

# Industrial Ethernet Cable Guide

Turck offers a complete line of molded Industrial Ethernet cordsets, to simplify network commissioning by minimizing the need for field termination. Built using industrial grade components which can tolerate the demanding conditions of shock, vibration, extreme temperatures, and exposure to water and oils. Configurations are available with stranded or solid conductors, and with or without shielding. Connectors include the D-code M12, 8pin A-code M12, X-code M12, and the 4pin M8. Additionally, Turck offers RJ45 connectivity and a variety of accessories to convert between M12 and RJ45 connectors.

For additional reference materials, check out the MyTurck app, and search "Industrial Ethernet."

## Attributes

- Stranded cables meet full CAT 5e performance, direct connected, up to 85 meters in length.
- Cables are suitable for use in PoE and PoE+ applications (power over Ethernet, see IEEE 802.3af,at), up to 80 meters, when installed per recommendations in TIA TSB-184.
- Some cables are suitable for use in trays, including ITC rated types 444, 844, 445, 421, and 423.
- Gigabit Ethernet options available, using industrial CAT 6A cables.

## Industrial TPE Cable Jacket Material

- Excellent oil resistance (including lubricant used in most robot dress packs)
- Excellent moisture resistance
- Good ozone resistance
- Excellent UV and weathering resistance
- Excellent weld spatter resistance
- Very good flame retardance
- High flexing up to 35 million cycles for stranded cable
- Low temperature brittle point

## 600 V Rated Cable

- UL AWM 600V rated, cables can be installed in cable trays near other 600V cables, as long as all other requirements are met and best installation practices are observed. See field guide G1041 in the Technical Information section of Turck website, for further details.

## Standards Information

- UL Listed Communications Cable (CM), style #2463
- Cordset assemblies are UL Listed, see files E464271 and E141522
- Most all carry CE marking
- In accordance to specifications from ANSI/TIA 568.2-D, ISO/IEC 11801, ODVA, and PNO among others

## Supported Ethernet Protocols

EtherNet/IP™

PROFI<sup>®</sup>  
INDUSTRIAL ETHERNET  
NET

Modbus

EtherCAT™



# Industrial Ethernet Cable Options

| CAT 5e, TPE Jacket, c(UL)us CMX OUTDOOR-CM, AWM 600V, 80C |                        |                        |             |            |                               |
|-----------------------------------------------------------|------------------------|------------------------|-------------|------------|-------------------------------|
| Type                                                      | Conductors             | Cable OD (mm)<br>Color | Shield Type | Reelfast # | Trailing Chain<br>Flex Cycles |
| 442                                                       | 2UTPx24AWG<br>Solid    | 6.1, Teal              | --          | RF51212    | --                            |
| 443                                                       | 2UTPx24AWG<br>Solid    | 6.9, Teal              | Foil/Braid  | RF51213    | --                            |
| 440                                                       | 2UTPx24AWG<br>Stranded | 6.1, Teal              | --          | RF51210    | 35 million                    |
| 440BU                                                     | 2UTPx24AWG<br>Stranded | 6.1, Blue              | --          | RF52110    | 35 million                    |
| 440G                                                      | 2UTPx24AWG<br>Stranded | 6.1, Gray              | --          | --         | 35 million                    |
| 440OR                                                     | 2UTPx24AWG<br>Stranded | 6.1, Orange            | --          | RF52472    | 35 million                    |
| 440RD                                                     | 2UTPx24AWG<br>Stranded | 6.1, Red               | --          | RF52115    | 35 million                    |
| 441                                                       | 2UTPx24AWG<br>Stranded | 6.5, Teal              | Foil/Braid  | RF51211    | 35 million                    |
| 441BU                                                     | 2UTPx24AWG<br>Stranded | 6.5, Blue              | Foil/Braid  | RF52448    | 35 million                    |
| 441GY                                                     | 2UTPx24AWG<br>Stranded | 6.5, Gray              | Foil/Braid  | --         | 35 million                    |
| 441RD                                                     | 2UTPx24AWG<br>Stranded | 6.5, Red               | Foil/Braid  | RF52075    | 35 million                    |
| 441BK                                                     | 2UTPx24AWG<br>Stranded | 6.5, Black             | Foil/Braid  | RF52507    | 35 million                    |
| 441OR                                                     | 2UTPx24AWG<br>Stranded | 6.5, Orange            | Foil/Braid  | --         | 35 million                    |
| 842                                                       | 4UTPx24AWG<br>Solid    | 6.1, Teal              | --          | RF51462    | --                            |
| 843                                                       | 4UTPx24AWG<br>Solid    | 7.2, Teal              | Foil/Braid  | RF51463    | --                            |
| 840                                                       | 4UTPx24AWG<br>Stranded | 6.3, Teal              | --          | RF51460    | 35 million                    |
| 840RD                                                     | 4UTPx24AWG<br>Stranded | 6.3, Red               | --          | --         | 35 million                    |
| 841                                                       | 4UTPx24AWG<br>Stranded | 7.7, Teal              | Foil/Braid  | RF50893    | 35 million                    |
| 841BK                                                     | 4UTPx24AWG<br>Stranded | 7.7, Black             | Foil/Braid  | RF51624    | 35 million                    |
| 841G                                                      | 4UTPx24AWG<br>Stranded | 7.7, Gray              | Foil/Braid  | RF51348    | 35 million                    |
| 841OR                                                     | 4UTPx24AWG<br>Stranded | 7.7, Orange            | Foil/Braid  | --         | 35 million                    |

