



# MV-105 5kV/8kV, 15kV, 25kV, 35kV

**UL 1072, IEEE 1202, ASTM B-496, AEIC CS8, ICEA S-97-682, ICEA S-93-639 /NEMA WC 74**

Medium Voltage 5kV 133%/8kV 100%, 15kV, 25kV, 35kV 133% Copper Conductor, Copper Tape Shielded Power Cable

## APPLICATIONS

### INDUSTRIAL AND COMMERCIAL

- Chemical Plants
- Petrochemical Plants
- Electrical Utility Plants
- Water Treatment Facilities
- Textile Mills
- Steel Mills
- Paper Mills
- Airports
- Shopping Malls
- Military Bases
- Medical Facilities
- Sports Stadiums

### INSTALLATIONS

- In Cable Tray
- Conduit in Air
- Aerial with Messenger Supported
- Direct Buried
- Underground Duct
- Wet and Dry Locations
- For use in Class I - Division 2, Class II - Division 2 and Class III - Division 1 hazardous locations per NEC Articles 501, 502 and 503



## CONSTRUCTION

Conductor	Class B compacted annealed uncoated copper
Conductor shield	Extruded layer of semiconducting compound applied under simultaneous triple extrusion process
Insulation	Extruded layer of 105°C rated Ethylene Propylene Rubber (EPR)
Insulation shield	Extruded layer of semiconducting compound applied by triple extrusion process
Metallic shield	5 mil bare copper tape applied helically with a 25% overlap.
Jacket	Extruded layer of black sunlight resistant Polyvinyl Chloride (PVC)

## Characteristic

Maximum conductor operating temperature:	+105°C
Maximum emergency overload temperature:	+140°C
Maximum short-circuit conductor temperature:	+250°C
Maximum sidewall pressure:	1000lbs/ft
Lowest installation temperature:	-40°C
Minimum bending radius:	12xD (D-overall diameter of cable)

- Flame Retardant PVC jacket
- Listed for CT use for sizes 1/0 AWG and larger

## Approvals

(UL) E231073

# MV-105 5kV/8kV, 15kV, 25kV, 35kV

## 5kV 133%/8kV 100% INSULATION LEVEL

Part Number	Conductor Size	Insulation Thickness	Diameter over Insulation	Jacket Thickness	Outer Diameter	Cable Weight	Ampacities *		
							Isolated in Air	Direct Buried	Underground Duct
	AWG / MCM	mils	inches	mils	inches	lbs / 1000ft	A		
MV105-5kV2-1	2 AWG	115	0.55	60	0.80	509	215	250	155
MV105-5kV1-1	1 AWG		0.58		0.83	579	250	280	180
MV105-5kV1/0-1	1/0 AWG		0.62		0.89	693	290	320	210
MV105-5kV2/0-1	2/0 AWG		0.66	0.93	799	330	365	235	
MV105-5kV3/0-1	3/0 AWG		0.70	0.98	935	385	415	270	
MV105-5kV4/0-1	4/0 AWG		0.76	1.03	1099	445	465	310	
MV105-5kV250-1	250 MCM	80	0.80	80	1.08	1246	495	510	345
MV105-5kV350-1	350 MCM		0.92		1.21	1651	615	615	415
MV105-5kV500-1	500 MCM		1.03		1.33	2187	775	745	505
MV105-5kV750-1	750 MCM		1.20		1.49	3059	1000	910	630
MV105-5kV1000-1	1000 MCM		1.37		1.66	3929	1200	1055	720

## 15kV 133% INSULATION LEVEL

Part Number	Conductor Size	Insulation Thickness	Diameter over Insulation	Jacket Thickness	Outer Diameter	Cable Weight	Ampacities *		
							Isolated in Air	Direct Buried	Underground Duct
	AWG / MCM	mils	inches	mils	inches	lbs / 1000ft	A		
MV105-15kV2-1	2 AWG	220	0.75	80	1.03	707	215	225	165
MV105-15kV1-1	1 AWG		0.78		1.06	783	250	260	185
MV105-15kV1/0-1	1/0 AWG		0.82		1.09	878	290	295	215
MV105-15kV2/0-1	2/0 AWG		0.86	1.13	992	335	335	245	
MV105-15kV3/0-1	3/0 AWG		0.91	1.18	1134	385	380	275	
MV105-15kV4/0-1	4/0 AWG		0.96	1.23	1307	445	435	315	
MV105-15kV250-1	250 MCM	110	1.0	110	1.28	1461	495	475	345
MV105-15kV350-1	350 MCM		1.12		1.41	1888	610	575	415
MV105-15kV500-1	500 MCM		1.23		1.53	2442	765	700	500
MV105-15kV750-1	750 MCM		1.40		1.75	3438	990	865	610
MV105-15kV1000-1	1000 MCM		1.57		1.92	4351	1185	1005	690

