

## Chapter 3: Control cables



## Control cables

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# PUR control cables · C-track compatible · unshielded

## LÜTZE SUPERFLEX® PLUS N PUR 600 V For highest requirements



### Application

- Machine and device construction, transport and conveyor technology, HVAC technology
- In areas with high concentrations of people or material assets, where corrosive gases need to be avoided in the event of fire
- As a monitoring, measurement and control cable for industrial applications
- Especially for harsh environments
- For installation in energy chains with constant linear movement

### Properties

- Reduced friction due to high glide conductor insulation (HGI) for high mechanical loads
- Low capacitance, very good electrical properties
- Flame-retardant, self-extinguishing
- Halogen-free, no corrosive gases
- Very good flexing strength
- Low adhesion, abrasion-resistant, nick-resistant, tear resistant
- Hydrolysis-resistant, microbe-resistant, and rot-resistant
- Weatherproof, ozone and UV resistant (normal lighting conditions)
- Good ruggedness and salt water resistance
- Excellent coolant and lubricant resistance
- Resistant to most oils, greases, alcohol-free benzines and kerosene
- Silicone free
- RoHS-compliant

### Technical data

UL style	AWM 20234
Rated voltage UL	600 V
Rated voltage $U_0/U$	300/500 V
Test voltage	AC 6000 V
Insulation resistance at 20 °C	$\geq 1000 \text{ M}\Omega \times \text{km}$
Temperature range moving	-25 °C ... +80 °C
Temperature range fixed	-40 °C ... +80 °C
Minimum bending radius moving	7.5xD
Minimum bending radius fixed	4xD
Radiation resistance	$5 \times 10^8 \text{ cJ/kg}$
Burning behavior according to	IEC 60332-1 DIN EN 60332-1-2 VDE 0482 322-1-2 UL 1581 Part VW-1 Flame Test UL FT1
Halogen free according to	DIN EN 60754-1 IEC 60754-1
Conformity	CE RoHS REACH
Approvals	cURus

### Construction

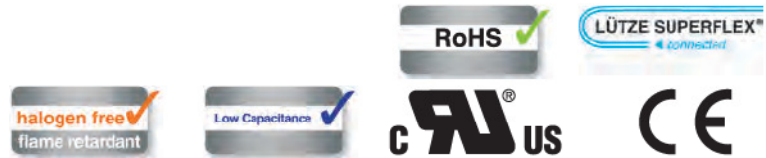
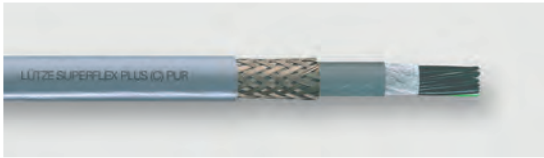
- Conductor: CU-wire bare
- Conductor category: IEC 60228, Class 6, Superfinely stranded  
DIN VDE 0295, class 6
- Conductor insulation: Special TPE
- Conductor marking: black, with white number print
- Ground conductor: green/yellow according to DIN EN 50334 in the top layer  
G = with green/yellow ground conductor, x = without ground conductor
- Conductor marking standard: DIN EN 50334
- Overall stranding: conductors layered construction, layer pitch optimised, conductors twisted without mechanical stress
- Jacket material: PUR
- Jacket color: grey RAL 7001

Part-No.	Number of conductors/cross-section	Outer Ø mm	Weight kg/100 m	Cu-index kg/100 m
<b>1.0 mm<sup>2</sup></b>				
113570	S* 2x1.0	7.1	6.1	2.0
113571	S* 3G1.0	7.4	7.3	3.0
113572	S* 4G1.0	8.0	8.7	4.0
113573	S* 5G1.0	8.7	10.5	5.0
113574	S* 7G1.0	10.0	13.9	6.9
113575	S* 12G1.0	12.0	20.5	11.9
113576	S* 18G1.0	13.8	28.9	17.9
113577	S* 25G1.0	16.4	39.3	24.8
<b>1.5 mm<sup>2</sup></b>				
113485	S* 2x1.5	7.7	7.6	2.9
113406	S* 3G1.5	8.0	9.2	4.4
113412	S* 4G1.5	8.8	11.3	5.9
113407	S* 5G1.5	9.5	13.6	7.4
113408	S* 7G1.5	11.0	18.4	10.3
113409	S* 12G1.5	13.2	27.2	17.6
113410	S* 18G1.5	15.3	38.9	26.5
113411	S* 25G1.5	18.2	54.0	36.8
<b>2.5 mm<sup>2</sup></b>				
113483	S* 3G2.5	9.2	13.3	7.3
113415	S* 4G2.5	10.0	16.3	9.7
113416	S* 5G2.5	10.9	19.7	12.2
113417	S* 7G2.5	12.8	27.3	17.0
113426	S* 12G2.5	15.3	40.7	29.2
113479	S* 18G2.5	17.8	58.9	43.8

CE These products are in conformity with the EU Low Voltage Directive 2014/35/EU

# PUR control cables · C-track compatible · shielded

## LÜTZE SUPERFLEX® PLUS N (C) PUR 600 V For highest requirements



### Application

- Machine and device construction, transport and conveyor technology, HVAC technology
- In areas with high concentrations of people or material assets, where corrosive gases need to be avoided in the event of fire
- As a monitoring, measurement and control cable for industrial applications
- Especially for harsh environments
- For installation in energy chains with constant linear movement
- Anywhere where electrical interference fields can influence the signal transmission

### Properties

- Reduced friction due to high glide conductor insulation (HGI) for high mechanical loads
- High active and passive interference resistance (EMC)
- Braided shield optimised for continuous flexing applications
- Low capacitance, very good electrical properties
- Flame-retardant, self-extinguishing
- Halogen-free, no corrosive gases
- Very good alternating bending strength
- Low adhesion, abrasion-resistant, nick-resistant, tear resistant
- Hydrolysis-resistant, microbe-resistant, and rot-resistant
- Weatherproof, ozone and UV resistant (normal lighting conditions)
- Good ruggedness and salt water resistance
- Excellent coolant and lubricant resistance
- Resistant to most oils, greases, alcohol-free benzines and kerosene
- Silicone free
- RoHS-compliant

