mechanical strength
- Corrosion resistant
- Superior heat dissipation
- Extremely low impedance ground path
- Superior ground conductivity
- Easy installation & maintenance

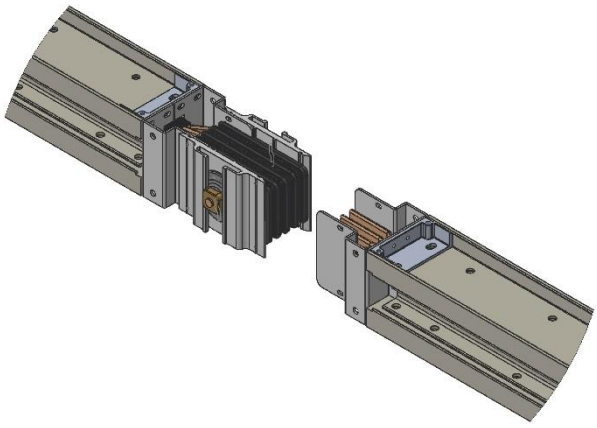


Compact Size

The additional cooling fins design allows the use of smaller busbar and offer a low impedance, small line loss, quick heat dissipation. ***PCK BUSWAY*** makes the system lighter and smaller than other conventional busway

Ease of Installation

PCK BUSWAY is using special joint kit which has two connecting plates and drastically decreased the contact resistance. Also, simple joint connection work can improve the installation process faster (Lower cost of installation) Double headed bolts can be used for proper tightening fastening by fastening the outer head until break off by wench (When the indicating disc falls off, the joint is properly tightened automatically) Large sized Belleville spring washers assure even pressure on contact. Each joint is designed to allow longitudinal busbar expansion or contraction by as much as ±10mm



Tap-off Units

Plug in box mechanically interlocked with the busway enclosure to prevent installation or removal while the MCCB is 'ON' position. It is equipped with an operating handle to control the switching mechanism. The plug in box makes positive ground connection to the enclosure before making contact to the phase conductors. The tap-off units from 600AF to 1200AF are fitted permanently to the connection points of the trunking units and cannot be fitted/removed while the system is live. Installation is only permissible when the system is isolated. The Plug in Box/Tap off Box is rated at IP42 as standard but customers can order IP55 as optional.

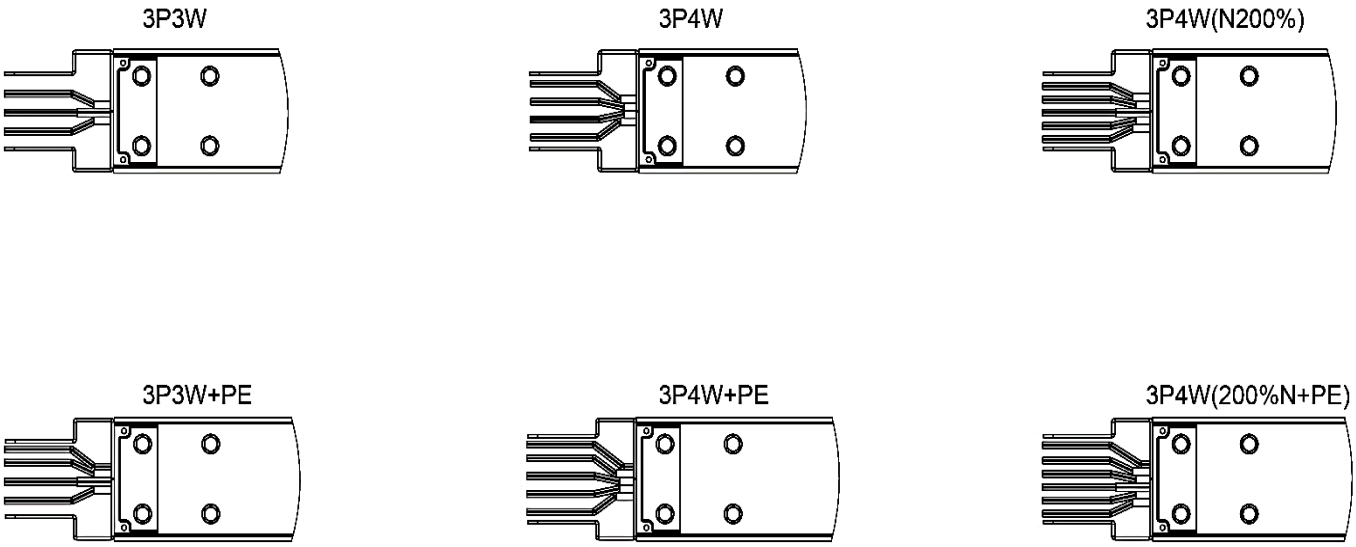
Superior Ground Conductivity

PCK BUSWAY is made from extruded aluminum which provides a very large grounding capacity because of the fins on the aluminum housing, the effective size of the grounding is typically 2~3 times the size of the active internal ground bar. If increasing ground capacity is required, we can provide additional 50% or 100% internal bus bar within the same busway enclosure.

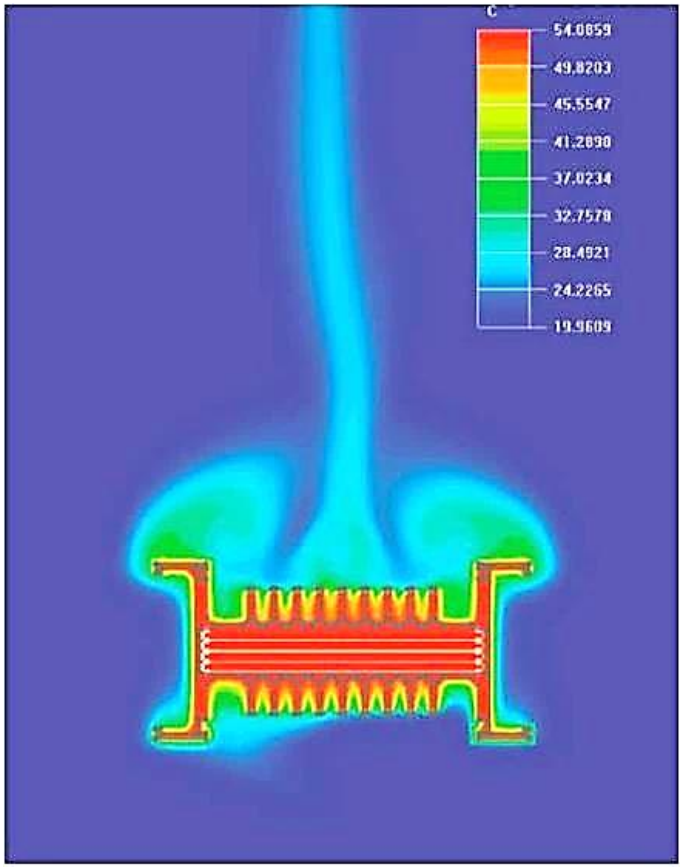
200% Neutral Construction

PCK BUSWAY offers a fully rated 200% neutral bus option for busduct systems with non-linear loads. The additional neutral capacity prevents the overheating caused by zero sequence harmonic currents. The 200% neutral is manufactured using two 100% neutral conductors fully epoxy coated and combined via the joint kit to achieve the 200% capacity.

Types of Busbar Configurations



Design Simulations

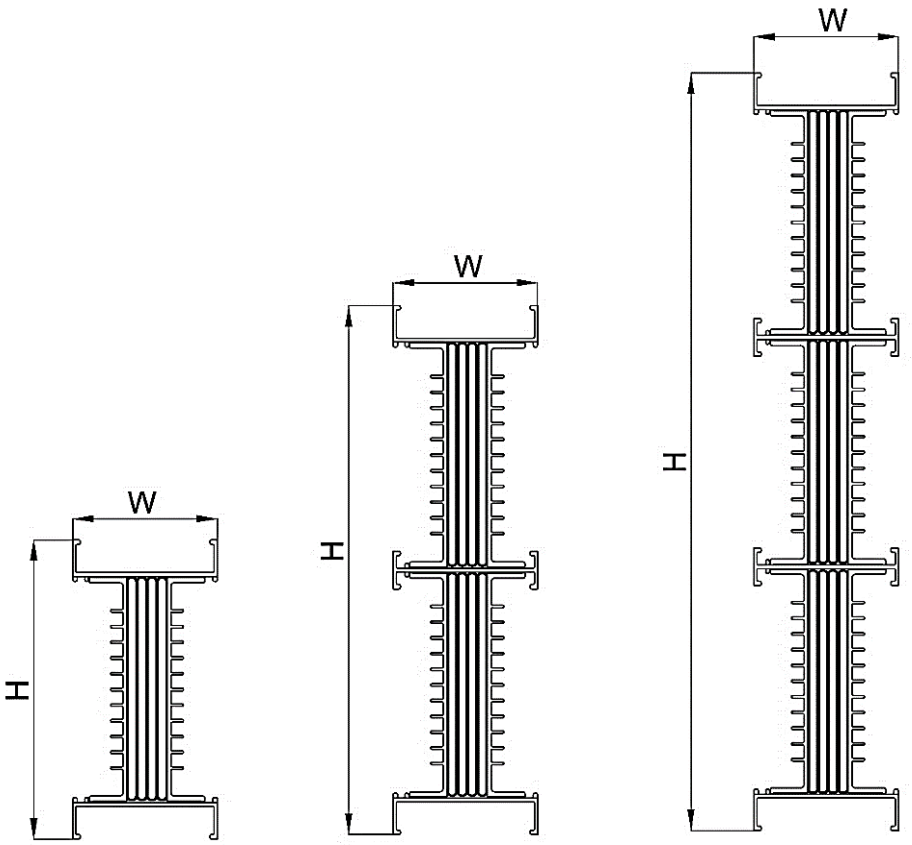


The design of ***PCK BUSWAY*** is carried out under detailed Computer Aided Engineering simulation processes. Dynamic analysis of mechanical, thermal and electrical simulations greatly increase the quality and performance.

PHYSICAL DATA

Dimension & Weight

Feeder, the straight length, maybe installed either horizontally or vertically. The standard length is 3000mm and the minimum length is 400mm.



