

# USER INSTALLATION MANUAL

## Graco GNET FHSS RF Transceiver Module

## TABLE OF CONTENTS

1.0	SCOPE.....	3
2.0	REVISION CONTROL .....	3
3.0	APPLICABLE DOCUMENTS .....	3
4.0	DESCRIPTION.....	4
5.0	ELECTRICAL SPECIFICATIONS .....	4
6.0	CONNECTOR PINOUT.....	4
7.0	MOUNTING LOCATION .....	5
8.0	ANTENNAS.....	5
9.0	LABELING REQUIREMENTS.....	6
10.0	RF EXPOSURE .....	6
11.0	FCC NOTIFICATIONS .....	7

## 1.0 SCOPE

This manual covers the necessary items to install a Graco GNET FHSS RF Transceiver Module into a piece of host equipment. Antenna considerations, electrical specifications, and labeling requirements are addressed.

## 2.0 REVISION CONTROL

DATE	CHANGES	REVISION
3/23/04	ORIGINAL RELEASE	0.0

## 3.0 APPLICABLE DOCUMENTS

248292 RF Board  
248293 RF Daughter Board

## 4.0 DESCRIPTION

The Graco GNET FHSS RF Transceiver Module is a frequency hopping spread spectrum transceiver capable of 2-way transportation of message packets in the 900 MHz ISM band. A standard serial interface operating at 3 volts CMOS levels is used to communicate with the host device. Exact protocol and messaging details are available in the Graco GNET FHSS RF Transceiver Module Host Interface Protocol document.

The host device supplies power through the interface connector in accordance with the operating voltage and current requirements.

## 5.0 ELECTRICAL SPECIFICATIONS

The module should be operated within the electrical limits provided in this section. Operation outside of these parameters may damage the unit.

Parameter	Min	Typ	Max	Units
Operating Voltage	8.6	9.6	10.6	VDC
Transmit Current		150	200	mA
Receive Current		15		mA
Sleep Current		N/A	N/A	μA
Operating Temperature	-40		+85	°C

## 6.0 CONNECTOR PINOUT

J3-1 Power In (9.6 Volts typical)  
J3-2 Regulator Shutdown Control (Shutdown = 0 volts)  
J3-3 RX  
J3-4 TX  
J3-6 Gnd

## 7.0 MOUNTING LOCATION

In order to maintain compliance with the FCC modular certification it is necessary to mount the module in such a way that user is never closer than 20 cm to the antenna.

The manual for end users of the product must contain a warning about the 20 cm separation as outlined in Section 10.0.

Additionally, the transceiver may not be co-located with any other antenna or transmitter.

## 8.0 ANTENNAS

Compliance with FCC regulations may only be maintained using the specified antennas. The orientation of the antennas is controlled as a requirement on the engineering documentation.

Re:  
248292 RF Board  
248293 RF Daughter Board

The specified wire antenna will be attached at the factory and should not be altered.

## 9.0 LABELING REQUIREMENTS

The FCC requires that the Part 15 statement be installed on the outside of the final product in a manner which allows it to be seen and read. The accepted statement and a sample label format are as follows:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

Contains FCC ID: JHIGNET  
IC: 4840A-GNET  
MODEL: XXXXXX

Graco Inc.  
P.O. Box 1441  
Minneapolis, MN  
55440, U.S.A.

The label should be printed or molded into the case using a type front and size that is readable with the unaided eye. The FCC identification number is required.

## 10.0 RF EXPOSURE

This module has been designed to comply with FCC RF exposure requirements outlined in Parts 2.1091, 2.1093, and 15.247(b)(4). Deviation from the recommended installation may violate RF exposure requirements.

The Graco GNET RF Transceiver Module is limited in application to products “generally used in such a way that a separation distance of at least 20 centimeters is normally maintained between the transmitter’s radiating structure(s) and the body of the user and nearby persons.”

## 11.0 FCC NOTIFICATIONS

The Graco GNET FHSS RF Transceiver Module generates radio frequency energy. It must be installed according to the manufacturer's guidelines or it has the potential to cause interference with other radio devices. Testing has been performed to assure that it conforms to the FCC Part 15 rules for intentional and unintentional radiators.

No further EMI compliance testing of the *transmitter* is required as long as the 20 cm separation and co-location requirements are observed. Each new use of the module will, however, always need to be scanned for unintentional radiation from digital clocks, etc.

All necessary calibration has been performed at the time of manufacture. Any modification of the device after it leaves the factory is a violation of FCC rules.

### **Compliance Statement (Part 15.19)**

This device complies with Part 15 of the FCC Rules and with RSS-210 of Industry Canada. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

### **Warning (Part 15.21)**

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

### **RF Exposure (OET Bulletin 65)**

To comply with FCC RF exposure requirements for mobile transmitting devices, this transmitter should only be used or installed at locations where there is at least 20cm separation distance between the antenna and all persons.