

**Louisiana
Department of Transportation
and
Development**

**Traffic Control Standard
Number 1C**

**GLOBAL POSITIONING SYSTEM
AND CABLE ASSEMBLY
(GPS KIT)**



Revised December 13, 2021

GLOBAL POSITIONING SYSTEM WITH CABLE ASSEMBLY (GPS KIT)

GENERAL

This specification sets forth the minimum requirements for a Global Positioning System with cable assembly (GPS KIT) that shall communicate with the Cubic TrafficWare Series 900 ATC, Model No. 980-B240-1 controller, in order to synchronize traffic signals.

REQUIREMENTS

The GPS Kit shall include, at a minimum, the following:

- One (1) GPS device, Garmin Model No. GPS16x-HVS, or equal.
 - Device protocol shall be National Marina Electronics Association (NMEA) compliant.
- One (1) Interconnection Cable Assembly to include:
 - One (1) Ethernet/data cable with a male DB9 pin connector and an RJ45 connector; cable shall be a minimum of 8 feet in length
 - One (1) RJ45 adapter
 - One (1) 22 gage, 2 conductor, shielded power cable with one (1) red power wire with prongs and one (1) black ground wire with prongs; cable shall be a minimum of 3 feet in length
 - See Figure 1 for additional Cable Assembly details.
- Mounting Hardware for mounting the GPS Kit to the top of an aluminum controller cabinet.

The GPS KIT shall communicate directly to the local controller, master controller, or the system software without the need of any external devices.

SOFTWARE

The GPS KIT shall communicate to the controller at a rate of 4800 baud.

The following messages shall be generated by the GPS KIT and displayed through the controller interface:

- “OK Reply”
 - The received message was correct and implemented.
- “No Reply”
 - The controller did not receive a reply from the GPS module.
- “No Signal”
 - The GPS module has not acquired a signal from the satellite.
- “Bad Reply”
 - The receive message had a data error.

WARRANTY

The GPS and cable assembly shall come complete with a one (1) year manufacturer's warranty or a standard manufacturer's warranty for all parts and components. Warranty period will begin the date of acceptance by the Department.

PACKAGING

GPS kits shall be individually packaged one (1) complete unit per box. A complete unit shall include one (1) GPS and all parts, components, and hardware required for one (1) unit as specified herein. Individual boxes may be combined and shipped in cases or pallets. If palletized, boxes must be securely stretch wrapped to the pallet. Boxes shall be clearly labeled, at a minimum, with the company name and/or brand name, model number, a brief description of the product, and DOTD's Purchase Order Number.

Units split and packaged for bulk shipment will be rejected and returned at the vendor's expense.

FIGURE 1: INTERCONNECTION CABLE ASSEMBLY

