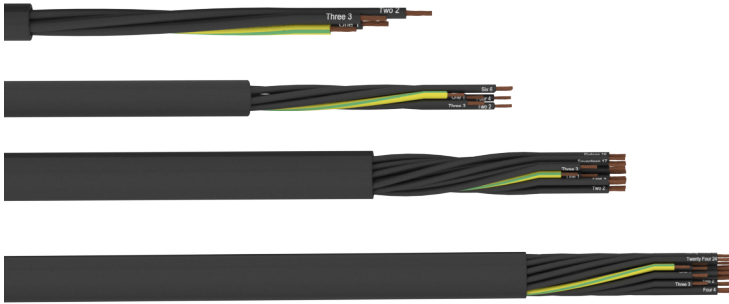




ÖLFLEX® TRAY II Unshielded Control Cable



Overview

LAPP ÖLFLEX® TRAY II flexible control cable from AutomationDirect is available in sizes from 18 to 6 AWG with 2 to 25 conductors. Specially developed for use in the USA, ÖLFLEX® TRAY II is designed to meet the demanding requirements of the North American market with multiple UL and CSA certifications that enable versatile use across a wide range of industrial applications and environments.

Individual conductors are finely stranded bare copper with specially formulated PVC/Nylon insulation and are number-coded for easy identification. A green/yellow ground conductor is included in the conductor count of cables with 3 or more conductors. The pressure-extruded black PVC outer jacket is oil-, UV-, ozone-, and weather-resistant, providing reliable performance in dry, damp, and oily environments — indoors and outdoors.

With TC-ER, PLTC-ER, ITC-ER, WTTC, and MTW listings among its approvals, ÖLFLEX® TRAY II has the versatility to handle a broad range of industrial control, power, and instrumentation applications. Its TC-ER rating allows open installation in cable trays without protective conduit, simplifying installation and reducing material costs. Cut to length in 1-ft increments with a 20-ft minimum.

Application

- Industrial machinery and machine tool wiring
- Plant and factory expansions and tray installations
- Process control and instrumentation wiring
- Automotive and assembly machine wiring
- Food and beverage, healthcare, and pharmaceutical environments
- Packaging, robotics, and material handling equipment
- Outdoor installations, subject to temperature range
- Dry, damp, and oily environments
- Canadian installations (CSA CIC/TC-ER)

Features

- Available in 18 to 6 AWG with 2 to 25 conductors
- Finely stranded bare copper conductors (IEC 60228 Class 5)
- PVC/Nylon conductor insulation w/ black jackets and white number coding
- Green/yellow ground conductor included in cables with 3 or more conductors
- Pressure-extruded black PVC outer jacket
 - Oil, UV, ozone, and weather resistant
- TC-ER rated for open installation in cable trays without protective conduit
- Direct burial rated
- Torsion rated for wind turbine applications
 - $\pm 150^\circ/\text{m}$, up to 5,000 cycles
- Suitable for use in accordance with NEC Chapter 5, Class I Division 2
- NFPA 79 compliant
- ECOLAB certified — resistant to a wide range of industrial cleaning and disinfecting agents
- Multiple UL and CSA listings reduce parts variety and simplify procurement
- Cut to length in 1-ft increments with a 20-ft minimum length
- Specially developed for use in the USA





