



CASCADE
SCIENTIFIC INDUSTRIAL CORPORATION



✓ **RECTANGULAR CONNECTORS**
of SP and SPM series



✓ **Low-Frequency electrical cylindrical and rectangular connectors**



✓ **Busbar supports and insulators**



✓ **Industrial electrical components and accessories**



✓ **MODULES OF SLIDING ELEMENTS**
of the LV Switchgear assemblies
and their internal components



✓ **Terminal blocks**
of KEDR series



✓ **SDN series luminaries**



RECTANGULAR CONNECTORS OF SP AND SPM SERIES



Designed for switching electrical signal and power circuits with currents from 1A to 650A and voltages up to 4000V. These connectors are used in power generation and distribution, transportation, mechanical engineering, and other industrial sectors. Connectors can be supplied with protective housing of various designs, mounting frames, removable contacts, cable gland devices, and the other accessories.

The advantage of the modular connectors of SPM series is their universal design, which allows for the combination of modules with power (including different current ratings), optical, and interface contacts within a single assembly. The interface modules – analogs of D-Sub, USB, GigaBit, MegaBit, Quintix – support high-speed data transmission rated of up to 10 Gbits/s.



Plugs and receptacles SP



Technical characteristics:

Rated current	10, 16, 35, 40, 80, 100, 200 A
Rated voltage	50, 160, 250, 400, 500, 690, 830, 1000 V
Climatic category	Moderate and cold climate category 3, Tropical climate category 3, oceanic marine climate category 4
Limiting temperature	-60...+125°C (depending on configuration)
Insulation resistance at standard test conditions	5000 MΩ
Mating cycles, minimum	500

Designed for switching electrical circuits with currents up to 200A and voltage to 1000V.



Mounting frames for SP series



Technical characteristics:

Fixation of the mounting frame	On the panel
Screw mounting dimensions (plugs and receptacles to mounting frame)	44x27, 57x27, 77,5x27, 104x27 mm
Climatic category	Moderate and cold climate category 3

Designed for securing SP series plugs and receptacles directly to the device panel without the use of protective housings.



Plugs and receptacles SPM



Technical characteristics:

Rated current	1; 5; 10; 16; 40; 70; 100; 200; 250; 350; 650 A
Rated voltage	50; 150; 160; 250; 400; 500; 690; 830; 1000; 2000; 4000 V
Climatic category	Moderate and cold climate category 3, Tropical climate category 3, oceanic marine climate category 4
Limiting temperature	-60...+125°C (depending on configuration)
Insulation resistance at standard test conditions	5000 MΩ
Mating cycles, minimum	500

Designed for electrical circuit interconnection, including high-speed data transmission. The modular design allows the combination of contacts for different current ratings, as well as signal and/or power interfaces within a single housing size.



Mounting frames for SPM series



Technical characteristics:

Fixation of the mounting frame	On the panel; inside the protective housing
Screw mounting dimensions (for frame-to-housing connection)	44x27, 57x27, 77,5x27, 104x27, 130x32; 175x35 mm
Climatic category	Moderate and cold climate category 3
Number of mounting hole pairs	From 2 to 8

Designed for securing SPM plugs and receptacles within a single connector, followed by installation into protective housings or onto device panels.



Crimp contacts SP and SPM series



Technical characteristics:

Rated current	5; 10; 16; 40; 70; 100; 200; 250; 350; 650 A
Wire termination	Crimp
Plating	Silver; gold

Designed for crimp wire termination.



Tools and accessories

Coding elements



Coding with guide elements prevents errors when mating SP and SPM series connectors of the same type.



Assembly Tools and Disassembly Accessories



Manual crimping tool is designed to secure the wire in the crimp contact. The tool's design reduces the effort required to crimp the wire in the contact, ensuring durability, corrosion resistance, and gas-tightness of the connection

Disassembly accessories are intended for extracting crimp contacts from cavities of SP and SPM connectors.



Grounding frames



Technical characteristics:

Screw mounting dimensions for plugs and receptacles to the frame	44x27, 57x27, 77,5x27, 104x27 mm
Climatic category	Moderate and cold climate category 3, Tropical climate category 3, oceanic marine climate category 4
Material	Steel with coating

Designed for grounding connection



JSC "SIC "Cascade" – is a domestic enterprise with a full-cycle production of rectangular connectors of the SP and SPM series, featuring both electrical and optical contacts. These connectors are compatible with Han (HARTING), HDC (Weidmuller), HEYAVYCON (Phoenix Contact), ILME, WAIN, and etc.

