Civil Use Field
Connection Technology Solutions

CHINA AVIATION OPTICAL–ELECTRICAL TECHNOLOGY CO., LTD

Sept. 2014
Company introduction

China Aviation Optical-Electrical Technology Co, Ltd (JONHON, No.158 Factory), held by Aviation Industry Corporation of China, is the largest professional and integrated connection solution provider, devoting into the R&D and manufacturing of high reliable optical & electrical, fluid connectors. JONHON had been listed in Shenzhen stock market on Nov. 1st 2007 and became the first military enterprise listed as a whole in China.

JONHON has its own connection engineering R&D center, and was honored as National Enterprise Technology Center in 2010. JONHON devotes into the R&D of optical, electrical and fluid connection technology. Independent development nourished more than 300 series and 250 thousand types, including circular, rectangular, optical fiber, filter, anti-lightning, anti-nuclear electromagnetic pulse, RF coaxial, and fluid connectors. JONHON also provides optoelectronic module, optical terminal, optical network, high-speed transmission, cable assembly, system integration solutions. As its excellent performance, JONHON has received “National Science Convention Prize”, “National Key New product”, “Excellent New Product Prize of State Economic and Trade Committee” and “State Innovation Prize”, etc. JONHON’s products are widely used in aviation, aerospace, weapon, vessel, telecommunication, railway, power supply, electric, track traffic, new energy, coal mine safety and electric vehicles and other military and civil field. JONHON has established good strategic cooperative partnership with Win-win model with national and international well-know high-tech corporations. Products have been exported to more than 30 countries and regions, such as USA, Europe, Australia, South Korea, etc. In China, JONHON is honored as the leader of electric component manufacturer and also military enterprise in global supplier chain.

JONHON has become the industry standard-setter, making more than 200 standards and specification in the fields of national military system, navigation system and military facilities system. JONHON successively build five GJB production lines with international advanced level. JONHON has got the quality management system certification of military products, ISO9001-2000 quality system certification and AS9100 certification. The representative products have got UL, CUL, CE, TUV, CB and other safety certification. Having UL witness laboratory and screening test office for electric components used in Fighter-10 aircraft, JONHON also has established the first DPA (destructive physical analysis) laboratory in China and RoHS testing laboratory. In the year of 2011, the test & inspection center is classified as National and National Defense Laboratory. JONHON has established quality management information platform, which has brought into SPC statistical process control, Lean Six Sigma and other advanced management tools for more scientific quality management. Meanwhile, the further promotion of ERP, OA and PDM has built up the company overall information network system.

Practicing the purpose of “Contribute to Nation with Aviation Industry, Strengthen the Military Forces and Enrich the People” and shaping the core culture as honesty, integrity and innovation, JONHON focuses on creating a global industry leader known by people of its value, reputation, and a sustained, healthy and rapid development.
### Data transmission and telecommunication equipment field

#### DL series
- Features:
  - 1~52 contacts, float mounting
  - 6 different contact types
  - Various termination and contact length
  - Rating current 5~200A
  - Contact resistance 0.4~5mΩ
  - TUV, UL certificate, RoHS compliant

#### CZ15 series
- Features:
  - Power contact and signal contact mixed, suitable for panel to panel connection
  - 3 cores ~ 47 cores, rating current 3~40A, according to customers’ need
  - TUV, UL certificate, RoHS compliant

#### DP series
- Features:
  - Comply with SSI standard
  - Blind mating design, anti-mis-mating structure
  - Rating current 30A~65A, rating voltage 48V
  - RoHS compliant, TUV, UL, CUL certificate

#### Terminals
- Features:
  - Module structure, different insert arrangement available
  - High conductive material, strengthen current-carrying capability
  - Rating current 40~120A, withstanding voltage 1500V AC
  - RoHS compliant, UL, CUL certificate

#### GP3A series high speed backpanel connector
- Features:
  - Crimping termination
  - 85G, 100G differential impedance to strengthen signal
  - Transmission speed up to 25Gbps, circuit data transmission speed up to 15Gbps~2OGbps
  - Applicable for the high-speed data transmission between motherboard and plug-in board

#### CZ35 series
- Features:
  - High density power connector, meet power connector standard
  - Support different signal transmission
  - Rating voltage 76V~250V, rating current 2A~150A
  - RoHS compliant, meet UL, CUL probe proof requirement

#### CZ36 series
- Features:
  - High density power connector, meet power connector standard
  - Support different signal transmission
  - Rating voltage 76V~250V, rating current 35A
  - RoHS compliant, meet UL, CUL probe proof requirement

