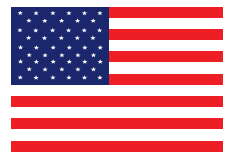




■ USA Cable Solutions



## Lütze Flexible Cable and Wire Management for Industrial Automation

Control Cable  
Electronic Cable  
Actuator Sensor Cable  
BUS and Network Cable  
Motor Supply, VFD, Servo and Feedback Cable  
Hook Up Wire  
Wire and Cable Management  
Network Connectivity

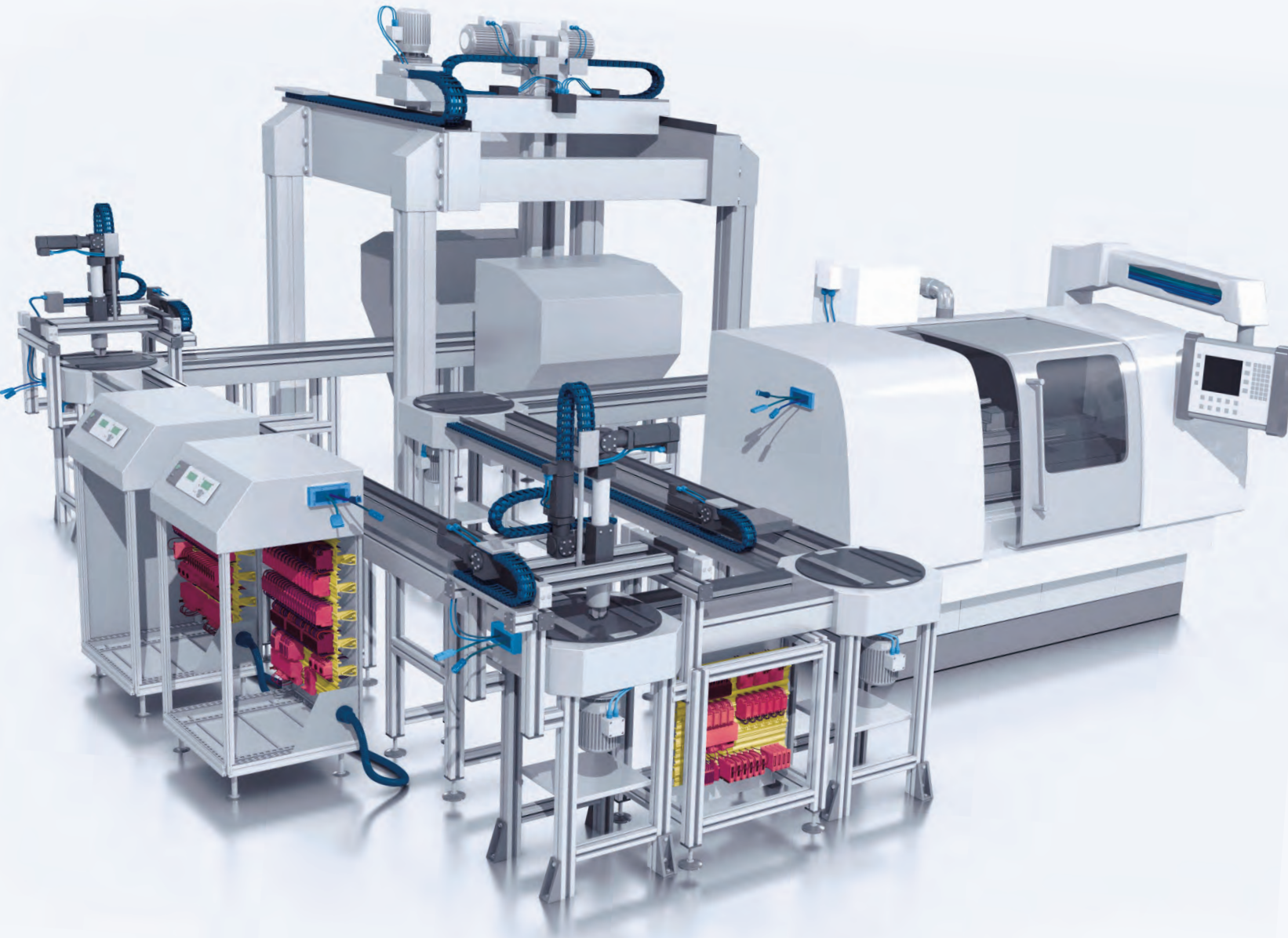


*DESINA*

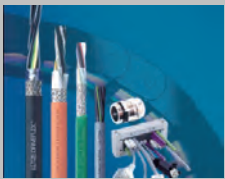
RoHS

- UL approvals
- NFPA 79 compliant cables
- Accepted by the Automotive Industry
- Suitable for the North American market
- Standard size reels available
- We cut cable to any length compliant with “UL processed wire respooled” procedure
- No minimum length required for standard items
- Low minimum order
- Our goal is “On time-All the time”

# From products to solutions!



**Cable Solutions**



**Automation Solutions**



**Cabinet Solutions**



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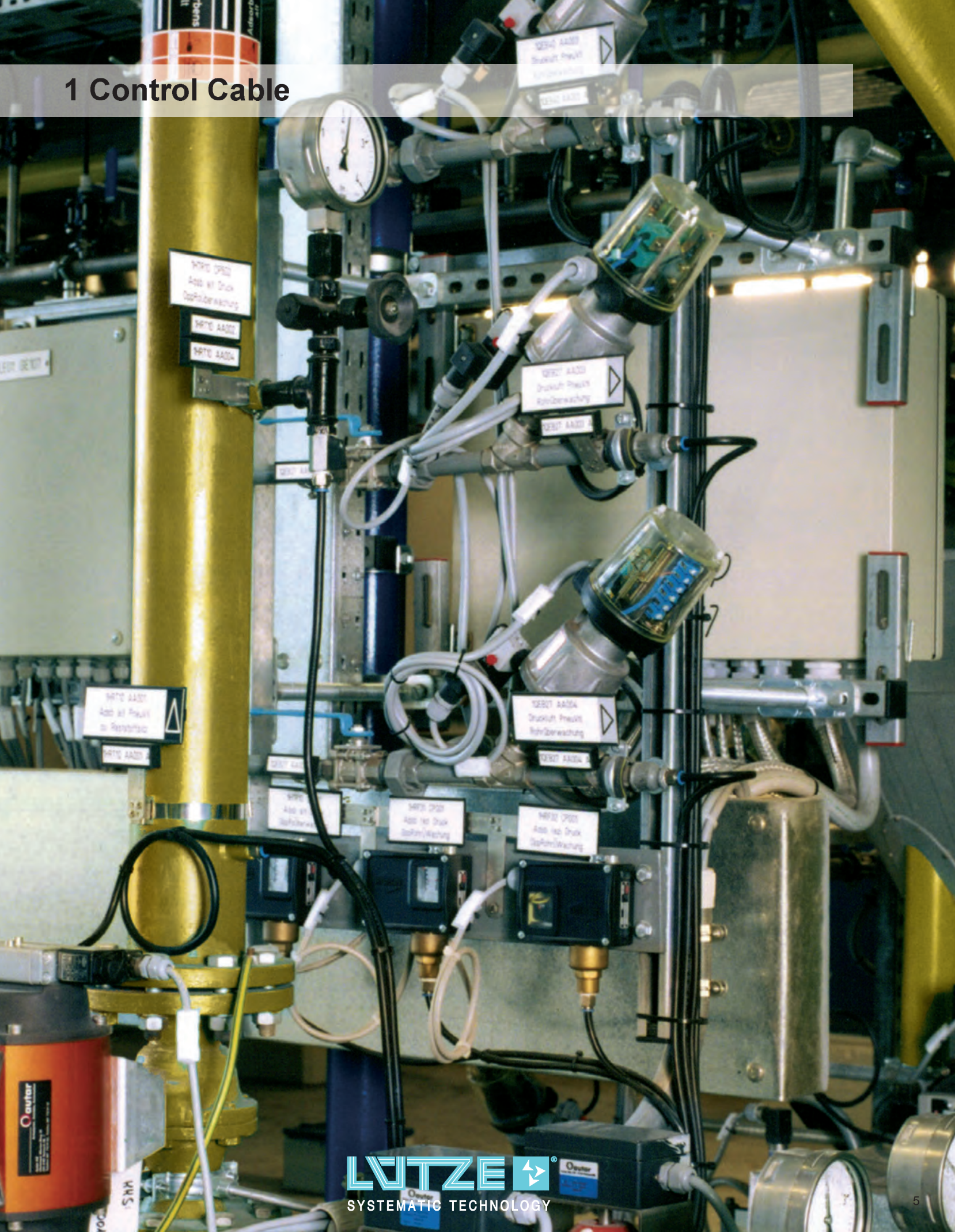


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# 1 Control Cable



# LÜTZE SILFLEX® Control Cable PVC, Unshielded

## Flexible Control and Tray Cable with UL/TC-ER/WTTC/ITC-ER/PLTC-ER/MTW/CE Approvals



### Application

- Multi-conductor cable for tray and control applications, with **exposed run** (open wiring) approval
- Machine tools, machine and plant construction, HVAC technology, assembly and production lines, and other industrial applications
- Compliant with **NFPA 79** requirements
- TC-ER for use on machines and in cable trays without conduit, which can reduce material and labor costs (AWG 18 and larger)
- WTTC – wind turbine tray cable rating for use in wind power generation (AWG 18 and larger)
- PLTC-ER – power limited tray cable exposed run
- ITC-ER – instrumentation tray cable
- Dry, damp or wet locations

### Characteristics

- Flexible design with Nylon for crush impact resistance per UL 1277 and easy installation
- Specially formulated jacket for oil resistance
- Gray jacket for control cable applications according to *DESINA*
- Non-wicking fillers
- Sunlight resistant
- Direct burial (AWG 18 and larger)
- Talc and Silicone free

### Technical Data

Voltage	<b>AWG 20</b> 600V UL MTW 300V PLTC
	<b>AWG 18 and larger</b> 600V UL TC/MTW 1000V WTTC
Temperature	-40°C - +90°C static
Minimum bending radius	4 x cable OD
Conductor marking	Black with white numbers and one green/yellow ground *no ground included
Oil resistance	Oil Res II
Approvals	UL/AWM/CE AWM Style 20886 (UL) Type MTW or DP-1 Class 1 Div. 2 per NEC Art. 336, 392, 501 C(UL) TC and CIC FT4 UL 1277 RoHS REACH
AWG specific approvals	<b>AWG 20</b> PLTC-ER and ITC-ER <b>AWG 18 to AWG 12</b> TC-ER and WTTC PLTC-ER and ITC-ER <b>AWG 10 and larger</b> TC-ER and WTTC

### Construction

- AWG conductor
- Flexible fine wire stranded bare copper conductors
- PVC/Nylon insulation / THHN – THWN
- Oil resistant PVC jacket
- Gray jacket RAL 7001

Specifications are subject to change without prior notice

Part No.	Description No. of conductors incl. ground	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>AWG 20 (10/30)</b>					
A3082003	AWG20/03C	6.8	0.268	41	9
A3082004	AWG20/04C	7.3	0.287	49	13
A3082005	AWG20/05C	7.9	0.313	57	16
A3082007	AWG20/07C	8.5	0.335	70	22
A3082012	AWG20/12C	10.8	0.426	110	38
A3082018	AWG20/18C	12.5	0.492	152	56
A3082025	AWG20/25C	17.1	0.672	229	79
<b>AWG 18 (19/30)</b>					
A3081802	AWG18/02C*	7.0	0.276	46	12
A3081803	AWG18/03C	7.5	0.296	54	18
A3081804	AWG18/04C	8.1	0.320	65	24
A3081805	AWG18/05C	8.8	0.346	82	30
A3081807	AWG18/07C	9.5	0.373	102	42
A3081809	AWG18/09C	10.8	0.425	128	54
A3081812	AWG18/12C	12.1	0.477	157	72
A3081818	AWG18/18C	14.9	0.587	240	108
A3081825	AWG18/25C	17.2	0.677	314	151
A3081834	AWG18/34C	18.9	0.744	404	205
A3081841	AWG18/41C	22.8	0.896	520	248
A3081850	AWG18/50C	23.1	0.910	630	302
<b>AWG 16 (26/30)</b>					
A3081602	AWG16/02C*	7.7	0.305	53	16
A3081603	AWG16/03C	8.1	0.321	66	24
A3081604	AWG16/04C	8.7	0.347	77	32
A3081605	AWG16/05C	9.5	0.377	98	40
A3081607	AWG16/07C	10.2	0.406	122	57
A3081609	AWG16/09C	12.0	0.473	159	73
A3081612	AWG16/12C	13.4	0.527	196	98
A3081618	AWG16/18C	16.4	0.647	294	147
A3081625	AWG16/25C	19.0	0.748	391	204
A3081634	AWG16/34C	22.3	0.876	541	278
A3081641	AWG16/41C	25.0	0.983	670	335
<b>AWG 14 (41/30)</b>					
A3081403	AWG14/03C	8.8	0.348	87	38
A3081404	AWG14/04C	9.6	0.378	108	51
A3081405	AWG14/05C	10.4	0.410	125	64
A3081407	AWG14/07C	11.3	0.445	164	89
A3081409	AWG14/09C	13.1	0.516	213	115
A3081412	AWG14/12C	15.5	0.610	283	154
A3081418	AWG14/18C	18.2	0.715	404	231
A3081425	AWG14/25C	20.9	0.825	537	321
<b>AWG 12 (65/30)</b>					
A3081203	AWG12/03C	9.8	0.382	122	63
A3081204	AWG12/04C	11.1	0.437	150	84
A3081205	AWG12/05C	12.1	0.475	183	105
A3081207	AWG12/07C	14.1	0.556	255	147
<b>AWG 10 (105/30)</b>					
A3081004	AWG10/04C	14.6	0.573	239	130
<b>AWG 8 (168/30)</b>					
A3080804	AWG8/04C	18.9	0.744	398	214



# LÜTZE SILFLEX® Control Cable (C) PVC, Shielded

## Flexible Control and Tray Cable with UL/TC-ER/WTTC/ITC-ER/PLTC-ER/MTW/CE Approvals



### Application

- Multi-conductor cable for tray and control applications, with **exposed run** (open wiring) approval
- Machine tools, machine and plant construction, HVAC technology, assembly and production lines, and other industrial applications
- Compliant with **NFPA 79** requirements
- TC-ER for use on machines and in cable trays without conduit, which can reduce material and labor costs (AWG 18 and larger)
- WTTC – wind turbine tray cable rating for use in wind power generation (AWG 18 and larger)
- PLTC-ER – power limited tray cable exposed run
- ITC-ER – instrumentation tray cable
- Dry, damp or wet locations

### Characteristics

- Flexible design with Nylon for crush impact resistance per UL 1277 and easy installation
- Specially formulated jacket for oil resistance
- Gray jacket for control cable applications according to *DESINA*
- Non-wicking fillers
- Sunlight resistant
- Direct burial (AWG 18 and larger)
- Talc and Silicone free

### Technical Data

Voltage	<b>AWG 20</b> 600V UL MTW 300V PLTC
	<b>AWG 18 and larger</b> 600V UL TC/MTW 1000V WTTC
Temperature	-40°C - +90°C static
Bending radius	6 x cable OD
Conductor marking	Black with white numbers and one green/yellow ground *no ground included
Oil resistance	Oil Res II
Approvals	UL/AWM/CE AWM Style 20886 (UL) Type MTW or DP-1 Class 1 Div. 2 per NEC Art. 336, 392, 501 C(UL) TC and CIC FT4 UL 1277 RoHS REACH
AWG specific approvals	<b>AWG 20</b> PLTC-ER and ITC-ER <b>AWG 18 to AWG 12</b> TC-ER and WTTC PLTC-ER and ITC-ER <b>AWG 10 and larger</b> TC-ER and WTTC

### Construction

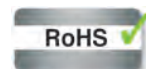
- AWG conductor
- Flexible fine wire stranded bare copper conductors
- PVC/Nylon insulation / THHN – THWN
- Shielded with foil tape, tinned copper braid and drain wire
- Oil resistant PVC jacket, gray RAL 7001

Specifications are subject to change without prior notice

Part No.	Description No. of conductors incl. ground	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>AWG 20 (10/30)</b>					
A3092003	AWG20/03C	7.5	0.295	57	22
A3092004	AWG20/04C	8.0	0.316	65	25
A3092005	AWG20/05C	8.6	0.337	74	28
A3092007	AWG20/07C	9.1	0.360	93	37
A3092012	AWG20/12C	11.4	0.450	131	56
A3092018	AWG20/18C	13.9	0.549	197	78
A3092025	AWG20/25C	15.8	0.621	246	104
<b>AWG 18 (19/30)</b>					
A3091802	AWG18/02C*	7.7	0.306	59	24
A3091803	AWG18/03C	7.9	0.310	68	30
A3091804	AWG18/04C	8.7	0.343	84	38
A3091805	AWG18/05C	9.1	0.357	94	44
A3091807	AWG18/07C	10.0	0.395	119	58
A3091812	AWG18/12C	12.8	0.505	187	91
A3091818	AWG18/18C	15.5	0.610	266	131
A3091825	AWG18/25C	18.0	0.710	360	177
<b>AWG 16 (26/30)</b>					
A3091603	AWG16/03C	8.8	0.345	87	39
A3091604	AWG16/04C	9.4	0.370	99	49
A3091605	AWG16/05C	10.2	0.400	116	57
A3091607	AWG16/07C	10.8	0.425	144	75
A3091612	AWG16/12C	14.0	0.550	227	121
A3091618	AWG16/18C	16.9	0.665	326	174
A3091625	AWG16/25C	19.6	0.770	441	233
<b>AWG 14 (41/30)</b>					
A3091403	AWG14/03C	9.4	0.370	109	57
A3091404	AWG14/04C	10.3	0.406	128	74
A3091405	AWG14/05C	11.1	0.435	155	85
A3091407	AWG14/07C	12.2	0.480	198	113
A3091412	AWG14/12C	16.1	0.635	315	182
<b>AWG 12 (65/30)</b>					
A3091203	AWG12/03C	10.8	0.425	150	88
A3091204	AWG12/04C	11.6	0.457	173	112
<b>AWG 10 (105/30)</b>					
A3091004	AWG10/04C	15.1	0.594	284	171

# LÜTZE SILFLEX® Tray-ER PVC, Unshielded

## Flexible Tray Cable with UL/TC-ER/WTTC/MTW/CE Approvals



### Application

- Multi-conductor cable for tray applications, with **exposed run** (open wiring) approval
- Compliant with **NFPA 79** for machine tool wiring
- **TC-ER** for use with cable trays **without conduit**, which can reduce material and labor costs
- Machine tools, machine and plant construction, HVAC technology, assembly and production lines, and other industrial applications
- WTTC – wind turbine tray cable rating for use in wind power generation
- Dry, damp and wet locations

### Characteristics

- Flexible design with Nylon for crush impact resistance per UL 1277 and easy installation
- Specially formulated jacket for oil resistance
- Non-wicking fillers
- Sunlight resistant
- Direct burial
- UL Type TC-Exposed Run
- Talc and Silicone free

### Technical Data

Voltage	600V UL TC 1000V WTTC
Temperature	-40°C - +90°C static
Minimum bending radius	4 x cable OD
Conductor marking	Black with white numbers and one green/yellow ground *no ground included
Oil resistance	Oil Res II
Approvals	UL Type TC-ER UL/CE UL AWM (UL) Type MTW or DP-1 WTTC Class 1, Div. 2 per NEC Art. 336, 392, 501 C(UL) TC CIC FT4 UL1277 RoHS REACH

### Construction

- AWG conductor
- Flexible fine wire stranded bare copper conductors
- PVC/Nylon insulation / THHN – THWN
- Oil resistant PVC jacket
- Black jacket RAL 9005

Part No.	Description No. of conductors incl. ground	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>AWG 18 (19/30)</b>					
A3221803	AWG18/03C	7.5	0.296	54	18
A3221804	AWG18/04C	8.1	0.320	65	24
A3221805	AWG18/05C	8.8	0.346	82	30
A3221807	AWG18/07C	9.5	0.373	102	42
A3221812	AWG18/12C	12.1	0.477	157	72
A3221818	AWG18/18C	14.9	0.587	240	108
A3221825	AWG18/25C	17.2	0.677	314	151
<b>AWG 16 (26/30)</b>					
A3221603	AWG16/03C	8.1	0.321	66	24
A3221604	AWG16/04C	8.7	0.347	77	32
A3221605	AWG16/05C	9.5	0.377	98	40
A3221607	AWG16/07C	10.2	0.406	122	57
A3221612	AWG16/12C	13.4	0.527	196	98
A3221618	AWG16/18C	16.4	0.647	294	147
A3221625	AWG16/25C	19.0	0.748	391	204
<b>AWG 14 (41/30)</b>					
A3221403	AWG14/03C	8.8	0.348	87	38
A3221404	AWG14/04C	9.6	0.378	108	51
A3221405	AWG14/05C	10.4	0.410	125	64
A3221407	AWG14/07C	11.3	0.445	164	89
A3221412	AWG14/12C	15.5	0.610	283	154
<b>AWG 12 (65/30)</b>					
A3221203	AWG12/03C	9.8	0.382	122	63
A3221204	AWG12/04C	11.1	0.437	150	84
A3221205	AWG12/05C	12.1	0.475	183	105
A3221207	AWG12/07C	14.1	0.556	255	147
<b>AWG 10 (105/30)</b>					
A3221004	AWG10/04C	14.6	0.573	239	130

# LÜTZE SILFLEX® (C) Tray-ER PVC, Shielded

## Flexible Shielded Tray Cable with UL/TC-ER/WTTC/MTW/CE Approvals



### Application

- Shielded multi-conductor cable for tray applications, with exposed run (open wiring) approval
- Compliant with NFPA 79 for machine tool wiring
- TC-ER for use with cable trays without conduit, which can reduce material and labor costs
- Machine tools, machine and plant construction, HVAC technology, assembly and production lines, and other industrial applications
- WTTC – wind turbine tray cable rating for use in wind power generation
- Dry, damp and wet locations

### Characteristics

- Flexible design with Nylon for crush impact resistance per UL 1277 and easy installation
- Specially formulated jacket for oil resistance
- Sunlight resistant
- Direct burial
- UL Type TC-Exposed Run
- Talc and Silicone free

### Technical Data

Voltage	600V UL TC 1000V WTTC
Temperature	-40°C - +90°C static
Minimum bending radius	6 x cable OD
Conductor marking	Black with white numbers and one green/yellow ground
Oil resistance	Oil Res II
Approvals	UL Type TC-ER UL/CE UL AWM (UL) Type MTW or DP-1 WTTC Class 1, Div. 2 per NEC Art. 336, 392, 501 C(UL) TC CIC FT4 UL1277 RoHS REACH

### Construction

- AWG conductor
- Flexible fine wire stranded bare copper conductors
- PVC/Nylon insulation / THHN – THWN
- Shielded with foil tape, tinned copper braid and drain wire
- Oil resistant PVC jacket
- Black jacket RAL 9005

Part No.	Description No. of conductors incl. ground	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>AWG 18 (19/30)</b>					
A3211803	AWG18/03C	7.9	0.310	68	30
A3211804	AWG18/04C	8.7	0.343	84	38
A3211805	AWG18/05C	9.1	0.357	94	44
A3211807	AWG18/07C	10.0	0.395	119	58
A3211812	AWG18/12C	12.8	0.505	187	91
A3211818	AWG18/18C	15.5	0.610	266	131
A3211825	AWG18/25C	18.0	0.710	360	177
<b>AWG 16 (26/30)</b>					
A3211603	AWG16/03C	8.8	0.345	87	39
A3211604	AWG16/04C	9.4	0.370	99	49
A3211605	AWG16/05C	10.2	0.400	116	57
A3211607	AWG16/07C	10.8	0.425	144	75
A3211612	AWG16/12C	14.0	0.550	227	121
A3211618	AWG16/18C	16.9	0.665	326	174
A3211625	AWG16/25C	19.6	0.770	441	233
<b>AWG 14 (41/30)</b>					
A3211403	AWG16/03C	9.4	0.370	109	57
A3211404	AWG16/04C	10.3	0.406	128	74
A3211405	AWG16/05C	11.1	0.435	155	85
A3211407	AWG16/07C	12.2	0.480	198	113
A3211412	AWG16/12C	16.1	0.635	315	182

Also see **Driveflex® A216** cable series with **four (4)** conductor configuration, PVC Shielded, 0.6/1kV VFD Motor cable, TC-ER rated.

# LÜTZE SILFLEX® Tray-ER TPE, Unshielded

## Flexible Premium TPE Tray Cable with UL/TC-ER/WTTC/MTW/CE Approvals



### Application

- Multi-conductor cable for tray applications, with **exposed run** (open wiring) approval
- Compliant with **NFPA 79** for machine tool wiring
- **TC-ER** for use with cable trays **without conduit**, which can reduce material and labor costs
- Metal cutting equipment, machine tools, machine and plant construction, HVAC technology, assembly and production lines, and other industrial applications
- WTTC – wind turbine tray cable rating for use in wind power generation
- Dry, damp and wet locations

### Characteristics

- Flexible design with Nylon for crush impact resistance per UL 1277 and easy installation
- Specially formulated TPE jacket for superior oil resistance
- Cutting oil resistant - mineral & bio/vegetable based oils  
*\*specifically tested with plant based cutting oil*
- Non-wicking fillers
- Sunlight resistant
- Direct burial
- UL Type TC-Exposed Run
- Talc and Silicone free

### Technical Data

Voltage	600V UL TC 600V UL MTW 1000V WTTC 600V UL AWM 105C
Temperature	-40°C - +90°C static
Minimum bending radius	4 x cable OD
Conductor marking	Black with white numbers and one green/yellow ground *no ground included
Oil resistance	Oil Res I and Oil Res II
Approvals	UL Type TC-ER UL/CE UL AWM (UL) Type MTW or DP-1 WTTC Class 1, Div. 2 per NEC Art. 336, 392, 501 C(UL) TC CIC FT4 UL1277 RoHS REACH

Part No.	Description No. of conductors incl. ground	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>AWG 18 (16/30)</b>					
A3321803	AWG18/03C	7.2	0.284	56	15
A3321804	AWG18/04C	7.6	0.300	67	21
A3321805	AWG18/05C	8.4	0.331	79	25
A3321807	AWG18/07C	9.1	0.356	95	35
A3321812	AWG18/12C	11.6	0.456	148	60
A3321818	AWG18/18C	14.2	0.558	217	90
A3321825	AWG18/25C	16.1	0.634	288	129
<b>AWG 16 (26/30)</b>					
A3321602	AWG16/02C*	7.5	0.296	59	17
A3321603	AWG16/03C	7.9	0.312	72	25
A3321604	AWG16/04C	8.4	0.331	85	33
A3321605	AWG16/05C	9.3	0.365	100	41
A3321607	AWG16/07C	10.0	0.395	125	58
A3321612	AWG16/12C	13.7	0.540	214	100
A3321618	AWG16/18C	15.8	0.623	300	150
A3321625	AWG16/25C	18.1	0.711	396	208
<b>AWG 14 (41/30)</b>					
A3321403	AWG14/03C	8.6	0.340	92	39
A3321404	AWG14/04C	9.4	0.368	108	52
A3321405	AWG14/05C	10.0	0.395	127	65
A3321407	AWG14/07C	11.0	0.434	167	92
A3321412	AWG14/12C	15.0	0.589	287	158
<b>AWG 12 (65/30)</b>					
A3321203	AWG12/03C	9.8	0.385	119	62
A3321204	AWG12/04C	10.5	0.413	146	83
A3321205	AWG12/05C	11.6	0.457	182	104
A3321207	AWG12/07C	12.6	0.497	238	145
<b>AWG 10 (105/30)</b>					
A3321003	AWG10/03C	11.7	0.461	178	100
A3321004	AWG10/04C	12.7	0.498	221	134
A3321005	AWG10/05C	14.8	0.582	285	167
<b>AWG 8 (168/30)</b>					
A3320804	AWG8/04C	18.1	0.711	392	214
<b>AWG 6 (266/30)</b>					
A3320604	AWG6/04C	20.1	0.790	552	339
<b>AWG 4 (413/30)</b>					
A3320404	AWG4/4C	26.3	1.033	910	516
<b>AWG 2 (665/30)</b>					
A3320204	AWG2/04C	30.8	1.214	1,391	883

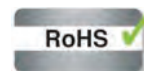
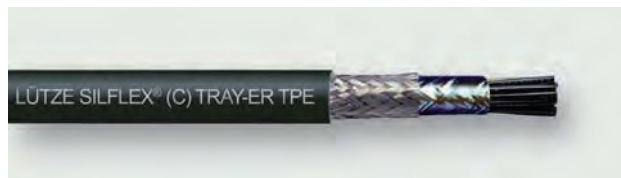
### Construction

- AWG conductor
- Flexible fine wire stranded bare copper conductors
- PVC/Nylon insulation / THHN – THWN
- Extremely oil resistant TPE jacket
- Black jacket RAL 9005

Specifications are subject to change without prior notice

# LÜTZE SILFLEX® (C) Tray-ER TPE, Shielded

Flexible Shielded Premium TPE Tray Cable with UL/TC-ER/WTTC/MTW/CE Approvals



## Application

- Shielded multi-conductor cable for tray applications, with exposed run (open wiring) approval
- Compliant with NFPA 79 for machine tool wiring
- TC-ER for use with cable trays without conduit, which can reduce material and labor costs
- Metal cutting equipment, machine tools, machine and plant construction, HVAC technology, assembly and production lines, and other industrial applications
- WTTC – wind turbine tray cable rating for use in wind power generation
- Dry, damp and wet locations

## Characteristics

- Flexible design with Nylon for crush impact resistance per UL 1277 and easy installation
- Specially formulated TPE jacket for superior oil resistance
- Cutting oil resistant - mineral & bio/vegetable based oils  
*\*specifically tested with plant based cutting oil*
- Sunlight resistant
- Direct burial
- UL Type TC-Exposed Run
- Talc and Silicone free

## Technical Data

Voltage	600V UL TC-ER 90C 600V UL MTW 90C 1000V WTTC 90C 600V UL AWM 105C
Temperature	-40°C to +90°C static
Bending radius	6 x cable OD
Conductor marking	Black with white numbers and one green/yellow ground
Oil resistance	Oil Res I and Oil Res II
Approvals	UL Type TC-ER UL/CE UL AWM (UL) Type MTW or DP-1 WTTC Class 1, Div. 2 per NEC Art. 336, 392, 501 C(UL) TC CIC FT4 UL1277 RoHS REACH

## Construction

- AWG conductor
- Flexible fine wire stranded bare copper conductors
- PVC/Nylon insulation / THHN – THWN
- Shielded with foil tape, tinned copper braid and drain wire
- Extremely oil resistant TPE jacket
- Black jacket RAL 9005

Part No.	Description No. of conductors incl. ground	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>AWG 18 (16/30)</b>					
A3311803	AWG18/03C	7.8	0.307	76	27
A3311804	AWG18/04C	8.2	0.323	87	36
A3311805	AWG18/05C	9.0	0.354	99	42
A3311807	AWG18/07C	9.6	0.379	116	54
A3311812	AWG18/12C	12.2	0.479	176	85
A3311818	AWG18/18C	14.9	0.588	264	127
A3311825	AWG18/25C	17.3	0.681	368	194
<b>AWG 16 (26/30)</b>					
A3311603	AWG16/03C	8.5	0.335	92	41
A3311604	AWG16/04C	9.0	0.354	106	51
A3311605	AWG16/05C	9.9	0.389	121	61
A3311607	AWG16/07C	10.6	0.418	149	80
A3311612	AWG16/12C	14.5	0.569	254	134
A3311618	AWG16/18C	16.6	0.655	353	191
A3311625	AWG16/25C	18.8	0.740	462	256
<b>AWG 14 (41/30)</b>					
A3311403	AWG14/03C	9.2	0.363	113	59
A3311404	AWG14/04C	9.9	0.391	133	74
A3311405	AWG14/05C	10.6	0.418	154	89
A3311407	AWG14/07C	11.6	0.457	200	117
A3311412	AWG14/12C	15.8	0.620	339	201
<b>AWG 12 (65/30)</b>					
A3311203	AWG12/03C	10.4	0.409	148	88
A3311204	AWG12/04C	11.1	0.437	179	111
A3311205	AWG12/05C	12.2	0.480	216	134
<b>AWG 10 (105/30)</b>					
A3311004	AWG10/04C	14.4	0.565	291	178

# LÜTZE SILFLEX® Tray-ER Blue PVC, Unshielded

## Flexible Control and Tray Cable with UL/TC-ER/CE Approvals, Blue Conductors for 24V Applications



### Application

- Multi-conductor cable for tray applications, with **exposed run** (open wiring) approval
- Machine tools, machine and plant construction, HVAC technology, assembly and production lines, and other industrial applications
- **Automotive** applications with 24 Volt
- MTW rating as required per **NFPA 79** for machine tool wiring
- TC-ER for use on machines and in cable trays without conduit
- Dry, damp and wet conditions

### Characteristics

- Flexible design with Nylon for crush impact resistance per UL 1277 and easy installation
- Specially formulated jacket for oil resistance
- Non-wicking fillers
- Sunlight resistant
- Direct burial
- UL Type TC-Exposed Run
- Talc and Silicone free

### Technical Data

Voltage	600V UL TC 1000V UL AWM
Temperature	-40°C - +90°C static
Bending radius	4 x cable OD
Conductor marking	Blue with white numbers; and one green/yellow ground; No. 2 is white with a blue stripe *** only two blue with white numbers and one green/yellow ground, no white with a blue stripe
Oil resistance	Oil Res I
Approvals	UL Type TC-ER UL/CE UL AWM (UL) Type MTW or DP-1 Class 1, Div. 2 per NEC Art. 336, 392, 501 C(UL) TC CIC FT4 UL1277 UL 83 RoHS REACH

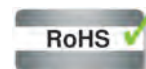
### Construction

- AWG conductor
- Flexible fine wire stranded bare copper conductors
- PVC/Nylon insulation / THHN – THWN
- Oil resistant PVC jacket
- Gray jacket similar RAL 7001

Part No.	Description No. of conductors incl. ground	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>AWG 18 (19/30)</b>					
<b>A3251803</b>	AWG18/03C***	7.5	0.295	57	18
<b>A3251807</b>	AWG18/07C	9.4	0.370	100	42
<b>A3251812</b>	AWG18/12C	12.1	0.476	171	72
<b>A3251819</b>	AWG18/19C	14.8	0.583	254	114
<b>A3251825</b>	AWG18/25C	17.2	0.677	322	150
<b>A3251837</b>	AWG18/37C	20.1	0.791	417	223
<b>AWG 16 (26/30)</b>					
<b>A3251603</b>	AWG16/03C***	8.2	0.323	65	24
<b>A3251607</b>	AWG16/07C	10.4	0.409	125	57
<b>A3251612</b>	AWG16/12C	14.1	0.555	220	98
<b>A3251619</b>	AWG16/19C	16.3	0.642	285	155
<b>A3251625</b>	AWG16/25C	18.7	0.736	397	204
<b>AWG 14 (41/30)</b>					
<b>A3251404</b>	AWG14/04C	9.6	0.378	102	51
<b>AWG 12 (65/30)</b>					
<b>A3251204</b>	AWG12/04C	11.1	0.437	143	83

# LÜTZE SILFLEX® N PVC, Unshielded

## Flexible Control Cable with UL/CSA/CE Approvals



### Application

- Multi-conductor control cable for machine and plant construction, HVAC technology, assembly and production lines, and many other industrial applications
- Easy strip design specially suited for cable assemblies

### Characteristics

- Most flexible design without Nylon for easy stripping and easy installation
- Easy routing and bending due to flexibility
- Specially formulated gray PVC jacket for oil resistance
- Resistant to mineral oils, coolants and solvents
- Non-wicking fillers
- Talc and Silicone free

### Technical Data

Voltage	600V UL AWM
Temperature	-40°C - +90°C static
Minimum bending radius	4 x cable OD
Conductor marking	Black with white numbers and one green/yellow ground; *no ground included
Burning behavior	Flame retardant per UL-VW-1
Oil resistance	Oil Res II
Approvals	UL AWM Style 2587 CSA AWM, I/II A/B FT4 CE RoHS REACH

### Construction

- AWG conductor
- Flexible fine wire stranded bare copper conductors
- PVC insulation
- Oil resistant PVC jacket
- Gray jacket similar RAL 7001

Part No.	Description No. of conductors incl. ground	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>AWG 20 (10/30)</b>					
108349A	AWG20/02C*	5.7	0.226	27	6.5
108350A	AWG20/03C	6.0	0.235	31	10
108351A	AWG20/04C	6.5	0.255	38	12
108352A	AWG20/05C	7.2	0.282	46	16
108353A	AWG20/07C	8.8	0.345	65	22
108354A	AWG20/12C	10.8	0.424	103	38
108355A	AWG20/18C	12.8	0.505	153	56
108356A	AWG20/25C	15.0	0.592	206	88
<b>AWG 18 (16/30)</b>					
108401A	AWG18/02C*	6.5	0.254	34	10
108357A	AWG18/03C	6.7	0.263	41	15
108358A	AWG18/04C	7.2	0.285	51	20
108359A	AWG18/05C	7.7	0.305	63	25
108360A	AWG18/07C	9.1	0.360	82	35
108392A	AWG18/09C	11.7	0.460	119	45
108361A	AWG18/12C	12.0	0.473	142	60
108362A	AWG18/18C	13.8	0.543	198	90
108363A	AWG18/25C	16.0	0.630	263	125
<b>AWG 16 (26/30)</b>					
108391A	AWG16/02*	6.9	0.270	41	16
108372A	AWG16/03	7.4	0.290	55	24
108373A	AWG16/04	8.0	0.316	69	32
108374A	AWG16/05	8.7	0.341	84	40
108375A	AWG16/07	10.3	0.406	112	57
108393A	AWG16/09	13.0	0.511	159	73
108376A	AWG16/12	13.8	0.543	198	97
108377A	AWG16/18	15.5	0.610	274	147
108378A	AWG16/25	18.0	0.708	366	204
<b>AWG 14 (41/30)</b>					
108380A	AWG14/03	8.9	0.352	82	38
108381A	AWG14/04	9.8	0.384	103	51
108382A	AWG14/05	10.9	0.430	130	63
108383A	AWG14/07	13.4	0.529	183	89
108384A	AWG14/12	16.9	0.666	307	153
108385A	AWG14/18	19.7	0.774	433	230
108386A	AWG14/25	23.7	0.935	598	320