Al: 630~2000A
Cu: 400~2500A

Al: 2500~4000A
Cu: 3200~5000A

Al: 5000A
Cu: 6000A

Copper busbar

Unit:mm

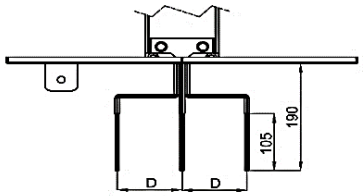
Current Rating(A)	Height(H)	Weight(kg/m)			
		3W	4W	4W (50%PE)	4W (100%PE)
400	118	9.6	11.8	15.6	16.4
630	118	12.8	16.3	20.3	21.7
800	118	12.8	16.3	20.3	21.7
1000	163	21.7	27.2	32.2	36.8
1250	163	21.7	27.2	32.2	36.8
1600	203	29.2	37.6	43.6	47.6
2000	236	35.5	45.9	54.5	59.3
2500	293	45.3	58.3	69.6	73.8
3200	421	71.6	87.9	102.1	112.7
4000	421	71.6	87.9	102.1	112.7
5000	535	91.8	111.1	128.6	140.5
6000	603	106.5	130.5	146.7	162.2

Aluminium busbar

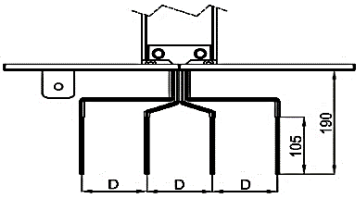
Unit:mm

Current Rating(A)	Height(H)	Weight(kg/m)			
		3W	4W	4W (50%PE)	4W (100%PE)
400	118	6.8	7.7	8.6	9.3
630	118	6.8	7.7	8.6	9.3
800	163	10.8	13.4	14.2	15.3
1000	163	10.8	13.4	14.2	15.3
1250	203	13.9	18	19.2	20.3
1600	236	18.8	22.4	23.8	25.2
2000	293	23.2	28.9	30.7	32.6
2500	421	33.1	39.8	42.6	45.5
3200	421	33.1	39.8	42.6	45.5
4000	535	38.6	50.8	54.5	58.2
5000	603	45.7	55.2	59.5	63.7

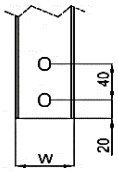
Flange End



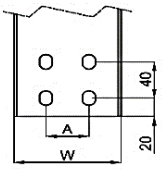
3P3W (HOUSING GROUND)



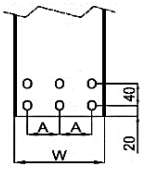
3P4W-HOUSING GROUND



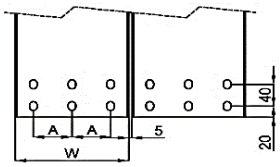
Al: 400~800
Cu: 400~1000



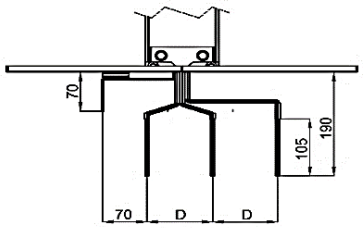
Al: 1000
Cu: 1250



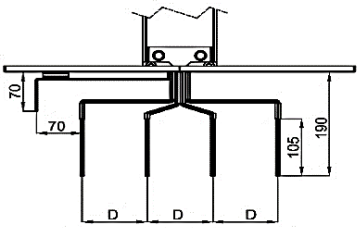
Al: 1250~2000
Cu: 1600~2500



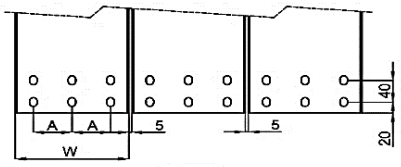
Al: 2500~4000
Cu: 3200~5000



3P4W(INTERNAL 50%PE)



3P5W(INTERNAL 50% PE)



Al: 5000
Cu: 6000

Copper busbar

Unit:mm

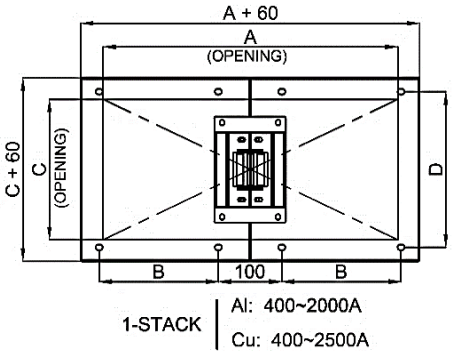
Current	Thickness	W	A	D	Hole
400	6	35		100	Ø10×14
630	6	55		100	Ø10×16
800	6	55		100	Ø12×16
1000	6	75		100	Ø12×16
1250	6	100	40	100	Ø12×16
1600	6	140	50	100	Ø12×16
2000	6	176	60	120	Ø12×16
2500	6	230	70	120	Ø12×16
3200	6	2×140	50	100	Ø12×16
4000	6	2×176	60	120	Ø12×16
5000	6	2×230	70	120	Ø12×16
6000	6	2×176	60	120	Ø12×16

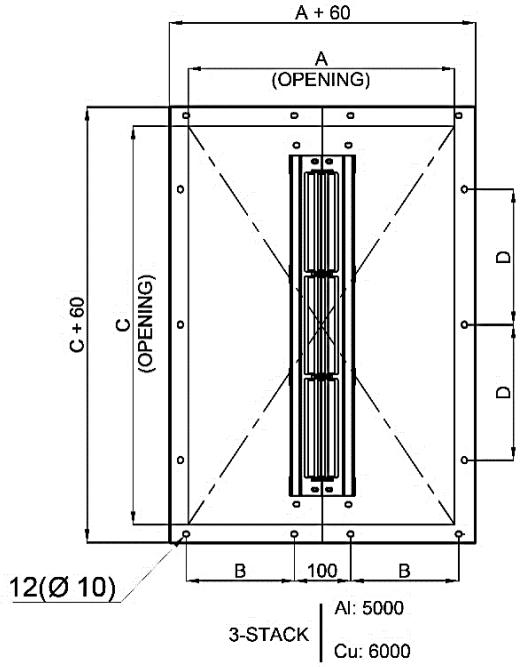
Aluminium busbar

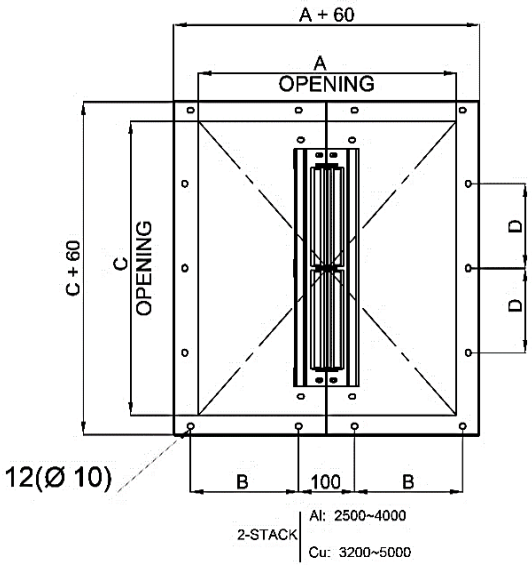
Unit:mm

Current	Thickness	W	A	D	Hole
400	6	55		100	Ø12×14
630	6	55		100	Ø12×14
800	6	75	40	100	Ø12×16
1000	6	100	40	100	Ø12×16
1250	6	140	50	100	Ø12×16
1600	6	176	60	120	Ø12×16
2000	6	230	70	120	Ø12×16
2500	6	2×140	50	100	Ø12×16
3200	6	2×176	60	120	Ø12×16
4000	6	2×230	70	120	Ø12×16
5000	6	2×176	60	120	Ø12×16

Mounting Cut-Out for Flange End







Copper busbar

Unit:mm

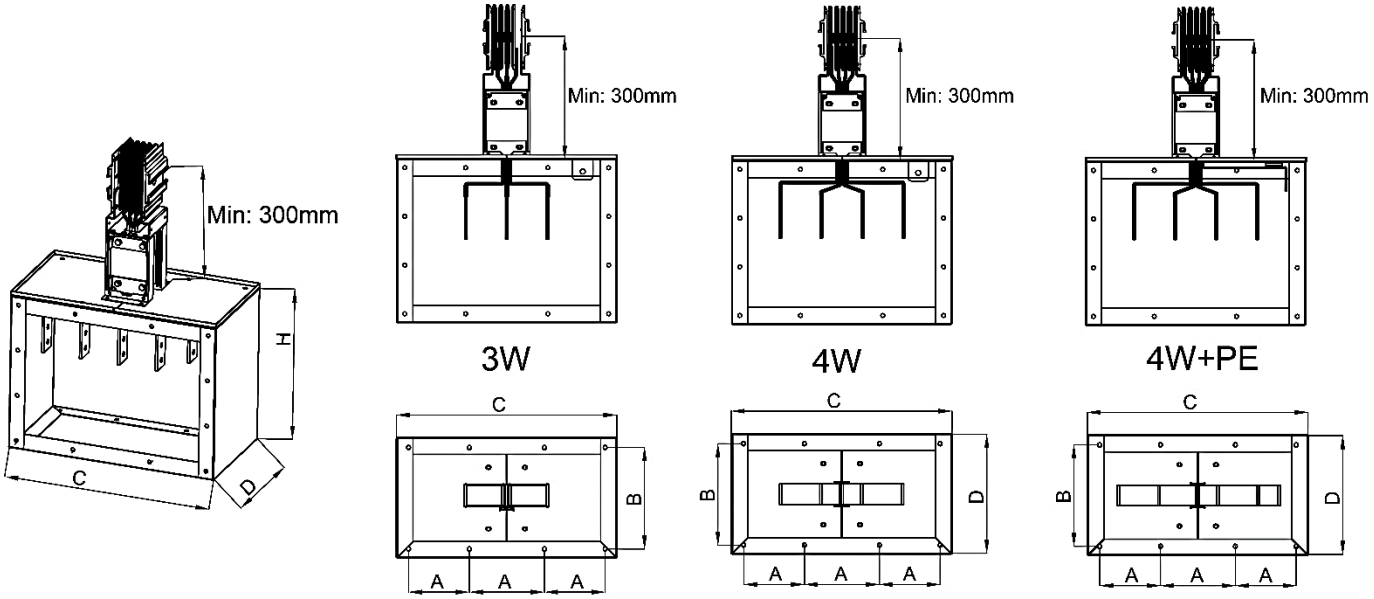
Current Rating(A)	A			B			C			D
	3W	4W	5W	3W	4W	5W	3W	4W	4W (50%PE)	
400	450	550	650	150	200	250	150	150	150	250
630	450	550	650	150	200	250	150	150	150	250
800	450	550	650	150	200	250	150	150	150	250
1000	450	550	650	150	200	250	150	150	150	250
1250	450	550	650	150	200	250	150	150	150	250
1600	450	550	650	150	200	250	200	200	200	300
2000	450	550	650	150	200	250	200	200	200	300
2500	450	550	650	150	200	250	250	250	250	350
3200	450	550	650	150	200	250	250	250	250	150
4000	450	550	650	150	200	250	400	400	400	150
5000	450	550	650	150	200	250	500	500	500	200
6000	450	550	650	150	200	250	600	600	600	200

