KRJ
+20 YEARS

INNOVATING IN ELECTRICAL CONNECTIONS

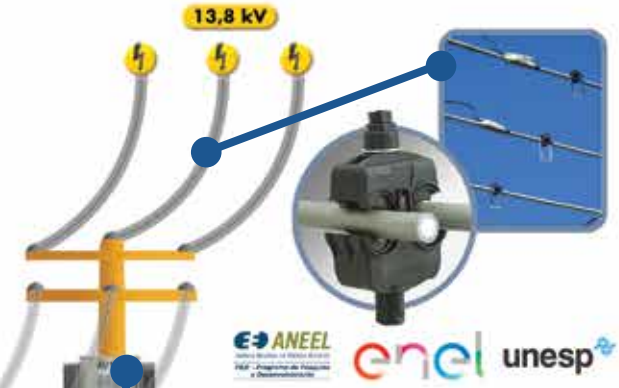
COMPLETE SOLUTION

IN CONNECTIONS FOR OVERHEAD ELECTRICAL DISTRIBUTION NETWORK

KPB

Universal Insulation Piercing Connector

Only solution for connecting solid or flexible cables for connections in consumer entrance service, in any configuration. Utilizing the KPB, there is no need to identify the connector side to make the connection.



KARP

Insulation Piercing Connector for Overhead Protected Distribution Network in Medium Voltage

Without remove and reconstitution insulation of cable. Allows install it in hot line. Insulation Piercing Connector for 15kV, 25kV and 35kV.

KMED

Connector to connecting the power meter

Solution for connecting extra flexible / flexible cables in power meters.

KLOK

Bimetallic terminal and reusable with spring effect, for distribution equipment without the need of special tool for its application.

KATIL

Connection for street lighting

Connect lamps used in street lighting to electrical distribution network.

KATRO

Piercing connector for secondary network with 4 outputs

Definitive and reusable connection plus grounding protective point.

KATRO | INSULATION PIERCING CONNECTOR FOR CONNECTING CONSUMERS

Developed by KRJ, **KATRO** connector it is designed to connect the isolated or bare overhead power network to the consumer entrance service. **KATRO** connector has four outputs for connecting up to four consumer per phase. In the individual connections it works with the excellent concept of connection by “spring effect”, ideal to be used in places of high population density, as well connections in anti-theft systems, including a threaded point for use of the stirrup in temporary safety ground , the stirrup being an optional item. Tap connections are made with the ALIKATRO pliers, developed specifically for the **KATRO** connectors. Supplied for mains connection in the range of 25mm² to 240mm² and in the derivation (consumer entrance) in the range of 1.5mm² to 35mm². For theft-fighting applications can be provided without the hole for grounding.

CONNECTOR	MAIN CABLE	TAP CABLE	TORQUE (Nm)
KATRO	CA/Cu - 25-185mm² CA/Cu 4 AWG – 336,4 MCM	CA-CAA-CU 1,5 - 35mm²	14-18
	*For use in 240mm² conductors - Under Consult		

OPTIONAL:

Stirrup for safety grounding, available in models with M6 and M10 thread.

KATRO VIDEO

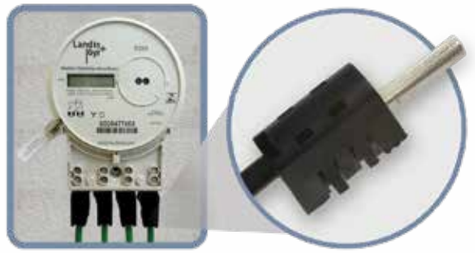
Additional information can be obtained from our Technical Product Specification ETE-032.

KMED | CONNECTOR FOR INPUT POWER METER

The connectors **KMED** family are designed for connections on the power meter without the need for stripping wires. They are consist of two polymeric components denominated cap and base. The base has a housing for accommodating a compensating spring and a tinned busbar copper electrolytic with two piercing teeth, which is supported on the first, thus ensuring the permanent strength of electrical contact after product application. Easy to install, can be applied with a universal pliers or a similar tool, which pressing the cap with the base and performs the application of locking protrusions external. The **KMED** family is provided in five models for conductors connections in classes 2,4,5 and 6 ranging from 6mm² to 35mm² (10 AWG to 2 AWG).

