ELECTRICOS
INTERNACIONAL SAS

We design, manufacture, and validate the protection of your network.

2026

PRODUCT CATALOG

CO COLOMBIA

Stavol®

DPS PROTECCIONES SAS

LUHFSER®

comunicaciones@electricosinter.com
gerencia@electricosinter.com
Calle 17 N0,42 A-69. Bogotá, Colombia.
www.electricosinter.com

Content

¿Who we are?

100% Colombian company

We provide security and electrical reliability. We are leaders in the manufacturing of protective overvoltage, overcurrent and overhead components.

We are important allies with utility companies avoiding unnecessary interruptions of electrical systems for unknow causes generating costly losses reflected in important indicators such as **SAIFI**.

We are present in the Asian and American continent showing our commitment to global energy security.

Our products are manufactured with state-of-the-art technology under the most demanding quality standards ISO 9001:2015, ISO 14001:2015, ISO 45001:2018.

Test reports fuses

Powertech

The Power of Trust. The Future of Energy.

POWERTECH LABS INC.

FINAL REPORT

CERTIFICATION TESTING OF
LUHFSER 8K FUSE LINK

Summary of Tests Performed:

Tensile Withstand Strength	IEEE C37.42 – 2009, Section 4.5.1.6	PASS
Temperature-Rise Tests	IEEE C37.41 – 2008, Section 10	PASS
Time-Current Tests	IEEE C37.41 – 2008, Section 11	PASS

POWERTECH LABS INC.

FINAL REPORT

CERTIFICATION TESTING OF
LUHFSER 40K FUSE LINK

Summary of Tests Performed:

Tensile Withstand Strength	IEEE C37.42 – 2009, Section 4.5.1.6	PASS
Temperature-Rise Tests	IEEE C37.41 – 2008, Section 10	PASS
Time-Current Tests	IEEE C37.41 – 2008, Section 11	PASS

POWERTECH LABS INC.

FINAL REPORT

CERTIFICATION TESTING OF
LUHFSER 80T FUSE LINK

Summary of Tests Performed:

Tensile Withstand Strength	IEEE C37.42 – 2009, Section 4.5.1.6	PASS
Temperature-Rise Tests	IEEE C37.41 – 2008, Section 10	PASS
Time-Current Tests	IEEE C37.41 – 2008, Section 11	PASS

Universidad Nacional de Río Cuarto

Our fuses have passed strict electrical test at recognized international laboratories.

LEC

Informe de Ensayo

Fusibles de expulsión
Pruebas de interrupción

Ref.: IE-1278.09
Emisión: 11-Dic-2009
Página: 1 de 5

Descripción del objeto ensayado	Fusible de expulsión para seccionador autodesconectador
Marca comercial	LUHFSER
Modelo/referencia de tipo	Tipo "K"
Fabricante	CI ELECTRICOS INTERNACIONAL LTDA.
Características nominales	Un: 15 kV, In: 40 A, Velocidad "K"
Responsable de la Función Técnica:	Ing. Germán ZAMANILLO
Responsable Gestión de la Calidad :	Ing. Gabriel CAMPETELLI
Director	Ing. Daniel H. TOURN
Resultado de los ensayos	Los elementos ensayados cumplen satisfactoriamente los requerimientos de los apartados de la norma de referencia incluidos en este informe.
Lugar del ensayo	Laboratorio de Ensayos y Certificaciones – IPSEP Facultad de Ingeniería Universidad Nacional de Río Cuarto Laboratorio de Ensayo con Sistema de Gestión de la Calidad, implementado según Norma IRAM 301:2005 – ISO/IEC 17025:2005
Dirección	Ruta Nacional 36 – Km. 601, (X5804BYA), Río Cuarto, Córdoba, Argentina.
Cliente	CI ELECTRICOS INTERNACIONAL LTDA.
Dirección	Cra. 31 A, N° 11-40, Bogotá, D.C. - Colombia
Fecha de realización del ensayo	03/04-Dic-2009
Normas	IEEE Standard Design Tests for High-Voltage (>1000 V) Fuses, Fuse and Disconnecting Cutouts, Distribution Enclosed Single-Pole Air Switches, Fuse Disconnecting Switches, and Fuse Links and Accessories Used with These Devices
Base de informe N°	IEEE Std. C37.41-2008
Base originada por	Laboratorio de Ensayos y Certificaciones – IPSEP
Fecha y revisión de la base	07-Dic-2009 Rev. 00
Procedimiento empleado	Verificación conforme a las normas indicadas
Tipo de desviaciones	No hay desvíos
Métodos no normalizados	No se aplicaron

3 RESULTADOS

Los valores registrados se muestran en las Tablas 1 y 2:

Tabla 1

SERIE 4							
Muestra N°	Calibre	Corriente Prevista [A]	Corriente Prevista Cosφ	Tiempo de arranco [ms]	Tiempo total [ms]	Gráfico Anexo I (Oscilograma N°)	Observaciones
1	40K	486	0,28	204,0	240,7	N° 1	Satisfactorio
2	40K	420	0,28	241,0	259,1	N° 2	Satisfactorio

Tabla 2

SERIE 5							
Muestra N°	Calibre	Corriente Prevista [A]	Corriente Prevista Cosφ	Tiempo de arranco [ms]	Tiempo total [ms]	Gráfico Anexo I (Oscilograma N°)	Observaciones
3	40K	177	0,75	8,0	1,39	N° 3	Satisfactorio
4	40K	177	0,75	12,0	1,42	N° 4	Satisfactorio

