

# ALL-FLEX MTW, THHW Heavy Duty Flexible Power Cable - Unshielded



Click on the above thumbnail or go to <https://www.automationdirect.com/VID-WD-0016> for a short introduction on our cut to length cable



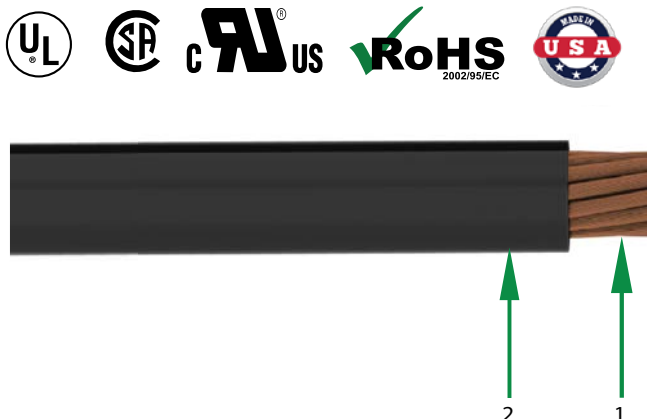
## Overview

Direct Wire's ALL-FLEX MTW / THHW multipurpose power cable is a 1kV rated flexible power cable with a variety of possible applications including industrial control panel power distribution, power feeds for variable frequency drives (VFDs), servo systems, and motor leads in non-drive related applications, as well as non-traditional industrial applications like marine board application and uninterruptible power supplies (UPS), transformer wiring, battery chargers, and more.

With the THHW and MTW ratings these cables are suitable for use in both wet and dry locations and can be used in conduits, ducts, troughs, and control panels. Enhanced temperature ratings of -50°C to 75°C (-58°F to 167°F) wet; 105°C (221°F) dry makes it ideal for most wiring applications. ALL-FLEX is resistant to battery acid, crushing force, diesel fuel, engine coolant, engine oil, ethanol, extreme temperatures, flame, gasoline, power-steering fluid, and transmission fluid and is UL tested for 60°C (140°F) oil resistant temperature rating and is extremely flexible with a tight bend radius allowing easy installations in limited spaces.

## Features

- 8AWG to 500MCM
- Single conductor
- PVC conductor insulation
- Cut to length in 1 foot increments
- Minimum cut lengths as low as 10 feet
- Flexibility for easy installation
- Multiple ratings and approvals
- Wide operating temperature range
- 1000V Maximum Voltage Rating
- UL1063 (MTW) and UL 83 (THHW)
- CSA C22.2 No. 75 (THHW), 127-18 (TEW), 210-15 (AWM), and 2556
- Made in USA



