VanSystem

PRODUCT LINE
POWER, SIGNAL & HIGH-SPEED DATA CONNECTORS

Booklet

SIMPLIFICATION IS OUR INNOVATION

Radiall™

CIRCULAR CONNECTORS
FOR INDUSTRIAL APPLICATIONS

CT
Bayonet connectors designed according to MIL-C-26482 series 1:

- Highly resistant to vibrations and shocks
- Coupling system composed of 3 bayonet ramps machined on the coupling nut and 3 stainless studs mounted in the receptacle

VF2
Ground contacts connected to the external metal shell:

- Pre-earth (ground contact) design for protective circuit from ground contact to the shell is a safety requirement
- First-Mate Last-Break capability
- Conformity with German safety standard (DIN VDE 0627)

CVS
Threaded connectors derived from MIL-C-5015 specification, which concerns the electrical connectors usually called "MS":

- Used in industrial applications thanks to their versatility
- 12 different shell sizes with a wide range of back shells and strain relief options for any cable requirement
- Insulating inserts and grommets are manufactured with synthetic, highly insulated, rubber compounds
- Contacts available in crimp, solder and PCB terminal

CVB
Bayonet connectors derived from MIL-DTL-5015 and VG95234:

- Faster coupling and anti-vibration resistance
- Coupling system composed of 3 bayonet ramps machined on the external side of the receptacle and 3 stainless studs mounted inside the plug connector's coupling nut
- Front seal with double function: it is used to supply elastic return during the coupling and to guarantee waterproof protection (IP67)

CVBS
Bayonet connectors protected by a stainless steel stud:

- Faster coupling, continuous and reliable service in the harshest conditions
- Wave washer installed under the plug connector coupling nut
- IP68 waterproof protection (when connectors are mated and harnessed with the correct accessories)

CVBR
Bayonet connectors protected with stainless steel roller stud:

- Suitable for higher number of operations
- The roller-stud guarantees an easier coupling due to a lower wear of the coupling ramps

CIRCULAR CONNECTORS
FOR RAILWAY APPLICATIONS

RF CVBS – V CVBS

Bayonet locking coupling system, extremely resistant to vibrations and shocks:

- RF - fire resistant and halogen-free compound, qualified according to EN 45545-2
- V - fluorocarbon compound, excellent resistance to aging, atmospheric agents, hydraulic fluids and oils
- IP68 protection degree (waterproof to 10 meters up to 12 hours)

RF CVBSG

Bayonet connectors with rubber covered plug shell:

- These connectors are particularly suitable for applications with mechanical shock
- Rubber jacket and insulating parts are in accordance with EN 45545-2 standards
- Standard panel receptacle supplied with countersunk holes for easy mating with rubber jacketed nuts
- Accessories made of rubber material or with rubber protection are also available for cable retention

RF GVJ

Bigger shell size bayonet connector:

- Resistance against impact and harsh environments; 5 key polarization systems, increased dimensions to install insulators with more contacts or larger contacts
- Thermoplastic or rubber insulating inserts
- Roller studs make the coupling easier and allow more operations due to a lower wear of the coupling ramps

KVBS

Bayonet connectors with insert in thermoplastic inserts, derived from series RF CVBS:

- Simpler and faster cable assembly
- Intermateable with RF CVBS series
- Insulating parts in accordance with EN 45545-2 standards. The grommets and the inserts are in flame retardant material according to UNI CEI 11170-3 and NFF 16-102 – zone 4

RF CT

Bayonet connectors designed according to MIL-C-26482 series 1:

- Fire resistant and halogen-free compound. Qualified according to EN 45545-2
- Bayonet with a 3-ramp coupling system

PWBS

Single-pole bayonet connectors up to 1000 A rated current:

- For harsh environments (for outdoor use): waterproof connection, dust proof and corrosion resistant
- Robust connection, fully protected connectors: no risk of damaging the contacts due to robust shell
- Copper alloy silver plating can be supplied with one or two contacting bands
- Suitable for 12 polarizations to prevent incorrect coupling
- Backshell and accessories for fastening cable/conduit fixation
- Working temperature of -60 °C / 180 °C (according to the insert material)
- EMI protection with grounding finger, conductive plating and the proper rear accessory
- Contacts with touch-proof protection
- Fire resistant and halogen-free compound; qualified according to EN 45545-2

CP – CONNECTORS

Multi-pole power connectors, up to 1000 A rated current:

- Can be used in railway applications for car-to-car jumpers, power distributions and traction motors
- Robust connection: fully protected connectors, no risk of damaging the contacts due to robust shell, can be supplied with conductive plating and the proper rear accessory
- Easy installation: fast and reliable coupling with alignment columns, accessories for fastening cable/conduit fixation
- Suitable for harsh environments (adapted for outdoor use), waterproof connection and corrosion resistant
- Fire resistant and halogen-free compound employed with no flame propagation; qualified according to EN 45545-2
- High copper content alloy, silver plating; can be applied with multi-contacting bands

CP – BOX

Junction and distribution boxes:

- Self-protected Junction Box to connect several lines, Power and Sensor
- Simpler and faster cable assembly
- Insulating parts in accordance with EN 45545-2 standards; the grommets and the inserts are in flame retardant material according to UNI CEI 11170-3 and NFF 16-102 – zone 4
- Could be supplied with connectors or cable protection
- Type T or Type Y connection

GM

Modular connectors:

GM connectors are designed for accepting modules for many different applications: Ethernet and data transmission, coaxial connections, fiber optics, power cables and signals up to 14 wires. Each module is pneumatically sealed in its housing (the connector is suitable for pressurized cabin). Plastic hard insert offers positive module rear release retention.

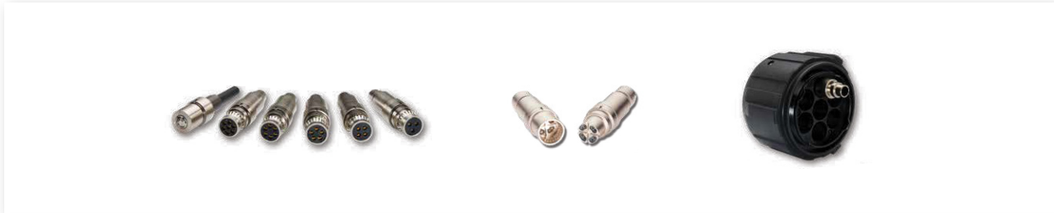
- Bayonet coupling system, directly derived from the reliable CVBS series
- 5 keyed guiding systems and mechanical coding
- High grade efficiency shielding for each module's EMI/RFI protection
- Audible, visible and tactile mating; one quarter turn lock for coupling
- Complies with all requirements of transit applications
- IP67 rating (according to EN 60529)
- Rubber-coated coupling nut offers damping protection against mechanical shocks

EVBS-C7

Data transmission connectors:

EVBS-C7 Bayonet Category 7A connector is the definitive alternative for Ethernet static interconnections inside railways vehicles. Directly derived from Cat. 7 module used on GM, GMH and S&P series:

- Audible, visible and tactile mating
- Vibration and shock resistant
- Tested according to Trenitalia 376575
- Over-molded contacts pair at controlled impedance
- Can be supplied with Cat. 6 module to connect sensors/information systems



GMM

Power, signal and data transmission modules:

GMM modules are designed for many different applications:

- Ethernet and data transmission (Cat. 7A tested according to Trenitalia 376575, Cat. 7, 6A, 6, 5E, 5, MVB, RS485, WTB)
- Coaxial connections (RG cables, application Wi-Fi 2.4 GHz and 5 GHz, GSMR, GPS, WLAN)
- Fiber optics (Accepted optical contacts SC type, 2/4 Expanded Beam)
- Power connection, signals up to 14 wires

High level of performance:

- EMI protection, each module is shielded alone with grounding finger
- Up to Cat. 7A Ethernet data transmission
- Each module is pneumatically sealed and installed in the shell

ATEX & CUSTOM CONNECTORS

Atex Connectors

CVB ATEX

MIL-C-5015 reverse bayonet ATEX connectors

CVB ATEX series can be used in hazardous and potentially explosive environments. These connectors are applied in oil and gas sectors, mining and power plant industries. Certification: 94/9/EC ATEX directive.