#### PDLA series
- Features:
  - The connector use standard LC or Duplex LC plug
  - Optical signal inter-connect
  - Plastic shell, withstand salt spray and industry air corrosion, alternative salt spray 96h
  - Insertion Loss < 0.50dB
  - Protection degree: IP67

#### OPDLA series
- Features:
  - One-step operation, convenient connection
  - Compatible standard DLC module
  - Metal shell, plastic shell available

#### YN series
- Features:
  - The interface comply with IEC61754 standard
  - Combined with the cabinet and achieves outdoor sealing
  - Excellent tensile strength and anti-pressure performance
  - Wiring distribution far away from buildings

#### CT48 series
- Features:
  - Precision metal alloy connectors
  - 5 keyways polarization for blind mating and anti-mis-mating
  - Tri-star thread coupling
  - Contact resistance < 12mΩ, withstanding voltage 1300V, crimping contact 0.08mm²~0.3mm²
  - RoHS compliant

#### CT85 series
- Features:
  - Shell material is engineering plastic, light weight
  - 5 key orientation to avoid mis-mating
  - Rating current 35A, withstanding voltage 1500V
  - RoHS compliant, TUV, CUL certificate

#### DT series push & pull connector
- Features:
  - The connector shell is 360° conductive, achieves shielding and lightning protection
  - The contact is applicable for 4mm² or 12AWG wire
  - Rating current 2A~40A, rating voltage 48V, Contact resistance 0.75mΩ~12mΩ
  - RoHS compliant, TUV, CUL certificate

#### CT52 series
- Features:
  - Precision metal alloy connector
  - Excellent EMI shielding
  - Protection degree: IP67
  - IEC 60730-9
  - Contact number 3~6 cores, rating current 5A, withstanding voltage 1200V
  - RoHS compliant
  - Applied in the signal control of AEG smart antenna

#### RP series
- Features:
  - Standard MT ferrule, good interchangability
  - High density 48~144 cores
  - Large bandwidth optic fiber: Om3, Om4
  - Insertion Loss < 3.5dB, tensile strength 300N

#### MPO series
- Features:
  - Pull-push structure, reliable connection
  - Simultaneous connection of 12-core optical fibers, applicable to high density installation
  - Optical cable: ribbon optic fiber and ribbon optic cable
  - Branch cable: gP, q2, d3, tensile strength >50N

#### Bn series
- Features:
  - Flexible wiring distribution, different core numbers: 48 cores, 96 cores, 144 cores, etc.
  - Connector interface comply with Yd1272/ IEC61754 standard
  - Small size, high density
  - Applicable for the wiring distribution in cabinet or between cabinets

#### Sealing box series
- Features:
  - Different mounting types: pipe, pole, built on slits, seal function
  - Excellent environmental performance
  - Optical fiber pre-connection mounting, 12 cores and 6 cores

#### High level optical performance fiber
- Features:
  - Connector interface comply with Yd1272/I EC61754 standard
  - Good interchangability: < 0.12dB
  - High level optical performance

#### Optical fiber with smart recognition function
- Features:
  - Connector interface comply with Yd1272/ IEC61754 standard
  - Increased the distribution operation efficiency
  - Chip smart recognition function
<table>
<thead>
<tr>
<th>Petroleum equipment field</th>
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<tbody>
<tr>
<td><strong>5700 system equipment interface</strong></td>
<td><strong>CSU-system equipment interface</strong></td>
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<tr>
<td>• CT40 series connector</td>
<td>• YTC series connector</td>
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<tr>
<td>• Female mating connector</td>
<td>• PEPE insulation material, withstand 175°C temperature</td>
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<td>• Provide confined flange: 32 cores or 45 cores</td>
<td>• Provide 26 cores, 32 cores aviation contacts applicable for non confined receptacle</td>
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<tr>
<td>• J30JN wire spring pin connector</td>
<td>• C33A series rectangular connector</td>
</tr>
<tr>
<td>• Strengthen type network interface connector</td>
<td>• Top drive connector</td>
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<tr>
<td>• YW series, CT55 series connector</td>
<td>• EW series connector</td>
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<tr>
<td>• Protection degree: IP67</td>
<td>• Protection degree: IP68</td>
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<tr>
<td>• Metal shell with network data interface: USB, RJ-45, etc.</td>
<td>• Motive power, controlling signal transmission</td>
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<td>• Various termination types: PCB soldering, crimping, wire soldering</td>
<td>• Explosion-proof certification No.: ExII CT4</td>
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<tr>
<td>• J509 series connector</td>
<td>• Protection degree: IP68</td>
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<tr>
<td>• Explosion-proof degree: ExN series connector</td>
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<tr>
<td>• Off-shore detection, underwater mating cable assembly</td>
<td>• Off-shore detection wire-pulling connector</td>
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<tr>
<td>• ST59 series connector</td>
<td>• CT56M series connector</td>
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<tr>
<td>• Ti alloy shell, withstand 200Kg and 900Kg force</td>
<td>• Integrated injection, plastic shell</td>
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<tr>
<td>• Can be mated and removed in 50m depth water</td>
<td>• The product can withstand 0.7MPa one direction hydraulic pressure</td>
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New energy vehicle field