## Construction

1. Rope-lay, bunch-stranded 30AWG copper conductor; bare or tinned ASTM Class K copper
2. PVC conductor insulation

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| ALL-FLEX MTW, THHW Cable Selection |         |                   |                          |                                  |                  |      |                               |                                          |                   |
|------------------------------------|---------|-------------------|--------------------------|----------------------------------|------------------|------|-------------------------------|------------------------------------------|-------------------|
| Part Number                        | AWG     | Strands<br>##/AWG | Color                    | Insulation<br>Thickness<br>(PVC) | Overall Diameter |      | Approximate Weight<br>(lb/ft) | Minimum Cut<br>Length (ft)<br>(See Note) | Price per<br>foot |
|                                    |         |                   |                          | (inches)                         | (inches)         | (mm) |                               |                                          |                   |
| <a href="#">MTW8BK-1</a>           | 8       | 182/30            | Black                    | 0.060                            | 0.270            | 6.9  | 0.077                         | 20                                       | \$0.83            |
| <a href="#">MTW8GYL-1</a>          | 8       | 182/30            | Green with Yellow stripe | 0.060                            | 0.270            | 6.9  | 0.077                         | 20                                       | \$1.10            |
| <a href="#">MTW8BR-1</a>           | 8       | 182/30            | Brown                    | 0.060                            | 0.270            | 6.9  | 0.077                         | 20                                       | \$1.10            |
| <a href="#">MTW8YL-1</a>           | 8       | 182/30            | Yellow                   | 0.060                            | 0.270            | 6.9  | 0.077                         | 20                                       | \$1.10            |
| <a href="#">MTW8OR-1</a>           | 8       | 182/30            | Orange                   | 0.060                            | 0.270            | 6.9  | 0.077                         | 20                                       | \$1.10            |
| <a href="#">MTW6BK-1</a>           | 6       | 273/30            | Black                    | 0.060                            | 0.315            | 8.0  | 0.111                         | 20                                       | \$1.17            |
| <a href="#">MTW6GYL-1</a>          | 6       | 273/30            | Green with Yellow stripe | 0.060                            | 0.315            | 8.0  | 0.111                         | 20                                       | \$1.22            |
| <a href="#">MTW6BR-1</a>           | 6       | 273/30            | Brown                    | 0.060                            | 0.315            | 8.0  | 0.111                         | 20                                       | \$1.22            |
| <a href="#">MTW6YL-1</a>           | 6       | 273/30            | Yellow                   | 0.060                            | 0.315            | 8.0  | 0.111                         | 20                                       | \$1.22            |
| <a href="#">MTW6OR-1</a>           | 6       | 273/30            | Orange                   | 0.060                            | 0.315            | 8.0  | 0.111                         | 20                                       | \$1.22            |
| <a href="#">MTW4BK-1</a>           | 4       | 429/30            | Black                    | 0.060                            | 0.350            | 8.9  | 0.164                         | 20                                       | \$1.80            |
| <a href="#">MTW4GYL-1</a>          | 4       | 429/30            | Green with Yellow stripe | 0.060                            | 0.350            | 8.9  | 0.164                         | 20                                       | \$1.91            |
| <a href="#">MTW2BK-1</a>           | 2       | 676/30            | Black                    | 0.060                            | 0.419            | 10.6 | 0.246                         | 20                                       | \$2.77            |
| <a href="#">MTW2GYL-1</a>          | 2       | 676/30            | Green with Yellow stripe | 0.060                            | 0.419            | 10.6 | 0.246                         | 20                                       | \$2.77            |
| <a href="#">MTW1BK-1</a>           | 1       | 845/30            | Black                    | 0.080                            | 0.490            | 12.5 | 0.320                         | 20                                       | \$3.54            |
| <a href="#">MTW1GYL-1</a>          | 1       | 845/30            | Green with Yellow stripe | 0.080                            | 0.490            | 12.5 | 0.320                         | 20                                       | \$3.54            |
| <a href="#">MTW1OBK-1</a>          | 1/0     | 1066/30           | Black                    | 0.080                            | 0.531            | 13.5 | 0.392                         | 20                                       | \$4.45            |
| <a href="#">MTW1OGYL-1</a>         | 1/0     | 1066/30           | Green with Yellow stripe | 0.080                            | 0.531            | 13.5 | 0.392                         | 20                                       | \$4.45            |
| <a href="#">MTW2OBK-1</a>          | 2/0     | 1339/30           | Black                    | 0.080                            | 0.579            | 14.7 | 0.485                         | 20                                       | \$5.49            |
| <a href="#">MTW2OGYL-1</a>         | 2/0     | 1339/30           | Green with Yellow stripe | 0.080                            | 0.579            | 14.7 | 0.485                         | 20                                       | \$5.49            |
| <a href="#">MTW3OBK-1</a>          | 3/0     | 1677/30           | Black                    | 0.080                            | 0.632            | 16.0 | 0.596                         | 10                                       | \$6.87            |
| <a href="#">MTW3OGYL-1</a>         | 3/0     | 1677/30           | Green with Yellow stripe | 0.080                            | 0.632            | 16.0 | 0.596                         | 10                                       | \$6.87            |
| <a href="#">MTW4OBK-1</a>          | 4/0     | 2109/30           | Black                    | 0.080                            | 0.695            | 17.7 | 0.741                         | 10                                       | \$8.58            |
| <a href="#">MTW4OGYL-1</a>         | 4/0     | 2109/30           | Green with Yellow stripe | 0.080                            | 0.695            | 17.7 | 0.741                         | 10                                       | \$8.58            |
| <a href="#">MTW250MCMBK-1</a>      | 250 MCM | 2527/30           | Black                    | 0.100                            | 0.793            | 20.2 | 0.916                         | 10                                       | Retired           |
| <a href="#">MTW350MCMBK-1</a>      | 350 MCM | 3478/30           | Black                    | 0.100                            | 0.915            | 23.3 | 1.242                         | 10                                       | Retired           |