# LÜTZE SUPERFLEX® N PVC, Unshielded

## High Flexing Control Cable with UL/CE Approvals



### Application

- Suitable for control, monitoring and instrumentation applications with continuous flexing cycles
- For flexing applications such as C-tracks and other applications where linear flexing occurs
- Compatible with all major brand C-tracks
- High performance linear flexing cable, compliant with **NFPA 79, 2012 Edition** Article 12.9 special cables and conductors

### Characteristics

- Extremely small cable ODs due to special **TPE High Glide Insulation** compliant with UL
- TPE/PVC combination for high performance flexing and longer cable runs
- Very flexible with superfine stranding
- Specially formulated PVC jacket per UL Class 43
- Non-wicking fillers
- Abrasion, high wear and tear resistance
- Hydrolysis, microbe and decompose resistant
- Dry and wet conditions
- Talc and Silicone free

### Technical Data

Voltage	600V UL AWM
Test voltage	3000 V
Insulation resistance	Min 100 MΩ x km
Temperature	Moving -5 - +80°C Fixed -40 - +80°C
Minimum Bending radius	Moving 7.5 x cable OD Fixed 4 x cable OD
Conductor marking	Black with white numbers and one green/yellow ground
Burning behavior	Flame retardant per UL VW-1, DIN EN 50265-2-1
Oil resistance	4D100C, UL Oil res 80°C and DIN EN 60811-2-1
Approvals	cUL AWM Styles 10429/20207 CSA AWM I/II AB 80C 600V FT1, CE RoHS REACH

### Construction

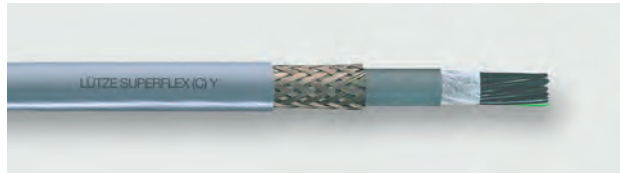
- Metric conductor
- Bare copper super finely stranded per DIN VDE 0295 Class 6 and IEC 60228 Class 6
- Special TPE conductor insulation
- G: with GNYE ground conductor  
x: without ground conductor
- Optimized construction for flexing applications
- Conductors cabled with fleece wrap
- Special high strength PVC Jacket per UL class 43 / VDE 0207 TM5, oil resistant
- Gray jacket RAL 7001

Part No.	Description No. of conductors incl. ground	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>AWG 20 / 0.5 mm<sup>2</sup></b>					
A1382003	3G0.5	5.7	0.224	30	10
A1382004	4G0.5	6.1	0.240	36	13
A1382005	5G0.5	6.7	0.264	42	16
A1382007	7G0.5	7.7	0.303	53	23
A1382012	12G0.5	9.3	0.366	78	39
A1382018	18G0.5	10.7	0.421	109	59
A1382025	25G0.5	12.5	0.492	146	82
<b>AWG 18 / 1.0 mm<sup>2</sup></b>					
A1381803	3G1.0	6.6	0.260	44	20
A1381804	4G1.0	7.2	0.283	54	27
A1381805	5G1.0	7.8	0.307	64	33
A1381807	7G1.0	9.1	0.358	83	46
A1381812	12G1.0	10.8	0.425	127	80
A1381818	18G1.0	12.7	0.500	179	120
A1381825	25G1.0	15.1	0.594	243	166
A1381834	34G1.0	16.8	0.661	318	226
A1381841	41G1.0	19.0	0.750	325	274
A1381850	50G1.0	21.3	0.839	332	335
<b>AWG 16 / 1.5 mm<sup>2</sup></b>					
A1381603	3G1.5	7.2	0.283	58	30
A1381604	4G1.5	7.8	0.307	71	40
A1381605	5G1.5	8.6	0.339	84	49
A1381607	7G1.5	10.1	0.398	111	69
A1381612	12G1.5	12.4	0.488	173	119
A1381618	18G1.5	14.5	0.571	246	178
A1381625	25G1.5	16.8	0.661	336	231
<b>AWG 14 / 2.5 mm<sup>2</sup></b>					
A1381404	4G2.5	9.1	0.358	107	65
A1381405	5G2.5	10.0	0.394	127	82
A1381407	7G2.5	12.1	0.476	170	115
<b>AWG 12 / 4 mm<sup>2</sup></b>					
A1381204	4G4	10.7	0.421	154	105
A1381207	7G4	14.0	0.551	253	183



# LÜTZE SUPERFLEX® N (C) PVC, Shielded

## High Flexing Control Cable with UL/CE Approvals



### Application

- Braid shielded, multi-conductor high flexing cable suitable for control, monitoring and instrumentation applications with continuous flexing in C-track
- Machine tools, gantry robots, conveyors and other continuous motion applications in industrial environments
- For flexing applications such as C-tracks and other applications where linear flexing occurs
- Compatible with all major brand C-tracks
- High performance linear flexing cable, compliant with **NFPA 79, 2012 Edition** Article 12.9 special cables and conductors

### Characteristics

- Extremely small cable ODs due to special **TPE High Glide Insulation** compliant with UL
- Sub-Jacket for increased flex life in high performance flexing and long cable runs
- Very flexible with superfine stranding
- Specially formulated PVC jacket per UL Class 43
- Non-wicking fillers
- Abrasion, high wear and tear resistance
- Hydrolysis, microbe and decompose resistant
- Dry and wet conditions
- Talc and Silicone free

### Technical Data

Voltage	600V UL AWM
Test voltage	3000 V
Insulation resistance	Min 100 MΩ x km
Temperature	Moving -5 - +80°C Fixed -40 - +80°C
Minimum Bending radius	Moving 10 x cable OD Fixed 6 x cable OD
Conductor marking	Black with white numbers and one green/yellow ground
Burning behavior	Flame retardant per UL VW-1, DIN EN 50265-2-1 CSA FT1
Oil resistance	4D100C, UL Oil res 80°C and DIN EN 60811-2-1
Approvals	cUL AWM Styles 10429/2570 CSA AWM I/II A/B 80C 600V RoHS REACH

### Construction

- Metric conductor
- Bare copper super finely stranded per DIN VDE 0295 Class 6 and IEC 60228 Class 6
- Special TPE conductor insulation
- G: with GNYE ground conductor  
x: without ground conductor
- Optimized construction for flexing applications
- Conductors cabled with fleece wrap
- PVC Sub-Jacket
- Tinned copper braid shield
- Special high strength PVC Jacket per UL class 43 / VDE 0207 TM5, oil resistant
- Gray Jacket RAL 7001

Specifications are subject to change without prior notice

Part No.	Description No. of conductors incl. ground	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>AWG 20 / 0.5 mm<sup>2</sup></b>					
A1392003	(3G0.5)	7.4	0.292	54	21
A1392004	(4G0.5)	7.8	0.307	60	25
A1392005	(5G0.5)	8.5	0.333	71	29
A1392007	(7G0.5)	9.7	0.382	94	43
A1392012	(12G0.5)	11.3	0.444	129	64
A1392018	(18G0.5)	13.1	0.516	176	93
A1392025	(25G0.5)	15.1	0.593	202	119
<b>AWG 18 / 1.0 mm<sup>2</sup></b>					
A1391803	(3G1.0)	8.2	0.323	71	32
A1391804	(4G1.0)	8.8	0.347	83	40
A1391805	(5G1.0)	9.6	0.378	103	54
A1391807	(7G1.0)	11	0.431	133	70
A1391812	(12G1.0)	13	0.512	189	110
A1391818	(18G1.0)	14.9	0.587	260	161
A1391825	(25G1.0)	17.6	0.691	318	224
A1391834	(34G1.0)	19.4	0.765	399	291
<b>AWG 16 / 1.5 mm<sup>2</sup></b>					
A1391603	(3G1.5)	8.8	0.346	88	44
A1391604	(4G1.5)	9.6	0.378	109	60
A1391605	(5G1.5)	10.4	0.411	128	72
A1391607	(7G1.5)	11.9	0.469	165	95
A1391612	(12G1.5)	14.1	0.556	239	151
A1391618	(18G1.5)	16.2	0.638	336	224
A1391625	(25G1.5)	19.4	0.764	431	312
<b>AWG 14 / 2.5 mm<sup>2</sup></b>					
A1391404	(4G2.5)	11	0.433	155	90
A1391405	(5G2.5)	11.9	0.469	179	109
A1391407	(7G2.5)	13.6	0.537	216	143
<b>AWG 12 / 4 mm<sup>2</sup></b>					
A1391204	(4G4)	12.6	0.496	214	135
A1391207	(7G4)	15.9	0.625	311	222

# LÜTZE SUPERFLEX® Plus N PUR, Unshielded

## High Flexing Control Cable with UL/CE Approvals



### Application

- Multi-conductor cable for robots, handling equipment, machine tools, C-tracks and applications with extremely rough operating conditions
- For the most demanding flexing applications such as C-tracks and linear flexing
- Compatible with all major brand C-tracks
- High performance linear flexing cable, compliant with **NFPA 79, 2012 Edition** Article 12.9 special cables and conductors

### Characteristics

- Superfine stranding per Class 6 for continuous moving applications
- Extremely small cable ODs due to special **TPE High Glide Insulation** compliant with UL
- Reduced friction
- PUR jacket
- Highest level of resistance against cooling fluids, greases and oils
- Abrasion and hydrolysis resistant, low water absorption
- Dry and wet conditions
- UV resistant
- Non-wicking fillers
- Talc and Silicone free

### Technical Data

Voltage	300/600V UL AWM
Temperature	Moving -25°C - +80°C Fixed -40°C - +80°C
Minimum Bending radius	Moving 7.5 x cable OD Fixed 4 x cable OD
Conductor marking	Black with white numbers and one green/yellow ground; *no ground included
Isolation resistance	Min 100 MΩ x km
Burning behavior	Flame retardant per DIN EN 50265-2-1 IEC 60332-1 UL VW-1 Flame test CSA FT 1
Halogen free	According to DIN EN 50267-2-1
Oil resistance	Oil Res II
Approvals	RoHS REACH

### Construction

- Metric conductor
- Bare copper wire super finely stranded per DIN VDE 0295 Class 6 and IEC 60228 Class 6
- Special TPE conductor insulation
- G: with GNYE ground conductor  
x: without ground conductor
- Optimized construction for flexing applications
- Conductors cabled with fleece wrap
- Extremely oil resistant PUR jacket
- Gray jacket RAL 7001

Specifications are subject to change without prior notice

Part No.	Description No. of conductors incl. ground	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
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### 300V UL AWM Style 20233

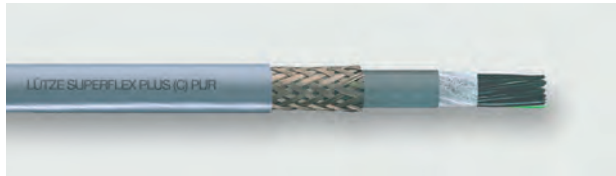
AWG 20 / 0.5 mm <sup>2</sup>					
113431	2x0.5	4.8	0.189	19	7
113441	3G0.5	4.9	0.193	24	10
113442	4G0.5	5.4	0.213	28	13
113443	5G0.5	5.8	0.228	32	16
113444	7G0.5	6.6	0.260	43	23
113446	12G0.5	8.0	0.315	65	40
113438	18G0.5	9.3	0.366	91	59
113447	25G0.5	11.0	0.433	122	82

### 600V UL AWM Style 20234

AWG 18 / 1.0 mm <sup>2</sup>					
113570	2x1.0	7.0	0.276	40	13
113571	3G1.0	7.4	0.291	48	20
113572	4G1.0	7.9	0.311	57	27
113573	5G1.0	8.5	0.335	68	34
113574	7G1.0	9.9	0.390	89	46
113575	12G1.0	11.9	0.469	135	80
113576	18G1.0	13.6	0.535	189	120
113577	25G1.0	16.3	0.642	255	167
AWG 16 / 1.5 mm <sup>2</sup>					
113485	2x1.5	7.2	0.283	52	19
113406	3G1.5	8.0	0.315	62	30
113412	4G1.5	8.7	0.343	76	40
113407	5G1.5	9.5	0.374	89	50
113408	7G1.5	11.1	0.437	118	69
113409	12G1.5	13.2	0.520	180	118
113410	18G1.5	15.0	0.591	255	178
113411	25G1.5	18.4	0.724	346	247
AWG 14 / 2.5 mm <sup>2</sup>					
113483	3G2.5	9.2	0.362	89	49
113415	4G2.5	9.9	0.390	109	66
113416	5G2.5	10.9	0.429	130	82
113417	7G2.5	12.6	0.496	174	114
113426	12G2.5	15.1	0.594	271	192
113479	18G2.5	17.6	0.693	388	294

# LÜTZE SUPERFLEX® Plus N (C) PUR, Shielded

## High Flexing Control Cable with UL/CE Approvals



### Application

- Multi-conductor cable for robots, handling equipment, machine tools, C-tracks and applications with extremely rough operating conditions
- For the most demanding flexing applications such as C-tracks and linear flexing
- Compatible with all major brand C-tracks
- High performance linear flexing cable, compliant with **NFPA 79, 2012 Edition** Article 12.9 special cables and conductors

### Characteristics

- Superfine stranding per Class 6 for continuous moving applications
- Extremely small cable ODs due to special **TPE High Glide Insulation** compliant with UL
- Reduced friction
- Highest level of resistance against cooling fluids, greases and oils
- Abrasion and hydrolysis resistant, low water absorption
- Dry and wet conditions
- UV resistant
- Non-wicking fillers
- Talc and Silicone free

### Technical Data

Voltage	300/600V UL AWM
Temperature	Moving -25°C - +80°C
	Fixed -40°C - +80°C
Minimum bending radius	Moving 10 x cable OD
	Fixed 6 x cable OD
Conductor marking	Black with white numbers and one green/yellow ground
Isolation resistance	Min 100 MΩ x km
Burning behavior	Flame retardant per
	VDE 0482 part 265-2
	DIN EN 50265-2-1
	IEC 60332-1, UL VW-1
Halogen free	Flame test, CSA FT1
	According to
Oil resistance	DIN EN 50267-2-1
	Oil Res II
Approvals	RoHS
	REACH

### Construction

- Metric conductor
- Bare copper wire super finely stranded per DIN VDE 0295 Class 6 and IEC 60228 Class 6
- Special TPE conductor insulation
- G: with GNYE ground conductor
- x: without ground conductor
- Optimized construction for flexing applications
- Conductors cabled with fleece wrap
- TPE subjacket for long flex life
- Tinned copper braid shield
- Extremely oil resistant PUR jacket
- Gray jacket RAL 7001

Specifications are subject to change without prior notice

Part No.	Description No. of conductors incl. ground	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
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### 300V UL AWM Style 20233

#### AWG 20 / 0.5 mm<sup>2</sup>

113300	(3G0.5)	6.6	0.260	38	18
113347	(4G0.5)	7.0	0.276	43	22
113301	(5G0.5)	7.5	0.295	49	26
113302	(7G0.5)	8.3	0.327	61	34
113303	(12G0.5)	9.7	0.382	86	53
113304	(18G0.5)	11.0	0.433	120	80
113305	(25G0.5)	12.0	0.472	157	107

### 600V UL AWM Style 20234

#### AWG 18 / 1.0 mm<sup>2</sup>

113360	(3G1.0)	8.7	0.382	69	32
113361	(4G1.0)	9.3	0.366	80	39
113362	(5G1.0)	9.9	0.390	92	47
113363	(7G1.0)	11.4	0.449	123	68
113364	(12G1.0)	13.3	0.524	175	106
113365	(18G1.0)	15.1	0.594	235	151
113366	(25G1.0)	17.9	0.705	329	223

#### AWG 16 / 1.5 mm<sup>2</sup>

113318	(3G1.5)	9.7	0.382	84	42
113331	(4G1.5)	10.5	0.413	99	58
113319	(5G1.5)	11.3	0.445	120	70
113320	(7G1.5)	12.9	0.508	153	93
113321	(12G1.5)	15.1	0.594	222	147
113322	(18G1.5)	17.2	0.677	308	217
113323	(25G1.5)	19.7	0.776	425	310

#### AWG 14 / 2.5 mm<sup>2</sup>

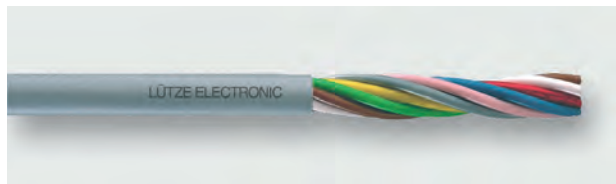
113341	(3G2.5)	10.6	0.417	113	64
113332	(4G2.5)	11.9	0.469	142	86
113339	(5G2.5)	12.6	0.496	165	105
113340	(7G2.5)	14.8	0.583	214	142
113344	(12G2.5)	16.7	0.657	325	236
113342	(18G2.5)	19.4	0.764	466	356

## 2 Electronic Cable



# Lutze Electronic PLTC PVC, Unshielded

## Flexible Electronic Cable with UL/CE/PLTC Approvals



### Application

- Industrial grade PLTC electronic cable for machine tools, process instrumentation and controls, computer peripherals, HVAC technology, assembly and production lines, low voltage interconnect and other industrial applications including installation in cable trays

### Characteristics

- Flexible for easy installation
- Easy strip design
- Color coded conductors
- Specially formulated jacket for oil resistance
- Premium durability
- Extended temperature range
- UL listed and NFPA 79 compliant
- Talc and Silicone free

### Technical Data

Voltage	300V
Temperature	-25°C - +105°C
Minimum bending radius	4 x cable OD
Conductor marking	See tables
Burning behavior	Flame retardant per UL VW-1, CSA FT4
Oil resistance	Oil Res II
Approvals	UL Type PLTC CMG AWM Style 2464 AWM II A/B CE Meets NEC 725, 760, 800 Class I Div. 2 (PLTC use only) RoHS REACH

### Construction

- AWG conductor
- Flexible fine wire stranded tinned copper conductors
- PVC insulation
- Oil resistant premium PVC jacket
- Gray jacket similar RAL 7001

Part No.	Description No. of conductors	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>AWG 22 (19/34)</b>					
A3032202	AWG22/02C	4.4	0.172	20	4
A3032203	AWG22/03C	4.6	0.180	24	7
A3032204	AWG22/04C	4.9	0.193	28	9
A3032206	AWG22/06C	5.6	0.222	38	14
A3032208	AWG22/08C	6.0	0.238	45	19
A3032210	AWG22/10C	7.2	0.282	55	24
A3032215	AWG22/15C	7.9	0.310	75	35
A3032220	AWG22/20C	8.7	0.341	93	47
A3032225	AWG22/25C	10.4	0.408	124	59
<b>AWG 20 (19/32)</b>					
A3032002	AWG20/02C	4.9	0.195	27	7
A3032003	AWG20/03C	5.2	0.204	35	11
A3032004	AWG20/04C	5.6	0.220	41	15
A3032006	AWG20/06C	6.5	0.254	58	22
A3032008	AWG20/08C	7.2	0.282	76	30
A3032010	AWG20/10C	8.2	0.323	94	37
A3032015	AWG20/15C	11.3	0.446	136	56
A3032020	AWG20/20C	12.7	0.500	182	75
A3032025	AWG20/25C	14.0	0.551	222	94

### Color Code Table AWG 22

1-	Black		
2-	Brown		
3-	Red		
4-	Orange		
5-	Yellow		
6-	Green		
7-	Blue		
8-	Purple		
9-	Gray		
10-	White		
11-	White	Black	
12-	White	Brown	
13-	White	Red	
14-	White	Orange	
15-	White	Yellow	
16-	White	Green	
17-	White	Blue	
18-	White	Purple	
19-	White	Gray	
20-	White	Black	Brown
21-	White	Black	Red
22-	White	Black	Orange
23-	White	Black	Yellow
24-	White	Black	Green
25-	White	Black	Blue

### Color Code Table AWG 20

1-	Black		
2-	Red		
3-	White		
4-	Green		
5-	Orange		
6-	Blue		
7-	Brown		
8-	Yellow		
9-	Purple		
10-	Gray		
11-	Pink		
12-	Tan		
13-	Red	Green	
14-	Red	Yellow	
15-	Red	Black	
16-	White	Black	
17-	White	Red	
18-	White	Green	
19-	White	Yellow	
20-	White	Blue	
21-	White	Brown	
22-	White	Orange	
23-	White	Gray	
24-	White	Purple	
25-	White	Black	Red

# Lutze Electronic (C) PLTC PVC, Shielded

## Flexible Electronic Cable with UL/CE/PLTC Approvals



### Application

- **Double shielded industrial grade PLTC** electronic cable for machine tools, process instrumentation and controls, computer peripherals, HVAC technology, assembly and production lines, low voltage interconnect and other industrial applications including **installation in cable trays**

### Characteristics

- Flexible for easy installation
- Easy strip design
- Color coded conductors
- Specially formulated jacket for oil resistance
- Premium durability
- Extended temperature range
- **UL listed** and **NFPA 79** compliant
- Talc and Silicone free

### Technical Data

Voltage	300V
Temperature	-25°C - +105°C
Minimum bending radius	6 x cable OD
Conductor marking	See tables
Burning behavior	Flame retardant per UL VW-1, CSA FT4
Oil resistance	Oil Res II
Approvals	UL Type PLTC CMG AWM Style 2464 AWM II A/B CE Meets NEC 725, 760, 800 Class I Div. 2 (PLTC use only) RoHS REACH

### Construction

- AWG conductor
- Flexible fine wire stranded tinned copper conductors
- Shielded with foil tape, tinned copper braid and full size drain wire
- PVC insulation
- Oil resistant premium PVC jacket
- Gray jacket similar RAL 7001

Part No.	Description No. of conductors	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>AWG 22 (19/34)</b>					
A3132202	AWG22/02C	5.2	0.205	28	11
A3132203	AWG22/03C	5.4	0.213	33	15
A3132204	AWG22/04C	5.7	0.224	37	18
A3132206	AWG22/06C	6.5	0.256	48	24
A3132208	AWG22/08C	6.6	0.260	57	30
A3132210	AWG22/10C	8.0	0.315	68	36
A3132215	AWG22/15C	8.9	0.350	91	50
A3132220	AWG22/20C	9.7	0.382	120	62
A3132225	AWG22/25C	11.2	0.441	148	77
<b>AWG 20 (19/32)</b>					
A3132002	AWG20/02C	5.3	0.210	40	17
A3132003	AWG20/03C	5.6	0.221	49	22
A3132004	AWG20/04C	6.0	0.238	56	27
A3132006	AWG20/06C	7.3	0.289	80	37
A3132008	AWG20/08C	8.4	0.331	94	46
A3132010	AWG20/10C	9.6	0.379	115	55
A3132015	AWG20/15C	11.3	0.446	174	76
A3132020	AWG20/20C	12.7	0.500	209	97
A3132025	AWG20/25C	14.0	0.551	254	118

### Color Code Table AWG 22

1-	Black
2-	Brown
3-	Red
4-	Orange
5-	Yellow
6-	Green
7-	Blue
8-	Purple
9-	Gray
10-	White
11-	White Black
12-	White Brown
13-	White Red
14-	White Orange
15-	White Yellow
16-	White Green
17-	White Blue
18-	White Purple
19-	White Gray
20-	White Black Brown
21-	White Black Red
22-	White Black Orange
23-	White Black Yellow
24-	White Black Green
25-	White Black Blue

### Color Code Table AWG 20

1-	Black
2-	Red
3-	White
4-	Green
5-	Orange
6-	Blue
7-	Brown
8-	Yellow
9-	Purple
10	Gray
11-	Pink
12-	Tan
13-	Red Green
14-	Red Yellow
15-	Red Black
16-	White Black
17-	White Red
18-	White Green
19-	White Yellow
20-	White Blue
21-	White Brown
22-	White Orange
23-	White Gray
24-	White Purple
25-	White Black Red

Specifications are subject to change without prior notice

# Lutze Electronic (C) PLTC PVC TP, Shielded

## Flexible Electronic Cable with Twisted Pairs and UL/CE/PLTC Approvals



### Application

- Double shielded industrial grade PLTC electronic cable for machine tools, process instrumentation and controls, computer peripherals, HVAC technology, assembly and production lines, low voltage interconnect and other industrial applications including installation in cable trays

### Characteristics

- Flexible for easy installation
- Easy strip design
- Color coded conductors
- Conductors twisted in pairs
- Specially formulated jacket for oil resistance
- Premium durability
- Extended temperature range
- **UL listed** and **NFPA 79** compliant
- Talc and Silicone free

### Technical Data

Voltage	300V
Temperature	-25°C - +105°C
Minimum bending radius	6 x cable OD
Conductor marking	See table
Burning behavior	Flame retardant per UL VW-1, CSA FT4
Oil resistance	Oil Res II
Approvals	UL Type PLTC CMG AWM Style 2464 AWM II A/B CE Meets NEC 725, 760, 800 Class I Div. 2 (PLTC use only) RoHS REACH

Part No.	Description No. of pairs	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>AWG 22 (19/34)</b>					
A3142202	AWG22/01TP	5.2	0.203	32	12
A3142204	AWG22/02TP	6.5	0.257	46	21
A3142206	AWG22/03TP	7.4	0.290	60	26
A3142208	AWG22/04TP	7.6	0.301	68	31
A3142210	AWG22/05TP	8.5	0.335	76	37
A3142212	AWG22/06TP	8.9	0.349	84	43
A3142216	AWG22/08TP	9.6	0.376	102	54
<b>AWG 20 (19/32)</b>					
A3142002	AWG20/01TP	6.1	0.242	44	18
A3142004	AWG20/02TP	8.1	0.320	64	30
A3142006	AWG20/03TP	9.1	0.358	84	38
A3142008	AWG20/04TP	9.6	0.376	96	47
A3142010	AWG20/05TP	10.6	0.419	113	55
A3142012	AWG20/06TP	11.8	0.463	144	66
A3142016	AWG20/08TP	12.6	0.498	172	84

### Color Code Table AWG 22 Pair#

1-	White	Black
2-	White	Brown
3-	White	Red
4-	White	Orange
5-	White	Yellow
6-	White	Green
7-	White	Blue
8-	White	Purple

### Color Code Table AWG 20 Pair#

1-	Black	Red
2-	Black	White
3-	Black	Green
4-	Black	Blue
5-	Black	Brown
6-	Black	Yellow
7-	Black	Orange
8-	Red	Green

### Construction

- AWG conductor
- Flexible fine wire stranded tinned copper conductors
- Shielded with foil tape, tinned copper braid and full size drain wire
- PVC insulation
- Oil resistant premium PVC jacket
- Gray jacket similar RAL 7001

# LÜTZE SUPERFLEX® Tronic PUR, Unshielded

## High Flexing Electronic Cable with UL/CE Approvals



### Application

- Multi-conductor cable for robots, handling equipment, machine tools, C-tracks and applications with extremely rough operating conditions
- For the most demanding flexing applications such as C-tracks and linear flexing
- Compatible with all major brand C-tracks

### Characteristics

- Superfine stranding per Class 6 for continuous moving applications
- PUR jacket and TPE conductor insulation for use in extremely harsh operating conditions
- Highest level of resistance against cooling fluids, greases and oils
- Abrasion and hydrolysis resistant, low water absorption
- Dry and wet conditions
- UV resistant
- Talc and Silicone free

### Technical Data

Voltage	300V UL AWM
Temperature	Moving -25°C - +80°C Fixed -40°C - +80°C
Minimum bending radius	Moving 10 x cable OD Fixed 6 x cable OD
Conductor marking	Color coded per DIN EN 50334 or DIN 47100
Isolation resistance	Min 20MΩ x km
Burning behavior	Flame retardant per VDE 0482 part 265-2 DIN EN 50265-2 IEC 60332-1, UL 1581 section VW-1 Flame test CSA FT1
Halogen free	According to DIN EN 50267-2-1
Oil resistance	Oil Res II
Approvals	RoHS REACH

### Construction

- Metric conductor
- Bare copper super finely stranded per DIN VDE 0295 Class 6 or IEC 60228 Class 6
- TPE conductor insulation
- G: with GNYE ground conductor  
x: without ground conductor
- Layer pitch optimized
- Fleece wrap over cabled conductors
- PUR jacket, matte, adhesion-free surface
- Extremely oil resistant PUR jacket
- Gray jacket RAL 7001

Part No.	Description No. of conductors	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>AWG 24 / 0.25 mm<sup>2</sup></b>					
117039	2x0.25	3.8	0.150	12	3
117040	3x0.25	4.0	0.157	14	5
117041	4x0.25	4.3	0.170	17	7
117042	5x0.25	4.7	0.185	19	8
117043	7x0.25	5.4	0.213	25	11
117044	10x0.25	6.2	0.244	33	16
117028	15x0.25	7.0	0.276	46	24
117046	18x0.25	7.5	0.295	53	29
117047	25x0.25	8.8	0.346	71	40
<b>AWG 22 / 0.34 mm<sup>2</sup></b>					
117048	2x0.34	4.0	0.157	13	6
117049	3x0.34	4.2	0.165	16	7
117050	4x0.34	4.5	0.177	19	9
117051	5x0.34	4.9	0.193	23	11
117052	7x0.34	5.7	0.224	30	15
117053	10x0.34	6.6	0.260	40	20
117029	15x0.34	7.5	0.295	56	30
117055	18x0.34	7.9	0.311	64	38
117056	25x0.34	9.3	0.366	86	52

Specifications are subject to change without prior notice



# LÜTZE SUPERFLEX® Tronic (C) PUR, Shielded

## High Flexing Electronic Cable with UL/CE Approvals



### Application

- Multi-conductor cable for robots, handling equipment, machine tools, C-tracks and applications with extremely rough operating conditions
- For the most demanding flexing applications such as C-tracks and linear flexing
- Compatible with all major brand C-tracks

### Characteristics

- Super finely stranded per Class 6 for continuous moving applications
- PUR jacket and TPE conductor insulation for use in extremely harsh operating conditions
- Highest level of resistance against cooling fluids, greases and oils
- Abrasion and hydrolysis resistant, low water absorption
- Dry, wet and damp conditions
- UV resistant
- Talc and Silicone free

### Technical Data

Voltage	300V UL AWM
Temperature	Moving -25°C - +80°C
	Fixed -40°C - +80°C
Minimum bending radius	Moving 12 x cable OD
	Fixed 6 x cable OD
Conductor marking	Color coded per DIN EN 50334 or DIN 47100
Isolation resistance	Min. 20MΩ x km
Burning behavior	Flame retardant per VDE 0482 part 265-2 CSA FT1, Flame Test, UL 1581 section VW-1 IEC 60332-1
Halogen free	According to DIN EN 50267-2-1
Oil resistance	Oil Res II
Approvals	RoHS REACH

### Construction

- Metric conductor
- Bare copper super finely stranded per DIN VDE 0295 Class 6 and IEC 60228 Class 6
- Special TPE conductor insulation
- G: with GNYE ground conductor  
x: without ground conductor
- Layer pitch optimized
- Fleece wrap over cabled conductors
- Tinned copper braid shield, optical coverage ≥ 85 %
- PUR jacket, matte, adhesion-free surface
- Extremely oil resistant PUR jacket
- Gray jacket RAL 7001

Part No.	Description No. of conductors	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>AWG 24 / 0.25 mm<sup>2</sup></b>					
117099	(2x0.25)	4.3	0.169	18	9
117100	(3x0.25)	4.5	0.177	20	11
117101	(4x0.25)	4.9	0.193	24	13
117102	(5x0.25)	5.1	0.201	27	15
117103	(7x0.25)	5.9	0.232	34	21
117104	(10x0.25)	6.7	0.264	43	28
117123	(15x0.25)	7.5	0.295	58	40
117106	(18x0.25)	8.2	0.323	65	43
117107	(25x0.25)	9.4	0.370	85	57
<b>AWG 22 / 0.34 mm<sup>2</sup></b>					
117108	(2x0.34)	4.5	0.177	20	10
117109	(3x0.34)	4.7	0.185	23	13
117110	(4x0.34)	5.1	0.201	27	16
117111	(5x0.34)	5.4	0.213	31	19
117112	(7x0.34)	6.2	0.244	39	25
117113	(10x0.34)	7.0	0.276	50	34
117124	(15x0.34)	7.3	0.287	68	50
117115	(18x0.34)	8.5	0.335	77	54
117116	(25x0.34)	9.6	0.378	107	77

# LÜTZE SUPERFLEX® Tronic (C) PUR TP, Shielded

## High Flexing Electronic Cable with UL/CE Approvals



### Application

- Multi-conductor cable for robots, handling equipment, machine tools, C-tracks and applications with extremely rough operating conditions
- For the most demanding flexing applications such as C-tracks and linear flexing
- Compatible with all major brand C-tracks

### Characteristics

- Super finely stranded per Class 6 for continuous moving applications
- PUR jacket and TPE conductor insulation for use in extremely harsh operating conditions
- Highest level of resistance against cooling fluids, greases and oils
- Abrasion and hydrolysis resistant, low water absorption
- Dry, wet and damp conditions
- UV resistant
- Non-wicking fillers
- Talc and Silicone free

### Technical Data

Voltage	300V UL AWM
Temperature	Moving -25°C - +80°C Fixed -40°C - +80°C
Minimum bending radius	Moving 12 x cable OD Fixed 6 x cable OD
Conductor marking	Color coded per DIN EN 50334 or DIN 47100 for twisted pairs
Isolation resistance	Min 20MΩ x km
Burning behavior	Flame retardant per VDE 0482 part 265-2 DIN EN 50265-2 UL VW-1, CSA FT1 Flame test IEC 60332-1
Halogen free	According to DIN EN 50267-2-1
Oil resistance	Oil Res II
Approvals	RoHS REACH

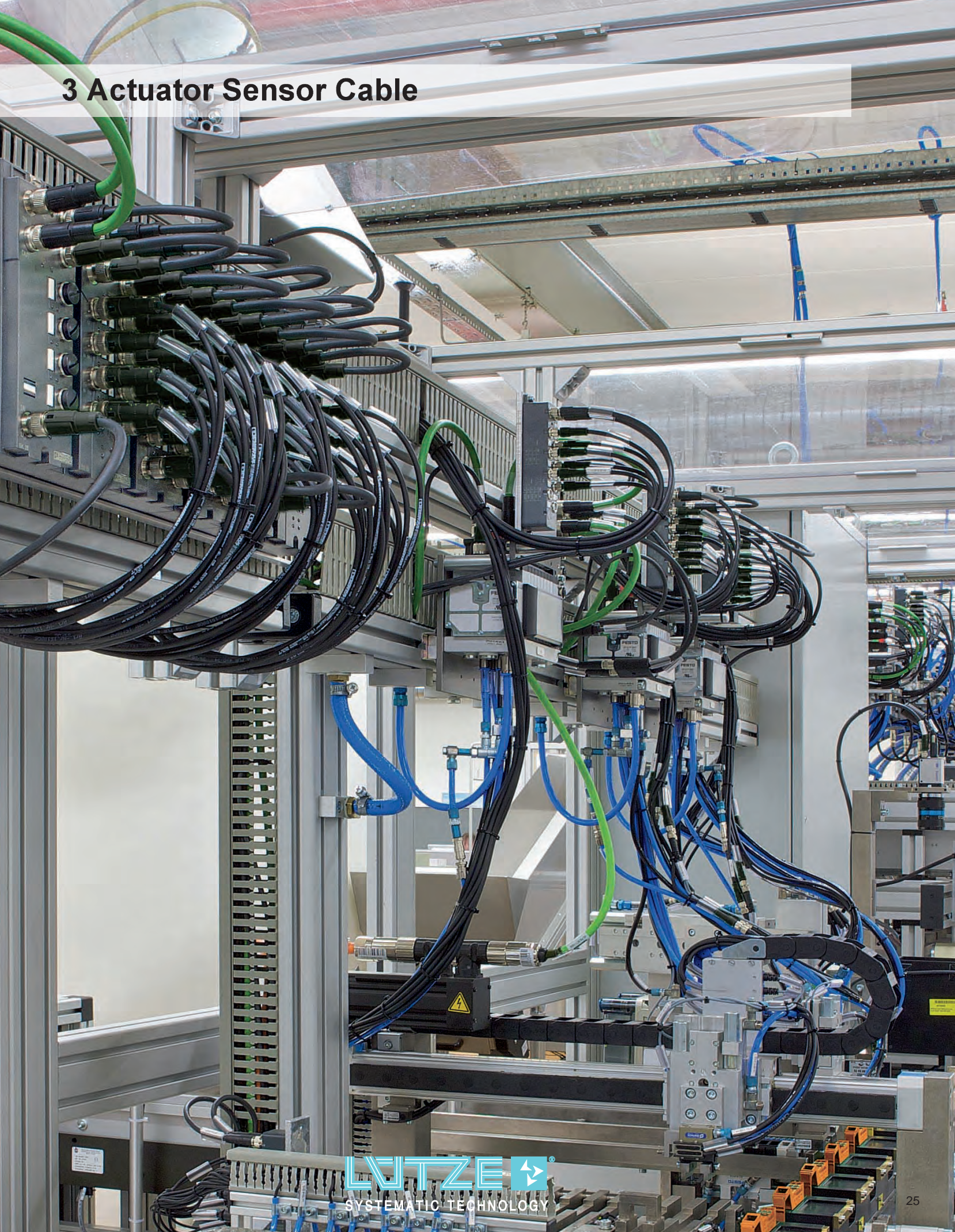
### Construction

- Metric conductor
- Bare copper super finely stranded per DIN VDE 0295 Class 6 and IEC 60228 Class 6
- Special TPE conductor insulation
- G: with GNYE ground conductor  
x: without ground conductor
- Layer pitch optimized
- Fleece wrap over cabled conductors
- Tinned copper braid shield, optical coverage ≥ 85 %
- PUR jacket, matte, adhesion-free surface
- Extremely oil resistant PUR jacket
- Gray jacket RAL 7001

Part No.	Description No. of conductors	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>AWG 24 / 0.25 mm<sup>2</sup></b>					
117170	(2x2x0.25)	6.3	0.248	55	15
117171	(3x2x0.25)	6.6	0.260	61	19
117172	(4x2x0.25)	7.1	0.280	69	23
117173	(5x2x0.25)	7.5	0.295	79	27
117177	(6x2x0.25)	8.1	0.319	88	32
117174	(8x2x0.25)	9.4	0.370	108	40
117175	(10x2x0.25)	10.5	0.413	128	53
117176	(12x2x0.25)	10.8	0.425	139	61