### Technical data

UL style	AWM 20234
Rated voltage UL	600 V
Rated voltage $U_0/U$	300/500 V
Test voltage	AC 6000 V
Insulation resistance at 20 °C	$\geq 1000 \text{ M}\Omega \times \text{km}$
Temperature range moving	-25 °C ... +80 °C
Temperature range fixed	-40 °C ... +80 °C
Minimum bending radius moving	10xD
Minimum bending radius fixed	6xD
Radiation resistance	$5 \times 10^8 \text{ cJ/kg}$
Burning behavior according to	IEC 60332-1 DIN EN 60332-1-2 VDE 0482 322-1-2 UL 1581 Part VW-1 Flame Test UL FT1
Halogen free according to	DIN EN 60754-1 IEC 60754-1
Conformity	CE RoHS REACH
Approvals	cURus

### Construction

- Conductor: CU-wire bare
- Conductor category: IEC 60228, Class 6, Superfinely stranded DIN VDE 0295, class 6
- Conductor insulation: Special TPE
- Conductor marking: black, with white number print, green/yellow
- Ground conductor: green/yellow according to DIN EN 50334 in the top layer  
G = with green/yellow ground conductor, x = without ground conductor
- Conductor marking standard: DIN EN 50334
- Overall stranding: conductors layered construction, layer pitch optimised, conductors twisted without mechanical stress
- Jacket material: PUR
- Jacket color: grey RAL 7001

CE These products are in conformity with the EU Low Voltage Directive 2014/35/EU

Part-No.	Number of conductors/cross-section	Outer $\varnothing$ mm	Weight kg/100 m	Cu-index kg/100 m
<b>1.0 mm<sup>2</sup></b>				
113360	R* (3G1.0)	9.0	10.8	4.7
113361	R* (4G1.0)	9.6	12.6	5.8
113362	R* (5G1.0)	10.4	14.6	7.8
113363	R* (7G1.0)	11.8	19.7	10.1
113364	R* (12G1.0)	13.8	27.4	15.8
113365	R* (18G1.0)	15.7	37.7	22.4
113366	R* (25G1.0)	18.5	51.9	33.2
<b>1.5 mm<sup>2</sup></b>				
113346	R* (2x1.5)	9.3	11.5	4.7
113318	S* (3G1.5)	9.7	13.1	6.3
113331	S* (4G1.5)	10.5	16.0	8.7
113319	S* (5G1.5)	11.2	18.7	10.4
113320	S* (7G1.5)	12.8	24.2	13.8
113321	S* (12G1.5)	14.9	35.4	22.0
113322	S* (18G1.5)	17.2	48.7	32.4
113323	S* (25G1.5)	20.1	65.3	46.3
<b>2.5 mm<sup>2</sup></b>				
113341	R* (3G2.5)	10.9	18.4	9.6
113332	S* (4G2.5)	11.8	22.3	12.9
113339	S* (5G2.5)	12.6	25.9	15.7
113340	S* (7G2.5)	14.6	35.2	21.2
113344	S* (12G2.5)	17.4	52.9	35.6
113342	R* (18G2.5)	19.9	73.1	53.2

# PUR control cables · C-track compatible · unshielded

## LÜTZE SUPERFLEX® PLUS N PUR 300 V For highest requirements



### Application

- Machine and device construction, transport and conveyor technology, HVAC technology
- In areas with high concentrations of people or material assets, where corrosive gases need to be avoided in the event of fire
- As a monitoring, measurement and control cable for industrial applications
- Especially for harsh environments
- For installation in energy chains with constant linear movement

### Properties

- Reduced friction due to high glide conductor insulation (HGI) for high mechanical loads
- Low capacitance, very good electrical properties
- Flame-retardant, self-extinguishing
- Halogen-free, no corrosive gases
- Very good flexing strength
- Low adhesion, abrasion-resistant, nick-resistant, tear resistant
- Hydrolysis-resistant, microbe-resistant, and rot-resistant
- Weatherproof, ozone and UV resistant (normal lighting conditions)
- Good ruggedness and salt water resistance
- Excellent coolant and lubricant resistance
- Resistant to most oils, greases, alcohol-free benzines and kerosene
- Silicone free
- RoHS-compliant

### Technical data

UL style	AWM 20233
Rated voltage UL	300 V
Rated voltage $U_0/U$	300/500 V
Test voltage	AC 3000 V
Insulation resistance at 20 °C	$\geq 1000 \text{ M}\Omega \times \text{km}$
Temperature range moving	-25 °C ... +80 °C
Temperature range fixed	-40 °C ... +80 °C
Minimum bending radius moving	7.5xD
Minimum bending radius fixed	4xD
Radiation resistance	$5 \times 10^8 \text{ cJ/kg}$
Burning behavior according to	IEC 60332-1 DIN EN 60332-1-2 VDE 0482 322-1-2 UL 1581 Part VW-1 Flame Test UL FT1
Halogen free according to	DIN EN 60754-1 IEC 60754-1
Conformity	CE RoHS REACH
Approvals	cURus

### Construction

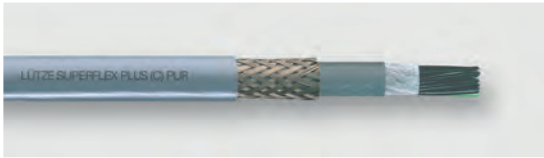
- Conductor: CU-wire bare
  - Conductor category: IEC 60228, Class 6, Superfinely stranded  
DIN VDE 0295, class 6
  - Conductor insulation: Special TPE
  - Conductor marking: black, with white number print
  - Ground conductor: green/yellow according to DIN EN 50334 in the top layer  
G = with green/yellow ground conductor, x = without ground conductor
  - Conductor marking standard: DIN EN 50334
  - Overall stranding: conductors layered construction, layer pitch optimised, conductors twisted without mechanical stress
  - Jacket material: PUR
  - Jacket color: grey RAL 7001
- CE These products are in conformity with the EU Low Voltage Directive 2014/35/EU