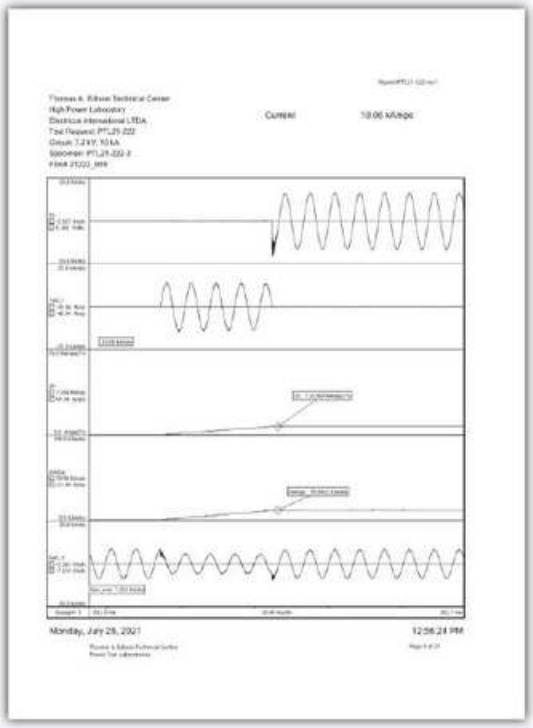
4 CONCLUSIÓN

De los resultados obtenidos se concluye que las muestras ensayadas superaron exitosamente las pruebas de interrupción (Series 4 y 5) de la Norma de referencia.

Test report GSK

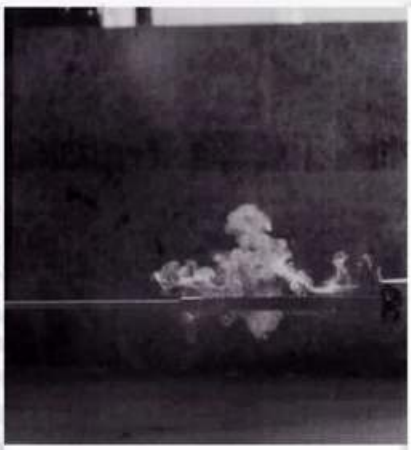
EATON laboratory at Franksville

THOMAS A. EDISON POWER TEST LABORATORIES
TEST REPORT
Fault Testing
On
Electricos Stainless Grounding Rod and Strap
- Manufactured By -
Electricos International LTDA.
Calle 17 No. 42A-60
Bogota D.C. - Colombia
- Prepared By -
Dan Ilaffa
Technician, Power Test Laboratories
- Approved By -
Christopher Borck
Christopher Borck
Manager, Power Test Laboratories
Report # PTL21-222-A-ver1
Issued: 7/27/2021
ACCREDITED
Certificate number 1457.01
Performed By:
Thomas A. Edison Power Test Laboratories
1111 Adams Road
Franksville, WI 53126
CUSTOMER PROPERTY — this report has been prepared for a customer. Copies cannot be given or shown without approval from the customer. This report cannot be reproduced in full or in part without permission from Eaton's Power Systems Division Thomas A. Edison Technical Center Power Test Laboratories.



Thomas A. Edison Technical Center
High Power Laboratory
Electricos International LTDA
Test Request: PTL21-222
Circuit: 7.2 kV, 10 kA
Specimen: PTL21-222-2
Event: 21222_009
Current 10.00 kAmps
Monday, July 26, 2021 12:56:24 PM

Electrical testing compared to other materials



Our material resist short circuit test

Other materials present failures and risk of explosion

Accredited laboratory

In Eléctricos Internacional sas we have ONAC accreditation, in force to date, with accreditation code 12-LAB-055, under ISO/IEC 17025:2017.

We desing customized fuses

ELECTRICOS INTERNACIONAL SAS. laboratory provides electrical, mechanical and dielectric capacity testing services to electrical products based on customer requirements under national and international technicals standars. It has properly trained, technical personnel, competent and impartial, familiar with the documentation and committed to implementing the policies and procedures in accordance with ISO 17025.

Accredited laboratory

Certificate : 12-LAB-055

We perform dielectric testing

The top management is committed to good professional practices, the quality of the performmed tests during the service to its customers and compliance with the ISO 17025 standard.

Overvoltage

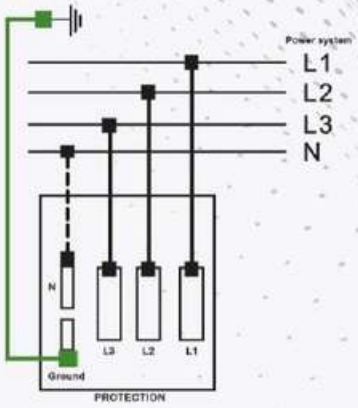
Arresters

Connectors

Conductors

Low voltage protection box

Provides surge protection for your equipment in three-phase low-voltage networks.



Transformer secondary protection

Models:
150V 40Ka & 420V 40Ka
Maximum operating voltage:
150V & 440V
Rated current at 8/20us:
300A
Maximum surge current at 8/20us:
40Ka

Disconnector for arresters

Breaking load:
3000N
Flexural strength:
60Nm
Torsion resistance:
27Nm
Electric resistance N/A:
∞
Electric resistance N/C:
22K Ω

Surge arresters
Distribution class 100kA

3kV to 9 kV

Arrester rating (kV rms)	MCOV (kV rms)	Front-of-wave protection level (kV peak) (Voltage protection)	Height A (mm)	Bil (kV)
3	2.55	10.6	70	64,5
6	5.1	20.7	93	70,5
9	7.65	31.7	137	100

10kV to 24 kV

Arrester rating (kV rms)	MCOV (kV rms)	Front-of-wave protection level (kV peak) (Voltage protection)	Height A (mm)	Bil (kV)
10	8.4	33.7	137	100
12	10.2	41.5	137	100
15	12.7	51.8	137	100
18	15.3	61.6	193	132
21	17	66	213	144
24	19.5	77	235	157,5

