

# Flexible Tray Cable



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# UNITRONIC® 300/ 300 CY



Multi-Conductor Low Voltage Control & Signal Cable for Industrial Applications



UNITRONIC® 300 is a lead free, rugged multi-conductor low voltage control and signal cable for internal and external wiring of OEM equipment for industrial applications. UNITRONIC® 300 has multiple approvals such as UL Type PLTC, UL CMG, UL Oil Res I, CSA CMG, and CE. PLTC with open wiring approval allows for use in overhead trays eliminating the need for conduit.

With these multiple approvals, the cable can be used in process control equipment, electrical equipment, plant expansion, and other machinery. UNITRONIC® 300 also is UV Resistant and is approved for direct burial and meets Class 1 Div. 2 requirements.

UNITRONIC® 300 CY, a shielded version, is also available.

**Open Wiring, No Conduit Necessary**  
**16 & 18 AWG**  
**Per NEC Article 725**

### UNITRONIC® 300 Construction:

Finely stranded tinned copper conductors; PVC blended insulation; oil resistant gray PVC jacket.

#### Control Cable (20 AWG - 16 AWG)



UNITRONIC® 300 (UL) TYPE CMG or PLTC 105°C CSA CMG or AWM II A/B 300V pbf(+)

#### Signal Cable (24 AWG\* - 22 AWG)



UNITRONIC® 300 (UL) TYPE CMG or PLTC 105°C CSA CMG or AWM II A/B 300V pbf(+)

### UNITRONIC® 300 CY Construction:

Finely stranded tinned copper conductors; PVC blended insulation; overall foil tape wrap; drainwire; tinned copper braid (75% coverage); oil resistant gray PVC jacket.



UNITRONIC® 300 CY (UL) TYPE CMG or PLTC 105°C CSA CMG or AWM II A/B 300V pbf(+)

### RoHS Standard:

Cables that meet RoHS do not contain Lead, Cadmium, Hexavalent Chromium, Mercury, Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE). RoHS is a European Directive to be met by July 1, 2006.

Jacket is dual printed with AWG/mm<sup>2</sup> equivalent.

\*Higher conductor sizes available upon request. May be subject to 5,000 ft. minimum order.

Cable Attributes							
	OR-02		FR-03		FL-01		MP-03

### Technical Data:

<p> Minimum bend radius for installation:                  shielded: 4 x cable diameter                  6 x cable diameter</p> <p> Temperature Range: -25°C to +105°C</p> <p> Nominal voltage: 300V</p> <p> Test voltage: 2000V</p>	<p> Color code: 24 - 22 AWG- Chart 4, Page 673                  1 Pair= White paired with Black                  20 - 16 AWG- Chart 5, Page 673                  1 Pair= Black paired with Red</p> <p> Approvals: UL CMG, PLTC*, Open Wiring**, AWM 2464, Oil Res I                  CSA CMG/FT4, CSA AWM II A/B                  NOM SCFI-1994</p> <p>* 24 AWG not PLTC                  ** Open Wiring for 18 AWG &amp; 16 AWG (22 &amp; 20 AWG Available)                  Meets NEC Art. 725, 760, &amp; 800. Also Class I Div. 2 (PLTC only)                  Conforms to CE Low Voltage Directive</p>
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pbf(+)= Meets RoHS Standard- (2002/95/EC) Restriction of Hazardous Substance Directives

