Allen-Bradley

# Ethernet Media

Bulletin Numbers 1585, 1585A, 1585BP, 1585BT, 1585BX, 1585BZ, 1585D, 1585J

## Summary of Changes

This publication contains updated nominal outer diameter specifications on pages 6, 7, 8, 9, 11, 12, and 13.

## Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

| Resource | Description |
|---|---|
| Industrial Ethernet Media Brochure, publication 1585-BR001 | Provides an overview of Ethernet Media products that Rockwell Automation offers. |

You can view or download publications at http://www.rockwellautomation.com/global/literature-library/overview.page. To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.

## Introduction

As Ethernet is increasingly used in industrial control, survival of physical media in rugged or harsh environments is becoming a necessity. The high speed of network protocol allows it to be used in applications where other networks fall short. EtherNet/IP™ uses both standard Ethernet and TCP/IP technologies and an open application layer protocol that is called the Control and Information Protocol (CIP). This application layer is the same as used in DeviceNet™ and ControlNet™ networks.

Rockwell Automation® Cat 5e Ethernet cables are designed to supply a network connection with excellent reliability in harsh surroundings. By optimizing the balance of twisted-pair conductors inside a robust Thermoplastic Elastomer (TPE) jacket, data is protected from noise, chemicals, and mechanical issues to $M_3I_3C_3E_3$ environmental protection levels. The cable is available in RJ45 patchcords for IP20 applications or in four-pin D-coded M12 patchcords for IP67 applications where high vibration, fluids, and other contaminants can threaten the reliability of a network.

M12 D-code field attachable insulation displacement connectors (IDC) are available in both shielded and unshielded housings with male or female connectors. Male eight-pin RJ45 connectors are available in both a crimp termination and a toolless IDC connector for custom cabling.

Rockwell Automation M12 to RJ45 bulkhead connectors provide an elegant transition for network architecture from an IP20 setting to an IP67 environment. The adapter can be used to connect remote junction boxes or implement an On-Machine™ solution with Armor™ I/O products.

The Rockwell Automation Ethernet media portfolio provides connectivity with excellent reliability to maintain network integrity and reduces costly downtime from troubleshooting.

# Cable Spools

## Unshielded Twisted Pair

Unshielded Ethernet Cable Spool

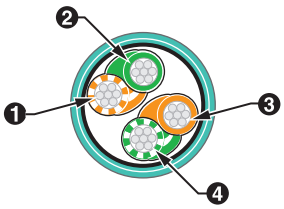
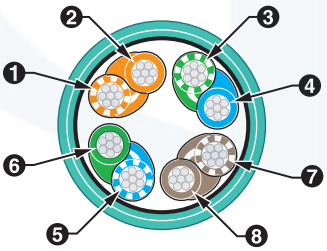
### *Features*

- 4- and 8-conductor styles
- Unshielded cable types, Cat 5e
- 24 AWG conductors
- Twisted pairs maintain signal balance through cable to provide high noise immunity and return loss
- Designed to ODVA EtherNet/IP specifications and ISO IEC 24702
- Suitable for high noise environments $M_3I_3C_3E_3$
- Riser PVC cables are used for general-purpose environments
- TPE robotic cable is used for flex applications, transmission-tested to 10 million cycles
- Plenum PVC cable is used for air duct applications
- TPE cable meets channel transmission performance to 10 million flexes

### *Specifications*

| Attributes | Bulletin 1585 |
|---|---|
| Certifications | UL Listed and CEC |
| Cable Type | Unshielded 2- and 4-pair, Cat 5e |
| Conductor Material | Tinned copper stranded |
| Bend Radius | 10 million cycles at 20 x diameter (TPE cable) |
| Data Rate | Up to 1 GB/s |
| Operating Temperature | -40…+75 °C (-40…+167 °F) |
| Voltage | 300V |

### *Cable and Color Code*

| Two-pair | Four-pair |
|---|---|
|  |  |

| Two-pair | |
|---|---|
| White/Orange | |
| White/Green | |
| Orange | |
| Green | |

| Four-pair | |
|---|---|
| White/Orange | |
| Orange | |
| White/Green | |
| Blue | |
| White/Blue | |
| Green | |
| White/Brown | |
| Brown | |