ANHUI FEICHUN SPECIAL CABLE CO., LTD.
安徽飞纯特种电缆有限公司

INDUSTRIAL CONTROL & SPECIAL CABLE SPECIALIST · WWW.FEICHUNCABLES.COM

PRODUCT SPECIFICATION – PVC SHIELDED CONTROL CABLE FOR INDUSTRIAL AUTOMATION, MEASUREMENT, AND CONTROL APPLICATIONS

F-CY-OZ (LIY-CY) 2×0.75

PVC Shielded Control Cable | 2 × 0.75 mm² Stranded (≈ 18-19 AWG) | 300/500 V Rated | 0.5 kV
Tinned Cu Braid Shield (≈ 85% Coverage) | Special PVC Insulation/Sheath (Grey RAL 7001) | EMC Compatible | Flame Retardant

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CY 300/500 V | SHIELDED | PVC/PVC | EMC COMPATIBLE | CONTROL & SIGNAL

DOCUMENT FC-PDS-FCYOZ-2x075-2026-001
REVISION Rev. A1 | **DATE** 2026-02-11
CLASS Product Data Sheet | PVC Shielded Control Cable
STANDARD DIN EN 60228 | VDE 0298-4 | IEC 60332-1-2

★ HIGHLIGHTED SPECIFICATION
F-CY-OZ 2×0.75
0.5 kV · PVC · Shielded
LIY-CY · 2-Core OZ Configuration

⚙ PRODUCT OVERVIEW – SHIELDED PVC CONTROL CABLE

The **F-CY-OZ (LIY-CY)** series represents a versatile family of shielded PVC control cables designed for industrial measurement, detection, and control applications. This 2×0.75 mm² variant features the OZ configuration without dedicated ground conductor, making it ideal for 24V DC power distribution, signal circuits, and control loops in machine tools, assembly equipment, conveyor systems, and production lines where electromagnetic compatibility and reliable performance are essential.

FEATURED SPECIFICATION

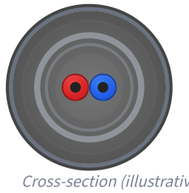
PRODUCT PARAMETERS – F-CY-OZ (LIY-CY) 2×0.75	
Type designation	**F-CY-OZ (LIY-CY) 2×0.75**
Product series	Shielded PVC control cable
Core configuration	**2 × 0.75 mm² (stranded, no ground)**
AWG equivalent	**≈ 18 – 19 AWG**
Conductor material	Bare copper, fine stranded per DIN EN 60228
Rated voltage (U₀/U)	**300 / 500 V (0.5 kV)**
Current carrying capacity	**12 A @ 30°C ambient (air)**
Shielding	Tinned Cu braid, ≈ 85% optical coverage
Cable outer diameter (Ø approx.)	**6.1 mm (range 5.6 – 6.4 mm)**
Copper weight (Cu-index)	**38 – 40 kg/km**
Approx. total weight	**≈ 59 – 65 kg/km**
Outer sheath colour	**Grey (RAL 7001)**
Min. bending radius (moving)	**10 × d ≈ 61 mm**
Min. bending radius (fixed)	**5 × d ≈ 30.5 mm**

TYPE DESIGNATION DECODE

F-CY-OZ	**Series:** Feichun shielded control cable – CY indicates shielded, OZ indicates 2-core without ground conductor
LIY-CY	Equivalent designation: **LIY-CY** per German cable nomenclature (flexible, PVC insulated, shielded)
2×0.75	**2 conductors**, each **0.75 mm²** (≈ 18-19 AWG), fine stranded construction
0.5 kV	Rated voltage: **300/500 V** (U₀/U = 0.5 kV) per IEC standard notation

CABLE CONSTRUCTION

- **Conductor:** Fine stranded bare copper, 2 × 0.75 mm² (≈ 18-19 AWG) per DIN EN 60228 Class 5 or 6. Conductor resistance ≤ 26.0 Ω/km at 20°C. Optimized for flexibility in industrial control applications.
- **Core insulation:** Special PVC compound with excellent electrical properties. Core identification by colour coding for reliable termination in control panels and field devices.
- **Core stranding:** 2-core parallel or twisted configuration without dedicated ground/earth conductor (OZ designation). Suitable for DC power circuits and single-ended signal transmission.
- **Shield:** Tinned copper wire braid with optical coverage of approximately 85%. Provides effective electromagnetic interference suppression and maintains signal integrity in electrically noisy industrial environments.
- **Outer sheath:** Special PVC compound in grey (RAL 7001). Flame retardant per IEC 60332-1-2 (single cable vertical test). Resistant to mineral oils, moderate chemical exposure, and abrasion. Low-temperature flexible formulation.
- **Construction type:** Shielded control cable (CY), 2-core OZ configuration (without earth), optimized for measurement and control applications.