# Industrial Ethernet Cable Options

| Additional Ethernet Cables |          |                        |                                       |                   |            |                               |                                                                     |
|----------------------------|----------|------------------------|---------------------------------------|-------------------|------------|-------------------------------|---------------------------------------------------------------------|
| Turck Type                 | Category | Conductors             | Cable OD (mm)<br>Jacket Material      | Shield Type       | Reelfast # | Trailing Chain<br>Flex Cycles | Approvals                                                           |
| 445                        | CAT 5    | 4x22AWG<br>Stranded    | 8.0<br>TPE/Teal                       | Foil/Braid        | RF52425    | --                            | UL 1309 Marine Shipboard<br>ITC-ER DB, PLTC-ER DB<br>AWM 600V, 105C |
| 421                        | CAT 5e   | 2UTPx22AWG<br>Solid    | 7.8<br>TPE/Green                      | Foil/Braid        | RF51604    | --                            | UL ITC, PLTC<br>c(UL)us CMX OUTDOOR-CM<br>AWM 600V, 80C             |
| 423                        | CAT 5e   | 2UTPx22AWG<br>Stranded | 7.9<br>TPE/Green                      | Foil/Braid        | RF52558    | 35 million                    | UL ITC, PLTC<br>c(UL)us CMX OUTDOOR-CM<br>AWM 600V, 80C             |
| 444                        | CAT 5e   | 2UTPx22AWG<br>Stranded | 7.9<br>TPE/Teal                       | Foil/Braid        | RF52557    | 35 million                    | UL ITC, PLTC<br>c(UL)us CMX OUTDOOR-CM<br>AWM 600V, 80C             |
| 444BK                      | CAT 5e   | 2UTPx22AWG<br>Stranded | 7.9<br>TPE/Black                      | Foil/Braid        | --         | 35 million                    | UL ITC, PLTC<br>c(UL)us CMX OUTDOOR-CM<br>AWM 600V, 80C             |
| 440AR                      | CAT 5e   | 2UTPx24AWG<br>Stranded | 6.5<br>Aramid Overbraid<br>(TPE/Teal) | --                | --         | --                            | c(UL)us CMX OUTDOOR-CM<br>AWM 600V, 80C                             |
| 4413                       | CAT 5e   | 2UTPx26AWG<br>Stranded | 5.7<br>HF TPU/Teal                    | Foil/Braid        | RF52602    | 15 million                    | c(UL)us CMX<br>AWM 600V, 80C                                        |
| 849A                       | CAT 5e   | 4UTPx24AWG<br>Solid    | 14.1<br>PVC/Black                     | Aluminum<br>Armor | 100009772  | --                            | UL CM<br>CSA HL CMG, 300V, 75C                                      |
| 844                        | CAT 5e   | 4UTPx22AWG<br>Stranded | 8.8<br>TPE/Teal                       | Foil/Braid        | RF52113    | 10 million                    | UL ITC, PLTC<br>c(UL)us CMX OUTDOOR-CM<br>AWM 600V, 80C             |
| 861                        | CAT 6    | 4UTPx26AWG<br>Stranded | 6.0<br>PVC/Black                      | Foil              | RF51838    | --                            | UL CM, c(UL) CMG<br>300V, 75C                                       |
| 860                        | CAT 6A   | 4UTPx26AWG<br>Stranded | 7.4<br>TPE/Teal                       | Foil/Braid        | RF52026    | 35 million                    | c(UL)us CMX OUTDOOR-CMR<br>AWM 600V, 80C                            |
| 860BU                      | CAT 6A   | 4UTPx26AWG<br>Stranded | 7.4<br>TPE/Blue                       | Foil/Braid        | RF52025    | 35 million                    | c(UL)us CMX OUTDOOR-CMR<br>AWM 600V, 80C                            |
| 860OR                      | CAT 6A   | 4UTPx26AWG<br>Stranded | 7.4<br>TPE/Orange                     | Foil/Braid        | --         | 35 million                    | c(UL)us CMX OUTDOOR-CMR<br>AWM 600V, 80C                            |
| 860GY                      | CAT 6A   | 4UTPx26AWG<br>Stranded | 7.0<br>TPE/Gray                       | Foil/Braid        | RF52399    | 10 million                    | c(UL)us CMX OUTDOOR-CM<br>300V, 75C                                 |