

www.ttl-network.de



Cables and components

for professional applications





Foreword by the management

Dear business partners,

Since our foundation in 2001, we have dedicated ourselves with passion and commitment to the development of high-quality cable and connection solutions. This catalogue represents not only our extensive product range, but also our ongoing commitment to quality, innovation and customer satisfaction.

Our promise to you:

We promise you innovation and individuality.

We will work with you to develop customised solutions that are not only technically impressive, but also economical. Whether small or large series, we are at your side from the initial consultation to order fulfilment and beyond. Our comprehensive service portfolio also includes stocking in our central warehouse as well as extensive logistics and other services.

We promise you proximity and partnership.

As an owner-managed company, we value personal relationships with our customers and partners. We work closely with well-known manufacturers and have an extensive network and over 1,000 of our own tools for OEM and standard cables. Our membership of key committees is a reflection of our leading role in the industry.

We stand for trust and responsibility.

Your satisfaction is our ultimate goal. That's why we do everything we can to not only meet, but exceed your expectations. We pride ourselves on providing products and services that meet the highest standards and are environmentally friendly. As a family business, we think in terms of generations and take responsibility for our society and the environment.

We personally stand behind every product that leaves our company.

Quality and reliability are not just empty words for us, but central components of our corporate philosophy. Our extensive certifications are proof of our commitment to the highest standards and sustainable production.

Thank you for your trust. We look forward to continuing our success together with you in the future and supporting your projects with our expertise and passion.

Yours sincerely,

Achim Beuckes and Tobias Beuckes
Managing Directors of TTL Network GmbH



TTL Network GmbH - Your partner for high quality cables and connectivity solutions

EXCELLENCE IN EVERY CONNECTION

Since our foundation in 2001, we have focused on quality, innovation and customer satisfaction. Our owner-managed family business has developed into a recognised manufacturer of high-quality cables and components for professional applications and distributes them worldwide.

With our four product lines **TTL Lab**®, **TTL Live**®, **TTL Lan**® and

TTL Link® we serve demanding customers in the industrial, medical, event, media and network technology sectors.

With our many years of expertise in special assemblies, we are a technologically versatile development partner for industry and also support our customers in the creation of new special technical solutions.