TYPE	CABLE
KMED-1	6 mm²
KMED-2	10 mm²
KMED-3	16 mm²
KMED-4	25 mm²
KMED-5	35 mm²

KMED VIDEO



Additional information may be obtained from our Technical Product Specification.

KPB | UNIVERSAL INSULATION PIERCING CONNECTOR

KPB family connectors are designed to attend conections in consumer entrance service between solid or flexible (bare or insulated) conductors, in aluminum or copper stranded without stripping and removing insulation from the conductors, with KPB, the lineman no longer needs to identify the side of connector for application since both sides of the product apply these conductors defining the universal concept of the product. Among the main features of the **KPB** family, this the innovative design of the busbar that accomplish the spring effect in the connection and the greater range of the application range of its models that reduces the quantity of items to be selected by the operator reducing significantly the index of network failures by selection error. The **KPB** establishes electrical contact, protecting and insulated the connection, keeping the weather-proofing. **KPB** family accommodates range of cables in the range of 6mm² to 240mm².

Additional information can be obtained from our Technical Product Specification ETE-085.

Connector cross-sectional image

KPB	MAIN MM²	TAP MM²	TORQUE (N.M)
Type 1	10 - 50	10 - 50	12 - 14 N.m
Type 2	10 - 70	6 - 35	12 - 14 N.m
Type 3	35 - 95	25 - 70	12 - 14 N.m
Type 4	50 - 150	6 - 35	12 - 14 N.m
Type 5	25 - 120	25 - 120	12 - 14 N.m
Type 6	50 - 120	50 - 120	12 - 14 N.m
Type 7	16 - 150	6 - 35	12 - 14 N.m
Type 8	70 - 240	120 - 240	12 - 14 N.m

KPB, designed to meet connections in consumer entrance service between solid or flexible (bare or insulated) conductors in any type of configuration with a range of cables in the 6mm² to 240mm².

KATIL | CONNECTOR FOR STREET LIGHTING

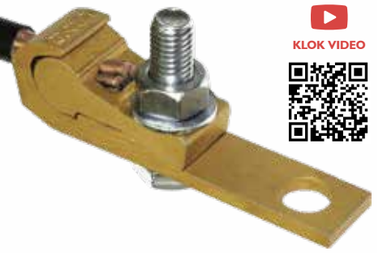
Developed for the necessity to connect lamps, it used in street lighting to the overhead electrical distribution network without occurrence of damages, the KRJ idealized the connector model **KATIL**. With innovative concept of a reuse strips for the derivation cable (lamps) allowing that lamps could turn on and turn off without interferences to the multiplexed of overhead electrical distribution network, the connector **KATIL** is indicated for using in cables without insulation or multiplexed insulated cables ranged of 16mm² to 120mm², and cables of lamps ranged of 1,0mm² to 2,5mm² in sort 2, 4, 5 and 6, could be assembly any position along the overhead electrical distribution network. Using **KATIL** the companies of electrical distribution of energy can assembly the connector to the mutilplexed network and provide a point of connection (strip), with spring effect, for the cities hall connect their lamps.

KATIL VIDEO

CONNECTOR FOR STREET LIGHTING	
MAIN CABLE CLASS 2	6 AWG - 336,4 MCM CA/Cu
	16 - 120 mm² CA/Cu
TAP CABLE CLASSES 2,4,5 AND 6	16 - 14 AWG Cu
	1,0 - 2,5 mm² Cu
APPLICATION TORQUE: 4 A 5 N.m	

KATIL, designed for Street Lighting connections is indicated for applications in isolated or bare power networks and can be mounted in any position.

KLOK | TERMINAL ALUMINUM ALLOY SUPERFICIAL PROTECTION



KLOK VIDEO

KLOK terminals family are made of aluminum alloy and receive a layer of surface protection, an electrolytic bath, for bimetallic applications, being an economical and cheap option in relation to the copper terminals. They are formed by two components, one C-shaped female and the other male, which are coupled to each other and exert permanent force of electric contact according to its concept of connection by "spring effect". Due to their electromechanical design the **KLOK** terminals do not require specific tools for their installation and are easily removable without affecting the structure of the conductors and the terminal to which they were connected, allowing their reuse in new installations. They are also provided in 2 or 3 output versions and are designed to accommodate cables from 16mm² to 400mm².