# UNITRONIC® 300/ 300 CY



Multi-Conductor Low Voltage Control & Signal Cable for Industrial Applications



## UNITRONIC® 300: Multi-Conductor Lead Free Control & Signal Cable





Part Number	Number of Conductors includes ground	Nominal Outer Diameter inches	mm	Approx. Weight lbs/mft	kg/km	Part Number	Number of Conductors includes ground	Nominal Outer Diameter inches	mm	Approx. Weight lbs/mft	kg/km
24 AWG (19/36) 0.25 mm <sup>2</sup>						18 AWG (19/30) 1.00 mm <sup>2</sup>					
302401TP	1 (pr)	.154	3.9	13	19	302008	8	.329	8.4	90	134
302402	2	.165	4.2	13	19	302010	10	.379	9.6	96	143
302403	3	.172	4.4	15	22	302015	15	.452	11.5	120	178
302404	4	.183	4.7	18	27	302020	20	.497	12.6	174	259
302406	6	.209	5.3	23	34	302025	25	.554	14.1	238	354
302408	8	.223	5.7	28	42	16 AWG (26/30) 1.50 mm <sup>2</sup>					
302410	10	.253	6.4	34	51	301801TP	1 (pr)	.221	5.6	41	61
302415	15	.284	7.2	46	69	301802	2	.241	6.1	41	61
302420	20	.321	8.2	58	86	301803	3	.254	6.5	43	64
302425	25	.355	9.0	70	104	301804	4	.285	7.2	53	79
22 AWG (19/34) 0.34 mm <sup>2</sup>						301806	6	.333	8.5	69	103
302201TP	1 (pr)	.165	4.2	15	22	301808	8	.358	9.1	94	140
302202	2	.177	4.5	15	22	301810	10	.437	11.1	131	195
302203	3	.185	4.7	19	28	301815	15	.494	12.5	166	247
302204	4	.198	5.0	22	33	301820	20	.544	13.8	221	329
302206	6	.227	5.8	31	46	301825	25	.629	16.0	275	409
302208	8	.243	6.2	37	55	20 AWG (19/32) 0.75 mm <sup>2</sup>					
302210	10	.277	7.0	45	67	301601TP	1 (pr)	.240	6.1	56	83
302215	15	.312	7.9	61	91	301602	2	.263	6.7	56	83
302220	20	.353	9.0	78	116	301603	3	.288	7.3	60	89
302225	25	.414	10.5	95	142	301604	4	.312	7.9	74	110
302001TP	1 (pr)	.205	5.2	38	57	301606	6	.366	9.3	110	164
302002	2	.223	5.7	38	57	301608	8	.417	10.6	164	244
302003	3	.235	6.0	40	60	301610	10	.481	12.2	180	268
302004	4	.254	6.5	50	74	301615	15	.546	13.9	243	362
302006	6	.296	7.5	65	97	301620	20	.603	15.3	331	475
						301625	25	.696	17.7	409	609

## UNITRONIC® 300 CY: Shielded Multi-Conductor Lead Free Control & Signal Cable

Part Number	Number of Conductors includes ground	Nominal Outer Diameter inches	mm	Approx. Weight lbs/mft	kg/km	Part Number	Number of Conductors includes ground	Nominal Outer Diameter inches	mm	Approx. Weight lbs/mft	kg/km
24 AWG (19/36) 0.25 mm <sup>2</sup>						18 AWG (19/30) 1.00 mm <sup>2</sup>					
302401STP	1 (pr)	.186	4.7	25	37	302008S	8	.354	9.0	105	156
302402S	2	.190	4.8	25	37	302010S	10	.426	10.8	107	159
302403S	3	.197	5.0	27	40	302015S	15	.483	12.3	154	229
302404S	4	.208	5.3	32	48	302020S	20	.528	13.4	194	289
302406S	6	.234	5.9	37	55	302025S	25	.585	14.9	245	365
302408S	8	.248	6.3	45	67	16 AWG (26/30) 1.50 mm <sup>2</sup>					
302410S	10	.288	7.3	53	79	301801STP	1 (pr)	.258	6.6	50	75
302415S	15	.319	8.1	66	98	301802S	2	.266	6.8	50	75
302420S	20	.346	8.8	80	119	301803S	3	.289	7.3	49	73
302425S	25	.380	9.7	95	142	301804S	4	.310	7.9	70	104
22 AWG (19/34) 0.34 mm <sup>2</sup>						301806S	6	.358	9.1	109	162
302201STP	1 (pr)	.197	5.0	29	43	301808S	8	.383	9.7	120	179
302202S	2	.202	5.1	29	43	301810S	10	.468	11.9	146	217
302203S	3	.210	5.3	33	49	301815S	15	.525	13.3	212	315
302204S	4	.223	5.7	38	57	301820S	20	.575	14.6	246	366
302206S	6	.252	6.4	46	68	301825S	25	.660	16.8	301	448
302208S	8	.278	7.1	55	82	20 AWG (19/32) 0.75 mm <sup>2</sup>					
302210S	10	.312	7.9	66	98	301601STP	1 (pr)	.289	7.3	68	101
302215S	15	.347	8.8	84	125	301602S	2	.298	7.6	68	101
302220S	20	.378	9.6	103	153	301603S	3	.313	8.0	84	125
302225S	25	.445	11.3	132	197	301604S	4	.337	8.6	121	180
302001STP	1 (pr)	.241	6.1	40	60	301606S	6	.391	9.9	141	210
302002S	2	.248	6.3	40	52	301608S	8	.448	11.4	180	268
302003S	3	.260	6.6	42	63	301610S	10	.512	13.0	210	313
302004S	4	.289	7.3	59	88	301615S	15	.577	14.7	342	509
302006S	6	.331	8.4	80	119	301620S	20	.654	16.6	402	598
						301625S	25	.727	18.5	495	737

