



+20 YEARS

# INNOVATING IN ELECTRICAL CONNECTIONS



# COMPLETE SOLUTION

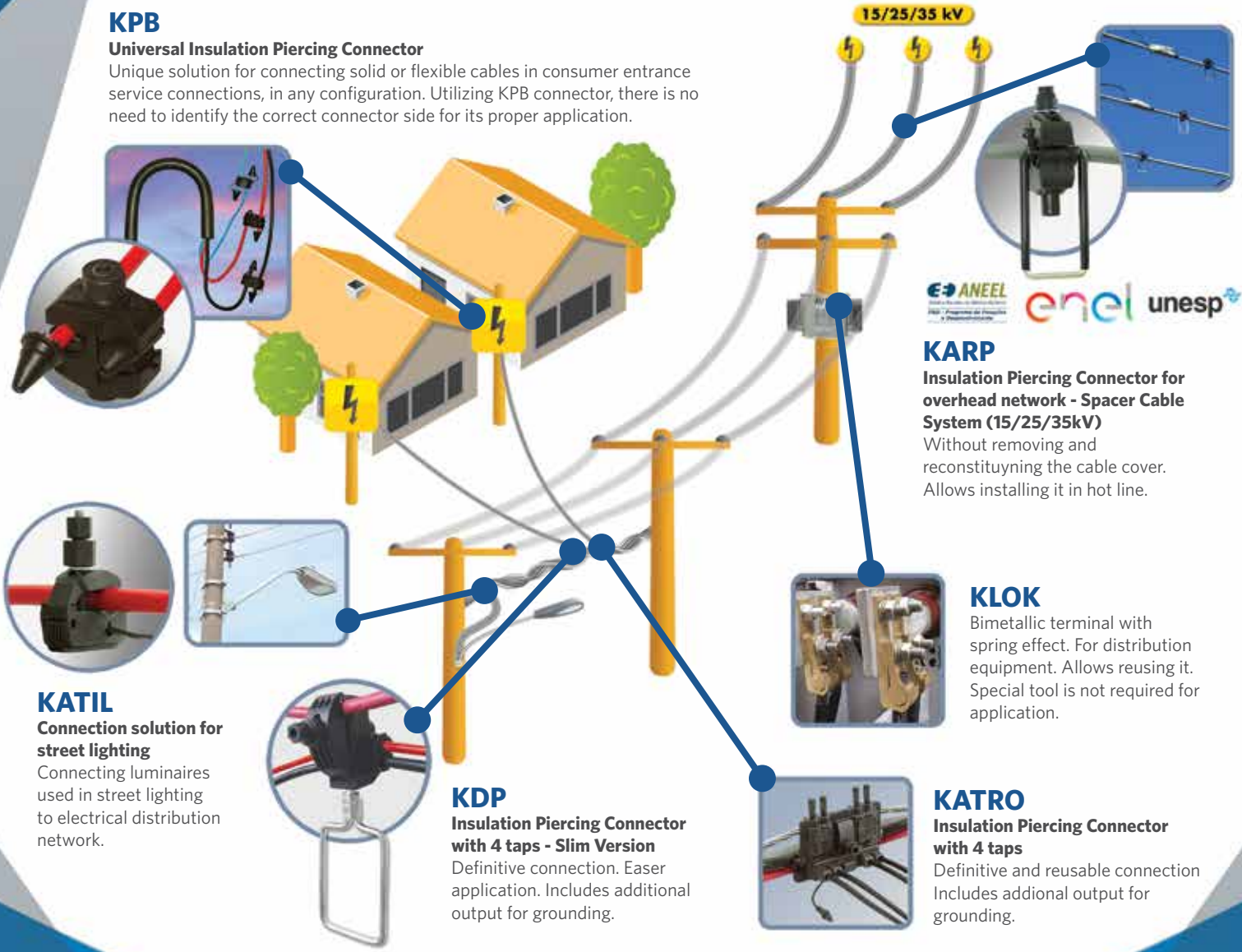
## IN CONNECTIONS FOR OVERHEAD ELECTRICAL DISTRIBUTION NETWORK

### KPB

#### Universal Insulation Piercing Connector

Unique solution for connecting solid or flexible cables in consumer entrance service connections, in any configuration. Utilizing KPB connector, there is no need to identify the correct connector side for its proper application.

