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INDUSTRIAL CONTROL, POWER & AUTOMATION CABLE SPECIALIST · WWW.FEICHUNCABLES.COM

DOCUMENT FC-PDS-MULTI-OPVC-SK-BUS-SENSOR-2026-016
REVISION Rev. A1 | **DATE** 2026-02-24
CLASS Product Data Sheet | Flexible Control · Drag-Chain · Bus · Crane · Sensor · High-Temp Cables
STANDARDS DIN VDE 0298-4 | IEC 60228 Cl. 5 | UL/CSA (SK series) | EN 50170 (PROFIBUS) | RoHS / REACH

PRODUCT SPECIFICATION — OPVC FLEXIBLE CONTROL (JZ/OZ/YCY/SY) · SK DRAG-CHAIN PUR/TPE/TP (UL/CSA) · PROFIBUS DP/FMS/SK · S/FTP CAT 5E · LIYCY(TP) · RVV-2G CRANE · SENSOR FD · SAB HYBRID · SIHF

OPVC: JZ/OZ/YCY 0.5–1kV • SY-JZ 30G0.5 ★ | SK: PUR 12G2.5 • TPE 1×2.5 • TP-PUR 2×2×0.5 / 4×2×0.5 (1kV, UL/CSA) | BUS: PROFIBUS • CAT5E • LIYCY | CRANE: RVV-2G 9C / 12C | SENSOR FD • HYBRID • SIHF-JB

Six application families, 18 variants — oil-resistant OPVC flexible power and control (incl. YCY screened and SY galvanised-steel armoured ★), UL/CSA-certified PUR and TPE drag-chain motion cables, industrial fieldbus and Ethernet communication cables, load-bearing crane and hoist trailing cables, compact sensor and hybrid servo cables, and silicone high-temperature wiring.
Class 5 Fine-Stranded Conductors | PVC / OPVC / PUR / TPE / Silicone Constructions | 0.3 kV – 1 kV | SY-JZ 30G0.5 Highlighted ★

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FC OPVC · PUR/TPE DRAG-CHAIN · PROFIBUS · CAT5E · CRANE · SENSOR · SIHF | 0.3–1 kV | VDE / UL / CSA / EN 50170

★ FEICHUN CABLE SERIES
18-Variant Range
Multi-Application Cables
Control · Motion · Bus · Crane · Sensor · High-Temp
0.25 mm² – 10 mm² · 0.3 / 0.5 / 1 kV · UL/CSA

Feichun Engineering Cables · RoHS Compliant · VDE / UL / CSA / EN · SY-JZ 30G0.5 ★ Highlighted

OPVC-JZ / OZ / YCY / SY-JZ — OIL-RESISTANT PVC FLEXIBLE CONTROL & POWER CABLES

OPVC SERIES — FAMILY OVERVIEW

OIL-RESISTANT PVC OUTER · JZ/OZ/YCY/SY VARIANTS · 0.5 KV & 1 KV

The **OPVC** (Oil-Resistant PVC) family is the foundation flexible control and power cable for machine-tool manufacture, panel assembly, power-station auxiliaries, and HVAC control circuits. Class 5 fine-stranded bare-copper conductors are insulated in colour-coded or numbered PVC and enclosed in a **specially formulated oil-resistant PVC outer sheath** (superior to standard TM2 compound in mineral-oil immersion). Designation suffixes carry precise structural meaning: **JZ** — numbered black cores plus a green/yellow PE conductor; **OZ** — numbered cores without a dedicated PE core; **YCY** — inner PVC sheath plus tinned-copper wire braid screen (≥ 85 % coverage) for EMC-sensitive VSD and inverter circuits; **SY** — galvanised steel wire braid armour over the inner sheath for installations subject to mechanical impact, abrasion, or rodent attack, with a transparent outer sheath that permits visual inspection of the armour condition. Voltage ratings are 300/500 V for standard variants and 600/1000 V for the YCY 4G6 variant.