\*Higher conductor sizes available upon request. May be subject to 5,000 ft. minimum order.

# OLFLEX® TRAY II/ II CY (UL)

Flexible and Oil Resistant Tray Cable with both UL & CSA TC Approval for Industrial Applications    

OLFLEX® Tray II is a global multi-conductor, 1000 Volt, 90°C, UL Type TC-ER\* and MTW, c(UL) Type TC/CIC, CE compliant, oil resistant and flexible control cable with exposed run approval. It is also UV resistant and approved for direct burial. Due to OLFLEX® Tray II's higher stranding, precision extruded jacket, worldwide approvals, and Lapp's renowned quality, OLFLEX® Tray II is a superior alternative to stationary TC cables. These advantages make

installations much easier and quicker, and ensure the cable will hold up to your industrial requirements. OLFLEX® Tray II control cables are designed for use in all electrical equipment in dry, damp, and wet conditions. OLFLEX® Tray II CY has an overall foil tape and tinned copper braid that is recommended whenever electrical interference distorts signal transmission, or when EMI emissions need to be suppressed.

## OLFLEX® Tray II Construction:

Finely stranded bare copper conductors; specially blended PVC/nylon insulation; specially formulated oil resistant black PVC jacket.







## OLFLEX® Tray II CY Construction:

Finely stranded bare copper conductors; specially blended PVC/nylon insulation; 100% shielding with foil tape and tinned copper braid; specially formulated oil resistant black PVC jacket









Optional color code for the conductors and the jacket are available upon request. Minimums may apply.

Jacket is dual printed with AWG/mm<sup>2</sup> equivalent.

Cable Attributes							
	OR-02		FR-03		FL-01		MP-03





## Technical Data:

 Minimum Bending Radius for installation:	5 x cable diameter	 Color Code:	Black with white numbers plus green/yellow ground
 Temperature Range:	-40°C to +90°C	 Approvals:	UL Type TC-ER (Exposed Run)* or DP-1 UL Type MTW or UL AWM, Oil Res I Class 1, Div. 2 per NEC Art. 336, 392, 501 c(UL) Type TC and CIC FT4 CSA-AWM I/II A/B FT4 NOM SCFI-1994
 Nominal Voltage:	600V - TC 1000V- AWM		
 Conductor Stranding:	Fine wire		

Conforms to CE Low Voltage Directive

\*UL Type TC-ER stands for “ exposed run” and is replacing the term “open wiring”. It is a change in terminology only.