Specifications are subject to change without prior notice

# 3 Actuator Sensor Cable



# LÜTZE SUPERFLEX® TRONIC AS PUR

## High Flexing Actuator Sensor Cable with UL Approval



### Application

- Termination cable for actor-sensor applications
- For continuous flexing use in c-tracks or free movement in the automation technology, transport and conveyor technology, machine tool manufacturing
- Full PUR jacket and TPE conductor insulation optimally suited for extremely harsh operating conditions, aggressive coolants and lubricants

### Characteristics

- Very good alternating bending strength
- Good pressure and flexing stability
- Low adhesion, abrasion-resistant, nick-resistant, tear-resistant
- Hydrolysis-resistant, microbe-resistant, and rot-resistant
- Weathering, ozone and UV resistant
- Salt water resistant
- Excellent coolant and lubricant resistance
- Largely resistant to oils, greases, alcohol-free benzines and kerosene
- Talc and Silicone free

### Technical Data

UL approval	AWM 20549
Voltage	300 V 80 °C
Test voltage	3000 V
Insulation resistance	Min. 100 MΩ x km
Temperature range	Moving -20 °C - +80 °C Fixed -40 °C - +80 °C
Minimum bending radius	Moving 8 x cable OD Fixed 4 x cable OD
Burning behavior	Flame retardant according to VDE 0482 part 265-2 DIN EN 50265-2 IEC 60332-1 UL 1581 VW-1 Flame test CSA FT1
Halogen free	According to DIN EN 50267-2-1
Approvals	RoHS REACH

### Construction

- Metric conductor
- Bare copper wire super finely stranded per DIN VDE 0295 class 6 and IEC 60228 class 6
- Special TPE conductor insulation
- G: with GNYE ground conductor  
x: without ground conductor
- Conductors color coded per EN 60947-5-2
- Layer pitch optimized
- Fleece wrap over cabled conductors
- PUR jacket, matte, adhesion-free surface
- Black jacket RAL 9005

Part No.	Description No. of conductors	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>AWG24 / 0.25 mm<sup>2</sup></b>					
<b>117240</b>	3x0.25 BN, BU, BK	4.0	0.157	13	5
<b>117241</b>	4x0.25 BN, WH, BU, BK	4.3	0.169	15	7
<b>117242</b>	8x0.25 WH, BN, GN, YE, GY, PK, BU, RD	5.9	0.232	28	14
<b>AWG22 / 0.34 mm<sup>2</sup></b>					
<b>117243</b>	3x0.34 BN, BU, BK	4.2	0.165	15	7
<b>117244</b>	4x0.34 BN, WH, BU, BK	4.5	0.177	18	9
<b>117245</b>	5x0.34 BN, WH, BU, BK, GY	4.9	0.193	22	11
<b>117246</b>	5x0.34 BN, WH, BU, BK, GN-YE	4.9	0.193	22	11

### With Power Supply Conductors

<b>110872</b>	3G1.0+8x0.34 1.0: BN, BU, GNYE 0.34: WH, BK, GN, YE, GY, PK, VT, RD	8.2	0.323	67	37
<b>110874</b>	3G1.0+16x0.34 1.0: BN, BU, GNYE 0.34: WH, GN, YE, GY, PK, RD, BK, VT, GYPK, RDBU, WHGN, BNGN, WHYE, YEEN, WHGY, GYBN	9.7	0.382	91	54

# LÜTZE SUPERFLEX® TRONIC AS (C) PUR

## High Flexing Actuator Sensor Cable with UL Approval



### Application

- Termination cable for actor-sensor applications
- For continuous flexing use in c-tracks or free movement in the automation technology, transport and conveyor technology, machine tool manufacturing
- Full PUR jacket and TPE conductor insulation optimally suited for extremely harsh operating conditions, aggressive coolants and lubricants

### Characteristics

- High active and passive interference resistance (EMC)
- Very good alternating bending strength
- Good pressure and flexing stability
- Low adhesion, abrasion-resistant, nick-resistant, tear-resistant
- Hydrolysis-resistant, microbe-resistant, and rot-resistant
- Weathering, ozone and UV resistant
- Salt water resistant
- Excellent coolant and lubricant resistance
- Largely resistant to oils, greases, alcohol-free benzines and kerosene
- Talc and Silicone free

### Technical Data

UL approval	AWM 20549
Voltage	300 V 80 °C
Test voltage	3000 V
Insulation resistance	Min. 100 MΩ x km
Temperature range	Moving -20 °C - +80 °C
	Fixed -40 °C - +80 °C
Minimum bending radius	Moving 12 x cable OD
	Fixed 6 x cable OD
Burning behavior	Flame retardant per
	VDE 0482 part 265-2
	DIN EN 50265-2
	IEC 60332-1
Halogen free	UL 1581 VW-1 Flame test
	CSA FT1
Approvals	According to
	DIN EN 50267-2-1
	RoHS
	REACH

### Construction

- Metric conductor
- Bare copper wire finely stranded per DIN VDE 0295 class 6 and IEC 60228 class 6
- Special TPE conductor insulation
- G: with GNYE ground conductor
- x: without ground conductor
- Conductors color coded per EN 60947-5-2
- Layer pitch optimized
- Fleece wrap over cabled conductors
- Tinned copper braid shield, optical coverage ≥ 85 %
- PUR jacket, matte, adhesion-free surface
- Black jacket RAL 9005

Part No.	Description No. of conductors	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>AWG24 / 0.25 mm<sup>2</sup></b>					
117250	(3x0.25) BN, BU, BK	4.6	0.181	19	11
117251	(4x0.25) BN, WH, BU, BK	4.9	0.193	22	13
117252	(8x0.25) WH, BN, GN, YE, GY, PK, BU, RD	6.3	0.248	37	24
<b>AWG22 / 0.34 mm<sup>2</sup></b>					
117253	(3x0.34) BN, BU, BK	4.8	0.189	22	13
117254	4x0.34 BN, WH, BU, BK	5.1	0.201	26	16
117255	(5x0.34) BN, WH, BU, BK, GY	5.5	0.217	30	19

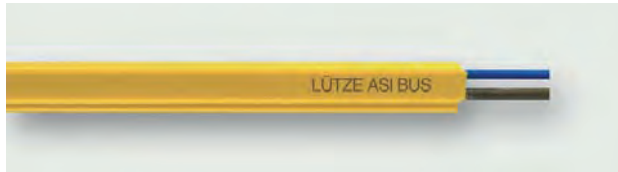
Specifications are subject to change without prior notice

# 4 BUS and Network Cable



# Lutze Electronic BUS TPE

## Flexible ASI BUS Cable



### Application

- System cables for connection of actuator interface components
- Applications in the automation technology, in tool and machine construction, plants and device construction, transport and conveyor technology

Part No.	Description No. of conductors	Weight Lbs/Mft	Copper Lbs/Mft	Jacket
<b>AWG16 / 1.5 mm<sup>2</sup></b>				
<b>104216</b>	2x1.5	46	19	Yellow
<b>104217</b>	2x1.5	46	19	Black

### Characteristics

- Inverse-polarity-proof flat cable
- Fast contacting through penetration technology
- In the TPE design especially suitable in areas in with oils, greases and coolants and lubricants
- Talc and Silicone free

### Technical data

Rated voltage	300 V
Test voltage	2000 V
Temperature range	Moving -5 °C - +70 °C Fixed -30 °C - +70 °C
Loop resistance	27.4 mΩ/m
Approvals	RoHS REACH

### Construction

- Metric conductor
- Bare copper wire 1.5 mm<sup>2</sup>
- Wire according to VDE 0295 class 5
- Conductor insulation color coded; brown and blue
- G: with GNYE ground conductor  
x: without ground conductor
- Molded outer jacket
- Jacket color black: for auxiliary power 30 V<sub>DC</sub>
- Jacket color yellow: for data and energy transmission

# Lutze Electronic Profibus (C) PVC, Shielded

## Flexible Profibus Cable with UL Approval



### Application

- For the cabling of industrial field bus systems like PROFIBUS DP, F.I.P.
- With solid conductor AWG22/1 for hard wiring or with stranded conductor for flexible use and stationary application
- Automation technology, transport and conveyor technology, machine tool manufacturing

### Characteristics

- High active and passive interference resistance (EMC)
- Talc and Silicone free

### Technical data

Impedance	150 Ω ± 15 Ω
Loop resistance	Solid 22/1 <110 Ω/km Flexible 24/7 <175.2 Ω/km
Operating capacitance	Nominal 30 pF/m
Rated voltage	300 V (max. value)
Test voltage	1.500 V, 50 Hz
Temperature range	Moving -10 °C - +70 °C Fixed -40 °C - +80 °C
Minimum bending radius	Moving 15 x cable OD Fixed 7.5 x cable OD
Burning behavior	Flame retardant per CMX: FT1 UL 1581, IEC 60332-1 CMG: FT4 UL 1685, IEC 60332-3-24
Approvals	cULus RoHS REACH

### Construction

- AWG conductor
- Bare copper wire
- Conductor insulation special polyolefin
- Stranding with filler
- ST static foil shield
- Tinned copper braid shield, optical coverage ≥ 70 %
- Special thermoplastic on PVC basis
- Violet jacket RAL 4001

Part No.	Description No. of conductors	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
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### Profibus, Solid UL/CMX

104378	(1x2xAWG22/1) RD, GN	8.0	0.315	40	20
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### Profibus, Flexible UL/CMG

104344	(1x2xAWG24/7) RD, GN	8.0	0.315	44	17
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### Profibus, Fast Connect UL/CMG

104293	(1x2xAWG22/1) RD, GN	7.8	0.307	50	20
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# LÜTZE SUPERFLEX® Profibus (C) PUR, Shielded

## High Flexing Profibus Cable with UL Approval



### Application

- For the cabling of industrial field bus systems like Profibus DP, SINEC L2, F.I.P.
- For continuous flexing applications in c-tracks or free movement in automation technology, transport and conveyor technology machine tool manufacturing

### Characteristics

- High active and passive interference resistance (EMC)
- Talc and Silicone free

### Technical data

Impedance	150 Ω ± 15 Ω
Loop resistance	<133 Ω/km
Operating capacitance	<30 pF/m
Rated voltage	300 V (max. value)
Test voltage	1.500 V, 50 Hz
Temperature range	Moving -30 °C - +70 °C Fixed -40 °C - +75 °C
Minimum bending radius	Moving 7.5 x cable OD Fixed 5 x cable OD Moving Fast Connect 15 x cable OD Fixed Fast Connect 7.5 x cable OD
Burning behavior	Flame retardant per CSA FT1, UL 1581 VW-1 Flame test IEC 60332-1
Approvals	cULus CMX RoHS REACH

### Construction

- AWG conductor
- Bare copper wire
- Special polyolefin conductor insulation
- Inner jacket versions with fast assembly FC
- ST static foil shield
- Tinned copper wire braid, optical coverage ≥ 85 %, at FC 70 %
- Special PUR
- Violet jacket RAL 4001

Part No.	Description No. of conductors	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
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### Profibus, UL/CMX

104265	(1x2xAWG24/19) RD, GN	8.0	0.315	37	16
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### Profibus, Fast Connect UL/CMX

104287	(1x2xAWG24/19) RD, GN	8.0	0.315	54	20
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### Profibus, ET200 UL/CMX

104275	((1x2xAWG24/19)ST+3x0.75)C RD/GN, BU, BK, GNYE	9.8	0.386	97	44
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# Lutze Electronic CAN-BUS (C) PVC, Shielded

## Flexible CAN-BUS Cable with UL Approval



### Application

- For wiring of industrial field bus systems
- For fix installation or flexible and stationary application
- Automation technology, transport and conveyor technology, machine tool manufacturing

### Characteristics

- High active and passive interference resistance (EMC)
- Talc and Silicone free

### Technical data

Rated voltage	300V
Test voltage	1.500V
Impedance	nom. 120Ω
Loop resistance	AWG24/7 < 175.2 Ω/km AWG22/7 < 110.8 Ω/km
Operating capacitance	< 60 pF/m
Temperature range	Moving -10 °C - +70 °C Fixed -40 °C - +80 °C
Minimum bending radius	Moving 15 x cable OD Fixed 7.5 x cable OD
Burning behavior	Flame retardant per VDE 0482 part 265-2 IEC 60332-1
Approvals	cULus CMG RoHS REACH

### Construction

- AWG conductor
- Bare copper wire
- Conductor insulation special polyolefin
- Conductors twisted pairs, cabled, foil banded
- Tinned copper braid shield, optical coverage ≥ 85 %
- Jacket special PVC TM2 according to HD21.1, matte, adhesion-free surface
- Violet jacket RAL 4001

Part No.	Description No. of conductors	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
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### CAN-BUS UL/CMG, CL3, 40 m / 131 ft max.

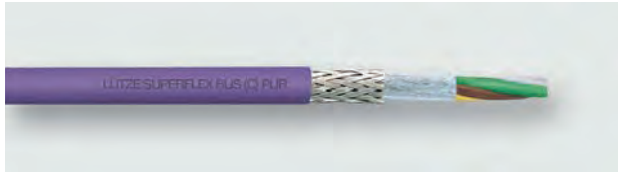
104386	(1x2xAWG24/7) WH/BN	5.7	0.224	29	13
104387	(2x2xAWG24/7) WH/BN, GN/YE	7.5	0.295	46	24

### CAN-BUS UL/CMG, PLTC, 200 m / 656 ft max.

104388	(1x2xAWG22/7) WH/BN	6.8	0.268	39	18
104389	(2x2xAWG22/7) WH/BN, GN/YE	8.5	0.335	58	31

# LÜTZE SUPERFLEX® CAN-BUS (C) PUR, Shielded

## High Flexing CAN-BUS Cable with UL Approval



### Application

- For wiring of industrial field bus systems
- For continuous flexing applications in c-tracks or free movement in the automation technology, transport and conveyor technology, machine tool manufacturing

### Characteristics

- High active and passive interference resistance (EMC)
- Talc and Silicone free

### Technical data

Rated voltage	300 V
Test voltage	3000 V
Impedance	nom. 120 Ω
Operating capacitance	< 60 pF/m
Temperature range	Moving -30 °C - +70 °C Fixed -40 °C - +75 °C
Minimum bending radius	Moving 15 x cable OD Fixed 7.5 x cable OD
Burning behavior	Flame retardant per VDE 0482 part 265-2 IEC 60332-1 UL 1581 section VW-1 Flame test CSA FT 1
Halogen free	According to DIN EN 50267-2-1
Approvals	cULus CMX RoHS REACH

### Construction

- AWG conductor
- Bare copper wire
- Conductor insulation special polyolefin
- Conductors twisted pairs or star quad cabled, foil banded
- Tinned copper braid shield, optical coverage ≥ 85 %
- Special PUR jacket, matte, adhesion-free surface
- Violet jacket RAL 4001

Part No.	Description No. of conductors	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>CAN-BUS UL/CMX, 40 m / 131 ft max.</b>					
<b>104390</b>	(1x2xAWG24/7) WH/BN	6.5	0.256	30	16
<b>104391</b>	(2x2xAWG24/7) WH/BN, YE/GN	8.4	0.331	48	22

# Lutze Electronic BUS (C) PVC, Shielded

## Flexible DeviceNet™ Cable with UL Approval



### Application

- For the wiring of industrial devices, sensors, control devices (SPS), valves
- DeviceNet™ is the leading BUS system for industry automation in the USA
- For flexible use and stationary application
- Automation technology, transport and conveyor technology, machine tool manufacturing

### Characteristics

- 2-pair cable: The pair with the smaller cross section is for the data transmission, the pair with the larger cross section is for the power supply
- High active and passive interference resistance through double shielding (StC)
- Talc and Silicone free

### Technical data

Impedance	120 Ω ± 12 Ω
Loop resistance	AWG16 <22.6 Ω/km AWG18 <54.4 Ω/km AWG22 <114.8 Ω/km AWG24 <181.8 Ω/km
Operating capacitance	< 40 pF/m
Rated voltage	300 V
Test voltage	3000 V
Temperature range	Moving -10 °C - +70 °C Fixed -40 °C - + 80 °C
Minimum bending radius	Moving 10 x cable OD Fixed 5 x cable OD
Burning behaviour	Flame retardant per VDE 0482 part 265-2 IEC 60332-1 UL 1581 section VW-1 Flame test CSA FT1
Approvals	cULus CMG RoHS REACH

### Construction

- AWG conductor
- Tinned copper wire
- Conductor insulation special polyolefin
- BUS element statically shielded
- Overall shields:  
static shield (foil)  
tinned copper braid shield, optical coverage ≥ 85 %
- Jacket special-PVC, matte, adhesion-free surface
- Violet jacket RAL 4001

Part No.	Description No. of conductors	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>DeviceNet™ Thick UL/CMG, PLTC</b>					
104288	((2xAWG18)+(2xAWG16)) WH/BU, RD/BK	12.2	0.480	135.1	59.1

### DeviceNet™ Thin UL/CMG

104282	((2xAWG24)+(2xAWG22)) AWG22: RD, BK AWG24: WH, BU	7.0	0.276	44.3	21.5
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# LÜTZE SUPERFLEX® BUS (C) PUR, Shielded

## High Flexing DeviceNet™ Cable with UL Approval



### Application

- For the wiring of industrial devices, sensors, control devices (SPS), valves
- DeviceNet™ is the leading BUS system for industry automation in the USA
- For continuous flexing applications in c-tracks or free movement in the automation technology, transport and conveyor technology, machine tool manufacturing

### Characteristics

- 2-pair cable: The pair with the smaller cross section is for the data transmission, the pair with the larger cross section is for the power supply
- High active and passive interference resistance through double shielding (StC)
- Talc and Silicone free

### Technical data

Impedance	120 Ω ± 12 Ω
Loop resistance	AWG16 <22.6 Ω/km AWG18 <54.4 Ω/km AWG22 <114.8 Ω/km AWG24 <181.8 Ω/km
Operating capacitance	< 40 pF/m
Rated voltage	300 V
Test voltage	3000 V
Temperature range	Moving -20 °C - +80 °C Fixed -40 °C - +80 °C
Minimum bending radius	Moving 12 x cable OD Fixed 6 x cable OD
Burning behavior	Flame retardant per VDE 0482 part 265-2 IEC 60332-1 UL 1581 section VW-1 Flame test CSA FT 1
Halogen free	According to DIN EN 50267-2-1
Approvals	cULus CMX RoHS REACH

### Construction

- AWG conductor
- Tinned copper wire
- Conductor insulation special polyolefin
- BUS element statically shielded
- Overall shield:  
static shield (foil)  
tinned copper braid shield, optical coverage ≥ 85 %
- Jacket special-PUR, matte, adhesion-free surface
- Violet jacket RAL 4001

Part No.	Description No. of conductors	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
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### DeviceNet™ Trunk UL/CMX

104279	((2xAWG18)+(2xAWG16)) WH/BU, RD/BK	12.2	0.480	97	14
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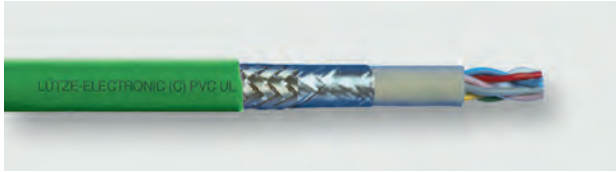
### DeviceNet™ Drop UL/CMX

104289	((2xAWG24)+(2xAWG22)) AWG22: RD, BK AWG24: WH, BU	7.0	0.276	57	19
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Specifications are subject to change without prior notice

# Lutze Electronic ETHERNET BUS (C) PVC, Shielded

## Flexible ETHERNET Cable with UL Approval



### Application

- For the cabling of industrial field bus systems with the globally accepted TCP/IP protocol
- Application in automation technology, transport and conveyor technology, machine tool manufacture
- For flexible use and stationary application
- Automation technology, transport and conveyor technology, machine tool manufacturing

### Characteristics

- High active and passive interference resistance (EMC)
- Talc and Silicone free

### Technical data

Impedance	100 Ω ± 10 Ω
Loop resistance	Wire AWG 22/1= 0,34 <sup>2</sup> <110 Ω/km
	Braid AWG 24/7= 0,22 <sup>2</sup> <165 Ω/km
	Braid AWG 26/7=0.14 <sup>2</sup> <273 Ω/km
Operating capacitance	< 50 pF/m
Rated voltage	250 V
Test voltage	1500 V
Temperature range	Moving -5 °C - +70 °C Fixed -30 °C - +80 °C
Minimum bending radius	Moving 12 x cable OD Fixed 6 x cable OD
Burning behavior	Flame retardant per VDE 0482 part 265-2 IEC 60332-3-24 UL 1581 section VW-1 Flame test CSA FT 4
Approvals	cULus CMG RoHS REACH

### Construction

- AWG conductor
- Bare copper wire
- Conductor insulation special polyolefin
- ST static foil shield
- Tinned copper braid shield, optical coverage ≥ 85 %
- Jacket PVC, matte, adhesion-free surface
- Green jacket RAL 6018

For further information, see ETHERNET pages in the Technical Overview

Part No.	Description No. of conductors	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
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## Electronic Fast ETHERNET / ProfiNet, Ethercat, UL/CMG

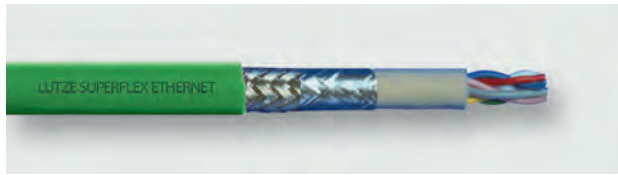
<b>104301</b>	(1x4x0.64/AWG22/1)StC Cat5 100 MHz, SF/UTQ Star quad, FC, ProfiNet type A Transmission pair WH/BU, YE/OG	6.5	0.256	43.7	24.9
<b>104307</b>	(1x4x0.34/AWG22/7)StC Cat5 100 MHz, SF/UTQ Star quad, FC, ProfiNet type B Transmission pair WH/BU, YE/OG	6.5	0.256	43.7	20.8

## Electronic Industrial ETHERNET, ETHERNET IP, UL/CMG

<b>104335</b>	(4x2xAWG26/7 StC) Cat5e 100 MHz, SF/UTP WHBU/BU, WHOG/OG, WHGN/GN, WHBN/BN	6.3	0.248	57.1	37.0
<b>104336</b>	(4x2xAWG24/7 StC) Cat5e 100 MHz, SF/UTP WHBU/BU, WHOG/OG, WH GN/GN, WHBN/BN	7.3	0.287	46.4	25.5
<b>104338</b>	(4x(2xAWG26/7)St)C Cat6a 500 MHz, S/FTP WHBU/BU, WHOG/OG, WHGN/GN, WHBN/BN	6.4	0.252	35.6	22.2
<b>104331</b>	(4x(2xAWG26/7)St)C Cat7 600MHz, S/FTP WHBU/BU, WHOG/OG, WHGN/GN, WHBN/BN	7.0	0.276	41.7	22.2

# LÜTZE SUPERFLEX® ETHERNET BUS (C) PUR, Shielded

## High Flexing ETHERNET Cable with UL Approval



### Application

- For the cabling of industrial field bus systems with the globally accepted TCP/IP protocol
- Applicable in automation technology, transport and conveyor technology, machine tool manufacturing
- For continuous flexible applications in c-tracks or free movement

### Characteristics

- High active and passive interference resistance (EMC)
- Talc and Silicone free

### Technical data

Impedance	100 Ω ± 10 Ω
Loop resistance	Braid AWG 22/7= 0.34 <sup>2</sup> <110 Ω/km Braid AWG 24/19= 0.24 <sup>2</sup> <155 Ω/km Braid AWG 26/19=0.14 <sup>2</sup> <280 Ω/km
Maximum conductor capacitance	50 pF/m
Rated voltage	250 V
Test voltage	1500 V
Temperature range	Moving -25 °C - +70 °C Fixed -40 °C - +80 °C
Minimum bending radius	Moving 12 x cable OD Fixed 6 x cable OD
Burning behavior	Flame retardant per VDE 0482 part 265-2; IEC 60332-1; UL 1581 section VW-1 Flame test; CSA FT 1
Halogen free	According to DIN EN 50264-1
Approvals	UL listed (CMX) UL recognized AWM 21198 (AWM) RoHS REACH

### Construction

- AWG conductor
- Bare copper wire
- Braid according to AWG
- Conductor insulation special polyolefin
- ST static foil shield
- Tinned copper braid, optical coverage ≥ 85 %
- Jacket special-PUR, matte, adhesion-free surface
- Green jacket RAL 6018

For further information, see ETHERNET pages in the Technical Overview

Part No.	Description No. of conductors	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
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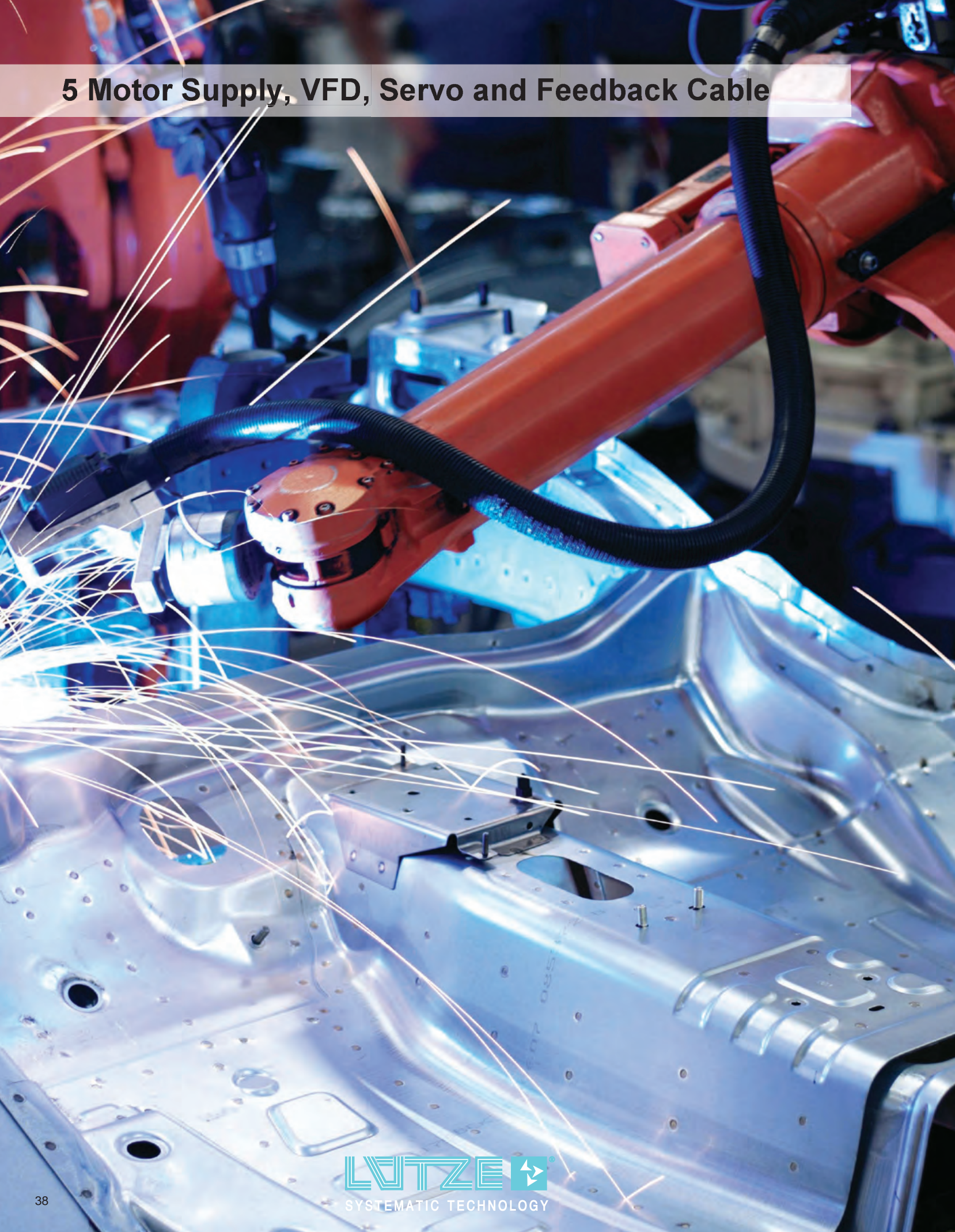
### SUPERFLEX Fast ETHERNET / ProfiNet

104302	(1x4xAWG22/19)StC CMX Cat5 100 MHz, SF/UQP WH/BU; YE/OG	6.6	0.260	50.4	24.9
104303	(1x4xAWG22/7)StC CMX Cat5 100 MHz, SF/UQP WH/BU; YE/OG	6.5	0.256	41.0	20.8

### SUPERFLEX Industrial ETHERNET, ETHERNET IP

104337	(4x2xAWG24/19) AWM Cat5e 100 MHz, S/UTP WHBU/BU, WHOG/OG, WHGN/GN, WHBN/BN	7.8	0.307	45.7	37.0
104347	(4x2xAWG26/19) CMX Cat6 350 MHz, SF/UTP WHBU/BU, WHOG/OG, WHGN/GN, WHBN/BN	7.9	0.311	42.3	28.2

# 5 Motor Supply, VFD, Servo and Feedback Cable

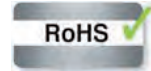




# LÜTZE SILFLEX® Tray-ER TPE, Unshielded

NEW

Flexible Premium TPE Tray Cable with UL/TC-ER/WTTC/MTW/CE Approvals



## Application

- Multi-conductor cable for tray applications, with **exposed run** (open wiring) approval
- Compliant with **NFPA 79** for machine tool wiring
- **TC-ER** for use with cable trays **without conduit**, which can reduce material and labor costs
- Metal cutting equipment, machine tools, machine and plant construction, HVAC technology, assembly and production lines, and other industrial applications
- WTTC – wind turbine tray cable rating for use in wind power generation
- Dry, damp and wet locations

## Characteristics

- Flexible design with Nylon for crush impact resistance per UL 1277 and easy installation
- Specially formulated TPE jacket for superior oil resistance
- Cutting oil resistant - mineral & bio/vegetable based oils  
*\*specifically tested with plant based cutting oil*
- Non-wicking fillers
- Sunlight resistant
- Direct burial
- Talc and Silicone free

## Technical Data

Voltage	600V UL TC 600V UL MTW 1000V WTTC 600V UL AWM 105C
Temperature	-40°C - +90°C static
Minimum bending radius	4 x cable OD
Conductor marking	Black with white numbers and one green/yellow ground
Oil resistance	Oil Res I and Oil Res II
Approvals	UL Type TC-ER UL/CE UL AWM (UL) Type MTW or DP-1 UL1277 C(UL) TC WTTC Class 1, Div. 2 per NEC Art. 336, 392, 501 CIC FT4 RoHS REACH UL509 BUS Drop pending

Part No.	Description No. of conductors incl. ground	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>AWG 14 (41/30)</b>					
A3321403	AWG14/03C	8.6	0.340	92	39
A3321404	AWG14/04C	9.4	0.368	108	52
<b>AWG 12 (65/30)</b>					
A3321203	AWG12/03C	9.8	0.385	119	62
A3321204	AWG12/04C	10.5	0.413	146	83
<b>AWG 10 (105/30)</b>					
A3321003	AWG10/03C	11.7	0.461	178	100
A3321004	AWG10/04C	12.7	0.498	221	134
<b>AWG 8 (168/30)</b>					
A3320804	AWG8/04C	18.1	0.711	392	214
<b>AWG 6 (266/30)</b>					
A3320604	AWG6/04C	20.1	0.790	552	339
<b>AWG 4 (413/30)</b>					
A3320404	AWG4/04C	26.3	1.033	910	516
<b>AWG 2 (665/30)</b>					
A3320204	AWG2/04C	30.8	1.214	1,391	883
<b>1/0 (1064/30)</b>					
A3321/004	1/0/4C	36.4	1.435	1,871	1,338
<b>2/0 (1330/30)</b>					
A3322/004	2/0/4C	39.2	1.544	2,257	1,685
<b>3/0 (1665/30)</b>					
A3323/004	3/0/4C	45.6	1.794	2,982	2,156
<b>4/0 (2109/30)</b>					
A3324/004	4/0/4C	48.3	1.903	3,549	2,676

## Construction

- AWG conductor
- Flexible fine wire stranded bare copper conductors
- PVC/Nylon insulation / THHN – THWN
- Oil resistant TPE jacket
- Black jacket RAL 9005

Specifications are subject to change without prior notice

1-800-447-2371



www.lutze.com

# LÜTZE SILFLEX® M (C) Motor PVC, Shielded

## Flexible Motor Cable with UL/TC-ER/WTTC/MTW/CE Approvals



### Application

- Shielded multi-conductor cable for Motor applications to connect power to 3-phase motors
- Power cable for electrical motors with direct, reversing or soft starters (Not recommended for 3 phase VFD's, see Driveflex® A216/A217 series for long cable runs or use with VFD's)
- Cable design for harsh industrial environments and operating conditions with high noise levels
- Improved Voltage Spike resistance due to semiconductive layer insulation
- Compliant with NFPA 79 for machine tool wiring
- **TC-ER** for use with cable trays **without conduit**, which can reduce material and labor costs
- WTTC – wind turbine tray cable rating for use in wind power generation
- Dry, damp and wet locations

### Characteristics

- Flexible design with Nylon for crush impact resistance per UL 1277 and easy installation
- Very round cable with reduced cable diameter
- Specially formulated jacket for oil resistance
- Semi-conductive layer reduces corona effects, thus increasing the reliability and lifetime
- Non-wicking fillers
- Sunlight resistant
- Direct burial
- UL Type TC-Exposed Run
- Talc and Silicone free

### Technical Data

Voltage	600V UL TC 1000V WTTC
Temperature	-40°C - +90°C static
Minimum bending radius	6 x cable OD
Conductor marking	Black with white numbers and one green/yellow ground
Oil resistance	Oil Res II
Approvals	UL Type TC-ER UL/AWM/CE UL MTW or DP-1 WTTC Class 1, Div. 2 per NEC Art. 336, 392, 501 C(UL) TC CIC FT4 UL 1277 RoHS REACH

### Construction

- AWG conductor
- Flexible fine wire stranded tinned copper conductors for improved electrical characteristics and reduced oxidation
- PVC/Nylon insulation with semi-conductive layer
- Shielded with foil tape, tinned copper braid and drain wire
- Oil resistant PVC jacket
- Black jacket RAL 9005

Part No.	Description No. of conductors incl. ground	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>AWG 18 (19/30)</b>					
A1161804	AWG18/04C	9.7	0.384	96	38
<b>AWG 16 (26/30)</b>					
A1161604	AWG16/04C	10.2	0.402	112	49
<b>AWG 14 (41/30)</b>					
A1161404	AWG14/04C	11.4	0.448	151	74
<b>AWG 12 (65/30)</b>					
A1161204	AWG12/04C	12.8	0.503	203	112
<b>AWG 10 (105/30)</b>					
A1161004	AWG10/04C	16.7	0.658	320	171

Available in orange jacket upon request.

Larger AWG available through special order or refer to Driveflex® A216 VFD cable series.

### WITH ONE SHIELDED CONTROL PAIR

<b>AWG 16 (26/30)</b>					
A1171604	(AWG16/4C+ 1 TSP AWG 18))	12.8	0.504	151	69
<b>AWG 14 (41/30)</b>					
A1171404	(AWG14/4C+ 1 TSP AWG 18))	14.5	0.569	202	93
<b>AWG 12 (65/30)</b>					
A1171204	(AWG12/4C+ 1 TSP AWG 16))	16.0	0.631	264	139
<b>AWG 10 (105/30)</b>					
A1171004	(AWG10/4C+ 1 TSP AWG 14))	19.1	0.753	373	207

Larger AWG available through special order or refer to DRIVEFLEX® A217 VFD cable series.

