



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

**UL 1072, IEEE 1202, ASTM B-8, 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 compressed 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	0.57	60	0.82	518	215	250	155
MV105-5kV1-1	1 AWG		0.61		0.84	584	250	280	180
MV105-5kV1/0-1	1/0 AWG		0.63		0.89	678	290	320	210
MV105-5kV2/0-1	2/0 AWG		0.67	0.94	792	330	365	235	
MV105-5kV3/0-1	3/0 AWG		0.72	0.98	925	385	415	270	
MV105-5kV4/0-1	4/0 AWG		0.78	80	1.04	1093	445	465	310
MV105-5kV250-1	250 MCM		0.83		1.10	1242	495	510	345
MV105-5kV350-1	350 MCM		0.94	1.22	1624	615	615	415	
MV105-5kV500-1	500 MCM		1.07	1.36	2185	775	745	505	
MV105-5kV750-1	750 MCM		1.26	1.57	3102	1000	910	630	
MV105-5kV1000-1	1000 MCM	1.42	110	1.77	4068	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	0.76	80	1.03	700	215	225	165
MV105-15kV1-1	1 AWG		0.80		1.07	790	250	260	185
MV105-15kV1/0-1	1/0 AWG		0.84		1.10	867	290	295	215
MV105-15kV2/0-1	2/0 AWG		0.89		1.15	994	335	335	245
MV105-15kV3/0-1	3/0 AWG		0.93		1.19	1135	385	380	275
MV105-15kV4/0-1	4/0 AWG		0.99	1.25	1314	445	435	315	
MV105-15kV250-1	250 MCM		1.05	1.31	1471	495	475	345	
MV105-15kV350-1	350 MCM		1.16	1.45	1901	610	575	415	
MV105-15kV500-1	500 MCM		1.28	1.57	2459	765	700	500	
MV105-15kV750-1	750 MCM		1.46	110	1.81	3471	990	865	610
MV105-15kV1000-1	1000 MCM	1.63	1.98		4404	1185	1005	690	

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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	1.00	70	1.30	1100	250	260	185
MV 105-25kV1/0-1	1/0		1.05		1.35	1210	290	295	215
MV 105-25kV2/0-1	2/0		1.10		1.40	1350	330	335	245
MV 105-25kV3/0-1	3/0		1.15		1.45	1500	380	380	275
MV 105-25kV4/0-1	4/0		1.20		1.50	1710	445	435	315
MV 105-25kV250-1	250		1.25	1.55	1880	490	475	345	
MV 105-25kV350-1	350		1.35	1.65	2162	605	575	415	
MV 105-25kV500-1	500		1.50	1.85	3060	755	700	500	
MV 105-25kV750-1	750		1.65	100	2.00	4080	970	865	610
MV 105-25kV1000-1	1000		1.80	2.15	5060	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	1.25	70	1.55	1378	290	295	215
MV 105-35kV2/0-1	2/0		1.30		1.60	1498	330	335	245
MV 105-35kV3/0-1	3/0		1.35		1.65	1650	380	380	275
MV 105-35kV4/0-1	4/0		1.40		1.70	1850	445	435	315
MV 105-35kV250-1	250		1.45		1.75	2050	490	475	345
MV 105-35kV350-1	350		1.55	1.90	2565	605	575	415	
MV 105-35kV500-1	500		1.70	100	2.05	3172	755	700	500
MV 105-35kV750-1	750		1.90	2.25	4143	970	865	610	
MV 105-35kV1000-1	1000		2.00	2.40	5100	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
AWG / MCM	lbs	inches	inches	inches	inches
2	530	9.83	12.3	-	-
1	670	10.1	12.9	15.5	-
1/0	845	10.7	13.2	16.0	18.5
2/0	1065	11.2	13.8	16.5	19.2
3/0	1345	11.8	14.3	17.0	19.8
4/0	1695	12.5	15.0	17.8	20.4
250	2000	13.2	15.7	18.3	21.0
350	2800	14.7	17.4	19.6	22.8
500	4000	16.3	18.8	21.8	24.6
750	6000	18.8	21.8	24.0	27.0
1000	6000	21.3	23.8	25.8	28.8

### Sample print legend:

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