Application area:
- Suitable for surface applications
- Group II Zones 1, 21, 2 and 22 (gas and dust)
- Gas group IIC
- Ambient temperature -40 °C/ +120 °C

Suitable for underground applications:
- Group I category M2

Can be installed on devices and enclosures designed with the following type of protection:
- Explosion proof Ex d - EN60079-1
- Increased safety Ex e - EN60079-7
- Intrinsic safety Ex i - EN60079-11
- Pressurization Ex p - EN60079-2

Ex I M2 Ex d I
Ex II 2G Ex d IIC
Ex II 2GD Ex d IIC tD A21 IP66/IP67

Custom Connectors

CL4403 CONNECTORS

Anti-skate sensor connectors:
- 10 contacts
- Application: train boogies

CV010113 CONNECTORS

Rack connectors:
- 37 contacts
- Application: underground trains

CV510811 CONNECTORS

Compact thread connector:
- 6 AWG24 contacts
- 5 polarization keys

CB SC CONNECTORS

Fiber optics:
- Accommodate 3 SC connectors
- Bayonet locking coupling system, extremely resistant to vibrations and shock

HVSP CONNECTORS

High-voltage single pole:
- Up to 5.600V (900V PD4 e OV4)
- Contact size 8

TLH CONNECTORS

Data connectors:
- Bayonet connector
- 1 shielded central module: 3 contacts AWG12, 23A
- 24 signal AWG20 contacts

CV010116 CONNECTORS

Rectangular connectors for electronic cabinet:
- 39 contacts size 16 for 2 x 1 mm² wire section/crimp version
- Screw locking devices and hexagonal keys for mechanical coding
- Thermo-plastic material is flame resistant according to EN45545-2 R22 level HL3

CS030917 CONNECTORS

Self-locking insulated connectors:
- 3 contacts size 12
- Working voltage 230 Vac
- Insulated connectors are flame resistant according to EN45545-2
- Contacts: Copper alloy / plating: silver 3.5 µm
- Backshell class R for heat shrink tubing

POWER CONNECTORS

SPPC LJP

Lug Joint Protector:

LJP is a safe and reliable temporary connection/ extension of single core power cables that are pre-terminated with copper lug terminals.

- Up to 780 A, 1.000 V
- IP67 when mated (according to EN 60529)
- Accepts 120 mm², 185 mm², 240 mm² and 300 mm² lugs with holes size 12 mm
- Different lug sizes can be assembled in the same unit using special accessories

SPPC-PWL

Single-pole power connectors:

Single-pole power connectors are designed to provide safe, reliable and quick connections for cable-to-cable or cable-to-equipment in electrical power distribution systems.

- 5-key polarization system and color coding prevent connection errors
- Up to 750 A, 1.000 V
- From 35 mm² to 300 mm² wire section
- IP67 when mated (according to EN 60529)
- Finger Protected IP2x: male and female contacts
- Multi-louver contact system
- KSPC: keyed single-pole connector, individual keyways to prevent connection errors

SPPC-HK

Compact single-pole power connectors:

Single-pole power connectors up to 400 amps, keyed, fingerproof both sides, innovative locking mechanism.

- 5-key polarization system and color coding prevent connection errors
- Up to 400 A, 1.250 V
- From 16 mm² to 120 mm² wire section
- Multi-louver contact system
- Reduced flange size option
- No special tool is required for assembly or uncoupling
- Spring locking axial action
- IP67 when mated (according to EN 60529)
- IP2x finger-protected contacts
- KSPC: keyed single pole connector, individual keyways to prevent connection errors

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