**TSP = Twisted  
Shielded Pair**

# Lutze DRIVEFLEX® XLPE (C) PVC, Shielded

## Flexible VFD & Motor Supply Cable with UL/TC-ER/WTTC/CE Approvals



### Application

- Shielded multi-conductor cable for VFD and Motor applications to connect power from drives to motors
- Cable design for harsh industrial environments and operating conditions with high noise levels
- XLPE thick wall insulation with low capacitance, ideal for applications with **high voltage spikes and long cable runs**
- Compliant with **NFPA 79** for wiring of industrial machinery
- **TC-ER** for use with cable trays **without conduit**, which can reduce material and labor costs
- WTTC – wind turbine tray cable rating for use in wind power generation
- Dry, damp or wet conditions



### Characteristics

- Flexible XLPE conductor design
- Non-wicking fillers
- Effective dual layer shield for EMC compliance
- Specially formulated jacket for oil resistance and easy strip design
- Low capacitance cable
- Round cable – seals well with circular connectors
- Sunlight resistant
- Direct burial
- UL Type TC-Exposed Run
- Talc and Silicone free

### Technical Data

Voltage	600V UL TC 1000V Flexible VFD Servo Cable 90C 1000V WTTC
Temperature	-40°C - +90°C static
Bending radius	6 x cable OD
Conductor marking	Black with white numbers and one green/yellow ground
Oil resistance	Oil Res II
Approvals	UL Type "Flexible Motor Supply Cable (Flexible VFD Servo Cable)" UL Type TC-ER UL/AWM/CE UL DP-1 WTTC Class 1, Div. 2 per NEC Art. 336, 392, 501 C(UL) TC CIC FT4 UL 1277 Wet/Dry P-07-KA130021-MSHA RoHS REACH

### Construction

- AWG conductor
- Flexible fine wire stranded tinned copper conductors for improved electrical characteristics and reduced oxidation
- XLPE insulation RHW-2, Wet/Dry
- Shielded with foil tape, tinned copper braid with ≥ 80% optical coverage, and drain wire
- Oil resistant PVC jacket
- Black jacket RAL 9005

Specifications are subject to change without prior notice

Part No.	Description No. of conductors incl. ground	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>A2161604</b>	<b>AWG 16 (26/30)</b> AWG16/04C	12.4	0.490	149	57
<b>A2161404</b>	<b>AWG 14 (41/30)</b> AWG14/04C	14.2	0.560	200	80
<b>A2161204</b>	<b>AWG 12 (65/30)</b> AWG12/04C	15.6	0.615	262	128
<b>A2161004</b>	<b>AWG 10 (105/30)</b> AWG10/04C	17.8	0.700	359	186
<b>A2160804</b>	<b>AWG 8 (168/30)</b> AWG8/04C	23.5	0.925	603	295
<b>A2160604</b>	<b>AWG 6 (266/30)</b> AWG6/04C	25.7	1.010	763	425
<b>A2160404</b>	<b>AWG 4 (413/30)</b> AWG4/04C	29.3	1.155	1,126	632
<b>A2160204</b>	<b>AWG 2 (665/30)</b> AWG2/04C	33.7	1.325	1,559	997

# Lutze DRIVEFLEX® XLPE (C) Servo I PVC, Shielded

Flexible Composite VFD, Servo & Motor Supply Cable with one Control Pair and UL/TC-ER/WTTC/CE Approvals



## Application

- Shielded multi-conductor cable for VFD, Servo and Motor applications to connect power from drives to motors
- Cable design for harsh industrial environments and operating conditions with high noise levels
- XLPE thick wall insulation with low capacitance, ideal for applications with **high voltage spikes and long cable runs**
- Compliant with **NFPA 79** for wiring of industrial machinery
- **TC-ER** for use with cable trays **without conduit**, which can reduce material and labor costs
- **WTTC** – wind turbine tray cable rating for use in wind power generation
- Dry, damp or wet conditions

## Characteristics

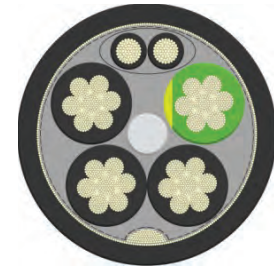
- Flexible XLPE conductor design
- Non-wicking fillers
- Effective dual layer shield for EMC compliance
- Specially formulated jacket for oil resistance and easy strip design
- Low capacitance cable
- Sunlight resistant
- Direct burial
- UL Type TC-Exposed Run
- Talc and Silicone free

## Technical Data

Voltage	600V UL TC 1000V Flexible VFD Servo cable 90C 1000V WTTC
Temperature	-40°C - +90°C static
Minimum bending radius	6 x cable OD
Conductor marking	Black with white numbers and one green/yellow ground
Oil resistance	Oil Res II
Approvals	UL Type "Flexible Motor Supply Cable (Flexible VFD Servo Cable)" UL Type TC-ER UL/AWM/CE UL DP-1 WTTC Class 1, Div. 2 per NEC Art. 336, 392, 501 C(UL) TC CIC FT4 UL 1277 Wet/Dry P-07-KA130021-MSHA RoHS REACH

## Construction

- AWG conductor
- Flexible fine wire stranded tinned copper conductors for improved electrical characteristics and reduced oxidation
- XLPE insulation, Wet/Dry (4C RHW-2, 1 Pair XHHW-2)
- Shielded with foil tape, tinned copper braid with ≥80% optical coverage, and drain wire
- Oil resistant PVC jacket
- Black jacket RAL 9005



## WITH ONE SHIELDED CONTROL PAIR

Part No.	Description No. of conductors incl. ground	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>A2171604</b>	AWG16/04C (26/30)+ 1 TSP AWG18 (19/30)	15.7	0.620	228	90
<b>A2171404</b>	AWG14/04C (41/30)+ 1 TSP AWG16 (26/30)	16.8	0.650	265	117
<b>A2171204</b>	AWG12/04C (65/30)+ 1 TSP AWG16 (26/30)	18.3	0.720	335	160
<b>A2171004</b>	AWG10/04C (105/30)+ 1 TSP AWG14 (41/30)	20.6	0.810	420	218
<b>A2170804</b>	AWG8/04C (168/30)+ 1 TSP AWG14 (41/30)	26.0	1.025	713	321
<b>A2170604</b>	AWG6/04C (266/30)+ 1 TSP AWG14 (41/30)	27.8	1.095	873	453
<b>A2170404</b>	AWG4/04C (413/30)+ 1 TSP AWG14 (41/30)	31.0	1.220	1,142	651
<b>A2170204</b>	AWG2/04C (665/30)+ 1 TSP AWG14 (41/30)	35.3	1.390	1,579	1,010

**TSP = Twisted  
Shielded Pair**

Specifications are subject to change without prior notice

# Lutze DRIVEFLEX® XLPE (C) Servo II PVC, Shielded

## Flexible Composite VFD, Servo & Motor Supply Cable with two Control Pairs and UL/TC-ER/WTTC/CE Approvals



### Application

- Shielded multi-conductor cable for VFD, Servo and Motor applications to connect power from drives to motors
- Cable design for harsh industrial environments and operating conditions with high noise levels
- XLPE thick wall insulation with low capacitance, ideal for applications with **high voltage spikes and long cable runs**
- Compliant with **NFPA 79** for wiring of industrial machinery
- **TC-ER** for use with cable trays **without conduit**, which can reduce material and labor costs
- WTTC – wind turbine tray cable rating for use in wind power generation
- Dry, damp or wet conditions

### Characteristics

- Flexible XLPE conductor design
- Non-wicking fillers
- Effective dual layer shield for EMC compliance
- Specially formulated jacket for oil resistance and easy strip design
- Low capacitance cable
- Sunlight resistant
- Direct burial
- UL Type TC-Exposed Run
- Talc and Silicone free

### Technical Data

Voltage	600V UL TC 1000V Flexible VFD Servo Cable 90C 1000V WTTC
Temperature	-40°C - +90°C static
Minimum bending radius	6 x cable OD
Conductor marking	Black with white numbers and one green/yellow ground
Oil resistance	Oil res II
Approvals	UL Type "Flexible Motor Supply Cable (Flexible VFD Servo Cable)" UL Type TC-ER UL/AWM/CE UL DP-1 WTTC Class 1, Div. 2 per NEC Art. 336, 392, 501 C(UL) TC CIC FT4 UL 1277 Wet/Dry P-07-KA130021-MSHA RoHS REACH

### Construction

- AWG conductor
- Flexible fine wire stranded tinned copper conductors for improved electrical characteristics and reduced oxidation
- XLPE insulation, Wet/Dry (4C RHW-2, 2 Pairs XHHW-2)
- Shielded with foil tape, tinned copper braid with ≥ 80% optical coverage, and drain wire
- Oil resistant PVC jacket
- Black jacket RAL 9005

Specifications are subject to change without prior notice



## WITH TWO SHIELDED CONTROL PAIRS

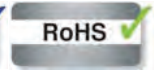
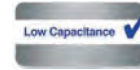
Part No.	Description No. of conductors incl. ground	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>A2181604</b>	AWG16/04C (26/30)+ 2 TSP AWG18 (19/30)	17.8	0.699	278	113
<b>A2181404</b>	AWG14/04C (41/30)+ 2 TSP AWG16 (26/30)	19.3	0.760	330	149
<b>A2181204</b>	AWG12/04C (65/30)+ 2 TSP AWG16 (26/30)	20.2	0.795	388	187
<b>A2181004</b>	AWG10/04C (105/30)+ 2 TSP AWG14 (41/30)	23.6	0.930	553	261
<b>A2180804</b>	AWG8/04C (168/30)+ 2 TSP AWG14 (41/30)	27.7	1.090	785	364

**TSP = Twisted  
Shielded Pair**

# Lutze DRIVEFLEX® 3 Symmetrical Grounds, Shielded

NEW

## Flexible Composite VFD, Servo & Motor Supply Cable with Three Symmetrical Grounds and UL 1kV Voltage Rating



### Application

- Shielded VFD and Servo-Motor cable to connect power from drives to AC motors
- Three insulated symmetrical grounds design helps to reduce stray currents
- Cable design for harsh industrial environments and operating conditions with high noise levels
- 1 kV rated XLPE insulation with low capacitance, ideal for applications with **high voltage spikes and long cable runs**
- Compliant with **NFPA 79** for wiring of industrial machinery
- **TC-ER** for use with cable trays **without conduit**, which can reduce material and labor costs
- WTTC – wind turbine tray cable rating for use in wind power generation
- Dry, damp or wet conditions

### Characteristics

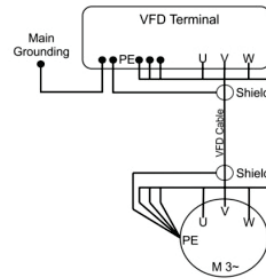
- Flexible XLPE conductors
- Three symmetrical, insulated grounds (PEs)
- Non-wicking fillers
- Effective dual layer shield for best EMC results
- Specially formulated jacket for oil resistance and easy strip design
- Low capacitance cable
- Sunlight resistant
- Direct burial
- UL Type TC-Exposed Run
- Talc free and Silicone free

### Technical Data

Voltage	<b>1000V</b> Flexible VFD Servo Cable 90C 1000V WTTC
Temperature	-40°C - +90°C static
Minimum bending radius	7.5 x cable OD fixed
Conductor marking	Black with white numbers and three green/yellow ground
Approvals	UL Type "Flexible Motor Supply Cable (Flexible VFD Servo Cable)" (AWG6 to 4/0 only) UL Types WTTC, TC-ER C(UL) TC CIC control cable FT4 CE Class 1, Div. 2 per NEC Art. 336, 392, 501 UL 1277, UL2277 Oil res II Wet/Dry P-07-KA130021-MSHA RoHS REACH

### Construction

- AWG conductor
- Flexible fine wire stranded tinned copper conductors for improved electrical characteristics and reduced oxidation
- XLPE insulation, Wet/Dry XHHW-2 (3C Power + 3C Grounds/PEs)
- Shielded with foil tape, tinned copper braid with ≥80% optical coverage, and drain wire
- Oil resistant PVC jacket
- Black jacket RAL 9005



## WITH THREE SYMMETRICAL GROUNDS (3 Power + 3 Protective Earth Grounds)

Part No.	Description Power Ground	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>A2200603</b>	AWG6/03C (206 strands)+ AWG12/03C (50 strands)	23.6	0.930	677	432
<b>A2200403</b>	AWG4/03C (322 strands)+ AWG12/03C (50 strands)	25.8	1.015	872	586
<b>A2200203</b>	AWG2/03C (511 strands)+ AWG10/03C (80 strands)	29.3	1.155	1,230	875
<b>A2200103</b>	AWG1/03C (644 strands)+ AWG8/03C (128 strands)	33.9	1.335	1,600	1,121
<b>A2201/003</b>	1/0/03C (812 strands)+ AWG8/03C (128 strands)	35.4	1.395	1,850	1,348
<b>A2202/003</b>	2/0/03C (1022 strands)+ AWG8/03C (128 strands)	38.1	1.500	2,187	1,620
<b>A2203/003</b>	3/0/03C (1288 strands)+ AWG6/03C (206 strands)	41.1	1.620	2,705	2,059
<b>A2204/003</b>	4/0/03C (1638 strands)+ AWG6/03C (206 strands)	47.4	1.865	3,336	2,461
<b>A22025003</b>	250MCM/03C* (1904 strands)+ AWG6/03C (206 strands)	50.3	1.980	3,815	2,851
<b>A22035003</b>	350MCM/03C* (2680 strands)+ AWG4/03C (322 strands)	56.4	2.220	5,153	3,993
<b>A22050003</b>	500MCM/03C* (3800 strands)+ AWG4/03C (322 strands)	63.6	2.505	6,803	5,397

\*1000V WTTC, 600V TC-ER

# Lutze DRIVEFLEX® 3 Symmetrical Grounds, Shielded

## Flexible Composite VFD, Servo & Motor Supply Cable with Three Symmetrical Grounds and UL 2kV Voltage Rating



### Application

- Shielded VFD and Servo-Motor cable to connect power from drives to motors
- Three insulated symmetrical grounds design helps to reduce stray currents
- Cable design for harsh industrial environments and operating conditions with high noise levels
- 2 kV rated XLPE thick wall insulation with low capacitance, ideal for applications with **high voltage spikes and long cable runs**
- Compliant with **NFPA 79** for wiring of industrial machinery
- **TC-ER** for use with cable trays **without conduit**, which can reduce material and labor costs
- **WTTC** – wind turbine tray cable rating for use in wind power generation
- Dry, damp or wet conditions

### Characteristics

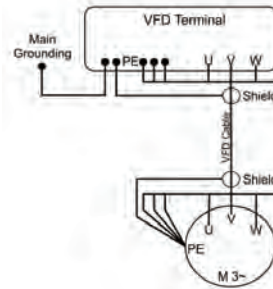
- Flexible XLPE conductors
- Three symmetrical, insulated grounds (PEs)
- Non-wicking fillers
- Effective dual layer shield for best EMC results
- Specially formulated jacket for oil resistance and easy strip design
- Low capacitance cable
- Sunlight resistant
- Direct burial
- UL Type TC-Exposed Run
- Talc free and silicone free

### Technical Data

Voltage	<b>2000V</b> Flexible VFD Servo Cable 90C 1000V WTTC
Temperature	-40°C - +90°C static
Bending radius	7.5 x cable OD
Conductor marking	Black with white numbers and three green/yellow ground
Approvals	UL Type "Flexible Motor Supply Cable (Flexible VFD Servo Cable)" UL Types WTTC, TC-ER C(UL) TC CIC control cable FT4 CE Class 1, Div. 2 per NEC Art. 336, 392, 501 UL 1277, UL2277 Oil res II Wet/Dry P-07-KA130021-MSHA RoHS REACH

### Construction

- AWG conductor
- Flexible fine wire stranded tinned copper conductors for improved electrical characteristics and reduced oxidation
- XLPE insulation, Wet/Dry  
3C RHW-2 (Power), 3C XHHW-2 (Grounds/PEs)
- Shielded with foil tape, tinned copper braid with ≥80% optical coverage, and drain wire
- Oil resistant PVC jacket
- Black jacket RAL 9005



## WITH THREE SYMMETRICAL GROUNDS (3 Power + 3 Protective Earth Grounds)

Part No.	Description Power Ground	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>A2190603</b>	AWG6/03C (206 strands)+ AWG12/03C (50 strands)	25.8	1.015	776	444
<b>A2190403</b>	AWG4/03C (322 strands)+ AWG12/03C (50 strands)	28.8	1.135	997	602
<b>A2190203</b>	AWG2/03C (511 strands)+ AWG10/03C (80 strands)	32.4	1.275	1,367	891
<b>A2190103</b>	AWG1/03C (644 strands)+ AWG8/03C (128 strands)	37.0	1.455	1,772	1,137
<b>A2191/003</b>	1/0/03C (812 strands)+ AWG8/03C (128 strands)	39.4	1.550	2,067	1,369
<b>A2192/003</b>	2/0/03C (1022 strands)+ AWG8/03C (128 strands)	42.4	1.670	2,424	1,643
<b>A2193/003</b>	3/0/03C (1288 strands)+ AWG6/03C (206 strands)	47.1	1.855	3,068	2,081
<b>A2194/003</b>	4/0/03C (1638 strands)+ AWG6/03C (206 strands)	51.6	2.030	3,617	2,484

Specifications are subject to change without prior notice

1-800-447-2371



www.lutze.com

# LÜTZE SILFLEX® M (C) PVC Servo, Shielded

## Flexible Motor/Power Cable for Siemens and other Systems



### Application

- Motor supply cable, specially designed for variable frequency drives and SERVO-systems
- Flexible construction for easy installation
- Suitable for static installation and flexible use on machine parts (not continuous flexing)
- Low capacity and high electric strength for long cable runs from VFD/Servo to motor
- In dry and moist environments
- Especially suited for machines and plant constructions in heavy industrial environment
- Compliant with Siemens standard 6FX5008

### Characteristics

- Low capacitance and high electric strength
- High active and passive interference resistance (EMC)
- Orange Jacket RAL 2003 per DESINA
- Talc and Silicone free

### Technical Data

UL-Approval	AWM 2570
Voltage	1000 V 80 °C
U <sub>0</sub> /U	0.6/1 kV
Test voltage	4000 V
Insulation resistance	Min. 500 MΩ x km
Temperature range	Moving -5 °C - +80 °C Fixed -25 °C - +80 °C
Minimum bending radius	Moving 10 x cable OD Fixed 6 x cable OD
Burning behavior	Flame retardant per VDE 0482 part 265-2 DIN EN 50265-2 IEC 60332-1 UL 1581 section 1080 VW-1 CSA FT 1
Approvals	RoHS REACH

### Construction

- Metric conductor
- Bare copper wire finely stranded per DIN VDE 0295 class 5 and IEC 60228 class 5
- Special PP conductor insulation
- Conductor marking:  
Power conductors black/white with number print:  
U/L1/C/L+, V/L2, W/L3/D/L-  
Ground conductor GNYE per DIN EN 50334  
G=with ground; X=no ground
- Signal conductors: black/white (1 pair)
- Fleece wrap over cabled conductors
- Tinned copper braid shield, optical coverage ≥ 85 %
- Jacket special PVC
- Orange jacket RAL 2003

Part No.	Description No. of conductors incl. ground	Siemens Designation	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
116401	AWG 16 / 1.5 mm <sup>2</sup> (4G1.5)	1BB11*	8.4	0.331	88	59
116402	AWG 14 / 2.5 mm <sup>2</sup> (4G2.5)	1BB21*	10.6	0.417	147	89
116403	AWG 12 / 4.0 mm <sup>2</sup> (4G4)	1BB31*	11.5	0.453	210	131
116404	AWG 10 / 6.0 mm <sup>2</sup> (4G6)	1BB41*	13.2	0.520	255	188
116405	AWG 8 / 10.0 mm <sup>2</sup> (4G10)	1BB51*	16.5	0.650	417	299
116406	AWG 6 / 16.0 mm <sup>2</sup> (4G16)	1BB61*	21.2	0.835	712	480
116407	AWG 4 / 25.0 mm <sup>2</sup> (4G25)	1BB25*	25.0	0.984	1109	746
116408	AWG 2 / 35.0 mm <sup>2</sup> (4G35)	1BB35*	31.8	1.252	1552	1035

### WITH ONE CONTROL PAIR

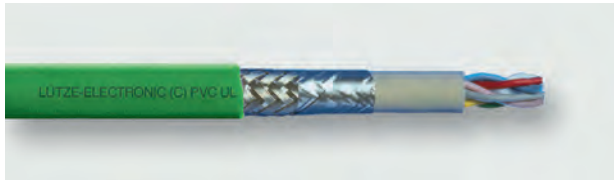
116415	AWG 16 / 1.5 mm <sup>2</sup> (4G1.5+(2x1.5))	1BA11*	11.6	0.457	167	104
116416	AWG 14 / 2.5 mm <sup>2</sup> (4G2.5+(2x1.5))	1BA21*	13.0	0.512	208	131
116417	AWG 12 / 4.0 mm <sup>2</sup> (4G4+(2x1.5))	1BA31*	14.0	0.551	299	185
116418	AWG10 / 6.0 mm <sup>2</sup> (4G6+(2x1.5))	1BA41*	15.8	0.622	372	237
116419	AWG8 / 10.0 mm <sup>2</sup> (4G10+(2x1.5))	1BA51*	18.5	0.728	542	361
116420	AWG6 / 16.0 mm <sup>2</sup> (4G16+(2x1.5))	1BA61*	23.6	0.929	729	510
116421	AWG4 / 25 mm <sup>2</sup> (4G25+(2x1.5))	1BA25*	28.5	1.122	1,132	775

Specifications are subject to change without prior notice



# LÜTZE SILFLEX® PVC (C) Feedback, Shielded

## Flexible Feedback Cable for Siemens DRIVE-CLiQ 6FX5008 Standard System



### Application

- Digital feedback cable compatible with Siemens DRIVE-CLiQ standard
- In dry and moist environments
- For flexible applications without continuous flexing

### Characteristics

- High active and passive interference resistance (EMC)
- Outer jacket special-PVC TM2 according to HD 21.1
- Resistant to most acids and bases (see tech. information)
- Talc and Silicone free

### Technical data

Voltage	AWM 2502
U <sub>p</sub> /U	30 V 80 °C
Test voltage	500 V
Insulation resistance	min. 20 MΩ x km
Temperature range	Moving -5 °C - +80 °C Fixed -25 °C - +80 °C
Burning behavior	Flame retardant per VDE 0482 part 265-2 DIN EN 50265-2 IEC 60332-1
Approvals	RoHS REACH

### Construction

- AWG conductor
- Bare copper wire finely stranded per DIN VDE 0295 class 5 and IEC 60228 class 5
- Special thermoplastic conductor insulation
- Conductor color coded for specific system
- Tinned copper braid shield, optical coverage ≥ 85 %
- Special PVC jacket
- Green jacket RAL 6018

Part No.	Description No. of conductors	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
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### For Siemens System DRIVE-CLiQ

<b>104313</b>	(1x4xAWG26) GN/YE/BU/PK	6.9	0.272	49	23
<b>104341</b>	(1x4xAWG26+2xAWG22) AWG26: GN/YE/BU/PK AWG22: RD/BK	7.2	0.283	57	28

Additional feedback cables for other systems available. Please contact us for further information.

Specifications are subject to change without prior notice

1-800-447-2371



www.lutze.com

# LÜTZE SUPERFLEX® Plus M PUR 0.6/1kV, Unshielded

## High Flexing Motor Cable with UL/CE Approvals



### Application

- High flexible multi-conductor cable for continuous moving applications such as machine tools, handling equipment and processing machines
- Designed for demanding industrial C-track applications
- Compatible with all major brand C-tracks

### Characteristics

- Super finely stranded per Class 6 for continuous moving applications
- TPE conductor insulation
- Low capacitance
- PUR jacket
- Highest level of resistance against cooling fluids, greases and oils
- Abrasion and hydrolysis resistant, low water absorption
- UV resistant
- Non-wicking fillers
- Talc and Silicone free

### Technical Data

Voltage	1000V UL AWM U <sub>0</sub> /U 0.6/1kV
Temperature	Moving -25°C - +80°C Fixed -40°C - +80°C
Minimum bending radius	Moving 7.5 x cable OD Fixed 4 x cable OD
Conductor marking	Black with white numbers and one green/yellow ground
Isolation resistance	Min 100MΩ x km
Burning behavior	Flame retardant per VDE 0482 part 265-2 DIN EN 50265-2 UL VW-1 CSA FT1 IEC 60332-1
Halogen free	According to DIN EN 50267-2-1
Oil resistance	Oil Res II
Approvals	RoHS REACH

### Construction

- Metric conductor
- Bare copper wire super finely stranded per DIN VDE 0295 Class 6 and IEC 60228 Class 6
- Special TPE conductor insulation
- G: with GNYE ground conductor  
x: without ground conductor
- Layer pitch optimized
- Fleece wrap over cabled conductor
- Extremely oil resistant PUR jacket
- Black jacket RAL 9005

Part No.	Description No. of conductors incl. ground	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>AWG 16 / 1.5 mm<sup>2</sup></b>					
111370	4G1.5	7.7	0.303	81	39
<b>AWG 14 / 2.5 mm<sup>2</sup></b>					
111371	4G2.5	9.3	0.366	96	64
<b>AWG 12 / 4 mm<sup>2</sup></b>					
111372	4G4	10.8	0.425	156	103
111545	5G4	12.1	0.476	192	130
<b>AWG 10 / 6 mm<sup>2</sup></b>					
111373	4G6	12.9	0.508	220	155
111430	5G6	14.5	0.571	269	194
<b>AWG 8 / 10 mm<sup>2</sup></b>					
111374	4G10	15.5	0.610	352	257
111429	5G10	18.2	0.717	504	329
<b>AWG 6 / 16 mm<sup>2</sup></b>					
111375	4G16	18.8	0.740	663	411
111548	5G16	20.8	0.819	784	516
<b>AWG 4 / 25 mm<sup>2</sup></b>					
111376	4G25	23.7	0.933	804	643
<b>AWG 2 / 35 mm<sup>2</sup></b>					
111377	4G35	26.6	1.041	1,240	901
<b>AWG 1 / 50 mm<sup>2</sup></b>					
111378	4G50	31.8	1.252	1,642	1,286

Specifications are subject to change without prior notice

# LÜTZE SUPERFLEX® Plus M (C) PUR 0.6/1kV, Shielded

## High Flexing Motor Cable with UL/CE/DESINA Approvals



### Application

- High flexing Servo Motor, Motor and VFD Cable for continuous flexing applications
- Suitable for applications with extremely rough operating conditions and oil exposure
- Designed for demanding industrial C-track applications
- For Siemens and similar systems
- Compatible with all major brand C-tracks

### Characteristics

- Super finely stranded per class 6 for continuous moving applications
- Reduced friction and low capacitance
- Highest level of resistance against cooling fluids, greases and oils
- Abrasion and hydrolysis resistant, low water absorption
- UV resistant
- Non-wicking fillers
- Talc and Silicone free

### Technical Data

Voltage	1000V UL AWM U <sub>0</sub> /U 0.6/1kV
Temperature	Moving -25°C - +80°C Fixed -40°C - +80°C
Minimum bending radius	Moving 10 x cable OD Fixed 6 x cable OD
Conductor marking	Black with white numbers and one green/yellow ground
Isolation resistance	Min. 500MΩ x km
Burning behavior	Flame retardant per VDE 0482 part 265-2 DIN EN 50265-2 IEC 60754-1 UL 1581 section 1080 VW-1 CSA FT1
Halogen free	According to DIN EN 50267-2-1
Oil resistance	Oil Res II
Approvals	RoHS REACH

Part No.	Description No. of conductors incl. ground	Siemens Designation	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
	<b>AWG18 / 1.0 mm<sup>2</sup></b>					
111879	(4G1.0)	-	7.4	0.291	72.4	43
	<b>AWG 16 / 1.5 mm<sup>2</sup></b>					
111460	(4G1.5)	1BB11	8.6	0.339	78.4	51
	<b>AWG 14 / 2.5 mm<sup>2</sup></b>					
111461	(4G2.5)	1BB21	10.8	0.425	115.9	80
	<b>AWG 12 / 4 mm<sup>2</sup></b>					
111462	(4G4)	1BB31	12.2	0.480	164.2	126
	<b>AWG 10 / 6 mm<sup>2</sup></b>					
111463	(4G6)	1BB41	14.0	0.551	244.6	194
	<b>AWG 8 / 10 mm<sup>2</sup></b>					
111464	(4G10)	1BB51	17.6	0.693	367.8	302
	<b>AWG 6 / 16 mm<sup>2</sup></b>					
111465	(4G16)	1BB61	21.2	0.835	568.8	476
	<b>AWG 4 / 25 mm<sup>2</sup></b>					
111466	(4G25)	1BB25	25.0	0.984	870.3	737
	<b>AWG 2 / 35 mm<sup>2</sup></b>					
111467	(4G35)	1BB30	28.3	1.114	1,133.6	1,012
	<b>AWG 1 / 50 mm<sup>2</sup></b>					
111468	(4G50)	1BB50	33.3	1.311	1,636.1	1,427

### Construction

- Metric conductor
- Bare copper wire super finely stranded per DIN VDE 0295 class 6 and IEC 60228 class 6
- Special TPE conductor insulation
- G: with GNYE ground conductor  
x: without ground conductor
- Tinned copper braid shield
- Extremely oil resistant PUR jacket
- Orange jacket RAL 2003

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1-800-447-2371



www.lutze.com

# LÜTZE SUPERFLEX® Plus M (C) PUR 0.6/1kV, Shielded

## High Flexing Composite Motor Cable with UL/CE/DESINA Approvals



### Application

- High flexing Servo Motor, Motor and VFD Cable for continuous flexing applications
- Suitable for applications with extremely rough operating conditions and oil exposure
- Designed for demanding industrial C-track applications
- With one control pair for SIEMENS and similar systems
- Compatible with all major brand C-tracks

### Characteristics

- Super finely stranding per class 6 for continuous moving applications
- Reduced friction
- Low capacitance
- Highest level of resistance against cooling fluids, greases and oils
- Abrasion and hydrolysis resistant, low water absorption
- UV resistant
- Non-wicking fillers
- Talc and Silicone free

### Technical Data

Voltage	1000V UL AWM U <sub>0</sub> /U 0.6/1kV
Temperature	Moving -25°C - +80°C Fixed -40°C - +80°C
Minimum bending radius	Moving 10 x cable OD Fixed 6 x cable OD
Conductor marking	Black with white numbers and one green/yellow ground
Isolation resistance	Min 500MΩ x km
Burning behavior	Flame retardant per VDE 0482 part 265-2 DIN EN 50265-2 IEC 60754-1 UL 1581 section 1080 VW-1 CSA FT1
Halogen free	According to DIN EN 50267-2-1
Oil resistance	Oil Res II
Approvals	RoHS REACH

### Construction

- Metric conductor
- Bare copper wire super finely stranded per DIN VDE 0295 class 6 and IEC 60228 class 6
- Special TPE conductor insulation
- G: with GNYE ground conductor  
x: without ground conductor
- Layer pitch optimized
- Fleece warp over cabled conductors
- Tinned copper braid shield, optical coverage ≥ 85 %
- Extremely oil resistant PUR jacket
- Orange jacket RAL 2003

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### WITH ONE CONTROL PAIR

Part No.	Description No. of conductors incl. ground	Siemens Designation	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>AWG 16 / 1.5 mm<sup>2</sup></b>						
111420	(4G1.5 + (2x1.5))	1BA11	11.4	0.449	141	100
<b>AWG 14 / 2.5 mm<sup>2</sup></b>						
111421	(4G2.5 + (2x1.5))	1BA21	12.9	0.508	158	130
<b>AWG 12 / 4 mm<sup>2</sup></b>						
111422	(4G4 + (2x1.5))	1BA31	14.5	0.571	214	171
<b>AWG 10 / 6 mm<sup>2</sup></b>						
111423	(4G6 + (2x1.5))	1BA41	16.1	0.634	288	228
<b>AWG 8 / 10 mm<sup>2</sup></b>						
111424	(4G10 + (2x1.5))	1BA51	19.5	0.768	456	353
<b>AWG 6 / 16 mm<sup>2</sup></b>						
111425	(4G16 + (2x1.5))	1BA61	23.6	0.929	641	519
<b>AWG 4 / 25 mm<sup>2</sup></b>						
111426	(4G25 + (2x1.5))	1BA25	28.5	1.122	915	761
<b>AWG 2 / 35 mm<sup>2</sup></b>						
111427	(4G35 + (2x1.5))	1BA35	32.0	1.260	1,840	1,068
<b>AWG 1 / 50 mm<sup>2</sup></b>						
111428	(4G50 + (2x1.5))	1BA50	37.3	1.469	2,504	1,505

# LÜTZE SUPERFLEX® Plus M (C) PUR 0.6/1kV, Shielded

## High Flexing Composite Motor Cable with UL/CE/DESINA Approvals



### Application

- High flexing Servo Motor, Motor and VFD Cable for continuous flexing applications
- Suitable for applications with extremely rough operating conditions and oil exposure
- Designed for demanding industrial C-track applications
- With two control pairs for Indramat / Bosch Rexroth and similar systems
- Compatible with all major brand C-tracks

### Characteristics

- Super finely stranding per Class 6 for continuous moving applications
- Reduced friction
- Low capacitance
- Highest level of resistance against cooling fluids, greases and oils
- Abrasion and hydrolysis resistant, low water absorption
- UV resistant
- Non-wicking fillers
- Talc and Silicone free

### Technical Data

Voltage	1000V UL AWM U <sub>0</sub> /U 0.6/1kV
Temperature	Moving -25°C - +80°C Fixed -40°C - +80°C
Minimum bending radius	Moving 10 x cable OD Fixed 6 x cable OD
Conductor marking	Black with white numbers and one green/yellow ground
Isolation resistance	Min 500MΩ x km
Burning behavior	Flame retardant per IEC 60332-1-2 EN 50265-2 UL 1581 section 1080 VW-1 CSA FT1 IEC 60332-1
Halogen free	According to DIN EN 50267-2-1
Oil resistance	Oil Res II
Approvals	RoHS REACH

### Construction

- Metric conductor
- Bare copper wire super finely stranded per DIN VDE 0295 class 6 and IEC 60228 class 6
- Special TPE conductor insulation
- G: with GNYE ground conductor  
x: without ground conductor
- Layer pitch optimized
- Fleece wrap over cabled conductors
- Tinned copper braid shield, optical coverage ≥ 85 %
- Extremely oil resistant PUR jacket
- Orange jacket RAL 2003

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Specifications are subject to change without prior notice

## WITH TWO CONTROL PAIRS

Part No.	Description No. of conductors incl. ground	Indramat Designation	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>AWG 18 / 1.0 mm<sup>2</sup></b>						
111270	(4G1.0+ 2x(2x0.75))	INK 0653	12.5	0.492	155	93
<b>AWG 16 / 1.5 mm<sup>2</sup></b>						
111271	(4G1.5+ 2x(2x0.75))	INK 0650	12.9	0.508	171	109
<b>AWG 14 / 2.5 mm<sup>2</sup></b>						
111279	(4G2.5+ 2x(2x1.0))	INK 0602	14.2	0.560	221	152
<b>AWG 12 / 4 mm<sup>2</sup></b>						
111388	(4G4+(2x1.0)+ (2x1.5))	INK 0603	16.3	0.641	255	173
<b>AWG 10 / 6 mm<sup>2</sup></b>						
111998	(4G6+(2x1.0)+ (2x1.5))	INK 0604	18.4	0.724	355	245
<b>AWG 8 / 10 mm<sup>2</sup></b>						
111762	(4G10+(2x1.0)+ (2x1.5))	INK 0605	22.3	0.878	513	376
<b>AWG 6 / 16 mm<sup>2</sup></b>						
111276	(4G16+2x(2x1.5))	INK 0606	26.8	1.055	713	553
<b>AWG 4 / 25 mm<sup>2</sup></b>						
111277	(4G25+2x(2x1.5))	INK 0607	29.3	1.154	1,148	801
<b>AWG 2 / 50 mm<sup>2</sup></b>						
111278	(4G50+2x(2x1.5))	INK 0667	32.5	1.280	1,458	1,067

# LÜTZE SUPERFLEX® Plus PUR 0.6/1kV, Unshielded

## High Flexing Single Conductor Motor Cable 0.6/1kV, Unshielded



### Application

- Performance flexing cable, specifically suitable for machine and device construction for transport and conveyor technology
- As motor supply or ground conductor
- Optimally suited for C-tracks in extremely harsh operating conditions
- Compatible with all major brand C-tracks

### Characteristics

- Very good alternating bending strength
- Good pressure and roll-over resistance
- Super finely stranded per class 6 for continuous moving applications
- TPE insulation with very high break through resistance
- PUR jacket for highest level of resistance against cooling fluids, greases and oils
- Abrasion and hydrolysis resistant, low water absorption
- UV resistant
- Talc and Silicone free

### Technical Data

Voltage	U <sub>0</sub> /U 0.6/1kV
Test voltage	4000V
Temperature	Moving -25°C - +80°C Fixed -40°C - +80°C
Minimum bending radius	Moving 7.5 x cable OD Fixed 4 x cable OD
Isolation resistance	Min 200MΩ x km
Burning behavior	Flame retardant per VDE 0482 part 265-2 DIN EN 50265-2 IEC 60332-1 UL 1581 section 1080 VW-1 CSA FT 1
Halogen free	According to DIN EN 50267-2-1
Oil resistance	Oil Res II
Approvals	RoHS REACH

### Construction

- Metric conductor
- Bare copper wire super finely stranded per DIN VDE 0295 class 6 and IEC 60228 class 6
- Special TPE conductor insulation
- G: with GNYE ground conductor  
x: without ground conductor
- Extremely oil resistant PUR jacket
- Black jacket RAL 9005

Part No.	Description No. of conductors	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
	<b>AWG 8 / 10 mm<sup>2</sup></b>				
111126	1x10	8.4	0.331	93	62
	<b>AWG 6 / 16 mm<sup>2</sup></b>				
111127	1x16	9.8	0.386	138	99
	<b>AWG 4 / 25 mm<sup>2</sup></b>				
111128	1x25	11.4	0.449	206	157
	<b>AWG 2 / 35 mm<sup>2</sup></b>				
111129	1x35	13.4	0.528	290	219
	<b>AWG 1 / 50 mm<sup>2</sup></b>				
111130	1x50	15.2	0.598	384	321
	<b>2/0 / 70 mm<sup>2</sup></b>				
111131	1x70	16.6	0.654	526	433
	<b>3/0 / 95 mm<sup>2</sup></b>				
111132	1x95	19.2	0.756	701	597
	<b>4/0 / 120 mm<sup>2</sup></b>				
111133	1x120	22.2	0.874	874	806

# LÜTZE SUPERFLEX® Plus (C) PUR 0.6/1kV, Shielded

## High Flexing Single Conductor Motor Cable 0.6/1kV



### Application

- Performance flexing cable, specifically suitable for machine and device construction for transport and conveyor technology
- As motor supply or ground conductor
- Optimally suited for C-tracks in extremely harsh operating conditions
- Compatible with all major brand C-tracks

### Characteristics

- Very good alternating bending strength
- Good pressure and roll-over resistance
- Super finely stranded per class 6 for continuous moving applications
- TPE insulation with very high break through resistance
- PUR jacket for highest level of resistance against cooling fluids, greases and oils
- Abrasion and hydrolysis resistant, low water absorption
- UV resistant
- Talc and Silicone free

### Technical Data

Voltage	U <sub>0</sub> /U 0.6/1kV
Test Voltage	4000V
Temperature	Moving -25°C - +80°C Fixed -40°C - +80°C
Minimum bending radius	Moving 7.5 x cable OD Fixed 4 x cable OD
Isolation resistance	Min 200MΩ x km
Burning behavior	Flame retardant per VDE 0482 part 265-2 DIN EN 50265-2, IEC 60332-1, UL 1581 section 1080 VW-1 CSA FT 1
Halogen free	According to DIN EN 50267-2-1
Oil resistance	Oil Res II
Approvals	RoHS REACH

### Construction

- Metric conductor
- Bare copper super finely stranded per DIN VDE 0295 class 6 and IEC 60228 class 6
- Special TPE conductor insulation
- G: with GNYE ground conductor  
x: without ground conductor
- Fleece wrap
- Tinned copper braid shield, optical coverage ≥ 85 %
- Extremely oil resistant PUR jacket
- Black jacket RAL 9005

Part No.	Description No. of conductors	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
	<b>AWG 8 / 10 mm<sup>2</sup></b>				
111289	(1x10)	9.0	0.354	115	81
	<b>AWG 6 / 16 mm<sup>2</sup></b>				
111290	(1x16)	10.4	0.409	162	121
	<b>AWG 4 / 25 mm<sup>2</sup></b>				
111291	(1x25)	12.0	0.472	237	183
	<b>AWG 2 / 35 mm<sup>2</sup></b>				
111292	(1x35)	14.0	0.551	323	250
	<b>AWG 1 / 50 mm<sup>2</sup></b>				
111293	(1x50)	15.8	0.622	424	356
	<b>2/0 / 70 mm<sup>2</sup></b>				
111294	(1x70)	17.4	0.685	573	473
	<b>3/0 / 95 mm<sup>2</sup></b>				
111295	(1x95)	20.2	0.795	770	657
	<b>4/0 / 120 mm<sup>2</sup></b>				
111296	(1x120)	23.4	0.921	962	884

# LÜTZE SUPERFLEX® Plus (C) PUR Feedback, Shielded

## High Flexing Feedback Cable for Bosch-Rexroth and other Systems



### Application

- Incremental encoder cable, termination cable for tacho sensor, brake sensor, speed sensor
- Full PUR jacket and TPE cable insulation optimally suited for c-tracks, extremely harsh operating conditions, aggressive coolants and lubricants
- Especially for industrial environments, machines and plants

### Characteristics

- High active and passive interference resistance (EMC)
- Special braided shield, optimized for continuous flexing
- Very good alternating bending strength, for continuous flexing
- Low adhesion, abrasion-resistant, nick-resistant, tear-resistant
- Hydrolysis-resistant, microbe-resistant, and rot-resistant
- Resistant to weather, ozone and UV resistant
- Salt water resistant
- Excellent coolant and lubricant resistance
- Resistant to most oils, greases, alcohol-free benzines and kerosene (see tech. information)
- Talc and Silicone free

### Technical Data

UL-Approval	AWM 20233
Voltage	300 V 80 °C
Test voltage	2000 V
Insulation resistance	min. 2000 MΩ x km
Temperature range	Moving -25 °C - +80 °C Fixed -40 °C - +80 °C
Minimum bending radius	Moving 12 x cable OD Fixed 6 x cable OD
Burning behavior	Flame retardant per VDE 0482 part 265-2 DIN EN 50265-2 IEC 60332-1 UL 1581 section 1080 VW-1 CSA FT 1
Halogen free	According to DIN EN 50267-2-1
Approvals	RoHS REACH

### Construction

- Metric conductor
- Bare copper wire super finely stranded per DIN VDE 0295 class 6 and IEC 60228 class 6
- Special TPE conductor insulation
- G: with GNYE ground conductor  
x: without ground conductor
- Conductors color-coded for specific system
- Layer pitch optimized
- Fleece wrap over cabled conductors
- Tinned copper braid shield, optical coverage ≥ 85 %
- Extremely oil resistant PUR jacket
- Orange jacket RAL 2003

Additional feedback cables for other systems available. Please contact us for further information.