Note - See web store for maximum cut lengths

| ALL-FLEX MTW, THHW Cable Specifications |                                                                            |                                    |                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
|-----------------------------------------|----------------------------------------------------------------------------|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Conductor Stranding</b>              | Rope-lay, bunch-stranded 30 AWG copper conductor; bare ASTM Class K copper | <b>Applicable Standards</b>        | UL 758, 1232, 1283, 1284, 1337, 1338, 1339, 1581, 2556, 10070, and 10269<br>UL 1063 (MTW) and UL 83 (THHW)<br>UL 1426 (BC-5W2 Boat Cable)<br>For CT Use (1/0 and larger sizes)<br>CSA C22.2 No. 75 (THHW), 127-18 (TEW), 210-15 (AWM), and 2556<br>ASTM B3, B33, B49, and B172<br>SAE J1127 Type SGT<br>NEC (NFPA 70)<br>ABYC E-11 (AC/DC - Electrical Boat Systems)<br>33 CFR Subchapter S<br>FT-1, FT-2, FT-4, and VW-1 |  |
| <b>Voltage Rating</b>                   | 600 V; AWM Style 10269 — 1,000 V                                           |                                    |                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Insulation Color</b>                 | Black with white print                                                     |                                    |                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Insulation Material</b>              | PVC                                                                        |                                    |                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Cold Bend Test</b>                   | -40°C (-40°F)                                                              | <b>Approvals &amp; Compliance*</b> | UL, CSA, ABYC, RoHS, REACH, Prop 65                                                                                                                                                                                                                                                                                                                                                                                       |  |
| <b>Operating Temperature</b>            | -50°C to 75°C (-58°F to 167°F) wet;<br>105°C (221°F) dry                   |                                    |                                                                                                                                                                                                                                                                                                                                                                                                                           |  |
| <b>Temperature Rating</b>               | 75°C (167°F) wet; 105°C (221°F)                                            | <b>Sample Print Legend</b>         | ALL-FLEX (UL) {E#} {AWG SIZE} BC5W2 or THHW FOR CT USE or<br>MTW or AWM STYLES 1232/1284/1338/10070 600V or 10269 1000V<br>VW-1 --- cRU TEW or AWM I A/B 105°C 600V O FT-2 --- (CSA) {MCF<br>#} {AWG SIZE} TEW 600V or AWM I A/B 105°C 1000V FT-1/FT-2/<br>VW-1 --- ABYC E-11 --- SAE-J1127 TYPE SGT                                                                                                                      |  |

\* To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at [www.AutomationDirect.com](http://www.AutomationDirect.com)