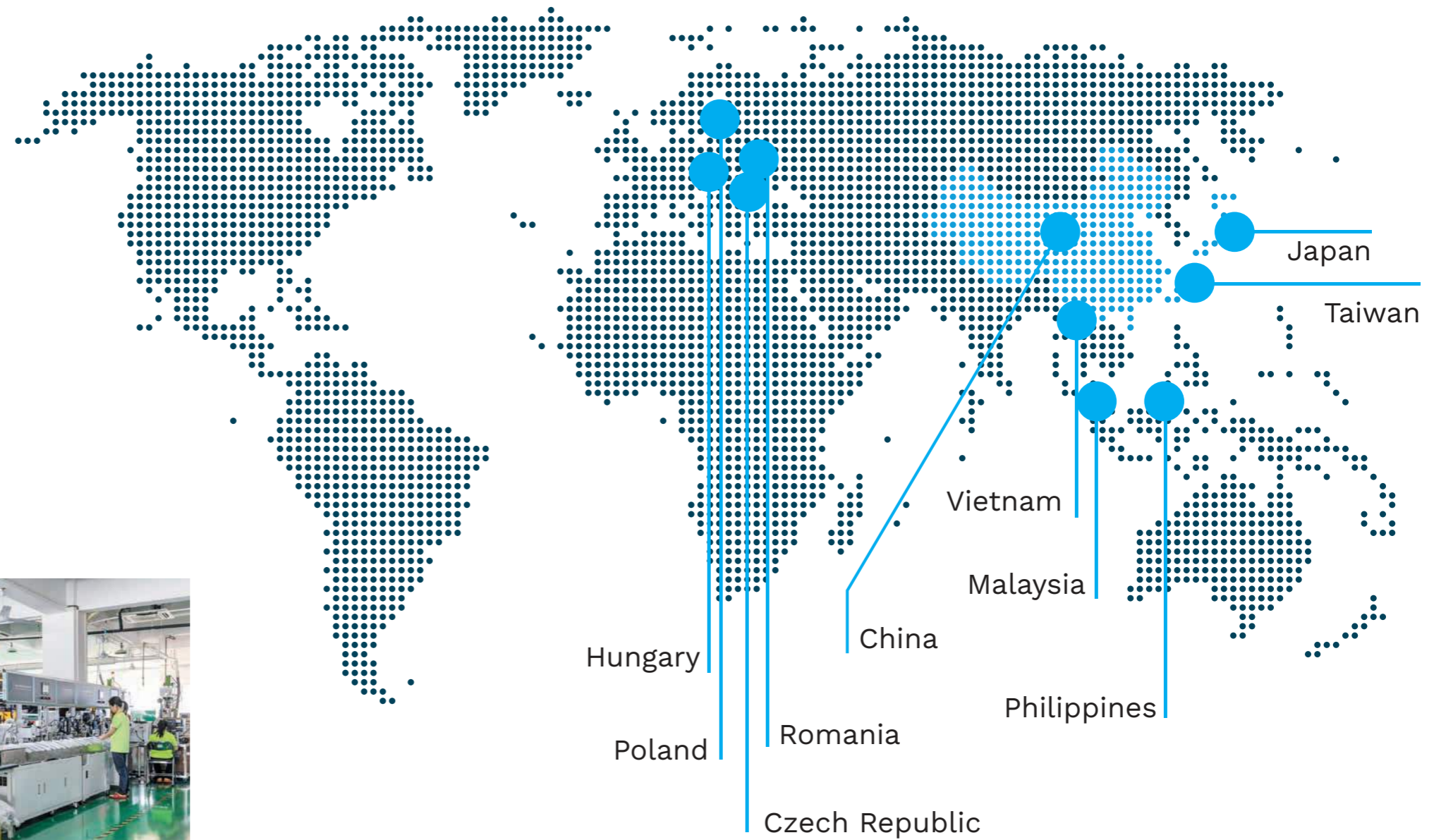
About us

EXCELLENCE IN EVERY CONNECTION is more than just a slogan for us. It is our promise to our customers and partners. Every aspect of our work, from product development to manufacturing to customer service, reflects our pursuit of excellence. We believe that every connection counts - be it the physical connection in the form of a cable or the relationship with our customers and partners. Our mission is to ensure excellence in every connection we make, providing the highest quality and reliability.



Our manufacturing facilities

Our highly specialised manufacturing network in Asia and Eastern Europe is certified to the highest international standards and regularly audited by us in person. This ensures not only the quality of our products, but also their suitability for critical industrial and medical applications:



- Product certifications:** GHMT, 3P, Delta
- Quality certifications:** ISO 9001, IATF 16949, ISO 13485, ISO 14001
- Standards:** MIL, AERO, UKCA, ETL, UL, CPR, VDE, EN/EC, CE
- Safety standards:** Extensive UL standards, LSZH
- Compliance standards:** RoHS, Reach, California Proposition, TSCA, PFAS

Our network



Our highly specialised manufacturing network enables us to shift production capacity at short notice, diversify production risks, respond quickly to global challenges and ensure a **robust supply chain**.

Our USPs

Superior quality and reliability

Our products are manufactured to the highest quality standards and offer outstanding reliability in any application. We apply rigorous quality controls and continuous improvement to ensure that our cables and connectivity solutions meet the most demanding requirements.

- ▶ Your benefit: Minimise downtime and maximise productivity.