Specifications are subject to change without prior notice  
\*Bosch Rexroth article designations are registered trademarks

Part No.	Description No. of conductors incl. ground	INK* Description	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
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### For Bosch-Rexroth System and similar

110941	(2x1.0+4x2x0.25) 1.0: WH, BN 0.25: BN/GN, GY/PK, BU/VT, RD/BK	INK-0209*	8.9	0.350	81	43
111780	(2x0.5+4x2x0.25) 0.5: WH, BN 0.25: BN/GN, GN/PK, BU/VT, RD/BK	INK-0448*	8.7	0.343	67	40
110940	(9x0.5) Strand color according to DIN 47100	INK-0208*	8.8	0.346	84	50
111495	(4x1.0+4x2x0.14+(4x0.14)) 1.0: BU, WHGN, BNGN, WH 0.14: GY/PK, YE/VT, GN/BN, RD/BK (0.14): GNBK, BUBK, YEBK, RDBK	INK-0532*	9.5	0.374	92	65
111781	(2x0.5+2x2x0.25) 0.5: WH, BN 0.25: RD/BK, GY/PK	INK-0750*	7.6	0.299	60	28



# LÜTZE SUPERFLEX® Plus (C) PUR Feedback, Shielded

## High Flexing Feedback Cable for Allen Bradley and other Systems



### Application

- Incremental encoder cable and resolver cable for tachometer, brake sensor, speed sensor
- Full PUR jacket and special TPE cable insulation optimally suited for c-tracks, extremely harsh operating conditions, aggressive coolants and lubricants
- Especially for industrial environments, machines and plants

### Characteristics

- High active and passive interference resistance (EMC)
- Special braided shield, optimized for continuous flexing
- Very good alternating bending strength, for continuous flexing
- Low adhesion, abrasion-resistant, nick-resistant, tear-resistant
- Hydrolysis-resistant, microbe-resistant, and rot-resistant
- Resistant to weather, ozone and UV resistant
- Salt water resistant
- Excellent coolant and lubricant resistance
- Resistant to most oils, greases, alcohol-free benzines and kerosene (see tech, information)
- Talc and Silicone free

### Technical Data

UL-Approval	AWM 21223
Nominal Voltage	1000 V 80 °C
Test voltage	3000 V
Insulation resistance	min. 100 MΩ x km
Temperature range	Moving -25 °C - +80 °C Fixed -40 °C - +80 °C
Minimum bending radius	Moving 10 x cable OD Fixed 6 x cable OD
Burning behavior	Flame retardant per VDE 0482 part 265-2; DIN EN 50265-2 IEC 60332-1 UL 1581 section 1080 VW-1 CSA FT 1
Halogen free	According to DIN EN 50267-2-1

### Construction

- Metric conductor
- Bare copper wire super finely stranded per DIN VDE 0295 class 6 and IEC 60228 class 6
- Special TPE conductor insulation
- G: with GNYE ground conductor  
x: without ground conductor
- Conductors color-coded for specific system
- Layer pitch optimized
- Fleece wrap over cabled conductors
- Tinned copper braid shield, optical coverage ≥ 85 %
- Extremely oil resistant PUR jacket
- Green jacket RAL 6018

Part No.	Description No. of conductors incl. ground	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
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### For Allen Bradley System and similar

111488	(5x2x0.34) BKWH/BK, RDWH/RD, GNWH/GN, GYWH/GY, OGWH/OG	9.2	0.362	72	36
111489	(2x1.5+2x0.34+6x2x0.14) 1.5: GY, WHGY 0.34: OG, WHOG 0.14: BKWH/BK, RDWH/RD, GYWH/GY, BNWH/BN, YEWH/YE, BNWH/BN	10.8	0.425	121	81

Additional feedback cables for other systems available. Please contact us for further information.

Specifications are subject to change without prior notice

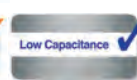
1-800-447-2371



www.lutze.com

# LÜTZE SUPERFLEX® Plus (C) PUR Feedback, Shielded

## High Flexing Feedback Cable for Siemens and other Systems



### Application

- Incremental encoder cable, termination cable for tachometer, brake sensor, speed sensor
- Full PUR jacket and TPE cable insulation optimally suited for c-tracks, extremely harsh operating conditions, aggressive coolants and lubricants
- Especially for industrial environments, machines and plants

### Characteristics

- High active and passive interference resistance (EMC)
- Special braided shield, optimized for continuous flexing
- Very good alternating bending strength, for continuous flexing
- Low adhesion, abrasion-resistant, nick-resistant, tear-resistant
- Hydrolysis-resistant, microbe-resistant, and rot-resistant
- Resistant to weather, ozone and UV resistant
- Salt water resistant
- Excellent coolant and lubricant resistance
- Resistant to most oils, greases, alcohol-free benzines and kerosene (see tech, information)
- Talc and Silicone free

### Technical Data

UL-Approval	AWM 20236
Voltage	30 V 80 °C
Test voltage	500 V
Insulation resistance	Min. 2000 MΩ x km
Temperature range	Moving -25 °C - -80 °C Fixed -40 °C - -80 °C
Minimum bending radius	Moving 12 x cable OD Fixed 6 x cable OD
Burning behavior	Flame retardant per VDE 0482 part 265-2 DIN EN 50265-2 IEC 60332-1 UL 1581 section 1080 VW-1 CSA FT 1
Halogen free	According to DIN EN 50267-2-1
Approvals	RoHS REACH

### Construction

- Bare copper wire super finely stranded per DIN VDE 0295 class 6 and IEC 60228 class 6
- Special TPE conductor insulation
- G: with GNYE ground conductor  
x: without ground conductor
- Conductors color-coded for specific system
- Layer pitch optimized
- Fleece wrap over cabled conductors
- Tinned copper braid shield, optical coverage ≥ 85 %
- Extremely oil resistant PUR jacket
- Green jacket RAL 6018

Additional feedback cables for other systems available. Please contact us for further information.

Part No.	Description No. of conductors incl. ground	Siemens Designation	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
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### For Siemens System, Standard 6FX8000\* and similar

111412	(8×2×0.18) BK/BN, RD/OG, YE/GN, BU/VT, GY/WH, WHBK/WHBN, WHRD/WHOG, WHGN/WHYE	1BD11*	8.1	0.319	88	49
111456	(4×0.5+4×2×0.38) 0.5: WHBU, WHBK, WHRD, WHYE 0.38: BK/BN, RD/OG, GN/YE, BU/VT	1BD21*	9.2	0.362	89	58
111459	(2×(0.5)+3×(2×0.14)) (0.5): BK, RD 0.14: BK/BN, RD/OG, GN/YE	1BD31*	8.7	0.343	86	46
111458	(2×0.5+3×(2×0.14)+4×0.14) 0.5: BNBU, BNRD (0.14) BK/BN, RD/OG, GN/YE 0.14: BU, GY, WHBK, WHYE	1BD41*	9.0	0.354	82	41
111457	(2×0.5+3×(2×0.14)+ 4×0.23+4×0.14) 0.5: BNBU, BNRD 0.23: GNBK, GNRD, BNYE, BNGY (0.14) BK/BN RD/OG, YEGN 0.14: BU, GY, WHBK, WHYE	1BD51*	9.6	0.378	103	6.2
111453	(4×2×0.18) BK/BN, RD/OG, GN/YE, BU/VT	1BD61*	6.4	0.252	51	22
111452	(2×2×0.18) Star quad, BK, RD, OG, BN	1BD71*	5.0	0.197	28	15
111454	(12×0.23) BK, BN, RD, OG, GN, YE, BU, VT, GY, WH, WHBK, WHBN	1BD81*	6.7	0.264	57	32

### For Siemens System DRIVE-CLiQ Standard System\* and similar

104310	(2x2x0.15+1x2x0.34) 0.34: RD/BK 0.15: PK/BU, YE/GN	2DC00*	6.8	0.268	49	23
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Specifications are subject to change without prior notice  
\*Siemens and DRIVE-CLiQ are registered trademarks

# LÜTZE SUPERFLEX® Plus (C) PUR Feedback, Shielded

## High Flexing Feedback Cable for Various Systems



### Application

- Industrial shielded feedback, resolver cable for tacho sensor, brake sensor, speed sensor etc.
- Full PUR jacket and TPE cable insulation optimally suited for C-tracks, extremely harsh operating conditions, aggressive coolants and lubricants
- Especially for industrial environments, machines and plants

### Characteristics

- High active and passive interference resistance (EMC)
- Special braided shield, optimized for continuous flexing
- Very good alternating bending strength, for continuous flexing
- Low adhesion, abrasion-resistant, nick-resistant, tear-resistant
- Hydrolysis-resistant, microbe-resistant and rot-resistant
- Resistant to weather, ozone and UV resistant
- Salt water resistant
- Excellent coolant and lubricant resistance
- Resistant to most oils, greases, alcohol-free benzines and kerosene (see tech, information)
- Talc and Silicone free

### Technical Data

UL-Approval	AWM 20233
Voltage	300 V 80 °C
Test voltage	2000 V
Maximum conductor capacitance	ca. 60 pF/m
Insulation resistance	Min. 2000 MΩ x km
Temperature range	Moving -25 °C - +80 °C Fixed -40 °C - +80 °C
Minimum bending radius	Moving 12 x cable OD Fixed 6 x cable OD
Burning behavior	Flame retardant per VDE 0482 part 265-2 EN 50265-2 IEC 60332-1 UL 1581 section 1080 VW-1 CSA FT 1
Halogen free	According to DIN EN 50267-2-1
Approvals	RoHS REACH

### Construction

- Bare copper wire, super finely stranded per DIN VDE 0295 class 6 and IEC 60228 class 6
- Special TPE conductor insulation
- G: with GNYE ground conductor  
x: without ground conductor
- Conductors color-coded for specific system
- Layer pitch optimized
- Fleece wrap over cabled conductors
- Tinned copper braid shield, optical coverage ≥ 85 %
- Full PUR jacket, matte, adhesion-free surface
- Green jacket RAL 6018

Additional feedback cables for other systems available.  
Please contact us for further information.

Specifications are subject to change without prior notice

Part No.	Description No. of conductors	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
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### Individual Pair Shielding

111778	(3x(2x0.25)) DIN 47100 TSP GNBN, GYPK, BUVT	10.4	0.409	91	46
111779	(4x(2x0.25)) DIN 47100 TSP GNBN, GYPK, BUVT, RDBK	11.4	0.449	122	64

**TSP = Twisted  
Shielded Pair**

# 6 Hook Up Wire



# Lutze Single Conductor Hook Up Wire, Multi-Norm

## Flexible Single Conductor Hook Up Wire with UL/CSA/CE/MTW and HAR Approvals



### Application

- Multi-rated single-conductor cable for wiring of cabinets and use in electrical and electronic equipment
- Specially suited for use in Europe (HAR) and North America (UL MTW + CSA TEW)
- MTW rating compliant with **NFPA 79** for machine tool wiring

### Characteristics

- Fine stranding class 5, per VDE 0295
- Very flexible for easy installation
- Talc and Silicone free

### Technical Data

Nominal voltage	H05V2-K 300/500 V, H07V2-K 450/750 V, UL 600 V, style 1015
Test voltage	3000V
Bending radius	Fixed: 5 x cable OD
Temperature	Flexible -5 to +105°C Fixed -40 to + 105°C H05/H07 up to +90°C
Conductor stranding	Fine wire, tinned copper per VDE 0295 class 5, IEC 60228 class 5
Insulation resistance	20 MΩ x km
Burning behavior	Flame retardant per UL VW-1, IEC 60332-1
Approvals	HAR: HD 21.3 S3 - H05V-K (≤ AWG 18) - H07V-K (≥ AWG 16) UL 1063 MTW Listed UL AWM 1015 CSA TEW RoHS REACH
Put ups	<b>AWG 19 – AWG 12</b> 100m (328 ft) carton or ring 500m (1,640 ft) reel upon request <b>AWG 10 and larger</b> Cuts of any length up to 1,000m (3,280 ft) reel

### Construction

- Metric conductor
- Flexible stranded tinned copper conductors
- PVC insulation according to UL 1581, class 43 heat and humidity resistant
- Conditionally resistant to oils, solvents, acids and bases

Part No.	Description Color	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>AWG 19 / 0.75 mm<sup>2</sup></b>					
<b>H05V2-K</b>					
A61900	Green/Yellow	2.7	0.106	9	5
A61901	Black	2.7	0.106	9	5
A61902	Blue	2.7	0.106	9	5
A61903	Brown	2.7	0.106	9	5
A61904	Red	2.7	0.106	9	5
A61914	Dark Blue	2.7	0.106	9	5
<b>AWG 18 / 1.0 mm<sup>2</sup></b>					
<b>H05V2-K</b>					
A61800	Green/Yellow	2.9	0.114	10	6
A61801	Black	2.9	0.114	10	6
A61802	Blue	2.9	0.114	10	6
A61803	Brown	2.9	0.114	10	6
A61804	Red	2.9	0.114	10	6
A61814	Dark Blue	2.9	0.114	10	6
A61844	White/Blue	2.9	0.114	10	6
<b>AWG 16 / 1.5 mm<sup>2</sup></b>					
<b>H07V2-K</b>					
A61600	Green/Yellow	3.3	0.130	14	10
A61601	Black	3.3	0.130	14	10
A61602	Blue	3.3	0.130	14	10
A61603	Brown	3.3	0.130	14	10
A61604	Red	3.3	0.130	14	10
A61605	White	3.3	0.130	14	10
A61614	Dark Blue	3.3	0.130	14	10
A61615	Blue/White	3.3	0.130	14	10
A61644	White/Blue	3.3	0.130	14	10
<b>AWG 14 / 2.5 mm<sup>2</sup></b>					
<b>H07V2-K</b>					
A61400	Green/Yellow	3.7	0.145	21	16
A61401	Black	3.7	0.145	21	16
A61402	Blue	3.7	0.145	21	16
A61403	Brown	3.7	0.145	21	16
A61404	Red	3.7	0.145	21	16
A61405	White	3.7	0.145	21	16
A61414	Dark Blue	3.7	0.145	21	16
<b>AWG 12 / 4.0 mm<sup>2</sup></b>					
<b>H07V2-K</b>					
A61200	Green/Yellow	4.3	0.169	31	25
A61201	Black	4.3	0.169	31	25
<b>AWG 10/ 6.0 mm<sup>2</sup></b>					
<b>H07V2-K</b>					
A61000	Green/Yellow	4.8	0.189	44	39
A61001	Black	4.8	0.189	44	39
<b>AWG 8 / 10 mm<sup>2</sup></b>					
<b>H07V2-K</b>					
A60800	Green/Yellow	6.8	0.267	76	64
A60801	Black	6.8	0.267	76	64

More colors and sizes upon request. Please call us for information!

# Lutze Single Conductor Hook Up Wire, Multi-Norm

Flexible Single Conductor Hook Up Wire with UL/CSA/CE/MTW and HAR Approvals



## Application

- Multi-rated single-conductor cable for wiring of cabinets and use in electrical and electronic equipment
- Specially suited for use in Europe (HAR) and North America (UL MTW + CSA TEW)
- MTW rating compliant with **NFPA 79** for machine tool wiring

## Characteristics

- Fine stranding class 5, per VDE 0295
- Very flexible for easy installation
- MTW rated
- Talc and Silicone free

## Technical Data

Nominal voltage	H05V2-K 300/500 V, H07V2-K 450/750 V, UL 600 V, style 1015
Test voltage	3000V
Bending radius	Fixed: 5 x cable OD
Temperature	Flexible -5 to +105°C Fixed -40 to + 105°C H05/H07 up to +90°C
Conductor stranding	Fine wire, tinned copper per VDE 0295 class 5, IEC 60228 class 5
Insulation resistance	20 MΩ x km
Burning behavior	Flame retardant per UL VW-1, IEC 60332-1
Approvals	HAR: HD 21.3 S3 - H05V-K (≤ AWG 18) - H07V-K (≥ AWG 16) UL 1063 MTW Listed UL AWM 1015 CSA TEW RoHS REACH
Put ups	<b>AWG 19 – AWG 12</b> 100m (328 ft) carton or ring 500m (1,640 ft) reel upon request <b>AWG 10 and larger</b> Cuts of any length up to 1,000m (3,280 ft) reel

Part No.	Description Color	OD / Ø ca. mm	OD / Ø inches	Weight Lbs/Mft	Copper Lbs/Mft
<b>AWG 6 / 16 mm<sup>2</sup> X07V2-K</b>					
<b>A60600</b>	Green/Yellow	8.6	0.338	126	103
<b>A60601</b>	Black	8.6	0.338	126	103
<b>AWG 4 / 25 mm<sup>2</sup> H07V2-K</b>					
<b>A60400</b>	Green/Yellow	10.0	0.394	180	161
<b>A60401</b>	Black	10.0	0.394	180	161
<b>AWG 2 / 35 mm<sup>2</sup> H07V2-K</b>					
<b>A60200</b>	Green/Yellow	11.0	0.433	247	225
<b>A60201</b>	Black	11.0	0.433	247	225
<b>AWG 1 / 50 mm<sup>2</sup> X07V2-K</b>					
<b>A60100</b>	Green/Yellow	14.0	0.551	347	322
<b>A60101</b>	Black	14.0	0.551	347	322
<b>AWG 2/0 / 70 mm<sup>2</sup> X07V2-K</b>					
<b>A67000</b>	Green/Yellow	15.6	0.614	475	452
<b>A67001</b>	Black	15.6	0.614	475	452
<b>AWG 3/0 / 95 mm<sup>2</sup> X07V2-K</b>					
<b>A69500</b>	Green/Yellow	17.8	0.701	629	613
<b>A69501</b>	Black	17.8	0.701	629	613

## Construction

- Metric conductor
- Flexible stranded tinned copper conductors
- PVC insulation according to UL 1581, class 43 heat and humidity resistant
- Conditionally resistant to oils, solvents, acids and bases

More colors and sizes upon request. Please call us for information!

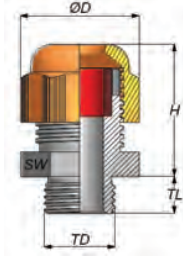
Specifications are subject to change without prior notice

# 7 Wire and Cable Management



# LUTZE TOP-T Fittings NPT

## Plastic NPT



### Characteristics

- Integrated strain relief
- Wide sealing and clamping range
- Easy to install
- Temperature range -30°C - +80°C/  
-22°F - +176°F
- Max temporary temperature up to  
+150°C/+300°F
- Protection class IP68

### Fitting Specifications

Connecting thread	NPT
Material	Polyamide 6
Seal	Neoprene
Color	Black RAL 9005 Gray RAL 7001

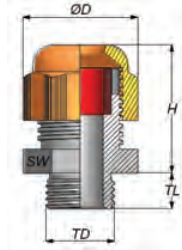
Part No.	Thread	Clamping Range Ø inches	Clamping Range Ø mm	TL mm	D/SW mm	TD mm	H mm
<b>BLACK</b>							
<b>FPNPT38B</b>	NPT 3/8"	0.197-0.394	5-10	15	22	16.5	28
<b>FPNPT12B</b>	NPT 1/2"	0.394-0.551	10-14	15	27	20.7	31
<b>FPNPT34B</b>	NPT 3/4"	0.511-0.709	13-18	15	33	25.9	35
<b>FPNPT10B</b>	NPT 1"	0.709-0.984	18-25	18	42	32.4	40
<b>GRAY</b>							
<b>FPNPT38G</b>	NPT 3/8"	0.197-0.394	5-10	15	22	16.5	28
<b>FPNPT12G</b>	NPT 1/2"	0.394-0.551	10-14	15	27	20.7	31
<b>FPNPT34G</b>	NPT 3/4"	0.511-0.709	13-18	15	33	25.9	35
<b>FPNPT10G</b>	NPT 1"	0.709-0.984	18-25	18	42	32.4	40
<b>REDUCED CLAMPING RANGE</b>							
<b>FPNPT38B-R</b>	NPT 3/8"	0.118-0.276	3-7	15	22	16.5	28
<b>FPNPT12B-R</b>	NPT 1/2"	0.276-0.472	7-12	15	27	20.7	31
<b>FPNPT34B-R</b>	NPT 3/4"	0.354-0.630	9-16	15	33	25.9	35
<b>FPNPT10B-R</b>	NPT 1"	0.472-0.787	12-20	18	42	32.4	40

Specifications are subject to change without prior notice



# LUTZE TOP-T Fittings PG

## Plastic PG



### Characteristics

- Integrated strain relief
- Wide sealing and clamping range
- Easy to install
- Temperature range -30°C - +80°C/  
22°F - +176°F
- Max temporary temperature up to  
+150°C/+300°F
- Protection class IP68

### Fitting Specifications

Connecting thread PG as per  
DIN 40430

Material Polyamide 6

Seal Neoprene

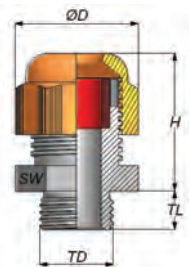
Color Black RAL  
9005  
Gray RAL  
7001

Part No.	Thread	Clamping Range Ø inches	Clamping Range Ø mm	TL mm	D/SW mm	TD mm	H mm
<b>BLACK</b>							
FPPG7B	PG 7	0.118-0.256	3-6.5	8	15	13	22
FPPG9B	PG 9	0.157-0.315	4-8	8	19	16	25
FPPG11B	PG 11	0.197-0.394	5-10	8	22	19	28
FPPG13B	PG 13.5	0.236-0.472	6-12	9	24	21	29
FPPG16B	PG 16	0.394-0.551	10-14	10	27	23	31
FPPG21B	PG 21	0.512-0.709	13-18	11	33	29	35
FPPG29B	PG 29	0.709-0.984	18-25	11	42	37	40
FPPG36B	PG 36	0.866-1.260	22-32	13	53	47	49
FPPG42B	PG 42	1.181-1.496	30-38	13	60	54	49
FPPG48B	PG 48	1.339-1.732	34-44	14	65	59	49
<b>GRAY</b>							
FPPG7G	PG 7	0.118-0.256	3-6.5	8	15	13	22
FPPG9G	PG 9	0.157-0.315	4-8	8	19	16	25
FPPG11G	PG 11	0.197-0.394	5-10	8	22	19	28
FPPG13G	PG 13.5	0.236-0.472	6-12	9	24	21	29
FPPG16G	PG 16	0.394-0.551	10-14	10	27	23	31
FPPG21G	PG 21	0.512-0.709	13-18	11	33	29	35
FPPG29G	PG 29	0.709-0.984	18-25	11	42	37	40
FPPG36G	PG 36	0.866-1.260	22-32	13	53	47	49
FPPG42G	PG 42	1.181-1.496	30-38	13	60	54	49
FPPG48G	PG 48	1.339-1.732	34-44	14	65	59	49
<b>REDUCED CLAMPING RANGE</b>							
FPPG7G-R	PG 7	0.079-0.197	2-5	8	15	13	22
FPPG9G-R	PG 9	0.079-0.236	2-6	8	19	16	25
FPPG11G-R	PG 11	0.118-0.276	3-7	8	22	19	28
FPPG13G-R	PG 13.5	0.197-0.354	5-9	9	24	21	29
FPPG16G-R	PG 16	0.276-0.472	7-12	10	27	23	31
FPPG21G-R	PG 21	0.354-0.630	9-16	11	33	29	35
FPPG29G-R	PG 29	0.472-0.787	12-20	11	42	37	40
FPPG36G-R	PG 36	0.787-1.024	20-26	13	53	47	49

Specifications are subject to change without prior notice

# LUTZE TOP-T Fittings Metric

## Plastic Metric



### Characteristics

- Integrated strain relief
- Wide sealing and clamping range
- Easy to install
- Manufactured according to EN 50262 requirements
- Temperature range  
-30°C - +80°C/  
-22°F - +176°F
- Max temporary temperature  
up to +150°C/  
+300°F
- Protection class  
IP68

### Fitting Specifications

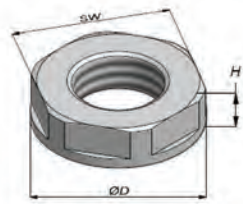
Connecting thread	Metric as per EN 60423
Material	Polyamide 6
Seal	Neoprene
Color	Black RAL 9005 Gray RAL 7001

Part No.	Thread	Clamping Range Ø inches	Clamping Range Ø mm	TL mm	D/SW mm	TD mm	H mm
<b>BLACK</b>							
<b>FPM12B</b>	M12x1.5	0.118-0.256	3-6.5	8	15.0	12	22
<b>FPM16B</b>	M16x1.5	0.197-0.394	5-10	10	22.0	16	28
<b>FPM20B</b>	M20x1.5	0.315-0.551	10-14	10	27.0	20	31
<b>FPM25B</b>	M25x1.5	0.512-0.709	13-18	10	33.0	25	35
<b>FPM32B</b>	M32x1.5	0.709-0.984	18-25	18	42.0	32	40
<b>FPM40B</b>	M40x1.5	0.866-1.260	22-32	18	53.0	40	49
<b>FPM50B</b>	M50x1.5	1.181-1.496	30-38	18	60.0	50	49
<b>FPM63B</b>	M63x1.5	1.339-1.732	34-44	18	65.0	63	49
<b>GRAY</b>							
<b>FPM12G</b>	M12x1.5	0.118-0.256	3.0-6.5	8	15.0	12	22
<b>FPM16G</b>	M16x1.5	0.197-0.394	5-10	10	22.0	16	28
<b>FPM20G</b>	M20x1.5	0.315-0.551	10-14	10	27.0	20	31
<b>FPM25G</b>	M25x1.5	0.512-0.709	13-18	10	33.0	25	35
<b>FPM32G</b>	M32x1.5	0.709-0.984	18-25	18	42.0	32	40
<b>FPM40G</b>	M40x1.5	0.866-1.260	22-32	18	53.0	40	49
<b>FPM50G</b>	M50x1.5	1.181-1.496	30-38	18	60.0	50	49
<b>FPM63G</b>	M63x1.5	1.339-1.732	34-44	18	65.0	63	49
<b>REDUCED CLAMPING RANGE</b>							
<b>FPM12G-R</b>	M12x1.5	0.079-0.197	2-5	8	15.0	12	22
<b>FPM16G-R</b>	M16x1.5	0.118-0.276	3-7	10	22.0	16	28
<b>FPM20G-R</b>	M20x1.5	0.276-0.472	7-12	10	27.0	20	31
<b>FPM25G-R</b>	M25x1.5	0.354-0.630	9-16	10	33.0	25	35
<b>FPM32G-R</b>	M32x1.5	0.472-0.787	12-20	18	42.0	32	40
<b>FPM40G-R</b>	M40x1.5	0.787-1.024	20-26	18	53.0	40	49
<b>FPM50G-R</b>	M50x1.5	0.984-1.220	25-31	18	60.0	50	49
<b>FPM63G-R</b>	M63x1.5	1.142-1.378	29-35	18	65.0	63	49

Specifications are subject to change without prior notice

# LUTZE TOP-T Locknuts Plastic

## Plastic NPT, PG and Metric



### Characteristics

- Hexagonal locknut for secure tightening of plastic cable fittings and accessories
- Easy to install
- Temperature range- 30°C - +80°C/  
-22°F - +176°F
- Max temporary temperature up to +150°C/+300°F

### Locknut Specifications

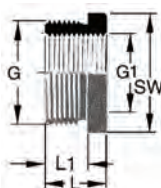
Material Polyamide 6, 30% glass fiber reinforced  
Color Black RAL 9005  
Gray RAL 7001

Flange is imprinted with locknut size for easy identification.

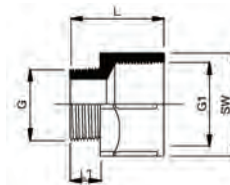
Part No.	Thread	OD - Ø mm	SW mm	H mm
<b>NPT BLACK</b>				
LPNPT38B	NPT 3/8"	25	22	5
LPNPT12B	NPT 1/2"	30.5	27	5
LPNPT34B	NPT 3/4"	37.5	33	5
LPNPT10B	NPT 1"	46.5	47	6
<b>NPT GRAY</b>				
LPNPT38G	NPT 3/8"	25	22	5
LPNPT12G	NPT 1/2"	30.5	27	5
LPNPT34G	NPT 3/4"	37.5	33	5
LPNPT10G	NPT 1"	46.5	47	6
<b>PG BLACK</b>				
LPPG7B	PG 7	21	19	5
LPPG9B	PG 9	24	22	5
LPPG11B	PG 11	26	24	5
LPPG13B	PG 13.5	29	27	6
LPPG16B	PG 16	33	30	6
LPPG21B	PG 21	39	36	7
LPPG29B	PG 29	50	46	7
LPPG36B	PG 36	66	60	8
LPPG42B	PG 42	73	65	8
LPPG48B	PG 48	78	70	8
<b>PG GRAY</b>				
LPPG7G	PG 7	21	19	5
LPPG9G	PG 9	24	22	5
LPPG11G	PG 11	26	24	5
LPPG13G	PG 13.5	29	27	6
LPPG16G	PG 16	33	30	6
LPPG21G	PG 21	39	36	7
LPPG29G	PG 29	50	46	7
LPPG36G	PG 36	66	60	8
LPPG42G	PG 42	73	65	8
LPPG48G	PG 48	78	70	8
<b>METRIC BLACK</b>				
LPM12B	M12x1.5	19.5	18	5
LPM16B	M16x1.5	24.2	22	5
LPM20B	M20x1.5	28.6	26	6
LPM25B	M25x1.5	35.0	32	6
LPM32B	M32x1.5	46.1	41	7
LPM40B	M40x1.5	55.3	50	7
LPM50B	M50x1.5	66.1	60	8
LPM63B	M63x1.5	82.5	75	8
<b>METRIC GRAY</b>				
LPM12G	M12x1.5	19.5	18	5
LPM16G	M16x1.5	24.2	22	5
LPM20G	M20x1.5	28.6	26	6
LPM25G	M25x1.5	35.0	32	6
LPM32G	M32x1.5	46.1	41	7
LPM40G	M40x1.5	55.3	50	7
LPM50G	M50x1.5	66.1	60	8
LPM63G	M63x1.5	82.5	75	8

# LUTZE TOP-T Fittings Reducer and Enlarger

## Plastic Metric Reducer and PG Reducer



## Plastic PG Enlarger



### Metric Reducer Characteristics

- Reduction of threaded or clearance holes to smaller thread size
- Temperature range -30°C - +100°C / -22°F - +212°F
- Material Polyamide PA6 GF30
- Internal/External thread Metric as per EN 60423
- Color Gray RAL 7035

### PG Reducer Characteristics

- Reduction of threaded or clearance holes to smaller thread size
- Temperature range -30°C - +100°C / -22°F - +212°F
- Material Polyamide PA6 GF30
- Internal/External thread PG as per DIN 40430
- Color Gray RAL 7035

### PG Enlarger Characteristics

- Enlarger of threaded or clearance holes to larger thread size
- Fiber glass reinforced
- Temperature range -30°C - +100°C / -22°F - +212°F
- Material Polyamide PA6 GF30
- Internal/External thread PG as per DIN 40430
- Color Gray RAL 7035

Part No.	Thread G	Thread G1	SW mm	L mm	L1 mm
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### METRIC REDUCER

600550	M20x1.5	M12x1.5	24	12	8
600551	M20x1.5	M16x1.5	24	12	8
600553	M25x1.5	M16x1.5	32	14	8
600554	M25x1.5	M20x1.5	32	14	8
600557	M32x1.5	M20x1.5	36	16	10
600558	M32x1.5	M25x1.5	36	16	10
600561	M40x1.5	M25x1.5	46	16	10
600562	M40x1.5	M32x1.5	46	16	10
600565	M50x1.5	M32x1.5	55	18	12
600566	M50x1.5	M40x1.5	55	18	12

### PG REDUCER

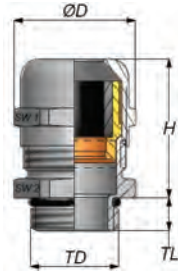
600607	PG 13.5	PG 9	24	9	6
600604	PG 21	PG 16	32	16	11
600605	PG 29	PG 21	39	18	12
600606	PG 36	PG 29	50	24	18

### PG ENLARGER

600351	PG 7	PG 9	19	20.5	8
600352	PG 9	PG 11	22	22.5	8
600353	PG 11	PG 13.5	24	24	8
600355	PG 13.5	PG 16	27	27	9
600356	PG 16	PG 21	33	29	9
600357	PG 21	PG 29	43	33	10
600358	PG 29	PG 36	50	38	10
600359	PG 36	PG 42	60	40	12.5

# LUTZE TOP-T Fittings NPT

## Metal NPT



### Characteristics

- Integrated strain relief
- Anti-twist design
- Wide sealing and clamping range
- Easy to install
- Temperature range -40°C - +100°C / -40°F - +212°F
- Protection class IP68

Part No.	Thread	Clamping Range Ø inches	Clamping Range Ø mm	TL mm	SW1 mm	SW2 mm	H mm
<b>NPT</b>							
<b>FMNPT38</b>	NPT 3/8"	0.157-0.315	4-8	11.5	20	20	23
<b>FMNPT12</b>	NPT 1/2"	0.236-0.472	6-12	13	22	22	25.5
<b>FMNPT34</b>	NPT 3/4"	0.512-0.709	13-18	13	30	30	34
<b>FMNPT10</b>	NPT 1"	0.709-0.984	18-25	13	40	43	43

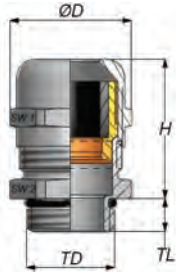
### Fitting Specifications

Design allows for shield termination

Connecting thread	NPT
Material	Brass, nickel plated
Clamping insert	Polyamide 6
Sealing ring	Neoprene
O-ring	NBR

# LUTZE TOP-T Fittings PG

## Metal PG



### Characteristics

- Integrated strain relief
- Anti-twist design
- Wide sealing and clamping range
- Easy to install
- Temperature range
- Protection class

-40°C+100°C  
-40°F+212°F  
IP68

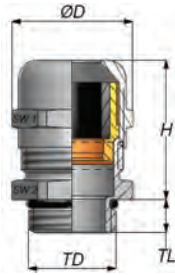
### Fitting Specifications

Connecting thread PG as per DIN 40430  
Material Brass, nickel plated  
Clamping insert Polyamide 6  
Sealing ring Neoprene  
O-ring NBR

Part No.	Thread	Clamping Range Ø inches	Clamping Range Ø mm	TL mm	SW1 mm	SW2 mm	H mm
<b>PG</b>							
<b>FMPG7</b>	PG 7	0.118-0.256	3-6.5	6	14	14	21.8
<b>FMPG9</b>	PG 9	0.157-0.315	4-8	6	17	17	22.6
<b>FMPG11</b>	PG 11	0.197-0.394	5-10	6	20	20	25.3
<b>FMPG13</b>	PG 13.5	0.236-0.472	6-12	6.5	22	22	24.1
<b>FMPG16</b>	PG 16	0.394-0.551	10-14	6.5	24	24	27.5
<b>FMPG21</b>	PG 21	0.512-0.709	13-18	7.2	30	30	31.2
<b>FMPG29</b>	PG 29	0.709-0.984	18-25	8	40	40	39.3
<b>FMPG36</b>	PG 36	0.866-1.260	22-32	9	50	50	47.2
<b>FMPG42</b>	PG 42	1.181-1.496	30-38	12	58	58	47.7
<b>FMPG48</b>	PG 48	1.339-1.732	34-44	14	64	64	52.0
<b>LONG THREAD</b>							
<b>FMPG7-L</b>	PG 7	0.118-0.256	3-6.5	10	14	14	21.8
<b>FMPG9-L</b>	PG 9	0.157-0.315	4-8	10	17	17	22.6
<b>FMPG11-L</b>	PG 11	0.197-0.394	5-10	10	20	20	25.3
<b>FMPG13-L</b>	PG 13.5	0.236-0.472	6-12	10	22	22	24.1
<b>FMPG16-L</b>	PG 16	0.394-0.551	10-14	10	24	24	27.5
<b>FMPG21-L</b>	PG 21	0.512-0.709	13-18	12	30	30	31.2
<b>FMPG29-L</b>	PG 29	0.709-0.984	18-25	12	40	40	39.3