# OLFLEX® TRAY II/ II CY (UL)

Flexible and Oil Resistant Tray Cable with both  
 UL & CSA TC Approval for Industrial Applications    

## OLFLEX® Tray II: Flexible and Oil Resistant Tray Cable

Part Number	Number of Conductors includes ground	Nominal Outer Diameter inches	mm	Approx. Weight lbs/mft	kg/km	Part Number	Number of Conductors includes ground	Nominal Outer Diameter inches	mm	Approx. Weight lbs/mft	kg/km
<b>18 AWG (19/30) 1.00 mm<sup>2</sup></b>						<b>14 AWG (41/30) 2.08 mm<sup>2</sup></b>					
221803	3	.296	7.5	57	85	221403	3	.348	8.8	87	130
221804	4	.320	8.1	66	98	221404	4	.378	9.6	107	159
221805	5	.346	8.8	77	115	221405	5	.410	10.4	128	191
221807	7	.373	9.5	100	149	221407	7	.445	11.3	169	252
221809	9	.429	10.9	112	167	221409	9	.515	13.1	225	335
221812	12	.477	12.1	171	255	221412	12	.610	15.5	308	459
221818	18	.587	14.9	245	365	221418	18	.712	18.1	439	654
221825	25	.677	17.2	322	479	221425	25	.826	21.0	587	874
221850	50	.939	23.9	646	961	<b>12 AWG (65/30) 3.30 mm<sup>2</sup></b>					
<b>16 AWG (26/30) 1.32 mm<sup>2</sup></b>						221204	4	.437	11.1	152	226
221603	3	.321	8.1	69	103	221205	5	.475	12.1	187	279
221604	4	.347	8.7	83	124	221207	7	.556	14.1	258	384
221605	5	.377	9.5	98	146	<b>10 AWG (105/30) 5.32 mm<sup>2</sup></b>					
221607	7	.406	10.2	127	189	221004	4	.573	14.6	265	394
221608	8	.438	11.0	136	203	221005	5	.623	15.8	317	472
221609	9	.467	11.8	171	255	221007	7	.677	17.2	443	661
221612	12	.527	13.4	220	328	<b>8 AWG (168/30) 8.52 mm<sup>2</sup></b>					
221616	16	.617	15.7	271	403	220804	4	.757	19.2	412	615
221618	18	.647	16.4	289	431	220805	5	.874	22.2	518	771
221625	25	.748	19.0	397	592	<b>6 AWG (266/30) 13.48 mm<sup>2</sup></b>					
221641	41	.956	24.3	625	931	220604	4	.853	21.7	580	864
221650	50	1.036	26.3	760	1132	220605	5	.982	24.9	725	1080
221661	61	1.087	27.6	769	1148	<b>4 AWG (413/30) 20.93 mm<sup>2</sup></b>					
						220404	4	1.098	27.9	952	1418
						<b>2 AWG (665/30) 33.70 mm<sup>2</sup></b>					
						220204	4	1.272	32.3	1394	2077

## OLFLEX® Tray II CY: Shielded Flexible and Oil Resistant Tray Cable

Part Number	Number of Conductors includes ground	Nominal Outer Diameter inches	mm	Approx. Weight lbs/mft	kg/km	Part Number	Number of Conductors includes ground	Nominal Outer Diameter inches	mm	Approx. Weight lbs/mft	kg/km
<b>18 AWG (19/30) 1.00 mm<sup>2</sup></b>						<b>12 AWG (65/30) 3.30 mm<sup>2</sup></b>					
221803S	3	.322	8.2	80	119	221204S	4	.468	11.9	212	315
221804S	4	.346	8.8	92	137	221205S	5	.506	12.8	261	388
221805S	5	.371	9.4	100	149	221207S	7	.587	14.9	335	499
221807S	7	.398	10.1	130	193	<b>10 AWG (105/30) 5.32 mm<sup>2</sup></b>					
221812S	12	.518	13.2	222	330	221004S	4	.604	15.3	371	552
221818S	18	.628	16.0	294	438	221005S	5	.654	16.6	412	613
221825S	25	.718	18.2	386	574	221007S	7	.708	18.0	575	856
<b>16 AWG (26/30) 1.32 mm<sup>2</sup></b>						<b>8 AWG (168/30) 8.52 mm<sup>2</sup></b>					
221603S	3	.346	8.8	97	144	220804S	4	.801	20.3	576	857
221604S	4	.372	9.4	116	173	<b>6 AWG (266/30) 13.48 mm<sup>2</sup></b>					
221605S	5	.400	10.2	127	189	220604S	4	.929	23.6	812	1208
221607S	7	.431	10.9	165	246	<b>4 AWG (413/30) 20.93 mm<sup>2</sup></b>					
221612S	12	.597	15.2	286	426	220404S	4	1.127	28.6	1332	1982
221618S	18	.683	17.3	346	515	<b>2 AWG (665/30) 33.70 mm<sup>2</sup></b>					
221625S	25	.794	20.2	476	708	220204S	4	1.309	33.2	1951	2903
<b>14 AWG (41/30) 2.08 mm<sup>2</sup></b>											
221403S	3	.374	9.5	121	180						
221404S	4	.410	10.4	150	223						
221405S	5	.442	11.2	180	268						
221407S	7	.476	12.1	220	327						
221412S	12	.651	16.5	400	595						
221418S	18	.748	19.0	527	784						
221425S	25	.873	22.2	704	1048						

