



TOUGH CablePRO
OUTDOOR CARRIER CLASS SHIELDED

QUICK START GUIDE

Overview

Thank you for purchasing Ubiquiti Networks™ TOUGHCable™ PRO cabling.

Ubiquiti offers two different types of industrial-grade TOUGHCable Ethernet Cabling in 1000 ft (304.8 m) lengths and 24 American Wire Gauge (AWG):

- **TOUGHCable PRO** Category 5e Outdoor Carrier Class Shielded Cable
- **TOUGHCable CARRIER** Category 5e Outdoor Carrier Class Shielded Cable features an *Anti-Crosstalk Divider* and additional shielding. TOUGHCable CARRIER is designed to provide optimal performance on Gigabit Ethernet networks.

This Quick Start Guide is designed to provide wiring instructions and includes the warranty terms.

TOUGHCable Ethernet Connectors

Ubiquiti TOUGHCable Ethernet Connectors (sold separately) are specifically designed for use with Ubiquiti TOUGHCable Ethernet Cabling and are offered in 100-count packages. Some of the benefits include:

- Helps protect against Ethernet Electrostatic Discharge (ESD) attacks and Ethernet hardware damage
- Allows rapid field deployment without soldering

Installation Requirements

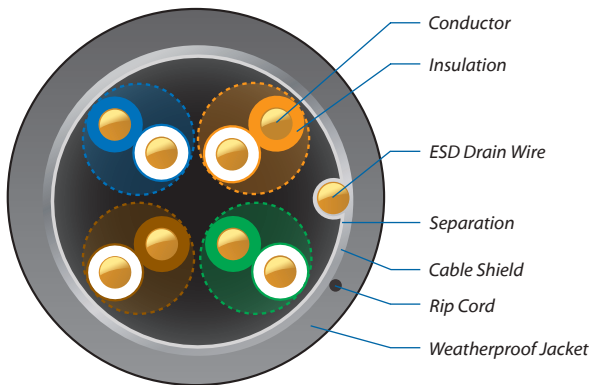
- TOUGHCable Ethernet Cabling
- TOUGHCable Ethernet Connectors
- Wire Strippers/Cutters
- Cable Crimpers
- Needle-Nose Pliers

TOUGH Cable Box

The *Tension Knob* is set to *High* by default. If necessary, the tension can be set to *Low* or *None*.

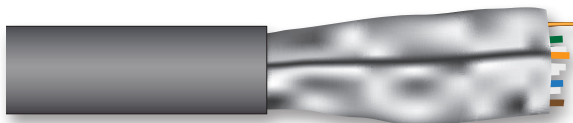
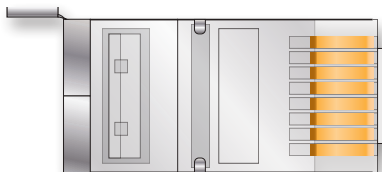


TOUGH Cable PRO Cross-Section



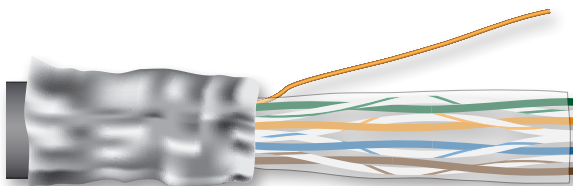
Wiring the Cable

1. Use a *TOUGH Cable Connector* to gauge how much of the jacket to strip (roughly 22 mm). Mark the appropriate length and strip the necessary length of cable jacket with wire strippers.



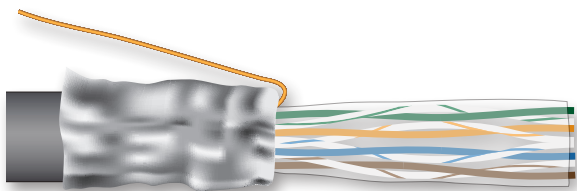
Note: Use caution when stripping the jacket from the cable to avoid severing the foil shield protecting the copper drain wire and twisted pair cable.