18 AWG ÖLFLEX® TRAY II Unshielded Control Cable

18 AWG ÖLFLEX® TRAY II Unshielded Control Cable Specifications			
Conductor Gauge & Stranding	18 AWG, 32-stranded bare copper	Approvals*	UL (E171371) CSA (LL94629)
Voltage Rating	ITC-ER, TC-ER, PLTC-ER: 600V WTTC: 1000V		
Test Voltage	2000V	Applicable Standards*	UL TC-ER (UL 1277) UL PLTC-ER (UL 13) UL ITC-ER (UL 2250) UL WTTC (UL 2277) UL MTW (UL 1063) UL DP-1 (UL 1690) UL AWM (UL 758) UL DIR BUR (UL 1277) CSA CIC/TC-ER (CSA C22.2 No. 230/239) CSA AWM (CSA C22.2 No. 210)
Minimum Bend Radius	4 x outer diameter		
Operating Temperature	UL/CSA TC: -25 to +90 °C [-13 to +194 °F]		
	Stationary: -40 to +105 °C [-40 to +221 °F]		
	Flexible: -25 to +105 °C [-13 to +221 °F]		
Conductor Insulation	PVC/Nylon		
Conductor Markings	Black w/ white numbers and green/yellow ground		
Outer Jacket	Black PVC	Sample Print Legend	LAPP KABEL STUTTGART ÖLFLEX® TRAY II P/N * ****AWG (MM²)/****C (UL) TC – ER 90C DRY 75C WET 600V SUN RES OIL RES I/II DIR BUR E171371 or MTW "FLEXING" or DP-1 or WTTC 1000V 90C DRY or ITC-ER or PLTC-ER or c(UL) CONTROL CIC/TC-ER PVC/N FT4 --- CSA AWM II A/B 90C 1000V FT4 LL94629 CE
UV Resistance	Yes		
Oil Resistance	Yes		
Flame Retardant	Yes, FT4		
Torsion Rating	±150°/m, up to 2,000 cycles at min. -40 °C [-40 °F]		
	±150°/m, up to 5,000 cycles at min. +5 °C [+41 °F]		

* To obtain the most current agency approval information, see Agency Approval Checklist on the specific part number's web page at www.AutomationDirect.com

** 2-conductor cable does not include green/yellow ground conductor and is not -ER rated

18 AWG ÖLFLEX® TRAY II Unshielded Control Cable							
Part Number	Number of Conductors (includes ground)	AWG	Strand	Maximum O.D. (ln ± 10%)	Minimum Cut Length (ft)*	Approximate Weight (lb/ft)	Price per foot
							
L221802-1	2**	18	32/28	0.283	20	0.013	\$1.43
							
L221803-1	3	18	32/28	0.295	20	0.020	\$0.96
							
L221804-1	4	18	32/28	0.319	20	0.026	\$1.29
							
L221805-1	5	18	32/28	0.346	20	0.033	\$1.55
							
L221807-1	7	18	32/28	0.374	20	0.046	\$2.24

* See web store for maximum cut lengths

** 2-conductor cable does not include green/yellow ground conductor



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



18 AWG ÖLFLEX® TRAY II Unshielded Control Cable

18 AWG ÖLFLEX® TRAY II Unshielded Control Cable							
Part Number	Number of Conductors (includes ground)	AWG	Strand	Maximum O.D. (In ±10%)	Minimum Cut Length (ft)*	Approximate Weight (lb/ft)	Price per foot
							
<u>L221809-1</u>	9	18	32/28	0.429	20	0.059	\$2.78
							
<u>L221812-1</u>	12	18	32/28	0.476	20	0.079	\$3.71
							
<u>L221818-1</u>	18	18	32/28	0.587	20	0.118	\$5.38
							
<u>L221825-1</u>	25	18	32/28	0.665	20	0.164	\$7.88

* See web store for maximum cut lengths



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16 AWG ÖLFLEX® TRAY II Unshielded Control Cable