15/25/35 kV



### KARP

#### Insulation Piercing Connector for overhead network - Spacer Cable System (15/25/35kV)

Without removing and reconstituting the cable cover. Allows installing it in hot line.

### KLOK

Bimetallic terminal with spring effect. For distribution equipment. Allows reusing it. Special tool is not required for application.

### KATIL

#### Connection solution for street lighting

Connecting luminaires used in street lighting to electrical distribution network.

### KDP

#### Insulation Piercing Connector with 4 taps - Slim Version

Definitive connection. Easier application. Includes additional output for grounding.

### KATRO

#### Insulation Piercing Connector with 4 taps

Definitive and reusable connection. Includes additional output for grounding.

## KARP | INSULATION PIERCING CONNECTOR FOR SPACER CABLE IN MEDIUM VOLTAGE

The **KARP** Insulation Piercing Connectors had been developed to attend a need for connections in Spacer Cables (15kV, 25kV and 35kV) without stripping or removing conductors insulation and eliminating the need for weather-proofing and re-insulating. It can be installed in hot line and any position. The KARP connector is produced in polymer components, UV resistance and busbar in copper supported by helicoidal springs. This innovative concept of supporting spring busbar is the greater differential, keeping a permanent contact pressure on the conductors, compensating for any possible diameter variations that may happen in conductors.

The **KARP** connector offers tightness characteristic and have a torque limiter through the polymeric fuse head. Allows to use a copper stirrup for temporary grounding 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	VOLTAGE (kV)	mm <sup>2</sup>		AWG/MCM		APPLICATION TORQUE (Nm)	BOLT
		MAIN RANGE	TAP RANGE	MAIN RANGE	TAP RANGE		
1	15 / 25	35 - 95	35 - 95	2 - 3/0	2 - 3/0	32-36	1
2	15 / 25	50 - 185	50 - 185	1/0 - 336.4	1/0 - 336.4	42-46	
3	15 / 25	120 - 300	120 - 300	4/0 - 556.5	4/0 - 556.5		
4	15 / 25	200 - 300	50 - 120	397.5 - 556.5	1/0 - 4/0		2
5	35	70 - 185	70 - 185	2/0 - 336.4	2/0 - 336.4		
6	35	120 - 300	120 - 300	4/0 - 556.5	4/0 - 556.5		



Insulation Piercing + Spring Effect



### OPTIONAL:

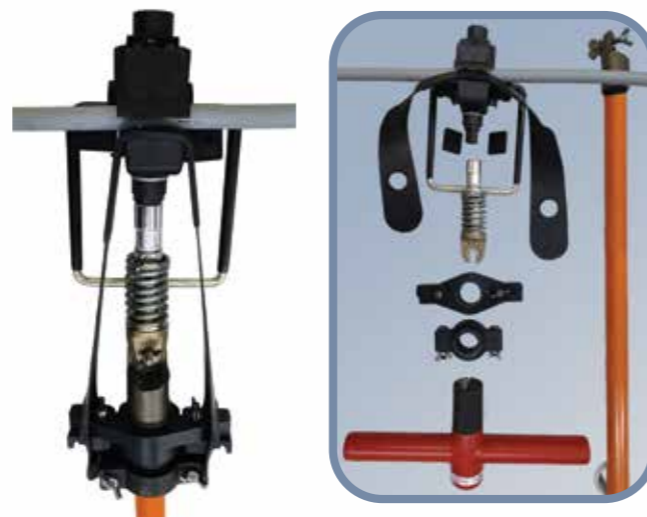
Stirrup to safety ground, available in version 8.20 mm diameter.



## KARP | FITTINGS

### Distance Application Device for KARP + Stirrup

Developed by KRJ, the remote application device for 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 installation 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.



## KPB | UNIVERSAL INSULATION PIERCING CONNECTOR - LV

**KPB** family connectors are designed to attend connections 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 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 4mm<sup>2</sup> to 240mm<sup>2</sup>.



