

CCW® Armored Power, 3/C VFD and 4/C

UL Type MC-HL, CSA Type HL, XLPE, 600 V, 90°C, Cable Tray Use, Sunlight-Resistant Direct Burial, UL Marine Shipboard Cable, ABS CWCMC



Product Construction:

- Bare annealed copper per ASTM B3
- 10 AWG and smaller are Class B compressed stranding per ASTM B8
- 8 AWG and larger are compact stranding per ASTM B496

Insulation:

- Cross-linked Polyethylene (XLPE) insulation per ICEA S-95-658 and UL 44, Listed XHHW-2
- 6 AWG and smaller are color-coded per ICEA Method 1, Table E2
- 4 AWG and larger are black with printed numbers per ICEA Method 4
- Color-coded per CSA C22.2 No. 123 where applicable

Grounding Conductor(s):

- Class B stranded bare annealed copper per ASTM B3 and B8
- Where specified, single or three split grounding wires are sized in accordance with NEC Table 250.122

Cable Assembly:

- Insulated conductors and grounding wire(s) are cabled together with non-hygroscopic fillers when required
- A binder tape is applied over the cabled core

CCW Armor:

- Impervious, continuously welded and corrugated aluminum alloy sheath per UL 1569 and UL 2225
- CCW armor conductivity meets the grounding requirements of NEC Article 250

Jacket:

- Flame-retardant, moisture- and sunlight-resistant Polyvinyl Chloride (PVC), black
- Low temperature performance meets ASTM D746 brittleness temperature at or below -40°C
- Meets CSA Low Acid Gas requirements

Applications:

- Variable Frequency Drives: 3-conductor CCW armored cables with three (3) symmetrical grounding wires are the preferred wiring method for use with AC motors controlled by pulse-width modulated inverters in VFD applications
- CCW armored cables offer an economical, rugged and reliable alternative to labor-intensive cable in conduit wiring methods
- For use in Class I, II and III, Divisions 1 and 2; and Class I, Zones 1 and 2 hazardous locations per NEC Articles 501, 502, 503 and 505
- For use as services, feeders and branch circuits for power, lighting, control, and signal circuits in accordance with NEC Articles 330 and 725
- Installed indoors or outdoors, wet or dry locations, directly buried, embedded in concrete, in a raceway, as aerial cable on a messenger, in cable trays, or as exposed runs secured to supports in accordance with NEC Article 330
- Recognized for use on fixed or floating offshore petroleum facilities as recommended by the American Petroleum Institute

Features:

- 3-conductor CCW power cables with three grounding wires are recommended for use with pulse-width modulated AC drives
- CCW armor provides an impervious barrier to moisture, gas and liquids
- CCW armor provides EMI shielding performance
- Factory assembled and tested cable for use as an alternative to cable in conduit wiring systems

Features: (cont'd.)

- Meets cold impact at -40°C
- 90°C continuous operating temperature, wet or dry
- 130°C emergency rating
- 250°C short circuit rating

Specifications:

Design Adherence:

- ICEA S-95-658/WC70 Standard for Non-Shielded Power Cable, 2 kV or Less
- UL 44 Rubber Insulated Wires and Cables
- UL 1569 Metal Clad Cables
- UL 2225 Cables and Cable Fittings for Use in Hazardous Locations
- UL 1309 Marine Shipboard Cable
- CSA C22.2 No. 123 Metal Sheathed Cables
- CSA C22.2 No. 174 Cables and Cable Glands for Use in Hazardous Locations

Flame Tests:

- ICEA T-29-520 (210,000 BTU/hr)
- IEEE 383 (70,000 BTU/hr)
- CSA FT4
- IEEE 1202 (70,000 BTU/hr)
- UL 1581 (70,000 BTU/hr)
- IEC 60332-3 Cat. A

Compliances:

- UL Type MC-HL, XHHW-2, SUN RES, CT USE, DIR BUR, -40°C, UL File # E90496
- UL Listed Marine Shipboard, UL File # E85994
- American Bureau of Shipping (ABS) Listed for CWCMC
- CSA certified¹ Type RA90, XLPE, HL, SR, FT4, and -40°C, CSA File # 7319
- RoHS Compliant

¹ Standard cables are also marked CSA Type RA90, except four (4) conductor cables which require a different color code, which may be special-ordered.