2. Carefully fold back the foil shield to expose the drain wire and twisted pair cable.

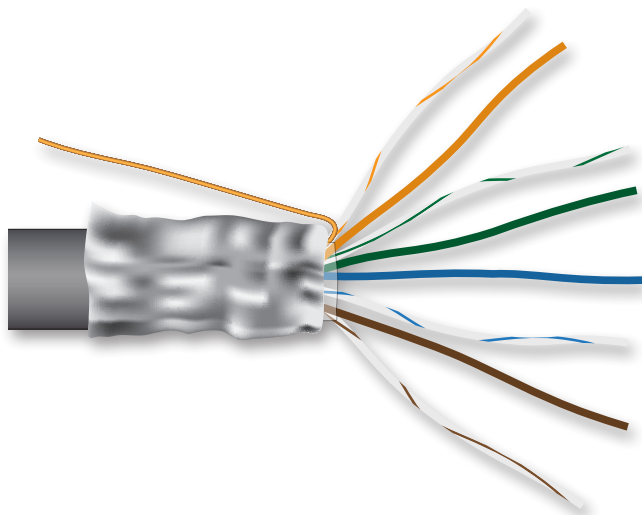


Note: Do not rip the foil shield completely away so that a portion of it can later be inserted into the *TOUGH Cable Connector* to terminate the connection.

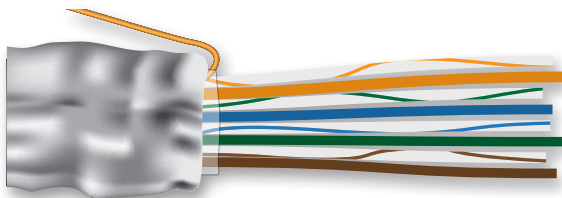
3. Carefully fold back the drain wire, numbered 0 in the *Cable Wiring Specification T568B* (see page 8).



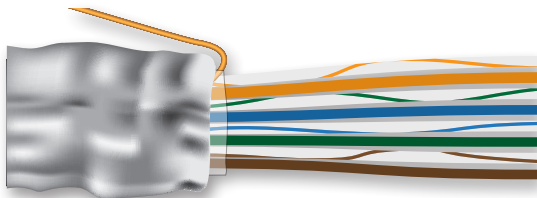
4. Cut or tear away the clear plastic wrapping around the twisted pair cable and untwist the wires that are exposed.



5. Place the wires in order as shown below (and as detailed in the *Cable Wiring Specification T568B* on page 8). Ensure the wires are as straight and compact as possible.



6. Use wire cutters to trim the ends of the wires evenly to ensure a straight surface to insert into the *TOUGH Cable Connector*.

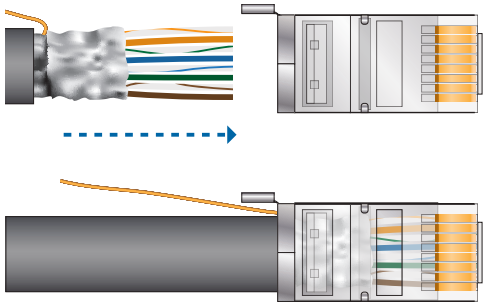


7. Fold the foil shield back up towards the exposed wires, leaving roughly half the distance exposed while covering the bottom half with the foil. Fold back any excess foil.



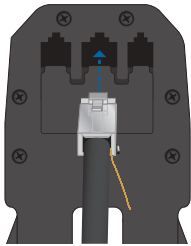
Note: Keep the excess foil folded back so the inside is facing out. This ensures proper conductivity of the foil. Keep the drain wire folded back, as this will loop through the drain wire hook on the outside of the connector.

8. Keeping the wires in the correct order, mold the foil firmly around the covered portion of wires and insert the wires carefully into the *TOUGH Cable Connector*.



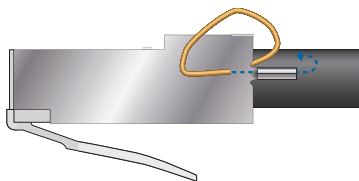
Note: Ensure that the wires are inserted according to the *Cable Wiring Specification T568B*. Ensure that the wires are inserted into the *TOUGH Cable Connector* completely and that they make contact with the tip of the connector. The **folded back** (inside) portion of the foil shield must make contact with the metal inside of the *TOUGH Cable Connector* for proper termination and ESD protection. Also, for extra protection and support of the twisted wire cabling inside, ensure that the outer cable jacket fits inside the *TOUGH Cable Connector* prior to crimping in step 10.

9. Place the *TOUGH Cable Connector* and twisted pair cable into the cable crimper and press firmly.

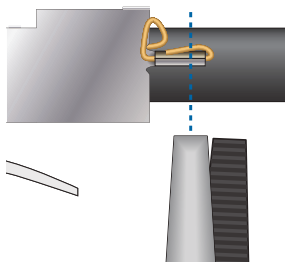


Note: Ensure that the drain wire remains outside of the connector.