27kV to 36 kV

Arrester rating (kV rms)	MCOV (kV rms)	Front-of-wave protection level (kV peak) (Voltage protection)	Height A (mm)	Bil (kV)
27	22	87.2	257	171
30	24.4	97.1	267	174
36	29	116	312	200

Drop out surge arresters (DOSA)

9kV to 15 kV

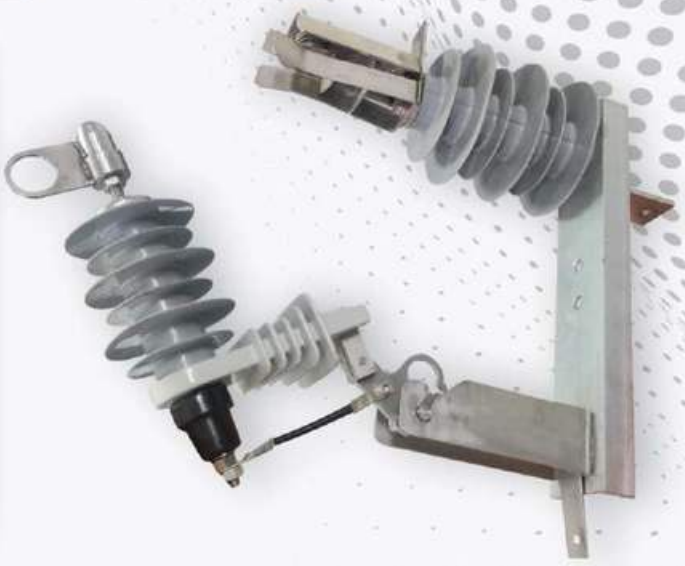
Compatibility with arresters for:

9 kV 12 kV
10 kV 15 kV

Nominal operating voltage:

15kV

Weight:	Bil:
5.66 Kg	110kV



18kV to 24 kV

Compatibility with arresters for:

18 kV 24 kV
21 kV

Nominal operating voltage:

24kV

Weight:	Bil:
11.66 Kg	200kV

27kV to 36 kV

Compatibility with arresters for:

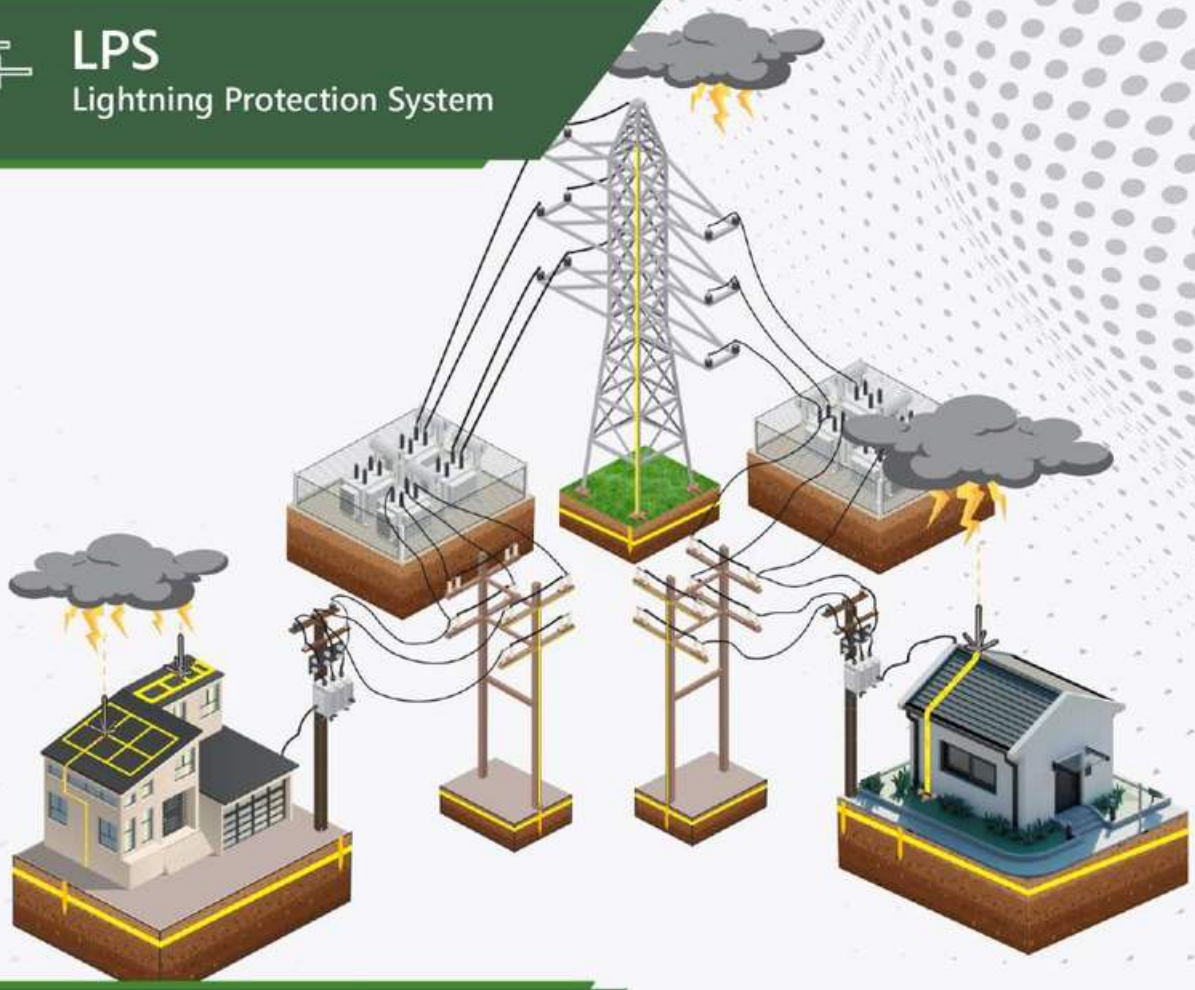
27 kV 36 kV
30 kV

Nominal operating voltage:

36kV

Weight:	Bil:
12 Kg	200kV

LPS
Lightning Protection System



LPS connectors

Multiple flat conductors x3

ROD

Multiple flat conductors x3

CONDUCTOR

Multiple flat conductors 5/8" - 4 plate base for cable

Crossroad connector

Connector type C

Connector type J

Assembly connector

Type swivel connector

Connector type U 5/8"

Connector type J 5/8
3 screws

Connector Type J
1/2 staggered

Connector fixation straps 5/16"

Connector rod straps

Connector type T

Open cross type
connector 3T

Guide clamp

Connector type
electrode plate

Connector
straps-rod 5/8"

Busbar 100 mm x1/4
200 - 400 - 500 - 600

Connector type double perforation
or single perforation
1/4" - 3/16" - 5/16" - 1/2"

Insulator

Security nut

Connector type wedge
10 mm

Flat connector extender
1 ó 2 bolts

Flat connector
for cable

Connector for tube

Connector
conductor - tube

Insulator clamping
arm with base

Base franklin rod with strap

Base franklin rod to cable

Base franklin rod 5/8" - 10 mm

Connector type M for messenger wire

Type rod cable connector

Franklin rods

Franklin rod

Base for franklin rod

Rod in stainless steel
10 mm (60 cm to 120 cm)
5/8" (60cm to 120cm)

Flat in stainless steel
10 mm (60 cm to 120 cm)
5/8 (60cm to 120cm)

Electrodes

Stainless steel
10 mm (1.50 m to 2.40 m)
1/2" (1.50 m to 2.40 m)
5/8" (1.50 m to 2.40 m)

Plate in stainless steel
200 mm x 100 mm x 6.35mm

Tube in stainless steel
3/4"

LPS Conductors

Made of austenitic stainless steel type 304.

CONDUCTOR 25 MM X 2 MM

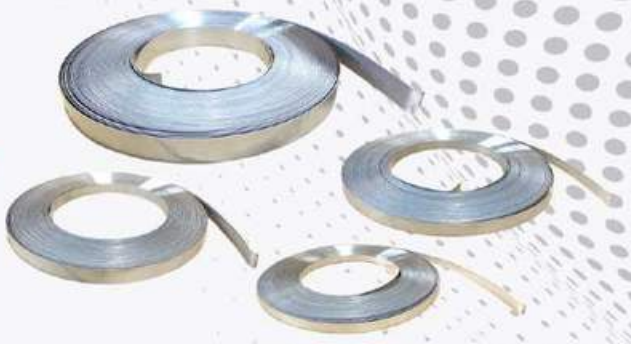
CONDUCTOR 20 MM X 2.5 MM

CONDUCTOR 25 MM X 2.5 MM

CONDUCTOR 30 MM X 3 MM

Straps & Buckles

Straps
3/8 - 1/2 -5/8 - 3/4



Clamps
3/8 - 1/2 -5/8 - 3/4

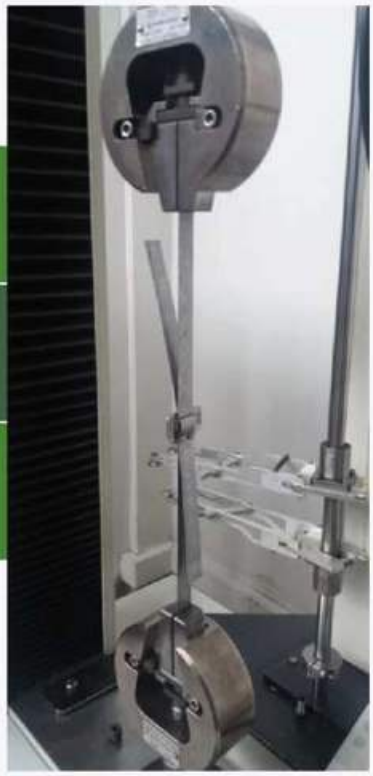
Buckles
3/8 - 1/2 -5/8 - 3/4

Mechanical testing

Withstands the value of the maximum force that the assembly must support Eg: 5/8" of 450Kgf.

Not all stainless steels are the same.

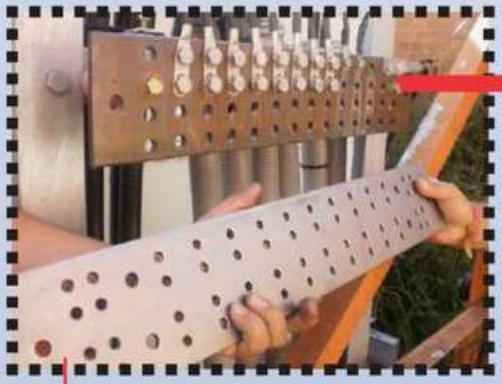
We use AUSTENITIC STAINLESS STEEL TYPE 304.



Telecommunication
KITS

PREVENT COPPER THEFT USING AUSTENITIC STAINLESS STEEL 304

1. Outlives the useful life of copper.
2. Avoids feeding into the illegal market.
3. Service is not interrupted as a result of theft.
4. Our material is certified and tested.



Copper busbar easy target for thieves

BUSBAR

AUSTENITIC STAINLESS STEEL 304

The best option against galvanic corrosion

WE DESING AND MANUFACTURE

Kits for distribution lines

HDPE EXTRUDED COVER

SOME APPLICATIONS

- Oil rigs
- Primary neutral
- Secondary neutral
- Overhead grounding wire
- Distribution Transformer
- Surge arresters
- Telecontrolled reclosers
- Capacitors

GSK

(GROUNDING KIT SYSTEM)

EXTRUDED JACKET PROVIDES IMPORTANT INSULATION IN PUBLIC PLACES

Our KITS

Extruded cover for flat conductor

Pre-formed end for grounding rod assembly.

