ANHUI FEICHUN SPECIAL CABLE CO., LTD.
安徽飞纯特种电缆有限公司
SPECIAL & INDUSTRIAL CABLE SPECIALIST — MINING & AUTOMATION

DOCUMENT FC-PDS-2YSLGCGOEU-025KV-2026-001
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CLASS Product Data Sheet | Screened Mining Control & Signal Cable
STANDARD DIN VDE 0250-1 | VDE 0250 Part 812 | IEC 60228

PRODUCT SPECIFICATION — SCREENED MINING CONTROL & SIGNAL CABLE, PE INSULATED, TWISTED PAIRS, 0.25 KV RATED

2YSLGCGOEU

Screened Mining Control & Signal Cable | 0.25 kV (250 V) Rated Voltage
Configurations: 2 × 2 × 1 mm² (2 Pairs) & 5 × 2 × 1 mm² (5 Pairs) | Tinned Cu Braid Screen | CPE Outer Sheath | Black

Contact: Tech@feichuncables.com

MC 0.25 kV MINING CONTROL | SCREENED TWISTED PAIRS | −40 °C to +60 °C | OIL / UV / FLAME RESISTANT

★ FEATURED SPECIFICATIONS
2 × 2 × 1 & 5 × 2 × 1
0.25 kV · PE/CPE · 1.0 mm² · Screened
Ref: Klaus Faber AG / DIN VDE 0250 Pt. 812

⛏ APPLICATION — OPEN-PIT MINING & INDUSTRIAL AUTOMATION

2YSLGCGOEU is a **screened mining control and signal cable** designed for open-pit mining, conveyor belt systems, and industrial automation. Suited for mobile (reeling, drag-chain) and fixed installations where high EMI immunity, mechanical robustness, and environmental resistance are essential.

FEATURED SPECIFICATION

PRODUCT PARAMETERS — COMMON TO BOTH CONFIGURATIONS	
Type designation	**2YSLGCGOEU**
Product description	Screened Mining Control & Signal Cable (0.25 kV)
Rated voltage Uo/U	**0.25 kV / 250 V**
Test voltage	**1.5 kV (AC)**
Nominal conductor cross-section	**1.0 mm² per core**
AWG equivalent	**≈ 17–18 AWG**
Conductor class	**Class 5 (flexible, stranded)**
Conductor material	**Bare copper, finely stranded**
Conductor DC resistance (max.)	**19.5 Ω/km (@ 20 °C)**
Pair configuration	Twisted pairs — anti-crosstalk design
Outer sheath colour	■ **Black (CPE)**

TYPE DESIGNATION DECODE

2Y	**Polyethylene (PE)** insulation — high dielectric strength, low capacitance, excellent for signal integrity
S	**Steel wire braid / reinforcement** — mechanical protection layer
L	**Conductor type** — stranded copper conductor (Litze / flexible)
G	**Special rubber compound** — inner sheath / bedding (PCP or equivalent)
C	**Copper braid screen** — tinned copper wire braid for EMI shielding
G	**Special rubber compound** — separator / bedding layer over screen
OEU	**Outer sheath: CPE** — chlorinated polyethylene, oil-resistant, flame-retardant, UV-stable

SPECIFICATION COMPARISON — 2-PAIR VS. 5-PAIR

PARAMETER	2 × 2 × 1 MM²	5 × 2 × 1 MM²
Core configuration	2 pairs (4 cores)	5 pairs (10 cores)
Nominal cross-section per core	1.0 mm²	1.0 mm²
AWG equivalent	≈ 18 AWG	≈ 18 AWG
Outer diameter (Ø) range	11.0 – 13.5 mm	16.0 – 19.5 mm
Copper weight	60 – 85 kg/km	145 – 165 kg/km
Total cable weight (approx.)	235 – 245 kg/km	420 – 445 kg/km
Current carrying capacity	12 A	9 A
Conductor DC resistance (max.)	19.5 Ω/km	19.5 Ω/km
Rated voltage Uo/U	250 V	250 V
Test voltage	1.5 kV AC	1.5 kV AC

Ampacity Note: Current carrying capacity is rated at 30 °C ambient temperature, in air. The 5-pair variant has reduced ampacity (9 A vs. 12 A) due to thermal derating from the higher core count and mutual heating effects. Reference: Klaus Faber AG technical data.