\*UL Type TC-ER stands for “exposed run” and is replacing the term “open wiring”. It is a change in terminology only.

# OLFLEX® TRAY II NAC

Flexible and Oil Resistant Tray Cable  
Color Coded for Industrial Applications  
Bus Drop Cable



OLFLEX® Tray II NAC is a color-coded, multi-conductor, 600 Volt, 90°C, UL Type TC-ER\* and MTW, c(UL) Type CIC, CE compliant, oil resistant and flexible control cable. It is also UV resistant and approved for direct burial. OLFLEX® Tray II NAC has a power color code so it can be used for applications that require power cables to be installed in tray. Due to OLFLEX® Tray II NAC's higher stranding, precision extruded jacket, worldwide approvals,

and OLFLEX's renowned quality, OLFLEX® Tray II NAC is a superior alternative to stationary TC cables. These advantages make installations much easier and quicker, and ensure the cable will hold up to your industrial requirements. OLFLEX® Tray II NAC control cables are designed for use in all electrical equipment in dry, damp, and wet conditions.

## OLFLEX® Tray II NAC Construction:

Finely stranded bare copper conductors; specially blended PVC/nylon insulation; specially formulated oil resistant black PVC jacket.



Yellow jacket optional.

Jacket is dual printed with AWG/mm<sup>2</sup> equivalent.

Minimums may apply.

Cable Attributes							
	OR-02		FR-03		FL-01		MP-03

## Technical Data:

	Minimum Bending Radius for installation:	5 x cable diameter		Color Code:	3 cond: black, white, plus green/yellow ground 4 cond: black, red, white plus green/yellow ground
	Temperature Range:	-25°C to +90°C		Approvals:	UL Type TC-ER (Exposed Run)* UL Type MTW or UL-AWM, Oil Res I Class 1, Div. 2 per NEC Art. 336, 392, 501 c(UL) Type CIC FT4 CSA-AWM I/II A/B FT4 NOM SCFI-1994
	Nominal Voltage:	600V - TC 1000V- AWM			
	Conductor Stranding:	Fine wire			

Conforms to CE Low Voltage Directive

Part Number	Number of Conductors includes ground	Nominal Outer Diameter inches	Nominal Outer Diameter mm	Approx. Weight lbs/mft	Approx. Weight kg/km	Part Number	Number of Conductors includes ground	Nominal Outer Diameter inches	Nominal Outer Diameter mm	Approx. Weight lbs/mft	Approx. Weight kg/km
14 AWG (41/30) 2.08 mm <sup>2</sup>						6 AWG (266/30) 13.48 mm <sup>2</sup>					
221403NAC	3	.348	8.8	87	130	220604NAC	4	.897	22.8	580	864
221404NAC	4	.378	9.6	107	159	4 AWG (413/30) 20.93 mm <sup>2</sup>					
12 AWG (65/30) 3.30 mm <sup>2</sup>						220404NAC	4	1.098	27.9	952	1418
221204NAC	4	.437	11.1	152	226	2 AWG (665/30) 33.70 mm <sup>2</sup>					
10 AWG (105/30) 5.32 mm <sup>2</sup>						220204NAC	4	1.272	32.3	1394	2077
221004NAC	4	.573	14.5	265	394						
8 AWG (168/30) 8.52 mm <sup>2</sup>											
220804NAC	4	.757	19.2	412	615						

\*UL Type TC-ER stands for “exposed run” and is replacing the term “open wiring”. It is a change in terminology only.