Extensive certifications

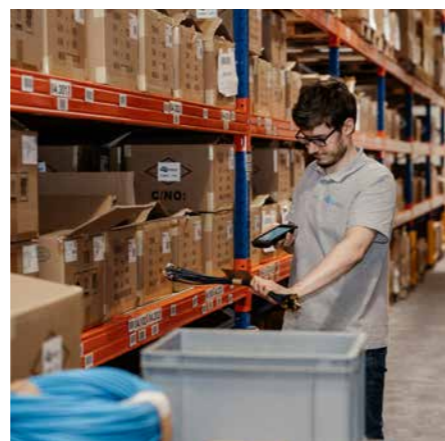
Our manufacturing facilities are certified to the highest international standards. These certifications ensure that our products meet quality and environmental requirements and are suitable for use in critical applications.

- ▶ Your benefit: Reliable products that meet all regulatory requirements and enhance your safety standards.

Innovative technologies and products

We continually invest in research and development to create innovative technologies and products. Our patents and unique solutions such as UltraFlex and EMI Safe™ set new standards in the industry.

- ▶ Your benefit: You benefit from the latest technologies for increased performance and cost efficiency.



Customised solutions

We have an extensive, highly specialised manufacturing network, access to original connectors from all major manufacturers, and also offer competitively priced compatible products. We respond quickly to market changes and customer requirements, offering solutions that are both technically and economically optimised.

- ▶ Your benefit: Broad market access, a robust supply chain and an extensive network to meet your unique requirements.

Flexibility and adaptability

In addition to our catalogue product lines, we offer bespoke solutions to meet the exact needs of our customers. With over 1,000 tools and 10,000 technical drawings, we can respond quickly and efficiently to your needs.

- ▶ Your benefit: Perfect adaptation to your individual requirements and fast implementation of customised solutions.



Special assemblies

TTL Network GmbH offers customised special assemblies that are precisely tailored to the individual needs of our customers from a wide range of industries. With many years of experience and a specialised production network, we create sustainable added value in the manufacture of cables and components for professional applications. Our customised connectivity solutions are successfully used in areas such as automation, mechanical engineering and medical technology.



Tailor-made special assemblies by TTL Network GmbH

Your solution for challenging connections

TTL Network GmbH offers customised special assemblies that are precisely tailored to the individual needs of our customers from a wide range of industries. With many years of experience and a highly specialised production network, we create sustainable added value in the manufacture of cables and components for professional applications. From automation and industrial applications to machine and plant engineering and medical technology, our custom connection solutions are used successfully in a wide range of applications.

You too can benefit from the in-depth knowledge of our expert teams and look forward to sophisticated solutions for a stable connection.



Your path to a customised solution

Our joint project to develop your customised fastening solution begins with a detailed requirements analysis, during which we work closely with you to understand your specific needs. From planning and prototyping to series production and quality assurance, we accompany every step with the utmost care and precision.



Needs analysis:

Together with you, we define the requirements and specifications, taking into account the technical and economic framework conditions.

Conception:

We develop a technical solution proposal in the form of a technical data sheet and discuss it with you.

Prototyping:

Development and production of the first prototypes after approval of the concept for validation.

Acceptance:

After successful individual tests in your requirements environment and before the start of series production, initial sample test reports (EMPB) are prepared by us or our customers as agreed. Samples (golden samples) are deposited with us.

Production and quality control:

High-quality production in accordance with international standards and our guarantee that series production will correspond to the golden sample throughout the entire product life cycle.

Delivery and support:

On-time delivery and comprehensive after-sales support, e.g. framework agreements with call-offs from Halle Westfalen.

The benefits of our customisation partnership

With us at your side, you will benefit from a number of advantages when creating your customised connection:

Small or large

Our services are aimed at companies of all sizes, from small niche businesses to large corporations. Thanks to our extensive network, we are able to realise small and large series.

- ▶ **Your benefit:** Tailor-made solutions in small and large quantities.

Competent and experienced

With more than 10,000 technical drawings, 1,000 customised tools and more than 20 years in the market, we bring a wealth of expertise to the realisation of your customised product.

