

Connection Technology for  
**DATA CENTRES**

Ed. 1 // EN



# Connection Technology for the Data Centres of the Future

Driven by artificial intelligence (AI), cloud computing, and the growing need for data processing and storage, the demand for data centres is rapidly growing in Germany and Europe. With increasing size, power density, and complexity, one thing is becoming ever more important: reliable power and communication infrastructure for 24/7 operation—from grid connection to rack.

HELU supports operators, planners, general contractors, and installation partners with its expansive portfolio of energy, control, data, and specialty cables, as well as connection solutions for all relevant functional areas of computing centres, including:

- Grid connection/medium voltage, transformer stations, and demarcation points
- Transformers, switchboards (MV/LV), and low-voltage main distribution
- UPS and battery systems/BESS
- Emergency power systems (generators) and ATS
- Power distribution up to rack level: busway, PUD/RPP, rack feeds
- Climate technology (HVAC), refrigeration incl. frequency converters (VFD), and EMC-compliant cabling
- Building automation & monitoring: BMS/DCIM/SCADA, sensor technology, energy monitoring
- IT & communication infrastructure: structured cabling, Cat 6<sub>A</sub>, fibre-optic OM4/OS2
- Project independent: Fire protection/alarm systems, security & entry systems, outdoor/campus cabling

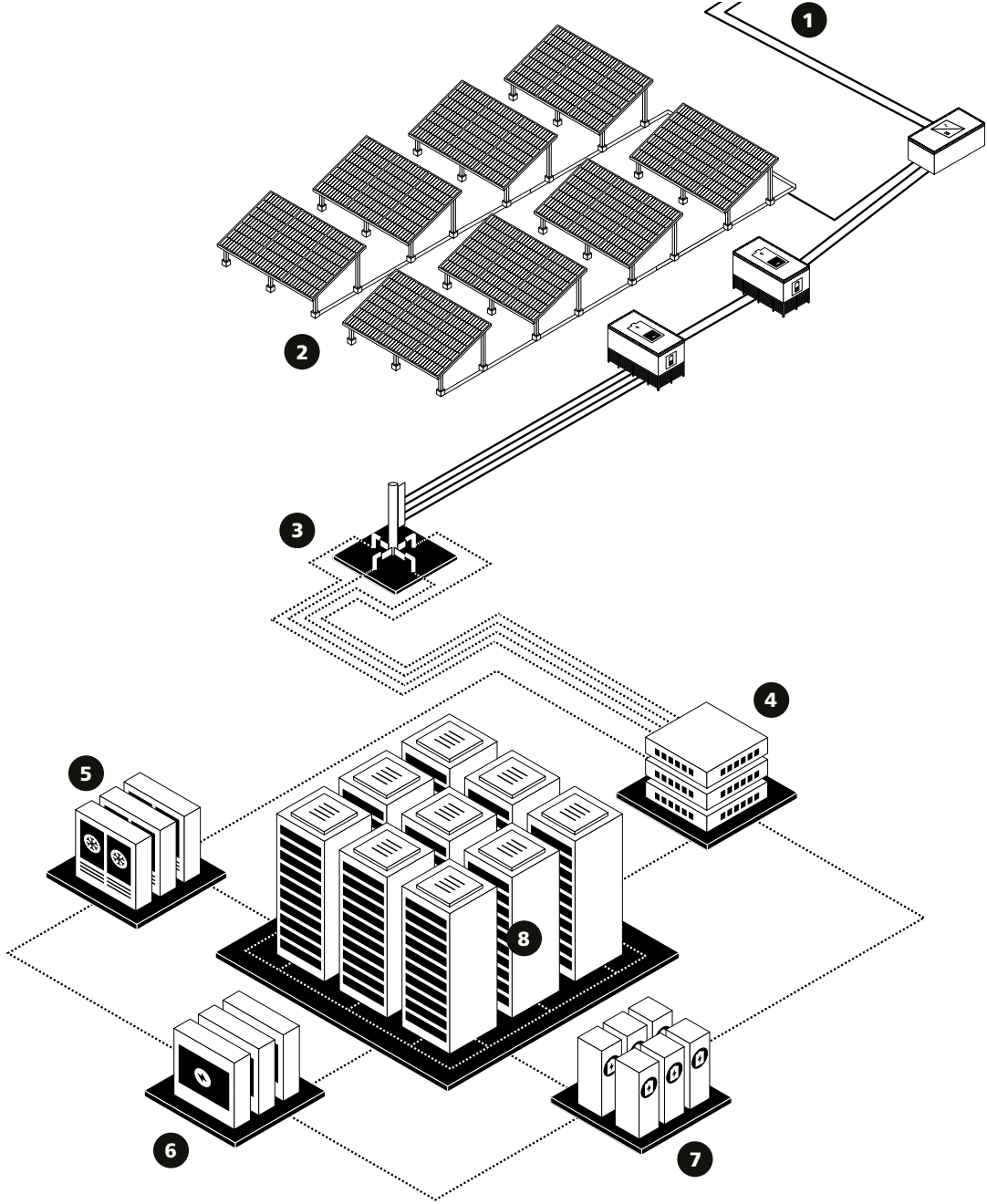
In Europe, we orient ourselves based on relevant requirements and specifications, such as:

- CPR/EN 50575 (Euro classes, e.g., Cca/B2ca incl. s/d/a)
- LSZH (low smoke, zero halogen) acc. to project requirements
- DIN EN 50600, ISO/IEC 22237, and relevant IEC/VDE guidelines
- For safety-critical circuits, depending on the project: functional integrity (e.g., E30/E90/FE180)
- Trends & future viability: Energy efficiency (e.g., PUE/EnEfG, optimised cross-sections, busway concepts) and high-density & liquid-cooling environments

Our portfolio is completed by custom specialty designs, project-specific designs (e.g., relating to CPR/LSZH requirements, EMC concepts, or environmental conditions), and pre-assembled & installation-ready solutions. Another strength of ours is our international production and logistics network, with which we ensure high availability, short distances, and reliable project delivery—even for cross-locational data centre projects in Europe.

All details apply on a project-specific basis in accordance with the tender specifications, the installation method, and the operating conditions.

# Our Portfolio for Data Centres



- Legend:**
- 1 Network connection
  - 2 Renewable energies (solar)
  - 3 Switchboards
  - 4 Control centres
  - 5 HVAC/AC
  - 6 Uninterruptible power supply
  - 7 Battery storage & backup
  - 8 Servers & racks

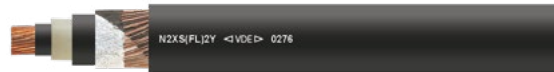
# Solutions for Data Centres

## 1 NETWORK CONNECTION

### Medium-voltage cables:

Voltage ranges of 6/10 kV, 12/20 kV, and 18/30 kV; IEC 60502-2; VDE 0276; medium-voltage screening; copper or aluminium conductors; CPR/EN 50575 for indoor installation (Fca/Eca on request); optional reinforced outer sheath, armour, UV and weather resistant, longitudinally and transversely watertight.

**N2XS(FL)2Y**  
Part no. 33054



**NA2XS(FL)2Y**  
Part no. 38062



### Fibre-optic cable (SM)

Campus/backbone connections, long-distance runs, EMC-robust; single-mode OS2; multimode OM4/OM5; LSZH; UV and weather resistant; suitable for direct burial; longitudinally and transversely watertight; rodent protection / mechanical protection (armoured).

**A-DQ(ZN)B2Y 12E9/125**  
Outdoor FO cable  
Part no. 11017392



**A/I-DQ(ZN)BH 12G50/125**  
Universal FO cable  
Part no. 11019797



## 2 RENEWABLE ENERGIES (SOLAR)

### Solar cable (string cable):

DC cabling for PV modules; acc. to EN 50618; 1,500 V DC; UV, ozone, and weather resistant; temperature resistant; suitable for outdoor installation and direct burial.

**SOLARFLEX®-X H1Z2Z2-K**  
Part No. 713531



### Solar connectors:

**MC 4 1000 V**  
PV plugs and sockets  
Part no. 905206 / 905207



**MC 4-Evo 2 1500 V**  
PV plugs and sockets  
Part no. 11020678 / 11020682



## 3 SWITCHBOARDS

**Medium-voltage cables:** see 1. Network connection, medium-voltage cables

### Low-voltage power cables:

0.6/1 kV; acc. to IEC 60502-1 and VDE 0276-603; LSZH; CPR/EN 50575 (Cca/B2ca on request); XLPE insulation (90 °C); high current-carrying capacity; EMC and screening concept depending on design (concentric conductor); conductor materials copper or aluminium.