Aluminium busbar

Unit:mm

Current Rating(A)	A			B			C			D
	3W	4W	5W	3W	4W	5W	3W	4W	4W (50%PE)	
400	450	550	650	150	200	250	150	150	150	250
630	450	550	650	150	200	250	150	150	150	250
800	450	550	650	150	200	250	150	150	150	250
1000	450	550	650	150	200	250	150	150	150	250
1250	450	550	650	150	200	250	200	200	200	300
1600	450	550	650	150	200	250	200	200	200	300
2000	450	550	650	150	200	250	250	250	250	350
2500	450	550	650	150	200	250	250	250	250	350
3200	450	550	650	150	200	250	400	400	400	150
4000	450	550	650	150	200	250	400	400	400	150
5000	450	550	650	150	200	250	600	600	600	200

Flange End Box



Copper busbar

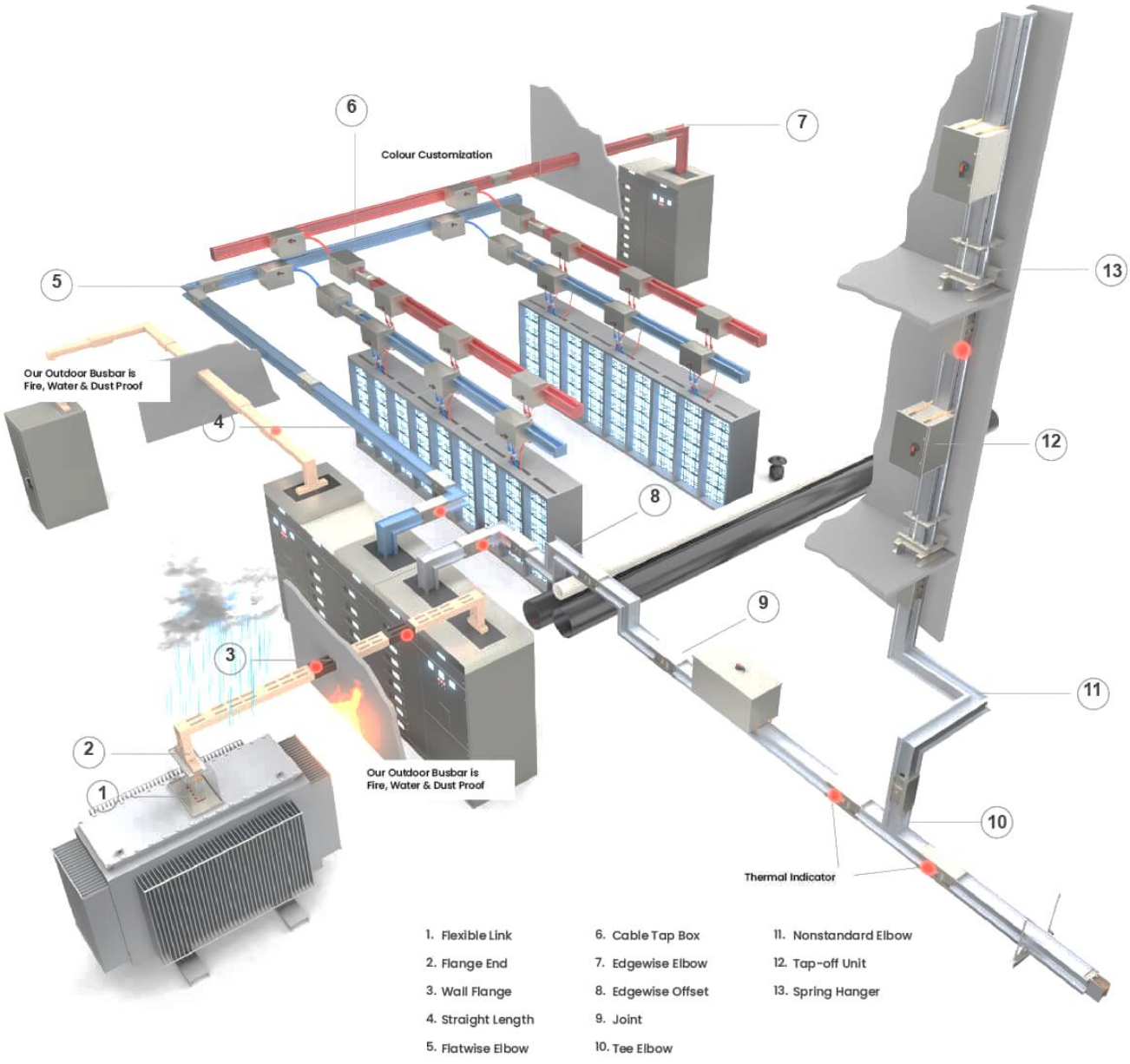
Unit:mm

Current Rating(A)	A			B	3W		4W		4W (50%PE)	
	3W	4W	4W		C	D	C	D	C	D
400	150	200	250	250	510	210	610	210	710	210
630	150	200	250	250	510	210	610	210	710	210
800	150	200	250	250	510	210	610	210	710	210
1000	150	200	250	250	510	210	610	210	710	210
1250	150	200	250	250	510	210	610	210	710	210
1600	150	200	250	300	510	260	610	260	710	260
2000	150	200	250	300	510	260	610	260	710	260
2500	150	200	250	350	510	310	610	310	710	310
3200	150	200	250	150	510	310	610	310	710	310
4000	150	200	250	150	510	460	610	460	710	460
5000	150	200	250	200	510	560	610	560	710	560
6000	150	200	250	200	510	660	610	660	710	660

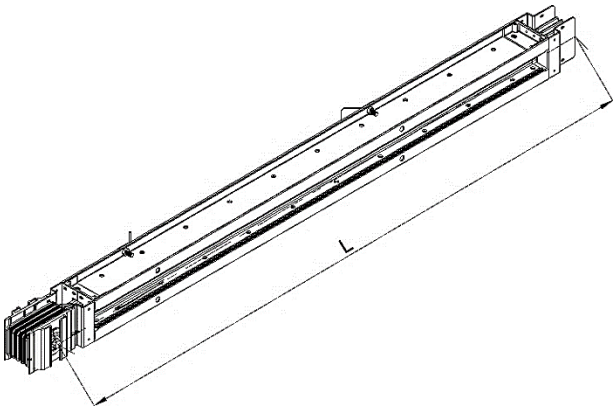
Aluminium busbar

Unit:mm

Current Rating(A)	A			B	3W		4W		4W (50%PE)	
	3W	4W	4W		C	D	C	D	C	D
400	150	200	250	250	510	210	610	210	710	210
630	150	200	250	250	510	210	610	210	710	210
800	150	200	250	250	510	210	610	210	710	210
1000	150	200	250	250	510	210	610	210	710	210
1250	150	200	250	250	510	210	610	210	710	210
1600	150	200	250	300	510	310	610	310	710	310
2000	150	200	250	300	510	310	610	310	710	310
2500	150	200	250	350	510	460	610	460	710	460
3200	150	200	250	150	510	560	610	560	710	560
4000	150	200	250	150	510	560	610	560	710	560
5000	150	200	250	200	510	660	610	660	710	660



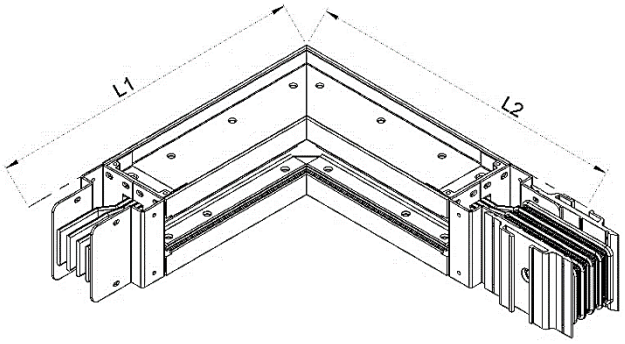
Straight Feeder



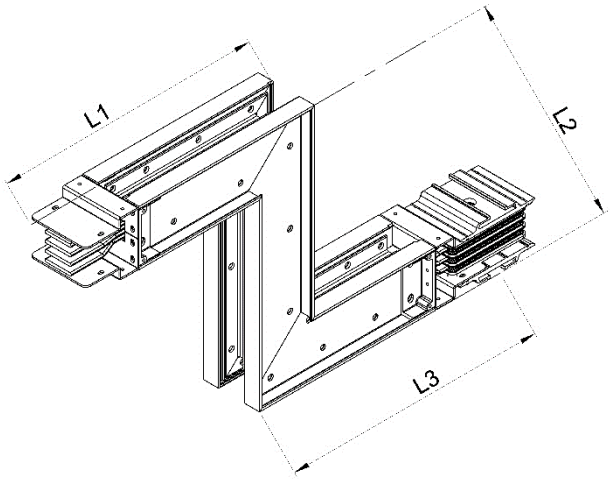
Conductor	Current Rating(A)	L(mm)
Al	400-5000	3000
Cu	400-6000	3000

Horizontal Elbow

Conductor	Current Rating(A)	L1(mm)	L2(mm)
Al	400-2000	500	500
	2500-4000	500	500
	5000	500	500
Cu	400-2500	500	500
	3200-5000	500	500
	6000	500	500

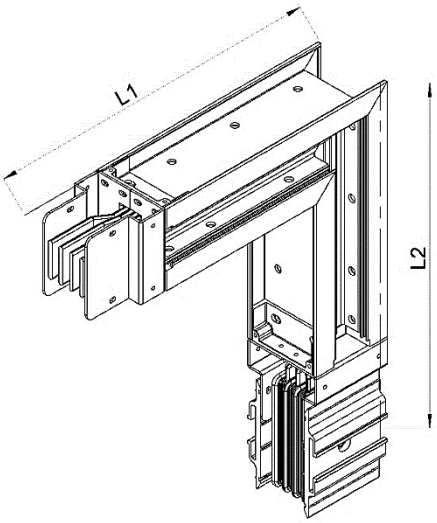


Horizontal Offset Elbow



Conductor	Current Rating(A)	L1(mm)	L2(mm)	L3(mm)
Al	400-2000	500	500	500
	2500-4000	500	500	500
	5000	500	500	500
Cu	400-2500	500	500	500
	3200-5000	500	500	500
	6000	500	500	500