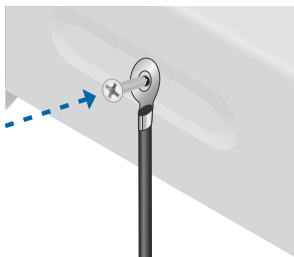
10. Feed the exposed portion of drain wire through the drain wire hook on the outside of the connector and fold it over.



11. Crimp the drain wire hook with a pair of needle-nose pliers to create a secure contact between the drain wire and hook.

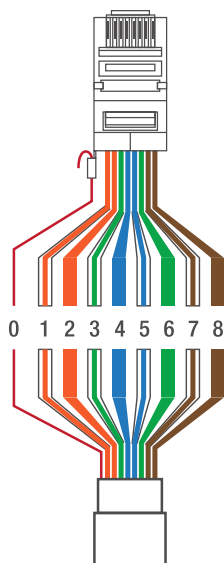


TC-GND Users - If you are using TC-GND TOUGH Cable Connectors, then secure the end of the ground wire to a grounding point, such as the tower ground system or a metal mounting bracket.



12. Repeat steps 1-11 for the other end of the cable.
- Congratulations! Your cable is ready for use.

Cable Wiring Specification T568B



RJ45 Pin Number	Wire Color	Signal Description
0	Copper (PRO) or Silver (CARRIER)	Drain Wire
1	White/Orange	BI_DA +
2	Orange	BI_DA -
3	White/Green	BI_DB +
4	Blue	BI_DC +
5	White/Blue	BI_DC -
6	Green	BI_DB -
7	White/Brown	BI_DD +
8	Brown	BI_DD -

Limited Warranty

UBIQUITI NETWORKS, Inc (“UBIQUITI NETWORKS”) warrants that the product(s) furnished hereunder (the “Product(s)”) shall be free from defects in material and workmanship for a period of one (1) year from the date of shipment by UBIQUITI NETWORKS under normal use and operation. UBIQUITI NETWORKS’ sole and exclusive obligation and liability under the foregoing warranty shall be for UBIQUITI NETWORKS, at its discretion, to repair or replace any Product that fails to conform to the above warranty during the above warranty period. The expense of removal and reinstallation of any Product is not included in this warranty. The warranty period of any repaired or replaced Product shall not extend beyond its original term.

Warranty Conditions

The above warranty does not apply if the Product:

- (I) has been modified and/or altered, or an addition made thereto, except by Ubiquiti Networks, or Ubiquiti Networks’ authorized representatives, or as approved by Ubiquiti Networks in writing;
- (II) has been painted, rebranded or physically modified in any way;
- (III) has been damaged due to errors or defects in cabling;
- (IV) has been subjected to misuse, abuse, negligence, abnormal physical, electromagnetic or electrical stress, including lightning strikes, or accident;
- (V) has been damaged or impaired as a result of using third party firmware; or
- (VI) has no original Ubiquiti MAC label, or is missing any other original Ubiquiti label(s).

In addition, the above warranty shall apply only if: the product has been properly installed and used at all times in accordance, and in all material respects, with the applicable Product documentation; all Ethernet cabling runs use CAT5 (or above), and for outdoor installations, shielded Ethernet cabling is used, and for indoor installations, indoor cabling requirements are followed.

Returns

No Products will be accepted for replacement or repair without obtaining a Return Materials Authorization (RMA) number from UBIQUITI NETWORKS during the warranty period, and the Products being received at UBIQUITI NETWORKS’ facility freight prepaid in accordance with the RMA process of UBIQUITI NETWORKS. Products returned without an RMA number will not be processed and will be returned freight collect or subject to disposal. Information on the RMA process and obtaining an RMA number can be found at:

www.ubnt.com/support/warranty.

Disclaimer

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Limitation of Liability

EXCEPT TO THE EXTENT PROHIBITED BY LOCAL LAW, IN NO EVENT WILL UBIQUITI OR ITS SUBSIDIARIES, AFFILIATES OR SUPPLIERS BE LIABLE FOR DIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL OR OTHER DAMAGES (INCLUDING LOST PROFIT, LOST DATA, OR DOWNTIME COSTS), ARISING OUT OF THE USE, INABILITY TO USE, OR THE RESULTS OF USE OF THE PRODUCT, WHETHER BASED IN WARRANTY, CONTRACT, TORT OR OTHER LEGAL THEORY, AND WHETHER OR NOT ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Note

Some countries, states and provinces do not allow exclusions of implied warranties or conditions, so the above exclusion may not apply to you. You may have other rights that vary from country to country, state to state, or province to province. Some countries, states and provinces do not allow the exclusion or limitation of liability for incidental or consequential damages, so the above limitation may not apply to you. EXCEPT TO THE EXTENT ALLOWED BY LOCAL LAW, THESE WARRANTY TERMS DO NOT EXCLUDE, RESTRICT OR MODIFY, AND ARE IN ADDITION TO, THE MANDATORY STATUTORY RIGHTS APPLICABLE TO THE LICENSE OF ANY SOFTWARE (EMBEDDED IN THE PRODUCT) TO YOU. The United Nations Convention on Contracts for the International Sale of Goods shall not apply to any transactions regarding the sale of the Products.

