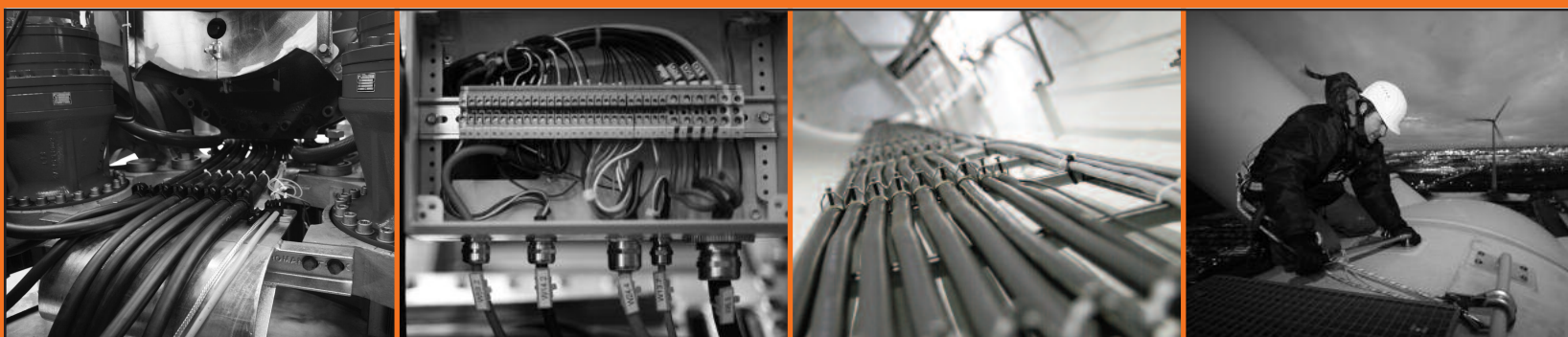


LAPP GROUP NORTH AMERICA

Wind Energy Products



GERMAN PRECISION ENGINEERING PROUDLY PRODUCED IN THE USA



The Lapp Group North American headquarters located in Florham Park, NJ houses Lapp USA, Lapp Cable Works and our latest expansion, Lapp Group's Center for Competence and Innovation. This Center is assessed by UL as a Client Test Data Program (CTDP) laboratory for Product Testing, R&D, Quality Validation and New Product Innovation. Lapp Cable Works is our state of the art cable manufacturing plant for ÖLFLEX® brand quality products and custom designed cables. In addition, this facility houses Lapp Systems, which provides complex harnesses, integrated solutions and custom cable assemblies.



2600 PEOPLE, 21 LANGUAGES 1 WORLDWIDE FAMILY

In the late 1950's, Oskar Lapp turned his visionary dream into reality with the invention of the first industrially manufactured control cable, ÖLFLEX®. This was the beginning of his family run and oriented company. Lapp Group produces innovative cables, connectors, accessories, and engineered solutions as a worldwide market leader. Oskar Lapp's vision continues today through his wife, Ursula Ida, and his sons, Andreas and Siegbert Lapp.

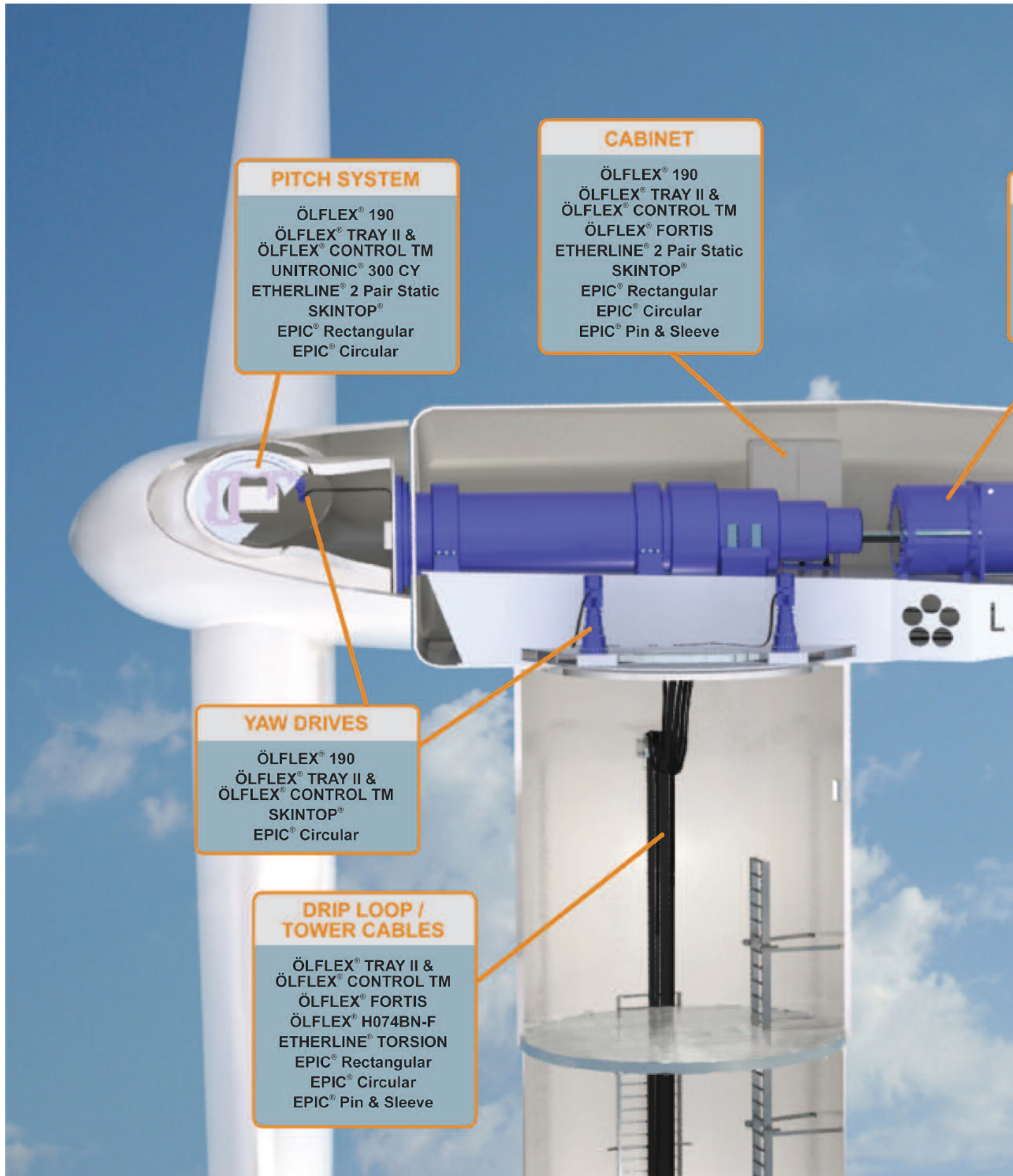
Within 50 years, the Lapp Group has grown to 2,600 employees operating around the globe developing, manufacturing and selling more than 40,000 products. With 17 manufacturing sites, 39 company-owned sales operations, more than 100 foreign representations and worldwide headquarters in Stuttgart, Germany, the Lapp Group people are everywhere you need us to be.



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PITCH SYSTEM

ÖLFLEX® 190
ÖLFLEX® TRAY II &
ÖLFLEX® CONTROL TM
UNITRONIC® 300 CY
ETHERLINE® 2 Pair Static
SKINTOP®
EPIC® Rectangular
EPIC® Circular

CABINET

ÖLFLEX® 190
ÖLFLEX® TRAY II &
ÖLFLEX® CONTROL TM
ÖLFLEX® FORTIS
ETHERLINE® 2 Pair Static
SKINTOP®
EPIC® Rectangular
EPIC® Circular
EPIC® Pin & Sleeve

YAW DRIVES

ÖLFLEX® 190
ÖLFLEX® TRAY II &
ÖLFLEX® CONTROL TM
SKINTOP®
EPIC® Circular

DRIP LOOP / TOWER CABLES

ÖLFLEX® TRAY II &
ÖLFLEX® CONTROL TM
ÖLFLEX® FORTIS
ÖLFLEX® H074BN-F
ETHERLINE® TORSION
EPIC® Rectangular
EPIC® Circular
EPIC® Pin & Sleeve