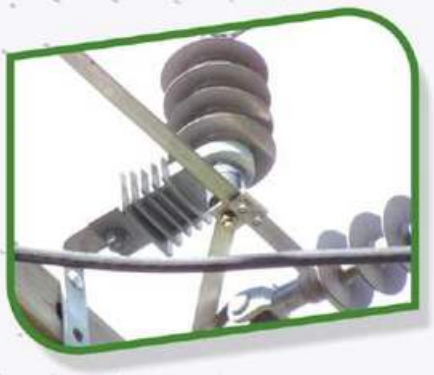
Extruded cover cable

Sometimes assembled with eye bolt connector

Marked as per customer requirements

Manufactured in austenitic stainless steel 304

Rounded edges with no sharp ridges



Patented Connectors

Rod diameter as per IEEE standard

Electrodes in austenitic stainless steel 304

one stretch

Overhead components

Cable spacer

Antisway bracket

Pin insulator

Cable spacer

We ensure the isolation of the network, subject to a metallic cable (messenger).

We ensure the insulation of the network, using our clamp type spacer, made of high density polyethylene (HDPE) providing a high resistance to impacts and loads generated by the power line.

Resistant to erosion and tracking formation due to weather exposure and resistance to UV rays incidence.

POLYMERIC SPACER FOR COMPACT NETWORKS 15kV				
Voltage (kV)	Height	width	Weight (grams)	Minimum leakage distance
15	18.4"	13.7"	842	11.02"

Nominal voltage (kV)	15
Weight (lb/ft), assuming 30 ft of separation	0.614
Short circuit rating (kA)	13.5
Voltage withstand at industrial frequency under rain (1 min)	34

Antisway arm support

It has a self-locking pin for assembly together with the pin

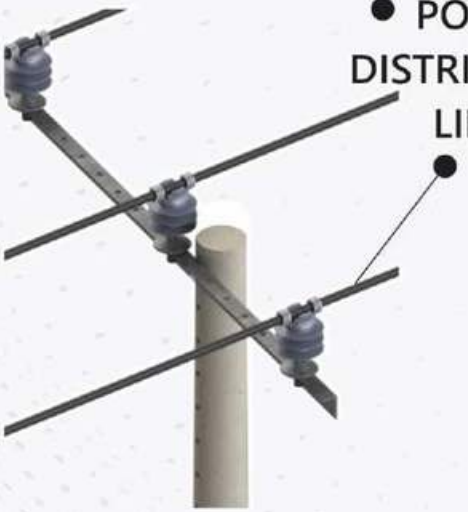
Decreases cable sway in the spacer, reducing stress and wear

Maintains spacer distance from the pole

Produced in high density polyethylene (HDPE) for 15KV voltages.

Maximum operation voltage (kV)	Maximum installation angle	Tensile strength (lbf)	Compression without deformation (lbf)	Stress without deformation (lbf)	Lateral stress (lbf)
15	6°	278	278	397	110

Pin insulator



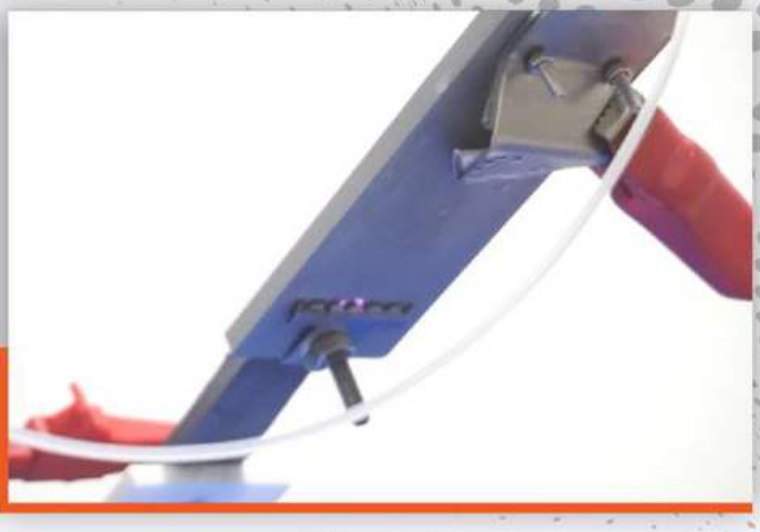
Creepage distance	310 mm
Dry arcing distance	172mm
Cantilever mechanical resistance	13 kN
Wet power frequency voltage	40 kV
Perforation voltage	95 kV
Maximum operating voltage	15 kV

Provides a rigid mechanical support to the electrical conductors and at the same time insulates the polestructure.

Manufactured in high density polyethylene HDPE. It has great resistance to impact and mechanical loads

Tracking testing

We perform tracking tests on all batches of our HDPE material to ensure its electrical properties.



Do you know the number of failed distribution transformers per year due to the lack of proper electrical protection?

Do you know the cost of mobilizing crews because of a bad fuse?

Why do these disconnections affect indicators such as SAIFI?