Connector cross-sectional image

TYPE	mm <sup>2</sup>		AWG/MCM		APPLICATION TORQUE (Nm)
	MAIN RANGE	TAP RANGE	MAIN RANGE	TAP RANGE	
1	10 - 50	10 - 50	8 - 1/0	8 - 1/0	8 - 10
2	10 - 95	4 - 35	8 - 3/0	12 - 2	
3	35 - 95	25 - 70	2 - 3/0	4 - 2/0	
4	50 - 150	6 - 35	1/0 - 300	10 - 2	12 - 14
5	25 - 120	25 - 120	4 - 4/0	4 - 4/0	
6	50 - 150	50 - 150	1/0 - 300	1/0 - 300	
7	16 - 150	6 - 35	6 - 300	10 - 2	
8	70 - 240	120 - 240	2/0 - 500	4/0 - 500	



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

## KATIL | CONNECTOR FOR STREET LIGHTING



Due the necessity to keep high quality connections on luminaires, KRJ has developed the **KATIL** connectors, used in street lighting to the overhead electrical distribution network. With innovative concept of a reuse strips for the derivation cable allowing that luminaires could turn on and turn off without interferences to the multiplexed of overhead electrical distribution network. The **KATIL** connector is indicated for using in bare or insulated cables ranged of 10mm<sup>2</sup> to 120mm<sup>2</sup>, and cables of luminaires ranged of 1,0mm<sup>2</sup> to 2,5mm<sup>2</sup> in sort 2, 4, 5 and 6, could be assembly any position along the overhead electrical distribution network.



CONNECTOR FOR STREET LIGHTING	
Main Cable Class 2	8 AWG - 336.4MCM CA/Cu*
	10 - 120mm <sup>2</sup> CA/Cu
Tap Cable Classes 2, 4, 5 and 6	16 - 14 AWG Cu
	1,0 - 2,5mm <sup>2</sup> Cu
APPLICATION TORQUE: 4 - 5 Nm	

(\*) 336.4 MCM for bare conductors

Developed for street lighting, the **KATIL** is indicated for bare or multiplexed insulated cables applications and can be installed on any position.

## KATRO | INSULATED PIERCING CONNECTOR FOR CONSUMERS ENTRANCE SERVICE CONNECTING



### OPTIONAL:

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

### ALIKATRO:

Application tool (plier) for KATRO connectors.



The **KATRO** connector is designed to connect the insulated or bare cables for overhead power network to the consumer entrance service. **KATRO** connector offer up to four taps per phase. It works with the excellent connection concept "spring effect", ideal to be used in places with high population density, as well offers an anti-theft systems connections, also is provided with a threaded hole in its busbar for use a stirrup in the temporary safety grounding, the stirrup being an optional item. Tap connections are made with the **ALIKATRO** plier, especially developed for KATRO connectors. Supplied for mains connection in the range of 25mm<sup>2</sup> to 185mm<sup>2</sup> and in the derivation (consumer entrance) in the range of 1.5mm<sup>2</sup> to 35mm<sup>2</sup>. For theft-fighting applications can be provided without the hole for grounding.

CONNECTOR	MAIN CABLE	TAP CABLE	TORQUE (Nm)
KATRO	CA/Cu - 25-185mm <sup>2</sup> CA/Cu 4 AWG - 336,4 MCM	CA-CAA-CU 1,5 - 35mm <sup>2</sup>	14-18
	*For use in 240mm <sup>2</sup> conductors - Under Consult		



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

## KMED | CONNECTOR FOR INPUT POWER METER



Additional information may be obtained from our Technical Product Specification.



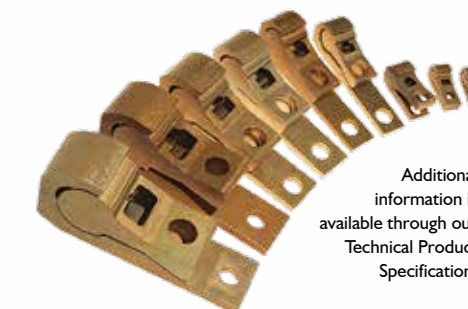
TYPE	CABLE	
	mm <sup>2</sup>	AWG
KMED-1	6	10
KMED-2	10	8
KMED-3	16	6
KMED-4	25	4
KMED-5	35	2

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 6mm<sup>2</sup> to 35mm<sup>2</sup> (10 AWG to 2 AWG).

