

DIGI★STAR

— TOPCON POSITIONING GROUP —

ERM-WIFI

USER MANUAL



DIGI★STAR

PRECISELY

Ft. Atkinson, Wisconsin USA

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Panningen, The Netherlands

www.digi-star.com

Introduction:

Thank you for your purchase of a Digi-Star ERM-WIFI radio. Your ERM-WIFI is the culmination of more than 30 years of agricultural weighing engineering and expertise. With proper operation and preventative maintenance the ERM-WIFI will last for many years.

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1.0 OVERVIEW

Description	Part #	Qty
RADIO-ERM-WiFi	409665	1
40" (1 meter) Extension Cable	409156	Option

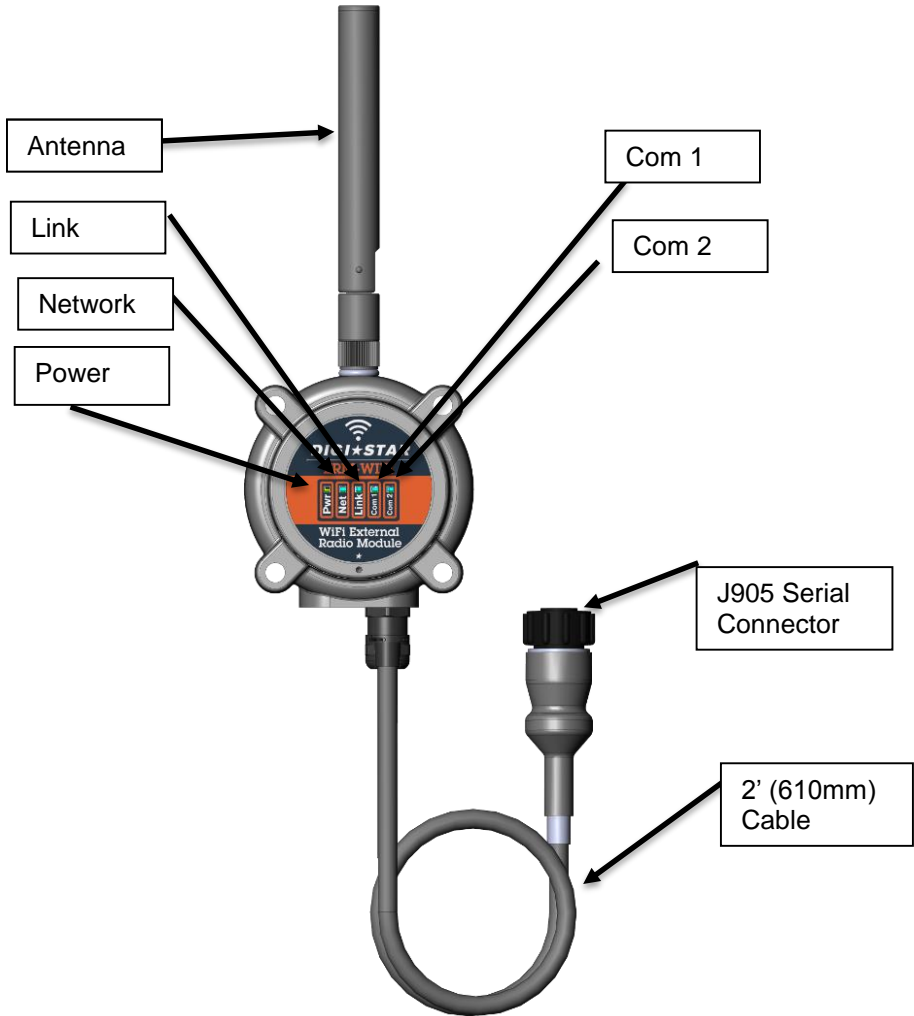


Figure 1. ERM-WiFi Overview

2.0 USE:

The Digi-Star ERM-WIFI is designed exclusively for use with Digi-Star scale indicators, accessories, and associated agricultural weighing equipment.