**N2XH**

Part no. 53558



**N2XCH**

Part no. 53200



## 4 CONTROL CENTRE

### Control cable:

B2ca, highly flame retardant, halogen free, flexible, unscreened & screened.

**JZ-520-HMH LS0H GREY**

Part no. 11008617



**JZ-520-HMH-C LS0H GREY**

Part no. 11008758



### Data cable:

Low capacitance, reinforced outer sheath, EMC optimised, UV/weather resistant.

**PAAR-TRONIC-Li-2YCYv**

Part no. 21129



### Fire alarm/security cables:

FE 180 / E 30 to E 90; halogen free; screened; insulation integrity and functional integrity; halogen free; 0.6/1 kV.

**JE-H(St)H**

Part no. 34091



**(N)HXH-FE 180/E 90**

Part no. 53180



## 5 HVAC/AC

### Motor cables:

EMC optimised, double screening, enhanced current carrying capacity, halogen free.

**TOPFLEX®-EMV-UV-2XSLCHK-J**

Part no. 24522



**Power cables:** See 3. Switchboards, low-voltage power cables

## 6 UNINTERRUPTED POWER SUPPLY (UPS)

### Power cables:

Reduced energy losses due to increased DC operating voltage; suitable for direct burial; halogen free; UV, ozone, weather, and water resistant. Also available with Al conductor.

**HELUPOWER® HIGH AMP-X**

Part no. 11030011



**NSHXAFÖ 1.8/3 kV**

Short-circuit and earth-fault resistant up to 1,000 V; oil resistant; halogen free; for increased mechanical stress.

Part no. 38517



## 7 BATTERY STORAGE & BACKUP

**Medium-voltage cables:** see 1. Network connection, medium-voltage cables

**Power cables:** See 3. Switchboards, low-voltage power cables

**Power-supply cables:** See 6. Uninterrupted power supply (UPS), power-supply cables

## 8 SERVERS & RACKS

### Ethernet patch cables & patch panels:

Used for internal connections between switches and server racks in data centres; with or without bend protection; suitable for various data transmission rates; available in multiple sheath colours; LSZH; halogen free; colour variants.

**Patch cable RJ45**

S/FTP patch cable, halogen free; Cat 6; S/FTP 4×2×AWG 27/7, halogen free; LSZH; frequency up to 250 MHz.

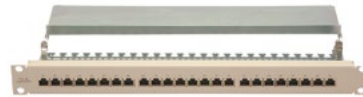
Part no. 806253



### Patch-Panels RJ45

Patch panel 24P category 6EA 500 MHz

Part no. 802024



### Fibre-optic patch cables & splice boxes:

Single-mode & multimode, custom assemblies with plug & accessories, LSZH, halogen free.

#### Fibre-optic connection technology

Connection cable I-VH 2x1 (fibre-optic)

Part no. 80983



#### 19" extendable splice boxes

Housing material: sheet steel

Lid closure: fastened using screws

Colour: grey similar to RAL 7035

Part no. 801164



## OTHER SOLUTIONS

### Components for earthing concepts:

Round conductors, braided conductors, copper strips, earth straps—each in bare or tinned copper.

=> See **Earthing & Equipotential Bonding** flyer (scan QR code) for more information



### Pre-assembled, installation-ready cable concepts:

Cutting to length, stripping, terminating, and labelling—for power, control, data, and fibre-optic cable assemblies.



For further information, variants, and dimensions, see data sheets at: [helu.com/999999en](https://helu.com/999999en)  
(replace the **red numbers** with the relevant part no.)

Further informational material on our products can be found in our Download Centre: [helu.com/download-centre](https://helu.com/download-centre)

Scan this QR code to visit our Online Shop for easy procurement of electrical connection technology: [shop.helu.com](https://shop.helu.com)



## Contact



Our product expert is happy to answer any of your questions and provide custom solutions:

#### Thomas Merkle

Relationship Manager

Tel: +49 7150 9209 765

[Thomas.Merkle@helukabel.de](mailto:Thomas.Merkle@helukabel.de)

**Always stay electrified.**