



# MV-105 5 kV & 15 kV

UL 1072, ASTM B-8

Medium Voltage 5 kV & 15 kV 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



## 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 short-circuit conductor temperature:      | +250°C                               |
| Lowest ambient temperature for fixed installation | -40°C                                |
| Lowest installation temperature                   | -5°C                                 |
| Minimum bending radius                            | 12 × D (D-overall diameter of cable) |

- Flame retardant PVC jacket
- Listed for CT use for sizes I/O AWG and larger

# Approvals

(UL): E231073 SUN RES FOR CT USE DIRECT BURIAL

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

| Part Number     | Conductor Size | Insulation Thickness | Diameter over Insulation |        | Jacket Thickness | Outer Diameter | Cable Weight | Ampacities *    |               |                  |
|-----------------|----------------|----------------------|--------------------------|--------|------------------|----------------|--------------|-----------------|---------------|------------------|
|                 |                |                      | mils                     | inches |                  |                |              | Isolated in Air | Direct Buried | Underground Duct |
|                 | AWG / MCM      | mils                 | inches                   | mils   | inches           | lbs /kft       | A            |                 |               |                  |
| MV105-5kV2-1    | 2 AWG          | 115                  | 0.55                     | 60     | 0.78             | 450            | 215          | 225             | 155           |                  |
| MV105-5kV1-1    | 1 AWG          |                      | 0.60                     |        | 0.80             | 520            | 250          | 260             | 180           |                  |
| MV105-5kV1/0-1  | 1/0 AWG        |                      | 0.65                     |        | 0.85             | 610            | 290          | 295             | 210           |                  |
| MV105-5kV2/0-1  | 2/0 AWG        |                      | 0.69                     |        | 0.95             | 700            | 330          | 335             | 235           |                  |
| MV105-5kV3/0-1  | 3/0 AWG        |                      | 0.75                     |        | 1.00             | 870            | 385          | 380             | 270           |                  |
| MV105-5kV4/0-1  | 4/0 AWG        |                      | 0.80                     |        | 1.05             | 1020           | 445          | 435             | 310           |                  |
| MV105-5kV250-1  | 250 MCM        |                      | 80                       | 0.85   | 1.10             | 1130           | 495          | 475             | 345           |                  |
| MV105-5kV350-1  | 350 MCM        |                      |                          | 0.95   | 1.20             | 1510           | 615          | 575             | 410           |                  |
| MV105-5kV500-1  | 500 MCM        |                      |                          | 1.10   | 1.35             | 2075           | 775          | 700             | 505           |                  |
| MV105-5kV750-1  | 750 MCM        |                      |                          | 1.30   | 1.55             | 2890           | 1000         | 865             | 630           |                  |
| MV105-5kV1000-1 | 1000 MCM       |                      |                          | 1.40   | 1.70             | 3715           | 1200         | 1005            | 720           |                  |

## 15 kV 133% INSULATION LEVEL

| Part Number     | Conductor Size | Insulation Thickness | Diameter over Insulation |        | Jacket Thickness | Outer Diameter | Cable Weight | Ampacities *    |               |                  |
|-----------------|----------------|----------------------|--------------------------|--------|------------------|----------------|--------------|-----------------|---------------|------------------|
|                 |                |                      | mils                     | inches |                  |                |              | Isolated in Air | Direct Buried | Underground Duct |
|                 | AWG / MCM      | mils                 | inches                   | mils   | inches           | lbs /kft       | A            |                 |               |                  |
| MV105-15kV2-1   | 2 AWG          | 220                  | 0.75                     | 80     | 1.03             | 620            | 215          | 225             | 165           |                  |
| MV105-15kV1-1   | 1 AWG          |                      | 0.79                     |        | 1.05             | 710            | 250          | 260             | 185           |                  |
| MV105-15kV1/0-1 | 1/0 AWG        |                      | 0.82                     |        | 1.09             | 790            | 290          | 295             | 215           |                  |
| MV105-15kV2/0-1 | 2/0 AWG        |                      | 0.86                     |        | 1.13             | 905            | 335          | 335             | 245           |                  |
| MV105-15kV3/0-1 | 3/0 AWG        |                      | 0.92                     |        | 1.17             | 1040           | 385          | 380             | 275           |                  |
| MV105-15kV4/0-1 | 4/0 AWG        |                      | 0.97                     |        | 1.21             | 1210           | 445          | 435             | 315           |                  |
| MV105-15kV250-1 | 250 MCM        |                      | 80                       | 1.02   | 1.30             | 1390           | 495          | 475             | 345           |                  |
| MV105-15kV350-1 | 350 MCM        |                      |                          | 1.12   | 1.40             | 1750           | 610          | 575             | 415           |                  |
| MV105-15kV500-1 | 500 MCM        |                      |                          | 1.26   | 1.52             | 2200           | 765          | 700             | 500           |                  |

| 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 /kft     | A               |               |                  |
| MV105-15kV750-1   | 750 MCM        |                      | 1.41                     |                  | 1.77           | 3190         | 990             | 865           | 610              |
| MV-105-15kV1000-1 | 1000 MCM       | 220                  | 1.58                     | 110              | 1.95           | 4150         | 1185            | 1005          | 690              |

\* Ampacities „Underground Duct“ per NEC 2011 Table 310.60 (C) (78). Ampacities „Isolated in Air“ per NEC 2011 Table 310.60 (C) (70). Ampacities „Direct Buried“ per NEC 2011 Table 310.60 (C) (82).

## Standard print legend

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

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