

# Technical BULLETIN

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## COMMAND LINK® COMPATIBLE MODELS

### Interfacing NMEA 2000® – Driven Devices to Command Link® Digital System

#### **i** INTRODUCTION

A Command Link® Gateway is available to interface NMEA 2000® driven electronic devices with Yamaha motors equipped with Yamaha Command Link digital systems. The Gateway provides one-way data transfer from the Command Link system to the NMEA 2000® network, preventing interference or overloading of the Command Link system (see attached Installation Instructions).

The following engine and Command Link tri-ducer data will be available through the Gateway for display by NMEA 2000® devices <sup>1</sup>:

- Engine rpm
- Engine oil pressure <sup>2</sup>
- Engine water pressure <sup>3</sup>
- Voltage
- Warning
- Water depth <sup>5</sup>
- Engine trim position
- Engine water temperature
- Total engine hours
- Fuel flow
- Boat speed <sup>4</sup>
- Surface water temperature <sup>5</sup>

**NOTE:** NMEA 2000® is a registered trademark of the National Marine Electronics Association.

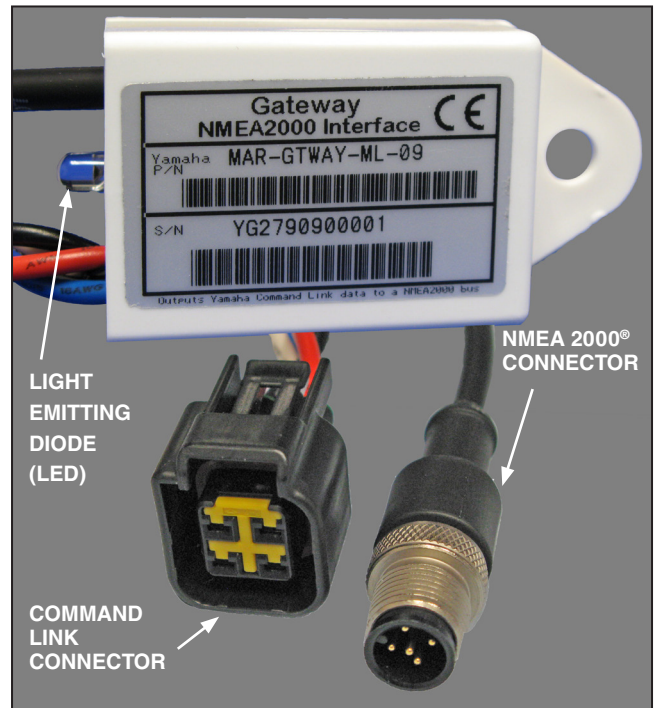
The Command Link Gateway requires only two connections:

- One plug into an open Device port on a Command Link multi-hub.
- One plug into an open Device port on a NMEA 2000® network.

Gateway power is supplied by the NMEA 2000® network.

A built-in LED provides Gateway operating status for easy troubleshooting.

A single Gateway will provide data from multiple engine installations.



#### **CAUTION:**

**Connecting electronic devices to a Command Link system without a Gateway could introduce issues which may affect Command Link system integrity or performance.**

- <sup>1</sup> Some NMEA 2000® compatible devices may not have the capability of displaying all available Command Link data.
- <sup>2</sup> F150 and larger four-stroke motors
- <sup>3</sup> F300 and F350 V8s and Command Link-compatible motors when equipped with optional Command Link water pressure sensor kit.
- <sup>4</sup> Optional Command Link speed sensor kit or Command Link tri-ducer required.
- <sup>5</sup> Optional Command Link tri-ducer required.

#### **1 2 3** PARTS INFORMATION

Part Number	Description	Qty.
MAR-GTWAY-ML-09	Yamaha Command Link® System Gateway (NMEA 2000® Interface)	1

ROUTE TO:  SERVICE  PARTS  WARRANTY  SALES

**INSTALLATION INSTRUCTIONS**  
**Yamaha Command Link® System**  
**Gateway (NMEA 2000® Interface)**  
**P/N: MAR-GTWAY-ML-09**  
**Command Link® Compatible Models**

**⚠ WARNING**

Please read and understand these instructions completely before proceeding to avoid possible injury to yourself or damage to the engine, Command Link system, or NMEA 2000® network.

**CAUTION:**

- This installation should be performed by an authorized Yamaha dealer or a qualified mechanic. Some components may require information from Yamaha Service Manuals for proper installation or adjustment. Be sure to have the appropriate Service Manuals on hand, if necessary, before proceeding with the installation.
- Alterations of emission-related components constitutes tampering under Federal and State laws and can lead to substantial fines and penalties.

**DEALER:**

These instructions contain important information for future reference and must be given to the customer.

**WARRANTY INFORMATION:**

- Yamaha components are covered by a 1-year limited warranty (90 days for commercial use) against defects in material or workmanship. Labor for replacement of defective components is not covered. See your Yamaha dealer for a copy of the limited warranty statement.
- The Limited Warranty provided with new Yamaha outboard motors has exclusion for certain failures, including those caused by modifications or original parts and abnormal strain. While installation of these components will not “void” your motor’s warranty, specific failures adjudged by Yamaha to have resulted from the installation of accessory components or other modifications may not be covered by warranty or Yamaha Extended Service.