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CATALOG NUMBER	COND. SIZE (AWG/kcmil)	NO. OF COND.	INSULATION THICKNESS		BARE GROUND (AWG)	NOMINAL CORE O.D.		NOMINAL ARMOR O.D.		JACKET THICKNESS		NOMINAL OVERALL O.D.		CROSS-SECTIONAL AREA ¹ SQ. IN.	APPROXIMATE NET WEIGHT		90°C AMPACITY @ 30°C AMBIENT ²
			mils	mm		INCHES	mm	INCHES	mm	mils	mm	INCHES	mm		LBS/1000 FT	kg/1000 m	
9600.01403318	14 (7/W) (2.08 mm ²)	3	30	0.76	3 x #18	0.33	8.4	0.53	13.5	50	1.27	0.64	16.3	0.33	163	242	15
9600.01404318		4	30	0.76	3 x #18	0.37	9.4	0.58	14.7	50	1.27	0.69	17.5	0.38	226	336	15
9600.01203316	12 (7/W) (3.31 mm ²)	3	30	0.76	3 x #16	0.37	9.4	0.58	14.7	50	1.27	0.69	17.5	0.38	243	362	20
9600.01204316		4	30	0.76	3 x #16	0.45	11.4	0.67	17.0	50	1.27	0.78	19.8	0.48	291	433	20
9600.01003314	10 (7/W) (5.26 mm ²)	3	30	0.76	3 x #14	0.41	10.4	0.62	15.7	50	1.27	0.73	18.5	0.42	305	454	30
9600.01004314		4	30	0.76	3 x #14	0.45	11.4	0.67	17.0	50	1.27	0.78	19.8	0.48	354	527	30
9600.00803314	8 (7/W) (8.36 mm ²)	3	45	1.14	3 x #14	0.50	12.7	0.71	18.0	50	1.27	0.81	20.6	0.52	392	583	55
9600.00804110		4	45	1.14	1 x #10	0.58	14.7	0.80	20.3	50	1.27	0.90	22.9	0.64	473	704	44
9600.00603312	6 (7/W) (13.3 mm ²)	3	45	1.14	3 x #12	0.58	14.7	0.80	20.3	50	1.27	0.90	22.9	0.64	534	795	75
9600.00604108		4	45	1.14	1 x #8	0.66	16.8	0.89	22.6	50	1.27	0.99	25.1	0.78	641	954	60
9600.00403312	4 (7/W) (21.2 mm ²)	3	45	1.14	3 x #12	0.68	17.3	0.89	22.6	50	1.27	0.99	25.1	0.78	716	1,066	95
9600.00404108		4	45	1.14	1 x #8	0.77	19.6	0.97	24.6	50	1.27	1.08	27.4	0.93	860	1,280	76
9600.00203310	2 (7/W) (33.6 mm ²)	3	45	1.14	3 x #10	0.80	20.3	1.02	25.9	50	1.27	1.13	28.7	1.02	1,013	1,507	130
9600.00204106		4	45	1.14	1 x #6	0.92	23.4	1.15	29.2	50	1.27	1.26	32.0	1.26	1,267	1,885	104
9600.00103310	1 (19/W) (42.4 mm ²)	3	55	1.40	3 x #10	0.92	23.4	1.15	29.2	50	1.27	1.26	32.0	1.26	1,119	1,666	150
9600.00104106		4	55	1.40	1 x #6	1.04	26.4	1.29	32.8	50	1.27	1.40	35.6	1.56	1,526	2,272	120
9600.11003310	1/0 (19/W) (53.5 mm ²)	3	55	1.40	3 x #10	1.00	25.4	1.24	31.5	50	1.27	1.34	34.0	1.43	1,496	2,226	170
9600.11004106		4	55	1.40	1 x #6	1.12	28.4	1.37	34.8	50	1.27	1.48	37.6	1.74	1,862	2,771	136
9600.21003310	2/0 (19/W) (67.4 mm ²)	3	55	1.40	3 x #10	1.09	27.7	1.34	34.0	50	1.27	1.44	36.6	1.65	1,801	2,681	195
9600.21004106		4	55	1.40	1 x #6	1.23	31.2	1.51	38.4	60	1.52	1.64	41.7	2.14	2,351	3,498	156
9600.31003308	3/0 (19/W) (85.0 mm ²)	3	55	1.40	3 x #8	1.21	30.7	1.47	37.3	60	1.52	1.58	40.1	1.99	2,262	3,367	225
9600.31004104		4	55	1.40	1 x #4	1.36	34.5	1.65	41.9	60	1.52	1.78	45.2	2.52	2,921	4,346	180
9600.41003308	4/0 (19/W) (107 mm ²)	3	55	1.40	3 x #8	1.33	33.8	1.60	40.6	60	1.52	1.73	43.9	2.38	2,722	4,051	260
9600.41004104		4	55	1.40	1 x #4	1.49	37.8	1.78	45.2	60	1.52	1.91	48.5	2.90	3,491	5,194	208
9600.25003308	250 (37/W) (127 mm ²)	3	65	1.65	3 x #8	1.48	37.6	1.74	44.2	60	1.52	1.87	47.5	—	3,195	4,755	290
9600.25004104		4	65	1.65	1 x #4	1.64	41.7	1.96	49.8	60	1.52	2.09	53.1	—	4,142	6,164	232
9600.35003307	350 (37/W) (177 mm ²)	3	65	1.65	3 x #7	1.66	42.2	1.96	49.8	60	1.52	2.09	53.1	—	4,284	6,376	350
9600.35004103		4	65	1.65	1 x #3	1.89	48.0	2.19	55.6	75	1.91	2.35	59.7	—	5,536	8,238	280
9600.50003306	500 (37/W) (253 mm ²)	3	65	1.65	3 x #6	1.94	49.3	2.28	57.9	75	1.91	2.44	62.0	—	6,035	8,981	430
9600.50004102		4	65	1.65	1 x #2	2.14	54.4	2.49	63.2	75	1.91	2.65	67.3	—	7,704	11,464	344
9600.75003305	750 (61/W) (380 mm ²)	3	80	2.03	3 x #5	2.37	60.2	2.75	69.9	75	1.91	2.92	74.2	—	8,854	13,176	535
9600.75004101		4	80	2.03	1 x #1	2.61	66.3	3.03	77.0	85	2.16	3.21	81.5	—	11,449	17,037	428
9600.100031110	1000 (61/W) (507 mm ²)	3	80	2.03	1 x #1/0	2.67	67.8	3.11	79.0	85	2.16	3.30	83.8	—	11,611	17,280	615
9600.100041110		4	80	2.03	1 x #1/0	3.07	78.0	3.63	92.2	85	2.16	3.81	96.8	—	15,377	22,883	492

Dimensions and weights are nominal; subject to industry tolerances.

¹ Cross-sectional area for cable tray fill is in accordance with NEC Section 392.22.

² Ampacities in accordance with NEC Article 310 and Table 310.15(B)(16).

Note: Three (3) conductors, 6 AWG and smaller are also marked CSA Type RA90. One (1) AWG and larger are also marked CSA Type RA90.