Protective Housings and covers



Technical characteristics:

Locking type	clamps/latches	
Standard housing size	22x22; 44x27; 57x27; 77,5x27; 77,5x27x2; 104x27; 104x27x2; 49,5x16; 66x16 mm	
Series	KM, KP, KZM (general industrial application)	KMT, KZMT (harsh operating condition)
Color	Grey (RAL 7037)	Black (RAL 9005)
Material of housings of covers	Zink die-cast alloy (for size 22x22) Plastic (for size 22x22 – KN) Aluminum die-cast alloy (for other sizes)	
Housing surface plating	Powder-coated polyester finish	
Locking element material	Stainless steel	
Mechanical characteristics	M25, M26, M27 by GOST 30631-99	
Flammability Rating	FV-0 by GOST 28157	
Protection Rating	IP65 IP67 (for size 22x22 with sealing screw)	
Resistance to external influences	Resistance to static and dynamic dust, frost, condensation, and salt mist	
Limiting temperature	-40...+125 °C	-60...+125 °C

Protective housings with locking levers or latches are designed to securely mount connectors, providing protection against environmental and mechanical influences. They also serve as structural support during cable termination to the connector and connector attachment to the equipment.



Technical characteristics:

Locking type	screw/threaded	
Standard housing size	22x22; 44x27; 57x27; 77,5x27; 104x27; 130x32; 175x35 mm	
Series	KMT, KZMT (harsh operating condition)	
Color	Black (RAL 9005)	
Material of housings of covers	Zink die-cast alloy (for size 22x22) Aluminum die-cast alloy (for other sizes)	
Housing surface plating	Powder-coated polyester finish	
Locking element material	Stainless steel	
Mechanical characteristics	M25, M26, M27 by GOST 30631-99	
Flammability Rating	FV-0 by GOST 28157	
Protection Rating	IP65; IP69K	
Resistance to external influences	Resistance to static and dynamic dust, frost, condensation, and salt mist	
Limiting temperature	-60...+125 °C	

Protective housings with screw and threaded locking mechanisms are designed for operation in harsh environmental conditions, such as those found in railway applications, the mining industry, and the energy sector. They meet enhanced ingress protection requirements (IP rating) in the mated condition.



LOW-FREQUENCY CIRCULAR AND RECTANGULAR CONNECTORS

Standard size circular connectors of the SHR, SSHR, 2RTT, 2RTB types



Technical characteristics:

Type	SHR, SSHR	2RTT, 2RTB
Operating DC voltage, maximum	850 V	700 V
Rated frequency	3000 Hz	
Insulation resistance at standard test conditions	5000 MΩ	1000 MΩ
Minimum service life	5000 h	1000 h
Mating cycles, minimum	500	20
Ambient temperature	-60...+110 °C	-60...+100 °C

Designed for bulk mounting and operation in electrical circuits up to 3 MHz



Low-frequency rectangular connectors, series SKP403 and SNP412



Technical characteristics:

Series	SKP403	SNP412
Maximum operating current	15 A	2A (for signal) 10; 20; 40A (for power)
Maximum operating voltage	400 V	250 V
Dielectric withstand voltage, maximum	3100 V	1000 V
Signal contact resistance	10 MΩ	20 MΩ
Power contact resistance	-	1,5 MΩ
Limiting temperature	-60...+95 °C	

SKP403 connectors are designed for mating and unmating low-frequency electrical circuits with a current load up to 40 A and RF paths up to 10 GHz.

SNP412 connectors are designed for operation in DC or AC electrical circuits with frequencies up to 3 MHz.



Low-frequency electrical plug-and-receptacles connectors, types SHK and SHTS



Technical characteristics:

Rated voltage	380 V
Rated frequency	60 Hz
Rated current	25; 60; 100 A

Designed for plug-and-receptacle and cable connections of flexible and fixed power wiring systems.



KEDR series terminal blocks

KEDR series terminal blocks



Technical characteristics:

Rated current, A	17.5; 20; 22; 24; 25; 28; 32; 41; 57; 76; 125; 192; 269; 309; 353; 520 (depending on the cross-section of the connected conductor; not specified for grounding terminals)
Climatic category	Moderate and cold climate category 3, Tropical climate category 3, oceanic marine climate category 4
Rail type, mm	15; 35 mm

Designed for connecting, branching, and grounding conductors of control and power cables.



BUSBAR SUPPORTS AND INSULATORS

SHN series assembled busbar supports and ISH series insulators



Technical characteristics:

Rated current, max	6300 A
Rated voltage	1000 V
Flammability rating	FV-0 by GOST 28157
Climatic category	УХЛ3, Т3 / Moderate and cold climate category 3, Tropical climate category 3)
Busbar thickness	4; 5; 6; 8; 10 mm
Busbar width	30...160 mm
Pole pitch	multiple 12,5 mm
Limiting temperature of insulation block	-60...+150 °C
Limiting temperature of busbar support	-50...+60 °C

Designed for securing flat busbars in electrical installations of various types and for organizing busbar routes.