LAPP GROUP & WIND POWER

GEAR BOX

ÖLFLEX® 190
 ÖLFLEX® TRAY II &
 ÖLFLEX® CONTROL TM
 ÖLFLEX® FORTIS
 SKINTOP®
 EPIC® Circular

SLIP RING

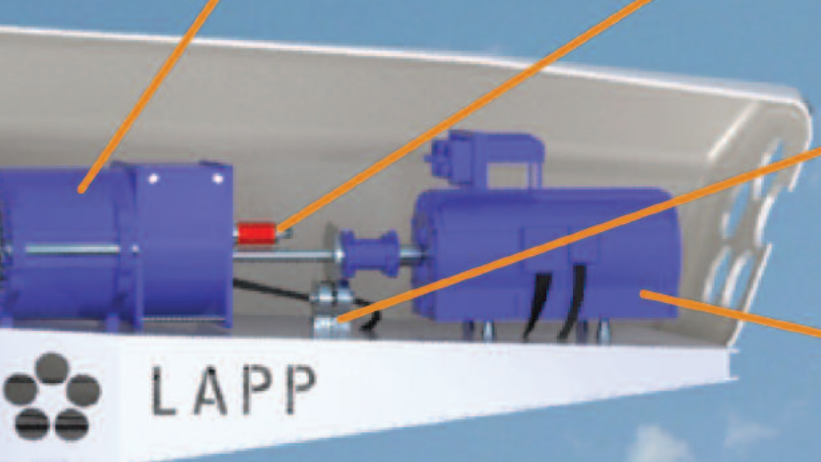
ÖLFLEX® 190
 ÖLFLEX® TRAY II &
 ÖLFLEX® CONTROL TM
 UNITRONIC® 300 CY
 ETHERLINE® 2 Pair Static
 SKINTOP®
 EPIC® Circular

BRAKE

ÖLFLEX® 190
 ÖLFLEX® TRAY II &
 ÖLFLEX® CONTROL TM
 SKINTOP®
 EPIC® Circular

GENERATOR

ÖLFLEX® 190
 ÖLFLEX® TRAY II &
 ÖLFLEX® CONTROL TM
 ÖLFLEX® FORTIS
 SKINTOP®
 EPIC® Circular



ÖLFLEX® 190	Highly flexible; Oil Res I & II; UL MTW; CSA AWM; FT 1
ÖLFLEX® TRAY II & ÖLFLEX® CONTROL TM	Highly flexible; UL WTTC 1000V; Oil Res I & II; CSA CIC/TC; FT 4; -40°C Cold Bend; -25°C Cold Impact; TORSION
ÖLFLEX® FORTIS	Cold flexible; UL WTTC 1000V; Oil Res I & II; CSA CIC/TC; FT 4; -40°C Cold Bend; -40°C Cold Impact; TORSION
ÖLFLEX® H074BN-F	Highly flexible single conductor; CE; TORSION
ETHERLINE® TORSION	Highly flexible; Cat 5e; 100 Ω ± 15 Ω; TORSION; UL AWM; FT 1
ETHERLINE® 2 Pair Static	Cat 5e; 100 Ω ± 15 Ω; UL/CSA CMG; FT 4
UNITRONIC® 300 CY	Highly flexible; UL PLTC/CMG; CSA CMG; Oil Res I; FT 4
UNITRONIC® BUS	DeviceNet™; Profibus; CAN BUS
SKINTOP®	IP 68; Built-in anti-vibration locking feature; -40°C metric thread
EPIC® Rectangular	Rectangular connector
EPIC® Circular	Industrial grade DIN or MIL style connector
EPIC® Pin & Sleeve	IEC60309 connector



NACELLE



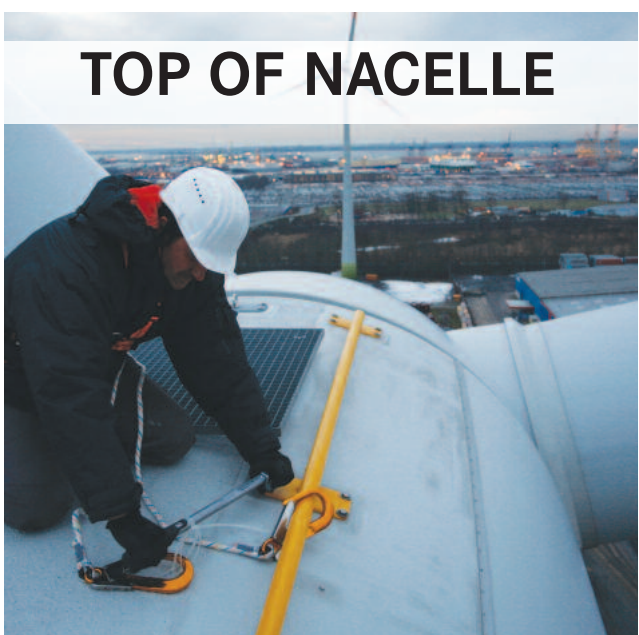
DRIP LOOP



YAW DRIVE



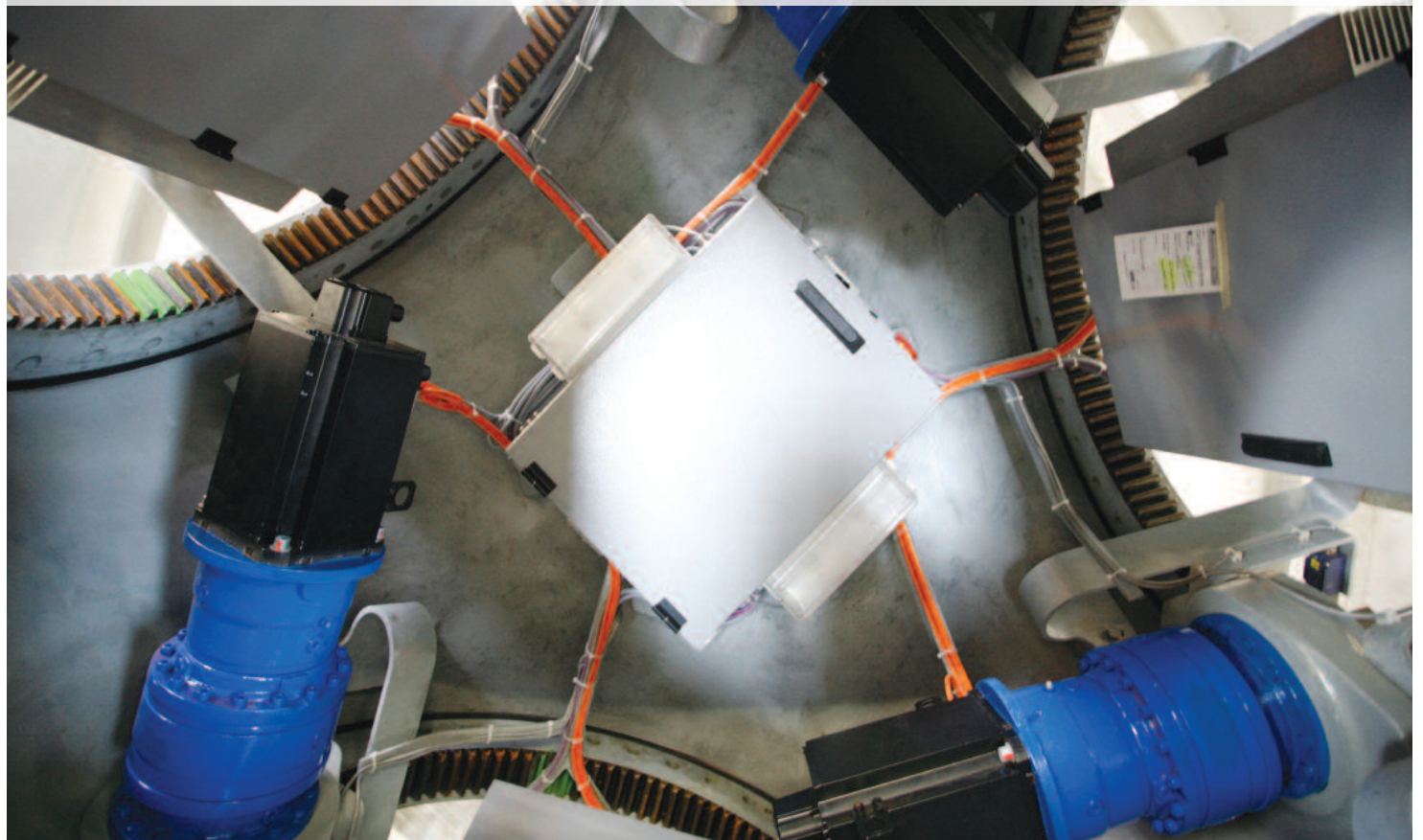
TOP OF NACELLE



TOWER



HUB WITH YAW DRIVES & FOR BLADES



ÖLFLEX® TRAY II & TRAY II CY

UL TC-ER, UL 1277 & 2277, MTW, NFPA-79 Compliant, CSA CIC/TC, Oil Res I & II



TECHNICAL DATA:

- Minimum Bending Radius:
for installation: 5 x cable diameter
- Temperature:
-40°C to +90°C (UL/CSA TC)
-40°C to +105°C (UL/CSA AWM)
- Nominal Voltage:
- 600V- TC 1000V AWM
- 1000V- TC Wind Turbine (WTTC)
- Color Code: Conductors are black printed with white alpha-numeric numbers plus green/yellow ground

- Approvals:
UL: - UL Type TC-ER (Exposed Run) per UL 1277 or DP-1
- UL AWM, Oil Res I & II, Wet Rating 75°C
- UL MTW, NFPA 79 2007
- UL -40°C Cold Bend & -25°C Cold Impact
- Class 1, Div. 2 per NEC Art. 336, 392, 501
- UL WTTC (Wind Turbine Tray Cable) 1000V per UL 2277
CSA: - c(UL) Type TC and CIC FT4
- CSA-AWM I/II A/B FT4
Additional:
• Torsion Tested for Wind Market
• MSHA: P07-KA050016-MSHA (Shielded Only)

Cable Legend Example:

LAPP KABEL STUTTGART ÖLFLEX® TRAY II P/N 221404 14AWG (2.5MM²)/4C (UL) TC - ER THHN/THWN 90C DRY 75C WET 600V SUN RES OIL RES I & II DIR BUR E171371 or MTW "FLEXING" or DP-1 or WTTC 1000V 90C DRY or c(UL) CONTROL CIC/TC PVC/N FT4 CSA AWM II A/B 90C 1000V FT4 CE ROHS

ÖLFLEX® TRAY II

Part Number	Number of Conductors includes Ground	Nominal Outer Diameter inches	Approx. Weight lbs/mft	SKINTOP® PG Non-Metallic Black	Part Number	Number of Conductors includes Ground	Nominal Outer Diameter inches	Approx. Weight lbs/mft	SKINTOP® PG Non-Metallic Black
18 AWG (19/30) 1.00 mm²					12 AWG (56/.0117) 4 mm²				
221803	3	.297	57	S2111	221405	5	.427	128	S2113
221804	4	.320	66	S2111	221407	7	.463	169	S2116
221805	5	.346	77	S2111	221412	12	.636	308	S2121
221807	7	.373	100	S2111	221418	18	.737	439	S2229
221812	12	.477	171	S2116	221425	25	.886	587	S2129
221818	18	.587	245	S2221	221204	4	.460	152	S2116
221825	25	.664	322	S2121	221205	5	.503	187	S2116
16 AWG (28/30) 1.50 mm²					10 AWG (82/.0117) 6 mm²				
221603	3	.325	69	S2111	221004	4	.578	265	S2221
221604	4	.351	83	S2111	221005	5	.631	317	S2121
221605	5	.381	98	S2111	8 AWG (74/.0159) 10 mm²	4	.703	412	S2229
221607	7	.412	127	S2113	220804	4	.703	412	S2229
221612	12	.565	220	S2221	6 AWG (119/.0159) 16 mm²	4	.899	580	S2129
221618	18	.652	289	S2121	220604	4	.899	580	S2129
221625	25	.741	397	S2129	4 AWG (413/30) 21 mm²	4	1.094	952	S2136
14 AWG (46/30) 2.50 mm²					2 AWG (665/30) 33.7 mm²				
221403	3	.362	87	S2111	220404	4	1.094	952	S2136
221404	4	.392	107	S2113	220204	4	1.272	1394	S2248

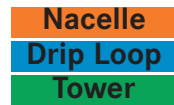
ÖLFLEX® TRAY II CY: Shielded

Part Number	Number of Conductors includes Ground	Nominal Outer Diameter inches	Approx. Weight lbs/mft	SKINTOP® MS-SC	Part Number	Number of Conductors includes Ground	Nominal Outer Diameter inches	Approx. Weight lbs/mft	SKINTOP® MS-SC
18 AWG (19/30) 1.00 mm²					14 AWG (46/30) 2.50 mm²				
2218030	3	.322	80	53112220	2214030	3	.387	121	53112230
2218040	4	.346	92	53112220	2214040	4	.423	150	53112230
2218050	5	.371	100	53112230	2214050	5	.458	180	53112240
2218070	7	.398	130	53112230	2214070	7	.494	220	53112240
2218120	12	.508	222	53112240	2214120	12	.667	400	53112250
2218180	18	.618	294	53112250	2214180	18	.768	527	53112260
2218250	25	.695	386	53112260	2214250	25	.917	704	53112260
16 AWG (28/30) 1.50 mm²					12 AWG (56/.0117) 4 mm²				
2216030	3	.350	97	53112220	2212040	4	.491	212	53112240
2216040	4	.376	116	53112230	2212050	5	.568	261	53112250
2216050	5	.406	127	53112230	10 AWG (82/.0117) 6 mm²	4	.609	371	53112250
2216070	7	.443	165	53112240	2210040	4	.609	371	53112250
2216120	12	.596	286	53112250	8 AWG (74/.0159) 10 mm²	4	.737	576	53112260
2216180	18	.683	346	53112260	2208040	4	.737	576	53112260
2216250	25	.772	476	53112260	6 AWG (119/.0159) 16 mm²	4	.918	812	53112260
					2206040	4	.918	812	53112260

Additional configurations available, please see full line catalog or visit our website. SKINTOP® sizing assumes minimal OD variance.

ÖLFLEX® FORTIS

Flexible & Oil Resistant Tray Cable with UL/CSA; -40°C Flexible/ -55°C Stationary



Unshielded Construction:

Conductors: Finely stranded bare copper

Insulation: Specially blended PVC/nylon

Jacket: Specially formulated oil resistant and elastomeric polymer alloy black jacket



Cable Legend Example:

LAPP KABEL STUTTGART ÖLFLEX® FORTIS P/N 331404- 14 AWG (2.50MM²)/4C (UL) TYPE TC-ER THHN/THWN 90°C DRY 75°C WET 600V, SUN RES, OIL RES I/II E171371 or MTW “FLEXING” or WTTC 1000V 90°C DRY, or c(UL) CONTROL CIC/TC PVC/N -40°C OUTDOOR FT4 – CSA AWM II A/B 90°C 600V FT4 CE ROHS

TECHNICAL DATA:

Minimum Bending Radius:
- for installation: 5 x cable diameter

Temperature:
for stationary use: -55°C to +105°C (UL 90°C)
for flexible use: -40°C to +105°C (UL 90°C)

Nominal Voltage: 600V-TC
1000V– TC Wind Turbine (WTTC)

Color Code: Black with white numbers plus grn/yel ground

UL: - Type TC-ER (Exposed Run), UL WTTC
- Type MTW or UL AWM, NFPA 79 2007
- Oil Res I/II
- Class 1, Div. 2 per NEC Art. 336, 392, 501
- UL -40°C Cold Impact
- UL -40°C Cold Bend

CSA: - c(UL) Type TC and CIC FT4 -40°C
- CSA-AWM I/II A/B FT4 -40°C

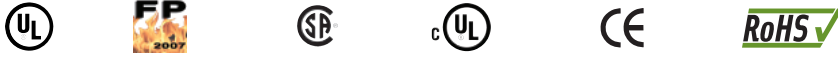
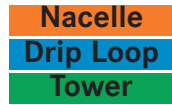
Additional:
- Torsion testing for wind market