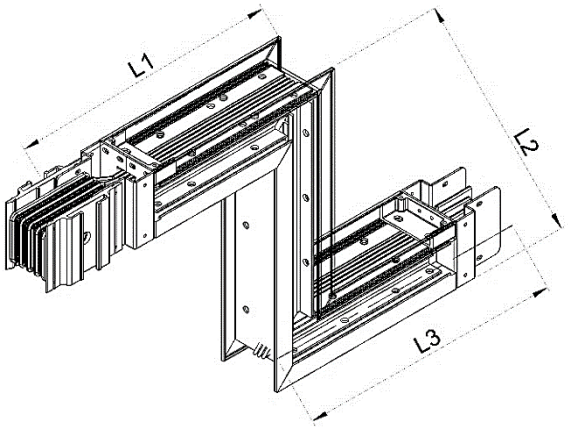
Vertical Elbow



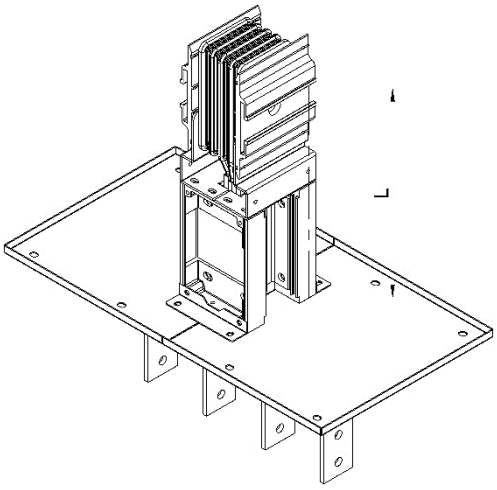
Conductor	Current Rating(A)	L1(mm)	L2(mm)
Al	400-2000	500	500
	2500-4000	700	700
	5000	900	900
Cu	400-2500	500	500
	3200-5000	700	700
	6000	900	900

Vertical Offset Elbow

Conductor	Current Rating(A)	L1(mm)	L2(mm)	L3(mm)
Al	400-2000	500	300	500
	2500-4000	1000	800	1000
	5000	1100	1000	1100
Cu	400-2500	500	300	500
	3200-5000	1000	800	1000
	6000	1100	1000	1100

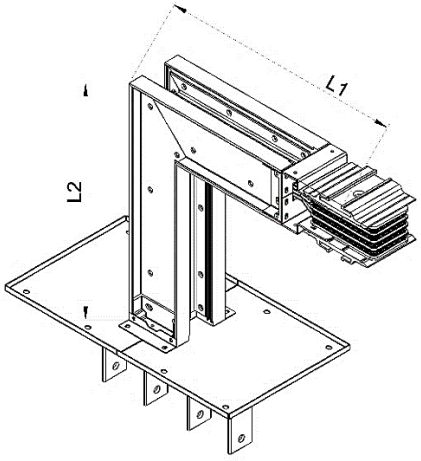


Flange End



Conductor	Current Rating(A)	L(mm)
Al	400-5000	300
Cu	400-6000	300

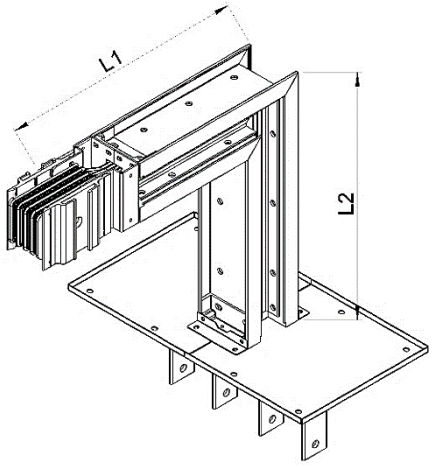
Horizontal Elbow with Flange End



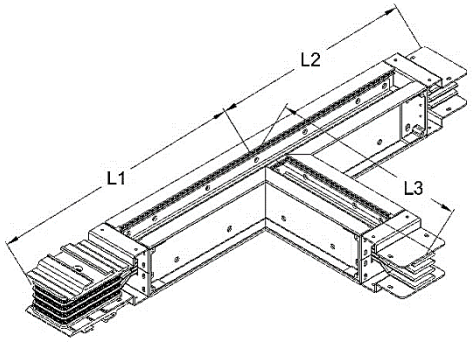
Conductor	Current Rating(A)	L1(mm)	L2(mm)
Al	400-5000	500	500
Cu	400-6000	500	500

Vertical Elbow with Flange End

Conductor	Current Rating(A)	L1(mm)	L2(mm)
Al	400-2000	500	500
	2500-4000	700	700
	5000	900	900
Cu	400-2500	500	500
	3200-5000	700	700
	6000	900	900

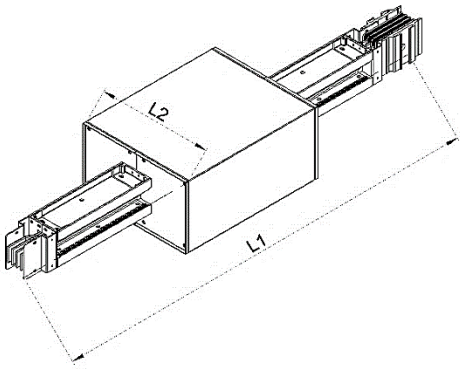


Vertical Tee Elbow



Conductor	Current Rating(A)	L1(mm)	L2(mm)	L3(mm)
Al	400-2000	500	500	500
	2500-4000	600	600	600
	5000	700	700	700
Cu	400-2500	500	500	500
	3200-5000	600	600	600
	6000	700	700	700

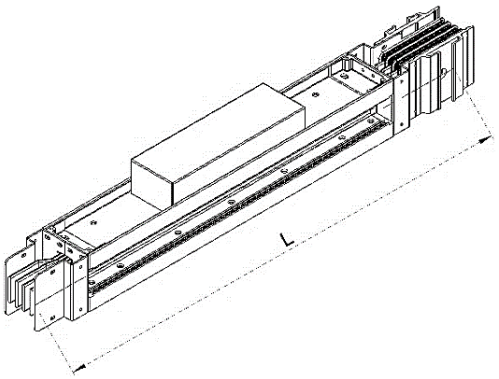
Expansion Joint (if needed)



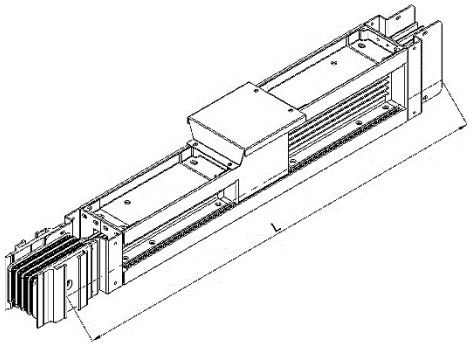
Conductor	Current Rating(A)	L1(mm)	L2(mm)
Al	400-5000	1000	400
Cu	400-6000	1000	400

Phase Transposition

Conductor	Current Rating(A)	L1(mm)
Al	400-5000	1000
Cu	400-6000	1000



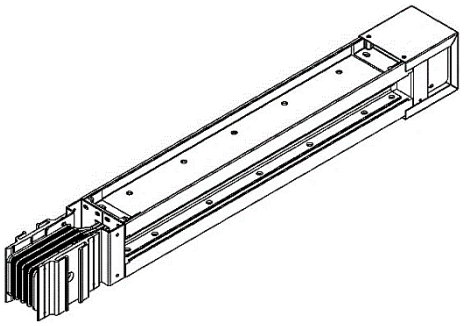
Reducer



Conductor	Current Rating(A)	L1(mm)
Al	400-5000	1000
Cu	400-6000	1000

End Cover

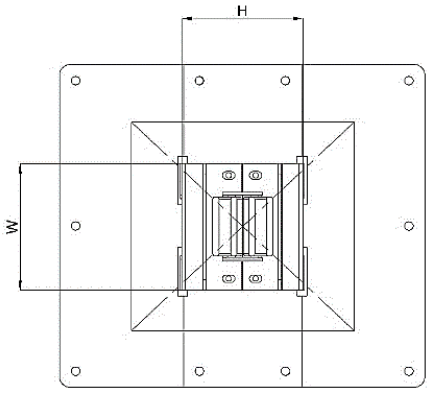
End Covers are used to safely cap off the end of a busway run, typically a rising busbar might be capped off at the top of the run the end of the final section.

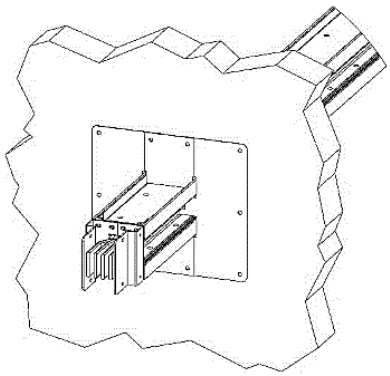


Wall Penetrations

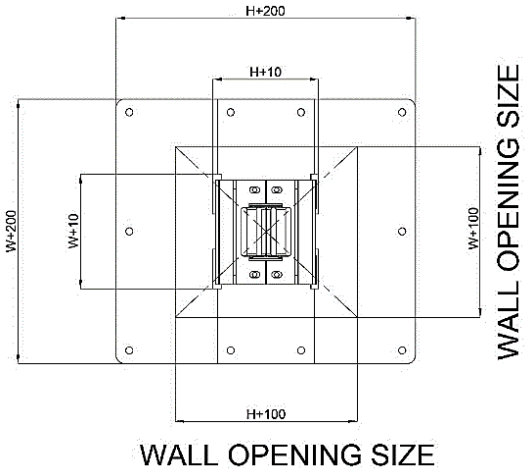
When busway passes through a wall or floor, the opening should be at least 50mm lager than the outside dimensions of busway.