Additional information is available through our Technical Product Specification.

CABLE CLASSIFICATION TABLE

MODEL	DIAMETER RANGE (mm)		BARE CABLES (AWG/MCM)		BARE CABLES (mm²)		INSULATED CABLES (mm²)		SCREW 1	SCREW 2
	SIDE FOR SMALLER CABLE (P)	SIDE FOR BIGGER CABLE (G)	SIDE FOR SMALLER CABLE (P)	SIDE FOR BIGGER CABLE (G)	SIDE FOR SMALLER CABLE (P)	SIDE FOR BIGGER CABLE (G)	SIDE FOR SMALLER CABLE (P)	SIDE FOR BIGGER CABLE (G)		
KL-1	4,6 - 4,8	5,0 - 5,1	6 AAC/Cu	6 ACSR	----------	16 AAC/Cu	16 COMP AAC/Cu	----------	M5 X 30	----------
KL-2	5,8 - 6,0	6,2 - 6,4	4 AAC/Cu	4 ACSR	----------	25 AAC/Cu	25 COMP AAC/Cu	----------	M5 X 30	----------
KL-3	6,7 - 7,3	7,3 - 8,1	----------	2 AAC/Cu 2 CAA	----------	35 AAC/Cu	35 COMP AAC/Cu	50 COMP AAC/Cu	M8 X 45	----------
KL-4	9,0 - 9,7	10,0 - 10,6	1/0 AAC/Cu	2/0 AAC/Cu 1/0 ACSR	50 AAC/Cu	70 AAC/Cu	70 COMP AAC/Cu	----------	M10 X 60	M10 X 30
KL-5	11,2 - 12,3	12,7 - 13,3	3/0 AAC/Cu 2/0 ACSR	4/0 AAC/Cu 3/0 ACSR	95 AAC/Cu	----------	95 COMP AAC/Cu	120 COMP AAC/Cu	M12 X 75	M12 X 35
KL-6	14,2 - 14,5	14,5 - 15,1	4/0 ACSR	266,8 AAC/Cu	----------	120 AAC/Cu	150 COMP AAC/Cu	----------	M12 X 75	M12 X 35
KL-7	15,4 - 17,0	17,3 - 18,9	266,8 ACSR 336,4 AAC/Cu	397,5 AAC/Cu 336,4 ACSR	150 AAC/Cu	185 AAC/Cu	185 COMP AAC/Cu	240 COMP AAC/Cu	M12 X 75	M12 X 35
KL-8	20,0 - 20,8	21,7 - 22,5	477 AAC/Cu 397,5 ACSR	556,5 AAC/Cu 477 ACSR	240 AAC/Cu	300 AAC/Cu	300 COMP AAC/Cu	350 COMP AAC/Cu	M12 X 75	M12 X 35
KL-9	22,3 - 23,7	23,8 - 25,4	636 AAC/Cu 556,5 ACSR	750 AAC/Cu 636 ACSR	----------	350 AAC/Cu	400 COMP AAC/Cu	----------	M14 X 90	M14 X 40

NOTE **AAC** - All aluminium conductor
Cu - Bare copper cable
ACSR - Aluminium conductor steel reinforced
COMP - Compacted or insulated copper or aluminum cables

Dimensions and tolerances follow our design number 580.976
Further information at our product specification ETE-005.

KARP | INSULATION PIERCING CONNECTOR FOR SPACER CABLE IN MEDIUM VOLTAGE

KARP piercing connectors family have been developed to find a need for tap connections in 15, 25 and 35kV Spacer Cables without stripping and removing insulation from the conductors and eliminating the need for weather-proofing and re-insulating, can be installed in hot line and in any position. **KARP** connector is composed of polymer components with resistance to ultraviolet rays and busbar in copper (piercing type), supported on helicoidal springs. This innovative concept of supporting spring busbar is the greater differential its design, because the springs act in busbar keeping a permanent contact pressure on the conductors, compensating for any possible diameter variations that may happen in low quality conductors. **KARP** connector has its technical characteristics be watertight and have tightening limit control through the polymer fuse head. It has the option of the stirrup for ground safety or for connection to the transformer, which can be supplied separately or as a kit, connector + stirrup.

Additional information can be obtained from our Technical Product Specification ETE-055.