Overcurrent

Expulsion
Fuse link

Hookstick
switch

Secondary
fuses

Expulsion fuse links

LUHFSER®

Fuses under technical standards
IEEE STD C37.41:2016 - IEEE STD C37.42:2016
NTC 2132:2006 - NTC 2133:2002

Type H — 1 to 100 A

Fuse element: Copper
Speed ratio: 4,7 a 7,1

Type K — 1 to 200 A

Fuse element: Tin or silver alloy
Speed ratio: 6 a 8,1

Type T — 1 to 200 A

Fuse element: Tin or silver alloy
Speed ratio: 10 a 13,1

Type NS — 1 to 100 A

Fuse element: Silver alloy
Speed ratio: 7 a 8,5

Type VS® — 1 to 100 A

Fuse element: CuNi y CrNi
Speed ratio: 18 a 24,3

Type SR® — 0.2 to 46 A

Fuse element: CuNi y CrNi
Speed ratio: 13 a 30

more technical information

www.electricosinter.com/fusibles-de-expulsion/

Auxiliary tubes

Manufactured in vulcanized fiber with the appropriate technical specifications that guarantee compliance whit the ASTM D-635 flammability standard

NO

- Damage fuse holders
- Generate fires
- Burn electrical contacts

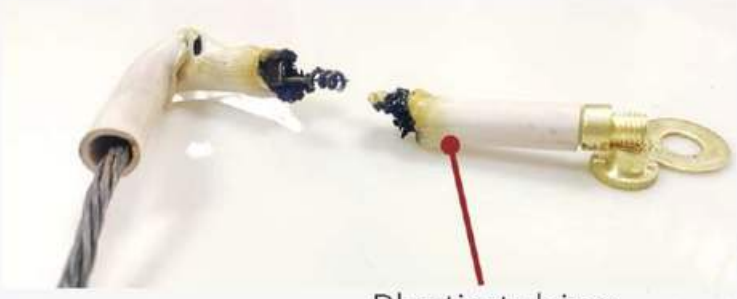
SHORT CIRCUIT

Our fuses OPERATE when they are supposed to, and our tubes maintain their integrity to prevent arcing.

OVERLOAD

No matter how many users are connected to the network, our VULCANIZED FIBER TUBES will NOT burn out.

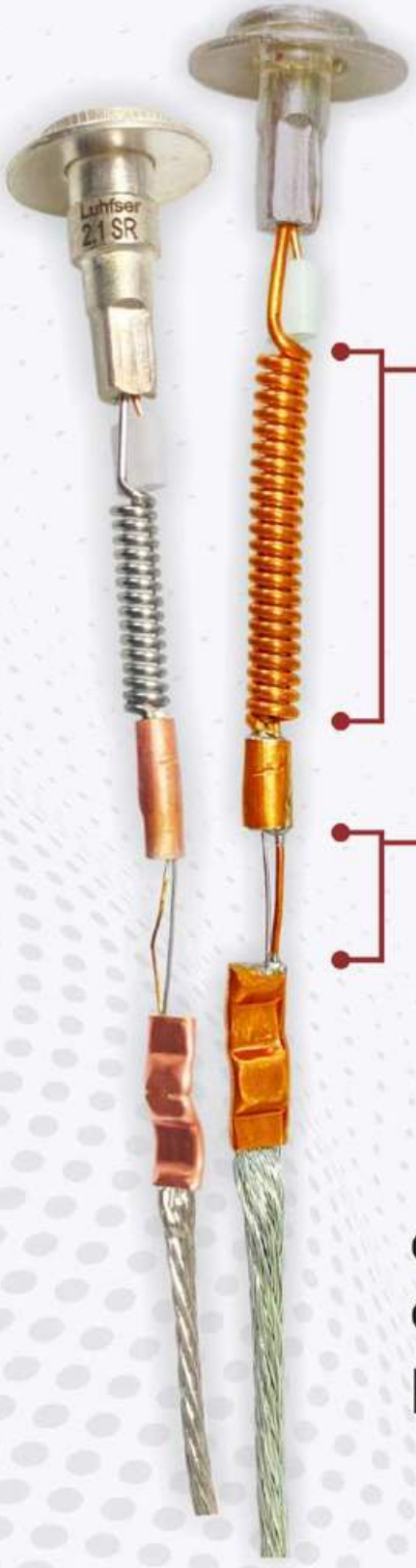
This happens when the right materials are not used.



Plastic tubing
without vulcanized fiber

Double acting fuse link (SR)

¿Are you properly protecting your transformer against overcurrent?



Slow operation

It is a coil wrapped on an insulated tensorwire, both in parallel pressed to the terminal and the other end a small copper juncture.

Quick operation

It has a parallel steel tension wire and a copper wire, similar to a K-type, die-cut to the copper ferrule and juncture.

our double acting fuse link offers the best protection to the power grid and the transformer.

Anti-storm fuse (VS)

The fast section, like the slow section, has four alloyed copper-nickel wires in parallel, pressed on the ferrule and bushing, joined by a soldered juncture.

In VS type fuses when operating with fault currents or overloads they transmit sufficient temperature through the fuse wires to the welded joint causing melting of the weld and opening of the circuit.

VS type fuses are fuses manufactured with fusible wires made of thermosetting alloys specially designed to have a stable electrical behavior with the alterations normally produced by overheating due to overloads. The VS fuse has excellent handling in the overload segment except that it is slower at the high current end. The superior surge resistance makes the probability of lightning damage very small, which makes the VS fuse ideal for the protection of small to medium kVA distribution transformers especially in rural areas.

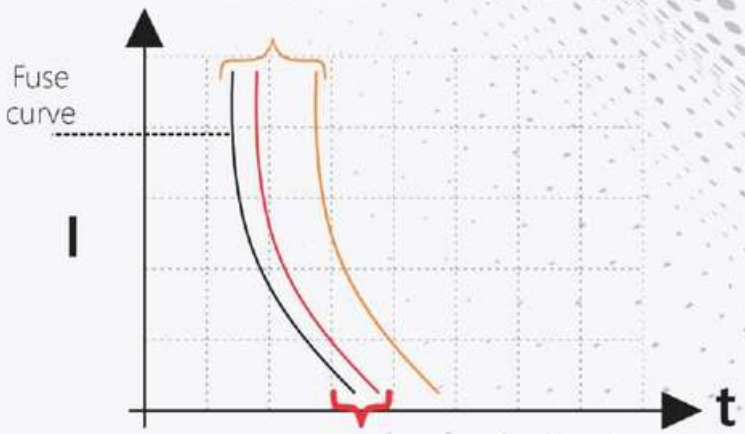
Joule Sentry®

Helicoid wire silver element

Soldered

Pressed

Other fuses operate with the TCC at 25%



Our FUSE LINKS OPERATE with TCC lower than 10%

Cross reference	
Joule Sentry	**Positrol**
K	K
M	STD
T	T
F	QR

Secondary fuses

Change the high-cost NH fuse system to low-cost expulsion fuses, providing better coordination.