**DQ series EV charging inlet**
- Various types, DC charging connector (125A, 250A), AC charging connector (Vehicle side, power side, 16A, 32A)
- Contact size 3-12mm, contact resistance 0.25mΩ-0.75mΩ, rating current 2-125A
- Protection degree: IP55

**European standard EVC series charging inlet**
- High reliable contact performance, connection mechanism
- Connectors for both vehicle side and charging side
- Contact size ø3, ø6mm, contact resistance 0.75, 0.5mΩ, rating current 2-70A

**HVIL series high voltage interlock connector**
- Applicable for the connection in EV inside environment, high voltage, shielding, sealing
- High voltage 400V, current 35A, wire 0.5-50mm², protection degree: IP67

**Trunk battery connector**
- Straight push-pull in-line connector, the locking function is achieved by the locking mechanism between equipments
- This series is applied in the current transmission between battery box and vehicle, battery wire and charging interface
- The products include: B400 series, B420 series, B420D series
- High reliable floating mounting connector
- Straight push & pull structure, quick coupling
- Reliable crown ribbon socket for soft mating and remove, low contact resistance
- Contact size ø10-ø14mm, contact resistance 0.25-0.5mΩ, rating current 200-300A
- Protection degree: IP66

**CT34D series bayonet connector**
- Reliable wire spring socket for soft mating and remove, low contact resistance
- Contact size ø10-ø14mm, contact resistance 0.25-0.5mΩ, rating current 200-300A
- Push & pull structure, quick coupling
- Two polarization types to anti misuse-mating: 90°, 180°
- Applied to high current transmission in damp & rainy environment, EV inside environment

**CT34T series connector**
- Straight push & pull structure, quick coupling
- Contact resistance 0.5-5mΩ, rating current 15-30A
- Protection degree: IP66

**GVH series high voltage interlock connector**
- Applicable for heavy current transmission in damp & rainy environment, EV inside environment
- 380V shielding
- Contact resistance: 1.5-5mΩ, rating current: 15-30A
- Protection degree: IP66

**DY3 series connector**
- Quick bayonet coupling
- Contact resistance; ≤3mΩ, withstanding voltage: 2000V AC, EMI shielding: 500MHz
- Nickel environmental performance (water-proof, shielding, salt spray)
- Protection degree: IP67
- RoHS compliant

**CT63-01 series connector**
- Jonhson developed cable assemblies for EV, the characteristics are as below:
- High voltage, large current
- High insulation resistance, integrated, high reliable
- Excellent environmental performance
- Shielding and protection degree meet EV requirement

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**Power equipment field**

**YD series connector**
- Standard interface, applicable for thread
- Various types, meet different mounting environment
- Contact size ø10-ø14mm, rating current 20-75A
- The product material is chosen according to aviation degree

**CT18 series connector**
- Two connection types: bayonet, threaded
- Various insert arrangement
- Meet different mounting environment, max salt spray reaches 1000h
- Excellent sealing performance, meet 0.03mm air hermetic requirement

**YDA30 series connector**
- Short circuit protection structure
- Standard mating interface dimensions
- Excellent environmental performance, withstand shock and vibration, reliable connection

**CT55H series connector**
- Network data interface: RJ45, USB, RS485, etc.
- Various connection types to meet different need
- Anti misuse-mating mechanism
- Excellent environmental performance, withstand shock and vibration, reliable connection

**YS0 series connector**
- Various connection types, small size, lightweight, quick mating and remove
- Five keyway orientation, blind mating and anti misuse-mating
- Excellent environmental performance, water proof, dust proof, tensile strength
### Power equipment field

