Ex-i PIMF & overall foil-screened mining gas sensor cable

# IB-YSL(St)Y PIMF

## 300/500 V Ex-i Mining Gas Sensor Cable

DIN VDE 0165 / WT-TK-16 · 300/500 V · Ex-i PIMF & overall foil-screened gas sensor cable




DIN VDE 0165 Ex-i | PIMF + Overall Foil | Low L/R ≤ 25 µH/Ω

## Application

IB-YSL(St)Y PIMF 300/500 V intrinsically safe (Ex-i) instrumentation and methane/CO gas sensor cable for underground mines, with Class 2 bare copper pairs, individual Al/PET pair foil screens (PIMF), overall foil screen and blue FR-PVC sheath.

**Typical uses:** Underground Coal & Hard-Rock Mining, Open-Cast Excavators, Draglines & Shovels, Vertical Mine Shafts, Hoists & Boreholes, Tunneling, Mineral Processing & Slurry Plants

## Construction






Cross-section, not to scale

1. Class 2 Conductors (4×2×1.0 mm²)
2. Pair Insulation (Black / White)
3. PIMF Individual Foil Screens
4. Overall Foil Screen (St)
5. Ex-i Oil-Resistant Blue Sheath

## Technical data

Typical values

| | | | |
|---|---|---|---|
| **Rated voltage / transmission duty** | 300/500 V (DIN VDE 0165 / EN 60079-14 / WT-TK-16) | **Core / conductor construction** | Class 2 Conductors (4×2×1.0 mm²) — PN-EN 60228 Class 2 stranded bare copper with enhanced tensile strength |
| **Primary dielectric / buffering** | Pair Insulation (Black / White) — PVC core insulation: numbered black a-core and white b-core per pair | **Continuous operating temperature** | -30 to +70 °C (mining & industrial service) |
| **Short-circuit / peak thermal rating** | Verified thermal stability per DIN VDE 0165 / EN 60079-14 / WT-TK-16 | **Storage & transport temperature** | −40...+80 °C on export wooden/steel drum |
| **Outer protection / armouring** | Ex-i Oil-Resistant Blue Sheath — RAL 5015 VDE 0165 blue oil/petrol-resistant high-LOI FR-PVC jacket | **Minimum bending radius** | 10 × OD |
| **Crush, impact & abrasion duty** | Heavy-duty mining rock-cut, impact and tensile protection per DIN VDE 0165 / EN 60079-14 / WT-TK-16 | **Flame retardancy & mine fire safety** | Self-extinguishing / flame-retardant mining jacket per DIN VDE 0165 / EN 60079-14 / WT-TK-16 |
| **Mine water, oil & chemical resistance** | Resistant to acidic mine water, hydraulic oils and abrasion per DIN VDE 0165 / EN 60079-14 / WT-TK-16 | **RoHS & REACH compliance** | RoHS 2 (2011/65/EU + 2015/863) & REACH SVHC compliant |
| **Standards** | DIN VDE 0165 / EN 60079-14 / WT-TK-16 | | |

## Sizes

3 standard constructions

**Tick the sizes you need** and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

| Order designation | Configuration | Core / stranding | Outer Ø ≈ mm | Net weight ≈ kg/km | Tensile rating kN ≈ | Min. bend R mm |
|---|---|---|---|---|---|---|
| **IB-YSL(St)Y PIMF Construction Schedule (-30 to +70 °C)** 3 sizes | | | | | | |
| ☐ **IB-YSL(St)Y PIMF 2×2×1.0 mm² Ex-i** | **2 × 2 × 1.0 mm² PIMF** | **Class 2 bare Cu (7-wire)** | **10.6** | **145** | **0.6** | **105** |
| ☐ **IB-YSL(St)Y PIMF 4×2×1.0 mm² Ex-i** | **4 × 2 × 1.0 mm² PIMF** | **Class 2 bare Cu (7-wire)** | **12.8** | **225** | **1.2** | **130** |
| ☐ **IB-YSL(St)Y PIMF 8×2×1.0 mm² Ex-i** | **8 × 2 × 1.0 mm² PIMF** | **Class 2 bare Cu (7-wire)** | **16.9** | **395** | **2.4** | **170** |

– Custom core cross-sections, pair/fibre counts, armour grades and factory drum lengths available per DIN VDE 0165 / EN 60079-14 / WT-TK-16.

## Electrical, optical & thermal parameters

3 sizes

| Configuration | Max. DC $R_{20}$ / Atten. Ω/km or dB/km | Rating / Impedance | Operating temp. |
|---|---|---|---|
| **2 × 2 × 1.0 mm² PIMF** | **18.10** | **≤115 nF/km · L/R ≤ 25 µH/Ω** | **-30 to +70 °C** |
| **4 × 2 × 1.0 mm² PIMF** | **18.10** | **≤115 nF/km · L/R ≤ 25 µH/Ω** | **-30 to +70 °C** |
| **8 × 2 × 1.0 mm² PIMF** | **18.10** | **≤115 nF/km · L/R ≤ 25 µH/Ω** | **-30 to +70 °C** |

– Every production length undergoes routine conductor DC resistance, high-voltage Spark/AC dielectric or OTDR continuity and dimensional verification.

## Standards and approvals

- VDE 0165 / Ex-i Compliant
- EN 10204 3.1 Factory Test Certificate
- CE, RoHS 2 (2011/65/EU) & REACH

## Certifications

**Management systems:** ISO 9001, ISO 14001, ISO 45001

### Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

WhatsApp / phone
**+86 185 9591 3361**

Email
**info@tebaoflex.com**

Web
**tebaoflex.com/cables/ib-yslsty-pimf-300-500v-ex-i-individually-overall-foil-screened-gas-sensor-cable**

Typical values for this cable type, based on DIN VDE 0165 / EN 60079-14 / WT-TK-16. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.