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| ALL-FLEX MTW, THHW Cable Additional Specifications                                              |         |                                |              |                             |              |                           |                           |
|-------------------------------------------------------------------------------------------------|---------|--------------------------------|--------------|-----------------------------|--------------|---------------------------|---------------------------|
| Part Number                                                                                     | AWG     | Allowable Ampacity In Conduit* |              | Allowable Ampacity In Air** |              | Min. Bend Radius (inches) | Max. Pulling Tension (lb) |
|                                                                                                 |         | 75°C (167°F)                   | 90°C (194°F) | 75°C (167°F)                | 90°C (194°F) |                           |                           |
| <a href="#"><u>MTW8BK-1</u></a>                                                                 | 8       | 50                             | 55           | 70                          | 80           | 2.16                      | 132                       |
| <a href="#"><u>MTW8GYL-1</u></a>                                                                | 8       | 50                             | 55           | 70                          | 80           | 2.16                      | 132                       |
| <a href="#"><u>MTW8BR-1</u></a>                                                                 | 8       | 50                             | 55           | 70                          | 80           | 2.16                      | 132                       |
| <a href="#"><u>MTW8YL-1</u></a>                                                                 | 8       | 50                             | 55           | 70                          | 80           | 2.16                      | 132                       |
| <a href="#"><u>MTW8OR-1</u></a>                                                                 | 8       | 50                             | 55           | 70                          | 80           | 2.16                      | 132                       |
| <a href="#"><u>MTW6BK-1</u></a>                                                                 | 6       | 65                             | 75           | 95                          | 140          | 2.52                      | 210                       |
| <a href="#"><u>MTW6GYL-1</u></a>                                                                | 6       | 65                             | 75           | 95                          | 140          | 2.52                      | 210                       |
| <a href="#"><u>MTW6BR-1</u></a>                                                                 | 6       | 65                             | 75           | 95                          | 140          | 2.52                      | 210                       |
| <a href="#"><u>MTW6YL-1</u></a>                                                                 | 6       | 65                             | 75           | 95                          | 140          | 2.52                      | 210                       |
| <a href="#"><u>MTW6OR-1</u></a>                                                                 | 6       | 65                             | 75           | 95                          | 140          | 2.52                      | 210                       |
| <a href="#"><u>MTW4BK-1</u></a>                                                                 | 4       | 85                             | 95           | 125                         | 165          | 2.80                      | 334                       |
| <a href="#"><u>MTW4GYL-1</u></a>                                                                | 4       | 85                             | 95           | 125                         | 165          | 2.80                      | 334                       |
| <a href="#"><u>MTW2BK-1</u></a>                                                                 | 2       | 115                            | 130          | 190                         | 190          | 3.35                      | 531                       |
| <a href="#"><u>MTW2GYL-1</u></a>                                                                | 2       | 115                            | 130          | 190                         | 190          | 3.35                      | 531                       |
| <a href="#"><u>MTW1BK-1</u></a>                                                                 | 1       | 130                            | 150          | 195                         | 220          | 3.92                      | 670                       |
| <a href="#"><u>MTW1GYL-1</u></a>                                                                | 1       | 130                            | 150          | 195                         | 220          | 3.92                      | 670                       |
| <a href="#"><u>MTW1-OBK-1</u></a>                                                               | 1/0     | 150                            | 170          | 230                         | 260          | 4.24                      | 845                       |
| <a href="#"><u>MTW1-OGYL-1</u></a>                                                              | 1/0     | 150                            | 170          | 230                         | 260          | 4.24                      | 845                       |
| <a href="#"><u>MTW2-OBK-1</u></a>                                                               | 2/0     | 175                            | 195          | 265                         | 300          | 4.63                      | 1065                      |
| <a href="#"><u>MTW2-OGYL-1</u></a>                                                              | 2/0     | 175                            | 195          | 265                         | 300          | 4.63                      | 1065                      |
| <a href="#"><u>MTW3-OBK-1</u></a>                                                               | 3/0     | 200                            | 225          | 310                         | 350          | 5.06                      | 1342                      |
| <a href="#"><u>MTW3-OGYL-1</u></a>                                                              | 3/0     | 200                            | 225          | 310                         | 350          | 5.05                      | 1342                      |
| <a href="#"><u>MTW4-OBK-1</u></a>                                                               | 4/0     | 230                            | 260          | 360                         | 405          | 5.56                      | 1693                      |
| <a href="#"><u>MTW4-OGYL-1</u></a>                                                              | 4/0     | 230                            | 260          | 360                         | 405          | 5.56                      | 1693                      |
| <a href="#"><u>MTW250MCMBK-1</u></a>                                                            | 250 MCM | 255                            | 290          | 405                         | 455          | 6.35                      | 2000                      |
| <a href="#"><u>MTW350MCMBK-1</u></a>                                                            | 350 MCM | 310                            | 350          | 505                         | 570          | 7.32                      | 2800                      |
| * Ampacities based on Table 12.5.1 of the NFPA 79 Electrical Standards for Industrial Machinery |         |                                |              |                             |              |                           |                           |
| ** Ampacities based on Table 310.17 of the National Electrical Code®                            |         |                                |              |                             |              |                           |                           |



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