- ▶ **Your benefit:** We don't 'blindly' implement your requirements, but use our extensive expertise to check their feasibility.

Customer-oriented and individual

We take care of the technical feasibility of your customer-specific requirements and also offer you a wide range of services and customisation options - including individual overmoulding, logo integration, labelling and marking, packaging, haptics and shape specifications, as well as stocking at our central warehouse in Halle, Westphalia.

- ▶ **Your benefit:** services perfectly tailored to your needs - from product to packaging.



Cost effective and high quality

With our highly specialised manufacturing network in Asia and Eastern Europe, we manufacture to the highest quality standards and have market access to all major manufacturers or low-cost alternatives.

- ▶ **Your benefit:** We find your 'perfect match' - in terms of quality and cost effectiveness.



Tested and reliable

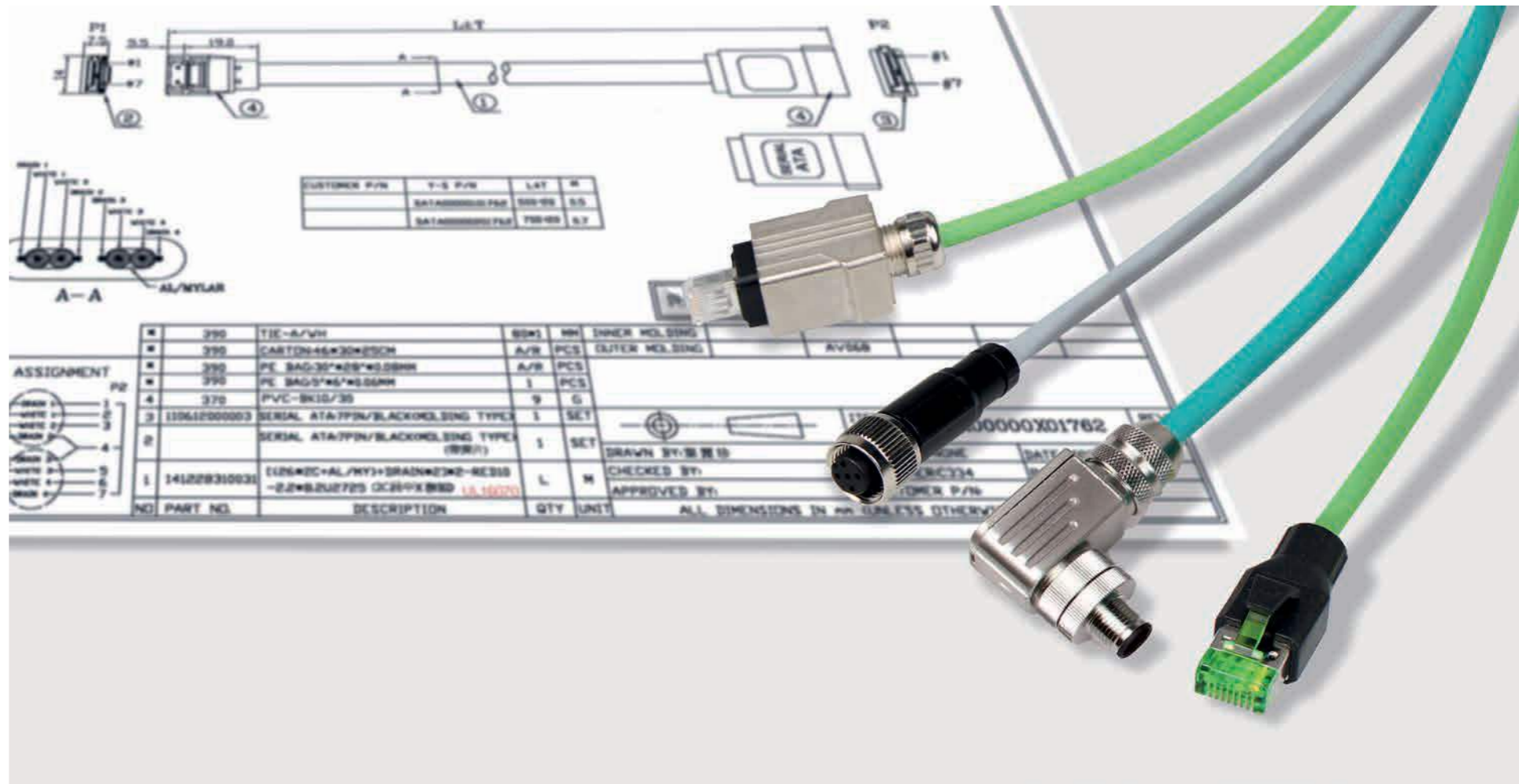
Regular in-house intermediate and final testing ensures the quality of your products. Customised special tests are also available and can be agreed individually.