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Features</th>
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<tr>
<td>XC158A series connector</td>
<td>- &quot;Waist-shape&quot; mounting hole for more compatibility of receptacle mounting&lt;br&gt; - Clamping contact coil, convenient operation and service&lt;br&gt; - Excellent environmental performance, protection degree IP67&lt;br&gt; - Operating temperature: -55°C to 200°C</td>
</tr>
<tr>
<td>DV1 series connector</td>
<td>- Quick bayonet coupling, convenient operation&lt;br&gt; - Excellent environmental performance, withstand shock and vibration, reliable connection&lt;br&gt; - Excellent current and voltage, protection degree IP67</td>
</tr>
<tr>
<td>CT63A series connector</td>
<td>- Convenient operation, small size, high density&lt;br&gt; - 360-degree orientation, blind mating and anti-mating&lt;br&gt; - Excellent EMI shielding, various insert arrangement available&lt;br&gt; - Protection degree: IP68</td>
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<tr>
<td>Pre-made cable assembly</td>
<td>- High withstanding voltage and current&lt;br&gt; - Excellent environmental performance: EMI shielding, corrosion proof, dust proof, water proof, withstand vibration&lt;br&gt; - High reliability</td>
</tr>
<tr>
<td>Outdoor optic fiber or pre-made optic fiber assembly</td>
<td>- Adopts high quality optical fibers, nice tensile strength and pressure-bearing function&lt;br&gt; - The assembly uses water proof structure, ensures the environmental performance&lt;br&gt; - Special ointment filling, ensures the assembly work stability&lt;br&gt; - Flame retardant sleeve, anti radiation, fire proof</td>
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### Railway signal and rail transit equipment field

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<td>J19 series</td>
<td>- Hyperboloid wire spring socket, low contact resistance&lt;br&gt; - Withstand shock and vibration&lt;br&gt; - Leading pin to anti mis-mating&lt;br&gt; - Contact resistance ≤ 2.5mΩ, rating current 10A, withstand voltage 200V&lt;br&gt; - Applications: electrical connection in railway locomotives, signal control cabinet, equipment to equipment</td>
</tr>
<tr>
<td>J45 series</td>
<td>- Hyperboloid wire spring socket, low contact resistance&lt;br&gt; - Withstand shock and vibration&lt;br&gt; - Leading pin to anti mis-mating&lt;br&gt; - Contact resistance ≤ 2.5mΩ, rating current 10A, withstand voltage 200V&lt;br&gt; - Applications: electrical connection in railway locomotives, signal control cabinet, equipment to equipment</td>
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<tr>
<td>TJ19 series</td>
<td>- Hyperboloid wire spring socket, low contact resistance&lt;br&gt; - Withstand shock and vibration&lt;br&gt; - Leading pin to anti mis-mating&lt;br&gt; - Contact resistance ≤ 2.5mΩ, rating current 10A, withstand voltage 200V&lt;br&gt; - Applications: electrical connection in railway locomotives, signal control cabinet, equipment to equipment</td>
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<tr>
<td>TLJ series</td>
<td>- Hyperboloid wire spring socket, low contact resistance&lt;br&gt; - Withstand shock and vibration&lt;br&gt; - Leading pin to anti mis-mating&lt;br&gt; - Contact resistance ≤ 2.5mΩ, rating current 10A, withstand voltage 200V&lt;br&gt; - Applications: electrical connection in railway locomotives, signal control cabinet, equipment to equipment</td>
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### Fluid cooling integrated product

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<td>- Provide fluid cooling solutions, fluid cooling chassis, fluid cooling assemblies, fluid connectors, fluid cooling pipes, etc.</td>
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</table>
Civil aviation equipment filed

- Comply with according to MIL-DTL-389998 series
- Quick latch thread coupling with anti-decoupling mechanism
- Small size, light weight, high contact density
- EMI/RFI shielding
- Fireproof shell, composite material shell, and aluminum alloy shell with various plating
- Withstanding high strength vibration under high temperature; can be applied in harsh environment like wind, sand, moist, etc.

- Comply with according to MIL-DTL-389998 series
- Quick bayonet coupling
- RFI (radio frequency interference) shielding (plug)
- Mating surface sealing
- Removable crimp contact with gold plating
- Applications: Widely used in military and industry fields

- Comply with according to MIL-DTL-83723 series
- Bayonet or thread coupling
- Five keyway orientation, blind mating and anti-mis-mating
- Withstand strong shock and vibration
- Applied in high temperature environment such as aviation engine

- Comply with MIL-T-81714 II series standard
- Save space, lower the weight
- The module withstand shock and vibration, ensures the connection between wire and connector
- Improves the reliability and environmental performance
- Applicable for the electric system that need wiring termination

- Module rectangular connector, different module combination meet different needs
- Mainly applied in electric connectors of control system and equipment
- 36 anti mis-mating types in maximum
- Widely applied in the electric connection between equipment to outside, solves the electric signal transmission

Provide integrated optical, electrical, fluid connection technology solutions:
Professional reliable high-end