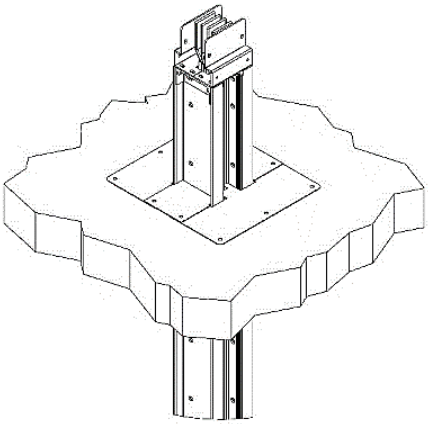
Wall Flange





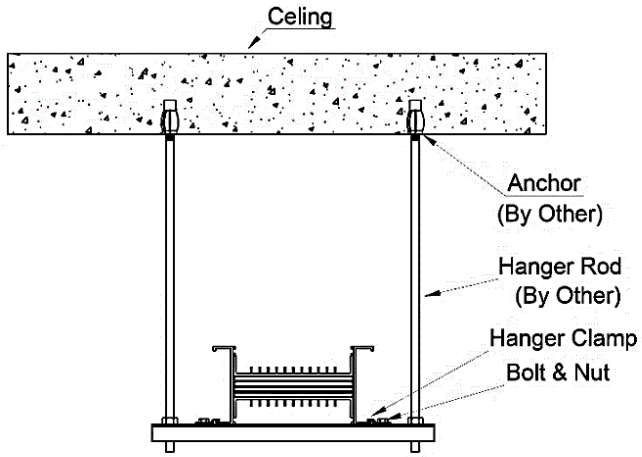
Floor Flange



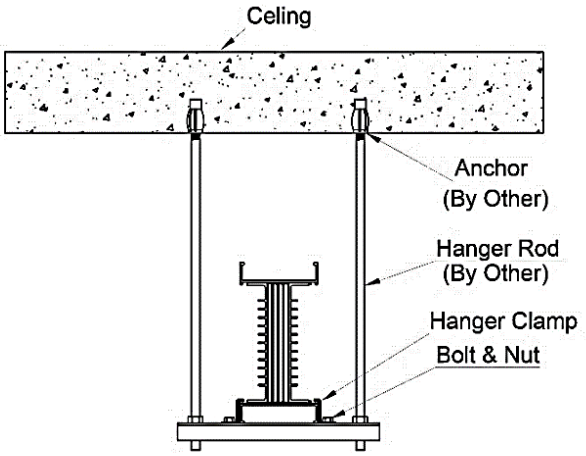


Horizontal Hanger

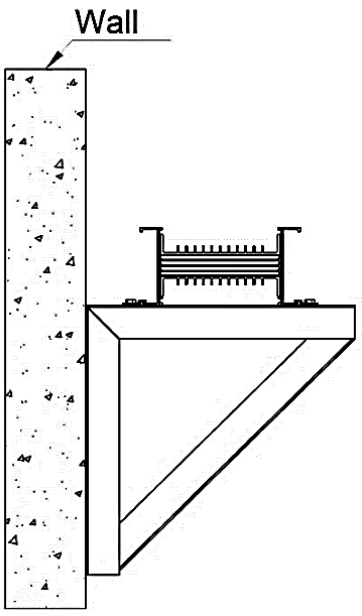
Overhead support is achieved by utilizing a 'trapeze' type hanging system using strut channel and threaded bar. The bar can be secured either in a flatwise or edgewise orientation. The distance between adjacent supports should not exceed 2m.

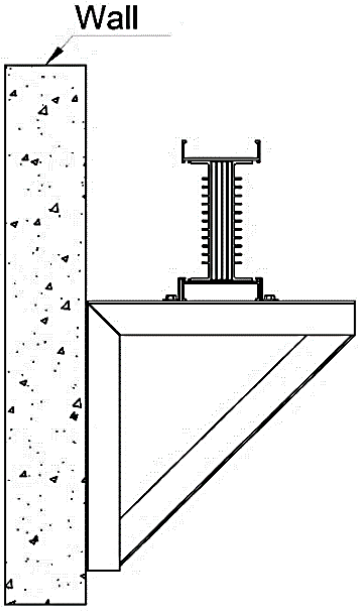


FLATWISE INSTALATION



EDGEWISE INSTALATION





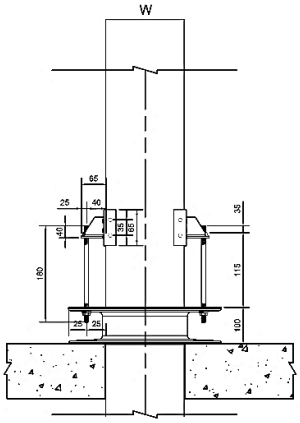
Note:

- Suggest to use stud bolt with 12mm and 2m length.
- Suggest to use 3T x 40 x 40Lmm support channel for 2000A or below busway.
- Suggest to use 6T x 50 x 50lmm support angle for 2500A or above busway.
- Hanger Support, Angle, Stud Bolt and Anchor Bolt are optional. Clamp & Bolt and Nut set are supplied as standard.

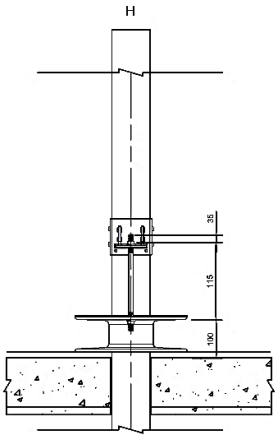
Vertical Hanger

For mounting the busway vertically, vertical spring hanger must be used on every floor. Intermediate hangers are required for floor heights exceeding 4.5m. The rigid hangers are used to support at the center and both ends of a busway run.

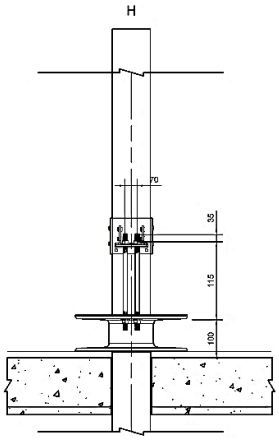
Vertical Rigid Hanger



FRONT VIEW

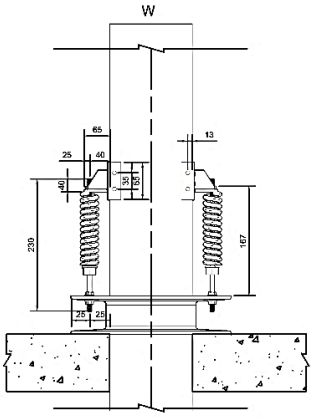


Al: 400 ≈ 1600
Cu: 400 ≈ 1250

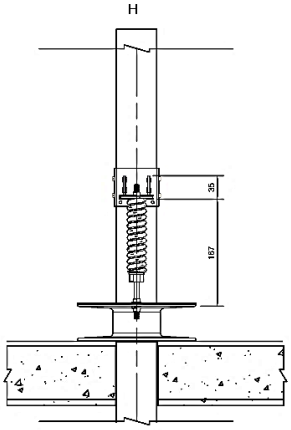


Al: 2000 ≈ 6000
Cu: 1600 ≈ 7500

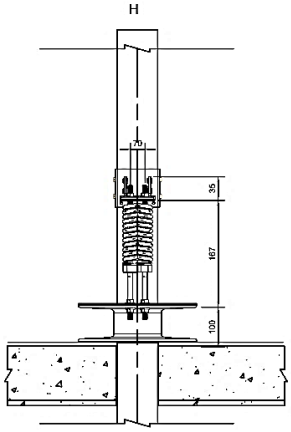
Vertical Spring Hanger



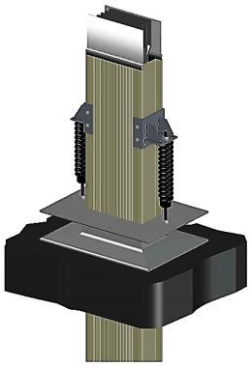
FRONT VIEW



Al: 400 ≈ 1600
Cu: 400 ≈ 1250



Al: 2000 ≈ 6000
Cu: 1600 ≈ 7500

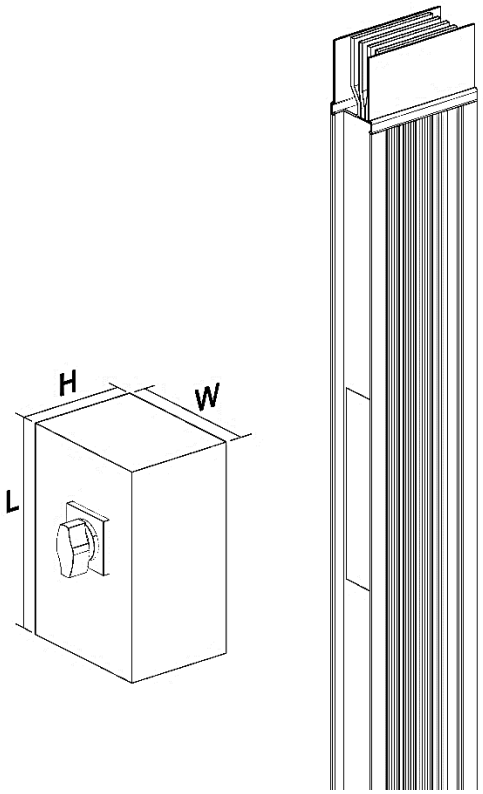


Tap-Off Unit

Plug in box mechanically interlocked with the busway enclosure to prevent installation or removal while the MCCB is 'ON' position. It is equipped with an operating handle to control the switching mechanism. The plug in box makes positive ground connection to the enclosure before making contact to the phase conductors.

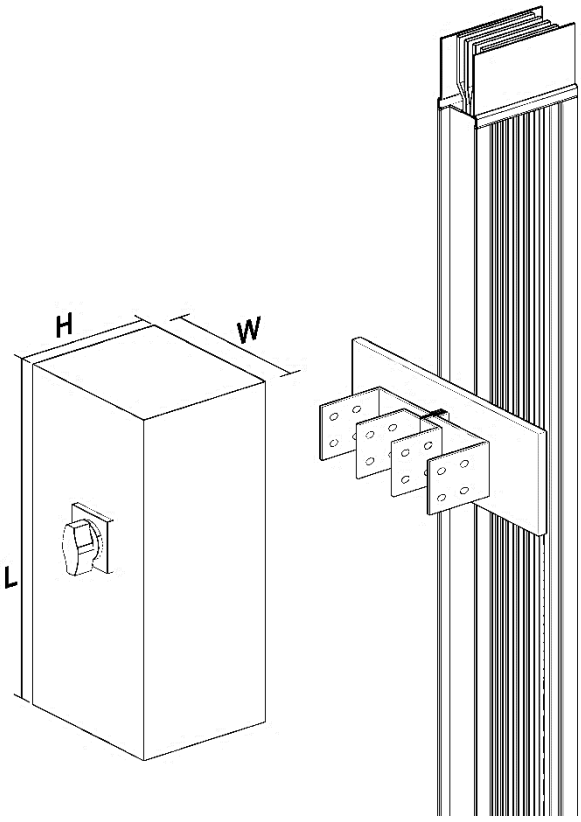
100AF, 225AF & 400AF

Plug- In Box (Plug In Type)



600AF, 800AF, 1000AF & 1200AF

Tap-Off Box (Bolt On Type)