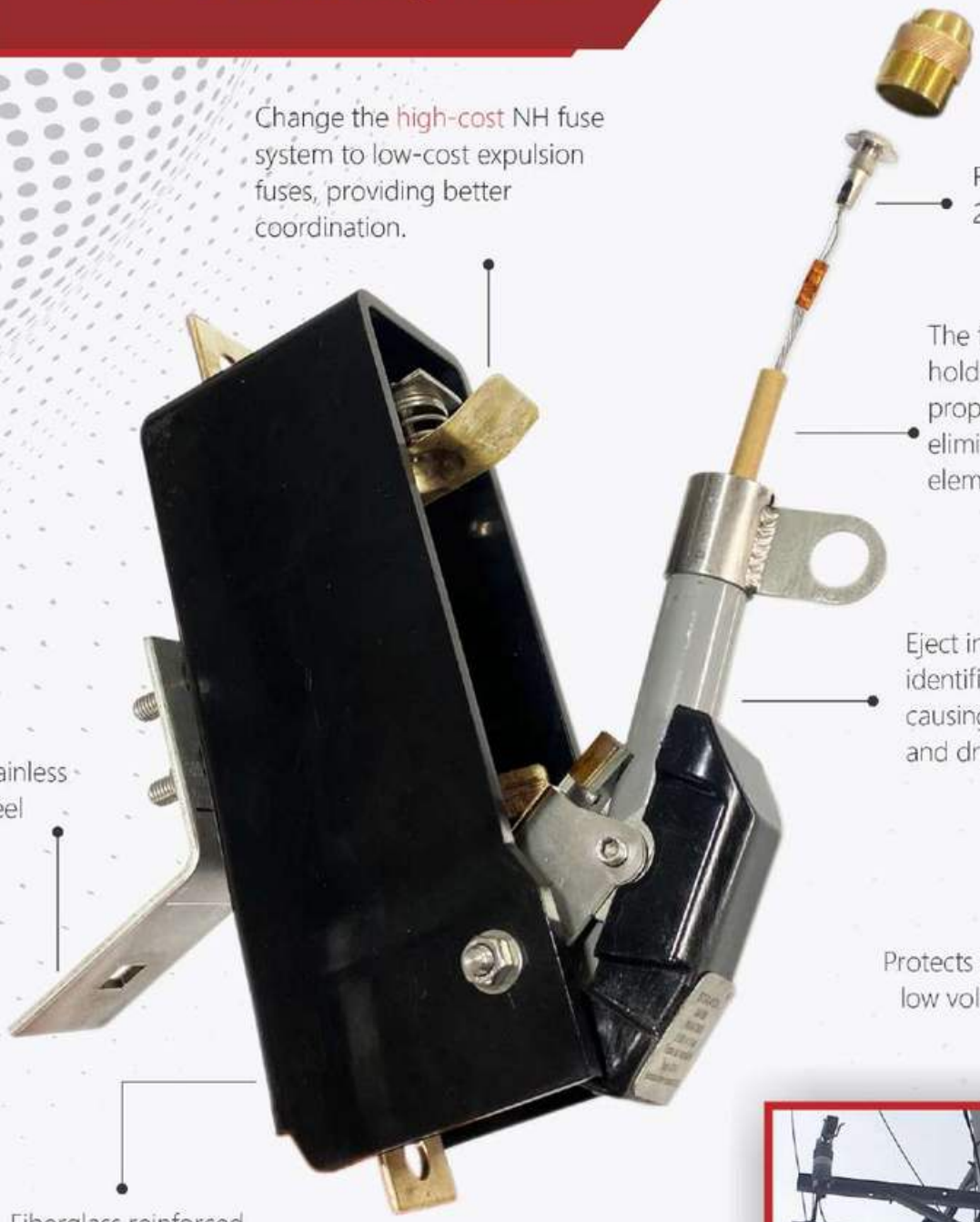
Fuses up to 200A

The fuse is installed inside a fuse holder with arc-extinguishing properties, producing a gas that eliminates the arc when the fuse element fails..

Eject indicator for easy identificationof a damaged fuse causing the fuse holder to open and drop..

Stainless steel

Fiberglass reinforced nylon



Protects distribution lines or low voltage connections.

Easy installation system

THREE PHASE TRANSFORMERS					
KVA	PRIMARY			SECONDARY	
	Nominal current (A)		Fuse type DUAL reference	Nominal current (A)	Recommended Expulsion Fuse to be used with output switch
	11,4 kV	13,2 kV		208/120 V	
15	0,75	0,65	0,4	42	40 Exs
30	1,52	1,31	1,0	83	80 Exs
45	2,28	1,97	1,4	125	125 Exs
75	3,80	3,28	2,1	208	200 Exs

SINGLE PHASE TRANSFORMERS				
KVA	PRIMARY		SECONDARY	
	Nominal current (A)	Fuse type DUAL reference	Nominal current (A)	Recommended Expulsion Fuse to be used with output switch
	13,2 kV		120 V	
5	0,37	0,4	41	40 Exs
10	0,76	0,6	83	80 Exs
15	1,13	1,0	125	125 Exs

Cable clamp connectors

Hole center distances manufactured according to ANSI/NEMA Cc1 standard

Plate rectified to guarantee contact with ANY connecting plate.