The Digi-Star ERM-WIFI device allows Apple and Android devices to wirelessly communicate and control a wide range of Digi-Star Indicators using Digi-Star mobile apps found in the Apple iTunes or Google Play Store.

The ERM-WIFI is not for use with applications for which the ERM-WIFI is not intended, or as outlined in this manual.

Use of the ERM-WIFI outside of its intended purposes may result in the inability to communicate, the loss of weight information or data, as well as damage to instrument.

This manual covers the setup and operation of this device.

3.0 Digi-Star Hardware & Software Requirements:

The Digi-Star Indicator that the ERM-WIFI will be connected to must be equipped with a J905 Serial Port connector and must be running “EZ2 9B”, “512 8.J” or newer software, in order for the ERM-WiFi to operate. See Section 11 for more information.

4.0 Mobile Device Requirements:

Android Tablets and Phones require Android version 4.0.3 (Ice Cream Sandwich) or later. Apple iPhones and Tablets must be running IOS version 7.0 or newer.

Please note that the Digi-Star Apps will not work with the Digi-Star ERM-2.4, ERM-2.4X, or ERM-900 wireless modems.

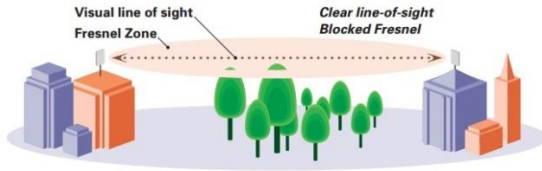
5.0 Line-of-Sight Communication:

All ERM-WIFI and corresponding radio devices operate on the line-of-site principal. The antenna of each device must be in visual site of the other. Radio transmission will not pass through buildings, metal structures, or earth.

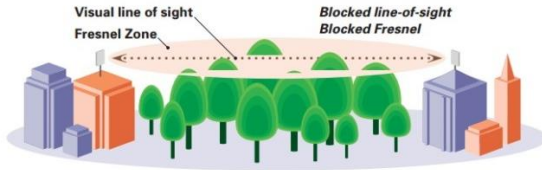
The illustration below provides additional details of how both the line-of-sight and Fresnel Zone must be clear.

A wireless connection between two points with obstructions that block the RF signal resulting in two scenarios:

Near line-of-sight – Optical line-of-sight between the two points, but the Fresnel zone is blocked



Non line-of-sight – No optical line-of-sight between the two points, plus the Fresnel zone is blocked.



6.0 Normal ERM-WiFi LED Status

During normal operation, the “Link” LED is Green, which indicates that the WiFi-ERM has created a Digi-Star WiFi Hotspot which must be joined by the mobile device. Normal LED operation can be seen below:



Figure 2. ERM-WiFi Normal Operation

Power – Orange, Indicating Power to the Module

Link – Green, Indicating a Digi-Star Hotspot Has Been Created

Com 2 – Blue – Indicating the Unit Is Able to Communicate

7.0 Connecting to the ERM-WiFi Hotspot

When the Link LED is Green, a Digi-Star WiFi Hotspot has been created, and can only be joined by a mobile device running a Digi-Star Mobile App.

The Default Name of the Hotspot will be “Digi-Star[xx:xx:xx]” where “xx:xx:xx” is the last four digits of the MAC address of the ERM-WiFi. This MAC address is printed on the serial number tag of the ERM-WIFI.

The Default Password of the ERM-WIFI and Hotspot will be: “digistarerm”

Once the mobile device joins the Digi-Star ERM-WIFI Hotspot, the app will then be able to communicate with the Digi-Star Indicator.

8.0 ERM-WiFi Hotspot and Internet Connectivity

Please note that the Digi-Star ERM-WiFi Hotspot does not provide Internet connectivity. As a result, any mobile device connected to a Digi-Star ERM-WiFi Hotspot will not be able to connect to the Internet, check e-mails, etc..

To re-access the Internet disconnect mobile device from the Digi-Star ERM-WiFi Hotspot.

9.0 Suggested Mounting Locations

The ERM-WIFI is supplied with a heavy-duty Hook & Loop fastening system and mounting holes to provide flexibility when mounting.