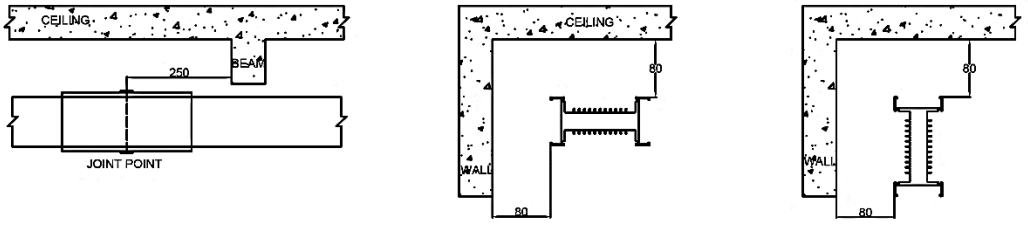
▪ Plug-In Box

Unit : mm

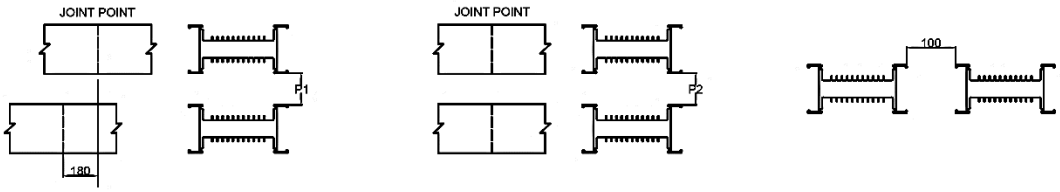
MCCB Rating	L	W	H
100AF	400	240	220
225AF	450	250	220
400AF	550	300	250

Design Factors for Busway Layout

Minimum clearance from beam, wall or ceiling



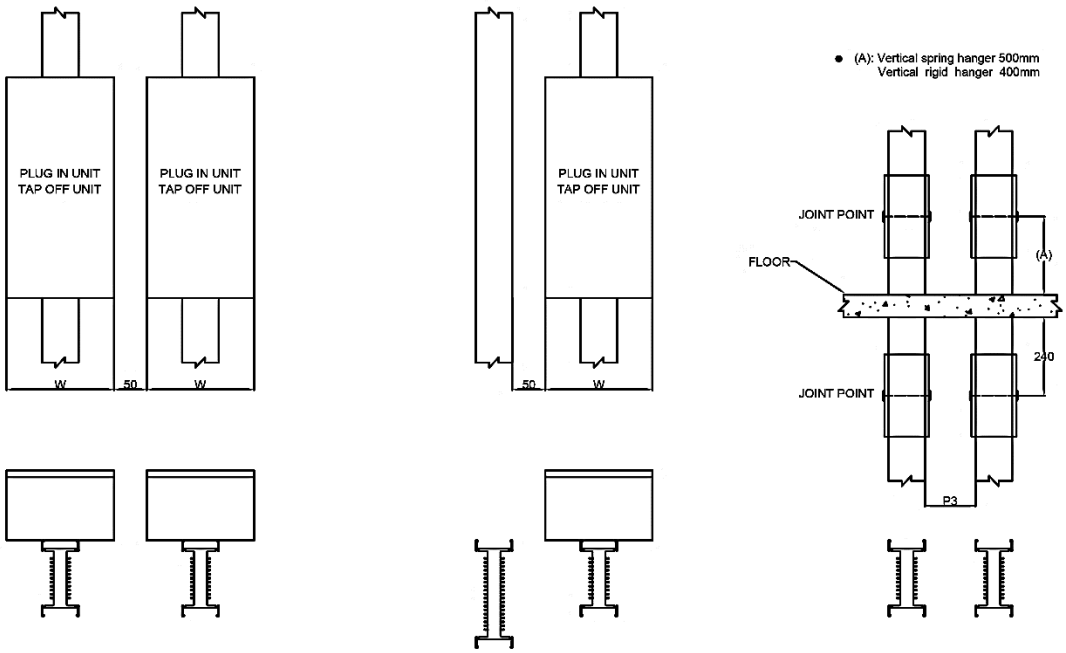
Minimum distance of horizontal Busway



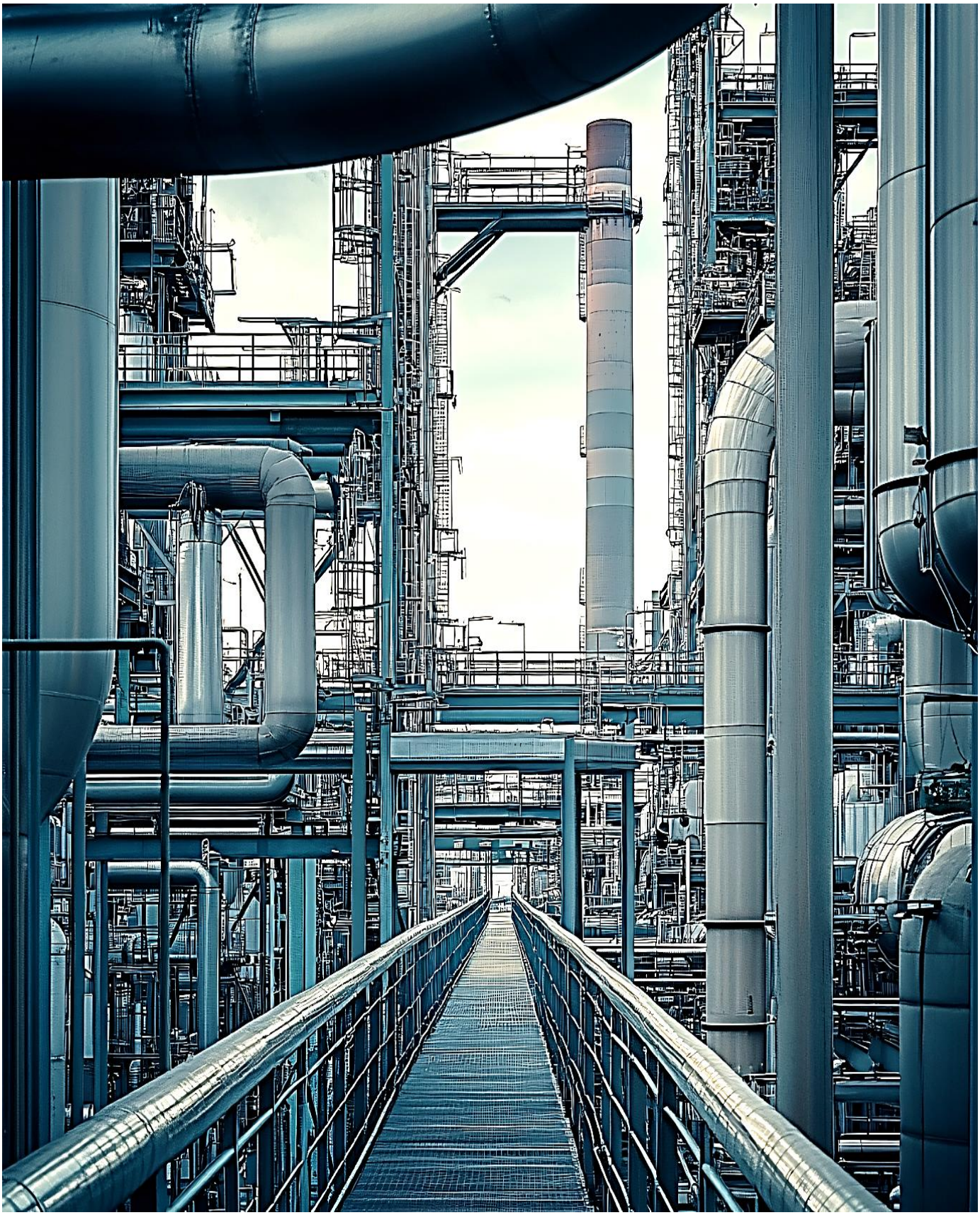
Unit : mm

	3W&3W	3W&4W	4W&4W
P1	220	260	270
P2	260	300	320
P3	190	215	230

Minimum clearance of riser busway



APPENDIX



CERTIFICATE

This is to Certify that the Management System of

PAAD CONTROL KEYSAN

4TH BAHARESTAN ALLEY- KAJ BLVD, KHEZR ABAD INDUSTRIAL AREA, YAZD, IRAN

UNIT 7, SECOND FLOOR, FERDOUS TOWER, KIAROSTAMI ST, VALIASR ST, TEHRAN, IRAN

has been audited and found to comply with the requirements of:

ISO 9001:2015
(Quality Management System)

For the Scope of activities described below:

MV & LV BUSDUCT & BUSBAR TRUNKING SYSTEM DESIGN PRODUCTION, TESTING, INSTALLATION, RETROFIT & MAINTENANCE.

Certificate No.: IR241105005

Date of initial registration	*Date of this Certificate*	*Surv. audit on or before/ Certificate expiry*	*Recertification Due*
05 November 2024	*05 November 2024*	*04 November 2025*	*04 November 2027*

Validity of this certificate is subject to successful completion of surveillance audit on or before due date, in case surveillance audit not conducted this certificate shall be suspended/cancelled.

Director

For verification and updated information concerning the present certificate visit to www.lmscert.uk/www.lmscert.com

This certificate is property of LMS Assessments Limited and remains valid subject to satisfactory surveillance audits and shall be returned immediately when demanded.

Accreditation

EGAC Accredited QMS Certification CAB # 012312

IAF MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT

LMS Assessments Limited
International Office: Bartle House, Oxford Court, Manchester, M2 3WQ(United Kingdom) **Phone :** +44-7904664589
(Company Regd. No. 11029176 Registered in England and Wales)
LMS Assessment Services Private Limited
Corporate Office: TF14, 15 Aarohi arcade, Sector 16, Munshi Puliya, Indira Nagar, Lucknow - 16, India **Phone :** +91 955 464 5464
Visit :- www.lmscert.uk/www.lmscert.com
E-mail :- info@lmscert.uk

LMS-FM-109/REV04

CERTIFICATE

This is to Certify that the Management System of

PAAD CONTROL KEYSAN

4TH BAHARESTAN ALLEY- KAJ BLVD, KHEZR ABAD
INDUSTRIAL AREA, YAZD, IRAN

UNIT 7, SECOND FLOOR, FERDOUS TOWER, KIAROSTAMI ST,
VALIASR ST, TEHRAN, IRAN

has been audited and found to comply with the requirements of:

ISO 14001:2015
(Environmental Management System)

For the Scope of activities described below:

MV & LV BUSDUCT & BUSBAR TRUNKING SYSTEM DESIGN PRODUCTION, TESTING, INSTALLATION, RETROFIT & MAINTENANCE.