ÖLFLEX® FORTIS

Part Number	Number of Conductors includes ground	Nominal Outer Diameter inches	mm	Copper Weight lbs/mft	Approx. Weight lbs/mft	kg/km	Part Number	Number of Conductors includes ground	Nominal Outer Diameter inches	mm	Copper Weight lbs/mft	Approx. Weight lbs/mft	kg/km
18 AWG (19/30) 1.00 mm ²							331409	9	.571	4.516	135	225	335
331803	3	.297	7.5	19	57	85	331412	12	.636	.2	179	308	459
331804	4	.320	8.1	25	66	98	331418	18	.737	18.7	269	439	654
331805	5	.346	8.8	31	77	115	331425	25	.886	22.5	374	587	874
331807	7	.373	9.5	44	100	149	12 AWG (56/.0117) 4 mm ²						
331809	9	.429	10.9	56	112	167	331204	4	.460	11.71	100	152	226
331812	12	.477	12.1	75	171	255	331205	5	.503	2.814	125	187	279
331818	18	.587	14.9	113	245	365	331207	7	.581	.8	176	258	384
331825	25	.677	17.2	156	322	479	10 AWG (82/.0117) 6 mm ²						
16 AWG (28/30) 1.50 mm ²							331003	3	.500	12.7	110	222	330
331603	3	.325	8.3	27	69	103	331004	4	.578	14.7	147	265	394
331604	4	.351	8.9	36	83	124	331005	5	.631	16.0	184	317	472
331605	5	.381	9.7	45	98	146	331007	7	.686	17.4	257	443	661
331607	7	.412	10.5	64	127	189	8 AWG (74/.0159) 10 mm ²						
331609	9	.476	12.1	82	171	255	330804	4	.703	17.9	245	412	615
331612	12	.565	14.4	109	220	328	330805	5	.772	19.6	306	518	771
331616	16	.621	15.8	145	271	403	6 AWG (119/.0159) 16 mm ²						
331618	18	.652	16.6	163	289	431	330604	4	.899	22.8	393	580	864
331625	25	.741	18.8	227	397	592	330605	5	.982	24.9	491	725	1080
14 AWG (46/30) 2.50 mm ²							4 AWG (413/30) 21 mm ²						
331403	3	.362	9.2	45	87	130	330404	4	1.094	27.8	541	952	1418
331404	4	.392	10.0	60	107	159	2 AWG (66/30) 33.7 mm ²						
331405	5	.427	10.8	75	128	191	330204	4	1.272	32.3	903	1394	2077
331407	7	.463	11.81	105	169	252	330205	5	1.408	35.8	1068	1749	2606

ÖLFLEX® CONTROL TM/ TM CY

Flexible & Oil Resistant Tray and Machine Cable



Unshielded Construction:

Conductors: Finely stranded bare copper
Insulation: Specially blended PVC/nylon
Jacket: Specially formulated gray PVC

Shielded Construction:

Conductors: Finely stranded bare copper
Insulation: Specially blended PVC/nylon
Shielding: Overfoil and tinned copper braid (85% coverage)
Jacket: Specially formulated gray PVC

Cable Legend Example:

LAPP KABEL STUTTGART ÖLFLEX® CONTROL TM P/N 281404 14AWG (2,5MM²)/4C (UL) TC-ER THHN/THWN 90C DRY 75C WET 600V OIL RES I/II E171371 or MTW "FLEXING" or WTTC 1000V 90C DRY or BUS-DROP CABLE or AWM or c(UL) CONTROL CIC/TC PVC/N FT4—CSA AWM II A/B 90C 1000V FT4 CE ROHS

TECHNICAL DATA:

- Minimum Bending Radius:
- for installation: 5 x cable diameter
- Temperature:
-40°C to +90°C (UL/CSA TC)
-40°C to +105°C (UL/CSA AWM)
- Nominal Voltage:
- 600V- TC
- 1000V- TC Wind Turbine (WTTC)
- Test Voltage:
2000V
- Color Code: Conductors are black printed with white numbers plus green/yellow ground

- Approvals:
UL: - UL Type TC-ER (Exposed Run)
- UL AWM, Oil Res I & II, UL Wet Approval 75°C
- UL Type MTW, NFPA 79 2007
- UL -40°C Cold Bend & -25°C Cold Impact
- Class 1, Div. 2 per NEC Art. 336, 392, 501
- UL Bus Drop - 14 AWG & Larger 3c & 4c only*
- CSA: - c(UL) CIC/TC FT4
- AWM I/II A/B FT4
- Additional:
- Torsion testing for wind market

ÖLFLEX® CONTROL TM

Part Number	Number of Conductors includes Ground	Nominal Outer Diameter inches	Approx. Weight lbs/mft	SKINTOP® Part Number	Part Number	Number of Conductors includes Ground	Nominal Outer Diameter inches	Approx. Weight lbs/mft	SKINTOP® Part Number
18 AWG (19/30) 1.00 mm ²					14 AWG (46/30) 2.50 mm ²				
281803	3	.291	55	S1109	281403*	3	.356	84	S1111
281804	4	.315	64	S1111	281404*	4	.386	104	S1113
281805	5	.340	75	S1111	281405	5	.421	124	S1113
281807	7	.367	97	S1113	281407	7	.457	164	S1116
281812	12	.471	166	S1116	281412	12	.628	298	S1121
281818	18	.579	245	S1221	12 AWG (56/.0117) 4 mm ²				
281825	25	.656	312	S1121	281203*	3	.417	111	S1113
16 AWG (28/30) 1.50 mm ²					281204*	4	.454	148	S1116
281603	3	.319	67	S1111	281205	5	.497	181	S1116
281604	4	.345	80	S1111	281207	7	.573	324	S1221
281605	5	.375	95	S1113	10 AWG (82/.0117) 6 mm ²				
281607	7	.406	123	S1113	281003*	3	.492	193	S1116
281612	12	.551	213	S1221	281004*	4	.570	257	S1221
281618	18	.644	289	S1121	281005	5	.623	307	S1121
281625	25	.733	312	S1129	281007	7	.678	430	S1229

ÖLFLEX® CONTROL TM CY: Shielded

Part Number	Number of Conductors includes Ground	Nominal Outer Diameter inches	Approx. Weight lbs/mft	SKINTOP® MS-SC	Part Number	Number of Conductors includes Ground	Nominal Outer Diameter inches	Approx. Weight lbs/mft	SKINTOP® MS-SC
18 AWG (19/30) 1.00 mm ²					14 AWG (46/30) 2.50 mm ²				
281803CY	3	.316	80	53112220	281403CY*	3	.381	121	53112230
281804CY	4	.339	92	53112220	281404CY*	4	.411	150	53112230
281805CY	5	.365	100	53112220	281405CY	5	.452	180	53112240
281807CY	7	.392	130	53112230	281407CY	7	.488	220	53112240
281812CY	12	.502	222	53112240	12 AWG (56/.0117) 4 mm ²				
281819CY	19	.610	294	53112250	281203CY*	3	.448	160	53112240
281825CY	25	.687	386	53112260	281204CY*	4	.485	212	53112240
16 AWG (28/30) 1.50 mm ²					281205CY	5	.560	261	53112250
281603CY	3	.344	97	53112220	10 AWG (82/.0117) 6 mm ²				
281604CY	4	.370	116	53112220	281003CY*	3	.555	270	53112250
281605CY	5	.400	127	53112230	281004CY*	4	.601	371	53112250
281607CY	7	.437	165	53112240	281005CY	5	.654	412	53112250
281612CY	12	.588	286	53112250					
281619CY	19	.675	340	53112260					
281625CY	25	.764	476	53112260					

* Meets UL Bus Drop Approval

Additional configurations available, please see full line catalog or visit our website. SKINTOP® sizing assumes minimal OD variance.

ÖLFLEX® 190/ 190 CY

Flexible Control Cable: UL MTW, NFPA-79 Compliant, CSA, Oil Res I/II, 600V

Nacelle



Unshielded Construction:

Conductors: Finely stranded bare copper
Insulation: Specially blended PVC/nylon
Jacket: Specially formulated oil resistant gray PVC

Shielded Construction:

Conductors: Finely stranded bare copper
Insulation: Specially blended PVC/nylon
Shielding: Tinned copper braid (85% coverage)
Jacket: Specially formulated oil resistant gray PVC

Cable Legend Example:

LAPP KABEL STUTTGART ÖLFLEX® 190 14AWG (2,5MM²)/18C (UL) MTW 600V "FLEXING" OIL RES II E155920 or AWM 20886 90C 1000V - CSA AWM I/II A/B 600V 90°C FT1 CE ROHS TESTED FOR IMPACT AND CRUSH TO 1277 STANDARD

TECHNICAL DATA:

- Minimum Bending Radius:
- for installation: 4 x cable diameter
- with shield: 6 x cable diameter
- Temperature:
-40°C to +90°C
- Nominal Voltage: 600V
- Color Code: Conductors are black printed with white alpha-numeric numbers plus green/yellow ground

- Approvals:
UL: - UL Type MTW Oil Res I & II
- UL AWM 2587 + 21098
- UL 758 80°C
- Conforms to NFPA 79 2007
CSA: - CSA AWM I/II A/B FT 1
- CSA C22.2 210.2, Sec. 7.6.12.1, 8.8.8
Additional:
- Impact and Crush tests to UL 1277