CABLE CONSTRUCTION DETAILS

- **Conductor:** Bare copper, finely stranded Class 5 per DIN VDE 0295 / IEC 60228 — 1.0 mm² cross-section (≈ 18 AWG), optimised for high flexibility
- **Insulation:** Polyethylene (PE) — denoted by "2Y" — provides excellent dielectric properties, low capacitance, and superior signal transmission integrity
- **Pair configuration:** Cores arranged as twisted pairs (2 × or 5 ×) to minimise crosstalk and electromagnetic interference — critical near VFDs and heavy mining plant
- **Inner sheath:** Special rubber compound (PCP or equivalent, "G") providing mechanical bedding and moisture barrier
- **Screen:** Tinned copper wire braid ("C") — ■ high-coverage EMI shield effective against radiated and conducted interference
- **Outer sheath:** Chlorinated polyethylene (CPE), "OEU" — ■ black; oil-resistant, flame-retardant, UV-stable for outdoor exposure

TEMPERATURE & ENVIRONMENTAL RATINGS

TYPICAL APPLICATIONS

APPLICATION	ENVIRONMENT	KEY REQUIREMENT
Open-pit mining equipment	Excavators, drillers, mobile plant	Mechanical robustness, EMI
Conveyor belt control systems	Long-run signal, outdoor	UV, oil, abrasion resistance
Cable reeling drums	Moving machinery, reels	Flexibility, bend cycles
Drag chain / energy chain	Industrial automation lines	Repeated flexing, Class 5
Process control & bus signals	Near VFDs, heavy electrical plant	Twisted pair, screened

✓ EMI PROTECTION — TWISTED PAIR ADVANTAGE

The **twisted pair construction** (2 × 2 or 5 × 2) combined with the **tinned copper braid screen** provides superior electromagnetic interference rejection — essential in mining environments with variable-frequency drives (VFDs), heavy switchgear, and high-power motors that generate significant conducted and radiated noise.

INSTALLATION & BENDING RADIUS

BEND RADIUS — MOVED	BEND RADIUS — FIXED
5 × Ø	4 × Ø
Mobile / reeling	Static installation

✓ ENVIRONMENTAL RESISTANCE

Oil resistant per EN 60811-404 | **Flame retardant** per IEC 60332-1-2 | **UV resistant** for permanent outdoor installation. The CPE outer sheath ("OEU") is specifically formulated for the harsh conditions encountered in open-pit mining and heavy industrial environments.

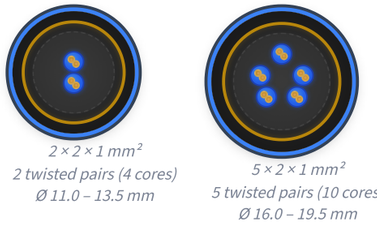
⚠ INSTALLATION WARNING

Ensure adequate strain relief at all termination points when used on reeling drums or drag chains. The cable must not be subjected to tensile loads exceeding the manufacturer's specified limits. Avoid contact with aggressive solvents not covered by the CPE resistance rating.

APPLICABLE STANDARDS

- `DIN VDE 0250-1` — Cables and wires for power installations (general)
- `VDE 0250 Part 812` — Mining cables — specific construction requirements
- `DIN VDE 0295` / `IEC 60228` — Conductor classes (Class 5 flexible)
- `EN 60811-404` — Oil resistance testing for cable sheaths

CABLE CROSS-SECTION (ILLUSTRATIVE)



2 × 2 × 1 mm²
2 twisted pairs (4 cores)
Ø 11.0 – 13.5 mm

5 × 2 × 1 mm²
5 twisted pairs (10 cores)
Ø 16.0 – 19.5 mm

CROSS-SECTION LEGEND

Black outer ring: CPE outer sheath (OEU) | **Gold ring:** Tinned copper braid screen (C) | **Dark inner:** Rubber inner sheath (G) | **Blue circles:** PE-insulated twisted pairs with copper conductors (gold)

MOVED — MIN.	FIXED — MIN.	MAX. CONTINUOUS	TEST VOLTAGE
−25 °C	**−40 °C**	**+60 °C**	**1.5 kV**
Mobile install	Static install	All installations	AC test

−40 °C ——— +60 °C

KEY ELECTRICAL CHARACTERISTICS

ELECTRICAL DATA	
Rated voltage Uo/U	`0.25 kV / 250 V`
Test voltage	`1.5 kV (AC)`
Conductor DC resistance (max. @ 20 °C)	`19.5 Ω/km`
Signal type	Control & instrumentation signals
Characteristic impedance	Bus-compatible, low-capacitance

- `IEC 60332-1-2` — Single vertical cable flame propagation test
- Voltage: `250 V` (Uo/U) | Test: `1.5 kV AC`

0.25 kV Rated	PE Insulated (2Y)	Tinned Cu Braid
Twisted Pairs	Flexible Class 5	Oil Resistant
Flame Retardant	UV Resistant	CPE Outer Sheath

ORDER REFERENCE & CONTACT

For inquiries and orders, please reference:
`2YSLGCGOEU 2 × 2 × 1 mm² (0.25 kV)` — 2-pair variant
`2YSLGCGOEU 5 × 2 × 1 mm² (0.25 kV)` — 5-pair variant
Contact: **Tech@feichuncables.com** | Custom lengths and pair counts available on request.
Recommended for: Open-pit mining, conveyor control, drag chain, cable reeling, industrial bus signals.

All values shown are nominal unless otherwise specified. Tolerances and additional technical data available upon request. Reference data: Klaus Faber AG and DIN VDE standards. Sale to commercial customers only.