Part-No.	Number of conductors/cross-section	Outer $\varnothing$ mm	Weight kg/100 m	Cu-index kg/100 m
<b>0.5 mm<sup>2</sup></b>				
113431	S* 2x0.5	4.8	2.9	1.0
113441	S* 3G0.5	5.0	3.4	1.5
113442	S* 4G0.5	5.4	4.1	2.0
113443	S* 5G0.5	5.8	4.8	2.5
113444	S* 7G0.5	6.7	6.6	3.4
113446	S* 12G0.5	8.0	9.7	5.9
113438	S* 18G0.5	9.3	13.8	8.8
113447	S* 25G0.5	11.0	18.9	12.3
<b>0.75 mm<sup>2</sup></b>				
113432	S* 2x0.75	5.2	3.7	1.5
113445	S* 3G0.75	5.5	4.4	2.2
113439	S* 3x0.75	5.5	4.4	2.2
113435	S* 4G0.75	5.9	5.4	2.9
113422	S* 5G0.75	6.5	6.6	3.3
113437	S* 7G0.75	7.5	8.8	5.1
113425	S* 12G0.75	9.0	13.4	8.8
113428	S* 18G0.75	10.5	19.0	13.2
113448	S* 25G0.75	12.4	26.0	18.3
<b>1.0 mm<sup>2</sup></b>				
113484	S* 2x1.0	5.6	4.2	2.0
113400	S* 3G1.0	5.9	5.4	3.0
113433	S* 4G1.0	6.4	6.8	4.0
113401	S* 5G1.0	7.0	8.1	5.0
113402	S* 7G1.0	8.2	11.2	6.9
113403	S* 12G1.0	9.8	16.9	11.9
113404	S* 18G1.0	11.4	24.4	17.8
113405	S* 25G1.0	13.6	33.4	24.8

\* S Article from stock  
A Available with a lead time  
R Available on request

# PUR control cables · C-track compatible · shielded

## LÜTZE SUPERFLEX® PLUS N (C) PUR 300 V For highest requirements



### Application

- Machine and device construction, transport and conveyor technology, HVAC technology
- In areas with high concentrations of people or material assets, where corrosive gases need to be avoided in the event of fire
- As a monitoring, measurement and control cable for industrial applications
- Especially for harsh environments
- For installation in energy chains with constant linear movement
- Anywhere where electrical interference fields can influence the signal transmission

### Properties

- Reduced friction due to high glide conductor insulation (HGI) for high mechanical loads
- High active and passive interference resistance (EMC)
- Braided shield optimised for continuous flexing applications
- Low capacitance, very good electrical properties
- Flame-retardant, self-extinguishing
- Halogen-free, no corrosive gases
- Very good alternating bending strength
- Low adhesion, abrasion-resistant, nick-resistant, tear resistant
- Hydrolysis-resistant, microbe-resistant, and rot-resistant
- Weatherproof, ozone and UV resistant (normal lighting conditions)
- Good ruggedness and salt water resistance
- Excellent coolant and lubricant resistance
- Resistant to most oils, greases, alcohol-free benzines and kerosene
- Silicone free
- RoHS-compliant

### Technical data

UL style	AWM 20233
Rated voltage UL	300 V
Rated voltage $U_0/U$	300/500 V
Test voltage	AC 3000 V
Insulation resistance at 20 °C	$\geq 1000 \text{ M}\Omega \times \text{km}$
Temperature according to UL	80 °C
Temperature range moving	-25 °C ... +80 °C
Temperature range fixed	-40 °C ... +80 °C
Minimum bending radius moving	10xD
Minimum bending radius fixed	6xD
Radiation resistance	$5 \times 10^8 \text{ cJ/kg}$
Burning behavior according to	IEC 60332-1-2 DIN EN 60332-1-2 VDE 0482 322-1-2 UL 1581 Part VW-1 Flame Test UL FT1
Halogen free according to	DIN EN 60754-1 IEC 60754-1
Conformity	CE RoHS REACH
Approvals	cURus

### Construction

- Conductor: CU-wire bare
- Conductor category: IEC 60228, Class 6, Superfinely stranded  
DIN VDE 0295, class 6
- Conductor insulation: Special TPE
- Conductor marking: black, with white number print, green/yellow
- Ground conductor: green/yellow according to DIN EN 50334 in the top layer  
G = with green/yellow ground conductor, x = without ground conductor
- Overall stranding: conductors layered construction, layer pitch optimised, conductors twisted without mechanical stress
- Inner jacket: TPE
- Overall shield: Braid shield, Tinned copper wires, optical cover approx. 85%
- Jacket material: PUR
- Jacket color: grey RAL 7001

Part-No.	Number of conductors/cross-section	Outer $\varnothing$ mm	Weight kg/100 m	Cu-Index kg/100 m
<b>0.5 mm<sup>2</sup></b>				
113300	S* (3G0.5)	6.6	5.6	2.7
113347	S* (4G0.5)	7.0	6.4	3.3
113301	S* (5G0.5)	7.5	7.3	3.9
113302	S* (7G0.5)	8.3	9.1	5.1
113303	S* (12G0.5)	9.7	12.8	7.9
113304	S* (18G0.5)	11.0	17.9	11.9
113305	S* (25G0.5)	12.0	23.4	15.9
<b>0.75 mm<sup>2</sup></b>				
113328	S* (2x0.75)	6.9	6.3	2.8
113306	S* (3G0.75)	7.5	7.2	3.6
113430	S* (3x0.75)	7.5	7.2	3.6
113325	S* (4G0.75)	7.8	8.4	4.5
113345	S* (4x0.75)	7.8	8.4	4.5
113307	S* (5G0.75)	8.3	9.7	5.3
113308	S* (7G0.75)	9.4	12.4	7.1
113309	S* (12G0.75)	11.3	18.8	12.0
113310	S* (18G0.75)	13.0	25.4	16.9
113311	S* (25G0.75)	14.9	33.4	22.8
<b>1.0 mm<sup>2</sup></b>				
113312	S* (3G1.0)	7.8	8.4	4.5
113324	S* (4G1.0)	8.3	9.9	5.6
113313	S* (5G1.0)	9.1	11.4	6.8
113314	S* (7G1.0)	10.2	14.7	9.1
113315	S* (12G1.0)	12.1	22.5	15.4
113316	S* (18G1.0)	14.0	30.6	22.0
113317	S* (25G1.0)	15.8	41.5	30.5

CE These products are in conformity with the EU Low Voltage Directive 2014/35/EU

# PVC control cables · C-track compatible · unshielded

## LÜTZE SUPERFLEX® 2000 PVC For medium to high requirements



### Application

- Machine and device construction, transport and conveyor technology, HVAC technology
- In dry and damp rooms
- As a monitoring, measurement and control cable in continuously moving applications
- For installation in energy chains with constant linear movement

### Properties

- Construction and material suitable for continuous movement application.
- PVC Flame-retardant, self-extinguishing
- Resistant to most oils, greases, acids and alkalis (see tech. information)
- Silicone free
- RoHS-compliant

### Technical data

Rated voltage $U_p/U$	300/500 V
Test voltage	3000 V
Insulation resistance at 20 °C	$\geq 1000 \text{ M}\Omega \times \text{km}$
Temperature range moving	-15 °C ... +80 °C
Temperature range fixed	-30 °C ... +80 °C
Minimum bending radius moving	7.5xD
Minimum bending radius fixed	4xD
Burning behavior according to	DIN EN 60332-2-2 VDE 0482-332-2-2
Conformity	REACH RoHS CE

### Construction

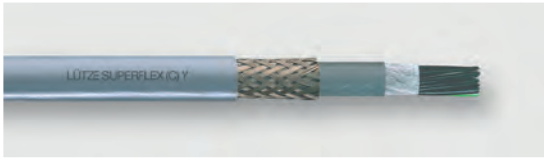
- Conductor: CU-wire bare
- Conductor category: DIN EN 60228, class 6, Superfinely stranded DIN VDE 0295, IEC 60228, Class 6
- Conductor insulation: TPE
- Conductor marking: black, with white number print, green/yellow
- Ground conductor: green/yellow according to DIN EN 50334 in the top layer  
G = with green/yellow ground conductor, x = without ground conductor
- Overall stranding: conductors layered construction, conductors twisted without mechanical stress, layer pitch optimised
- Jacket material: Special PVC
- Jacket color: grey RAL 7001

Part-No.	Number of conductors/cross-section	Outer $\varnothing$ mm	Weight kg/100 m	Cu-Index kg/100 m
<b>0.5 mm<sup>2</sup></b>				
100015	R* 3G0.5	5.0	3.6	1.4
100017	S* 4G0.5	5.4	4.3	1.9
100018	R* 5G0.5	5.9	5.1	2.4
100021	R* 7G0.5	6.8	6.7	3.4
100022	S* 12G0.5	8.2	10.2	5.8
100037	S* 18G0.5	9.5	14.4	8.6
100038	S* 25G0.5	11.2	19.1	12.0
<b>0.75 mm<sup>2</sup></b>				
100040	R* 2x0.75	5.3	4.0	1.4
100041	S* 3G0.75	5.6	4.6	2.2
100042	R* 4G0.75	6.0	5.5	2.9
100043	S* 5G0.75	6.6	6.5	3.6
100044	S* 7G0.75	7.9	9.1	5.0
100045	S* 12G0.75	9.3	13.4	8.6
100046	S* 18G0.75	10.8	18.9	13.0
100047	S* 25G0.75	13.2	26.4	18.0
<b>1.0 mm<sup>2</sup></b>				
100048	S* 2x1.0	5.7	4.8	1.9
100057	S* 3G1.0	6.0	5.5	2.9
100068	S* 4G1.0	6.5	6.8	3.8
100070	S* 5G1.0	7.2	8.2	4.8
100071	S* 7G1.0	8.5	11.2	6.7
100072	S* 12G1.0	10.1	16.7	11.5
100073	S* 18G1.0	11.8	23.8	17.3
100074	S* 25G1.0	14.4	33.2	24.0
<b>1.5 mm<sup>2</sup></b>				
100075	S* 2x1.5	6.3	6.2	2.9
100076	S* 3G1.5	6.6	7.3	4.3
100077	S* 4G1.5	7.3	9.1	5.8
100096	S* 5G1.5	8.1	11.1	7.2
100109	S* 7G1.5	9.5	15.0	10.1
100110	R* 12G1.5	11.4	22.9	17.3
100113	S* 18G1.5	13.4	32.9	25.9
100114	R* 25G1.5	15.9	44.3	36.0
<b>2.5 mm<sup>2</sup></b>				
100116	R* 2x2.5	8.1	10.3	4.8
100176	S* 3G2.5	8.6	12.2	7.2
100186	S* 4G2.5	9.4	15.1	9.6
100187	S* 5G2.5	10.2	18.0	12.0
100188	S* 7G2.5	12.2	24.6	16.8
100189	S* 12G2.5	15.1	38.9	28.8
100190	S* 18G2.5	17.9	56.7	43.2
<b>4 mm<sup>2</sup></b>				
100191	R* 4G4	12.0	24.7	15.4

CE These products are in conformity with the EU Low Voltage Directive 2014/35/EU

# PVC control cables · C-track compatible · shielded

## LÜTZE SUPERFLEX® 2100 (C) PVC For medium to high requirements



### Application

- Machine and device construction, transport and conveyor technology, HVAC technology
- In dry and damp rooms
- As a monitoring, measurement and control cable in continuously moving applications
- For installation in energy chains with constant linear movement

### Properties

- Construction and material suitable for continuous movement application.
- PVC Flame-retardant, self-extinguishing
- Resistant to most oils, greases, acids and alkalis (see tech. information)
- Silicone free
- RoHS-compliant

### Technical data

Rated voltage $U_0/U$	300/500 V
Test voltage	3000 V
Insulation resistance at 20 °C	$\geq 1000 \text{ M}\Omega \times \text{km}$
Temperature range moving	-15 °C ... +80 °C
Temperature range fixed	-30 °C ... +80 °C
Minimum bending radius moving	10xD
Minimum bending radius fixed	6xD
Burning behavior according to	DIN EN 60332-2-2 VDE 0482-332-2-2
Conformity	REACH RoHS CE

### Construction

- Conductor: CU-wire bare
- Conductor category: DIN EN 60228, class 6, Superfinely stranded DIN VDE 0295, IEC 60228, Class 6
- Conductor insulation: TPE
- Conductor marking: black, with white number print
- Ground conductor: green/yellow according to DIN EN 50334 in the top layer  
G = with green/yellow ground conductor, x = without ground conductor
- Overall stranding: conductors layered construction, conductors twisted without mechanical stress, layer pitch optimised
- Inner jacket: PVC
- Overall shield: Braid shield, Tinned copper wires, optical cover approx. 85%
- Jacket material: Special PVC
- Jacket color: grey RAL 7001

Part-No.	Number of conductors/cross-section	Outer $\varnothing$ mm	Weight kg/100 m	Cu-index kg/100 m
<b>0.5 mm<sup>2</sup></b>				
111552	R* (2x0.5)	6.7	6.8	2.2
111553	R* (3G0.5)	6.9	7.8	2.8
111554	R* (4G0.5)	7.3	9.1	3.4
111567	R* (5G0.5)	7.8	11.2	4.0
111577	R* (7G0.5)	8.7	14.0	5.5
111583	R* (12G0.5)	10.2	19.3	8.0
<b>0.75 mm<sup>2</sup></b>				
111584	R* (2x0.75)	7.2	8.0	2.8
111585	R* (3G0.75)	7.5	9.1	3.6
111586	R* (4G0.75)	7.9	11.1	5.2
111587	R* (5G0.75)	8.5	12.7	5.8
111588	R* (7G0.75)	9.6	17.0	7.0
111589	R* (12G0.75)	11.5	24.5	12.8
111591	R* (18G0.75)	13.4	35.0	16.9
111594	R* (25G0.75)	15.4	46.3	22.7
<b>1.0 mm<sup>2</sup></b>				
111595	R* (2x1.0)	7.6	9.0	3.5
111596	R* (3G1.0)	7.9	10.9	4.5
111597	R* (4G1.0)	8.4	12.8	5.7
111606	R* (5G1.0)	9.0	15.2	6.8
111607	R* (7G1.0)	10.4	20.7	8.9
111608	R* (12G1.0)	12.5	28.8	15.4
111609	R* (18G1.0)	14.4	42.6	21.9
111612	R* (25G1.0)	16.6	55.1	30.4
<b>1.5 mm<sup>2</sup></b>				
111613	R* (2x1.5)	8.2	11.5	4.8
111614	R* (3G1.5)	8.5	13.4	6.6
111637	R* (4G1.5)	9.1	15.9	8.0
111638	R* (5G1.5)	10.4	20.4	10.5
111639	R* (7G1.5)	11.8	26.0	13.7
111647	R* (12G1.5)	14.0	39.5	22.1
111697	R* (18G1.5)	16.1	53.8	32.5
111699	R* (25G1.5)	19.3	73.9	46.5
<b>2.5 mm<sup>2</sup></b>				
111717	R* (3G2.5)	10.8	20.7	10.3
111718	R* (4G2.5)	11.6	24.6	13.0
111726	R* (5G2.5)	12.4	29.4	15.8
111727	R* (7G2.5)	14.6	41.2	21.0

CE These products are in conformity with the EU Low Voltage Directive 2014/35/EU



# PVC control cables · unshielded

## LÜTZE SILFLEX® N PVC MULTINORM With approvals for Europe and North America



### Application

- Machine and device construction, transport and conveyor technology, HVAC technology
- In dry and damp rooms
- As a monitoring, measurement and control cable for industrial applications
- For flexible application without continuous flexing

### Properties

- UL recognized for use in North America
- Easy stripping and fast installation
- High flexibility for complex installation distances and small bending radii
- Improved oil resistance due to specifically developed PVC jacket
- Resistant to many oils, coolants and solvents
- Hydrolysis and microbe resistant
- Silicone free
- RoHS-compliant

### Technical data

UL style	AWM 2587
Rated voltage UL	600 V
Rated voltage $U_0/U$	300/500 V
Test voltage	AC 6000 V
Insulation resistance at 20 °C	$\geq 20 \text{ M}\Omega \times \text{km}$
Temperature according to UL	90 °C
Temperature range moving	-5 °C ... +70 °C
Temperature range fixed	-25 °C ... +70 °C
Minimum bending radius moving	10xD
Minimum bending radius fixed	4xD
Burning behavior according to	IEC 60332-1 IEC 60332-3-24 UL FT1 UL VW-1
Oil resistant according to Conformity	Oil Res II CE RoHS
Approvals	cURus AWM I/II A/B FT1 VDE
Note	Auch ohne UL Zulassung erhältlich. Lieferzeit auf Anfrage.