## KLOK | TERMINAL TYPE CONNECTOR IN ALUMINUM ALLOY WITH SURFACE TREATMENT



Additional information is available through our Technical Product Specification.



Additional information is available through our Technical Product Specification.

The **KLOK** terminals family are made in aluminum alloy and receive a layer of surface protection, an electrolytic bath, for bimetallic applications, being an economical option in relation to the copper terminals, offering a high quality connection. They are formed by two components, which are coupled to each other and exert permanent force of electric contact according to its concept 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 its reusable feature. They are also provided in 2 or 3 output versions and are designed to accommodate cables from 16mm<sup>2</sup> to 400mm<sup>2</sup>.

## KDP | PIERCING CONNECTOR WITH 4 OUTPUTS FOR CONNECTING CONSUMERS - SLIM VERSION

The **KDP** piercing connector, is the slim version for the connections of 4 clients per phase. Made up of a polymeric body and a tinned electrolytic copper busbar with piercing teeth that connects to the multiplexed network through its polymeric lever with a fusible head screw, it has 4 outputs (terminals) for connecting customers through its connection system that allows reliability in the eventual disconnection and connection of the client. The connector is supplied with a threaded hole in its busbar to use the stirrup in the temporary safety ground, the stirrup being an optional item.

Available for connection to the mains in the range from 25mm<sup>2</sup> to 185mm<sup>2</sup> (4 AWG to 336,4 MCM) and in derivation (customer connection) in the range from 6mm<sup>2</sup> to 35mm<sup>2</sup> (16 AWG to 2 AWG).

MAIN RANGE CA/Cu	TAP RANGE CA/CAA/Cu	APPLICATION TORQUE (Nm)
4 AWG - 336.4MCM	10 - 2 AWG	14 - 18
25 - 185mm <sup>2</sup>	6 - 35mm <sup>2</sup>	



### APPLICATION TABLE

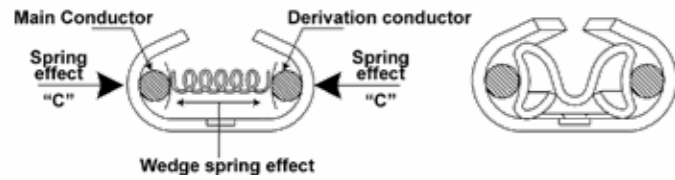
MODEL	DIAMETER RANGE (mm)		BARE CABLES (AWG/MCM)		BARE CABLES (mm <sup>2</sup> )		INSULATED CABLES (mm <sup>2</sup> )		SCREW 1	SCREW 2
	SIDE FOR SMALLER CABLE (P)	SIDE FOR BIGGER CABLE (G)	SIDE FOR SMALLER CABLE (P)	SIDE FOR BIGGER CABLE (G)	SIDE FOR SMALLER CABLE (P)	SIDE FOR BIGGER CABLE (G)	SIDE FOR 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.

## KARA | WEDGE TYPE CONNECTOR FOR CONSUMERS CONNECTION - SYMMETRICAL AND ASYMMETRICAL SERIES

The wedge type connectors **KARA** family are manufactured in alloy tinned copper, for applications in the range of 1.5mm<sup>2</sup> to 120mm<sup>2</sup> (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.



CABLES/WIRES CU/AL (mm <sup>2</sup> )		SELECTION TABLE TO DIAMETERS / SQUARE MILIMETERS OF CONDUCTORS													
		MULTIPLEXED INSULATED PHASE AAC CABLE - mm <sup>2</sup>							BARE NEUTRAL CABLE - mm <sup>2</sup>						
		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 TYPE CONNECTOR FOR PROTECTING GROUNDING NETWORK SYSTEMS - SYMMETRIC AND ASYMMETRIC SERIES



The wedge type connectors **KARA-T** family, symmetric and asymmetric series are applicable in protection grounding systems with circle stem x cables or cables x cables. Easily application with a plier. The table indicates the types in the main combination with stem and cables of the derivation.