ÖLFLEX® 190

Part Number	Number of Conductors includes Ground	Nominal Outer Diameter inches	Approx. Weight lbs/mft	SKINTOP® PG Non-Metallic Gray	Part Number	Number of Conductors includes Ground	Nominal Outer Diameter inches	Approx. Weight lbs/mft	SKINTOP® PG Non-Metallic Gray
20 AWG (10/30) 0.50 mm ²					14 AWG (46/30) 2.50 mm ²				
602003	3	.265	41	S1109	601625	25	.733	416	S1229
602004	4	.285	51	S1109	601403	3	.356	93	S1111
602005	5	.308	60	S1111	601404	4	.386	122	S1113
602007	7	.331	81	S1111	601405	5	.421	145	S1113
602012	12	.421	168	S1113	601407	7	.457	192	S1116
602018	18	.487	198	S1116	601412	12	.628	402	S1121
602025	25	.586	243	S1221	601418	18	.729	575	S1229
18 AWG (19/30) 1.00 mm ²					12 AWG (56/.0117) 4 mm ²				
601803	3	.291	44	S1109	601425	25	.872	860	S1129
601804	4	.314	54	S1111	601203	3	.417	156	S1113
601805	5	.340	64	S1111	601204	4	.454	198	S1116
601807	7	.367	84	S1111	10 AWG (82/.0117) 6 mm ²				
601812	12	.471	142	S1116	601003	3	.492	222	S1116
601818	18	.579	207	S1221	601004	4	.570	267	S1221
601825	25	.656	277	S1229	8 AWG (74/.0159) 10 mm ²				
16 AWG (28/30) 1.50 mm ²					6 AWG (119/.0159) 16 mm ²				
601603	3	.319	61	S1111	600804	4	.695	435	S1229
601604	4	.345	75	S1111	600604	4	.870	698	S1129
601605	5	.375	91	S1111	4 AWG (182/.0157) 21 mm ²				
601607	7	.406	120	S1113	600404	4	1.184	1007	S1136
601612	12	.557	210	S1221	2 AWG (280/.0157) 33.7 mm ²				
601618	18	.644	298	S1121	600204	4	1.316	1422	S1248

ÖLFLEX® 190 CY: Shielded

Part Number	Number of Conductors includes Ground	Nominal Outer Diameter inches	Approx. Weight lbs/mft	SKINTOP® MS-SC	Part Number	Number of Conductors includes Ground	Nominal Outer Diameter inches	Approx. Weight lbs/mft	SKINTOP® MS-SC
20 AWG (10/30) 0.50 mm ²					14 AWG (46/30) 2.50 mm ²				
602003CY	3	.341	82	53112220	601612CY	12	.656	311	53112250
602007CY	7	.407	112	53112230	601618CY	18	.743	456	53112260
602012CY	12	.497	180	53112240	601625CY	25	.897	639	53112260
602025CY	25	.678	296	53112260	12 AWG (56/.0117) 4 mm ²				
18 AWG (19/30) 1.00 mm ²					10 AWG (82/.0117) 6 mm ²				
601803CY	3	.367	82	53112220	601403CY	3	.432	148	53112230
601804CY	4	.390	105	53112230	601404CY	4	.462	181	53112240
601805CY	5	.416	123	53112230	601405CY	5	.497	218	53112240
601807CY	7	.443	139	53112240	601407CY	7	.572	283	53112250
601812CY	12	.554	230	53112250	601412CY	12	.736	516	53112260
601818CY	18	.678	317	53112260	8 AWG (74/.0159) 10 mm ²				
601825CY	25	.764	435	53112260	601204CY	4	.585	310	53112250
16 AWG (28/30) 1.50 mm ²					6 AWG (119/.0159) 16 mm ²				
601603CY	3	.395	111	53112230	601004CY	4	.669	385	53112260
601604CY	4	.421	128	53112230	4 AWG (182/.0157) 21 mm ²				
601605CY	5	.451	149	53112240	600804CY	4	.803	569	53112260
601607CY	7	.482	181	53112240	600604CY	4	.994	1114	-

Additional configurations available, please see full line catalog or visit our website. SKINTOP® sizing assumes minimal OD variance.

H07BN4-F Wind

Torsion Rated, Harmonized Single Core Power Cable, <HAR>, CE, ROHS

Drip Loop



Unshielded Construction:

Conductors: Finely stranded tinned copper

Insulation: PVC blend

Jacket: UV and Oil resistant black PVC



TECHNICAL DATA:



Minimum Bending Radius:
- for installation: 5 x cable diameter



Current Rating:
- According to VDE0 298 Part 4 HD 516



Temperature:
- for flexible use: -15°C to +90°C
- for wind use: -35°C to +90°C



Approvals:
- VDE: 0282 Part 12/ HD22.12



Nominal Voltage: 600/1000V

Additional:
- Torsion tested for wind market

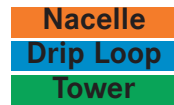
H07BN4-F Wind

Part Number	Nominal Outer Diameter inches	Approx. Weight lbs/mft
Class 5 Copper Stranding		
3/0 AWG		
1600751	.902	874
4/0 AWG		
1600752	.961	1008
300 KCMIL		
1600753	1.071	1243
350 KCMIL		
1600754	1.161	1478
500 KCMIL		
1600755	1.311	1949
600 KCMIL		
1600756	1.421	2285
750 KCMIL		
1600757	1.575	2957
Class 6 Copper Stranding		
3/0 AWG		
1600715	.882	827
4/0 AWG		
1600716	.957	1001
300 KCMIL		
1600717	1.054	1260
350 KCMIL		
1600718	1.283	1472
500 KCMIL		
1600719	1.154	1949
600 KCMIL		
1600720	1.417	2285
750 KCMIL		
1600721	1.575	2957



UNITRONIC® 300/ 300 S

300V Signal and Control Cable: CMG, PLTC, ITC, Oil Res I



Unshielded Construction:

Conductors: Finely stranded tinned copper
Insulation: PVC blend
Jacket: UV and Oil resistant PVC



Shielded Construction:

Conductors: Tinned copper conductors with drain wire
Insulation: PVC blend
Shielding: Tri-laminated foil shield and tinned copper braid (75%)
Jacket: UV and Oil resistant PVC



Cable Legend Example:

LAPP KABEL STUTTGART UNITRONIC® 300 P/N 301806 18AWG (1,00MM²)/6C (UL) CMG or ITC or PLTC-ER 105°C OIL RES I SUN RES DIR BUR E216027 or AWM 2464 – CSA CMG or AWM I/II A/B 300V 105°C FT4 CE ROHS

TECHNICAL DATA:



Minimum Bending Radius:
 - for installation: 4 x cable diameter
 - with shield: 6 x cable diameter



Color Code:
 28 - 22 AWG- chart 4, Page 672 in full line catalog
 20 - 16 AWG- chart 5, Page 672 in full line catalog



Temperature:
 -25°C to +105°C



Approvals:
 UL: - CMG, PLTC ITC (22-16 AWG), Exposed Run (18 & 16 AWG only)
 - AWM 2464 Oil Res I
 CSA: - CMG/FT4
 - AWM II A/B



Nominal Voltage: 300V

UNITRONIC® 300

Part Number	Number of Conductors includes Ground	Nominal Outer Diameter inches	Approx. Weight lbs/mft	SKINTOP® PG Non-Metallic Gray	Part Number	Number of Conductors includes Ground	Nominal Outer Diameter inches	Approx. Weight lbs/mft	SKINTOP® PG Non-Metallic Gray
24 AWG (19/36) 0.25 mm ²					18 AWG (19/30) 1.00 mm ²				
302404	4	.183	18	S1207	302004	4	.256	50	S1109
302408	8	.223	28	S1107	302008	8	.331	90	S1111
302410	10	.253	34	S1109	302010	10	.381	96	S1113
22 AWG (19/34) 0.34 mm ²					16 AWG (26/30) 1.50 mm ²				
302202	2	.179	15	S1207	302015	15	.452	120	S1113
302203	3	.187	19	S1107	301802	2	.243	41	S1109
302204	4	.200	22	S1107	301803	3	.256	43	S1109
302208	8	.245	37	S1109	301804	4	.287	53	S1109
302210	10	.289	45	S1111	16 AWG (26/30) 1.50 mm ²				
302215	15	.324	61	S1111	301602	2	.265	56	S1109
302225	25	.414	95	S1113	301604	4	.314	74	S1111
20 AWG (19/32) 0.75 mm ²									
302002	2	.225	38	S1107					
302003	3	.237	40	S1107					

UNITRONIC® 300 S: Foil & Braid Shielded

Part Number	Number of Conductors includes Ground	Nominal Outer Diameter inches	Approx. Weight lbs/mft	SKINTOP® MS-SC	Part Number	Number of Conductors includes Ground	Nominal Outer Diameter inches	Approx. Weight lbs/mft	SKINTOP® MS-SC
24 AWG (19/36) 0.25 mm ²					18 AWG (19/30) 1.00 mm ²				
302402S	2	.192	20	53112210	302006S	6	.335	80	53112220
302403S	3	.199	22	53112210	302008S	8	.358	107	53112220
302404S	4	.210	25	53112210	302010S	10	.408	115	53112230
302406S	6	.236	32	53112210	302015S	15	.485	144	53112220
22 AWG (19/34) 0.34 mm ²					16 AWG (26/30) 1.50 mm ²				
302202S	2	.206	23	53112210	301802S	2	.270	54	53112210
302203S	3	.214	27	53112210	301803S	3	.283	58	53112210
302204S	4	.227	31	53112210	301804S	4	.314	69	53112220
302206S	6	.256	41	53112210	301806S	6	.362	88	53112220
302208S	8	.272	48	53112210	301808S	8	.387	114	53112230
302210S	10	.316	58	53112220	301810S	10	.470	154	53112240
302220S	20	.382	94	53112230	301815S	15	.527	197	53112240
302225S	25	.447	117	53112240	16 AWG (26/30) 1.50 mm ²				
20 AWG (19/32) 0.75 mm ²					301602S	2	.292	74	53112220
302002S	2	.252	49	53112210	301603S	3	.317	78	53112220
302004S	4	.283	62	53112210	301604S	4	.314	93	53112220

Additional configurations available, please see full line catalog or visit our website. SKINTOP® sizing assumes minimal OD variance.

