Halogen-free TPE/PUR drag-chain cable

300/500 V TPE/PUR Drag-Chain

300/500 V Unscreened TPE/PUR Servo Drag-Chain Connection Cable



5 × OD tight-radius 100 % halogen-free TPE/PUR drag-chain servo & sensor cable

300/500 V TPE/PUR | 5 × OD Tight Bend | 10M+ Flex Cycles

Application

SERVO FD 05855 P is a 300/500 V (UL 600 V) unscreened continuous-flex drag-chain connection cable combining IEC 60228 Class 6 copper conductors, zero-plasticiser TPE core insulation and halogen-free PUR jacket for 5 × OD bend radii down to −40 °C.

Typical uses: High-Speed Pick-and-Place Gantries, Deep-Freeze (−40 °C) AS/RS Shuttles, Semiconductor & Battery Dry Rooms, CNC Sensor, Valve & Brake Harnesses, Compact Medical & Lab Automation

Construction





Cross-section, not to scale

1. Superfine copper conductor
2. Halogen-free TPE core insulation
3. Non-woven sliding fleece wrap
4. Halogen-free PUR outer sheath

Technical data

Typical values

Rated voltage U0/U	300/500 V (UL/CSA 600 V)	AC test voltage	3000 V AC (50 Hz, 5 min)
Mutual capacitance	≈ 70 pF/m at 800 Hz (40 % lower than PVC)	Insulation resistance	≥ 500 MΩ·km at 20 °C
Temperature, flexing	−40 °C to +80 °C	Temperature, fixed installation	−50 °C to +80 °C
Max. conductor temperature	+80 °C	Short-circuit temperature	+200 °C (max. 5 s)
Min. bending radius, moving	5 × OD in energy chain (< 10 m) · 6.5 × OD (gliding)	Min. bending radius, fixed	3 × OD
Max. travel speed	5 m/s gliding · 10 m/s unsupported	Max. acceleration	Up to 50 m/s² (up to 80 m/s² short stroke)
Endurance cycles	≥ 10,000,000 flex cycles in linear carrier	Oil resistance	DIN EN 50363-10-2 · UL Oil Res I & II
Flame retardance	IEC 60332-1-2 · UL 1581 FT1 / VW-1	Halogen-free / Smoke density	100 % halogen-free per IEC 60754-1/2
Hydrolysis & UV	Hydrolysis, microbe (EN ISO 846) & UV resistant	Standards	DIN VDE 0285 & DIN EN 50363-10-2

Sizes

16 standard constructions

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

Order designation	Cores × mm²	Cross-section	Outer Ø ≈ mm	Copper kg/km	Weight ≈ kg/km	Min. bend R chain mm
0.25 mm² sensor & actuator TPE/PUR cores (DIN 47100) 4 sizes						
☐ SERVO FD 05855 P 4×0.25	4×0.25	0.25 mm²	4.6	10	28	23
☐ SERVO FD 05855 P 8×0.25	8×0.25	0.25 mm²	5.9	19	46	30
☐ SERVO FD 05855 P 12×0.25	12×0.25	0.25 mm²	6.8	29	64	34
☐ SERVO FD 05855 P 25×0.25	25×0.25	0.25 mm²	9.4	60	122	47
0.50 mm² control & valve TPE/PUR cores 5 sizes						
☐ SERVO FD 05855 P 3G0.5	3G0.5	0.5 mm²	5.1	14	36	26
☐ SERVO FD 05855 P 4G0.5	4G0.5	0.5 mm²	5.5	19	43	28
☐ SERVO FD 05855 P 7G0.5	7G0.5	0.5 mm²	6.7	34	68	34
☐ SERVO FD 05855 P 12G0.5	12G0.5	0.5 mm²	8.6	58	110	43
☐ SERVO FD 05855 P 18G0.5	18G0.5	0.5 mm²	10.2	86	156	51
0.75 mm² control & auxiliary servo TPE/PUR cores 3 sizes						
☐ SERVO FD 05855 P 4G0.75	4G0.75	0.75 mm²	6.0	29	55	30
☐ SERVO FD 05855 P 7G0.75	7G0.75	0.75 mm²	7.3	50	88	36
☐ SERVO FD 05855 P 12G0.75	12G0.75	0.75 mm²	9.5	86	145	48
1.00 mm² control & brake connection TPE/PUR cores 2 sizes						
☐ SERVO FD 05855 P 4G1.0	4G1.0	1.0 mm²	6.5	38	68	32
☐ SERVO FD 05855 P 7G1.0	7G1.0	1.0 mm²	7.9	67	108	40
1.50 mm² auxiliary power TPE/PUR cores 2 sizes						
☐ SERVO FD 05855 P 4G1.5	4G1.5	1.5 mm²	7.4	58	94	37
☐ SERVO FD 05855 P 7G1.5	7G1.5	1.5 mm²	9.1	101	152	46

– Minimum dynamic bending radius in energy chains is 5 × OD (compared to 7.5 × OD for PVC-insulated SERVO FD 95810 P).

Electrical parameters by cross-section

5 sizes

Cross-section	Max. DC R @ 20 °C Ω/km	Ampacity 3-loaded (A)	Mutual C pF/m≈	AC test V rms
0.25 mm²	79.00	4.5	65	3,000
0.50 mm²	39.00	9.0	68	3,000
0.75 mm²	26.00	12.0	70	3,000
1.00 mm²	19.50	15.0	72	3,000
1.50 mm²	13.30	18.0	75	3,000

– For 0.6/1 kV (1000 V UL) main servo power sizes up to 70 mm², select SERVO FD 80785 P.

Standards and approvals

- ✓ CE & 100 % Halogen-Free (IEC 60754-1/2)
- ✓ UL AWM Style 20233 / 21576 (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/300-500-v-unscreened-tpe-pur-servo-cable-chain-connection-cable

Typical values for this cable type, based on DIN VDE 0285 / UL AWM Style 20233. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.