Supplied assembled.

SHN series busbar supports (standard versions)



Technical characteristics:

Flammability rating	FV-0 by GOST 28157
Busbar thickness	4; 5; 6; 8; 10 mm
Pole pitch	Multiple 12,5 mm
Number of poles	1; 3; 4
Limiting temperature of busbar support	-60...+150 °C

Designed for securing flat busbars in electrical installations of various types and for organizing busbar routes.



Supplied as individual parts (in bulk).

Bracket set for mounting SHN series busbar supports



Technical characteristics:

Material	Galvanized steel
Thickness	3 mm

Designed for indoor installation of SHN busbar supports inside electrical enclosures.



Modular polymer busbar supports of the SHNP series and polymer busbar insulators of the ISHP series



Technical characteristics:

Rated current, max	8200 A
Rated voltage	1000 V
Rated frequency	50 Hz
Busbar thickness	5,10 mm
Busbar width	20...160 mm
Climatic category	Moderate and cold climate category 3
Flammability rating	FV-0 by GOST 28157
Limiting temperature of insulators ISHP series	-60...+150 °C
Limiting temperature of busbar support SHNP series	-40...+60 °C

Designed for vertical mounting of flat busbars in various types of electrical installations and for organizing busbar routes.



PIO series polymer support insulators



Technical characteristics:

Height	30; 35; 40; 50; 60 mm
Thread diameter	M6; M8; M10
Flammability rating	FV-0 by GOST 28157
Limiting temperature	-50...+60 °C

Designed for insulation and fastening of live parts in electrical enclosures and distribution devices.



INP series low-voltage feedthrough insulators



Technical characteristics:

Rated voltage	400 V
Rated frequency	50; 60 Hz
Busbar thickness	4; 5 mm
Busbar width	20; 25; 30; 35; 40; 50 mm
Flammability rating	FV-0 by GOST 28157
Limiting temperature	-40...+130 °C

Designed for mounting, securing, and insulating busbars in electrical enclosures and panels for various applications.



ISP series stepped polymer insulators



Technical characteristics:

Rated voltage	1000 V
Rated frequency	50; 60 Hz
Busbar thickness	5; 10 mm
Busbar width	20; 30; 40 mm
Flammability rating	M6; M8; M10
Limiting temperature	-50...+60 °C

Designed for mounting, securing, and insulating busbars in electrical enclosures and panels for various applications.



LED LUMINAIRES

KASKAD-SDN series led luminaires



Technical characteristics:

Supply voltage, max	230 V
Frequency	50; 60 Hz
Power consumption, max	60 W
Luminous flux, min	650 lm
Climatic category	Moderate and cold climate category 3
Protection rating	IP65

Designed for lighting hangars, industrial, commercial, office, warehouse, and other types of premises



The quality of JSC «SIC «CASCADE» products is confirmed by

Type approval certificates issued by the Russian Maritime Register of Shipping (RMRS)

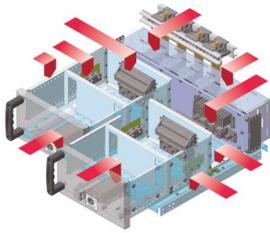
Quality management system certificates (GOST R ISO 9001-2015, GOST PB 0015-002-2020)

Licenses issued by Rostekhnadzor for the design and manufacture of equipment for nuclear power plants

Testing in the company's own laboratory (accreditation certificate No. RA.Ru.10HA928 dated 06.10.2021)

MODULES of SLIDING ELEMENTS of the LV Switchgear assemblies and their internal components

Kits for equipping the sliding elements of the low-voltage devices - KOVE series



Designed for equipping sliding elements of LV devices (blocks, modules, drawers) with components that connect them to external structures (cabinets) and electrical circuits.

KOVE composition: connectors for main and auxiliary circuits (rectangular, modular, plug-in assembled types), frames, drive mechanism, microswitches, guides, and handles. The kit can be complemented with universal busbar holders, terminal blocks, and support insulators.

The use of KOVE ensures improved quality in the design and manufacturing of LV devices with sliding elements, as well as reduced design documentation lead times and component costs.



KVN series plug-in connectors and NK series contact blades



Technical characteristics:

Rated current	125; 250; 375; 500; 625; 630 A
Rated voltage	690 V (by special order 1000 V)
Thickness of the Connected Busbar	4; 5; 6; 8; 10 mm
Climatic Category	Moderate and cold climate category 3, Tropical climate category 3
Mating cycles, minimum	500
Limiting temperature	-50...+85 °C
Type of coating for contact parts	silver, tin-bismuth

Designed for connecting power equipment to busbars in LV devices with sliding and removable (plug-in) elements, as well as in busbar trunking systems.