UNITRONIC® BUS Profibus DP

150 Ohm BUS Cable for Static Applications



Construction: Static Version

Conductors: Solid and stranded bare copper
Shielding: Specially designed foil/tinned copper braid
Jacket: PVC



Rate Table: (Maximum Length- One Bus Segment)

Communication Rate	PROFIBUS-DP	
	Feet	Meters
9.6 Kbps	3936	1200
19.2 Kbps	3936	1200
187.5 Kbps	3280	1000
500 Kbps	1312	400
1.5 Mbps	656	200
12.0 Mbps	328	100

Communication Rate	FIP	
	Feet	Meters
1.0 Kbps	656	200
2.5 Kbps	656	200

TECHNICAL DATA:

- Minimum Bending Radius: 10 x cable diameter
- Temperature: -40°C to +80°C
- Nominal Voltage: 250V
- Color Code: Red/Green pair
- Approvals: UL: CMG, CSA: CMG

Part Number	Conductor Description	Nominal Outer Diameter inches	Impedance	Mutual Capacitance	Approx. Weight lbs/mft	SKINTOP® MS-SC
Quick Connect- Profibus DP, FMS or FIP (Static Install)						
2170820	22/1pr	.315	150 Ohm +/-10 Ohm	9 pF / ft	51	53112220
Profibus DP, FMS, or FIP (Static Install)						
2170824	24/1pr (7/30)	.315	150 Ohm +/-10 Ohm	9 pF / ft	37	53112220

UNITRONIC® BUS FD Profibus DP

150 Ohm BUS Cable for Continuous Flex Applications



Construction: Static Version

Conductors: Stranded bare copper
Shielding: Specially designed foil/tinned copper braid
Jacket: Quick connect PVC or flexible abrasion and oil resistant PUR



Rate Table: (Maximum Length- One Bus Segment)

Communication Rate	PROFIBUS-DP	
	Feet	Meters
9.6 Kbps	3936	1200
19.2 Kbps	3936	1200
187.5 Kbps	3280	1000
500 Kbps	1312	400
1.5 Mbps	656	200
12.0 Mbps	328	100

Communication Rate	FIP	
	Feet	Meters
1.0 Kbps	656	200
2.5 Kbps	656	200

TECHNICAL DATA:

- Minimum Bending Radius: - static: 8 x cable diameter, - flexing: 15 x cable diameter
- Temperature: -25°C to +75°C
- Nominal Voltage: 300V
- Color Code: Red/Green pairs
- Approvals: UL: CMX, CSA: CMX (2170322 only)

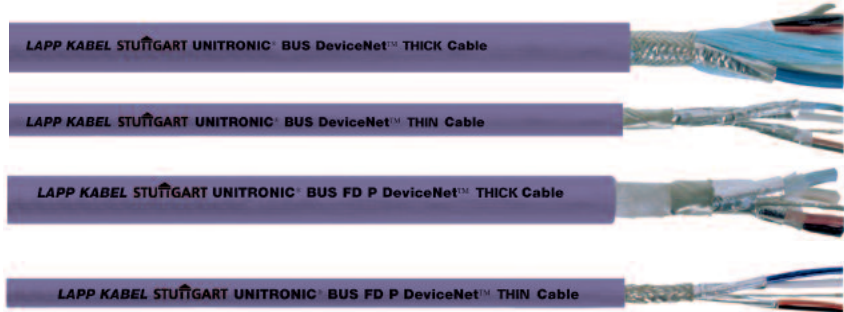
Part Number	Jacket	Conductor Description	Maximum Outer Diameter inches	Impedance	Nominal Capacitance	Approx. Weight lbs/mft	SKINTOP® MS-SC
Quick Connect- Profibus DP, FMS or FIP							
2170322	PVC	22/1pr	.315	150 Ohm +/-10 Ohm	9 pF / ft	43	53112220
Torsion Flex- Profibus DP, FMS, or FIP							
2170332	PUR	22/1pr	.315	150 Ohm +/-10 Ohm	9 pF / ft	44	53112220

Additional configurations available, please see full line catalog or visit our website. SKINTOP® sizing assumes minimal OD variance.

UNITRONIC® BUS DeviceNet™

120 Ohm Bus Cable for Static & Continuous Flex Applications

Nacelle



Construction:

Conductors: Stranded tinned copper
Insulation: Power Conductors-PVC; Data Conductors-Polyethylene
Shielding: Both pairs are tri-laminated foil shield (100% Coverage); plus have an overall foil wrap and braid (65% coverage); both pairs utilize a common drain wire and have a tinned copper braid
Jacket: Oil Resistant PVC



Rate Table:

Communication Rate	Maximum Length- Main Cable				Maximum Length- Drop Cable			
	THICK		THIN		THICK		THIN	
	Feet	Meters	Feet	Meters	Feet	Meters	Feet	Meters
125 Kbps	1640	500	328	100	512	156	20	6
250 Kbps	820	250	328	100	256	78	20	6
500 Kbps	328	100	328	100	128	39	20	6

TECHNICAL DATA:

- Minimum Bending Radius: 10 x cable diameter
- Temperature: -20°C to +80°C
- Nominal Voltage: 300V
- Color Code: Power pair: Red & Black; Data pair: Blue & White
- Approvals: UL: CMG; CSA: CMG

Part Number	Type	Conductor Description	Nominal Outer Diameter inches	Impedance	Nominal Capacitance	Approx. Weight lbs/mft	SKINTOP® MS-SC
Stationary							
4001	Trunk	18/1pr + 15/1pr	.437	120 Ohm	12 pF/ft	140	53112240
4002	Drop	24/1pr + 22/1pr	.260	120 Ohm	12 pF/ft	43	53112210
Continuous Flex							
6001	Trunk	18/1pr + 15/1pr	.468	120 Ohm	12 pF/ft	140	53112240
6002	Drop	24/1pr + 22/1pr	.283	120 Ohm	12 pF/ft	43	53112210

UNITRONIC® CAN BUS

120 Ohm BUS Cable for Static & Continuous Flex Applications

Nacelle



Construction: Static Version

Conductors: 7-wire stranded twisted pair data cable
Insulation: Polyethylene
Shielding: Conductors are surrounded with a foil wrap and a tinned copper braid shield
Jacket: Violet PVC

Construction: Continuous Flex Version

Conductors: Finely stranded twisted pair data cable
Insulation: Polyethylene
Shielding: Conductors are surrounded with a foil wrap and a tinned copper braid shield
Jacket: Violet halogen-free PUR



Rate Table: (ISO 11898 Recommendations)

Distance (Meters)	AWG	Max. Rate
0 to 40	22	1 Mbps @ 40m
40 to 300	22, 20	500 kbps @ 100m
300 to 600	20	100 kbps @ 500m
600 to 1000	18	50 kbps @ 1km

TECHNICAL DATA:

- Minimum Bending Radius: - static: 8 x cable diameter; - flexing: 15 x cable diameter
- Temperature: - static: -30°C to +80°C; - flexing: -5°C to +70°C
- Nominal Voltage: 250V
- Characteristic Impedance: 120 Ohms +/- 15 Ohms
- Color Code: DIN 47100, Chart 7, Page 673 in full line catalog
- Approvals: UL: CMX; CSA: CMX

Part Number	Static/Flex	Jacket	Conductor Description	Nominal Outer Diameter inches	Nominal Capacitance	Approx. Weight lbs/mft	SKINTOP® MS-SC
2170261	Static	PVC	24/2pr	.299	17 pF/ft	46	53112220
2170264	Static	PVC	22/2pr	.335	17 pF/ft	59	53112220
2170267	Static	PVC	20/2pr	.382	17 pF/ft	71	53112230
2170273	Continuous Flex	PUR	24/2pr	.331	17 pF/ft	47	53112220
2170276	Continuous Flex	PUR	22/2pr	.378	17 pF/ft	59	53112230
2170279	Continuous Flex	PUR	20/2pr	.425	17 pF/ft	67	53112230

Additional configurations available, please see full line catalog or visit our website. SKINTOP® sizing assumes minimal OD variance.