For many applications it is possible to attach the ERM-WIFI to the Indicator using the Hook & Loop fastener as shown below.

To increase mounting possibilities, or increase range, the ERM-WiFi may also be used with Digi-Star’s **409156 – 40” (1m) Extension Cable** to position the ERM-WiFi outside the tractor cab or in a higher position that provides improved line-of-site communication.

Always orient the ERM-WiFi Antenna in the Vertical orientation. A horizontal orientation will decrease range and is not recommended.



Figure 3. ERM-WiFi Suggested Mounting



Figure 4. ERM-WiFi Incorrect Antenna Orientation



Figure 5. ERM-WiFi Horizontal Mounting w/Correct Antenna Orientation

10.0 Installation & Mounting

1. If mounting the ERM using the supplied Hook & Loop fasteners:

- a. See “Suggested Mounting Locations” above for proper mounting positions.
- b. Wipe the mounting surface clean of dirt and debris.
- c. Wipe the adhering surface and back side of ERM clean with alcohol or cleaner spray and allow to air dry.
- d. Apply hook and loop fasteners as necessary.
- e. Allow unit to cure for 12-24 hours before use.

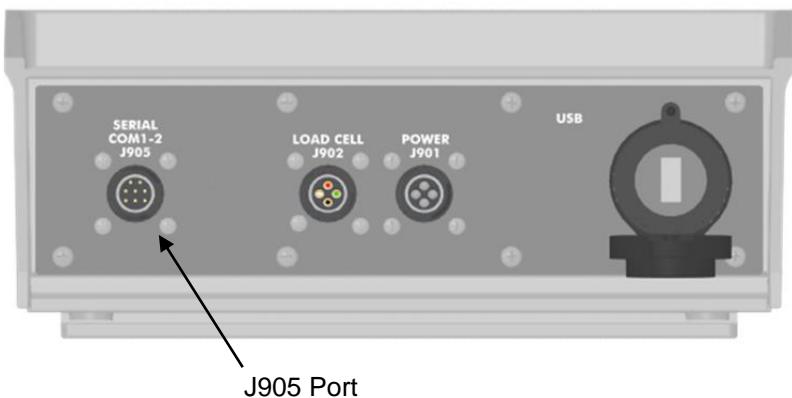
NOTE: Adhesive will not stick to any surface at temperatures below freezing. Install at room temperature for best results.

2. If mounting the ERM using bolts:

- a. Determine the proper sized bolt for use to connect the ERM to the equipment. No more than two bolts are required.
- b. See “Suggested Mounting Locations” for proper mounting orientations. Do not mount to Indicator by drilling housing and using bolts.
- c. Do not overtighten bolts! Lock nuts are recommended to securely fasten the ERM to the mount.

11.0 Connecting ERM-WIFI to Indicator

1. Verify that the Indicator has a J905 port installed.



If no J905 serial port is available the Indicator must be sent in to a Digi-Star Authorized Service Center for an upgrade.

NOTE: The ERM-WIFI device is not compatible with J904 equipped Indicators, such as the EZ2400 & EZ3400. These Indicators can have a J905 port installed by an authorized service center or Digi-Star.

2. Ensure that the software running on the scale Indicator is compatible with the ERM-WIFI.
 - a. To check the current software version of the Indicator, with the Indicator already On press “ON” momentarily.
 - b. The software version is displayed immediately after “PRGID”. Any version that displays “EZ2 9B”, “512 8.J” or newer is compatible. (For example “EZ2 9C” or “512 8.K” would be compatible).
 - c. If the Indicator has software that is older than “EZ2 9B” or “512 8.J” newer software must be installed by Digi-Star or an Authorized Digi-Star Service and Repair Center. Go to www.digi-star.com under the Support tab for details.

12.0 Indicator Option Settings:

In order for the ERM-WIFI to function properly the correct Option Settings must be set on the Digi-Star Scale Indicator that the ERM-WIFI is connected to.

Option Settings are specific to the Indicator or Indicator Family.

Use the information in Sections 12.1 – 12.4 on the next page to determine the correct Option Settings based on the Indicator that the ERM-WIF is connected.