16 AWG ÖLFLEX® TRAY II Unshielded Control Cable Specifications			
Conductor Gauge & Stranding	16 AWG, 30-stranded bare copper	Approvals*	UL (E171371) CSA (LL94629)
Voltage Rating	ITC-ER, TC-ER, PLTC-ER: 600V WTTTC: 1000V		
Test Voltage	2000V	Applicable Standards*	UL TC-ER (UL 1277) UL PLTC-ER (UL 13) UL ITC-ER (UL 2250) UL WTTTC (UL 2277) UL MTW (UL 1063) UL DP-1 (UL 1690) UL AWM (UL 758) UL DIR BUR (UL 1277) CSA CIC/TC-ER (CSA C22.2 No. 230/239) CSA AWM (CSA C22.2 No. 210)
Minimum Bend Radius	4 x outer diameter		
Operating Temperature	UL/CSA TC: -25 to +90 °C [-13 to +194 °F]		
	Stationary: -40 to +105 °C [-40 to +221 °F]		
	Flexible: -25 to +105 °C [-13 to +221 °F]		
Conductor Insulation	PVC/Nylon		
Conductor Markings	Black w/ white numbers and green/yellow ground		
Outer Jacket	Black PVC	Sample Print Legend	LAPP KABEL STUTTGART ÖLFLEX® TRAY II P/N * ****AWG (MM²)/****C (UL) TC – ER 90C DRY 75C WET 600V SUN RES OIL RES I/II DIR BUR E171371 or MTW "FLEXING" or DP-1 or WTTTC 1000V 90C DRY or ITC-ER or PLTC-ER or c(UL) CONTROL CIC/TC-ER PVC/N FT4 --- CSA AWM II A/B 90C 1000V FT4 LL94629 CE
UV Resistance	Yes		
Oil Resistance	Yes		
Flame Retardant	Yes, FT4		
Torsion Rating	±150°/m, up to 2,000 cycles at min. -40 °C [-40 °F]		
	±150°/m, up to 5,000 cycles at min. +5 °C [+41 °F]		

* To obtain the most current agency approval information, see Agency Approval Checklist on the specific part number's web page at www.AutomationDirect.com

16 AWG ÖLFLEX® TRAY II Unshielded Control Cable							
Part Number	Number of Conductors (includes ground)	AWG	Strand	Maximum O.D. (In ±10%)	Minimum Cut Length (ft)*	Approximate Weight (lb/ft)	Price per foot
L221603-1	3	16	30/30	0.327	20	0.029	\$1.39
L221604-1	4	16	30/30	0.350	20	0.039	\$1.70
L221605-1	5	16	30/30	0.382	20	0.048	\$2.15
L221607-1	7	16	30/30	0.413	20	0.068	\$3.02
L221609-1	9	16	30/30	0.476	20	0.087	\$4.04

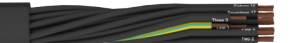
* See web store for maximum cut lengths



Please Note: Our prices on Flexing Control Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.



16 AWG ÖLFLEX® TRAY II Unshielded Control Cable

16 AWG ÖLFLEX® TRAY II Unshielded Control Cable							
Part Number	Number of Conductors (includes ground)	AWG	Strand	Maximum O.D. (In $\pm 10\%$)	Minimum Cut Length (ft)*	Approximate Weight (lb/ft)	Price per foot
							
L221612-1	12	16	30/30	0.567	20	0.116	\$4.56
							
L221618-1	18	16	30/30	0.654	20	0.174	\$6.59
							
L221625-1	25	16	30/30	0.740	20	0.242	\$9.04

* See web store for maximum cut lengths



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14 AWG ÖLFLEX® TRAY II Unshielded Control Cable

14 AWG ÖLFLEX® TRAY II Unshielded Control Cable Specifications

Conductor Gauge & Stranding	14 AWG, 50-stranded bare copper	Approvals*	UL (E171371) CSA (LL94629)
Voltage Rating	ITC-ER, TC-ER, PLTC-ER: 600V WTTC: 1000V		
Test Voltage	2000V	Applicable Standards*	UL TC-ER (UL 1277) UL PLTC-ER (UL 13) UL ITC-ER (UL 2250) UL WTTC (UL 2277) UL MTW (UL 1063) UL DP-1 (UL 1690) UL AWM (UL 758) UL DIR BUR (UL 1277) UL Submersible Pump (UL 83) CSA CIC/TC-ER (CSA C22.2 No. 230/239) CSAAWM (CSA C22.2 No. 210)
Minimum Bend Radius	4 x outer diameter		
Operating Temperature	UL/CSA TC: -25 to +90 °C [-13 to +194 °F]		
	Stationary: -40 to +105 °C [-40 to +221 °F]		
	Flexible: -25 to +105 °C [-13 to +221 °F]		
Conductor Insulation	PVC/Nylon	Sample Print Legend	LAPP KABEL STUTTGART ÖLFLEX® TRAY II P/N * ***AWG (MM²)/***C (UL) TC – ER THHN/THWN 90C DRY 75C WET 600V SUN RES OIL RES I/II DIR BUR E171371 or MTW "FLEXING" or DP-1 or WTTC 1000V 90C DRY or SUBMERSIBLE PUMP CABLE or ITC-ER or PLTC-ER or c(UL) CONTROL CIC/TC-ER PVC/N FT4 --- CSAAWM II A/B 90C 1000V FT4 LL94629 CE
Conductor Markings	Black w/ white numbers and green/yellow ground		
Outer Jacket	Black PVC		
UV Resistance	Yes		
Oil Resistance	Yes		
Flame Retardant	Yes, FT4		
Torsion Rating	±150°/m, up to 2,000 cycles at min. -40 °C [-40 °F]		
	±150°/m, up to 5,000 cycles at min. +5 °C [+41 °F]		

* To obtain the most current agency approval information, see Agency Approval Checklist on the specific part number's web page at www.AutomationDirect.com

14 AWG ÖLFLEX® TRAY II Unshielded Control Cable

Part Number	Number of Conductors (includes ground)	AWG	Strand	Maximum O.D. (In ±10%)	Minimum Cut Length (ft)*	Approximate Weight (lb/ft)	Price per foot
L221403-1	3	14	50/30	0.362	20	0.048	\$1.59
L221404-1	4	14	50/30	0.394	20	0.065	\$2.00
L221405-1	5	14	50/30	0.425	20	0.081	\$3.01
L221407-1	7	14	50/30	0.465	20	0.113	\$4.21

* See web store for maximum cut lengths



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12 AWG ÖLFLEX® TRAY II Unshielded Control Cable

12 AWG ÖLFLEX® TRAY II Unshielded Control Cable Specifications

Conductor Gauge & Stranding	12 AWG, 56-stranded bare copper	Approvals*	UL (E171371) CSA (LL94629)
Voltage Rating	ITC-ER, TC-ER, PLTC-ER: 600V WTTC: 1000V		
Test Voltage	2000V	Applicable Standards*	UL TC-ER (UL 1277) UL PLTC-ER (UL 13) UL ITC-ER (UL 2250) UL WTTC (UL 2277) UL MTW (UL 1063) UL DP-1 (UL 1690) UL AWM (UL 758) UL DIR BUR (UL 1277) UL Submersible Pump (UL 83) CSA CIC/TC-ER (CSA C22.2 No. 230/239) CSAAWM (CSA C22.2 No. 210)
Minimum Bend Radius	4 x outer diameter		
Operating Temperature	UL/CSA TC: -25 to +90 °C [-13 to +194 °F]		
	Stationary: -40 to +105 °C [-40 to +221 °F]		
	Flexible: -25 to +105 °C [-13 to +221 °F]		
Conductor Insulation	PVC/Nylon	Sample Print Legend	LAPP KABEL STUTTGART ÖLFLEX® TRAY II P/N * ***AWG (MM²)/***C (UL) TC – ER THHN/THWN 90C DRY 75C WET 600V SUN RES OIL RES I/II DIR BUR E171371 or MTW or DP-1 or WTTC 1000V 90C DRY or SUBMERSIBLE PUMP CABLE or ITC-ER or PLTC-ER or c(UL) CONTROL CIC/TC-ER PVC/N FT4 --- CSAAWM II A/B 90C 1000V FT4 LL94629 CE
Conductor Markings	Black w/ white numbers and green/yellow ground		
Outer Jacket	Black PVC		
UV Resistance	Yes		
Oil Resistance	Yes		
Flame Retardant	Yes, FT4		
Torsion Rating	±150°/m, up to 2,000 cycles at min. -40 °C [-40 °F]		
	±150°/m, up to 5,000 cycles at min. 5 °C [41 °F]		

* To obtain the most current agency approval information, see Agency Approval Checklist on the specific part number's web page at www.AutomationDirect.com