ETHERLINE® 2 Pair: CAT5/5e

CAT5/ CAT5e Bus Cable for Static, Continuous Flexing, & Torsion Applications

Nacelle
Drip Loop



Construction:

Conductors: Solid and stranded options
Insulation: FPE
Shielding: Foil and braid
Jacket: PVC or PUR



Torsional
Only



TECHNICAL DATA:

- Minimum Bending Radius:
 - static: 5 x cable diameter
 - flexing: 10 x cable diameter
- Temperature:
 - static: -40°C to +80°C
 - flexing: -20°C to +80°C
 - torsion: -15°C to 70°C
- Nominal Voltage: 125V peak not for power
- Characteristic Impedance: 100 Ohms +/- 15 Ohms
- Color Code:
 - Static & Continuous Flex:** White/Orange & Orange, White/Green & Green
 - Torsion:** White, yellow, blue, orange
- Approvals:
 - UL: CMG (2170886)
 - UL: AWM 21161 (2170888)
 - CSA: CMG (2170886)

Part Number	Jacket	Jacket Color	Conductor Description	Nominal Outer Diameter inches	Nominal Capacitance	Approx. Weight lbs/mft	SKINTOP® MS-SC
Static							
2170886	PVC	Teal	22/2pr	.256	17 pF/ft	36	53112210
Continuous Flex- Halogen-Free							
2170289	PUR	Teal	26/2pr	.240	17 pF/ft	32	53112210
Torsion							
2170888	PUR	Teal	22/2pr	.256	17 pF/ft	35	53112210

* Torsion cable can be used in drip loop

ETHERLINE® 4 Pair: CAT5/ CAT5e

CAT5/ CAT5e Bus Cable for Static & Continuous Flex Applications

Nacelle



Construction: Static Version

Conductors: Solid and stranded options
Insulation: FPE
Shielding: Foil and Braid
Jacket: PVC or PUR (Braid)



PROFINET is a registered trademark of the PNP.

TECHNICAL DATA:

- Minimum Bending Radius:
 - static: 5 x cable diameter
 - flexing: 10 x cable diameter
- Temperature:
 - static: -40°C to +80°C
 - flexing: -20°C to +80°C
- Nominal Voltage: 125V peak not for power
- Characteristic Impedance: 100 Ohms +/- 15 Ohms
- Color Code:
 - White/Blue & Blue
 - White/Orange & Orange
 - White/Green & Green
 - White/Brown & Brown
- Approvals:
 - EIA/TIA 568

Part Number	Jacket	Conductor Description	Nominal Outer Diameter inches	Nominal Capacitance	Approx. Weight lbs/mft	SKINTOP® MS-SC
Halogen-Free						
2170299	Halogen-free	26/4pr	.240	17 pF/ft	32	53112210
Continuous Flex- Halogen-Free						
2170489	PUR	26/4pr	.248	17 pF/ft	36	53112210

Additional configurations available, please see full line catalog or visit our website. SKINTOP® sizing assumes minimal OD variance.

SILVYN® RILL PA 6

Non-Metallic Flexible Quick Connect Conduit Systems

Nacelle



SILVYN® KLICK-G

Technical Data:

Materials: Polyamide
Halogen & Silicone Free
UL 94 V0

Color: Black or Gray

Temperature range: -40°C to +115°C

Protection: IP 68

SILVYN® RILL PA 6: Non-Metallic Flexible Conduit

Part Number		Outer Diameter		Inner Diameter		Bend Radius		Conduit Coil Put-Ups Feet	Thread Type & Size for Fittings		
Black	Gray	inches	mm	inches	mm	inches	mm		NPT	PG	Metric
61746935	61746939	.394	10.0	.256	6.5	.512	13	164	NPT-1/4"	PG-7	M-10X1.0
61746945	61746940	.512	13.0	.394	10.0	.787	20	164	NPT-1/4"	PG-9	M-12X1.5
61746955	61746950	.622	15.8	.472	12.0	1.378	35	164	NPT-3/8"	PG-11	M-16X1.5
61747015	61747010	.728	18.5	.563	14.3	1.575	40	164	—	PG-13	—
61746965	61746960	.835	21.2	.650	16.5	1.772	45	164	NPT-1/2"	PG-16	M-20X1.5
61746975	61746970	1.122	28.5	.906	23.0	2.165	55	164	NPT-3/4"	PG-21	M-25 X1.5
61746985	61746980	1.358	34.5	1.142	29.0	2.559	65	82	NPT-1"	PG-29	M-32X1.5
61746995	61746990	1.673	42.5	1.417	36.0	3.543	90	82	NPT-1-1/4"	PG-36	M-40X1.5
61747005	61747000	2.146	54.5	1.890	48.0	3.937	100	82	NPT-1-1/2"	PG-48	M-50X1.5

SILVYN® KLICK-GP: PG Conduit Connectors

Part Number		Thread Type & Size	Conduit Outer Diameter		Thread Length	For SILVYN® RILL PA 6 Conduit		For SILVYN® RILL PA 12 Conduit		Standard Pack Size	
Black	Gray		inches	mm		Black	Gray	Black	Gray		
61800865	61800860	PG-7	.394	10.0	.394	10.0	61746935	61746939	61815105	61815100	50
61800875	61800870	PG-9	.512	13.0	.394	10.0	61746945	61746940	61815115	61815110	50
61800885	61800880	PG-11	.622	15.8	.394	10.0	61746955	61746950	61815125	61815120	50
61800855	61800850	PG-13	.728	18.5	.433	11.0	61747015	61747010	61815185	61815180	50
61800895	61800890	PG-16	.835	21.2	.472	12.0	61746965	61746960	61815135	61815130	50
61800905	61800900	PG-21	1.122	28.5	.472	12.0	61746975	61746970	61815145	61815140	25
61800915	61800910	PG-29	1.358	34.5	.472	12.0	61746985	61746980	61815155	61815150	25
61800925	61800920	PG-36	1.673	42.5	.669	17	61746995	61746990	61815165	61815160	25
61800935	61800930	PG-48	2.146	54.5	.669	17	61747005	61747000	61815175	61815170	10

* Fittings also available in NPT and Metric, see SILVYN® KLICK-G on page 586 in our Main Catalog

SKINTOP® SLN & SL

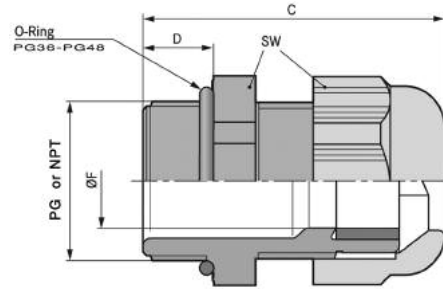
Liquid Tight, Vibration Proof, Strain Relief Cable Gland with NPT or PG Threads

Nacelle

Tower



PG Only



TECHNICAL DATA:



Materials:
 Body: Polyamide
 Bushing: CR
 Locknuts: Included



Protection: 70 PSI
 Seal: IP 68, 5 Bar
 (Exceeds NEMA 6/ 6P Pressure rating)



Color:
 - Black (RAL 9005)
 UV Resistant
 - Gray (RAL 7001)



Temperature range:
 Static: -40°C to +80°C
 Dynamic: -20°C to +80°C

SKINTOP® SLN: NPT Threads

Part Number		Thread Type & Size	UL Status	Clamping Range of inches	SW Wrenching Flats inches	C Overall Length inches	D Thread Length inches	Standard Pack Size	Weight 100 pcs. lbs.
Black	Gray								
S2138	S1138	NPT-3/8"	R	.138 - 0.315	0.748	1.693	.591	100	2.00
S2112	S1112	NPT-1/2"	L	.197 - 0.472	0.945	1.772	.591	100	2.50
S2134	S1134	NPT-3/4"	L	.512 - 0.709	1.299	2.087	.591	50	5.50
S2101	S1101	NPT-1"	L	.748 - 1.000	1.654	2.362	.591	25	9.00