- ▶ **Your benefit:** The highest quality and reliability of your products.



Our technical capabilities

We have extensive technical expertise to ensure accurate and efficient production of any customised solution. Depending on the requirement profile, production is carried out using TTL's own tooling, e.g. for standard designs, or with custom tooling including exclusive rights.



Raw cables:

- Individual materials
- Approvals
- Properties
- Labelling



Connectors:

- Industry standards
- Complementary types
- Special shapes



Connection technology:

- Drimping
- Soldering
- IDC
- Fully automated series production



Labelling technology:

- Printing
- Labels
- Laser engraving
- etc.



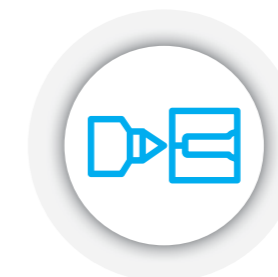
Component assembly:

- Processing of supplied built-in parts



Customer-specific overmoulding:

- Connectors
- Ferrite cores
- Y-distributors
- etc.



Production of injection moulded parts:

- Plastics
- Zinc die casting
- Aluminium casting



Packaging:

- Sustainable packaging
- Customised packaging

Our test equipment and expertise

We are particularly focused on the industrial and medical sectors where reliability and precision are critical. Our cable assemblies are subjected to rigorous quality control to meet the high demands of these industries. This ensures that our solutions are not only technically advanced, but also durable and safe:

Optical tests:

- Microscopic examinations
- Micrograph preparation

Electrical tests:

- Pin-to-pin connection tests
- Surge voltage testing

Mechanical tests:

- Mating cycle test
- Tensile testing machine
- Pull-out force/retention test
- Drag chain test
- Torsion test
- Bending test (also air-conditioned)



Special tests:

- Ageing test
- Climate change test

Environmental compatibility

- Fluorescence spectrophotometer + FMD

Fire behaviour tests:

- CPR fire class test
- UL CM&CMG Vertical flame test
- IEC 60332 Vertical flame test
- UL1581/2556 flame test



Thanks to our customised assembly, we can offer you tailor-made solutions that guarantee the highest quality and reliability. With years of experience and state-of-the-art technology, we are your trusted partner for innovative and efficient connectivity solutions.

EXCELLENCE IN EVERY CONNECTION is our promise to deliver on every project.



Custom Solutions Engineered to Perfection

The **TTL Lab**® product line is based on our many years of experience in customised cable assembly and innovative in-house developments. It offers high-quality solutions that are precisely tailored to the special requirements of various industries.