# OLFLEX® Auto-I

## Heavy Duty Flexible Control Cable



OLFLEX® Auto-I is a flexible UL Type TC approved multi-conductor cable suitable for use in dry, damp and wet conditions, as well as direct burial applications. It can withstand temperatures of up to 90°C, and has worldwide approvals including UL Type TC-ER\*, UL Type MTW, CSA AWM, and CE. The finer stranding, specially formulated

PVC jacket, and worldwide approvals make this cable an economic alternative for TC approved control cables. These advantages, plus the renowned quality of Lapp, ensures that the cable will withstand your industrial requirements.

### OLFLEX® Auto-I Construction:

Finely stranded bare copper conductors; specially formulated PVC/nylon insulation; specially formulated gray PVC jacket.

**OLFLEX® AUTO-I (UL) TC-ER OR MTW 90°C 600V --- CSA AWM FT4 pbf(+)**



Optional color code for the conductors and the jacket are available upon request.

Jacket is dual printed with AWG/ mm<sup>2</sup> equivalent.

Minimums may apply.

Cable Attributes							
	OR-02		FR-03		FL-01		MP-03

### Technical Data:

Minimum Bending Radius for installation: 5 x cable diameter

Temperature Range: -25°C to +90°C

Nominal Voltage: 600V

Color Code: Red (R) or Blue (B) with black numbers, plus green/yellow ground  
For blue: No. 2 cond. is white with blue stripe  
For red: No. 2 cond. is white  
3 cond: 2 base color plus green/yellow ground

Approvals: UL Type TC-ER (Exposed Run)\*  
UL Type MTW  
Oil Res. I  
Class 1 Div. 2 per NEC Art. 336, 392, 501  
CSA-AWM I/II A/B FT4  
NOM SCFI-1994

Conforms to CE Low Voltage Directive

Part Number	Number of Conductors includes ground	Nominal Outer Diameter inches	Nominal Outer Diameter mm	Approx. Weight lbs/mft	Approx. Weight kg/km	Part Number	Number of Conductors includes ground	Nominal Outer Diameter inches	Nominal Outer Diameter mm	Approx. Weight lbs/mft	Approx. Weight kg/km
<b>18 AWG (19/30) 1.00 mm<sup>2</sup> (BLUE)</b>						<b>16 AWG (26/30) 1.32 mm<sup>2</sup> (BLUE)</b>					
251803IB	3	.297	7.5	57	85	251603IB	3	.323	8.2	65	97
251805IB	5	.346	8.7	77	115	251607IB	7	.409	10.4	125	186
251807IB	7	.373	9.4	100	149	251611IB	11	.541	13.7	202	301
251811IB	11	.463	11.8	157	234	251612IB	12	.557	14.1	220	325
251812IB	12	.477	12.1	171	255	251617IB	17	.638	16.1	259	379
251819IB	19	.583	14.8	254	378	251619IB	19	.643	16.3	285	424
251825IB	25	.677	17.2	322	479	251625IB	25	.737	18.7	397	590
251833IB	33	.736	18.7	397	590	251633IB	33	.816	20.7	510	758
251842IB	42	.818	20.7	510	758	251642IB	42	.950	24.1	625	936
251849IB	49	.908	23.0	620	917	251649IB	49	1.005	25.5	760	1132
251865IB	65	1.011	25.6	726	1024	251665IB	65	1.123	28.5	890	1326

Replace the B at the end of the P/N with R for red conductors or Y for yellow conductors or BK for black conductors

\*UL Type TC-ER stands for “exposed run” and is replacing the term “open wiring”. It is a change in terminology only.