TYPE	RANGING mm²	RANGING mm²	VOLTAGE kV	INSULATION COVER	TORQUE	NUMBER OF SCREWS
1	35 – 95	35 – 95	15/25	3 / 4 mm	42-46 Nm	1
2	50 – 185	50 – 185	15/25	3 / 4 mm		
3	120 – 300	120 – 300	15/25	3 / 4 mm		
4	240 – 300	70 – 95/120	15/25	3 / 4 mm		
5	70 – 185	70 – 185	35	7,6 mm		2
6	120 – 300	120 – 300	35	7,6 mm		

KARP VIDEO

OPTIONAL:
Stirrup to safety ground, available in version 8.20 mm diameter.

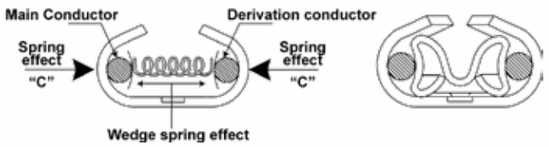
Insulation Piercing + Spring Effect

KARP | ACCESORIES

Developed by KRJ, the remote application device of the **KARP** connector has been designed to allow the application of the connector + stirrup assembly, with hot stick cutting down lineman exposure to energized lines, offering better safety, agility and speed in the execution of the service. With the remote device the connection of connector+ stirrup can be done from the ground or bucket and the instalation of the grounding point with **KARP** or connection with transformer in the spacer cable becomes faster and safer. Using this unique remote application tool, the adapted for use with standard hot stick, the service become to the fastest safer hot-stick method available.

KARA | WEDGE CONNECTORS FOR CONNECTION IN CONSUMER ENTRANCE SERVICE - SYMMETRIC AND ASYMMETRIC SERIES

The wedge connectors **KARA** family are manufactured in alloy tinned copper, for applications in the range of 1.5mm² to 120mm² (14 AWG to 3/0 AWG) in copper or aluminum, solid or corded electrical conductors. They are available in 10 sorts, being 6 of the Symmetric series and 4 of the Asymmetric Series, the 10 sorts of connectors are identified by their respective color codes that characterize them for electricians and general users.



KARA VIDEO

CABLES/WIRES CU/AL (mm²)		SELECTION TABLE TO DIAMETERS / SQUARE MILIMETERS OF CONDUCTORS													
		MULTIPLEXED INSULATED PHASE AAC CABLE - mm²								BARE NEUTRAL CABLE - mm²					
		FIO 6	FIO 10	16	25	35	50	70	95	10 CA	16 CA	25 CAL	35 CAL	50 CAL	70 CAL
AAC INSULATED CABLE	1,5		III	III	III/A	A	A	B		III	III	III/A	A	A	B
	2,5		III	III	III/A	A	A	B	C	III	III	III/A	A	A	B
	4	III	III	III	III/A	A	A	B	C	III	III	III/A	A	B	B
	6	III	III	III	III/A	A	B	B	C	III	III	III/A	A	B	C
	10	III	III	III	II/A	II/A	I/B	C	C	III	III	II/A	I/B	B	C
	16	III	III	II	II/A	I/B	B	VII/C	C	III	II	II/A	I/B	C	VII/C
	25	III/A	II/A	II/A	I	I	I	VII		II/A	II	I	I	VII	VII
	35	A	II/A	I/B	I	I	VII	VII		II/B	I/B	I	VII	VII	VI
	50	A	I/B	I/B	I	VII	VII	VI		I/B	I	VII	VII	VI	VI
INSULATED WIRE	1,5		III	III	III/A	A	A	B		III	III	III/A	A	A	B
	2,5		III	III	III/A	A	A	B	C	III	III	III/A	A	A	B
	4	III	III	III	III/A	A	A	B	C	III	III	III/A	A	B	B
	6	III	III	III	III/A	A	A	B	C	III	III	III/A	A	B	B
	10	III	III	III	III/A	II/A	I/B	C	C	III	III	II/A	II/B	B	C
	16	III	III	III	II/A	I/B	I/B	C	C	III	II	II/A	I/B	C	C

Additional information is available through our Technical Product Specification ETE-028.