Areas of application:

Machine vision | Automation and robotics
| Industry | Medical technology | Sensor
technology

Advantages:

- High load capacity: drag chain and torsion resistance
- Reliability: EMC protection and UL certification
- Versatility: Products for high temperatures and screwable solutions





Our product portfolio

- Industrial patch cable RJ45
- Industrial patch cable M12
- Drag chain suitable patch cable
- Bulkware cable
- EMI-Safe housing DVI
- D-SUB housing

Galvanic insulators

Industry/Medical:

RJ45 | USB | RS232 | RS422/485

Connectors:

D-SUB | DVI | HD-DSUB | HDMI |
M8,M12 X-Coded IDC | iX | SPE IDC |
H-MTD

M8/12 IDC/SOLDER/
CRIMP VERSION



ULTRAFLEX-INDUSTRIAL
PATCHCABLE RJ45



Selection of our products:

H-MTD
CONNECTOR



EMI-SAFE
HOUSING DVI



GALVANIC
ISOLATOR RJ45



IX - INDUSTRIAL
ETHERNET



Event Excellence, Seamless Transmission

The **TTL Live**® stands for first-class cables and components that have been specially developed for demanding applications in event technology and the multimedia sector. It offers maximum quality and reliability for seamless transmissions.



Areas of application:

Event technology | audio | video | broadcast
| HDBaseT

Advantages:

- Robustness: Designed for intensive use
- Reliability: Stable and uninterrupted transmission
- Flexibility: Versatile and durable products



Our product portfolio

- HDMI Cable
- DisplayPort Cable
- SDI Coaxial Cable
- AOC Cable HDMI/DP/USB-C
- Steel Armoured Cable Solutions
- Mobile AOC Cable Drums
- Mobile FO&CU Cable Drums
- HDBaseT connection cable
- Various keystone adapters
- DVI-D connection cable with EMI safe
- Audio connection cable
- Special fibre optic patch cable
- Etherconn connection components
- Accessories

Selection of our products:

HIGH QUALITY
HDMI CABLE



DISPLAYPORT
CABLE



12 G COAXIALCABLE



MOBILE FO
CABLE DRUM



BLACK SERIES
LWL PATCHCABLE



HDBASET
CONNECTION CABLE





Building Networks, Redefining Reliability

The **TTL Lan**® product line is at the centre of modern network solutions and offers a wide range of high-quality cables and components for a high-performance and reliable network infrastructure. It sets new standards in reliability and quality..



Areas of application:

Data centre | smart home | education | Industrial
| Office

Advantages:

- High quality: Meets and exceeds current standards
- Flexibility: Suitable for a wide range of network environments
- Availability: Certified and always available products



Our product portfolio

- Patch cables
- Field assembly plugs
- DIN rail adapters
- 19" technology
- Bulkware cables
- Dust caps
- Keystone modules
- Mobile LAN cable drums

- Tools
- Connectors
- Consolidation Points
- Connecting-Boxes

Fibre optic technology:

Couplers | Patch cables | Pigtails | Trunk cables | Installation accessories | Splice boxes | Cleaning equipment | FTTx | Accessories

Selection of our products:

KEYSTONE
DISTRIBUTION PANEL 1U



FIELD ASSEMBLY PLUG
RJ45 CAT. 6A



MTP TRUNK CABLE
144 FIBRES



SPLICEBOX 1U



MOBILE CABLE DRUM
RJ45 CAT. 6A



ULTRAFLEX PATCHCABLE



Linking Innovation, Connection Perfection

The **TTL Link®** product line offers high-quality cables for various peripheral devices that guarantee a stable and interference-free connection thanks to excellent shielding and transmission properties. Ideal for applications where flexibility and reliability are paramount.



Areas of application:

Smart devices | Peripherals | machines | sensors
| Power

Advantages:

- Highly flexible: Ideal for mobile applications
- Interference-resistant: Excellent shielding properties
- Durable: Tested and compatible solutions





CONVERTER
USB - HDMI

Our product portfolio

- USB connection cable
- AOC (Hybrid) USB cable
- USB keystone modules
- Power cable
- Ultraflex power cable
- Extension cable
- Converter
- Connection cables for peripherals
- Accessories

Selection of our products:

USB-C 4.0
CONNECTION CABLE



KEYSTONE USB-C
ADAPTER



USB 2.0
CONNECTION CABLE



USB 3.X
EXTENSION CABLE AOC



POWER CONNECTION CABLE





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