300/500 V (JZ/OZ/YCY 4G10, SY-JZ) | 600/1000 V (YCY 4G6)

OPVC-JZ/OZ 5G1.5 — 0.5 KV



5G1.5 mm² OPVC grey

5G1.5 — CORE DATA (0.5 KV)	
Configuration	5G × 1.5 mm² (JZ or OZ)
AWG equivalent	≈ 16 AWG
Outer diameter	8.1 – 9.5 mm
Copper weight	≈ 75 kg/km
Total weight	≈ 135 kg/km
Current capacity	18 A (30 °C, free air)

OPVC-JZ-YCY 4G10 — 0.5 KV & OPVC-JZ/OZ-YCY 4G6 — 1 KV



4G10 / 4G6 CuSn braid OPVC outer

TYPE	KV	AWG	Ø MM	CU KG/KM	TOTAL KG/KM	I (A)
YCY 4G10	0.5	8	17.5–19.5	~510	~780	61
YCY 4G6	1.0	10	14.5–16.5	~310	~480	44

YCY = CuSn braid ≥ 85% + inner PVC sheath. 4G10 rated 0.5 kV; 4G6 rated 1 kV. Green/yellow PE core standard (G suffix). Current at 30 °C, VDE 0298-4.

APPLICATION — YCY FOR VSD/INVERTER EMC COMPLIANCE

SK-C-PUR / SK-C-TPE / SK-TP-C-PUR — UL/CSA DRAG-CHAIN MOTION CABLES 1 KV

SK DRAG-CHAIN SERIES — OVERVIEW

PUR OR TPE OUTER · CUSN BRAID (C) · TWISTED-PAIR TP OPTION · UL/CSA LISTED · 1 KV

The **SK** drag-chain motion cable family is designed and independently certified for millions of continuous bend cycles in energy-chain systems on CNC machining centres, industrial robots, automated storage systems, woodworking machinery, and packaging lines. Three construction formats address different application requirements. **SK-C-PUR** is a multi-core PUR-sheathed screened control cable with a CuSn braid, rated at 600/1000 V, suitable for drive control and power feed circuits in demanding drag-chain environments. **SK-C-TPE** uses a thermoplastic elastomer (TPE) outer sheath — an alternative to PUR with greater resistance to certain cleaning agents and a softer hand, used in single-core applications and in food-processing machinery. **SK-TP-C-PUR** is the twisted-pair variant, with each core pair individually twisted to a defined lay length and the assembly screened with a CuSn braid, optimised for **high-frequency data and control signal transmission without crosstalk degradation** across millions of flex cycles. All SK variants carry **UL/CSA dual-listing**, enabling their direct use in equipment exported to North American markets without re-certification of the cable.

600/1000 V — all SK variants | UL / CSA Listed | PUR or TPE

SK-C-PUR 12G2.5 — 1 KV, UL/CSA



12G2.5 mm² CuSn braid / PUR 1 kV, UL/CSA

SK-C-PUR 12G2.5 — CORE DATA (1 KV)	
Configuration	12G × 2.5 mm²
AWG equivalent	≈ 14 AWG
Outer diameter	19.0 – 20.5 mm
Copper weight	≈ 380 kg/km
Total weight	≈ 620 kg/km
Current capacity	26 A (30 °C, free air)