\* Ampacities „Underground Duct“ per NEC 2023 Table 315.60(C)(11). Ampacities „Isolated in Air“ per NEC 2023 Table 315.60(C)(3). Ampacities „Direct Buried“ per NEC 2023 Table 315.60(C)(15).

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## 25kV 133% INSULATION LEVEL

Part Number	Conductor Size	Insulation Thickness	Diameter over Insulation	Jacket Thickness	Outer Diameter	Cable Weight	Ampacities *		
							Isolated in Air	Direct Buried	Underground Duct
	AWG / MCM	mils	inches	mils	inches	lbs / 1000ft	A		
MV 105-25kV1-1	1	320	0.99		1.27	1007	250	260	185
MV 105-25kV1/0-1	1/0		1.03		1.31	1108	290	295	215
MV 105-25kV2/0-1	2/0		1.07		1.35	1229	330	335	245
MV 105-25kV3/0-1	3/0		1.11	70	1.40	1380	380	380	275
MV 105-25kV4/0-1	4/0		1.17		1.45	1561	445	435	315
MV 105-25kV250-1	250		1.22		1.50	1733	490	475	345
MV 105-25kV350-1	350		1.32		1.60	2134	605	575	415
MV 105-25kV500-1	500		1.43		1.77	2802	755	700	500
MV 105-25kV750-1	750		1.61	100	1.95	3754	970	865	610
MV 105-25kV1000-1	1000		1.77		2.11	4680	1160	1005	690

## 35kV 133% INSULATION LEVEL

Part Number	Conductor Size	Insulation Thickness	Diameter over Insulation	Jacket Thickness	Outer Diameter	Cable Weight	Ampacities *		
							Isolated in Air	Direct Buried	Underground Duct
	AWG / MCM	mils	inches	mils	inches	lbs / 1000ft	A		
MV 105-35kV1/0-1	1/0	420	1.22		1.50	1350	290	295	215
MV 105-35kV2/0-1	2/0		1.26		1.54	1478	330	335	245
MV 105-35kV3/0-1	3/0		1.31	70	1.59	1636	380	380	275
MV 105-35kV4/0-1	4/0		1.36		1.64	1825	445	435	315
MV 105-35kV250-1	250		1.40		1.69	1994	490	475	345
MV 105-35kV350-1	350		1.50		1.85	2517	605	575	415
MV 105-35kV500-1	500		1.61		1.96	3105	755	700	500
MV 105-35kV750-1	750		1.78	100	2.13	4070	970	865	610
MV 105-35kV1000-1	1000		1.94		2.29	5019	1160	1005	690

\* Ampacities „Underground Duct“ per NEC 2023 Table 315.60(C)(11), Ampacities „Isolated in Air“ per NEC 2023 Table 315.60(C)(3), Ampacities „Direct Buried“ per NEC 2023 Table 315.60(C)(15).

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## INSTALLATION DATA

Conductor Size	Max. Pull Tension	Min. Bending Radius			
		5kV/8kV	15kV	25kV	35kV
<b>AWG / MCM</b>	<b>lbs</b>	<b>inches</b>	<b>inches</b>	<b>inches</b>	<b>inches</b>
2	530	9.83	12.3	-	-
1	670	10.1	12.9	15.3	-
1/0	845	10.7	13.2	15.7	18.0
2/0	1065	11.2	13.8	16.2	18.5
3/0	1345	11.8	14.3	16.8	19.1
4/0	1695	12.5	15.0	17.4	19.7
250	2000	13.2	15.7	18.0	20.2
350	2800	14.7	17.4	19.2	22.1
500	4000	16.3	18.8	21.3	23.5
750	6000	18.8	21.8	23.4	25.5
1000	6000	21.3	23.8	25.3	27.4

### Sample print legend:

TF Cable (VOLTAGE) (SIZE) TYPE MV-105 SHIELDED COMPACT COPPER EPR 133% INS LEVEL SUN RES FOR CT USE DIRECT BURIAL (UL) E231073