Declaration of Conformity

Česky [Czech]	UBIQUITI NETWORKS tímto prohlašuje, e tento UBIQUITI NETWORKS device, je ve shodě se základními požadavky a dále s ostatními ustanoveními směrnice 1999/5/ES.
Dansk [Danish]	Undertegnede UBIQUITI NETWORKS erklærer herved, at følgende udstyr UBIQUITI NETWORKS device, overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
Nederlands [Dutch]	Hierbij verklaart UBIQUITI NETWORKS dat het toestel UBIQUITI NETWORKS device, in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG. Bij deze verklaart UBIQUITI NETWORKS dat deze UBIQUITI NETWORKS device, voldoet aan de essentiële eisen en aan de overige relevante bepalingen van Richtlijn 1999/5/EC.
English	Hereby, UBIQUITI NETWORKS, declares that this UBIQUITI NETWORKS device, is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Eesti [Estonian]	Käesolevaga kinnitab UBIQUITI NETWORKS seadme UBIQUITI NETWORKS device, vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
Suomi [Finnish]	UBIQUITI NETWORKS vakuuttaa täten että UBIQUITI NETWORKS device, tyypinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Français [French]	Par la présente UBIQUITI NETWORKS déclare que l'appareil UBIQUITI NETWORKS, device est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
Deutsch [German]	Hiermit erklärt UBIQUITI NETWORKS, dass sich diese UBIQUITI NETWORKS device, in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 1999/5/EG befindet". (BMW)
Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ UBIQUITI NETWORKS ΔΗΛΩΝΕΙ ΟΤΙ UBIQUITI NETWORKS device, ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
Magyar [Hungarian]	Alulírott, UBIQUITI NETWORKS nyilatkozom, hogy a UBIQUITI NETWORKS device, megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
Íslenska [Icelandic]	Hér með í sír UBIQUITI NETWORKS yfir ví a UBIQUITI NETWORKS device, er í samræmi við grunnkröfur og a rar kröfur, sem ger ar eru í tilskipun 1999/5/EC.
Italiano [Italian]	Con la presente UBIQUITI NETWORKS dichiara che questo UBIQUITI NETWORKS device, è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.

Latviski [Latvian]	Ar o UBIQUITI NETWORKS deklar , ka UBIQUITI NETWORKS device, atbilst Direkt vas 1999/5/EK b tiskaj m pras b m un citiem ar to saist tajiem noteikumiem.
Lietuviškai [Lithuanian]	UBIQUITI NETWORKS deklaruoja, kad šis UBIQUITI NETWORKS įrenginys atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Malti [Maltese]	Hawnhekk, UBIQUITI NETWORKS, jiddikjara li dan UBIQUITI NETWORKS device, jikkonforma mal- ti ijjiet essenzjali u ma provvedimenti o rajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
Norsk [Norwegian]	UBIQUITI NETWORKS erklærer herved at utstyret UBIQUITI NETWORKS device, er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 1999/5/EF.
Slovensky [Slovak]	UBIQUITI NETWORKS t mto vyhlasuje, e UBIQUITI NETWORKS device, sp a základné po iadavky a v etky príslu né ustanovenia Smernice 1999/5/ES.
Svenska [Swedish]	Härmed intygar UBIQUITI NETWORKS att denna UBIQUITI NETWORKS device, står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.
Español [Spanish]	Por medio de la presente UBIQUITI NETWORKS declara que el UBIQUITI NETWORKS device, cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
Polski [Polish]	Niniejszym, firma UBIQUITI NETWORKS o wiadcza, e produkt serii UBIQUITI NETWORKS device, spełnia zasadnicze wymagania i inne istotne postanowienia Dyrektywy 1999/5/EC.
Português [Portuguese]	UBIQUITI NETWORKS declara que este UBIQUITI NETWORKS device, está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Română [Romanian]	Prin prezenta, UBIQUITI NETWORKS declară că acest dispozitiv UBIQUITI NETWORKS este în conformitate cu cerințele esențiale și alte prevederi relevante ale Directivei 1999/5/CE.

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