Cross-section (illustrative): 2 × 0.75 mm² cores
Core insulation: Special PVC
Tinned Cu braid shield (≈ 85%)
PVC outer sheath (grey RAL 7001) | Ø ≈ 6.1 mm

CORE IDENTIFICATION

ℹ CORE COLOUR CODING

Core identification follows standard colour coding conventions for multi-conductor control cables. Typical colour scheme includes combinations of red, blue, black, brown, or numerical marking. The 2-core OZ configuration does not include a dedicated protective earth (ground) conductor. For applications requiring ground connection, the shield drain wire must be terminated to protective earth at one end only to prevent ground loops.

- **Core 1** – Typically red or brown in 2-core cables
- **Core 2** – Typically blue or black in 2-core cables
- **Shield (Drain)** – Tinned Cu braid | Connect to PE at one end only

INSTALLATION PARAMETERS

MIN. BEND (MOVING)	MIN. BEND (FIXED)	OUTER DIAMETER	WEIGHT
10 × d	5 × d	≈ 6.1 mm	≈ 62 kg
≈ 61 mm	≈ 30.5 mm	Range: 5.6 - 6.4	Per kilometer

⚠ SHIELD GROUNDING

The shield drain wire must be connected to protective earth at **one end only** to prevent circulating ground currents and potential ground loops. Typically, grounding is performed at the control panel or power supply end. Never ground both ends of the shield unless specifically required by the system design and proper isolation measures are implemented.

TEMPERATURE & ENVIRONMENTAL

MOVING INSTALLATION	FIXED INSTALLATION
−5 / +80 °C	−40 / +80 °C
Dynamic flexing use	Stationary routing

−40 °C ——— +80 °C

Flame Retardant | Oil Resistant

TYPICAL APPLICATIONS

APPLICATION	ENVIRONMENT	KEY REQUIREMENT
Machine tool control circuits	CNC machines, lathes	EMC, reliability
24V DC power distribution	Industrial automation	Low voltage power
Sensor & actuator wiring	Production equipment	Signal integrity
PLC I/O connections	Control panels	EMI protection
Conveyor control systems	Material handling	Flexibility, shield
Assembly line equipment	Automotive, electronics	Oil resistance

✓ OZ CONFIGURATION – NO DEDICATED GROUND

The OZ designation indicates this cable does not include a dedicated protective earth conductor. It is commonly used for 24V DC power circuits, signal transmission, or applications where the shield provides adequate grounding or where a separate ground wire is run alongside. For circuits

ELECTRICAL CHARACTERISTICS

ELECTRICAL & PERFORMANCE DATA	
Rated voltage (U_0/U)	300 / 500 V
Test voltage (core to core)	2 000 V AC / 5 min
Test voltage (core to shield)	2 000 V AC / 5 min
Conductor resistance @ 20°C	≤ 26.0 Ω/km
Current carrying capacity	12 A @ 30°C ambient
Operating capacitance	≈ 100 – 120 pF/m
Insulation resistance @ 20°C	≥ 100 MΩ × km
Shield effectiveness	≈ 85% optical coverage

✓ EMC COMPATIBILITY

The tinned copper braid shield provides effective electromagnetic interference suppression, making this cable suitable for use near variable frequency drives, servo motors, welding equipment, and other sources of electrical noise. The shield must be properly terminated to protective earth to maintain EMC performance and personnel safety.

requiring dedicated protective earth, consider the F-CY-JZ variant with integrated ground conductor.

APPLICABLE STANDARDS & PROPERTIES

- DIN EN 60228 / VDE 0295 – Conductor construction Class 5/6
- VDE 0298-4 – Current carrying capacity determination
- IEC 60332-1-2 – Flame retardance (single cable vertical test)
- DIN VDE 0812 – Cable installation and routing guidelines
- Oil resistant per mineral oil exposure tests
- PVC insulation and sheath | Grey RAL 7001

300/500 V	0.5 kV Rated	PVC / PVC	Shielded CY
EMC Compatible	IEC 60332-1-2	Oil Resistant	RAL 7001 Grey

ORDER REFERENCE & CONTACT

For inquiries and orders, please reference:
F-CY-OZ (LIY-CY) 2×0.75 or **F-CY-OZ 2×0.75**
Voltage: **300/500 V (0.5 kV)** | Configuration: **2-core OZ (no ground)**
Contact: **Tech@feichuncables.com** | **+86 138 5512 3218**
F-CY series available in various core counts and cross-sections · Custom lengths and configurations on request · JZ variants with ground conductor also available.

All values are nominal unless otherwise specified. Tolerances and additional technical data available