SK-C-TPE 1×2.5, SK-TP-C-PUR 2×2×0.5 & 4×2×0.5 — 1 KV, UL/CSA



TYPE	AWG	Ø MM	CU KG/KM	TOTAL KG/KM	I (A)
SK-C-TPE 1×2.5	14	5.8–6.3	~35	~60	26

PROFIBUS · S/FTP CAT 5E · LIYCY(TP) — INDUSTRIAL FIELDBUS & NETWORK CABLES

INDUSTRIAL COMMUNICATION — OVERVIEW

IMPEDANCE-CONTROLLED · DUAL-SHIELDED · FIELDBUS & ETHERNET

Industrial communication cables are fundamentally different from power cables: their critical parameters are **characteristic impedance, propagation velocity, and attenuation** rather than current-carrying capacity. All variants on this sheet use some form of dual or single-braid shielding to attenuate the intense electromagnetic environment of the machine-shop floor. **PROFIBUS DP/FMS** is designed to IEC 61158 / EN 50170 with a characteristic impedance of 150 Ω ± 15 % for reliable segment lengths up to 1200 m at 9.6 kbit/s or up to 100 m at 12 Mbit/s. **PROFIBUS SK** is the Fast-Connect variant, using a specially structured cable end that permits tool-free, twist-to-lock connector termination — the preferred choice for frequent re-termination in temporary installations or field commissioning. **S/FTP CAT 5E** follows the TIA-568-C.2 / ISO/IEC 11801 specifications with a 100 Ω impedance and a foil + overall braid double shield, enabling 100BASE-TX and 1000BASE-T operation in Profinet, EtherCAT, and EtherNet/IP industrial topologies. **PAARTRONIC-CY LIYCY(TP)** provides individually screened twisted pairs for sub-audio and audio frequency analogue signals between PLCs, measurement instruments, balances, and data-acquisition systems.

150 Ω PROFIBUS | 100 Ω CAT 5E

COMMUNICATION CABLE VARIANTS



S/FTP CAT 5E Al-foil+braid

TYPE	AWG	Ø MM	CU KG/KM	TOTAL KG/KM	NOTE
PROFIBUS DP/FMS 1×19×0.64	22	7.8–8.2	~26	~75	150 Ω
PROFIBUS SK 1×2×0.64	22	7.8–8.2	~26	~75	FC term.
S/FTP CAT 5E 4×2×0.51	24	6.0–6.5	~24	~45	100 Ω
LIYCY(TP) 2×2×0.25	24	5.2–5.8	~25	~42	Signal

PROFIBUS 1×19×0.64: multi-strand 19-wire conductor (≈0.22–0.34 mm² equivalent). Ampacity not applicable to data cables — impedance and attenuation are the critical parameters. S/FTP = screened/foil-twisted-pair per ISO/IEC 11801.

SENSOR FD · SAB HYBRID 5 — COMPACT SENSOR & SERVO HYBRID CABLES

SENSOR FD & SAB HYBRID 5 — OVERVIEW & VARIANTS

The YCY screened variants are the primary specification for power conductors running between variable-speed drives and motors in machine-tool and process-automation installations where conducted EMI must be suppressed per EN 61800-3. The 4G6 1 kV variant is rated for higher-insulation environments including medium-voltage auxiliary circuits in power-generation plant.

OPVC SY-JZ 30G0.5 — GALVANISED STEEL BRAID ARMOURED CONTROL CABLE 0.5 KV ★

SY-JZ 30G0.5 — 0.5 KV ★ HIGHLIGHTED

★ HIGHLIGHTED VARIANT



30G0.5 mm² Galv. steel braid Transparent PVC

SY-JZ 30G0.5 — CORE DATA (0.5 KV)	
Configuration	30G × 0.5 mm²
Voltage (U₀/U)	300/500 V (0.5 kV)
AWG equivalent	≈ 20 AWG
Outer diameter	18.0 – 20.0 mm
Copper weight	≈ 144 kg/km
Total weight	≈ 530 kg/km
Current capacity	6 A per core (30 °C)
Armour type	Galvanised steel wire braid
Outer sheath	Transparent PVC

★ WHY SY-JZ 30G0.5 — KEY SELECTION RATIONALE

At 30 cores × 0.5 mm², the SY-JZ 30G0.5 is the highest core-count variant on this sheet and represents the primary specification for dense multi-circuit control harnesses in environments combining high core-count requirements with physical mechanical risk. The **galvanised steel wire braid** (SY designation) provides substantial tensile and crush resistance without the rigidity of conduit — critical in machine-tool installations where cables route through tight radii past moving guards and where a single impact event could otherwise sever multiple control circuits simultaneously. The transparent outer sheath permits direct visual inspection of the braid for corrosion or mechanical damage without removing the cable from service. The green/yellow PE core (JZ suffix) ensures earth-continuity compliance in all 30-core installations per IEC 60364-4-41. Applications include multi-axis CNC machine control panels, robotic cell junction boxes, and substation auxiliary cabinets requiring dense, mechanically protected control wiring.



4×2×0.5 TP screened PUR outer

SK-TP-C-PUR 2×2×0.5	20	7.5–8.5	~45	~95	6
SK-TP-C-PUR 4×2×0.5	20	9.5–11.0	~75	~140	6

TP = twisted-pair construction for signal integrity. C = CuSn braid screen. SK-C-TPE uses TPE sheath; all others PUR. UL/CSA dual-listed, 600/1000 V. Current per pair at 30 °C, VDE 0298-4.

UL/CSA CERTIFICATION — NORTH-AMERICA EXPORT NOTE

All SK variants carry dual UL Type WTTC and CSA AWM certifications applicable to equipment exported under NFPA 79 (Industrial Machinery) and C22.2 No. 210. Specifiers should confirm the applicable UL file reference at time of order, as current ratings under UL/CSA methodology may differ from the DIN VDE 0298-4 values tabulated above.

RVV-2G — LOAD-BEARING CRANE & HOIST TRAILING CABLE 0.5 KV

RVV-2G SERIES — OVERVIEW

"+2/1.6" STEEL-WIRE LOAD MEMBERS · CRANE / HOIST / ELEVATOR CONTROL

The **RVV-2G** is a specialised trailing cable designed to hang vertically under its own weight from a crane or hoist pendant station. The defining structural feature is the **"+2/1.6" designation**, indicating that two high-tensile galvanised steel wire ropes of 1.6 mm diameter are embedded in the outer PVC sheath, one on each side of the cable cross-section. These steel members bear the mechanical load — including the cable's own weight over the full drop height and any pendulum sway forces — preventing the tensile stress from transferring to the copper conductors, which would cause premature strand fatigue and failure. The cable cross-section is typically "figure-8" or fluted, reflecting the lateral position of the steel members. The outer sheath is formulated for high flexibility across the pendant swing range and for UV and weather resistance on outdoor overhead cranes. Rated 300/500 V. The 9-core variant addresses standard forward/reverse/speed control circuits; the 12C variant adds circuits for additional axis control or auxiliary functions on larger gantry cranes and harbour equipment.

300/500 V (0.5 kV)

RVV-2G — VARIANTS



9C+2/1.6 Steel load members

TYPE	AWG	Ø MM	CU KG/KM	TOTAL KG/KM	I (A)
RVV-2G 9×1.0+2/1.6	18	~14.0	~86	~280	12
RVV-2G 12C×1.0+2/1.6	18	~16.0	~115	~340	12

+2/1.6 = two 1.6 mm Ø galvanised steel wire ropes integrated into sheath. Cross-section profile is flat/figure-8. Copper-core current at 30 °C; conductors are not load-bearing. 300/500 V per VDE 0285-525.

MINIATURE OD DRAG-CHAIN SENSOR CABLES · HYBRID POWER + DATA IN ONE SHEATH

SENSOR FD cables are rated at 300 V and have an extremely small outer diameter (4.5–6 mm), designed for connection to **proximity switches, photoelectric sensors, and miniature pneumatic valves** where available installation space inside drag chains is severely restricted. The "FD" designation confirms suitability for high-flex drag-chain use. The **SAB HYBRID 5** combines a three-core power bundle (3 × 1.5 mm²) and a two-core signal pair (2 × 0.22 mm²) within a common outer sheath, with independent shielding between the two functional groups. This single-cable solution replaces two separate runs — a power cable and a feedback cable — on servo motors, substantially reducing chain fill, cable count, and connector inventory. Rated at 18 A for the power cores.

TYPE	AWG	Ø MM	CU KG/KM	TOTAL KG/KM	I (A)
SENSOR FD 4×0.34 (0.3kV)	22	4.5–5.0	~13.5	~32	4
SENSOR FD 8×0.25 (0.3kV)	24	5.5–6.0	~19.5	~46	2.5
SAB HYBRID 5 3×1.5+2×0.22	16/24	8.5–9.0	~50	~110	18 (pwr)

SENSOR FD rated 300 V (0.3 kV). SAB HYBRID 5: power cores (3×1.5 mm²) and signal pair (2×0.22 mm²) share one PUR sheath with inter-group shielding. Single-cable servo solution reduces energy-chain fill by up to 40 %. Current values at 30 °C.

SIHF-JB 3×1.5 — SILICONE HIGH-TEMPERATURE CABLE 0.5 KV

SIHF-JB 3×1.5 — OVERVIEW

SILICONE INSULATION & SHEATH · −50 °C TO +180 °C · HALOGEN-FREE

The **SIHF-JB 3×1.5** is a halogen-free silicone cable rated at a continuous conductor temperature of **+180 °C** (short-term peaks to +220 °C), with full flexibility maintained down to **−50 °C**. The "JB" suffix identifies the colour-coded plus green/yellow PE core construction; all three conductors carry harmonised IEC colour-coding. Unlike standard PVC or PUR cables, silicone rubber neither emits toxic halogen gases nor drips flaming material during combustion (per EN 50267 and IEC 60332). The cable is suited to direct exposure to radiant heat in metallurgical furnaces, steel-mill drives, glass and ceramic kilns, industrial oven conveyor systems, high-power luminaire wiring, and aviation ground support equipment where ambient temperatures routinely exceed the 70 °C limit of PVC cables.

300/500 V (0.5 kV) Tmax+180 °C

TYPE	AWG	Ø MM	CU KG/KM	TOTAL KG/KM	I (A)†
SIHF-JB 3×1.5	16	8.0–8.5	~43	~100	23

† 23 A is the theoretical room-temperature value. In elevated-temperature environments, current must be de-rated using the high-temperature ampacity correction curve per VDE 0298-4. At +100 °C ambient, the de-rating factor is approximately 0.70; at +150 °C ambient, approximately 0.45. Halogen-free; IEC 60332 flame retardant. Class 5 bare copper, JB colour-coding with G/Y PE core.

TECHNICAL STANDARDS — ALL 18 VARIANTS

- `DIN VDE 0298-4` — Current-carrying capacities; multi-core de-rating; all tabulated current values reference this standard at 30 °C, free air
- `IEC 60228 Class 5` — Fine-stranded flexible conductors; bare or tinned copper; applicable to all variants except RVV-2G steel members
- `VDE 0285-525 / IEC 60227` — Flexible PVC/OPVC control cable compliance; OPVC-JZ/OZ, SY-JZ, RVV-2G
- `EN 50170 / IEC 61158` — PROFIBUS DP/FMS characteristic impedance 150 Ω ±15 %; segment length vs. baud rate per topology
- `ISO/IEC 11801 / TIA-568-C.2` — Category 5e permanent link and channel; S/FTP 100 Ω; supports 1000BASE-T industrial Ethernet

- `UL Type WTTC / CSA AWM` — SK series UL/CSA dual listing; applicable to NFPA 79 industrial-machinery wiring in North American export equipment
- `ISO/TS 61537 C4` — Drag-chain speed and acceleration class certification; SK-C-PUR, SK-C-TPE, SK-TP-C-PUR, SENSOR FD
- `EN 50267 / IEC 60332` — Halogen-free and flame-retardancy classification; SIHF-JB, SAB HYBRID 5
- RoHS 2011/65/EU & REACH — All 18 variants are confirmed RoHS and REACH compliant as supplied

OPVC: Oil-Res. PVC	SY-JZ 30G0.5 ★	SK: UL/CSA PUR/TPE
PROFIBUS 150 Ω	CAT 5E 100 Ω	RVV-2G: Steel Load
SENSOR FD 0.3 kV	SIHF: 180 °C	RoHS / REACH

ORDERING & CONTACT

Specify with full type designation, e.g. `SY-JZ 30G0.5 0.5kV`, `SK-C-PUR UL/CSA 12G2.5 1kV`, `PROFIBUS DP/FMS 1×19×0.64`, `SAB HYBRID 5 3×1.5+2×0.22`. Custom drum lengths, alternate sheath colours, and special formulations on request. Minimum order quantities apply to non-stock configurations.

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All data are nominal and subject to normal manufacturing tolerances. Current values per DIN VDE 0298-4 at 30 °C, free air; de-rate for bundled or high-temperature installation.

OPVC (4 var.) · SK Drag-Chain UL/CSA (4 var.) · Communication (4 var.) · RVV-2G Crane (2 var.) · Sensor/Hybrid (3 var.) · SIHF-JB (1 var.) | 18 Total Variants