# LUTZE TOP-T Fittings Metric

## Metal Metric



### Characteristics

- Integrated strain relief
- Anti-twist design
- Wide sealing and clamping range
- Easy to install
- Temperature range  
-40°C - +100°C /  
-40°F - +212°F
- Protection class  
IP68

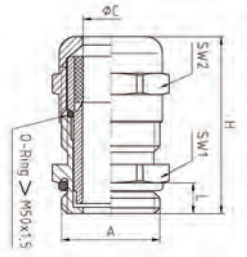
### Fitting Specifications

Connecting thread	Metric as per EN 60423
Material	Brass, nickel plated
Clamping insert	Polyamide 6
Sealing ring	Neoprene
O-ring	NBR

Part No.	Thread	Clamping Range Ø inches	Clamping Range Ø mm	TL mm	SW1 mm	SW2 mm	H mm
<b>METRIC</b>							
<b>FMM12</b>	M12x1.5	0.118-0.256	3-6.5	6	14	14	21.5
<b>FMM16</b>	M16x1.5	0.157-0.315	4-8	7	17	18	23
<b>FMM20</b>	M20x1.5	0.236-0.472	6-12	8	22	22	24.3
<b>FMM25</b>	M25x1.5	0.394-0.551	10-14	8	24	27	27.6
<b>FMM32</b>	M32x1.5	0.512-0.709	13-18	9	30	34	31.2
<b>FMM40</b>	M40x1.5	0.709-0.984	18-25	9	40	43	38.5
<b>FMM50</b>	M50x1.5	0.866-1.260	22-32	9	50	55	47.3
<b>FMM63</b>	M63x1.5	1.339-1.732	34-44	14	64	68	50.3
<b>LONG THREAD</b>							
<b>FMM12-L</b>	M12x1.5	0.118-0.256	3-6.5	12	14	14	21.5
<b>FMM16-L</b>	M16x1.5	0.157-0.315	4-8	12	17	18	23
<b>FMM20-L</b>	M20x1.5	0.236-0.472	6-12	12	22	22	24.3
<b>FMM25-L</b>	M25x1.5	0.394-0.551	10-14	12	24	27	27.6
<b>FMM32-L</b>	M32x1.5	0.512-0.709	13-18	15	30	34	31.2
<b>FMM40-L</b>	M40x1.5	0.709-0.984	18-25	15	40	43	38.5
<b>FMM50-L</b>	M50x1.5	0.866-1.260	22-32	15	50	55	47.3
<b>FMM63-L</b>	M63x1.5	1.339-1.732	34-44	18	64	68	50.3

# LUTZE TOP-T Fittings Metric EMC

## Metal Metric EMC (Electro Magnetic Compatibility)



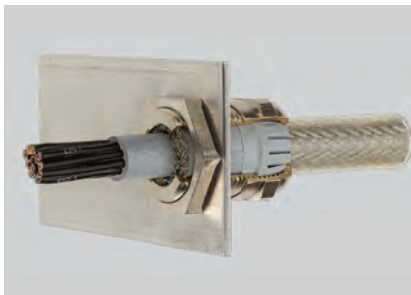
### Characteristics

- For shielded cable
- Integrated strain relief
- Anti-twist design
- Wide sealing and clamping range
- Easy to install
- Temperature range -20°C - +100°C / +14°F - +212°F
- Protection class IP68

### Fitting Specifications

Connecting thread	Metric as per EN 60423
Dome nut	Brass CuZn39Pb3, nickel plated
Clamping insert	Polyamide PA6 V-2
Sealing ring	Polychloroprene-Nitrile rubber CR/NBR
Gland body	Brass CuZn39Pb3, nickel plated
O-ring	NBR

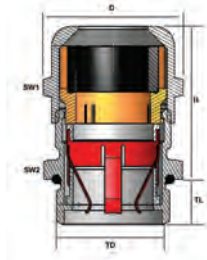
Part No.	Thread A	Clamping Range Ø inches	Clamping Range Ø mm	L mm	SW1 mm	SW2 mm	H mm
<b>EMC</b>							
<b>FMM12-C</b>	M12x1.5	0.118-0.236	3-6	5	14	14	25
<b>FMM16-C</b>	M16x1.5	0.197-0.354	5-9	5	17	17	30
<b>FMM20-C</b>	M20x1.5	0.354-0.512	9-13	6	22	22	33.5
<b>FMM25-C</b>	M25x1.5	0.433-0.630	11-16	7	27	27	36.5
<b>FMM32-C</b>	M32x1.5	0.551-0.827	14-21	8	34	34	38
<b>FMM40-C</b>	M40x1.5	0.748-1.063	19-27	8	43	43	41
<b>FMM50-C</b>	M50x1.5	0.945-1.378	24-35	9	55	55	49.5





# LUTZE TOP-T Fittings EMC2 Metric and NPT

## Metal EMC2 (Electro Magnetic Compatibility), Quick Installation



### Characteristics

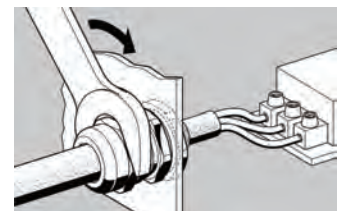
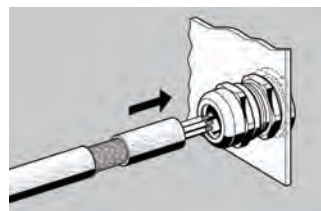
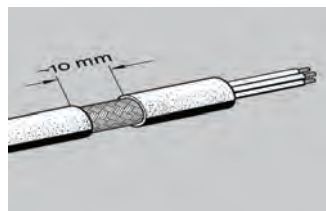
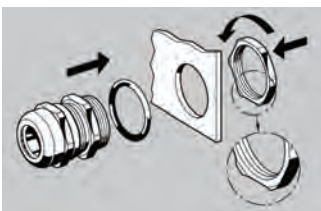
- Adapts to different size cable shields
- 360° shield termination
- Integrated strain relief
- Wide sealing and clamping range
- Fast and easy to install
- Temperature range  
-40°C - +100°C /  
-40°F - +212°F
- Protection class  
IP68

### Fitting Specifications

Connecting thread	Metric as per EN 60423
Material	Brass, nickel plated
Clamping insert	Polyamide 6
Sealing ring	Neoprene
O-ring	NBR

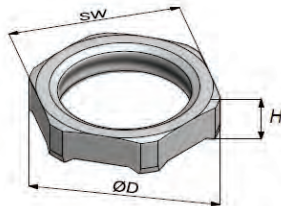
Part No.	Thread	Clamping Range Ø inches	Clamping Range Ø mm	TL mm	SW1 mm	SW2 mm	H mm
<b>METRIC</b>							
<b>FMM12-C2</b>	M12x1.5	0.118-0.256	3-6.5	6	14	14	21.5
<b>FMM16-C2</b>	M16x1.5	0.197-0.394	5-10	7	20	20	25.3
<b>FMM20-C2</b>	M20x1.5	0.236-0.472	6-12	8	22	22	26.5
<b>FMM25-C2</b>	M25x1.5	0.433-0.669	11-17	8	27	27	32.7
<b>FMM32-C2</b>	M32x1.5	0.590-0.827	15-21	8	34	34	36.3
<b>FMM40-C2</b>	M40x1.5	0.748-1.102	19-28	9	43	43	44.5
<b>FMM50-C2</b>	M50x1.5	1.063-1.496	27-38	9	58	58	51.5
<b>FMM63-C2</b>	M63x1.5	1.339-1.732	34-44	14	64	68	52.9
<b>NPT</b>							
<b>FMNPT38-C2</b>	NPT 3/8"	0.197-0.394	5-10	11.5	20	20	40.5
<b>FMNPT12-C2</b>	NPT 1/2"	0.236-0.472	6-12	13	22	22	38.3
<b>FMNPT34-C2</b>	NPT 3/4"	0.512-0.709	13-18	13	30	30	47.4
<b>FMNPT10-C2</b>	NPT 1"	0.709-0.984	18-25	13	40	40	55.2

Long thread EMC2 fittings available through special order. Please contact us.



# LUTZE TOP-T Locknuts Metal

## Metal PG, Metric and EMC Metric



### Characteristics

- Hexagonal locknut for secure tightening of cable fittings and accessories
- Temperature range up to +200°C/+392°F

### Locknut Specifications

Material Brass, nickel plated

Part No.	Thread	OD - Ø mm	SW mm	H mm
<b>PG</b>				
<b>LMPG7</b>	PG 7	16.5	15	2.8
<b>LMPG9</b>	PG 9	19.8	18	2.8
<b>LMPG11</b>	PG 11	23.1	21	3
<b>LMPG13</b>	PG 13.5	25.3	23	3
<b>LMPG16</b>	PG 16	28.6	26	3
<b>LMPG21</b>	PG 21	35.2	32	3.5
<b>LMPG29</b>	PG 29	45.1	41	4.0
<b>LMPG36</b>	PG 36	56.1	51	5.0
<b>LMPG42</b>	PG 42	66.0	60	5.0
<b>LMPG48</b>	PG 48	70.4	64	5.5

Due to tapered NPT thread, we recommend using plastic locknuts with metal NPT fittings if locknut is required.

<b>METRIC</b>				
<b>LMM12</b>	M12x1.5	16.5	15	2.8
<b>LMM16</b>	M16x1.5	20.9	19	3.0
<b>LMM20</b>	M20x1.5	26.4	24	3.5
<b>LMM25</b>	M25x1.5	33	30	4.0
<b>LMM32</b>	M32x1.5	39.6	36	5.0
<b>LMM40</b>	M40x1.5	50.6	46	5.0
<b>LMM50</b>	M50x1.5	66	60	5.0
<b>LMM63</b>	M63x1.5	77	70	6.0

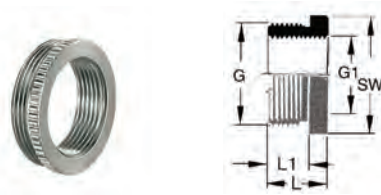
### EMC Cutting Teeth Metric

- For secure tightening of EMC cable fittings
- To cut through paint layers or powder coatings ensuring optimal contact
- Increased vibration resistance

<b>EMC - CUTTING TEETH METRIC</b>				
<b>600460</b>	M12x1.5	16.5	15	4.5
<b>600461</b>	M16x1.5	20.9	19	4.5
<b>600462</b>	M20x1.5	26.4	24	5.5
<b>600463</b>	M25x1.5	33	30	5.5
<b>600464</b>	M32x1.5	39.7	36	5.5
<b>600465</b>	M40x1.5	50.6	46	6.0
<b>600466</b>	M50x1.5	66	60	6.0

# LUTZE TOP-T Fittings Reducer

## Metal PG and Metric Reducer



### PG Reducer Characteristics

- Reduction of threaded or clearance holes to smaller thread size
- Temperature range -30°C - +100°C / -22°F - +212°F
- Reduction Brass, nickel plated
- Internal/External thread PG as per DIN 40430

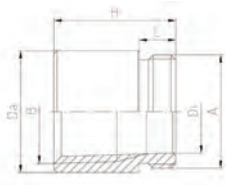
### Metric Reducer Characteristics

- Reduction of threaded or clearance holes to smaller thread size
- Temperature range -30°C - +100°C / -22°F - +212°F
- Reduction Brass, nickel plated
- Internal/External thread Metric as per EN 60423

Part No.	Thread G	Thread G1	SW mm	L mm	L1 mm
<b>PG</b>					
<b>600400</b>	PG 9	PG 7	17	8.5	6
<b>600411</b>	PG 11	PG 7	20	8.5	6
<b>600401</b>	PG 11	PG 9	20	8.5	6
<b>600408</b>	PG 13.5	PG 9	22	9	6.5
<b>600402</b>	PG 13.5	PG 11	22	9	6.5
<b>600409</b>	PG 16	PG 9	24	9.5	6.5
<b>600410</b>	PG 16	PG 11	24	9.5	6.5
<b>600403</b>	PG 16	PG 13.5	24	9.5	6.5
<b>600413</b>	PG 21	PG 11	30	10	7
<b>600414</b>	PG 21	PG 13.5	30	10	7
<b>600404</b>	PG 21	PG 16	30	10	7
<b>600407</b>	PG 29	PG 16	39	11.5	8
<b>600405</b>	PG 29	PG 21	39	11.5	8
<b>600412</b>	PG 36	PG 21	50	12.5	9
<b>600406</b>	PG 36	PG 29	50	12.5	9
<b>600416</b>	PG 42	PG 36	57	14	10
<b>METRIC</b>					
<b>600220</b>	M16x1.5	M12x1.5	18	8.5	6.0
<b>600221</b>	M20x1.5	M12x1.5	24	9	6.5
<b>600222</b>	M20x1.5	M16x1.5	24	9	6.5
<b>600223</b>	M25x1.5	M16x1.5	28	10	7
<b>600224</b>	M25x1.5	M20x1.5	28	10	7
<b>600225</b>	M32x1.5	M20x1.5	34	11.5	8
<b>600226</b>	M32x1.5	M25x1.5	34	11.5	8
<b>600227</b>	M40x1.5	M25x1.5	45	11.5	8
<b>600228</b>	M40x1.5	M32x1.5	45	11.5	8
<b>600229</b>	M50x1.5	M32x1.5	55	14	10
<b>600230</b>	M50x1.5	M40x1.5	55	14	10

# LUTZE TOP-T Fittings Adapter

## Metric to NPT Adapters



### Adapter METRIC to NPT Characteristics

- Adapter from metric to NPT thread
- Temperature range up to +200°C/ +392°F
- Adapter Brass CuZn39Pb3, nickel-plated
- External thread Metric as per EN 60423
- Internal thread NPT

Part No.	Thread A	Thread B	L mm	H mm	Da mm	Di mm
<b>METRIC TO NPT</b>						
<b>AMM16-12</b>	M16x1.5	NPT 1/2"	6.5	25	24	11
<b>AMM20-12</b>	M20x1.5	NPT 1/2"	6.5	25	24	15
<b>AMM25-34</b>	M25x1.5	NPT 3/4"	7	28	30	18
<b>AMM32-34</b>	M32x1.5	NPT 3/4"	8	26	37	23
<b>AMM32-10</b>	M32x1.5	NPT 1"	8	33	38	27

# LUTZE TOP-T Fittings Accessories

## Multihole Insert TPE PG, Metric, NPT



### Characteristics

- Multiple hole insert for two or more cables in one fitting
- Replaces the existing rubber insert to offer multiple hole installation
- Suitable for plastic and metal fittings
- Solid inserts can be drilled to suit any application
- Minimum quantity 100 pcs/package

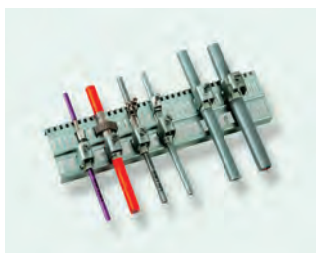
### Insert Specifications

Material TPE

Part No.	Fits Size PG	Fits Size Metric	Fits Size NPT	Outer - Ø mm	Number of Cables x OD - Ø mm
600626	PG 9	M16 (metal only)		10	2 x 3.0
600627	PG 9	M16 (metal only)		10	4 x 3.0
600541	PG 9	M16 (metal only)		10	0 x 0.0
600628	PG 11	M16 (plastic only)	3/8"	13	2 x 4.0
600629	PG 11	M16 (plastic only)	3/8"	13	2 x 4.5
600635	PG 11	M16 (plastic only)	3/8"	13	3 x 4.0
600636	PG 11	M16 (plastic only)	3/8"	13	3 x 5.0
600542	PG 11	M16 (plastic only)	3/8"	13	0 x 0.0
600638	PG 13.5	M20		15	2 x 4.5
600639	PG 13.5	M20		15	2 x 5.0
600640	PG 13.5	M20		15	2 x 6.0
600637	PG 13.5	M20		15	3 x 4.0
600630	PG 13.5	M20		15	3 x 5.0
600543	PG 13.5	M20		15	0 x 0.0
600641	PG 16		1/2"	17	2 x 4.0
600644	PG 16		1/2"	17	2 x 6.0
600631	PG 16		1/2"	17	3 x 4.0
600643	PG 16		1/2"	17	3 x 5.0
600646	PG 16		1/2"	17	4 x 6.0
600633	PG 16		1/2"	17	5 x 4.0
600544	PG 16		1/2"	17	0 x 0.0
600645	PG 16		1/2"	17	3 x 6.0
600647	PG 16		1/2"	17	3 x 6.5
600642	PG 16		1/2"	17	4 x 4.0
600632	PG 16		1/2"	17	4 x 5.0
600648	PG 21	M25	3/4"	22	2 x 7.0
600651	PG 21	M25	3/4"	22	2 x 8.0
600653	PG 21	M25	3/4"	22	2 x 9.0
600649	PG 21	M25	3/4"	22	3 x 7.0
600652	PG 21	M25	3/4"	22	3 x 8.0
600634	PG 21	M25	3/4"	22	4 x 7.0
600545	PG 21	M25	3/4"	22	0 x 0.0
600656	PG 29	M32	1"	29.5	5 x 8.5
600654	PG 29	M32	1"	29.5	6 x 5.0
600655	PG 29	M32	1"	29.5	8 x 5.0
600546	PG 29	M32	1"	29.5	0 x 0.0

# LUTZE EMC Cabinet Accessories

## EMC rails with shield and strain relief options within the control cabinet



### EMC Rail Characteristics

- Material Formed sheet metal
- Storage Temperature -30°C - +90°C, -22°F - +194°F
- Operational Temperature -5°C - +80°C, +23°F - +176°F

### Mounting Bracket Characteristics

- 346814 Standard M5 thread
- 346860 Standard M8 thread

### Shield Clamp Characteristics

- Material Sheet steel
- Temperature range 0°C - +60°C, +32°F - +140°F

### Strain Relief Characteristics

- Fits rails 346812, 346813
- Material Galvanized Steel
- Hexagon screw Slotted
- Bottom clip use is optional

### Metal Tie Wrap Characteristics

Stainless Steel

Part No.	EMC Rail Type	Dimensions WxHxL mm	No. of shield points	Weight grams
346813	EMVS 04-55813	15x32x1,155	55	466
346812	EMVS 03-46812	21.5x75x1,173	46	1,169

Part No.	Mounting bracket Type	Dimensions WxHxL mm	Suitable for Rail	Weight grams
346814	HW-EMVS 04	29.8x14x24	346813	8
346860	HW-EMVS 03	18x80x65	346812	98

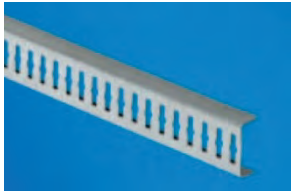
Part No.	Shield Clamp Type	Cable Clamping Range Ø mm	Length mm	Weight grams
330089	EMVSK 12	0-12	36	2.5
330071	EMVFSK1	12 - 20	42	3
330072	EMVFSK2	20 - 30	55	5
330073	EMVFSK3	30 - 50	74	7

Part No.	Strain Relief Type	Cable Clamping Range Ø mm	Thread	Weight grams
331000	KS0	8 - 12	M6	30
331001	KS1	12 - 16	M6	32
331002	KS2	16 - 22	M6	35
331003	KS3	34 - 40	M6	68
331004	KS4	52 - 58	M8	60

Part No.	Metal Tie Wrap Type	Length mm	Material	Weight grams
330060	KSE	250	Stainless Steel	30

# LUTZE EMC Cabinet Accessories

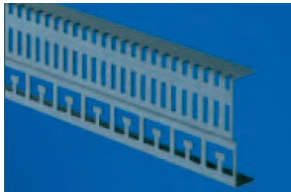
## Assembly of EMC rails with shield termination and strain relief options



346813



346814



346812



346860

### System advantages at a glance:

- Provides shield termination and strain relief within the control cabinet
- Easy to install
- Zip ties can be used with both rails if desired

### 1. Choose EMC rail based on application requirements.

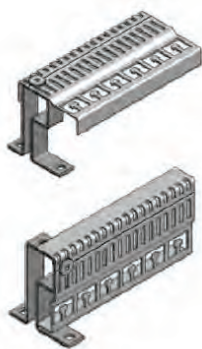
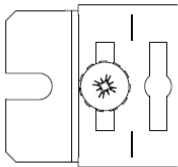
Lutze EMC rails can be used in any control cabinet either with traditional set up or together with Lutze LSC-Wiring system.

Determine application requirements:

- EMC shielding required only, choose narrower rail 346813
- For both EMC shielding and strain relief needs, choose wider rail 346812
- Cut rail to desired length to fit your cabinet

### 2. Choose appropriate brackets to install the rail inside the cabinet.

- Use mounting brackets 346814 to secure rail 346813. Uses standard M5 bolts.
- Use mounting brackets 346860 to secure rail 346812. Rail can be mounted into the cabinet in two different ways: see pictures to the left. Mounting holes, 8.5 mm, to be made by the user.



### 3. Choose appropriate shield clamps.

- Determine the desired shielding clamp

### 4. Select optional strain relief if required in the application.

- Rail 346813 provides shield termination or strain relief
- Rail 346812 provides combined shield termination and strain relief



330089



330071 - 330073



331000 - 331004

# LUTZE Cablefix Vario

## Modular Strain Relief System with Plastic or Aluminum Frame for Cable Assemblies



### Characteristics

- Frame material
- Protection class

Polished Aluminum or Polyamide 66 (GF30)  
IP65

### Small (VK) Insert Characteristics

- Material
- Temperature range
- Resistance

TPE  
-40°C - +135°C,  
-40°F - +275°F  
UV, ozone, oils and fuels,  
acids and dyes, solvents  
and salt water

### Large (VG) Insert Characteristics

- Material
- Temperature range
- Resistance

TPE  
-40 - +135°C,  
-40°F - +275°F  
UV, ozone, oils and fuels,  
acids and dyes, solvents  
and salt water

### Blanking Plug Characteristics

- Material

PA6 (GF15)  
Gray

Part No.	Frame Type	Dimensions WxHxD mm	No. of Small VK Inserts	No. of Large VG Inserts
<b>PLASTIC</b>				
606052	KKLR1	136 x 71 x 30	4	2
606053	KKLR2	164 x 71 x 30	6	3
<b>ALUMINUM</b>				
606001	AKLR1	108 x 68 x 30	4	2
606002	AKLR2	148 x 68 x 30	6	3
606004	AKLR4	148 x 108 x 30	12	6
606005	AKLR5	188 x 78 x 30	8	4
606007	AKLR7	188 x 118 x 30	16	8

Part No.	Type Small VK	Clamping Range Ø mm	No of Holes
606150	VK0	SOLID	0
606151	VK4	4 – 4.5	14
606152	VK5	4.5 – 5.5	8
606153	VK6	5.5 – 6.5	8
606154	VK7	6.5 – 7.5	5
606155	VK8	7.5 – 8.5	5
606156	VK9	8.5 – 9.5	3
606157	VK10	9.5 – 10.5	3
606158	VK12	10.5 – 12.5	2
606159	VK14	12.5 – 14.5	2
606160	VK16	14.5 – 16.5	2

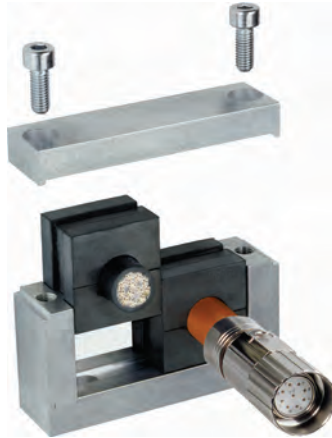
Part No.	Type Large VG	Clamping Range Ø mm	No of Holes
606200	VG0	SOLID	0
606201	VG18	16.5 – 18.5	2
606202	VG20	18.5 – 20.5	1
606203	VG22	20.5 – 22.5	1
606204	VG24	22.5 – 24.5	1
606205	VG26	24.5 – 26.5	1
606206	VG28	26.5 – 28.5	1
606207	VG30	28.5 – 30.5	1
606208	VG32	30.5 – 32.5	1
606209	VG34	32.5 – 34.5	1

Part No.	Fits Insert Part No.	Type	OD - Ø mm	Length mm
606250	606151	BL4	4	30
606251	606152	BL5	5	30
606252	606153	BL6	6	30
606253	606154	BL7	7	30
606254	606155	BL8	8	30
606255	606156	BL9	9	30
606256	606157	BL10	10	30
606257	606158	BL12	12	30
606258	606159	BL14	14	30
606259	606160	BL16	16	30
606260	606201	BL18	18	30



# LUTZE Cablefix Vario

## Assembly of Modular Strain Relief System



### 1. Choose aluminum or plastic frame.

The Cablefix Vario features outstanding material characteristics for harsh industrial environments and a high sealing protection of IP65. Every frame ships with an included drill pattern for proper mounting to the cabinet.

The plastic frames are made of reinforced polyamide 66 with brass support. The aluminum version is made entirely of solid polished aluminum.

Cablefix Vario offers strain relief options for cable ranges from 4.5 to 34.5 mm in diameter. The versatile system is ideal for installations and retrofitting, and offers proper strain relief for already connectorized cables. This is a great advantage over conventional solutions with standard cable fittings.



### 2. Choose appropriate inserts for the selected frame.

Example:

606052 can hold either

- 4 inserts type VK or
- 2 inserts type VG
- 2 VK inserts replace 1 VG insert

VK small	VK small	VG large	VG large	VG large	VK small
VK small	VK small				VK small



- The tongue and groove design makes combining different inserts quick and easy.
- The slotted design allows easy installation by sliding the assembled cables in from the side.



### 3. Select appropriately sized blanking plugs for unused holes.

Once all unused holes are plugged, the system provides a protection rating IP65. The rubber components do not require the use of grease, which is advantageous over other similar systems.

The advantages at a glance:

- Minimum space requirement
- Simple insertion of rubber inserts due to tongue and groove design
- Very versatile
- Allows future expansion
- Ideal for retrofitting of existing cabinets

# LUTZE Fittings Cablefix

## Cablefix



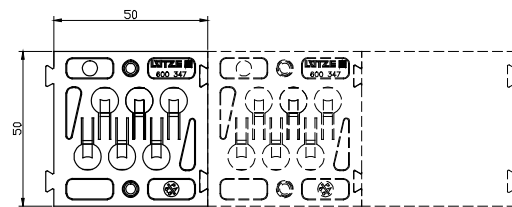
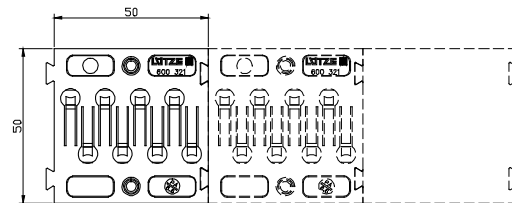
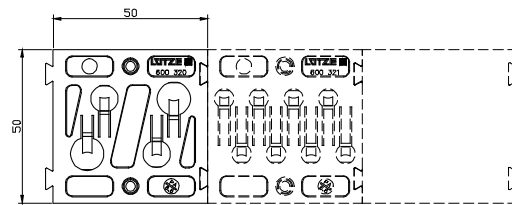
### Characteristics

- Integrated strain relief in one direction
- Easy to install: cable pushes easily into position, locks itself and it can no longer be pulled out unless the clamp is released
- An integrated seal protects up to IP55
- Individual cables can be easily loosened and replaced for troubleshooting, maintenance or retrofitting
- Mix & Match: interlocking seal allows for any combination of the three different cablefix versions to custom fit it to your application
- Blanking plugs are supplied to seal unused holes

### Fitting Specifications

Material	Polyamide PA
Temperature range	-30°C - +70°C / 22°F - +212°F
Halogen free	Yes
Burning behavior	Polyamide plate according to UL 94 V2
Silicone free	Yes
Enclosure wall thickness	maximum 3 mm
Protection class	IP55
Seal	NBR60 oil resistant

Part No.	Type	Dimensions (WxHxD) mm	Cut out W x H mm	Number of Cables x Cable OD - Ø mm
600320	1xB/V	50.0 x 50.0 x 10.0	46 x 46	2 x 6.1-8.8 + 2 x 7.8-10.7
600321	1xS/A	50.0 x 50.0 x 10.0	46 x 46	8 x 3.8-6.3
600347	1xST	50.0 x 50.0 x 10.0	46 x 46	6 x 6.3-8.9



# 8 Network Connectivity

## Industrial Connectors and Panel Pass Through Devices



# Lutze Network Connectivity Products

## Industrial Network Connectors

### Application

- Industrial USB connectivity

### Characteristics

- Available with or without cord
- 7 different cord lengths
- Female / Female 1:1 or Female / Male 1:1
- Backwards compatible with USB 2.0
- Standard 22.5 mm cut out
- Easy to install

### Technical Data

Temperature	-25°C - +70°C/ -13°F - +158°F
Protection class	IP65 cap closed, IP20 in inserted operation
Shielding	yes
Transmission	5 Gigabit/sec
Performance	
Contact material	CuSN, gold-plated
Rated current	900 mA per contact
Bending radius	15 x cable OD
Dimensions (DxD)	29.5 mm x 29 mm
Approvals	UL NEMA UL Type 12

## USB 3.0 “SuperSpeed” Panel Connector



Part No.	Description	Cord Length
<b>490112</b>	USB 3.0 A/A F/F	N/A
<b>490113.0030</b>	USB 3.0 A/A F/M	0.3 m / 11.8"
<b>490113.0060</b>	USB 3.0 A/A F/M	0.6 m / 32.6"
<b>490113.0080</b>	USB 3.0 A/A F/M	0.8 m / 31.5"
<b>490113.0150</b>	USB 3.0 A/A F/M	1.5 m / 59.0"
<b>490113.0200</b>	USB 3.0 A/A F/M	2.0 m / 78.7"
<b>490113.0300</b>	USB 3.0 A/A F/M	3.0 m / 118.0"
<b>490113.0500</b>	USB 3.0 A/A F/M	5.0 m / 196.8"

### Application

- Industrial Ethernet connectivity
- Cat 5e or Cat 6 available

### Characteristics

- Female / Female 1:1
- Gold-plated 8 pin (4 pair) connection
- Standard 22.5 mm cut out installation
- Easy to install

### Technical Data

Temperature	-25°C - +70°C/ -13°F - +158°F
Protection class	IP65 cap closed, IP20 in inserted operation
Shielding	360°
Contact material	CuSN, gold-plated
Rated current	1.5A
Dimensions (DxD)	29.5 mm x 29 mm
Approvals	UL NEMA UL Type 12

## RJ45 Panel Pass Through



Part No.	Description	Category	Transmission Performance
<b>492075</b>	RJ45 F/F 8/8	Cat. 5e	100 MHz
<b>491075</b>	RJ45 F/F 8/8	Cat. 6	250 MHz

# Lutze Network Connectivity Products

## Industrial Network Connectors



### Application

- Industrial Ethernet connectivity
- Power over Ethernet
- Cat. 6A

### Characteristics

- Insulation Displacement Connector (IDC)
- Field assembly
- Zinc die-cast housing
- Quick connect technology

### Technical Data

Temperature	-40°C - +70°C/ -40°F - +158°F IP20
Protection class	IP20
Transmission frequency	10 Gigabits/s
Rated current	Max 1.0A per contact
Shielding	360°
Contact material	Spring steel 0.8 µm gold-plated
Fits cable ODs	AWG 27-22
Approvals	UL

## RJ45 IDC Industrial Connector



Part No.	Description	Cable Cross section	Transmission Performance
<b>490128</b>	RJ45 – M 8 pol. Cat.6A Color code: T568B	Solid 24/1-22/1 Stranded 27/7-22/7	10 Gigabit/sec
<b>490129</b>	RJ45 – M 8 pol. Cat.6A Color code: T568A	Solid 24/1-22/1 Stranded 27/7-22/7	10 Gigabit/sec
<b>490138</b>	RJ45 – M 8 pol. Cat.6A Color code: T568B	Solid 26/1-24/1 Stranded 27/7-24/7	10 Gigabit/sec

### Application

- Industrial Ethernet connectivity

### Characteristics

- 17 mm cut out installation
- Female / Female 4:4 or 8:8
- Easy to install

### Technical Data

Temperature	-25°C - +85°C/ -13°F - +185°F
Protection class	IP 67 in inserted operation
Rated current	Max 1.0A per contact
Shielding	360°
Contact material	gold-plated phosphor bronze
Dimensions	29.5 x 29 mm

## M12 / RJ45 Panel Pass Through



Part No.	Description	No. Poles	Transmission Performance
<b>490105</b>	M12 / RJ45 F/F 90° Cat.5	4	100 Megabit/sec
<b>490106</b>	M12 / RJ45 F/F 180° Cat.5	4	100 Megabit/sec
<b>490107</b>	M12 / RJ45 F/F 90° Cat.5e	8	1 Gigabit/sec
<b>490108</b>	M12 / RJ45 F/F 180° Cat.5e	8	1 Gigabit/sec

## 9 Technical Overview

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# LÜTZE SILFLEX®

## LÜTZE SILFLEX® - The Flexible Cable for Harsh Industrial Environments

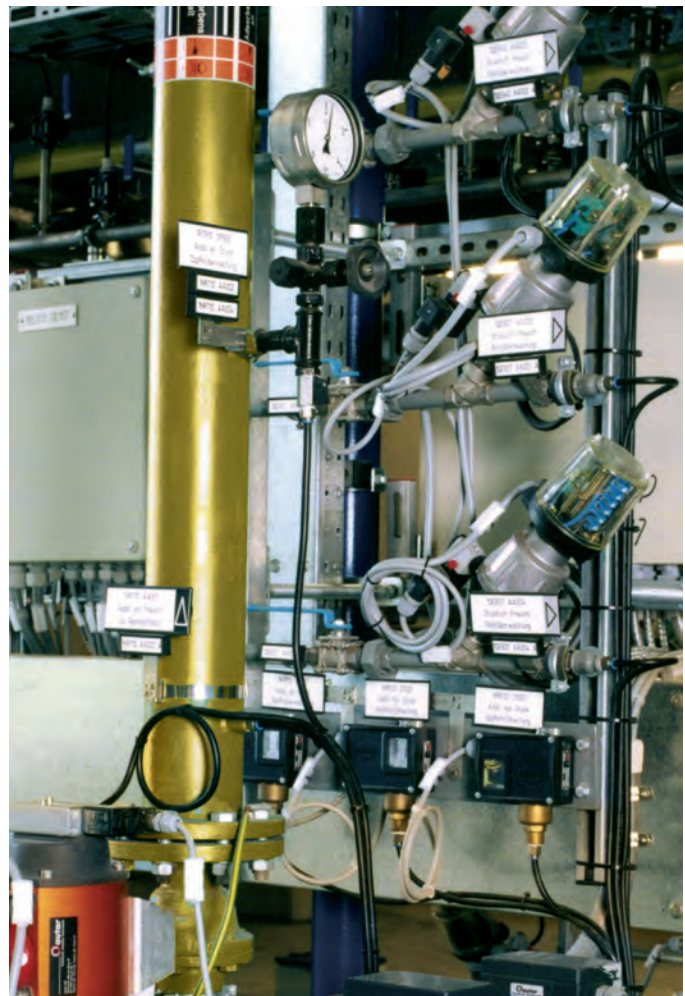
LÜTZE SILFLEX® cables are suitable for stationary and flexible applications without continuous linear movement (not recommended for drag chains) and allow easy installation in the field.

LÜTZE SILFLEX® cables are available in control and power cable configurations.

These cables are flexible for easy routing to the machine and are designed to withstand the exposure to various harsh industrial environments.

LÜTZE SILFLEX® can be used in machine tools, machine and plant construction, industrial HVAC technology, assembly and production lines as well as many other industrial applications.

LÜTZE SILFLEX® cables are silicone free and are approved by many Automotive manufacturing plants.





## LÜTZE SUPERFLEX® sets Industry Standards: Longevity, Reliability and Flexibility

LÜTZE SUPERFLEX® cables are special high flexing cables which are designed for use in applications with extreme flexing conditions in drag chains installed on modern machine tools with linear motors. Lütze has experience for over 35 years in the leading development and manufacturing of high flexing cables for use in continuous moving applications.

**LÜTZE SUPERFLEX® PLUS PUR** is designed for high performance flexing or longer C-tracks. LÜTZE SUPERFLEX® Plus PUR will always contain high grade materials such as High Glide TPE insulation and PUR jackets for high performance application in modern high speed machine tools.

**LÜTZE SUPERFLEX® N** is designed for moderate to higher performance flexing in short to medium length C-tracks. LÜTZE SUPERFLEX® Ni is available in different performance grades with materials ranging from PVC insulation to High Glide Insulation (HGI/TPE) and is typically offered with PVC or PUR jackets.

High flexing cables require special handling and installation techniques and are different from standard control cables. To ensure the longest possible life span for your cable, it is crucial to follow installation procedures precisely.





# Lutze Technical Overview

## LÜTZE SUPERFLEX® High Flexing Cable Cycle Ratings

Cable Type	Traveling distances	Bending Radius	Speed	Acceleration	Cycles
<b>LÜTZE SUPERFLEX® PLUS PUR</b>					
High Glide TPE Insulation PUR Jacket	< 16 ft / 5 m	> 10 Ø	< 3 m/s	< 5 m/s <sup>2</sup>	20,000,000
	< 67 ft / 20 m	> 7 Ø	< 5 m/s	< 10 m/s <sup>2</sup>	10,000,000
	< 328 ft / 100 m	> 7 Ø	< 5 m/s	< 10 m/s <sup>2</sup>	2,000,000
<b>LÜTZE SUPERFLEX® PLUS (C) PUR</b>					
High Glide TPE Insulation Sub Jacket PUR outer Jacket	< 16 ft / 5 m	> 12 Ø	< 3 m/s	< 5 m/s <sup>2</sup>	20,000,000
	< 67 ft / 20 m	> 10 Ø	< 5 m/s	< 10 m/s <sup>2</sup>	10,000,000
	< 328 ft / 100 m	> 10 Ø	< 5 m/s	< 10 m/s <sup>2</sup>	2,000,000
<b>LÜTZE SUPERFLEX® N</b>					
High Glide TPE Insulation PVC and Alloy Jackets A138 series	< 16 ft / 5 m	> 12 Ø	< 3 m/s	< 5 m/s <sup>2</sup>	10,000,000
	< 49 ft / 15 m	> 10 Ø	< 5 m/s	< 10 m/s <sup>2</sup>	5,000,000
<b>LÜTZE SUPERFLEX® N (C)</b>					
High Glide TPE Insulation Fleece wrap or Sub Jackets PVC and Alloy Jackets A139 series	< 16 ft / 5 m	> 15 Ø	< 3 m/s	< 5 m/s <sup>2</sup>	10,000,000
	< 49 ft / 15 m	> 12 Ø	< 5 m/s	< 10 m/s <sup>2</sup>	5,000,000

The data in this table shows actual application parameters and accomplished cycles in independent tests. Flexing cycle performance can only be compared by looking at all the data. A rating of “millions of operations” is meaningless if the distance, speed and bend radius is unknown.