Sections 12.5 & 12.6 provide instructions on how to change the Option Settings of the Indicator.

12.1 EZ3 Series Indicators:

EZ 400/2500/3600/4600 (Std. & “V” Displays)
 GT 400/4600 NT460

EZ3 DAN	Option	Setting
229	EXTRAD	ON
215	COM IN	EZ2CMD
216	PRTFMT	PRTAC5 (Required on GT460 only)
217	MEDIA	DDL if Indicator has no DataKey or USB port DATAKY for DataKey Indicators USB for USB Port Indicators
218	REMOTE	ON for Single Line Displays MTLINE for 3 Line Displays (EZ4600 & GT460)
221	C1 DLY	OFF
224	RMC EN	ON (Required on GT460 only)
228	RADRES	SFTWR
261	PRNT-2	ON

12.2 10-Series Indicators: EZ 2810, EZ 3410 & TMR 3610

EZ4 DAN	Option	Setting
2001	REMOTE	ON
2003	EXTRAD	ON

12.3 GT 560

EZ4 DAN	Option	Setting
2001	REMOTE	MTLINE
2003	EXTRAD	ON
2304	PRTFMT	GT560A
5005	PRPORT	1
6406	RMC EN	ON

12.4 Digi-Star Indicators not listed

Go to Digi-Star website at the following address and download a new version of the D4033 ERM-WIFI User Manual for the required information:

http://digi-star.com/support/1-1/Product_Manuals

12.5 Option Setting changes for Indicators with numeric Key Pads:

1. Directly enter the required D.A.N. number from the appropriate table above on the numeric key pad.
2. Press the SELECT or UP buttons to cycle through available settings.
3. Press ENTER to save.

12.6 Option Setting changes for Indicators without numeric Key Pads:

1. Repeatedly press the SELECT key until MENU is displayed.
2. Press and Hold the FUNCTION key.
3. Press SELECT until Menu 2 is displayed.
4. Press the ON/OFF key until the required Option is displayed.
5. Press the NET/GROSS key until the required Setting is displayed.
6. Press ON/OFF to save the setting and move to the next menu option.

13.0 Bootup:

1. The ERM-WIFI must be connected to the Indicator before the Indicator is turned on. The ERM-WIFI module will not work if plugged into an Indicator that is already on. When the Indicator is turned on the ERM-WIFI Power LED will be Orange, Net and Link LED will be Pink, and Com 2 will be Blue. If the Net and Link LED's stay Pink, power cycle the Indicator.



Figure 6. ERM-WiFi Initially Plugged In

After approximately 10 seconds, the Net and Link LEDs will turn off.



Figure 7. ERM-WiFi With Digi-Star Hotspot Turned Off

2. In approximately 4 seconds, the Link LED should turn Green.



Figure 8. ERM-WiFi With Digi-Star Hotspot Turned On

NOTE: Failure to install any ERM system properly will result in decreased range or performance. Refer to the “Suggested Mounting Locations” section for more details.

14.0 Troubleshooting:

ERM is not turning ON.	<ul style="list-style-type: none">• Ensure power is plugged into indicator.• Ensure indicator is powered ON.• Ensure that a J905 port is installed on the Indicator and PWR LED is ON.• Ensure the indicator is running 9B or newer.• Ensure Indicator settings are configured to work with the ERM
ERM is not communicating	<ul style="list-style-type: none">• Ensure the Digi-Star Hotspot has been joined.• Ensure ERM is connected properly to J905, PWR LED is ON, and the Link light is GREEN.• Ensure that Com 2 Led is BLUE

Technical Support Hotline: 1(920)-563-9700

15.0 Agency Approvals

United States of America

FCC

ID: YOPGS2011MIE

Contains Model GS2011MIE

The enclosed device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (i.) this device may not cause harmful interference and (ii.) this device must accept any interference received, including interference that may cause undesired operation.

Canada

Industry Canada

Contains Model GS2011MIE, IC: 9154A-GS2011MIE

Europe

ETSI



Japan

MIC: 211-140402

16.0 NOTES: