



Energy-chain control cable

PVC Unscreened Drag Chain Control Cable

Unscreened Class 6 PVC control cable for linear energy chains



VDE 0285-525-2-51

300/500 V

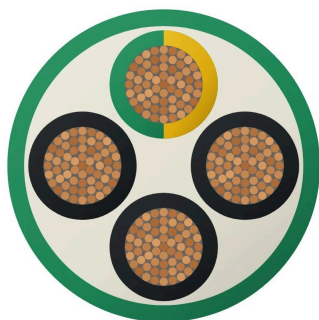
Class 6 Drag-Chain

Application

Cost-effective continuous-flex control cable built with IEC 60228 Class 6 superfine bare copper strands, low-stiction T12 PVC core insulation, non-woven sliding fleece and oil-resistant TM5 PVC outer sheath for indoor cable carriers.

Typical uses: Indoor Packaging & Palletising, Automated Storage (AS/RS), Woodworking & Stone Routers, Assembly & Pick-and-Place Lines, Machine-Tool Auxiliary Controls

Construction



Cross-section, not to scale

- | | | |
|---|----------------------------|--|
| 1 | Superfine copper conductor | IEC 60228 Class 6 |
| 2 | Core insulation | DIN EN 50363-3 · black numbered + GNYE |
| 3 | Short-pitch core lay | |
| 4 | Sliding separation wrap | |
| 5 | Outer drag-chain sheath | DIN EN 50363-4-1 · flame retardant IEC 60332-1-2 |

Technical data

Typical values

Rated voltage U ₀ /U	300/500 V (UL/CSA 600 V)	AC test voltage	4000 V AC (50 Hz, 5 min)
Specific insulation resistance	> 20 GΩ·cm at 20 °C	Mutual capacitance (core/core)	Approx. 120 pF/m at 800 Hz
Inductance	Approx. 0.65 mH/km	Temperature, flexing	−5 °C to +70 °C (UL +80 °C)
Temperature, fixed installation	−40 °C to +80 °C	Max. conductor temperature	+70 °C (+80 °C UL AWM)
Short-circuit temperature	+160 °C (max. 5 s)	Min. bending radius, moving	7.5 × OD in energy chain
Min. bending radius, fixed	4 × OD	Max. travel speed	3 m/s gliding · 5 m/s unsupported
Max. acceleration	10 m/s ²	Max. tensile load (dynamic)	15 N/mm ² of total copper cross-section
Oil resistance	DIN EN 50363-4-1 TM5 (mineral oils)	Flame retardance	IEC 60332-1-2 · UL VW-1 · CSA FT1
Halogen-free / Smoke density	Contains halogens (PVC); use PUR for LSZH	Silicone & paint-wetting (LABS)	Free of silicone and LABS per VW PV 3.10.7
Standards	Based on DIN EN 50525-2-51 / VDE 0285		

Sizes

19 standard constructions

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

Order designation	Cores × mm ²	Cross-section	Outer Ø ≈ mm	Copper kg/km	Weight ≈ kg/km	Min. bend R chain mm
0.5 mm ² control cores 6 sizes						
☐ PVC-FD-810 3G0.5	3G0.5	0.5 mm ²	5.3	14	40	40
☐ PVC-FD-810 4G0.5	4G0.5	0.5 mm ²	5.7	19	48	43
☐ PVC-FD-810 7G0.5	7G0.5	0.5 mm ²	6.9	34	74	52
☐ PVC-FD-810 12G0.5	12G0.5	0.5 mm ²	8.9	58	121	67
☐ PVC-FD-810 18G0.5	18G0.5	0.5 mm ²	10.6	86	174	80
☐ PVC-FD-810 25G0.5	25G0.5	0.5 mm ²	12.8	120	244	96
0.75 mm ² control cores 6 sizes						
☐ PVC-FD-810 3G0.75	3G0.75	0.75 mm ²	5.8	22	51	44
☐ PVC-FD-810 4G0.75	4G0.75	0.75 mm ²	6.3	29	62	47
☐ PVC-FD-810 7G0.75	7G0.75	0.75 mm ²	7.6	50	96	57
☐ PVC-FD-810 12G0.75	12G0.75	0.75 mm ²	9.9	86	158	74
☐ PVC-FD-810 18G0.75	18G0.75	0.75 mm ²	11.8	130	228	88
☐ PVC-FD-810 25G0.75	25G0.75	0.75 mm ²	14.3	180	322	107
1.0 mm ² control cores 3 sizes						
☐ PVC-FD-810 4G1.0	4G1.0	1.0 mm ²	6.8	38	76	51
☐ PVC-FD-810 7G1.0	7G1.0	1.0 mm ²	8.2	67	118	61
☐ PVC-FD-810 12G1.0	12G1.0	1.0 mm ²	10.7	115	195	80
1.5 mm ² control & power cores 3 sizes						
☐ PVC-FD-810 4G1.5	4G1.5	1.5 mm ²	7.7	58	102	58
☐ PVC-FD-810 7G1.5	7G1.5	1.5 mm ²	9.5	101	165	71
☐ PVC-FD-810 12G1.5	12G1.5	1.5 mm ²	12.4	173	272	93
2.5 mm ² power cores 1 sizes						
☐ PVC-FD-810 4G2.5	4G2.5	2.5 mm ²	9.3	96	156	70

– Minimum dynamic bending radius in energy chains is 7.5 × OD for travel lengths up to 10 m.

Electrical parameters by cross-section

5 sizes

Cross-section	Class 6 stranding (n × Ø mm)	Max. DC R @ 20 °C Ω/km	Ampacity 3-loaded (A)	Ampacity 12-core (A)	AC test V _{rms}
0.5 mm ²	28 × 0.15 mm	39.00	9.0	5.0	4,000
0.75 mm ²	42 × 0.15 mm	26.00	12.0	6.5	4,000
1.0 mm ²	56 × 0.15 mm	19.50	15.0	8.5	4,000
1.5 mm ²	84 × 0.15 mm	13.30	18.0	10.0	4,000
2.5 mm ²	140 × 0.15 mm	7.98	26.0	14.5	4,000

– Multi-core current ratings include DIN VDE 0298-4 Table 11 grouping reduction factor for 12 loaded cores.

Standards and approvals

- ✓ CE (2014/35/EU Low Voltage Directive)
- ✓ UL AWM Style 2570 / 20886 (80 °C 600 V)
- ✓ RoHS 2 (2011/65/EU) & REACH Compliant

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/pvc-unscreened-drag-chain-control-cable



Typical values for this cable type, based on DIN VDE 0285-525-2-51 / UL AWM 2570. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.