## LÜTZE SUPERFLEX® Plus M (C) PUR UL Servo 0,6/1 kV acc. to SIEMENS MOTION-CONNECT 800PLUS

Traveling distances	Bending Radius	Speed	Acceleration
< 10 ft / 3 m	> 10 Ø	< 5 m/s	< 50 m/s <sup>2</sup>
< 16 ft / 5 m	> 10 Ø	< 5 m/s	< 30 m/s <sup>2</sup>
< 32 ft / 10 m	> 10 Ø	< 5 m/s	< 15 m/s <sup>2</sup>
< 49 ft / 15 m	> 10 Ø	< 5 m/s	< 10 m/s <sup>2</sup>
< 164 ft / 50 m	> 10 Ø	< 5 m/s	< 5 m/s <sup>2</sup>

# Handling & Installation LÜTZE SUPERFLEX® – Quick Overview

## 1. Selecting Cables for Continuous Motion Applications – C-Tracks

We recommend special high flexing cables such as LÜTZE SUPERFLEX® cables, for use in C-tracks to ensure long life times:

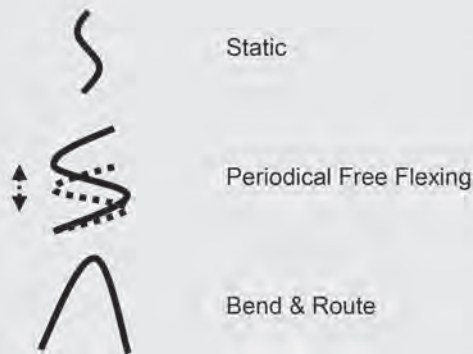
- LÜTZE SUPERFLEX® cable is proven to be compatible with all major brands of C-tracks.
- LÜTZE SUPERFLEX® N is designed for moderate flexing in short to medium length C-tracks.
- LÜTZE SUPERFLEX® Plus **PUR** is designed for high performance flexing or longer C-tracks.

High Flexing Cables such as LÜTZE SUPERFLEX® cables are different from standard flexible cables:

### Standard Flexible Cables – LÜTZE SILFLEX®



- Low number of strands per conductor
- longer pitch layering
- designed as a pliable cable for easy routing and installation



- no central core
- mostly PVC as insulation material
- foil shield or braid shield
- jacket material depends on application

### High Flexing Cables – LÜTZE SUPERFLEX®



- high number of super fine strands per conductor
- short pitch layering
- conductors are cabled without back twist
- higher quality of materials
- slower and more complex manufacturing process on high-end equipment
- designed for linear constant motion



- central core for single layer construction
- special PVC or TPE as insulation material
- tinned copper braid shield
- high abrasion resistant jacket material such as PUR

# Handling & Installation LÜTZE SUPERFLEX® – Quick Overview

## 2. Correct Handling of LÜTZE SUPERFLEX® Cables

- When unreeling the cable, do not change the bend direction. The cable has to go on the new reel in the same direction it came off the reel. Low and equal tensile force during spooling!



DO ✓ DO NOT ✗

- Ring put ups require careful uncoiling by rolling the ring upright over the floor.



- Do not twist the cable when unwinding. Always unwind straight from spool.



DO NOT ✗

## 3. Correct Installation of LÜTZE SUPERFLEX® Cables

- Cable retains bend from reel. Do not flex against original bend or relax cable for 24 hrs by laying it flat.



DO ✓ DO NOT ✗

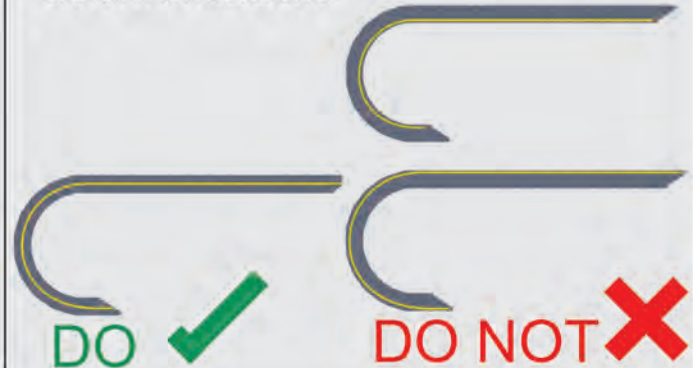
- Try to ensure balanced weight distribution. If you have more than one heavy cable, we recommend installing the heavy cables evenly to each side of the track.



- Use dividers horizontally and vertically to separate the track into separate cavities. Install just one cable per separated cavity. If absolutely necessary, two small or a small and a big cable can share a cavity.



- Observe the minimum bending radius for optimum performance. Make sure that all cables are length-adjusted and run in the neutral zone.



DO ✓ DO NOT ✗

For further information please visit: [www.lutze.com/superflex](http://www.lutze.com/superflex)

# BUS and Network Cables



## BUS and Network cables

BUS-Systems have become a very vital part of factory automation and it is hard to imagine automation without them. Besides hardware and software components, passive components such as bus cables and connectors play an important role for reliable function of the system. Bus cables must comply with all electrical parameters of the particular system. There is no universally applicable bus cable as the individual requirements are too diverse.

Lutze offers robust, industrial grade Bus and Network cables for the most common used systems worldwide. These cables are being offered for stationary and flexible applications as well as continuous moving applications in drag chains.

## Systems:

### ASI – Actuator-Sensor-Interface

The AS-Interface per EN 50295 is a serial Actuator Sensor Network being used for digital signals in lower field levels. It works in accordance to the Master Slave Principle and presents a cost effective alternative to other serial bus systems

### Profibus

Profibus is the most common Bus System used in Europe in the area of automated manufacturing.

### Profibus PA

The engineering of these cables per IEC 61158-2 fulfills the requirements in process automation and also offers intrinsically safe connection to the field devices. Profibus PA is a synchronous protocol with DC-current flow free transmission, which is also often designated as H1. The IEC 61158-2 technique is applied at the Profibus PA.

### Profibus DP

This Profibus variant, optimized through increased transmission speed and low installation cost, was especially designed for the communication between automation systems and decentralized peripheral devices in the field range. Profibus DP substitutes the conventional parallel data communication with 24V or 0-20 mA. Lutze Profibus cables meet the specification for Profibus DP type A according to EN 50254. Profibus DP und Profibus FMS use the same transmission technology as well as a unified BUS protocol. Both variants can be operated simultaneously on one cable.

### Profibus Fast Connect®

These cables have an optimized radial, symmetrical construction and can facilitate the application of special tools. Thereby, bus connector plugs are able to be assembled in a fast and installation-friendly way.

### CAN-Bus

CAN-Bus is specified according to ISO 11898. Primarily designed for automotive applications CAN-Buses are used today for the exchange of digital information, Controller Area Network (CAN) for faster data transfer/data exchange.

### Interbus

The Interbus-S was published in 1987 as an open sensor/actuator bus protocol. As a typical sensor/actuator fieldbus, it is configured for the cyclic processing of process data and hence differentiates significantly from data orientated field buses. The main application area of Interbus-S lays in production engineering, process engineering, as well as transport and logistics. Here the main focus is both the automotive industry and the drive technology.

### DeviceNet

DeviceNet is a service related Network, based on the proven CAN-Technology for fast data exchange. The configuration consists of thick cable (aka Trunk cable) and thin cable (aka drop cable). The use of high flexing cables in drag chains is likewise possible. DeviceNet has been standardized by Open DeviceNet Vendor Association (ODVA) and is the leading bus system for industrial automation in North America.

### Industrial ETHERNET

ETHERNET is the most commonly used communication technology. The ETHERNET Standard allows for a remarkable increase in the bandwidth, from 12 Mbits/s for a bus system, to up to 10Gbit/s. In the office world the ETHERNET Standard has already established itself as the standard technology, however the requirements for wiring systems and active components in the industrial environment differ greatly from those in an office environment. On one hand the infrastructure must be more robust; and on the other hand criteria such as real time application require special IT solutions. Consequently, this has resulted in the development of various proprietary systems such as ProfiNet, EtherCAT, Modbus TCP and Powerlink with system specific components which may not be compatible with others. A structured Ethernet cabling according to EN 50173-3 should support each proprietary system. While Lutze offers a large number of industrial ETHERNET cable solutions we are pleased to offer a special innovation with our drag chain suitable Cat6 ETHERNET cable.

# ETHERNET – Overview


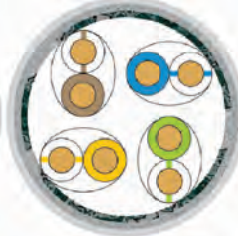


## 1) Correct Handling and Installation of Network Copper Cable

- Do not subject cable to tension
- Do not kink the cable
- Do not bend the cable more than 90° (See individual specifications for bending radius)
- Strip the cable as short as possible
- Do not crush cable when fastening
- Do not untwist the conductor pairs by more than 0.5 inch
- Terminate the shielding on both ends

## 2) LÜTZE ETHERNET Cables

We recommend shielded industrial ETHERNET cable, such as Lutze ETHERNET cable, for use in industrial environment to ensure secure connectivity. Motors and other electrical noise producing devices are often located in close proximity to network cabling. EMI (Electro Magnetic Interference) and RFI (Radio Frequency Interference) can distort data transmission on copper-based network cable. To lessen or eliminate interference, called alien-crosstalk, the use of shielded industrial cable and connectors is recommended.

Available Lutze ETHERNET Cables:

			
S/UTP	SF/UTP	SF/UTQ	S/FTP
Susceptibility for Interference			
some	low	low	low
104337 CAT 5e	104335 CAT 5e 104336 CAT 5e 104347 CAT6	104301 CAT 5 104307 CAT 5 104302 CAT 5 104303 CAT 5	104338 CAT 6a 104331 CAT 7

## 3) Key for Twisted Pair Cables according to ISO/IEC-11801 (2002)E

**XX/YZZ**

**XX** for the outer shielding / **Y** for the pair shielding / **ZZ** for the pair arrangement

**U** = unshielded / **U** = unshielded / **TP** = twisted pair (regular)

**F** = foiled shield / **F** = foiled shield / **TQ** = quad pair (star quad)

**S** = braided shield / **S** = braided shield

**SF** = braided and foiled shield

In order to utilize EMI/RFI shielding, the shield must be properly terminated at both ends!

## 4) ProfiNet Star Quad Design and Termination

The star quad is a specific low-impedance cable configuration. Four conductors are twisted on a common axis. The conductors across from each other make a pair.

In **Figure 1** the pairs are as follows:

**Pair 1:**  
Conductor A ↔ Conductor D

**Pair 2:**  
Conductor B ↔ Conductor C



**Figure 1**

**Other terminations than in Figure 1 lead to interferences, decreased connectivity or no connectivity at all.**

# ETHERNET – Overview

## 5) Pin Assignment and Installation

RJ45 is the most common ETHERNET connector and is available both shielded and unshielded. All pins of the RJ45 connector are used for 1000 Mbit/s (4-pair transmission). Four pins are used for 10/100 Mbit/s (2-pair transmission).

According to the EN 50173 standard, two color codes are defined for installation: T568A and T568B. It makes no difference which color code is used, however the same code should be used consistently throughout the entire installation. Mixing up the two color codes will result in malfunctions.

### Pin assignment RJ 45 - Color code according to EN 50173 – hard wiring:

ETHERNET cables									
Star Quad (ProfiNet)			Regular Twisted Pair						
PIN#	100BASE-TX	Color code	10BASE-T, 100BASE-TX	1000BASE-T		Color code T568A		Color code T568B	
1	Transmit+	yellow	Transmit+	BI_DA+	(bidirectional)	WH/GN		WH/OG	
2	Transmit-	orange	Transmit-	BI_DA-	(bidirectional)	GN		OG	
3	Receive+	white	Receive+	BI_DB+	(bidirectional)	WH/OG		WH/GN	
4	-		-	BI_DC+	(bidirectional)	BU		BU	
5	-		-	BI_DC-	(bidirectional)	WH/BU		WH/BU	
6	Receive-	blue	Receive-	BI_DB-	(bidirectional)	OG		GN	
7	-		-	BI_DD+	(bidirectional)	WH/BN		WH/BN	
8	-		-	BI_DD-	(bidirectional)	BN		BN	

## 6) ETHERNET Categories and Classes

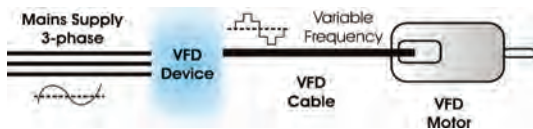
	ProfiNet®	CAT 5	CAT 5e	CAT 6	CAT 6a	CAT 7
Class	D	D	De	E	Ea	F
Construction	2 pair (AWG 22)	2 pair (AWG 24, AWG 26)	4 pair (AWG 24, AWG 26)	4 pair (26 AWG)	4 pair (26 AWG)	4 pair (26 AWG)
Speed	10/100 Mbit/s	10/100 Mbit/s	10/100/1000 Mbit/s	10/100/1000 Mbit/s	10/100/1000/10000 Mbit/s	10/100/1000/10000 Mbit/s
LAN Applications (max.)	10BASE-T (2 pair) 100BASE-TX (2 pair)	10BASE-T (2 pair) 100BASE-TX (2 pair)	10BASE-T (2 pair) 100BASE-TX (2 pair) 1000BASE-T (4 pair)	10BASE-T 100BASE-TX 1000BASE-T 10GBASE-T	10BASE-T 100BASE-TX 1000BASE-T 10GBASE-T	10BASE-T 100BASE-TX 1000BASE-T 10GBASE-T
Nominal impedance	100 Ohm	100 Ohm	100 Ohm	100 Ohm	100 Ohm	100 Ohm
Bandwidth	100 MHz	100 MHz	100 MHz	250 MHz	500 MHz	600 MHz
Max. length	328 ft (10BASE-T) 328 ft (100BASE-TX)	328 ft (10BASE-T) 328 ft (100BASE-TX)	328 ft (10BASE-T) 328 ft (100BASE-TX) 328 ft (1000BASE-T)	328 ft (10BASE-T) 328 ft (100BASE-TX) 328 ft (1000BASE-T)	328 ft (10BASE-T) 328 ft (100BASE-TX) 328 ft (1000BASE-T) 328 ft (10GBASE-T)	328 ft (10BASE-T) 328 ft (100BASE-TX) 328 ft (1000BASE-T) 328 ft (10GBASE-T)
CAT compatibility	CAT 5	CAT 5	CAT 5	CAT 5, CAT 5e	CAT 5, CAT 6	CAT 5, CAT 6, CAT 6a
ISO/IEC standard	-	ISO/IEC 11801	ISO/IEC 11801	ISO/IEC 11801	Amendment 1 to ISO/IEC 11801	ISO/IEC 11801
ANSI/TIA standard	-	ANSI/TIA-568-B	ANSI/TIA-568-C.2	ANSI/TIA-568-C.2	ANSI/TIA-568-C.2	Not recognized

# Lutze Technical Overview

## Lutze DRIVEFLEX® VFD and Servo Motor Cable

A Variable Frequency Drive (VFD) is a device designed for alteration of a motor's rotational speed by changing the frequency and the voltage of the electrical power supplied to it. In this manner, the rotational speed can be adjusted within a wide range from standstill to above the nominal rotation speed at 60 hertz.

The second main feature of a VFD is that it offers motor torque control. To avoid overload of the motor, the torque has to decrease when running the motor at higher speeds and vice versa. In VFD applications the constant frequency of 60 hertz in a sinusoidal waveform is altered into a variable frequency as shown in the illustration.



The use of VFD technology poses high demands on the cable connecting the motor to the drive. Standard 600V control cable does not meet the requirements of VFD applications, thus causing operating malfunctions and may result in premature cable failure. High switching frequencies and harmonic waves cause high capacitive charging current and overvoltage spikes well beyond the 600V rating of standard control cables. These problems put tremendous stress on cables and the stress even increases further the longer the distance between drive and motor.

Another stress factor is called “corona discharge effect”. Insulated conductors have very small gaps between the copper strands and the insulation material caused by the irregular surface of stranded conductors. This can lead to an uncontrolled corona discharge

across these gaps and break down the insulation over time. This problem is well known in medium voltage applications. Lutze offers a premium solution to address the different requirements for VFD and motor cable:

### Lutze DRIVEFLEX® VFD and Servo Cable

#### A premium solution with XLPE insulation

XLPE is an insulation material with very low capacitance offering superior electrical characteristics for use as a VFD cable, especially in long cable runs. The XLPE insulation is a thermo-set material with a very high voltage breakdown level, thus inherently addressing the corona discharge effect and making it the premium insulation for any type of drive application. XLPE insulation is recommended by most drive manufacturers, and Lutze DRIVEFLEX® exceeds the VFD cable requirements by Rockwell™ as stated in the “Wiring and Grounding Guidelines for Pulse Width Modulated (PWM) AC Drives” document. The extra thick insulation offers a 1000V rating per UL. A foil and braid shield combination with drain wire ensures compliance with EMC requirements. Lutze DRIVEFLEX® XLPE is the most flexible XLPE cable in its class - offering easy stripping & installation, thus saving time and money.

DRIVEFLEX® has also been evaluated as flexible VFD and Servo cable and is UL listed for use on Drives and Servos, as well as tray cable exposed run (TC-ER). The DRIVEFLEX® cable family includes many different configurations compatible with many standard Drive and Servo Systems. For more information, please visit [www.driveflex.com](http://www.driveflex.com).



# Motor, Servo and Drive Applications

## Lutze offers a wide range of cables especially designed for motor supply applications

### Unshielded Motor Supply Cable

For any standard motor supply application where shielding is not required, we recommend the use of **LÜTZE SILFLEX® Tray-ER TPE, unshielded** cables with PVC/Nylon insulation. These cables are available in sizes up to 4/0 and offer superior flexibility paired with ruggedness due to the premium TPE jacket. These power tray cables offer the ability to be installed within and outside the cable tray due to the TC-ER and MTW ratings in accordance with NEC article 336.

### Standard Shielded Motor Cable for Direct, Reversing and Soft Starter Applications

For any direct, reversing or soft starter application, we recommend the use of **LÜTZE SILFLEX® M (C) MOTOR PVC, shielded** cables with PVC/Nylon Insulation. These cables offer the ability to be installed within and outside the cable tray due to the TC-ER and MTW ratings in accordance with NEC article 336. Additionally, this construction offers very good flexibility and an easy strip jacket and is thus ideal for field installation or routing to the machine. This design is also offered with shielded control pair(s).

### Servo Systems

For any motor supply application with a Servo Drive, we recommend our special low capacitance cables with TPE or LÜTZE High Glide Insulation (HGI) based on Polypropylene such as **LÜTZE SILFLEX® M (C) PVC UL SERVO 0,6/1 kV**, or **LÜTZE SUPERFLEX® PLUS M (C) PUR UL SERVO 0,6/1 kV** for high flexing applications in drag chains.

For installation in cable trays per NEC Article 336 we recommend **Lutze DRIVEFLEX®** products with **XLPE** insulation. These cables are UL listed Flexible motor supply / Flexible VFD Servo cable and TC-ER Power Tray cables.

### Variable Frequency Drives (VFD, VSD)

For any motor supply application involving a Servo or Variable Frequency Drive, we recommend **Lutze DRIVEFLEX®** cables with **XLPE** insulation. These cables have very low capacitance, high impedance and high voltage breakthrough resistance. This design is the superior choice for long cable runs with pulse width modulation (PWM) drives creating high voltage spikes. These cables are UL listed Flexible motor supply / Flexible VFD Servo cable and TC-ER Power Tray cables.



#### **Lutze DRIVEFLEX® XLPE (C) PVC, Shielded A216**

Flexible VFD & Motor Supply Cable with 4 conductors including one full size ground. Suitable for all generic drive applications with classic three phase wiring.



#### **Lutze DRIVEFLEX® XLPE (C) Servo I PVC, Shielded A217**

Flexible VFD & Motor Supply Cable with 4 conductors including one full size ground, plus one twisted shielded pair for feedback. Suitable for servo systems such as Rockwell\*, Siemens\* etc., which require one control pair.



#### **Lutze DRIVEFLEX® XLPE (C) Servo II PVC, Shielded A218**

Flexible VFD & Motor Supply Cable with 4 conductors including one full size ground, plus two twisted shielded pairs for feedback. Suitable for servo systems such as Rockwell\*, Indramat\* etc., which require two control pairs.



#### **Lutze DRIVEFLEX® XLPE (C) Symmetrical Grounds PVC, Shielded A219 2kV & A220 1kV**

Flexible VFD & Motor Supply Cable with 3 symmetrical grounds 2kV or 1kV. The symmetry in the conductor design reduces motor frame voltage induced by high motor current. Symmetrical ground cable is recommended by ABB\* and Rockwell\* for larger horsepower motors.

\*registered trademarks not associated with Lutze





# Approvals for North America

## Different UL Ratings for Cables

Product approvals in North America will often be conducted by the National Recognized Testing Laboratories (NRTL). The NRTLs are determined by the Occupational Safety and Health Administration (OSHA). You can find a list of the current NRTLs on [www.osha.gov](http://www.osha.gov). Lutze mainly uses Underwriters Laboratories (UL) to certify the products. UL (USA) and CSA (Canada) have an agreement that allows the usage of one approval for both USA and Canada.

In general there are two main certification classes:

Certification	Logo	Meaning
UL Recognized		„UL Recognized“ signifies that the product is rated as a component. A component is a part of an application. Cables with an „Appliance Wiring Material“ (AWM per Standard 758) are always „recognized“. Typically these cables are already installed on the machine when it ships.
UL Listed		„UL Listed“ signifies a cable as actually tested and proven for a specific use. This way the cable has to match the UL Standards and the requirements of the National Electric Code (NEC). Typically, cables with a UL Listing are used for field wiring in North America.

UL Listing type	Description	Meaning
CM	Communication	Cables for data communication per UL category DUZX and NEC 800
CMG	Communication General	Cables for data communication per UL category DUZX and NEC 800
CMX	Communication Residential	Cables for data communication with restrictions per UL category DUZX and NEC 800
PLTC	Power Limited Tray Cable	Cables for tray applications per UL category QPTZ and NEC 725
PLTC-ER	Power Limited Tray Cable Exposed Run	Exposed Run Cables for tray applications per UL category QPTZ and NEC 725 (exposed use possible)
ITC	Instrumentation Tray Cable	Instrumentation cables for tray applications per UL category NYTT and NEC 727
ITC-ER	Instrumentation Tray Cable Exposed Run	Instrumentation cables for tray applications per UL category NYTT and NEC 727 (exposed use possible)
TC	Power and Control Tray Cable	Power and control cables for tray applications per UL category QPOR and NEC 336
TC-ER	Power and Control Tray Cable Exposed Run	Power and control cables for tray applications per UL category QPOR and NEC 336 (exposed use possible)
MTW	Machine Tool Wire	Single or multi conductor control cables for Machine Tool Wiring per UL category ZKHZ and NEC 670
Flexible VFD and Servo	Flexible VFD and Servo aka Flexible Motor Supply Cable	Power cables for motor and variable frequency drive applications per UL category ZJFH
WTTC	Wind Turbine Tray Cable	Power and control cables for wind turbine applications per UL category ZGZN

This list only shows the common UL Listings for typical applications in the field of automation and does not stand for a complete overview of the current UL Listings.

It is possible to combine different UL Listings in one cable. Lutze offers a variety of cables with UL Listings for various industrial applications.

# Lutze Technical Overview

## NFPA 79, 2012 Edition

NFPA 79 is the electrical standard for Industrial Machinery in the USA. The 2012 edition has again a number of significant updates implemented which affect cable. The NFPA 79 is a standard published by the National Fire Protection Agency, the same Agency that publishes the National Electric Code (a.k.a. NEC or NFPA 70).

The NFPA 79 has special provisions addressing safe wiring practices for industrial machinery such as machine tools. The new 2012 edition allows the use of appliance wiring material (type AWM) to be used with Industrial machinery again. The use of such cable had been prohibited under the previous edition 2007 and this change had caused a lot hardship for most machine manufacturers, which is now resolved.

NFPA 79 still prefers listed cable types to be used. These cables carry a NRTL listed logo such as the “UL listed” logo. It should be noted that cables can have dual or multi ratings and carry both marks, UL recognized and UL listed along with other marks, the listing will prevail.

Permitted:   

Appliance Wiring Material is regulated by UL 758 and carries the recognized logo:

Now permitted:  

In order to use AWM type cable on Industrial machinery and be compliant with NFPA 79 AWM, the cable must accommodate the provisions stated in article 12.9 “Special Cables and Conductors” of the NFPA 2012 edition.

It is sufficient to comply with one of the sections in sections 12.9.2.1 through 12.9.2.3 instead of meeting their requirements in combination. For example:

1. It is permissible to use AWM cable or conductors if part of a listed assembly.
2. Or it is permissible to use AWM cable or conductors if specified for use with approved equipment and in accordance with the equipment manufacturer’s instructions. One example would be a Servo Drive system with a cable assembly made per the Servo-Drive System Manufacturer’s specification and installed per the manufacturer’s instructions.
3. Or it is permissible to use AWM cable or conductors if compliant with 12.9.2.3 and the modifications as described. These modifications will allow those types of AWM cables which are suitable for industrial use by their nature. However, it will control the misuse of AWM cables which do not meet industrial application requirements, e.g. voltage rating, insulation thickness, oil resistance, etc.

All Lutze AWM cables are designed for use in industrial environments and the AWM style and voltage rating is clearly marked on each cable jacket. However, for field installation it will still be safest to rely on cable that is UL listed and verified for the intended use. UL listed cable will make it easier to evaluate a machine in the field and will therefore remain a very important choice for most machine builders in the USA. UL listed cable will also eliminate the need for documentation that the use of AWM cable may require.

Please contact your Lutze representative on questions regarding our offering on UL listed and UL recognized cable to help you be compliant with the latest standards for industrial machinery.

Lutze offers listed types with MTW, TC-ER, PLTC and CM marks. Cables with these markings are considered listed types and are always permitted to be used in NFPA 79 compliant applications.

# Ampacity per National Electric Code (USA)

Calculation of the max. ampacity (Based on „NEC 2011 Edition“)

**Allowable Ampacities of Insulated Conductors Rated 0 Through 2000 Volts, 60°C - 90°C (140°F - 194°F), Not More Than Three Current Carrying Conductors in Raceway, Cable or Earth (Directly Buried), Based on Ambient Temperature of 30°C (86°F)\* (Based on Table 310.15(B)(16))**

Size AWG or kcmil	Temperature Rating of Conductor		
	60 °C (140 °F) Types TW, UF	75 °C (167 °F) Types RHW, THHW, THW, THWN, XHHW, USE, ZW	90 °C (194 °F) Types TBS, SA, SIS, FEP, FEPB, MI, RHH, RHW-2, THHN, THHW, THW-2, THWN-2, USE-2, XHH, XHHW, XHHW-2, ZW-2
<b>COPPER</b>			
18**	–	–	14
16**	–	–	18
14**	15	20	25
12**	20	25	30
10**	30	35	40
8	40	50	55
6	55	65	75
4	70	85	95
3	95	100	115
2	110	115	130
1	125	130	145
1/0	145	150	170
2/0	165	175	195
3/0	195	200	225
4/0	215	230	260
250	260	255	290
350	320	310	350
500	400	380	430
750	–	475	535

\* Refer to 310.15(b)(2) for the ampacity correction factors where the ambient temperature is other than 30°C (86°F)

\*\* Refer to 240.4(d) for conductor overcurrent protection limitations

## Correction Factors

1. Ambient temperature (Based on Table 310.15(B)(2))

For ambient temperatures other than 30 °C (86 °F),

multiply the allowable ampacities shown above by the appropriate factor shown below.

Ambient temp. °C	60 °C (140 °F)	75 °C (167 °F)	90 °C (194 °F)
21-25 (70-77 °F)	1.08	1.05	1.04
26-30 (78-86 °F)	1	1	1
31-35 (87-95 °F)	0.91	0.94	0.96
36-40 (96-104 °F)	0.82	0.88	0.91
41-45 (105-113 °F)	0.71	0.82	0.87
46-50 (114-122 °F)	0.58	0.75	0.82
51-55 (123-131 °F)	0.41	0.67	0.76
56-60 (132-140 °F)	–	0.58	0.71
61-70 (141-158 °F)	–	0.33	0.58
71-80 (159-176 °F)	–	–	0.41

2. Number of current carrying conductors (Based on Table 310.15(B)(3)A)

Adjustment Factors for more than three current carrying conductors in Raceway or cable.

Number of Current-Carrying Conductors	Percent of Values in Tables 310.15(B) through 310.15(B)(19) as Adjusted for Ambient Temperature if Necessary
1-3	100
4-6	80
7-9	70
10-20	50
21-30	45
31-40	40
40 and more	35

Number of conductors Is the total number of conductors in the raceway or cable adjusted in accordance with 310.15(B)(5) and (6)

## Example:

Application with a Lutze DRIVEFLEX® XLPE (C) Servo I PVC, Shielded with control pair and an ambient temperature of 43 °C and a required ampacity of 34 Ampere.

1. Factor ambient temperature:

0.87

2. Percentage factor current carrying conductors:

80

55 A x 0.87 x 0.8 = 38 A > 34 A  
Our recommendation is a AWG8 + 1 TSP AWG14,  
Item no. **A2170804**

**Note:** The given values are reference numbers to calculate the required cable sizes. Lutze Inc. is not responsible for the conformity of the values provided by the NEC.

# Lutze Technical Overview

## Simplified Motor, VFD and Servo Cable Selection by Horsepower (HP)

Part#	Amps	AWG (POWER)	230V-3 Ø	460V-3 Ø	575V-3 Ø
A2161604	4C	18	16 AWG	N/A	N/A
A2161404	4C	25	14 AWG	5 HP	15 HP
A2161204	4C	30	12 AWG	7.5 HP	20 HP
A2161004	4C	40	10 AWG	10 HP	30 HP
A2160804	4C	55	8 AWG	15 HP	40 HP
A2160604	4C				
A2190603	3C	75	6 AWG	20 HP	50 HP
A2200603	3C				
A2160404	4C				
A2190403	3C	95	4 AWG	25 HP	60 HP
A2200403	3C				
A2160204	4C				
A2190203	3C	130	2 AWG	40 HP	100 HP
A2200203	3C				
A2190103	3C	145	1 AWG	40 HP	100 HP
A2200103	3C				
A2191/003	3C	170	1/0	50 HP	125 HP
A2201/003	3C				
A2192/003	3C	195	2/0	60 HP	150 HP
A2202/003	3C				
A2193/003	3C	225	3/0	60 HP	150 HP
A2203/003	3C				
A2194/003	3C	260	4/0	75 HP	200 HP
A2204/003	3C				
A22025003	3C	290	250 kcmil	75 HP	150 HP
A22035003	3C	350	350 kcmil	100 HP	200 HP
A22050003	3C	430	500 kcmil	125 HP	250 HP

Number of current carrying conductors is three (3) + green/yellow ground(s)

Part#	Amps	AWG (POWER)	230V-3Ø	460V-3 Ø	575V-3 Ø
A2171604	4C+1TSP	14	16 AWG	N/A	N/A
A2171404	4C+1TSP	20	14 AWG	5 HP	10 HP
A2171204	4C+1TSP	24	12 AWG	5 HP	15 HP
A2171004	4C+1TSP	32	10 AWG	7.5 HP	20 HP
A2170804	4C+1TSP	44	8 AWG	10 HP	25 HP
A2170604	4C+1TSP	60	6 AWG	15 HP	30 HP
A2170404	4C+1TSP	76	4 AWG	20 HP	40 HP
A2170204	4C+1TSP	104	2 AWG	30 HP	60 HP

Number of current carrying conductors is five (5) + 1 green/yellow ground

Part#	Amps	AWG (POWER)	230V-3Ø	460V-3 Ø	575V-3 Ø
A2181604	4C+2TSP	12.5	16 AWG	N/A	N/A
A2181404	4C+2TSP	17.5	14 AWG	3 HP	10 HP
A2181204	4C+2TSP	21	12 AWG	5 HP	10 HP
A2181004	4C+2TSP	28	10 AWG	7.5 HP	15 HP
A2180804	4C+2TSP	38.5	8 AWG	10 HP	20 HP

Number of current carrying conductors is seven (7) + 1 green/yellow ground

### Notes:

Type of Motor is design B  
 Class of Service is continuous  
 Duty-Cycle Service is continuous  
 Conductor is copper 90°C  
 Ambient temperature is 26-30°C  
 Values are based on 2011 NEC 430.250 multiplied x 1.25  
 Ampacities are based on 2011 NEC 310.15 (B)(16) 90°  
 Cables with Signal pair(s) have been de-rated in accordance to 2011 NEC 310.15(B)(3)(a)

\*All values given are calculated based on 2011 NEC. For actual amperage consult your Motor/Drive manual and your local code restrictions. This guideline is simplified in order to select cable sizes. This document has no legal meaning, the interpretation of the NEC code has to be verified by the Authority Having Jurisdiction (AHJ).

# Lutze Technical Overview

## Conductor Stranding according to DIN VDE 0295/IEC 60228

Cross section mm	Fine stranded conductor class 5 per VDE 0295	Superfine stranded conductor class 6 per VDE 0295
0.14		18x0.10
0.25	14x0.15	32x0.10
0.34	19x0.15	42x0.10
0.38	12x0.20	21x0.15
0.50	16x0.20	28x0.15
0.75	24x0.20	42x0.15
1.00	32x0.20	56x0.15
1.50	30x0.25	84x0.15
2.50	50x0.25	140x0.15
4	56x0.30	224x0.15
6	84x0.30	192x0.20
10	80x0.40	320x0.20
16	128x0.40	512x0.20
25	200x0.40	800x0.20
35	280x0.40	1120x0.20
50	400x0.40	705x0.30
70	356x0.50	990x0.30
95	485x0.50	1340x0.30
120	614x0.50	1690x0.30
150	765x0.50	2123x0.30
185	944x0.50	1470x0.40
240	1225x0.50	1905x0.40
300	1530x0.50	2385x0.40

The number of strands is non-binding and may vary slightly to meet specified wire resistance. The VDE 0296 determines only the maximum diameter of the single wire that is required for compliance with the maximum wire resistance at 20°C.

## Conductor Stranding Class K according to ASTM B172 Comparison Class K with Class B and Metric

Size AWG	Size Metric	Class K Stranding	Class B Stranding
20	0.52	10/AWG30	7
18	0.82	16/AWG30	7
16	1.31	26/AWG30	7
14	2.08	41/AWG30	7
12	3.31	65/AWG30	7
10	5.26	104/AWG30	7
9	6.32	133/AWG30	7
8	8.39	168/AWG30	7
7	10.55	210/AWG30	7
6	13.29	266/AWG30	7
5	16.77	336/AWG30	7
4	21.15	420/AWG30	7
3	26.69	532/AWG30	7
2	33.62	665/AWG30	7
1	42.41	836/AWG30	19
1/0	53.5	1,064/AWG30	19
2/0	67.4	1,323/AWG30	19
3/0	85.0	1,666/AWG30	19
4/0	107	2,107/AWG30	19

# Lutze Technical Overview

## Conductor Marking According to DIN 47100

No. Base/ring colors	No. Base/ring colors	No. Base/ring colors	No. Base/ring colors
1 white WH	16 yellow/brown	31 green/blue	46 brown
2 brown BN	17 white/grey	32 yellow/blue	47 green
3 green GN	18 grey/brown	33 green/red	48 yellow
4 yellow YE	19 white/pink	34 yellow/red	49 grey
5 grey GY	20 pink/brown	35 green/black	50 pink
6 pink PK	21 white/blue	36 yellow/black	51 blue
7 blue BU	22 brown/blue	37 grey/blue	52 red
8 red RD	23 white/red	38 pink/blue	53 black
9 black BK	24 brown/red	39 grey/red	54 violet
10 violet VT	25 white/black	40 pink/red	55 grey/pink
11 grey/pink	26 brown/black	41 grey/black	56 red/blue
12 red/blue	27 grey/green	42 pink/black	57 white/green
13 white/green	28 yellow/grey	43 blue/black	58 brown/green
14 brown/green	29 pink/green	44 red/black	59 white/yellow
15 white/yellow	30 yellow/pink	45 white	60 yellow/brown
			61 white/grey

## Conductor Marking According to DIN 47100 for Twisted Pairs (TP)

Pair No. Conductor A & B	Pair No. Conductor A/B	Pair No. Conductor A/B	Pair No. Conductor A/B
1 white & brown	4 blue & red	7 white/green & brown/green	10 white/pink & pink/brown
2 green & yellow	5 black & violet	8 white/yellow & yellow/brown	11 white/blue & brown/blue
3 grey & pink	6 grey/pink & red/blue	9 white/grey & grey/brown	12 white/red & brown/red

## Color Chart for Hook Up Wire

Color	Abbreviation	LÜTZE Color No.	RAL No.
black	BK	01	9005
blue	BU	02	5015
red	RD	04	3000
brown	BN	03	8003
green/yellow	GN/YE	00	6018/1021
orange	OG	09	2003
dark blue	DBU	14	5010
blue/white	BU/WH	15	5015/9010
white/blue	WH/BU	44	9010/5015

# Lutze Technical Overview

## Conductor Marking for Lutze Electronic Cables

### Electronic PLTC A313, A303

#### AWG 22

1-	Black		
2-	Brown		
3-	Red		
4-	Orange		
5-	Yellow		
6-	Green		
7-	Blue		
8-	Purple		
9-	Gray		
10-	White		
11-	White	Black	
12-	White	Brown	
13-	White	Red	
14-	White	Orange	
15-	White	Yellow	
16-	White	Green	
17-	White	Blue	
18-	White	Purple	
19-	White	Gray	
20-	White	Black	Brown
21-	White	Black	Red
22-	White	Black	Orange
23-	White	Black	Yellow
24-	White	Black	Green
25-	White	Black	Blue

#### AWG 20

1-	Black		
2-	Red		
3-	White		
4-	Green		
5-	Orange		
6-	Blue		
7-	Brown		
8-	Yellow		
9-	Purple		
10-	Gray		
11-	Pink		
12-	Tan		
13-	Red	Green	
14-	Red	Yellow	
15-	Red	Black	
16-	White	Black	
17-	White	Red	
18-	White	Green	
19-	White	Yellow	
20-	White	Blue	
21-	White	Brown	
22-	White	Orange	
23-	White	Gray	
24-	White	Purple	
25-	White	Black	Red

### Electronic TP PLTC A314

#### AWG 22

1-	White	Black	
2-	White	Brown	
3-	White	Red	
4-	White	Orange	
5-	White	Yellow	
6-	White	Green	
7-	White	Blue	
8-	White	Purple	

#### AWG 20

1-	Black	Red	
2-	Black	White	
3-	Black	Green	
4-	Black	Blue	
5-	Black	Brown	
6-	Black	Yellow	
7-	Black	Orange	
8-	Red	Green	

# Lutze Technical Overview

## Chemical Resistance of PVC, TPE and PUR Cable Jackets

Inorganic	Concentration	PVC	TPE	PUR
Alum	c.s.	+	+	
Aluminum salts	ec.	+	+	(+)
Ammonia, a	10 %	+	+	+
Ammonium acetate, a	ec.	+	+	
Ammonium carbonate, a	ec.	+	+	-
Ammonium chloride, a	ec.	+	+	+
Barium salts	ec.	+	+	+
Boric acid	100 %	+	+	O
Calcium chloride, a	c.s.	+	+	O
Calcium chloride, a	10 % and 40 %			+
Calcium nitrate, a	c.s.	+	+	
Chrome salts, a	c.s.	+	+	+
Potassium carbonate, a (potash)		+	+	
Potassium chlorate, a	c.s.	+	+	
Potassium chloride, a	c.s.	+	+	O
Calcium dichromate, a		+	+	
Calcium iodide, a		+	+	
Calcium nitrate, a	c.s.	+	+	+
Potassium permanganate, a		O	O	-
Potassium sulfate, a		+	+	+
Copper salts, a	c.s.	+	+	+
Magnesium salts, a	c.s.	+	+	O
Sodium carbonate, a (natron)		+	+	O
Sodium bisulfate, a		+	+	
Sodium chloride, a (common salt)		+	+	+
Sodium thiosulfate, a (fixing salt)		+	+	O
Nickel salts, a	c.s.	+	+	+
Phosphoric acid	50 %	+	+	-
Mercury	100 %	+	+	+
Mercury salts, a	c.s.	+	+	+
Nitric acid	30 %	-	-	-
Hydrochloric acid	concentrated	-	-	(-)
Sulfur	100 %	+	+	+
Sulfur dioxide	gaseous	+	+	O
Carbon disulfide		-	-	-
Hydrogen sulfide		+	+	-
Sea water		+	+	+
Silver salts, a		+	+	+
Hydrogen peroxide, a	3 %	+	+	+
Zinc salts, a		+	+	-
Tin (II) chloride		+	+	

Organic	Concentration	PVC	TPE	PUR
Ethyl alcohol	100 %	-	-	-
Formic acid	30 %	-	-	-
Benzine/Benzene		-	O	+
Succinic acid, a	c.s.	+	+	
Acetic acid	20 %	O	O	O
Hydraulic oil		-	*	O
Isopropyl alcohol	100 %	-	-	O
Kerosene			+	+
Machine oil		O	O	O
Methyl alcohol, a	100 %	O	O	O
Mineral oil, depending on type (ASTM)			*	*
Oxalic acid, a	c.s.	+	+	
Paraffin oil			+	+
Plant oils and greases		+	+	+
Cutting oil		O	O	+
Tartaric acids, a		+	+	
Citric acid		+	+	

**Legend:** ec. = each concentration  
c.s. = cold saturated  
a = aqueous  
\* = depending on the additive in oil results may vary greatly  
+ = resistant  
O = conditionally resistant  
- = unstable

**Disclaimer:** The information is to be used ONLY as a guide in selecting equipment for appropriate chemical compatibility. Before permanent installation, test the equipment with the chemicals and under the specific conditions of your application. Lutze Inc. makes no guarantee or representation as to the completeness or accuracy thereof, and disclaims all liability for any loss or damage resulting from use or reliance upon any information, recommendations or suggestions contained herein.