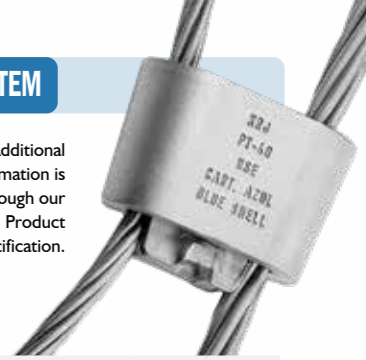
TAP CABLE CU (mm <sup>2</sup> )	MAIN	WIRE								STEM (mm)	
		CABLE									
		10 (mm <sup>2</sup> )	16 (mm <sup>2</sup> )	25 (mm <sup>2</sup> )	35(mm <sup>2</sup> )	50 (mm <sup>2</sup> )	70 (mm <sup>2</sup> )	95 (mm <sup>2</sup> )	120 (mm <sup>2</sup> )	1/2" Ø 12,5-12,8	5/8" Ø 14-16
10	10	2T	2T	2T	2T	-	-	-	LT	LT	ST
16	16	2T	2T	2T	1T	-	-	LT	LT	LT	ST
25	25	-	-	-	1T	-	-	LT	-	ST	NT
35	35	-	-	-	7T	6T	6T	-	-	ST	NT
50	50	-	-	-	6T	6T	6T	-	-	-	-

Additional information is available through our Technical Product Specification.

## PT | WEDGE TYPE CONNECTOR FOR ELECTRICAL POWER DISTRIBUTION AND TRANSMISSION SYSTEM

The wedge type connectors **PT** family are manufactured in aluminum alloy. Allows application in low, medium and high voltage power networks 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 13mm<sup>2</sup> to 470mm<sup>2</sup> (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-33D	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																	



**Red:** PT10  
**Blue:** PT40 and PT35  
**Yellow:** PT33, PT55 and PT79

\* WHEN USING CABLES 556,5 ACSR WITH 556,5 ACSR, CHECK ADDITION SELECTION TABLE  
\*\* OPTIONAL PT-40B  
\*\*\*ALTERNATIVE

## PTB | WEDGE TYPE CONNECTOR WITH SURFACE TREATMENT FOR ELECTRICAL POWER DISTRIBUTION AND TRANSMISSION SYSTEM

The wedge type connectors **PTB** family are manufactured in aluminum alloy with a surface treatment 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 option for bimetallic application in low, medium and high voltage power networks. Are available in red and blue series indicating the respective application cartridges. Application in the range of 16mm<sup>2</sup> to 185mm<sup>2</sup> (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.

ALUMINIUM/ COPPER CABLE	MAIN CONDUCTOR - MCM / AWG									
	336,4	266,8	4/0	3/0	2/0	1/0	2	4	6	
DERIVATION - MCM / AWG	6	-	-	PTB-4003	PTB-4003	PTB-4003	PTB-1002	PTB-1005	PTB-1004	PTB-1004
	4	PTB-35000	PTB-4007	PTB-4004	PTB-4003	PTB-4003	PTB-1002	PTB-1005	PTB-1005	
	2	PTB-35001	PTB-4002	PTB-4007	PTB-4004	PTB-4004	PTB-1003	PTB-1003		
	1/0	PTB-35003	PTB-4008	PTB-4002	PTB-4005	PTB-4001	PTB-4001			
	2/0	PTB-35004	PTB-4009	PTB-4008	PTB-4002	PTB-4005				
	3/0	PTB-35004	PTB-4010	PTB-4009	PTB-4008					
	4/0	PTB-35005	PTB-4011	PTB-4010						
	266,8	PTB-35006	PTB-35001							
	336,4	PTB-35013								

**Red:** PTB10  
**Blue:** PTB40 and PTB350



Additional information is available through our Technical Product Specification.

## KF-002 | APPLICATION TOOL FOR WEDGE TYPE CONNECTOR - PT/PTB FAMILY



**Metallic Shell Red, Blue and Yellow.**

### MAIN COMPONENTS

- Head
- 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 involve products, accessories, dedicated tools, strong technical and operational field training to improve electrical connection systems, in the technical and economic aspects, in order to meet the needs of the market.



**Winner on materials category**  
CPFL Award  
MORE VALUE Recognizing our Providers



Social responsibility:



Certifications:



+20 YEARS

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