12 AWG ÖLFLEX® TRAY II Unshielded Control Cable

Part Number	Number of Conductors (includes ground)	AWG	Strand	Maximum O.D. (In ±10%)	Minimum Cut Length (ft) *	Approximate Weight (lb/ft)	Price per foot
L221203-1	3	12	56/28	0.421	20	0.077	\$2.62
L221204-1	4	12	56/28	0.461	20	0.103	\$3.73
L221205-1	5	12	56/28	0.504	20	0.129	\$4.94
L221207-1	7	12	56/28	0.583	20	0.181	\$6.47

* See web store for maximum cut lengths



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10 AWG ÖLFLEX® TRAY II Unshielded Control Cable

10 AWG ÖLFLEX® TRAY II Unshielded Control Cable Specifications

Conductor Gauge & Stranding	10 AWG, 84-stranded bare copper	Approvals*	UL (E171371) CSA (LL94629)
Voltage Rating	TC-ER: 600V WTTC: 1000V		
Test Voltage	2000V	Applicable Standards*	UL TC-ER (UL 1277) UL WTTC (UL 2277) UL MTW (UL 1063) UL DP-1 (UL 1690) UL AWM (UL 758) UL DIR BUR (UL 1277) UL Submersible Pump (UL 83) CSA CIC/TC-ER (CSA C22.2 No. 230/239) CSA AWM (CSA C22.2 No. 210)
Minimum Bend Radius	4 x outer diameter		
Operating Temperature	UL/CSA TC: -25 to +90 °C [-13 to +194 °F]		
	Stationary: -40 to +105 °C [-40 to +221 °F]		
	Flexible: -25 to +105 °C [-13 to +221 °F]		
Conductor Insulation	PVC/Nylon	Sample Print Legend	LAPP KABEL STUTTGART ÖLFLEX® TRAY II P/N * ***AWG (MM²)/****C (UL) TC – ER THHN/THWN 90C DRY 75C WET 600V SUN RES OIL RES I/II DIR BUR E171371 or MTW or DP-1 or WTTC 1000V 90C DRY or SUBMERSIBLE PUMP CABLE or c(UL) CONTROL CIC/ TC-ER PVC/N FT4 --- CSA AWM II A/B 90C 1000V FT4 LL94629 CE
Conductor Markings	Black w/ white numbers and green/yellow ground		
Outer Jacket	Black PVC		
UV Resistance	Yes		
Oil Resistance	Yes		
Flame Retardant	Yes, FT4		
Torsion Rating	±150°/m, up to 2,000 cycles at min. -40 °C [-40 °F]		
	±150°/m, up to 5,000 cycles at min. +5 °C [+41 °F]		

* To obtain the most current agency approval information, see Agency Approval Checklist on the specific part number's web page at www.AutomationDirect.com

10 AWG ÖLFLEX® TRAY II Unshielded Control Cable

Part Number	Number of Conductors (includes ground)	AWG	Strand	Maximum O.D. (In ±10%)	Minimum Cut Length (ft)*	Approximate Weight (lb/ft)	Price per foot
<u>L221003-1</u>	3	10	84/28	0.496	20	0.116	\$4.83
<u>L221004-1</u>	4	10	84/28	0.579	20	0.155	\$5.11

* See web store for maximum cut lengths



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8 AWG ÖLFLEX® TRAY II Unshielded Control Cable

8 AWG ÖLFLEX® TRAY II Unshielded Control Cable Specifications			
Conductor Gauge & Stranding	8 AWG, 80-stranded bare copper	Approvals*	UL (E171371) CSA (LL94629)
Voltage Rating	TC-ER: 600V WTTC: 1000V		
Test Voltage	2000V	Applicable Standards*	UL TC-ER (UL 1277) UL WTTC (UL 2277) UL MTW (UL 1063) UL DP-1 (UL 1690) UL AWM (UL 758) UL DIR BUR (UL 1277) UL Submersible Pump (UL 83) CSA CIC/TC-ER (CSA C22.2 No. 230/239) CSA AWM (CSA C22.2 No. 210)
Minimum Bend Radius	4 x outer diameter		
Operating Temperature	UL/CSA TC: -25 to +90 °C [-13 to +194 °F]		
	Stationary: -40 to +105 °C [-40 to +221 °F]		
	Flexible: -25 to +105 °C [-13 to +221 °F]		
Conductor Insulation	PVC/Nylon	Sample Print Legend	LAPP KABEL STUTTGART ÖLFLEX® TRAY II P/N * ***AWG (MM²)/****C (UL) TC – ER THHN/THWN 90C DRY 75C WET 600V SUN RES OIL RES I/II DIR BUR E171371 or MTW or DP-1 or WTTC 1000V 90C DRY or SUBMERSIBLE PUMP CABLE or c(UL) CONTROL CIC/ TC-ER PVC/N FT4 --- CSA AWM II A/B 90C 1000V FT4 LL94629 CE
Conductor Markings	Black w/ white numbers and green/yellow ground		
Outer Jacket	Black PVC		
UV Resistance	Yes		
Oil Resistance	Yes		
Flame Retardant	Yes, FT4		
Torsion Rating	±150°/m, up to 2,000 cycles at min. -40 °C [-40 °F]		
	±150°/m, up to 5,000 cycles at min. +5 °C [+41 °F]		