### Construction

- Conductor: CU-wire bare
- Conductor category: IEC 60228, Class 5, Finely stranded DIN VDE 0295, Class 5
- Conductor insulation: Special PVC
- Conductor insulation standard: UL 758 90°C
- Conductor marking: black, with white number print
- Ground conductor: green/yellow according to DIN EN 50334 in the top layer  
G = with green/yellow ground conductor, x = without ground conductor
- Overall stranding: layered construction
- Jacket material: Special PVC
- Jacket color: grey RAL 7001

Part-No.	Number of conductors/ cross-section	Outer $\varnothing$ mm	Weight kg/100 m	Cu-Index kg/100 m
<b>0.5 mm<sup>2</sup></b>				
109700	S* 2x0.5	5.0	3.8	1.0
109701	S* 3G0.5	5.3	4.6	1.4
109702	S* 4G0.5	5.7	5.5	1.9
109703	S* 5G0.5	6.3	6.8	2.4
109704	S* 7G0.5	6.8	8.7	3.4
109705	S* 12G0.5	8.7	14.8	5.8
109707	R* 18G0.5	10.4	21.3	8.6
109708	R* 25G0.5	12.1	29.4	12.0
<b>0.75 mm<sup>2</sup></b>				
109711	S* 2x0.75	5.4	4.7	1.5
109712	S* 3G0.75	5.7	5.7	2.2
109713	S* 4G0.75	6.2	7.0	2.9
109714	S* 5G0.75	6.8	8.9	3.6
109715	S* 7G0.75	7.4	11.2	5.0
109716	S* 12G0.75	9.5	19.5	8.6
109718	S* 18G0.75	11.4	28.2	12.9
109719	S* 25G0.75	13.3	39.1	18.0
<b>1.0 mm<sup>2</sup></b>				
109720	S* 2x1.0	5.7	5.5	1.9
109721	S* 3G1.0	6.1	6.9	2.9
109722	S* 4G1.0	6.6	8.5	3.8
109723	S* 5G1.0	7.2	10.6	4.8
109724	S* 7G1.0	7.8	13.4	6.7
109725	S* 12G1.0	10.3	23.5	11.5
109727	S* 18G1.0	12.3	34.6	17.3
109728	S* 25G1.0	14.3	47.0	24.0
109729	S* 34G1.0	16.9	65.3	32.6
<b>1.5 mm<sup>2</sup></b>				
109730	S* 2x1.5	6.3	7.2	2.9
109731	S* 3G1.5	6.7	9.4	4.3
109732	S* 4G1.5	7.3	11.6	5.8
109733	S* 5G1.5	8.0	14.6	7.2
109734	S* 7G1.5	8.7	18.5	10.1
109735	S* 12G1.5	11.5	32.3	17.3
109737	R* 18G1.5	13.8	47.6	25.9
109738	S* 25G1.5	16.0	65.3	36.0
<b>2.5 mm<sup>2</sup></b>				
109740	S* 3G2.5	8.0	14.6	7.2
109741	S* 4G2.5	8.7	18.1	9.6
109742	S* 5G2.5	9.6	22.7	12.0
109743	S* 7G2.5	10.7	29.7	16.8
109744	S* 12G2.5	14.4	51.5	28.8
<b>4 mm<sup>2</sup></b>				
109749	S* 3G4	9.3	21.6	11.5
109750	S* 4G4	10.5	27.4	15.4
109751	S* 5G4	11.5	33.9	19.2
109752	S* 7G4	12.8	44.5	26.9
<b>6 mm<sup>2</sup></b>				
109753	S* 4G6	12.4	39.9	23.0
109754	S* 5G6	13.7	49.8	28.8
<b>10 mm<sup>2</sup></b>				
109323	S* 4G10	15.9	66.2	38.4
109859	R* 5G10	17.9	83.8	48.0
<b>16 mm<sup>2</sup></b>				
109860	R* 4G16	18.7	98.2	61.4
<b>25 mm<sup>2</sup></b>				
109861	R* 4G25	23.8	155.9	96.0
<b>35 mm<sup>2</sup></b>				
109864	R* 4G35	26.7	209.8	134.4
<b>50 mm<sup>2</sup></b>				
109865	R* 4G50	32.6	299.9	192.0

CE These products are in conformity with the EU Low Voltage Directive 2014/35/EU

# PVC control cables · shielded

## LÜTZE SILFLEX® N (C) PVC MULTINORM With approvals for Europe and North America



### Application

- Machine and device construction, transport and conveyor technology, HVAC technology
- In dry and damp rooms
- As a monitoring, measurement and control cable for industrial applications
- For flexible application without continuous flexing
- Anywhere where electrical interference fields can influence the signal transmission

### Properties

- UL recognized for use in North America
- Easy stripping and fast installation
- High flexibility for complex installation distances and small bending radii
- Improved oil resistance due to specifically developed PVC jacket
- Resistant to many oils, coolants and solvents
- Hydrolysis and microbe resistant
- Silicone free
- RoHS-compliant

### Technical data

UL style	AWM 2587
Rated voltage UL	600 V
Rated voltage U <sub>0</sub> /U	300/500 V
Test voltage	AC 6000 V
Insulation resistance at 20 °C	≥ 20 MΩ×km
Temperature according to UL	90 °C
Temperature range moving	-5 °C ... +70 °C
Temperature range fixed	-25 °C ... +70 °C
Minimum bending radius moving	15×D
Minimum bending radius fixed	6×D
Burning behavior according to	IEC 60332-1 IEC 60332-3-24 UL FT1 UL VW-1
Oil resistant according to	Oil Res II
Conformity	CE RoHS
Approvals	cURus AWM I/II A/B FT1 VDE

### Construction

- Conductor: CU-wire bare
- Conductor category: IEC 60228, Class 5, Finely stranded DIN VDE 0295, Class 5
- Conductor insulation: Special PVC
- Conductor insulation standard: UL 758 90°C
- Conductor marking: black, with white number print
- Ground conductor: green/yellow according to DIN EN 50334 in the top layer
- G = with green/yellow ground conductor, x = without ground conductor
- Overall stranding: layered construction
- Overall shield: Braid shield, Tinned copper wires, optical cover approx. 85%
- Jacket material: Special PVC
- Jacket color: grey RAL 7001