KARA-T | WEDGE CONNECTORS FOR PROTECTING GROUNDING NETWORK SYSTEMS - SYMMETRIC AND ASYMMETRIC SERIES

The wedge connectors **KARA-T** family of symmetric and asymmetric series are applicable in protection grounding systems with circle stem x cables or cables x cables. They are available in 5 types, ranging from 1/2 to 5/8 inches stem with cables ranging from 10mm² to 35mm² (8 AWG to 2 AWG). The table indicates the types in the main combination with stem and cables of the derivation.

KARA-T VIDEO

		MAIN							
		WIRE	CABLE					STEM (mm)	
		10 (mm²)	16 (mm²)	25 (mm²)	35 (mm²)	95 (mm²)	120 (mm²)	1/2" Ø12,5-12,8	5/8" Ø14-16
DERIVATION CABLE Cu (mm²)	10	2T	2T	2T	2T	-	LT	LT	ST
	16	2T	2T	2T	1T	LT	LT	LT	ST
	25	-	-	-	1T	LT	-	ST	NT
	35	-	-	-	7T	-	-	ST	NT

Additional information is available through our Technical Product Specification.

ALIKARA | APPLICATION AND REMOVAL OF THE WEDGE CONNECTORS TO INPUT CONSUMER AND PROTECTION GROUNDING SYSTEMS

Alikara
Design: 580.950

Looking for simplify the work of the electrician, in applying the wedge connectors KARA and KARA T family, KRJ developed the **ALIKARA**. With an angle of handhold differentiated and adapted teeth, making the operation easiest and allows extraction of connector, without an extra conventional extractor needs. Made only in the version of 12" inch (30cm minimum length), thickness 8mm head and 1kV insulation. Perfect tool for application of all sorts of wedge connector family KARA and KARA T.

Additional information's about the application of connectors using ALIKARA you should consult the Instruction Manual.

PT | WEDGE CONNECTORS FOR ELECTRICAL POWER DISTRIBUTION AND TRANSMISSION SYSTEM

The wedge connectors aluminum alloy, **PT** family, are indicated for application in power network low, medium and high voltage and are available in red, blue and yellow series, indicating the respective application cartridges. Your electromechanical design, features large electrical reliability for to the concept of connection spring effect. Application in conductors ranging from 13mm² to 470mm² (6 AWG to 795 MCM), solid or corded, and can be supplied with the respective packing cartridge connector.

Additional information is available through our Technical Product Specification.

MCM/AWG X MCM/ AWG		MAIN CONDUCTOR MCM/AWG - AAC/AAAC/ACSR - BARE CABLES														
		795	636	556,5	477	397,5 CAA	397,5 CA	336,4 CAA	336,4 CAA***	336,4 CA	266,8	4/0	3/0	2/0	1/0	2	4	6
MAIN CONDUCTOR MCM/AWG - AAC/AAAC/ACSR - BARE CABLES	6	-	-	PT-55A	PT-55A	PT 33A	PT-33A	PT-33A	PT-35H	PT-35A	PT-35A	PT-40B	PT-40B	PT-40A	PT-1002	PT-1005	PT-1004	PT-1004
	4	-	-	PT-55A	PT-55A	PT 33B	PT-33B	PT-33B	PT-35G	PT-35B	PT-35A	PT-40B	PT-40B	PT-40B	PT-1003	PT-1002	PT-1005	
	2	-	-	PT-55B	PT-55A	PT 33B	PT-33B	PT-33B	PT-35G	PT-35B	PT-35B	PT-40C	PT-40B	PT-40B	PT-1001 **	PT-1003		
	1/0	-	-	PT-55B	PT-55B	PT 33B	PT-33B	PT-33B	PT-35G	PT-35B	PT-35B	PT-40C	PT-40C	PT-40B	PT-40B			
	2/0	-	-	PT-55C	PT-55B	PT 33C	PT-33C	PT-33B	PT-35G	PT-35C	PT-35B	PT-40C	PT-40C	PT-40C				
	3/0	-	-	PT-55C	PT-55C	PT 33C	PT-33C	PT-33C	PT-35F	PT-35C	PT-35B	PT-40D	PT-40C					
	4/0	-	-	PT-55C	PT-55C	PT 33C	PT-33C	PT-33C	PT-35F	PT-35C	PT-35C	PT-40D						
	266,8	PT-79G	PT-63F	PT 55C	PT-55C	PT 33D	PT-33D	PT-33D	PT-35E	PT 35D	PT-35C							
	336,4 CA	PT-79F	PT-63E	PT-55D	PT-55C	PT 33D	PT-33D	PT-33D	PT-35E	PT-35D								
	336,4 CAA	PT-79F	PT-63E	PT-55D	PT-55D	PT 33D	PT-33D	PT-33D	PT-35E									
	397,5 CA	PT-79E	PT-63D	PT 55D	PT-55D	PT 33D	PT-33D											
	397,5 CAA	PT-79E	PT-63D	PT-55D	PT-55D	PT-55D	PT-33D											
	477	PT-79D	PT-63C	PT-55D	PT-55D													
	556,5	PT-79C	PT-63B	PT-55D/E*														
	636	PT-79B	PT-63A															
	795	PT-79A																