Compatible with:
- 350 to 600 Kcmil (wire Al - Cu)
- 336.4 to 477 Kcmil (wire ACSR)

Bimetallic connector made of aluminum alloy 356 or AlSi7Mg.

Compatible with:
- 2 - 4/0 AWG (wire Al - Cu)
- 4 - 4/0 AWG (wire ACSR)

Nuts & bolts manufactured in stainless steel austenitic AISI/SAE 304.

Low voltage fuses

CBO (250 V)
for street lights

Technical standards:
UL 248 - 1 / UL 248-4
Voltage: 250v
0 - 30 A

Fuse CBO

QSQ (600 V)
for street lights

Technical standards:
UL 248 - 1 / UL 248-4
Voltage: 600v
0 - 30 A

Fuse QSQ

Single fuse holder base for street lights

Technical standards:
UL 4248 - 1 / UL 4248-4
BASE : Molded in polycarbonate
Terminals : Galvanized steel screws and nickel-plated copper alloy contact clips
Range: 30 Amps - 600 Volts
For conductors of:
1.5 - 6 mm2

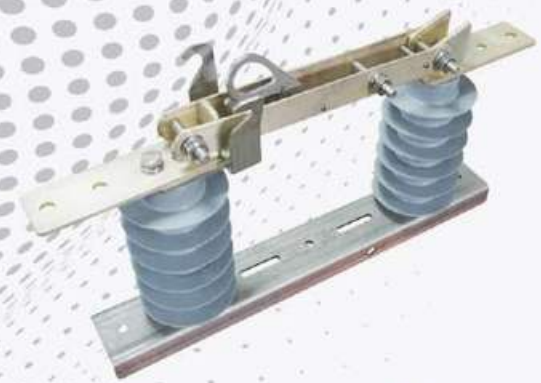
Single fuse holder

Double fuse holder base for street lights

Technical standards:
UL 4248 - 1 / UL 4248-4
BASE : Molded in polycarbonate
Terminals : Galvanized steel screws and nickel-plated copper alloy contact clips
Range: 30 Amps - 600 Volts
For conductors of:
1.5 - 6 mm2

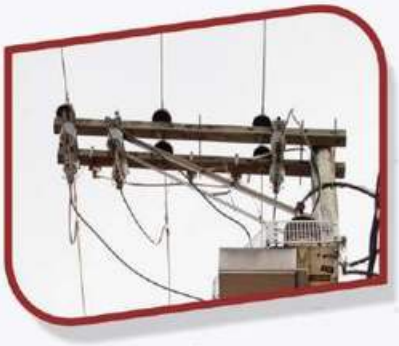
Double fuse holder

overhead hookstick switches



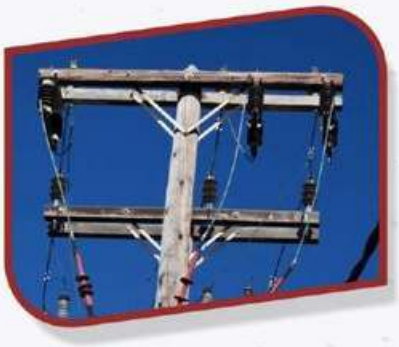
For: 15.5 - 17.5 kV

	Silicone insulator	ceramic insulator
Leakage distance (mm)	420	432
Rated current (A)	630	630
Short duration current	25KA por 1s	25KA por 1s
Frequency	50-60 Hz	50-60 Hz



For: 24 - 27 kV

	Silicone insulator	ceramic insulator
Leakage distance (mm)	845	400
Rated current (A)	630	630
Short duration current	25KA por 1s	25KA por 1s
Frequency	50-60 Hz	50-60 Hz



For: 36 - 38 kV

	Silicone insulator	ceramic insulator
Leakage distance (mm)	845	740
Rated current (A)	630	630
Short duration current	25KA por 1s	25KA por 1s
Frequency	50-60 Hz	50-60 Hz

Coordination table

SINGLE-PHASE TRANSFORMERS				
KVA	7620 Volts		13,200 Volts	
	Max. load Amp.	recommended double acting fuse	Max. load Amp.	Dual recomendado
10	1.31	1.4	0.76	0.7
15	1.97	2.1	1.14	1.0
25	3.28	3.5	1.89	2.1
37.5	4.92	5.2	2.84	3.1
50	6.57	7.0	3.79	3.5
75	9.84	10.4	5.68	5.2
100	13.12	14	7.57	7.8
167	21.9	21	12.65	10.4
250	32.81	32	18.94	14
333	43.7	46	25.23	21
500			37.88	32

THREE-PHASE TRANSFORMERS 4 WIRES - STAR LOAD BALANCED				
KVA	7200 Volts		13,200 Volts	
	Max. load Amp.	recommended double acting fuse	Max. load Amp.	Dual recomendado
9	0.73	0.7	0.39	0.4
15	1.20	1.3	0.66	0.6
30	2.40	2.1	1.31	1.3
45	3.60	3.5	1.97	2.1
75	6.00	6.3	3.28	3.1
112.5	9.00	7.8	4.92	5.2
150	12.0	10.4	6.56	6.3
225	18.0	14	9.84	10.4
300	24.0	21	13.1	14
500			21.9	21

Eléctricos Internacional S.A.S 40 Years

ELECTRICOS INTERNACIONAL SAS

We design, manufacture, and validate the protection of your network.

ISO 9001:2015
Certificado No. MSC-57123019
ISO 14001:2015
Certificado No. MSC-57223014
ISO 45001:2018
Certificado No. MSC-57823017

www.certidata.info

www.fbcertification.com

SPECIALIZED MANUFACTURING

ENGINEERING THAT PROTECTS

GLOBAL REACH

www.electricosinter.com

FOLLOW

@electricosinter

(+57) (601)4322950

(+57) 317 856 3536

(+57) 312 305 1389