Part-No.	Number of conductors/cross-section	Outer Ø mm	Weight kg/100 m	Cu-index kg/100 m
<b>0.5 mm<sup>2</sup></b>				
109800	S* (2x0.5)	5.6	4.7	2.2
109801	S* (3G0.5)	5.9	5.4	2.7
109802	R* (4G0.5)	6.3	6.8	3.7
109803	S* (5G0.5)	6.9	8.2	4.2
109804	S* (7G0.5)	7.4	10.1	5.6
109805	S* (12G0.5)	9.3	16.4	8.9
109807	S* (18G0.5)	11.0	22.8	12.2
109808	R* (25G0.5)	12.7	31.0	16.1
<b>0.75 mm<sup>2</sup></b>				
109812	S* (3G0.75)	6.3	6.8	3.9
109813	S* (4G0.75)	6.8	8.4	4.6
109814	S* (5G0.75)	7.4	10.2	5.8
109815	S* (7G0.75)	8.0	12.6	7.3
109816	R* (12G0.75)	10.3	19.9	11.8
109818	R* (18G0.75)	12.2	29.1	17.0
109819	S* (25G0.75)	14.3	39.7	24.4
<b>1.0 mm<sup>2</sup></b>				
109821	S* (3G1.0)	6.7	8.0	4.6
109822	S* (4G1.0)	7.2	10.0	6.1
109823	S* (5G1.0)	7.8	11.7	7.1
109824	S* (7G1.0)	8.4	15.0	9.4
109825	S* (12G1.0)	10.9	24.2	15.1
109827	S* (18G1.0)	12.9	35.7	21.3
109828	S* (25G1.0)	15.1	47.1	30.4
<b>1.5 mm<sup>2</sup></b>				
109831	S* (3G1.5)	7.3	10.3	6.6
109832	S* (4G1.5)	7.9	12.3	8.2
109833	S* (5G1.5)	8.6	15.6	9.9
109834	S* (7G1.5)	9.5	20.0	13.2
109835	S* (12G1.5)	12.3	32.2	21.3
109837	S* (18G1.5)	14.8	48.5	32.3
109838	S* (25G1.5)	17.0	63.0	43.2
<b>2.5 mm<sup>2</sup></b>				
109840	S* (3G2.5)	8.6	15.1	9.9
109841	S* (4G2.5)	9.3	19.4	12.7
109842	R* (5G2.5)	10.4	23.0	15.1
109843	R* (7G2.5)	11.3	29.6	20.4
109844	S* (12G2.5)	15.2	50.8	35.2
<b>4 mm<sup>2</sup></b>				
109862	S* (4G4)	11.1	27.9	18.9
<b>6 mm<sup>2</sup></b>				
109863	S* (4G6)	13.2	40.5	28.6

CE These products are in conformity with the EU Low Voltage Directive 2014/35/EU

# PUR control cables · unshielded

## LÜTZE SILFLEX® N PUR



### Application

- Machine and device construction, transport and conveyor technology, HVAC technology
- In areas with high concentrations of people or material assets, where corrosive gases need to be avoided in the event of fire
- As a monitoring, measurement and control cable for industrial applications
- Especially for rough environments
- For flexible applications without continuous flexing

### Properties

- Low capacitance, very good electrical properties
- Flexible in cold environments
- Halogen-free, no corrosive gases
- Low adhesion, Abrasion-resistant, Tear resistant
- Hydrolysis-resistant, microbe-resistant, and rot-resistant
- Weatherproof, ozone and UV resistant (normal lighting conditions)
- Good ruggedness and salt water resistance
- Excellent coolant and lubricant resistance
- Resistant to most oils, greases, alcohol-free benzines and kerosene
- Silicone free
- RoHS-compliant

### Technical data

Rated voltage $U_0/U$	300/500 V
Test voltage	AC: 3000 V
Insulation resistance at 20 °C	≥ 100 MΩ×km
Temperature range moving	-25 °C ... +80 °C
Temperature range fixed	-40 °C ... +80 °C
Minimum bending radius moving	10×D
Minimum bending radius fixed	4×D
Halogen free according to	IEC 60754-1 DIN EN 60754-1
Conformity	CE RoHS

### Construction

- Conductor: CU-wire bare
- Conductor category: IEC 60228, Class 5, Finely stranded DIN VDE 0295, Class 5
- Conductor insulation: Special TPE
- Conductor insulation standard: based on, VDE 0207
- Conductor marking: black, with white number print
- Ground conductor: green/yellow according to DIN EN 50334 in the top layer  
G = with green/yellow ground conductor, x = without ground conductor
- Overall stranding: layered construction
- Jacket material: PUR
- Surface: adhesion-free, matt
- Jacket color: grey RAL 7001

Part-No.	Number of conductors/cross-section	Outer Ø mm	Weight kg/100 m	Cu-index kg/100 m
<b>0.5 mm<sup>2</sup></b>				
110437	R* 2x0.5	4.5	2.6	1.0
110196	S* 3G0.5	4.7	3.2	1.5
110457	R* 4G0.5	5.1	4.0	1.9
110372	R* 5G0.5	5.9	5.2	2.4
111016	S* 7G0.5	6.4	6.6	3.4
111707	S* 12G0.5	8.7	11.8	5.8
110644	R* 18G0.5	10.0	17.2	8.6
110459	R* 25G0.5	12.1	23.6	12.0
<b>0.75 mm<sup>2</sup></b>				
110168	S* 2x0.75	5.0	3.3	1.4
110197	S* 3G0.75	5.3	4.2	2.2
110169	S* 4G0.75	5.8	5.5	2.9
110991	S* 5G0.75	6.4	6.7	3.6
110424	S* 7G0.75	7.2	8.9	5.0
110506	S* 12G0.75	9.5	15.4	8.6
110992	S* 18G0.75	11.2	23.0	13.0
110526	R* 25G0.75	13.5	31.6	18.0
<b>1.0 mm<sup>2</sup></b>				
110443	S* 2x1.0	5.4	3.9	2.0
110182	S* 3G1.0	5.8	5.3	2.9
110418	S* 4G1.0	6.3	6.6	3.8
110184	S* 5G1.0	6.8	8.1	4.8
110185	S* 7G1.0	7.7	10.8	6.7
110188	S* 12G1.0	10.3	19.0	11.5
110189	S* 18G1.0	12.3	27.9	17.3
110191	S* 25G1.0	14.5	38.7	24.0
<b>1.5 mm<sup>2</sup></b>				
110177	S* 3G1.5	6.4	7.1	4.3
110186	S* 4G1.5	7.1	9.3	5.8
110178	S* 5G1.5	8.0	11.4	7.2
110179	S* 7G1.5	8.7	15.1	10.1
110180	S* 12G1.5	11.7	26.6	17.3
110181	S* 18G1.5	14.0	39.0	25.9
110183	S* 25G1.5	16.4	53.9	36.0
<b>2.5 mm<sup>2</sup></b>				
111102	S* 3G2.5	7.8	11.4	7.2
110192	S* 4G2.5	8.7	14.7	9.6
110193	S* 5G2.5	9.6	18.1	12.0
110194	S* 7G2.5	10.7	24.1	16.8
<b>4 mm<sup>2</sup></b>				
110195	S* 4G4	11.0	22.4	15.4
<b>6 mm<sup>2</sup></b>				
110450	S* 4G6	12.7	32.4	23.0