Certificate No.: IR241105006

Date of initial registration	*Date of this Certificate*	*Surv. audit on or before/ Certificate expiry*	*Recertification Due*
05 November 2024	*05 November 2024*	*04 November 2025*	*04 November 2027*

Validity of this certificate is subject to successful completion of surveillance audit on or before due date, in case surveillance audit not conducted this certificate shall be suspended/cancelled.

Director

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This certificate is property of LMS Assessments Limited and remains valid subject to satisfactory surveillance audits and shall be returned immediately when demanded.

Accreditation

EGAC Accredited
EMS Certification
CAB # 012312

LMS Assessments Limited
International Office: Bartle House, Oxford Court, Manchester, M2 3WQ(United Kingdom) **Phone :** +44-7904664589
(Company Regd. No. 11029176 Registered in England and Wales)
LMS Assessment Services Private Limited
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Visit :- www.lmscert.uk/www.lmscert.com
E-mail :- info@lmscert.uk

AAC.T.00289

Document Code: LQF-708-02-01
Document Review Date: 01.07.30

page 1 of 12
Test Report Number : L6-70057-T3

H.V. TEST REPORT

Project No.:	L6-70057
Equipment Under Test:	LV Busduct
Model/Type:	LVB-AC-800 **Rated Value:** 415VAC/800A
S/N:	---
Manufacturer:	PAAD CONTROL KEYSAN Co. (PCK)
Address:	Unit 1333, 13th Floor, Sayeh Tower, Sayeh St., Valiasr St., Tehran-Iran.
Applicant:	PAAD CONTROL KEYSAN Co. (PCK)
Address:	Unit 1333, 13th Floor, Sayeh Tower, Sayeh St., Valiasr St., Tehran-Iran.
Tested According to:	IEC 61439-1: 2011 & IEC 61439-6: 2012
Testing Laboratory:	Energy & Power Industries Laboratories Co.
Date of Sample Receiption:	12-May-2024
Date of tests:	27-May-2024
Date of Issue:	05-Jun-2024
Total number of pages:	12

Tested by: Technical Expert — **A. Moharami**

Verified by: Technical Manager — **H. Sarmadi**

Approved by:

Deputy of Test and Inspection — **Prof. B. Vahidi / Prof. S. H. Fathi**

CEO/Deputy technical manager — **S. M. Mirsadri / S.M.Mirfalah**

The statement of conformity decision on the measured values is made based on guard band w=U, r=1 rule (ISO/IEC Guide 98-4). The specific false accept/reject risk is up to 2.5%.

Technical Department
ISO IEC 17025

Head-office: Unit 12, No. 2, Boujari Sefat Dead-End, Corner of Fariman St., Bozorgmehr St., Vali-Asr Ave., Tehran-Iran.
Postal Code:1416854523 Tel: (+9821) 61971 Fax: (+9821) 66174283
Lab: Kavosh Research City, Supa Blvd., 8th km of Karaj-Qazvin Freeway, Iran.
Postal Code: 3365166551 Tel: (+9826) 34996700-14 Fax: (+9826) 34996715

AAC.T.00289

Document Code: LQF-708-02-01
Document Review Date: 01.07.30

page 1 of 9
Test Report Number : L6_70057/1-T1

IK TEST REPORT

Project No.:	L6_70057/1
Equipment Under Test:	Feeder Busduct
Model/Type:	LVB-AC-800 **Rated Value:** 415VAC/800A
IP:	IK07
Manufacturer:	PAAD CONTROL KEYSAN Co. (PCK)
Address:	Unit 1333, 13nd Fl., Sayeh Tower, Sayeh St., Valiasr Ave., Tehran-Iran.
Applicant:	PAAD CONTROL KEYSAN Co. (PCK)
Address:	Unit 1333, 13nd Fl., Sayeh Tower, Sayeh St., Valiasr Ave., Tehran-Iran.
Tested According to:	IEC 60529 : 2019 & IEC 62262 : 2023
Testing Laboratory:	Energy & Power Industries Laboratories Co.
Date of Sample Receiption:	12-May-2024
Date of tests:	08-Jun-2024
Date of Issue:	10-Jun-2024
Total number of pages:	9
Test Result:	9

Tested by: Technical Expert — **H. Montazeri**

Verified by: Technical Manager — **B. Hamidifard**

Approved by:

Deputy of Test and Inspection — **Prof. B. Vahidi / Prof. S. H. Fathi**

CEO/Deputy technical manager — **S. M. Mirsadri / S.M.Mirfalah**

The statement of conformity decision on the measured values is made based on guard band w=U, r=1 rule (ISO/IEC Guide 98-4). The specific false accept/reject risk is up to 2.5%.

Technical Department
Accredited Lab

Head-office: Unit 12, No. 2, Boujari Sefat Dead-End, Corner of Fariman St., Bozorgmehr St., Vali-Asr Ave., Tehran-Iran.
Postal Code:1416854523 Tel: (+9821) 61971 Fax: (+9821) 66174283
Lab: Kavosh Research City, Supa Blvd., 8th km of Karaj-Qazvin Freeway, Iran.
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AAC.T.00289

Document Code: LQF-708-02-01
Document Review Date: 01.07.30

page 1 of 13
Test Report Number : L6_70057-T1

IP TEST REPORT

Project No.:	L6_70057
Equipment Under Test:	Feeder Busduct
Model/Type:	LVB-AC-800 **Rated Value:** See Marking
IP:	IP55
Manufacturer:	PAAD CONTROL KEYSAN Co. (PCK)
Address:	Unit 1333, 13nd Fl., Sayeh Tower, Sayeh St., Valiasr Ave., Tehran-Iran.
Applicant:	PAAD CONTROL KEYSAN Co. (PCK)
Address:	Unit 1333, 13nd Fl., Sayeh Tower, Sayeh St., Valiasr Ave., Tehran-Iran.
Tested According to:	IEC 60529 : 2013/COR1:2019 & IEC 62271-200
Testing Laboratory:	Energy & Power Industries Laboratories Co.
Date of Sample Receiption:	12-May-2024
Date of tests:	29-May-2024
Date of Issue:	05-Jun-2024
Total number of pages:	13
Test Result:	PASSED

Tested by: Technical Expert — **H. Montazeri**

Verified by: Technical Manager — **B. Hamidifard**

Approved by:

Deputy of Test and Inspection — **Prof. B. Vahidi / Prof. S. H. Fathi**

CEO/Deputy technical manager — **S. M. Mirsadri / S.M.Mirfalah**

The statement of conformity decision on the measured values is made based on guard band w=U, r=1 rule (ISO/IEC Guide 98-4). The specific false accept/reject risk is up to 2.5%.

ISO IEC 17025

Head-office: Unit 12, No. 2, Boujari Sefat Dead-End, Corner of Fariman St., Bozorgmehr St., Vali-Asr Ave., Tehran-Iran.
Postal Code:1416854523 Tel: (+9821) 61971 Fax: (+9821) 66174283
Lab: Kavosh Research City, Supa Blvd., 8th km of Karaj-Qazvin Freeway, Iran.
Postal Code: 3365166551 Tel: (+9826) 34996700-14 Fax: (+9826) 34996715

AAC.T.00289

Document Code: LQF-708-02-01
Document Review Date: 01.07.30

page 1 of 13
Test Report Number : L6-70057-T6

Temperature rise TEST REPORT

Project No.:	L6-70057
Equipment Under Test:	LV Busduct
Model/Type:	LVB-AC-800 **Rated Value:** 415VAC/800A
S/N:	---
Manufacturer:	PAAD CONTROL KEYSAN Co. (PCK)
Address:	Unit 1333, 13nd Fl., Sayeh Tower, Sayeh St., Valiasr Ave., Tehran-Iran.
Applicant:	PAAD CONTROL KEYSAN Co. (PCK)
Address:	Unit 1333, 13nd Fl., Sayeh Tower, Sayeh St., Valiasr Ave., Tehran-Iran.
Tested According to:	IEC 61439-6: 2012 & IEC 61439-1: 2011
Testing Laboratory:	Energy & Power Industries Laboratories Co.
Date of Sample Receiption:	2024-May-12
Date of tests:	May-28-2024
Date of Issue:	June-15-2024
Total number of pages:	13

Tested by: Technical Expert — **S.Khanjanzadeh**

Verified by: Technical Manager — **H.Sarmadi**

Approved by:

Deputy of Test and Inspection — **Prof. B. Vahidi / Prof. S. H. Fathi**

CEO/Deputy technical manager — **S. M. Mirsadri / S.M.Mirfalah**

The statement of conformity decision on the measured values is made based on guard band w=U, r=1 rule (ISO/IEC Guide 98-4). The specific false accept/reject risk is up to 2.5%.

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Test Report No 03H435

Test Object:	400V, 800 A busduct
Type:	LVB-AC-800
Busbar dimensions:	55*6 mm
Serial Number:	test sample
Manufacturer:	Paad Control Keysan Co.
Test Performed on order of:	Paad Control Keysan Co.
Test Scope(s):	- Short-time withstand current (40 kA/1 s)
Tests Procedure:	According to standard IEC 62271-200:2021
Test Performed:	June 10, 2024
Test Result:	Indicated in Report The test result refers to the tested object only.

