



# Type MV-105 or MC-HL

## Medium Voltage, VFD

### 5kV 133% / 8kV 100% Insulation Level

UL1072, UL 1569, UL 2225, IEEE 1202, ASTM B496, AEIC CS8, ICEA S-93-639/NEMA WC74, ICEA S-97-682

Three conductor cable with continuous corrugated aluminum welded armor

## CABLE DESIGN:

Three stranded copper conductors, extruded semiconducting shield, EPR insulation, extruded semiconducting insulation shield, phase identification strips, copper tape shield with overlap applied over individual conductors, stranded copper grounding conductors, fillers, binder tape over the core, impervious, continuous corrugated aluminum sheath, PVC jacket.

## APPLICATIONS:

- For use in Class I, II and III, Division 1 and 2 and Class I, Zones 1 and 2 hazardous locations per NEC Articles 501, 502, 503 and 505
- For installation in wet and dry locations in both exposed and concealed work, direct burial, or embedment in concrete
- For installation in cable trays, raceways, troughs or on metal racks
- For installation in industrial, utility and other distribution systems
- Suitable for Variable Frequency Drives (VFD) and other AC drive/motor applications



## CONSTRUCTION

Conductor	Class B compacted bare copper per ASTM B496
Conductor screen	Extruded layer of semi-conducting compound over the conductor per UL 1072
Insulation	Extruded layer of ethylene-propylene rubber (EPR) per UL 1072
Insulation screen	Extruded layer of semi-conducting compound applied by triple extrusion process over the insulation. Meets electrical and physical requirements of UL 1072
Shield	Uncoated 5 mil copper tape helically applied with 20% overlap Phase identification: type id ribbon longitudinally applied under shield
Grounding conductor	Three uncoated copper grounding conductors wires per NEC/UL tables
Assembly	Three power conductors cabled with grounding conductors and fillers in the interstices, binder tape applied overall
Metallic sheath	Continuously corrugated welded aluminum armor
Jacket	Protective sunlight and ozone resistant PVC jacket per UL 1072 Yellow color

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## Features

Continuous, corrugated welded aluminum armor (CCW) provides barrier to moisture, gas, liquids and excellent mechanical protection, 105°C continuous normal operating temperature, 140°C emergency overload, 250°C short circuit conditions, -40°C cold bend

Conductor size	No. of Wires	Grounding Conductor		Insulation Thickness	Diameter over Insulation	Overall Diameter Core	Overall Diameter Armor	Jacket Thickness	Approx Overall Diameter Cable	Approx Net. Weight
AWG kcmil		No. x	AWG	mils	inches	inches	inches	mils	inches	lbs/1000ft
2	7	3	10	115	0.55	0.64	1.91	60	2.04	1950
1/0	19	3	8		0.62	0.70	1.91		2.07	2480
2/0	19	3	7		0.66	0.74	2.11		2.24	2840
4/0	19	3	7		0.76	0.85	2.20	80	2.36	3860
250	37	3	6		0.80	0.89	2.46		2.61	4420
350	37	3	6		0.92	1.02	2.80		2.96	5700
500	37	3	5		1.04	1.14	2.87	90	3.03	7400
750	61	3	4		1.20	1.30	3.54		3.72	10340

  

Conductor size	Max. Pull Tension	Min. Bending Radius	Ampacities*			Resistance DC @ 25°C	Resistance AC @ 90°C	Reactance XC @ 60Hz	Resistance XL @ 60Hz	Positive Sequence Impedance
			Isolated in Air	Direct Buried	Underground Duct					
AWG kcmil	lbs	Inches	A			Ohm/MFT	Ohm/MFT	Ohm/MFT	Ohm/MFT	Ohm/MFT
2	1590	14.2	154	190	145	0.165	0.207	0.0027	0.0408	0.207 + j0.041
1/0	2540	15.3	205	245	190	0.104	0.130	0.0023	0.0375	0.13 + j0.038
2/0	3190	15.7	240	280	220	0.082	0.103	0.0021	0.0364	0.103 + j0.036
4/0	5080	17.3	320	360	285	0.052	0.065	0.0018	0.0339	0.065 + j0.034
250	6000	18.1	355	395	315	0.044	0.055	0.0017	0.0335	0.055 + j0.034
350	8400	20.8	440	475	380	0.031	0.040	0.0014	0.0325	0.04 + j0.033
500	10000	22.8	545	570	460	0.022	0.029	0.0012	0.0313	0.029 + j0.031
750	10000	26.0	685	700	570	0.015	0.020	0.0010	0.0296	0.02 + j0.03

\* Ampacities „Underground Duct“ per NEC 2023 Table 310.60 (C) (13). Ampacities „Isolated in Air“ per NEC 2023 Table 310.60 (C) (5). Ampacities „Direct Buried“ per NEC 2023 Table 310.60 (C) (17).

Approvals:  
UL E231073

### Print Legend:

TF CABLE E231073 (UL) MC-HL OR MV-105 [#AWG or Kcmil] CU 5kV 133% - 8kV 100% INS LEVEL 115 MILS EPR SHLD 3x[#AWG] CU GRD UL 1072 SUN RES DIR BUR FT-4 (-40°C) FOR CT USE IEEE 1202 [YEAR] [SEQUENTIAL FOOTAGE MARKINGS]

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