CE These products are in conformity with the EU Low Voltage Directive 2014/35/EU

# PUR control cables · shielded

## LÜTZE SILFLEX® N (C) PUR



### Application

- Machine and device construction, transport and conveyor technology, HVAC technology
- In areas with high concentrations of people or material assets, where corrosive gases need to be avoided in the event of fire
- As a monitoring, measurement and control cable for industrial applications
- Especially for rough environments
- For flexible applications without continuous flexing
- Anywhere where electrical interference fields can influence the signal transmission

### Properties

- The overall shield of braided copper wires prevents both the interference of signals and measured values as well as the radiation of interfering signals
- High active and passive interference resistance (EMC)
- Low capacitance, very good electrical properties
- Flexible in cold environments
- Halogen-free, no corrosive gases
- Low adhesion, abrasion-resistant, nick-resistant, tear resistant
- Hydrolysis-resistant, microbe-resistant, and rot-resistant
- Weatherproof, ozone and UV resistant (normal lighting conditions)
- Good ruggedness and salt water resistance
- Excellent coolant and lubricant resistance
- Resistant to most oils, greases, alcohol-free benzines and kerosene
- Silicone free
- RoHS-compliant

### Technical data

Rated voltage $U_0/U$	300/500 V
Test voltage	AC 3000 V
Insulation resistance at 20 °C	$\geq 100 \text{ M}\Omega \times \text{km}$
Temperature range moving	-25 °C ... +80 °C
Temperature range fixed	-40 °C ... +80 °C
Minimum bending radius moving	15xD
Minimum bending radius fixed	6xD
Halogen free according to	IEC 60754-1 DIN EN 60754-1
Conformity	CE RoHS

### Construction

- Conductor: CU-wire bare
- Conductor category: IEC 60228, Class 5, Finely stranded DIN VDE 0295, Class 5
- Conductor insulation: Special TPE
- Conductor insulation standard: based on, VDE 0207
- Conductor marking: black, with white print
- Ground conductor: green/yellow according to DIN EN 50334 in the top layer
- G = with green/yellow ground conductor, x = without ground conductor
- Overall stranding: layered construction
- Overall shield: Braid shield, Tinned copper wires, optical cover approx. 85%
- Jacket material: PUR
- Surface: adhesion-free, matt
- Jacket color: grey RAL 7001

Part-No.	Number of conductors/cross-section	Outer $\varnothing$ mm	Weight kg/100 m	Cu-index kg/100 m
<b>0.5 mm<sup>2</sup></b>				
111651	R* (2x0.5)	5.2	3.8	2.3
111652	R* (3G0.5)	5.5	4.5	2.8
111653	R* (4G0.5)	5.9	6.0	3.7
111654	S* (5G0.5)	6.5	7.0	4.8
111656	R* (7G0.5)	7.2	9.1	5.6
111657	R* (12G0.5)	9.3	14.6	9.0
111658	R* (18G0.5)	10.8	20.6	12.4
111659	R* (25G0.5)	12.7	28.9	17.8
<b>0.75 mm<sup>2</sup></b>				
111660	S* (2x0.75)	5.6	4.7	2.8
111661	R* (3G0.75)	6.0	6.0	3.9
111662	R* (4G0.75)	6.5	7.2	4.6
111663	R* (5G0.75)	7.2	9.2	5.8
111664	R* (7G0.75)	7.8	11.8	7.4
111665	R* (12G0.75)	10.1	18.4	11.9
111666	R* (18G0.75)	12.0	26.6	17.2
111667	R* (25G0.75)	14.2	37.2	24.6
<b>1.0 mm<sup>2</sup></b>				
111668	S* (2x1.0)	6.0	5.7	3.7
111669	R* (3G1.0)	6.3	6.9	4.6
111670	S* (4G1.0)	6.8	8.8	6.1
111671	R* (5G1.0)	7.6	10.6	7.1
111672	S* (7G1.0)	8.2	13.5	9.5
111673	R* (12G1.0)	10.9	22.0	15.3
111674	R* (18G1.0)	12.7	33.5	23.1
111675	R* (25G1.0)	15.3	43.7	30.6
<b>1.5 mm<sup>2</sup></b>				
111676	R* (2x1.5)	6.6	7.0	4.7
111677	R* (3G1.5)	7.0	9.4	6.6
111678	S* (4G1.5)	7.6	11.4	8.1
111679	R* (5G1.5)	8.6	14.4	10.0
111680	R* (7G1.5)	9.3	18.2	13.4
111681	R* (12G1.5)	12.3	29.6	21.5
111682	R* (18G1.5)	14.4	45.2	32.6
<b>2.5 mm<sup>2</sup></b>				
111684	R* (3G2.5)	8.6	13.9	10.1
111685	R* (4G2.5)	9.3	17.6	12.9
111686	R* (5G2.5)	10.4	21.4	15.3
111687	R* (7G2.5)	11.2	27.8	20.5
<b>4 mm<sup>2</sup></b>				
111688	R* (4G4)	11.8	25.7	19.1
<b>6 mm<sup>2</sup></b>				
111690	R* (4G6)	13.4	38.3	28.9

CE These products are in conformity with the EU Low Voltage Directive 2014/35/EU