SKINTOP® SL: PG Threads

Part Number		Thread Type & Size	UL Status	Clamping Range of inches	SW Wrenching Flats inches	C Overall Length inches	D Thread Length inches	Standard Pack Size	Weight 100 pcs. lbs.
Black	Gray								
S2107	S1107	PG-7	R	0.098 - 0.256	0.591	1.260	.315	100	1.00
S2109	S1109	PG-9	R	0.138 - 0.315	0.748	1.417	.315	100	1.50
S2111	S1111	PG-11	R	0.157 - 0.394	0.866	1.496	.315	100	2.00
S2113	S1113	PG-13	L	0.236 - 0.472	0.945	1.614	.354	100	2.50
S2116	S1116	PG-16	L	0.354 - 0.551	1.063	1.732	.394	50	3.00
S2121	S1121	PG-21	L	0.512 - 0.709	1.299	1.929	.433	50	5.00
S2129	S1129	PG-29	R	0.551 - 0.984	1.654	2.205	.433	25	8.50
S2136	S1136	PG-36	L	0.945 - 1.260	2.087	2.598	.512	10	17.50
S2142	S1142	PG-42	R	1.378 - 1.496	2.362	2.677	.512	5	24.00
S2148	S1148	PG-48	L	1.535 - 1.732	2.559	2.717	.551	5	29.00

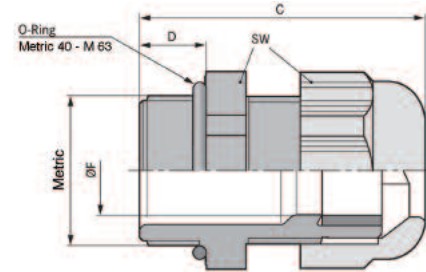


SKINTOP® SLM/ SLRM





Liquid Tight, Non-Metallic Strain Relief Cable Gland with Metric Threads

Nacelle

Tower



TECHNICAL DATA:

 Materials:		 Protection:	70 PSI
Body:	Polyamide	Seal:	IP 68, 5 Bar
Bushing:	CR		(Exceeds NEMA 6/ 6P Pressure rating)
Locknuts:	Included		IP 69K
 Color:	- Black (RAL 9005) UV Resistant - Gray (RAL 7001)	 Temperature range:	
		Static:	-40° C to +100° C
		Dynamic:	-20° C to +100° C

SKINTOP® SLM: Liquid Tight, Non-Metallic Strain Relief Cable Gland with Metric Threads

Black	Part Number	Gray	Thread Type & Size	UL Status	Clamping Range øF inches	SW Wrenching Flats inches	C Overall Length inches	D Thread Length inches	Standard Pack Size	Weight 100 pcs. lbs.
S2507	S1507	M-12X1.5	R	0.138 - 0.276	0.591	1.181	.315	100	1.00	
S2509	S1509	M-16X1.5	R	0.177 - 0.394	0.748	1.339	.315	100	1.50	
S2513	S1513	M-20X1.5	L	0.276 - 0.512	0.984	1.457	.354	100	2.50	
S2516	S1516	M-25X1.5	L	0.354 - 0.669	1.181	1.575	.394	50	3.50	
S2521	S1521	M-32X1.5	L	0.433 - 0.827	1.417	1.850	.394	25	6.00	
S2529	S1529	M-40X1.5	L	0.748 - 1.102	1.811	2.047	.394	10	10.50	
S2536	S1536	M-50X1.5	L	1.063 - 1.378	2.165	2.441	.472	5	17.50	
S2542	S1542	M-63X1.5	L	1.339 - 1.772	2.598	2.795	.472	5	25.50	

SKINTOP® SLRM: Liquid Tight, Non-Metallic Strain Relief Cable Gland with Reducer Bushing

Black	Part Number	Gray	Thread Type & Size	UL Status	Clamping Range øF inches	SW Wrenching Flats inches	C Overall Length inches	D Thread Length inches	Standard Pack Size	Weight 100 pcs. lbs.
S2607	S1607	M-12X1.5	R	0.039 - 0.197	0.591	1.181	.315	100	1.00	
S2609	S1609	M-16X1.5	R	0.079 - 0.276	0.748	1.339	.315	100	1.50	
S2613	S1613	M-20X1.5	L	0.197 - 0.394	0.984	1.457	.354	100	2.50	
S2616	S1616	M-25X1.5	L	0.236 - 0.512	1.181	1.575	.394	50	3.50	
S2621	S1621	M-32X1.5	L	0.276 - 0.591	1.417	1.850	.394	25	6.00	
S2629	S1629	M-40X1.5	L	0.591 - 0.906	1.811	2.047	.394	10	10.50	
S2636	S1636	M-50X1.5	L	0.866 - 1.142	2.165	2.441	.472	5	17.50	
S2642	S1642	M-63X1.5	L	1.102 - 1.535	2.598	2.795	.472	5	25.50	

UL Status: R = Recognized; L = Listed

SKINTOP® MS-M BRUSH




Liquid Tight, Metallic Strain Relief for EMC Shielding Applications

Nacelle

Tower



TECHNICAL DATA:

-  Materials:
 - Body: Nickel-Plated Brass
 - Insert: Polyamide
 - Bushing: Special Elastomer
 - O-Ring: Special Elastomer
-  Seal: IP 68, 5 Bar
(Exceeds NEMA 6/ 6P Pressure rating)
-  Temperature: -30° C to +100° C
- Locknuts: Add SM-PE Locknuts



SKINTOP® MS-M BRUSH: Liquid Tight, Metallic Strain Relief for EMC Shielding Applications

Part Number	Thread Type & Size	Clamping Range øF inches	SW Wrenching Flats inches	Minimum ø above braiding inches	Thread Length inches	Standard Pack Size
53112676	M-25X1.5	0.354 - 0.669	1.142	0.236	0.315	10
53112677	M-32X1.5	0.433 - 0.827	1.417	0.315	0.354	1
53112678	M-40X1.5	0.748 - 1.102	1.772	0.394	0.354	1
53112679	M-50X1.5	1.063 - 1.378	2.126	0.551	0.394	1
53112680	M-63X1.5	1.339 - 1.772	2.638	0.787	0.591	1
53112681	M-63X1.5, plus	1.732 - 2.165	2.953	0.984	0.591	1
53112501	M-75X1.5	2.087 - 2.480	3.740	1.378	0.591	1
53112500	M-75X1.5, plus	2.283 - 2.677	3.740	1.378	0.591	1
53112503	M-90X2.0	2.598 - 3.071	4.528	1.772	0.787	1
53112505	M-110X2.0	2.992 - 3.465	5.315	2.165	0.984	1
53112504	M-110X2.0, plus	3.386 - 3.858	5.315	2.165	0.984	1

SKINTOP® MS-SC/ MS-SCL




Liquid Tight, Nickel Plated Brass, Strain Relief for EMC Shielding: NPT, PG & Metric

Nacelle

Tower



TECHNICAL DATA:

-  Materials:
 - Body: Nickel-Plated Brass
 - Insert: Polyamide
 - Bushing: CR
 - O-Ring: Perbunan (NBR)
-  Seal: IP 68, 5 Bar when using an o-ring
(Exceeds NEMA 6/ 6P Pressure rating)
-  Temperature: -30° C to +100° C
- Locknuts: Add SM-PE Locknuts

SKINTOP® MS-SC: NPT Threads

Part Number	Thread Type & Size	Clamping Range øF inches	SW Wrenching Flats inches	C Overall Length inches	D Thread Length inches	Standard Pack Size
53112920	NPT-1/2"	0.276 - 0.492	0.945	1.673	.591	50
53112930	NPT-3/4"	0.354 - 0.650	1.142	1.752	.591	25
53112940	NPT-1"	0.433 - 0.827	1.417	1.929	.669	25
53112950	NPT-1-1/4"	0.748 - 1.102	1.772	2.264	.669	10

SKINTOP® MS-SC: PG Threads

Part Number	Thread Type & Size	Clamping Range øF inches	SW Wrenching Flats inches	C Overall Length inches	D Thread Length inches	Min ø above braiding	Standard Pack Size
53112210	PG-9	.118 - 0.315	0.669	1.142	.236	.157	50
53112220	PG-11	.157 - 0.394	0.787	1.260	.236	.157	50
53112230	PG-13	.197 - 0.472	0.866	1.339	.256	.157	25
53112240	PG-16	.315 - 0.551	0.945	1.378	.256	.236	25
53112250	PG-21	.433 - 0.689	1.181	1.575	.276	.315	25
53112260	PG-29	.630 - 0.984	1.575	1.890	.315	.512	10
53112270	PG-36	.748 - 1.260	1.969	2.441	.591	.630	5

