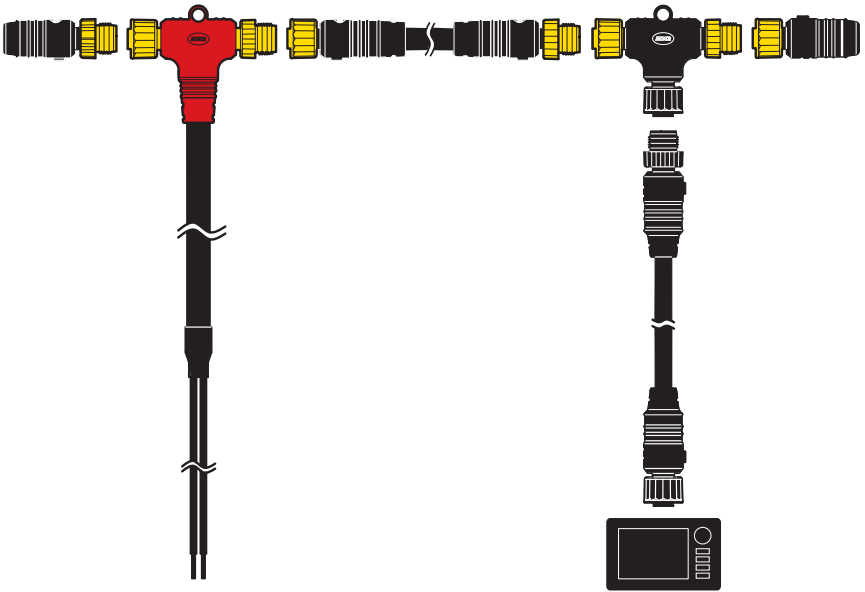


# ANCOR

## NMEA 2000

### BASIC INSTALLATION GUIDE



#### **Ancor NMEA 2000 Cables and Connectors:**

- NMEA micro-size
- NMEA 2000 Approved, 100% universal and compatible with other manufacturer's products
- Color coded for easy identification

**To ensure that you successfully complete your installation, carefully follow these instructions. Make sure to review the following Precautions before you begin.**

## **SIX BASIC COMPONENT TYPES AND WHERE TO USE**

### **① Power Tee**

#### **Connects to Power Source**

The power tee connects the network to a power source. When connecting to a power source, remember to connect the positive wire to either an ignition switch or a stand-alone switch. This will ensure that your NMEA 2000 network is not draining power when not in use. The Ancor power tee is easily identified by the red tee with yellow couplers on both sides.

### **② Backbone Cable**

#### **Connects the Tees**

Backbone cables connect tee connectors to one another or to a power tee. Backbone cables are used when the power tee and device are at different locations or when multiple devices are at different locations along the network backbone. Ancor backbone cables have yellow couplers and are made from a heavier gauge wire than Ancor drop cables to help reduce voltage drop along the network backbone. Ancor offers backbone cables in 1.6ft (0.5m), 6.5ft (2m), 16ft (5m) and 32ft (10m) lengths.

### **③ Tee Connector**

#### **A point for breakoff connecting**

Tee connectors create a point within the network backbone to add a drop cable and device. The network backbone will always be linear and may consist of any combination of backbone cables, tee connectors and a power tee. The yellow coupler on the tee connects to the yellow coupler on either side of the power tee or backbone cable. The black coupler on the tee connects to the drop cable. Ancor offers single, two way and four way tee connectors.

### **④ Drop Cable**

#### **Connects to the Tees of the Backbone**

Drop cables connect the network backbone to NMEA 2000 devices. The drop cable connects the tee connectors' black coupler to the NMEA 2000 device. Ancor drop cables have black couplers and are made from a lighter gauge wire than Ancor backbone cables to allow easier wire routing from the network backbone to the NMEA 2000 device. Ancor offers drop cables in 1.6ft (.5m), 3.3ft (1m), 6.5ft (2m) and 16ft (5m) lengths.

### **⑤ NMEA 2000 device**

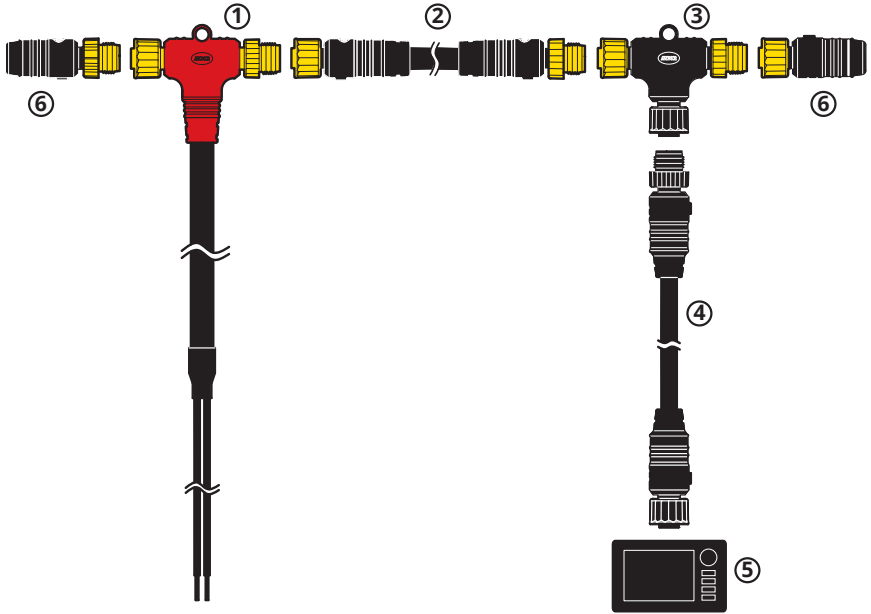
Any electronic device with a NMEA 2000 connection and a NMEA 2000 communication protocol. NMEA 2000 Certified devices and Approved components are strongly recommended as they ensure compatibility and proper data exchange. Common NMEA 2000 devices include chartplotters, engine instruments, GPS units and more.

### **⑥ Terminating Resistors**

#### **Terminating the connection**

Terminators are required on each end of the network backbone to ensure signal integrity. The yellow coupler on the terminator will connect to the yellow coupler on a tee connector. Ancor terminators are offered with either a male or female coupler to attach to either side of a tee connector at the end of a backbone.

## Simple Network Example



## ADDING ADDITIONAL DEVICES

- 1) To add another NMEA 2000 device to the network created in the instructions above, start by determining where you will need to place a drop cable for the device.
- 2) Once you have determined this location, disconnect the backbone at the closest backbone connection and add in a tee connector. When connecting several drop cables in a similar location use an Ancor 2-way or 4-way tee connector.
- 3) Reconnect the backbone connection(s) with the new tee connector in place.
- 4) Connect the drop cable to the black coupler on the tee and then connect to the new NMEA 2000 device.

**⚠ WARNING** Always make sure the NMEA 2000 network has **ONLY two total terminating resistors (one at each end of the backbone)** and is connected to a power source with a power tee in **ONLY one location**.

## NETWORK LIMITS

- Total length of the NMEA 2000 network cannot exceed 328 feet (100 meters)
- Each drop cable cannot exceed 19.7 feet (6 meters)
- Total length of all drop cables within the network cannot exceed 256 feet (78 meters)
- Maximum connected devices cannot exceed 50

## BASIC INSTALLATION GUIDE: **NMEA 2000**

---

For our full line of Ancor NMEA 2000 products visit [ancorproducts.com](http://ancorproducts.com).