**INTRODUCTION:**

The Command Link System Gateway permits connection of NMEA 2000® driven devices to Yamaha Command Link systems. The Gateway provides communication from the Command Link system to a NMEA 2000® network but prevents communication from the NMEA 2000® network to the Command Link system.

**NOTE:** NMEA 2000® is a registered trademark of the National Marine Electronics Association.

**INSTALLATION PROCEDURE:**

1. Disconnect the negative battery lead before beginning this installation.
2. Install all Command Link system components including gauges and all NMEA 2000® network components in the console to ensure wiring harness lengths are adequate.
3. Select a suitable location below the deck or out of the weather and direct sunlight to securely mount the Gateway. The module should be mounted with the LED easily visible for troubleshooting. Make sure the Gateway harnesses will connect to both hubs without placing any strain on the wiring or connectors. Preferred mounting method is through bolting with a 1/4 in., stainless steel bolt, washer and nut.
4. Connect the two Gateway connectors:
  - Connect the Command Link device connector to an open device port on a Command Link multi-hub.
  - Connect the NMEA 2000® connector to an open device port on the NMEA 2000® network.
5. Support each harness within six inches of the connectors.
6. After all devices and wiring harnesses are connected, confirm the key switch is “OFF.”
7. Reconnect the negative battery lead.

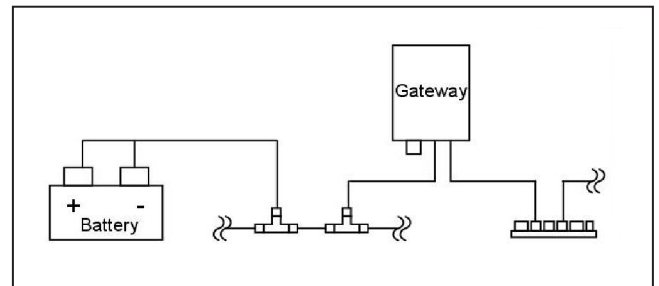
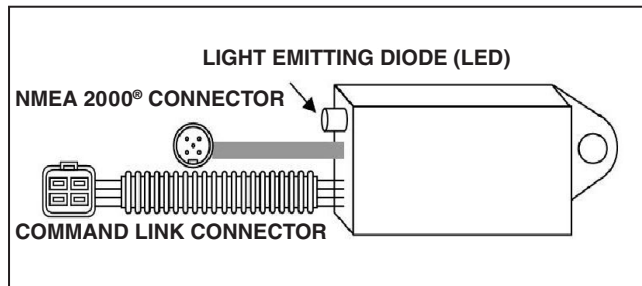
8. Turn “ON” the NMEA 2000® network power supply. The LED on the Gateway will flash “ON/OFF” (e.g., power supplied).
9. Turn “ON” the motor(s) ignition switch. The LED on the Gateway will be “ON.”

### Gateway Troubleshooting LED:

The Command Link Gateway incorporates a green “STATUS” LED, located near the wires exiting the Gateway housing. The LED can be used for troubleshooting the system.

- LED Steady ON - the Command Link system and NMEA 2000® network power “ON” and the Gateway is working properly
- LED OFF – no power from NMEA 2000® system or Gateway failure
  - i. Check - NMEA 2000® network power source must be “ON”
  - ii. Check - Power supply to NMEA 2000® network
  - iii. Check - Gateway to NMEA 2000® hub connection
- LED Flashing ON/OFF – Power supplied but not receiving engine messages
  - i. Check - Motor ignition switch must be “ON” powering the Command Link system
  - ii. Check - C/L gauge(s) for proper operation
  - iii. Check - Gateway to Command Link multi-hub connections

### WIRING SCHEMATIC:



### C/L GATEWAY DATA OUTPUT

The following engine and Command Link tri-ducer data will be available through the Gateway for display by NMEA 2000® devices <sup>1</sup>:

- |                                      |  |
|--------------------------------------|--|
| • Engine rpm                         | • Engine trim position                   |
| • Engine oil pressure <sup>2</sup>   | • Engine water temperature               |
| • Engine water pressure <sup>3</sup> | • Total engine hours                     |
| • Voltage                            | • Fuel flow                              |
| • Warning                            | • Boat speed <sup>4</sup>                |
| • Water depth <sup>5</sup>           | • Surface water temperature <sup>5</sup> |

### NOTES:

- **The Gateway can only transfer data *from* the Command Link system.**
- **The Gateway’s power is supplied *from* the NMEA 2000® system.**
- **One Gateway will supply data from multiple motors.**
- **Meets C€ requirements.**

### MAINTENANCE:

Periodically check all hardware and electrical connections for tightness and corrosion. Re-torque, reconnect and apply protectant as required.

### CUSTOMER SERVICE:

For further information see your Yamaha dealer.

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<sup>3</sup> F300 and F350 V8s and Command Link compatible motors when equipped with optional Command Link water pressure sensor kit.

<sup>4</sup> Optional Command Link speed sensor kit or Command Link tri-ducer required.

<sup>5</sup> Optional Command Link tri-ducer required