# Lutze Technical Overview

## Protection Class Designation according to EN 60529

The protection of electrical equipment through corresponding enclosure is specified with code letters and code numbers. This protection class designation consists of the letters "IP" and two code numbers from 0 to 8. The first code number stands for the protection against contact and foreign substances, the second number specifies the degree of protection against water. The higher the respective code number is, the higher the offered protection. The protection class for each product is specified in the respective technical information.

### For example:

IP 65	<b>Code letter IP</b>	<b>IP</b>	
	<b>First code number</b>	<b>6</b>	<b>corresponds to: Protection against entrance of dust</b>
	<b>Second code number</b>	<b>5</b>	<b>corresponds to: Protection against sprayed water</b>

### For protection against contact and foreign substances

First code number	Protection scope designation	Explanation
0	No protection	No special protection of persons from accidental contact with standing or moving parts under voltage. No protection of the equipment against entry of solid foreign substances.
1	1 Protection against foreign substances > 50 mm	Protection against accidental contact of large area surfaces of standing and internally moving parts under voltage, e.g. with the hand, but no protection against intentional access to these parts. Protection against entry of solid foreign substances with a diameter larger than 50 mm.
2	2 Protection against foreign substances > 12 mm voltage	Protection against contact by the fingers of standing or internally moving parts under voltage. Protection against entry of solid foreign substances with a diameter larger than 12 mm.
3	3 Protection against foreign substances > 2.5 mm tools	Protection against contact of standing or internally moving parts under voltage with, wires or similar of a thickness larger than 2.5 mm. Protection against entry of solid foreign substances with a diameter larger than 2.5 mm.
4	4 Protection against foreign substances > 1 mm	Protection against contact of standing or internally moving parts under voltage with tools, wires or similar of a thickness larger than 1 mm. Protection against entry of solid foreign substances with a diameter larger than 1 mm.
5	5 Protection against dust accumulation	Full protection against contact of standing or internally moving parts under voltage moving parts under voltage. Protection against dust accumulation. The entry of dust is not fully prevented but the dust may not enter in such quantities that the functioning is impaired.
6	6 Protection against dust accumulation	Full protection against contact of standing or internally moving parts under voltage moving parts under voltage. Protection against entry of dust.

### For water protection

Second code number	Protection scope designation	Explanation
0	No protection	No special protection.
1	1 Protection against vertically falling dripping water	Water drops that fall vertically may not have any damaging effect.
2	2 Protection against dripping water falling at an angle	Water drops that fall at an arbitrary angle of up to 15° to vertical may not have any damaging effect.
3	3 Protection against sprayed water	Water that falls in an arbitrary angle up to 60° to vertical may not have a damaging effect.
4	4 Protection against splashed water	Water that is splashed from all directions against the equipment may not have a damaging effect.
5	5 Protection against water projected from a nozzle	Water projected from a nozzle that is aimed at the equipment from all directions may not have any damaging effect.
6	6 Protection against flooding	Water may not enter into the equipment in damaging amounts during temporary flooding (e.g. by heavy seas)
7	7 Protection against immersion	Water may not enter in damaging amounts if the equipment is immersed in water for the defined pressure and time conditions.
8	8 Protection against submersion	Water may not enter in damaging amounts if the equipment is submerged in water for the defined pressure and indefinite amount of time.

# Lutze Technical Overview

## Thread Tables for Lutze Cable Fittings - NPT, PG, Metric

NPT	Pitch mm	Outside Diameter mm	Number of Threads per Unit Length	Clearance Hole mm
NPT 3/8"	1.411	17.055	18	17.0
NPT 1/2"	1.814	21.223	14	22
NPT 3/4"	1.814	26.568	14	29
NPT 1"	2.208	33.227	11.5	33.5
PG to DIN 40430	Pitch mm	Outside Diameter mm	Core Diameter mm	Clearance Hole mm
PG7	1.270	12.5	11.28	12.7
PG9	1.410	15.2	13.86	15.4
PG11	1.410	18.6	17.26	18.8
PG13	1.410	20.4	19.06	20.7
PG16	1.410	22.5	21.16	22.8
PG21	1.588	28.3	26.78	28.6
PG29	1.588	37.0	35.48	37.4
PG36	1.588	47.0	45.48	47.5
PG42	1.588	54.0	52.48	54.5
PG48	1.588	59.3	57.78	59.8
Metric to EN 60423	Pitch mm	Outside Diameter mm	Core Diameter mm	Clearance Hole mm
M12x1.5	1.5	12	10.5	12.2
M16x1.5	1.5	16	14.5	16.2
M20x1.5	1.5	20	18.5	20.2
M25x1.5	1.5	25	23.5	25.2
M32x1.5	1.5	32	30.5	32.2
M40x1.5	1.5	40	38.5	40.2
M50x1.5	1.5	50	48.5	50.2
M63x1.5	1.5	63	61.5	63.2

## Torque Recommendations for Lutze Cable Fittings - Plastic and Metal Dome Nuts

Nominal Size	Recommended Torque in Nm	
	Plastic	Metal
NPT 3/8"	2.5	4.5
NPT 1/2"	3.0	5
NPT 3/4"	5.0	7.0
NPT 1"	5.0	7.0
PG7	2.5	6.25
PG9	3.75	6.25
PG11	3.75	6.25
PG13.5	3.75	6.25
PG16	5.0	7.5
PG21	7.5	10.0
PG29	7.5	10.0
PG36	7.5	10.0
PG42	7.5	10.0
PG48	7.5	10.0
M12x1.5	1.0	5
M16x1.5	2.5	5
M20x1.5	4.0	7.5
M25x1.5	6.0	10
M32x1.5	7.0	15
M40x1.5	7.5	18
M50x1.5	8.0	20
M63x1.5	9.0	20

The specified values are recommended for achieving the protection class IP68 at 5 bar. Please choose the suitable torque for the material and cable application. The actual crush resistance of each cable must be considered. The values shown are for reference only.

# Lutze Fittings Selection Chart

To complete the part number for **plastic** fittings, add color code B for Black or G for Gray at the end.

Part#	Plastic NPT	Plastic PG	Plastic Metric	Metal NPT	Metal PG	Metal Metric	Part#	Plastic NPT	Plastic PG	Plastic Metric	Metal NPT	Metal PG	Metal Metric
104265	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	111293	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25
104275	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	111294	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32
104279	FPNPT12	FPPG16	FPM20	FMNPT12	FMPG16	FMM20	111295	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32
104282	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	111296	N/A	FPPG36	FPM40	N/A	FMPG36	FMM40
104287	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	111370	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16
104288	FPNPT12	FPPG16	FPM20	N/A	FMPG16	FMM25	111371	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16
104289	FPNPT38	FPPG9	FPM12	FMNPT38	FMPG9	FMM12	111372	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
104293	FPNPT38	FPPG9	FPM16	FMNPT12	FMPG9	FMM16	111373	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20
104301	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	111374	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25
104302	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG11	FMM16	111375	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32
104303	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	111376	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32
104307	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	111377	N/A	FPPG36	FPM40	N/A	FMPG36	FMM40
104310	FPNPT38	FPPG11	FPM16	FMNPT38	FMPG11	FMM16	111378	N/A	FPPG36	FPM40	N/A	FMPG36	FMM40
104313	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG11	FMM16	111388	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32
104331	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	111412	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG13	FMM20
104335	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	111420	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
104336	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	111421	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20
104337	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	111422	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20
104338	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	111423	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25
104341	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM20	111424	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32
104344	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	111425	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32
104347	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	111426	N/A	FPPG36	FPM40	N/A	FMPG36	FMM40
104378	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM20	111427	N/A	FPPG36	FPM40	N/A	FMPG36	FMM40
104386	FPNPT38B-R	FPPG9	FPM12	FMNPT38	FMPG9	FMM16	111428	N/A	FPPG48	FPM63	N/A	FMPG48	FMM63
104387	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM20	111429	FPNPT10B-R	FPPG29G-R	FPM32G-R	FMNPT10	FMPG29	FMM40
104388	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG11	FMM16	111430	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32
104389	FPNPT38	FPPG13	FPM16	FMNPT12	FMPG11	FMM20	111452	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
104390	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG11	FMM16	111453	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG11	FMM16
104391	FPNPT38	FPPG13	FPM16	FMNPT12	FMPG11	FMM20	111454	FPNPT38	FPPG11	FPM16	FMNPT38	FMPG9	FMM16
110872	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM20	111456	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16
110874	FPNPT12	FPPG11	FPM20	FMNPT12	FMPG13	FMM20	111457	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
110940	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	111458	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16
110941	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	111459	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16
111126	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	111460	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG13	FMM20
111127	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	111461	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
111128	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	111462	FPNPT12	FPPG16	FPM20	N/A	FMPG16	FMM25
111129	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20	111463	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32
111130	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	111464	FPNPT10B-R	FPPG29G-R	FPM32G-R	FMNPT34	FMPG21	FMM32
111131	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	111465	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM40
111132	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32	111466	N/A	FPPG36	FPM40	N/A	FMPG36	FMM50
111133	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32	111467	N/A	FPPG36	FPM40	N/A	FMPG36	FMM50
111270	FPNPT12	FPPG16	FPM20	N/A	FMPG16	FMM25	111468	N/A	FPPG42	FPM50	N/A	FMPG42	N/A
111271	FPNPT12	FPPG16	FPM20	N/A	FMPG16	FMM25	111488	FPNPT12B-R	FPPG13	FPM20G-R	FMNPT12	FMPG13	FMM20
111276	N/A	FPPG36	FPM40	N/A	FMPG36	FMM50	111489	FPNPT12B-R	FPPG13	FPM20G-R	FMNPT12	FMPG13	FMM20
111277	N/A	FPPG36	FPM40	N/A	FMPG36	FMM50	111495	FPNPT12B-R	FPPG13	FPM20G-R	FMNPT12	FMPG13	FMM20
111278	N/A	FPPG42	FPM50	N/A	FMPG42	N/A	111545	FPNPT12	FPPG16	FPM20	N/A	FMPG16	FMM25
111279	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32	111548	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM40
111289	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	111762	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM40
111290	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	111778	FPNPT12B-R	FPPG13	FPM20G-R	FMNPT12	FMPG13	FMM20
111291	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20	111779	FPNPT12	FPPG16	FPM20	FMNPT12	FMPG16	FMM25
111292	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	111780	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG13	FMM20

# Lutze Fittings Selection Chart

Part#	Plastic NPT	Plastic PG	Plastic Metric	Metal NPT	Metal PG	Metal Metric	Part#	Plastic NPT	Plastic PG	Plastic Metric	Metal NPT	Metal PG	Metal Metric
111781	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG13	FMM20	113416	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
111879	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM20	113417	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20
111998	FPNPT10B-R	FPPG29	FPM32G-R	FMNPT10	FMPG29	FMM40	113426	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25
113300	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	113431	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
113301	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	113433	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
113302	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	113438	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16
113303	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	113441	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
113304	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	113442	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
113305	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	113443	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
113312	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	113444	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
113313	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	113446	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16
113314	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	113447	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
113315	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	113479	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25
113316	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20	113483	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16
113317	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	113484	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
113318	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	113485	FPNPT38	FPPG9	FPM12	FMNPT38	FMPG9	FMM12
113319	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	113570	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16
113320	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20	113571	FPNPT38	FPPG9	FPM16	FMNPT12	FMPG11	FMM20
113321	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	113572	FPNPT38	FPPG13	FPM16	FMNPT12	FMPG11	FMM20
113322	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	113573	FPNPT38	FPPG13	FPM16	FMNPT12	FMPG11	FMM20
113323	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32	113574	FPNPT12B-R	FPPG13	FPM20G-R	FMNPT12	FMPG13	FMM20
113324	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	113575	FPNPT12	FPPG16	FPM20	FMNPT12	FMPG16	FMM25
113331	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	113576	FPNPT34	FPPG16	FPM20	FMNPT34	FMPG21	FMM32
113332	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	113577	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32
113339	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20	116401	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM20
113340	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	116402	FPNPT12B-R	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
113341	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	116403	FPNPT12	FPPG16	FPM20	FMNPT12	FMPG16	FMM25
113342	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32	116404	FPNPT34B-R	FPPG16	FPM20	FMNPT34	FMPG16	FMM25
113344	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	116405	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32
113347	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	116406	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM40
113360	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM20	116407	N/A	FPPG36	FPM40	N/A	FMPG36	FMM50
113361	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG13	FMM20	116408	N/A	FPPG42	FPM50	N/A	FMPG42	FMM50
113362	FPNPT12B-R	FPPG13	FPM20G-R	FMNPT12	FMPG13	FMM20	116415	FPNPT12	FPPG16	FPM20	FMNPT12	FMPG16	FMM25
113363	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG16	FMM25	116416	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM25
113364	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM25	116417	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32
113365	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32	116418	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32
113366	FPNPT10B-R	FPPG29G-R	FPM32G-R	FMNPT10	FMPG21	FMM32	116419	FPNPT10	FPPG29G-R	FPM32	FMNPT10	FMPG29	FMM40
113400	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	116420	FPNPT10	FPPG36	FPM32	FMNPT10	FMPG29	FMM40
113401	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	116421	N/A	FPPG36	FPM40	N/A	FMPG36	FMM50
113402	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	117028	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16
113403	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	117029	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16
113404	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	117039	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
113405	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	117040	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
113406	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	117041	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
113407	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	117042	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
113408	FPNPT38	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	117043	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
113409	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20	117044	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
113410	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	117046	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16
113411	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	117047	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16
113412	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	117048	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
113415	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	117049	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12

# Lutze Fittings Selection Chart

To complete the part number for **plastic** fittings, add color code B for Black or G for Gray at the end.

Part#	Plastic NPT	Plastic PG	Plastic Metric	Metal NPT	Metal PG	Metal Metric	Part#	Plastic NPT	Plastic PG	Plastic Metric	Metal NPT	Metal PG	Metal Metric
117050	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	108355A	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20
117051	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	108356A	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25
117052	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	108357A	FPNPT38	FPPG9	FPM12	FMNPT38	FMPG9	FMM12
117053	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	108358A	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16
117055	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	108359A	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16
117056	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	108360A	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16
117099	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	108361A	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20
117100	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	108362A	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20
117101	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	108363A	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25
117102	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	108372A	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16
117103	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	108373A	FPNPT38	FPPG9	FPM16	FMNPT12	FMPG9	FMM16
117104	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	108374A	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16
117106	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	108375A	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
117107	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	108376A	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20
117108	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	108377A	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25
117109	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	108378A	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25
117110	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	108380A	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16
117111	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	108381A	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16
117112	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	108382A	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
117113	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	108383A	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20
117115	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	108384A	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25
117116	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	108385A	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32
117123	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	108386A	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32
117124	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	108391A	FPNPT38	FPPG9	FPM12	FMNPT38	FMPG9	FMM12
117170	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	108392A	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
117171	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	108393A	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20
117172	FPNPT38	FPPG9	FPM12	FMNPT38	FMPG9	FMM12	108401A	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
117173	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	A116100A	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25
117174	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A116120A	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20
117175	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A116140A	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
117176	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A116160A	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
117177	FPNPT38	FPPG9	FPM16	FMNPT12	FMPG9	FMM16	A116180A	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16
117240	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	A117100A	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM40
117241	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	A117120A	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32
117242	FPNPT38	FPPG9	FPM12	FMNPT38	FMPG9	FMM16	A117140A	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32
117243	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	A117160A	FPNPT12	FPPG16	FPM20	N/A	FMPG16	FMM25
117244	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	A138120A	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
117245	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	A1381207	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25
117246	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	A138140A	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16
117250	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	A1381405	FPNPT38	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
117251	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	A1381407	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20
117252	FPNPT38	FPPG11	FPM16	FMNPT38	FMPG9	FMM16	A1381603	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16
117253	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	A1381604	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16
117254	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	A1381605	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16
117255	FPNPT38B-R	FPPG9	FPM12	FMNPT38	FMPG7	FMM12	A1381607	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
108349A	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	A1381612	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20
108350A	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	A1381618	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25
108351A	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	A1381625	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25
108352A	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	A1381803	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
108353A	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A1381804	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16
108354A	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A1381805	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16

# Lutze Fittings Selection Chart

Part#	Plastic NPT	Plastic PG	Plastic Metric	Metal NPT	Metal PG	Metal Metric	Part#	Plastic NPT	Plastic PG	Plastic Metric	Metal NPT	Metal PG	Metal Metric
A1381807	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A2170604	N/A	FPPG36	FPM40	N/A	FMPG36	FMM50
A1381812	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A2170804	N/A	FPPG36	FPM40	N/A	FMPG36	FMM50
A1381818	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20	A2171004	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM40
A1381825	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	A2171204	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM40
A1381834	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	A2171404	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32
A1381841	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32	A2171604	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32
A1381850	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32	A2180804	N/A	FPPG36	FPM40	N/A	FMPG36	FMM50
A1382003	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	A2181004	FPNPT10	FPPG29	FPM40	FMNPT10	FMPG29	FMM40
A1382004	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	A2181204	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM40
A1382005	FPNPT38	FPPG9	FPM12	FMNPT38	FMPG9	FMM12	A2181404	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM40
A1382007	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	A2181604	FPNPT34	FPPG29	FPM25	FMNPT34	FMPG21	FMM32
A1382012	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A2190103	N/A	FPPG48	FPM63	N/A	FMPG48	FMM63
A1382018	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A2190203	N/A	FPPG42	FPM50	N/A	FMPG42	N/A
A1382025	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20	A2190403	N/A	FPPG36	FPM40	N/A	FMPG36	FMM50
A1391204	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM25	A2190603	N/A	FPPG36	FPM40	N/A	FMPG36	FMM50
A1391207	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32	A2191/003	N/A	FPPG48	FPM63	N/A	FMPG48	FMM63
A1391404	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A2192/003	N/A	FPPG48	FPM63	N/A	FMPG48	FMM63
A1391405	FPNPT12	FPPG16	FPM20	FMNPT12	FMPG16	FMM25	A2193/003	N/A	N/A	N/A	N/A	N/A	N/A
A1391407	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM25	A2194/003	N/A	N/A	N/A	N/A	N/A	N/A
A1391603	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM20	A2200103	N/A	FPPG42	FPM50	N/A	FMPG42	N/A
A1391604	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM20	A2200203	N/A	FPPG36	FPM40	N/A	FMPG36	FMM50
A1391605	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A2200403	N/A	FPPG36	FPM40	N/A	FMPG36	FMM50
A1391607	FPNPT12	FPPG16	FPM20	FMNPT12	FMPG16	FMM25	A2200603	N/A	FPPG29	FPM32	FMNPT10	FMPG36	FMM40
A1391612	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32	A2201/003	N/A	FPPG42	FPM50	N/A	FMPG42	FMM63
A1391618	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32	A2202/003	N/A	FPPG48	FPM63	N/A	FMPG48	FMM63
A1391625	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM40	A22025003	N/A	N/A	N/A	N/A	N/A	N/A
A1391803	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM20	A2203/003	N/A	FPPG48	FPM63	N/A	FMPG48	FMM63
A1391804	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM20	A22035003	N/A	N/A	N/A	N/A	N/A	N/A
A1391805	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM20	A2204/003	N/A	N/A	N/A	N/A	FMPG48	N/A
A1391807	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A22050003	N/A	N/A	N/A	N/A	N/A	N/A
A1391812	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM25	A3032002	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
A1391818	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32	A3032003	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
A1391825	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32	A3032004	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
A1391834	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM40	A3032006	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
A1392003	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	A3032008	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16
A1392004	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	A3032010	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16
A1392005	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM20	A3032015	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
A1392007	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM20	A3032020	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20
A1392012	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A3032025	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25
A1392018	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM25	A3032202	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
A1392025	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32	A3032203	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
A2160204	N/A	FPPG42	FPM50	N/A	FMPG42	FMM50	A3032204	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
A2160404	N/A	FPPG36	FPM40	N/A	FMPG36	FMM50	A3032206	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
A2160604	N/A	FPPG36	FPM40	N/A	FMPG36	FMM50	A3032208	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
A2160804	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM40	A3032210	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16
A2161004	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32	A3032215	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16
A2161204	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32	A3032220	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16
A2161404	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32	A3032225	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
A2161604	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM25	A3080804	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32
A2170204	N/A	FPPG42	FPM50	N/A	FMPG42	FMM63	A3081004	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25
A2170404	N/A	FPPG36	FPM40	N/A	FMPG36	FMM50	A3081203	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16

# Lutze Fittings Selection Chart

To complete the part number for **plastic fittings**, add color code B for Black or G for Gray at the end.

Part#	Plastic NPT	Plastic PG	Plastic Metric	Metal NPT	Metal PG	Metal Metric	Part#	Plastic NPT	Plastic PG	Plastic Metric	Metal NPT	Metal PG	Metal Metric
A3081204	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A3091605	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
A3081205	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20	A3091607	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
A3081207	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	A3091612	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20
A3081403	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A3091618	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25
A3081404	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A3091625	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32
A3081405	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A3091802	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16
A3081407	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A3091803	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16
A3081409	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20	A3091804	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16
A3081412	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	A3091805	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16
A3081418	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32	A3091807	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
A3081425	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32	A3091812	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20
A3081602	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	A3091818	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25
A3081603	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12	A3091825	FPNPT10	FPPG21	FPM25	FMNPT10	FMPG21	FMM25
A3081604	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A3092003	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16
A3081605	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A3092004	FPNPT38	FPPG9	FPM16	FMNPT12	FMPG9	FMM16
A3081607	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A3092005	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16
A3081609	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20	A3092007	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16
A3081612	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20	A3092012	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
A3081618	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	A3092018	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20
A3081625	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32	A3092025	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25
A3081634	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM40	A3132002	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
A3081641	FPNPT10	FPPG36	FPM40	FMNPT10	FMPG36	FMM40	A3132003	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
A3081802	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	A3132004	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
A3081803	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	A3132006	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16
A3081804	FPNPT38	FPPG9	FPM16	FMNPT12	FMPG9	FMM16	A3132008	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16
A3081805	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A3132010	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16
A3081807	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A3132015	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
A3081809	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A3132020	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20
A3081812	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20	A3132025	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25
A3081818	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	A3132202	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
A3081825	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	A3132203	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
A3081834	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32	A3132204	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
A3081841	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32	A3132206	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
A3081850	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32	A3132208	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
A3082003	FPNPT38	FPPG9	FPM12	FMNPT38	FMPG9	FMM12	A3132210	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16
A3082004	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	A3132215	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16
A3082005	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	A3132220	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16
A3082007	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A3132225	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
A3082012	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A3142002	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
A3082018	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20	A3142004	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM20
A3082025	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	A3142006	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM20
A3091004	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	A3142008	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM20
A3091203	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A3142010	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
A3091204	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A3142012	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
A3091403	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A3142016	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM25
A3091404	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A3142202	FPNPT38	FPPG7	FPM12	FMNPT38	FMPG7	FMM12
A3091405	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A3142204	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16
A3091407	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20	A3142206	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16
A3091412	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	A3142208	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16
A3091603	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A3142210	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM20
A3091604	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A3142212	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM20

# Lutze Fittings Selection Chart

Part#	Plastic NPT	Plastic PG	Plastic Metric	Metal NPT	Metal PG	Metal Metric	Part#	Plastic NPT	Plastic PG	Plastic Metric	Metal NPT	Metal PG	Metal Metric
A3142216	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM20	A3251803	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16
A3211403	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A3251807	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16
A3211404	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A3251812	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20
A3211405	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A3251819	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25
A3211407	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20	A3251825	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25
A3211412	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	A3251837	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32
A3211603	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A3311004	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32
A3211604	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A3311203	FPNPT12	FPPG16	FPM20	FMNPT12	FMPG13	FMM25
A3211605	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A3311204	FPNPT12	FPPG16	FPM20	FMNPT12	FMPG16	FMM25
A3211607	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A3311205	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM25
A3211612	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20	A3311403	FPNPT38	FPPG13	FPM16	FMNPT12	FMPG13	FMM20
A3211618	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	A3311404	FPNPT38	FPPG13	FPM20G-R	FMNPT12	FMPG13	FMM20
A3211625	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32	A3311405	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
A3211803	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	A3311407	FPNPT12	FPPG16	FPM20	FMNPT12	FMPG16	FMM25
A3211804	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A3311412	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32
A3211805	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A3311603	FPNPT38	FPPG13	FPM16	FMNPT12	FMPG13	FMM20
A3211807	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A3311604	FPNPT38	FPPG13	FPM16	FMNPT12	FMPG13	FMM20
A3211812	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20	A3311605	FPNPT38	FPPG13	FPM20G-R	FMNPT12	FMPG13	FMM20
A3211818	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	A3311607	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM25
A3211825	FPNPT10	FPPG21	FPM25	FMNPT10	FMPG21	FMM25	A3311612	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32
A3221004	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	A3311618	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32
A3221203	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A3311625	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM40
A3221204	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A3311803	FPNPT38	FPPG13	FPM16	FMNPT12	FMPG13	FMM20
A3221205	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20	A3311804	FPNPT38	FPPG13	FPM16	FMNPT12	FMPG13	FMM20
A3221207	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	A3311805	FPNPT38	FPPG13	FPM16	FMNPT12	FMPG13	FMM20
A3221403	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A3311807	FPNPT38	FPPG13	FPM16	FMNPT12	FMPG13	FMM20
A3221404	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A3311812	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM25
A3221405	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A3311818	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32
A3221407	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A3311825	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32
A3221412	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	A3320204	N/A	FPPG42	FPM50	N/A	FMPG42	FMM50
A3221603	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A3320404	N/A	FPPG36	FPM40	N/A	FMPG36	FMM50
A3221604	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A3320604	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM40
A3221605	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A3320804	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM40
A3221607	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A3321/004	N/A	FPPG48	FPM63	N/A	FMPG48	FMM63
A3221612	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20	A3321003	FPNPT12	FPPG16	FPM20	FMNPT12	FMPG16	FMM25
A3221618	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	A3321004	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM25
A3221625	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32	A3321005	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32
A3221803	FPNPT38	FPPG9	FPM16	FMNPT38	FMPG9	FMM16	A3321203	FPNPT38	FPPG13	FPM16	FMNPT12	FMPG13	FMM20
A3221804	FPNPT38	FPPG9	FPM16	FMNPT12	FMPG9	FMM16	A3321204	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
A3221805	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A3321205	FPNPT12	FPPG16	FPM20	FMNPT12	FMPG13	FMM25
A3221807	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A3321207	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM25
A3221812	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20	A3321403	FPNPT38	FPPG13	FPM16	FMNPT12	FMPG11	FMM20
A3221818	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	A3321404	FPNPT38	FPPG13	FPM16	FMNPT12	FMPG13	FMM20
A3221825	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	A3321405	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
A3251204	FPNPT12	FPPG16	FPM20	FMNPT12	FMPG13	FMM20	A3321407	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20
A3251404	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A3321412	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32
A3251603	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16	A3321602	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG13	FMM20
A3251607	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20	A3321603	FPNPT38	FPPG13	FPM16	FMNPT12	FMPG13	FMM20
A3251612	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	A3321604	FPNPT38	FPPG13	FPM16	FMNPT12	FMPG13	FMM20
A3251619	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25	A3321605	FPNPT38	FPPG13	FPM16	FMNPT12	FMPG13	FMM20
A3251625	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM32	A3321607	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20



# Lutze Fittings Selection Chart

To complete the part number for **plastic** fittings, add color code B for Black or G for Gray at the end

Part#	Plastic NPT	Plastic PG	Plastic Metric	Metal NPT	Metal PG	Metal Metric	Part#	Plastic NPT	Plastic PG	Plastic Metric	Metal NPT	Metal PG	Metal Metric
A3321612	FPNPT34	FPPG21	FPM20	FMNPT34	FMPG21	FMM32							
A3321618	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32							
A3321625	FPNPT10	FPPG29	FPM32	FMNPT10	FMPG29	FMM40							
A3321803	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG13	FMM20							
A3321804	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG14	FMM20							
A3321805	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG15	FMM20							
A3321807	FPNPT38	FPPG13	FPM16	FMNPT12	FMPG16	FMM20							
A3321812	FPNPT12	FPPG16	FPM20	FMNPT12	FMPG16	FMM25							
A3321818	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32							
A3321825	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM32							
A3322/004	N/A	FPPG48	FPM63	N/A	FMPG48	FMM63							
A3323/004	N/A	N/A	N/A	N/A	N/A	N/A							
A3324/004	N/A	N/A	N/A	N/A	N/A	N/A							
A601XX	FPNPT12	FPPG16	FPM20	FMNPT34	FMPG16	FMM20							
A602XX	FPNPT12	FPPG13	FPM20	FMNPT12	FMPG13	FMM20							
A604XX	FPNPT38	FPPG13	FPM20	FMNPT12	FMPG13	FMM20							
A606XX	FPNPT38	FPPG11	FPM16	FMNPT12	FMPG11	FMM16							
A608XX	FPNPT38	FPPG9	FPM12	FMNPT38	FMPG9	FMM12							
A610XX	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12							
A612XX	FPNPT38B-R	FPPG7	FPM12	FMNPT38	FMPG7	FMM12							
A614XX	FPNPT38B-R	FPPG7	FPM12	N/A	FMPG7	FMM12							
A616XX	FPNPT38B-R	FPPG7	FPM12	N/A	FMPG7	FMM12							
A618XX	N/A	FPPG7G-R	FPM12G-R	N/A	N/A	N/A							
A619XX	N/A	FPPG7G-R	FPM12G-R	N/A	N/A	N/A							
A6700X	FPNPT34	FPPG21	FPM25	FMNPT34	FMPG21	FMM25							
A6950X	FPNPT10B-R	FPPG29G-R	FPM32G-R	FMNPT34	FMPG21	FMM32							

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104265	31	111374	48	113340	17	117028	22	330072	76	600408	73
104275	31	111375	48	113341	17	117029	22	330073	76	600409	73
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104301	36	111421	50	113363	17	117046	22	346812	76	600460	72
104302	37	111422	50	113364	17	117047	22	346813	76	600461	72
104303	37	111423	50	113365	17	117048	22	346814	76	600462	72
104307	36	111424	50	113366	17	117049	22	346860	76	600463	72
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104313	47	111426	50	113407	16	117051	22	490106	83	600465	72
104331	36	111427	50	113408	16	117052	22	490107	83	600466	72
104335	36	111428	50	113409	16	117053	22	490108	83	600541	75
104336	36	111429	48	113410	16	117055	22	490112	82	600542	75
104337	37	111452	56	113411	16	117056	22	490113.0030	82	600543	75
104338	36	111453	56	113412	16	117099	23	490113.0060	82	600544	75
104341	47	111454	56	113415	16	117100	23	490113.0080	82	600545	75
104344	30	111456	56	113416	16	117101	23	490113.0150	82	600546	75
104347	37	111457	56	113417	16	117102	23	490113.0200	82	600550	66
104378	30	111458	56	113426	16	117103	23	490113.0300	82	600551	66
104386	32	111459	56	113430	48	117104	23	490113.0500	82	600553	66
104387	32	111460	49	113431	16	117106	23	490128	83	600554	66
104388	32	111461	49	113438	16	117107	23	490129	83	600557	66
104389	32	111462	49	113441	16	117108	23	490138	83	600558	66
104390	33	111463	49	113442	16	117109	23	491075	82	600561	66
104391	33	111464	49	113443	16	117110	23	492075	82	600562	66
110872	26	111465	49	113444	16	117111	23	600220	73	600565	66
110874	26	111466	49	113446	16	117112	23	600221	73	600566	66
110940	54	111467	49	113447	16	117113	23	600222	73	600604	66
110941	54	111468	49	113479	16	117115	23	600223	73	600605	66
111126	52	111488	55	113483	16	117116	23	600224	73	600606	66
111127	52	111489	55	113485	16	117123	23	600225	73	600607	66
111128	52	111495	54	113545	48	117124	23	600226	73	600626	75
111129	52	111548	48	113570	16	117170	24	600227	73	600627	75
111130	52	111762	51	113571	16	117171	24	600228	73	600628	75
111131	52	111778	57	113572	16	117172	24	600229	73	600629	75
111132	52	111779	57	113573	16	117173	24	600230	73	600630	75
111133	52	111780	54	113574	16	117174	24	600320	80	600631	75
111270	51	111781	54	113575	16	117175	24	600321	80	600632	75
111271	51	111879	49	113576	16	117176	24	600347	80	600633	75
111276	51	111998	51	113577	16	117177	24	600351	66	600634	75
111277	51	113300	17	116401	46	117240	26	600352	66	600635	75
111278	51	113301	17	116402	46	117241	26	600353	66	600636	75
111279	51	113302	17	116403	46	117242	26	600355	66	600637	75
111289	53	113303	17	116404	46	117243	26	600356	66	600638	75
111290	53	113304	17	116405	46	117244	26	600357	66	600639	75
111291	53	113305	17	116406	46	117245	26	600358	66	600640	75
111292	53	113318	17	116407	46	117246	26	600359	66	600641	75
111293	53	113319	17	116408	46	117250	27	600400	73	600642	75
111294	53	113320	17	116415	46	117251	27	600401	73	600643	75
111295	53	113321	17	116416	46	117252	27	600402	73	600644	75
111296	53	113322	17	116417	46	117253	27	600403	73	600645	75
111370	48	113323	17	116418	46	117254	27	600404	73	600646	75
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606153	78	108392A	13	A1391825	15	A3032203	19	A3091412	7	A3211412	9
606154	78	108393A	13	A1391834	15	A3032204	19	A3091603	7	A3211603	9
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Flexible VFD & Motor Supply Cable with 4 conductors including one full size ground. Suitable for all generic drive applications with classic three phase wiring.



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## Lutze DRIVEFLEX® XLPE (C) Servo II PVC, Shielded A218

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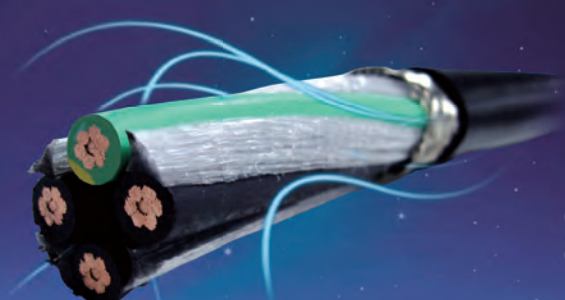


## Lutze DRIVEFLEX® XLPE (C) Symmetrical Grounds PVC, Shielded A219 2kV & A220 1kV

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Lutze LSC Wiring System saves space, time and cost. LSC is an aluminum frame that replaces the traditional back panel and wire duct for mounting and wiring of electrical components in a control enclosure. LSC shortens wiring times and improves heat dissipation.



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