* To obtain the most current agency approval information, see Agency Approval Checklist on the specific part number's web page at www.AutomationDirect.com

8 AWG ÖLFLEX® TRAY II Unshielded Control Cable							
Part Number	Number of Conductors (includes ground)	AWG	Strand	Maximum O.D. (In ±10%)	Minimum Cut Length (ft)*	Approximate Weight (lb/ft)	Price per foot
<u>L220804-1</u>	4	8	80/26	0.705	20	0.258	\$8.08

* See web store for maximum cut lengths



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6 AWG ÖLFLEX® TRAY II Unshielded Control Cable

6 AWG ÖLFLEX® TRAY II Unshielded Control Cable Specifications			
Conductor Gauge & Stranding	6 AWG, 128-stranded bare copper	Approvals*	UL (E171371) CSA (LL94629)
Voltage Rating	TC-ER: 600V WTTC: 1000V		
Test Voltage	2000V	Applicable Standards*	UL TC-ER (UL 1277) UL WTTC (UL 2277) UL MTW (UL 1063) UL DP-1 (UL 1690) UL AWM (UL 758) UL DIR BUR (UL 1277) UL Submersible Pump (UL 83) CSA CIC/TC-ER (CSA C22.2 No. 230/239) CSA AWM (CSA C22.2 No. 210)
Minimum Bend Radius	4 x outer diameter		
Operating Temperature	UL/CSA TC: -25 to +90 °C [-13 to +194 °F]		
	Stationary: -40 to +105 °C [-40 to +221 °F]		
	Flexible: -25 to +105 °C [-13 to +221 °F]		
Conductor Insulation	PVC/Nylon	Sample Print Legend	LAPP KABEL STUTTGART ÖLFLEX® TRAY II P/N * ***AWG (MM²)/****C (UL) TC – ER THHN/THWN 90C DRY 75C WET 600V SUN RES OIL RES I/II DIR BUR E171371 or MTW or DP-1 or WTTC 1000V 90C DRY or SUBMERSIBLE PUMP CABLE or c(UL) CONTROL CIC/ TC-ER PVC/N FT4 --- CSA AWM II A/B 90C 1000V FT4 LL94629 CE
Conductor Markings	Black w/ white numbers and green/yellow ground		
Outer Jacket	Black PVC		
UV Resistance	Yes		
Oil Resistance	Yes		
Flame Retardant	Yes, FT4		
Torsion Rating	±150°/m, up to 2,000 cycles at min. -40 °C [-40 °F]		
	±150°/m, up to 5,000 cycles at min. +5 °C [+41 °F]		

* To obtain the most current agency approval information, see Agency Approval Checklist on the specific part number's web page at www.AutomationDirect.com

6 AWG ÖLFLEX® TRAY II Unshielded Control Cable							
Part Number	Number of Conductors (includes ground)	AWG	Strand	Maximum O.D. (In ± 10%)	Minimum Cut Length (ft)*	Approximate Weight (lb/ft)	Price per foot
<u>L220604-1</u>	4	6	128/26	0.898	20	0.413	\$13.88

* See web store for maximum cut lengths



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