SPN1 Series rectangular modular connectors with extended mating stroke



Technical characteristics:

Rated current	20 A
Rated voltage	400 B
Reliable mating stroke length	26 mm
Degree of protection according to GOST 14254	IP20
Cross-sectional area of the connected conductor	1,0...4,0 mm ²
Mating cycles, minimum	500
Climatic Category	Moderate and cold climate category 3, Tropical climate category 3
Limiting temperature	-50...+85 °C
Type of coating for contacts	silver, tin-bismuth

Designed for use in signal circuits of modular low-voltage switchgear assemblies with operating voltage up to 400 V.



MP Series Operating Mechanisms



Technical characteristics:

Limiting temperature	service, test, and isolated positions
Stroke length from isolated to test position	20 mm
Stroke length from test to service position	25 mm
Climatic Category	Moderate and cold climate category 3, Tropical climate category 3
Average pulling force, minimum	100 kgf
Material	galvanized steel

Used in LV devices for securing withdrawable units in required positions and locking them with padlocks, ensure connector mating and unmating forces, and lock the manual drive handle to prevent incorrect switching operations.



Guide rails for sliding elements



Technical characteristics:

Guide block length	260 mm
Guide chassis length	340 mm
Material	galvanized steel

Designed to provide precise guidance of the sliding element along its axis and to prevent vertical and horizontal displacement.



Microswitches for LV device of the MPZ and MVZ series



Technical characteristics:

Rated current	10 A
Rated voltage	400 B
Rated frequency	50; 60 Hz
Number of load switching cycles, minimum	5000
Climatic Category	Moderate and cold climate category 3, Tropical climate category 3
Degree of protection	IP20
Limiting temperature	-40...+80 °C

Designed for switching alternating current control circuits. The microswitch can be housed in a protective insulated enclosure, which ensures electrical safety when connecting wires using quick-connect terminals («fastons»), soldering, or screw terminals.



MVE series modules of sliding elements of the LV Switchgear



Technical characteristics:

Height of sliding elements	100...600 mm
Number of sliding elements per tier	1; 2; 3
Compatibility with metal enclosures	Provento Group, MCA, Rittal, IEK

Designed for the construction of modular low-voltage devices for power distribution and control by integrating MVEs with the required number of sliding elements into the structural frames of various enclosures and panels.



INDUSTRIAL ACCESSORIES/ HARDWARE

Accessories for electrical enclosures



Handles for sliding elements of the RP and RS series designed for horizontal or vertical mounting on doors or panels of electrical equipment.

Hinges and stops are designed for mounting door structures of electrical equipment.

Quarter-turn locks are intended for locking metal panels and control cabinets to protect against unauthorized access to the equipment installed inside.



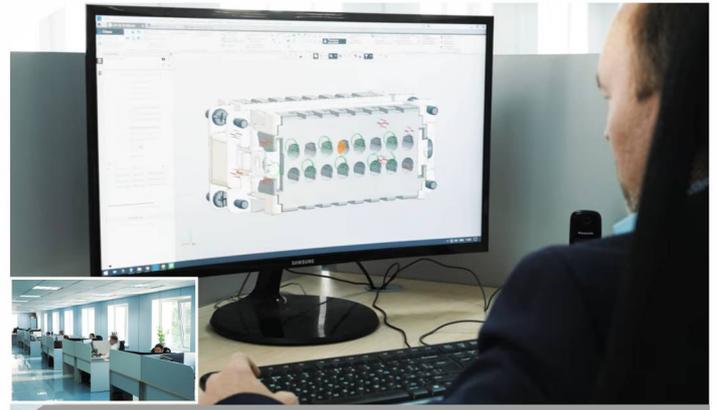
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PROFESSIONAL TEAM



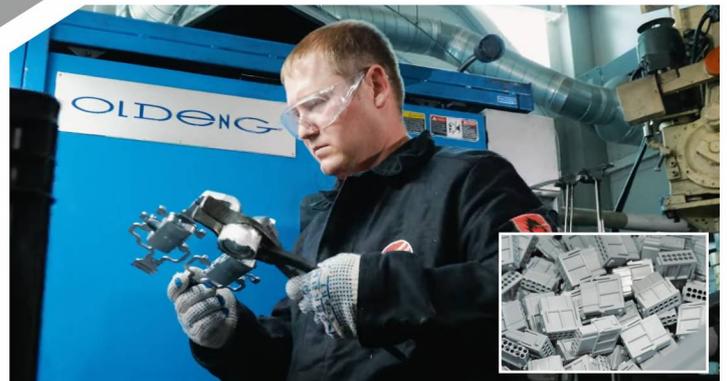
TOOLING PRODUCTION



DESIGN AND TECHNOLOGY CENTER



ACCREDITED LABORATORY



NON-FERROUS METAL AND PLASTIC CASTING



> 6500 sq.m. OF PRODUCTION AREAS

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