* WHEN USING CABES 556,5 ACSR WITH 556,5 ACSR, CHECK ADDITION SELECTION TABLE
** OPTIONAL PT-408
***ALTERNATIVE

Red: PT10

Blue: PT40 and PT35

Yellow: PT33, PT55 and PT79

PTB | WEDGE CONNECTORS ALUMINUM ALLOY WITH SUPERFICIAL FINISHING FOR ELECTRICAL POWER DISTRIBUTION SYSTEM

Wedge connectors family **PTB** are manufactured in aluminum alloy with a superficial finishing inhibiting galvanic corrosion and action of salt spray, developed by KRJ, which allows connections to copper or aluminum conductors and are a technical and economical optional where the need to use copper wedge connector. Indicated for application in bimetallic connections in the network derivation at low, medium and high voltage, are available in red and blue series indicating the respective application cartridges. Application in the range of 16mm² to 185mm² (6 AWG to 336,4 MCM), solid or corded electric, aluminum or copper, may be supplied with the respective cartridge in the packaging of the connector.

mm² X mm²		MAIN CONDUCTOR - mm²								
		185	150	120	95	70	50	35	25	16
DERIVATION CONDUCTOR - mm²	16	-	-	PTB-4006	PTB-4003	PTB-4003	PTB-1002	PTB-1005	PTB-1004	PTB-1004
	25	PTB-35009	PTB-35000	PTB-4007	PTB-4004	PTB-4003	PTB-1002	PTB-1005	PTB-1005	
	35	PTB-35009	PTB-35001	PTB-4002	PTB-4001	PTB-4001	PTB-1003	PTB-1003		
	50	PTB-35010	PTB-35002	PTB-4008	PTB-4005	PTB-4001	PTB-4001			
	70	PTB-35010	PTB-35003	PTB-4009	PTB-4002	PTB-4005				
	95	PTB-35011	PTB-35004	PTB-4010	PTB-4009					
	120	PTB-35012	PTB-35005	PTB-4011						
	150	PTB-35013	PTB-35006							
	185	PTB-35014								

Red: PTB10

Blue: PTB40 and PTB350

PTB VIDEO

Additional information is available through our Technical Product Specification.

KF-002 | TOOLS FOR APPLICATION AND REMOVAL OF WEDGE CONNECTORS - FAMILY PT / PTB

BASIC COMPOSITION OF TOOL KF-002/BIG

- Power Unit
- Shooting Unit
- Metallic shell case blue-red
- Metallic shell case yellow (visually equal to blue-red, but with different hole and outer ring identifier).

For detailed information about the available models and their components, consult ETE-031. Additional information on the application of the connectors may be achieved through the Instruction Manual ETE-029.

Mission KRJ

Offer differentiated solutions that reunite products, accessories, tools dedicated, strong technical and operational field training in order to improve the electrical connection systems, the technical and economic to meeting the needs of the market.

INSTITUTIONAL VIDEO

Winner on materials category

CPFL Award
MORE VALUE Recognizing our Providers

Social responsability:

Investimos na Vida
Uma Certificação Abrale

SYSTEM CERTIFICATION ISO 9001 SGS
UKAS MANAGEMENT SYSTEMS 0005

KRJ
+20 YEARS

KRJ Ind. e Com. Ltda.
Rua Guaranésia, 811/815
Vila Maria - CEP 02112-001
São Paulo, SP - Brasil
+55 (11) 2971-2300

WWW.KRJ.COM.BR