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Short-time withstand current test on 400V, 800 A Busduct
Type: LVB-AC-800, Paad Control Keysan Company production

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Document Code: LQF-708-02-01
Document Review Date: 01.07.30

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Test Report Number : L6-70056-T3

H.V. TEST REPORT

Project No.:	L6-70056		
Equipment Under Test:	LV Busduct		
Model/Type:	LVB-AC-4000	**Rated Value:**	415VAC/4000A
S/N:	---		
Manufacturer:	PAAD CONTROL KEYSAN Co. (PCK)		
Address:	Unit 1333, 13th Floor, Sayeh Tower, Sayeh St., Valiasr St., Tehran-Iran.		
Applicant:	PAAD CONTROL KEYSAN Co. (PCK)		
Address:	Unit 1333, 13th Floor, Sayeh Tower, Sayeh St., Valiasr St., Tehran-Iran.		
Tested According to:	IEC 61439-1: 2011 & IEC 61439-6: 2012		
Testing Laboratory:	Energy & Power Industries Laboratories Co.		
Date of Sample Receiption:	12-May-2024		
Date of tests:	27-May-2024		
Date of Issue:	05-Jun-2024		
Total number of pages:	12		

Tested by: Technical Expert — **Verified by:** Technical Manager

A. Moharami — H. Sarmadi

Approved by:

Deputy of Test and Inspection — CEO/Deputy technical manager

Prof. B. Vahidi / Prof. S. H. Fathi — **S. M. Mirsadri / S.M.Mirfalah**

Technical Department
ISO IEC 17025

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Postal Code: 3365166551 Tel: (+9826) 34996700-14 Fax (+9826) 34996715

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کد پستی: ۱۴۱۶۸۵۴۵۲۳ تلفن: ۶۶۱۷۴۲۸۳ - ۶۶۱۹۷۱۰۱ (۰۲۱+) فکس: (۰۲۱+)
آزمایشگاه: کیلومتر ۸ اتوبان کرج – قزوین، بالوار سویا، شهرک تحقیقاتی کاوش، شرکت آزمایشگاه‌های صنایع انرژی.
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Document Code: LQF-708-02-01
Document Review Date: 01.07.30

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Test Report Number : L6_70056/1-T1

IK TEST REPORT

Project No.:	L6_70056/1		
Equipment Under Test:	Feeder Busduct		
Model/Type:	LVB-AC-4000	**Rated Value:**	415VAC/4000A
IP:	IK07		
Manufacturer:	PAAD CONTROL KEYSAN Co. (PCK)		
Address:	Unit 1333, 13nd Fl., Sayeh Tower, Sayeh St., Valiasr Ave., Tehran-Iran.		
Applicant:	PAAD CONTROL KEYSAN Co. (PCK)		
Address:	Unit 1333, 13nd Fl., Sayeh Tower, Sayeh St., Valiasr Ave., Tehran-Iran.		
Tested According to:	IEC 60529 : 2019 & IEC 62262 : 2023		
Testing Laboratory:	Energy & Power Industries Laboratories Co.		
Date of Sample Receiption:	12-May-2024		
Date of tests:	08-Jun-2024		
Date of Issue:	10-Jun-2024		
Total number of pages:	8		
Test Result:	**PASSED**		

Tested by: Technical Expert — **Verified by:** Technical Manager

H. Montazeri — B. Hamidifard

Approved by:

Deputy of Test and Inspection — CEO/Deputy technical manager

Prof. B. Vahidi / Prof. S. H. Fathi — **S. M. Mirsadri / S.M.Mirfalah**

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آزمایشگاه: کیلومتر ۸ اتوبان کرج – قزوین، بالوار سویا، شهرک تحقیقاتی کاوش، شرکت آزمایشگاه‌های صنایع انرژی.
کد پستی: ۳۳۶۵۱۶۵۵۱ تلفن: ۳۴۹۹۶۷۰۰-۱۴ (۰۲۶+) فکس: ۳۴۹۹۶۷۱۵ (۰۲۶+)

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Document Code: LQF-708-02-01
Document Review Date: 01.07.30

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Test Report Number : L6_70056-T1

IP TEST REPORT

Project No.:	L6_70056		
Equipment Under Test:	Feeder Busduct		
Model/Type:	LVB-AC-4000	**Rated Value:**	See Marking
IP:	IP55		
Manufacturer:	PAAD CONTROL KEYSAN Co. (PCK)		
Address:	Unit 1333, 13nd Fl., Sayeh Tower, Sayeh St., Valiasr Ave., Tehran-Iran.		
Applicant:	PAAD CONTROL KEYSAN Co. (PCK)		
Address:	Unit 1333, 13nd Fl., Sayeh Tower, Sayeh St., Valiasr Ave., Tehran-Iran.		
Tested According to:	IEC 60529 : 2013/COR1:2019 & IEC 62271-200		
Testing Laboratory:	Energy & Power Industries Laboratories Co.		
Date of Sample Receiption:	12-May-2024		
Date of tests:	29-May-2024		
Date of Issue:	05-Jun-2024		
Total number of pages:	13		
Test Result:	**PASSED**		

Tested by: Technical Expert — **Verified by:** Technical Manager

H. Montazeri — B. Hamidifard

Approved by:

Deputy of Test and Inspection — CEO/Deputy technical manager

Prof. B. Vahidi / Prof. S. H. Fathi — **S. M. Mirsadri / S.M.Mirfalah**

Technical Department
Accredited Lab

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page 1 of 12
Test Report Number : L6-70056-T6

Temperature rise TEST REPORT

Project No.:	L6-70056
Equipment Under Test:	LV Busduct
Model/Type:	LVB-AC-4000 **Rated Value:** 415VAC/ 4000A
S/N:	---
Manufacturer:	PAAD CONTROL KEYSAN Co. (PCK)
Address:	Unit 1333, 13nd Fl., Sayeh Tower, Sayeh St., Valiasr Ave., Tehran-Iran.
Applicant:	PAAD CONTROL KEYSAN Co. (PCK)
Address:	Unit 1333, 13nd Fl., Sayeh Tower, Sayeh St., Valiasr Ave., Tehran-Iran.
Tested According to:	IEC 61439-6: 2012 & IEC 61439-1: 2011
Testing Laboratory:	Energy & Power Industries Laboratories Co.
Date of Sample Reception:	May-12-2024
Date of tests:	May-30-2024
Date of Issue:	June-15-2024
Total number of pages:	12

Tested by: Technical Expert
S.Khanjanzadeh

Verified by: Technical Manager
H.Sarmadi

Approved by:

Deputy of Test and Inspection
Prof. B. Vahidi / Prof. S. H. Fathi

CEO/Deputy technical manager
S. M. Mirsadri / S.M.Mirfalah

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دفاتر مرکزی: تهران، خیابان وفامهر، خیابان بزرگمهر، نبش فریمان، پن پست بوزجاری سلمت، پلاک ۲، طبقه ۳، واحد ۱۲.
کد پستی: ۱۴۱۶۸۵۴۵۲۳ تلفن: ۶۱۹۷۱-۶۶۱۷۴۲۸۳ (۰۲۱) فکس: ۶۶۱۷۴۲۸۳ (۰۲۱)
آزمایشگاه: کاوشگر ۸ کیلومتر خرج – قزوین، بلوار سوپا، شهرک تحقیقاتی کاوش، شرکت آزمایشگاه‌های صنایع انرژی.
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Test Report No 03H434

Test Object:	400V, 4000 A busduct
Type:	LVB-AC-4000
Busbar dimensions:	2*176*6 mm
Serial Number:	test sample
Manufacturer:	Paad Control Keysan Co.
Test Performed on order of:	Paad Control Keysan Co.
Test Scope(s):	- Short-time withstand current (50 kA/1 s)
Tests Procedure:	According to standard IEC 62271-200:2021
Test Performed:	June 10, 2024
Test Result:	Indicated in Report The test result refers to the tested object only.

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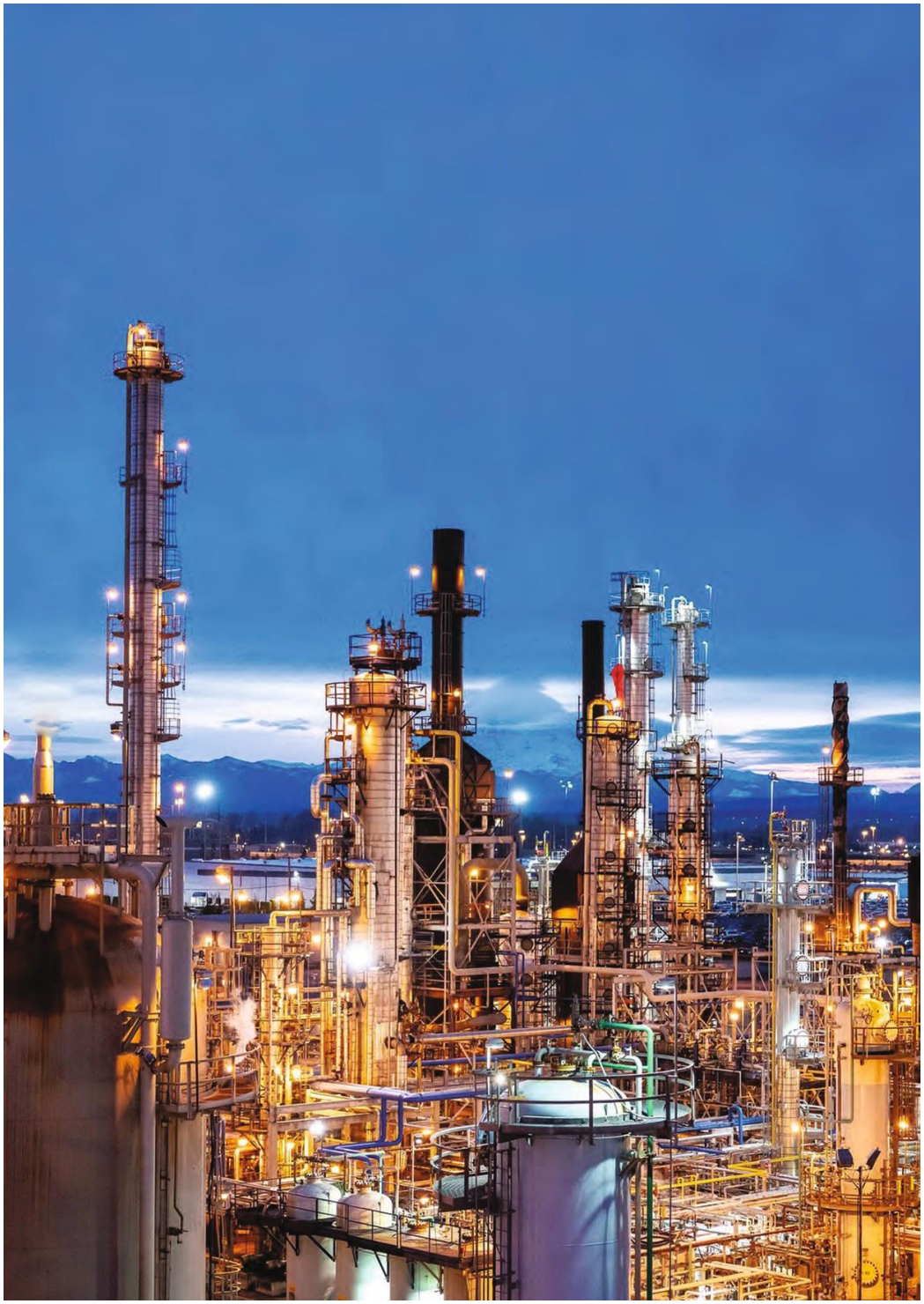
Short-time withstand current test on 400V, 4000 A Busduct
Type: LVB-AC-4000, Paad Control Keysan Company production



آدرس دفتر تهران: خیابان ولیعصر- نرسیده به میدان تجریش- نبش خیابان کیارستمی- برج فردوس- پلاک 3047- طبقه 2- واحد 7

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