



SmartReader HR3
User Manual

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Gallagher SmartReader HR₃ User Manual

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Overview

The Gallagher SmartReader HR₃ is a Bluetooth enabled hand held Electronic ID reader which allows the user to read and store ISO animal Electronic ID tags. The Gallagher SmartReader HR₃ contains internal memory and internal rechargeable batteries.

The Gallagher SmartReader HR₃ has two modes of operation:

- **Memory Mode** - The captured Electronic ID tag data is stored in the SmartReader in sessions until it is transferred to computer using the MyScale Pro software, and is also immediately sent out the Serial port (via cable) to a Scale or data logging device.
- **Non-Memory Mode** - The captured Electronic ID tag data is immediately sent out the Serial port (via Bluetooth or cable) to a Scale or data logging device.



Tag types read

The Gallagher SmartReader HR₃ enables you to read both HDX (Half Duplex) and FDX-B (Full Duplex-B) Electronic ID tags.

Care and Maintenance

The SmartReader HR₃ is a tough and reliable product designed for use in typical livestock environments. However, proper care and maintenance can extend the SmartReader's life.

Listed below are guidelines for keeping the SmartReader in good condition.

- For optimal battery life, Gallagher recommends that you store the SmartReader in a cool, dry area (15 to 25 ° Celsius) out of direct sunlight.
- After use, clean the SmartReader with a damp cloth. Take care not to scratch the display.

- Recharge the batteries after use and before storing for extended periods.

MyScale Pro

The MyScale Pro software enables you to transfer Electronic ID tag numbers stored in the SmartReader HR₃ memory to a computer.

With MyScale Pro you can perform the following functions:

- Download sessions from the SmartReader.
NOTE: Sessions on the SmartReader are automatically deleted off the reader after downloading.
- Change session file names.
- View and Edit sessions.
- Print sessions.

For further details refer to the *MyScale Pro for SmartReaders User Manual*. *

Configurator software

The Configurator is a software program provided with the SmartReader. It is used to alter user settings on the SmartReader.

The Configurator is for **advanced users** and should be used with care as altering settings affects the operation of the SmartReader.

The Configurator software is automatically installed with the MyScale Pro software or can be installed separately.

For further details refer to the *SmartReader HR₃ Configurator User Manual*. *

* How these documents are accessible to you depends on what option you selected when installing MyScale Pro. Either:

- double-click the shortcut on your desktop, or
- from the **Start** menu, select **All Programs > MyScale**

Note: Adobe Acrobat is needed to be able to read these documents. If not already installed on your PC, it is available on the installation CD (AdbeRdr810_en_US.exe).

User information

Kit Contents

The Gallagher SmartReader HR₃ box contains:

- Gallagher SmartReader HR₃ (Bluetooth enabled)
- Reader to RS232 (weighscale comms/power) cable
- RS232 plug (power socket) to 12v battery cable
- Bluetooth RS232 adaptor with short extension cable
- USB to RS232 cable
- Instruction manual
- 15 V DC battery charger (100-240 VAC)
- MyScale Pro CD

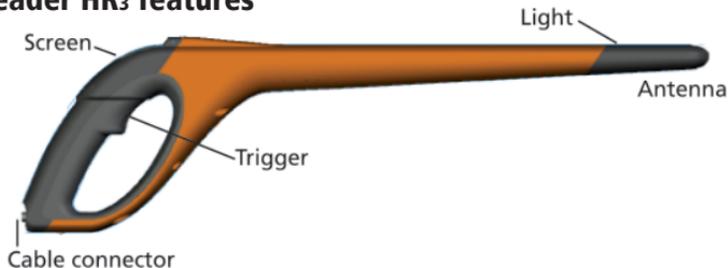
Terminology

The following are terms and abbreviations used throughout this manual:

Bluetooth	Bluetooth is a short-range radio communication technology. It enables data to be transmitted wirelessly over short distances.
Bluetooth module	Mounted in SmartReader handle. Sends Electronic ID tag data to the Bluetooth device (RS232 or USB).
Bluetooth to RS232 device	Connected to the Serial port of the Scale and receives the tag data sent by the SmartReader. Receives Bluetooth communications from the SmartReader and converts the received information into RS232 format so it can be passed onto a Scale. The Bluetooth module in the SmartReader and the Bluetooth device are paired.

Bluetooth to USB device	Connected to the USB port of a computer and receives the tag data sent by the SmartReader. Receives the Bluetooth communications from the SmartReader and passes the information onto a computer for deciphering. (Note: This is not supplied, but is an optional extra.)
Tag Buffer	A temporary storage area in memory for tag data.
Electronic ID tag number	The Electronic ID tag number is the electronic code in an ear tag that can be scanned to recognise an individual animal.
Antenna	Contains the aerial used to capture Electronic ID tag data.
Activate the SmartReader	Turn on the SmartReader ready for use. The screen turns on and allows you to select various user options.
Double-Click	Two quick successive clicks of the SmartReader trigger.
Memory mode	The captured Electronic ID tag data is stored in the SmartReader in sessions until it is transferred to computer using the MyScale Pro software.
Non-memory mode	The captured Electronic ID tag data is immediately sent out the Serial port (via Bluetooth or cable) to a Scale or data logging device.
Read period	The time the SmartReader is actively scanning for Electronic ID tags. Once the read period ends the SmartReader antenna is turned off. Default time is three seconds. This time can be altered. See the <i>SmartReader HR₃ Configurator User Manual</i> .
Scale	A digital weighing display unit that detaches from loadbars and connects to your computer.
Scan for tags	Turn on the SmartReader and single-click the trigger. This activates the antenna and makes it ready to read Electronic ID tag data once the tags move within the reader range.
Single-Click	A single click of the SmartReader trigger.

SmartReader HR₃ features



Trigger

Use the trigger to activate the SmartReader, access the SmartReader menu and collect tag data.

- **Single-Click** - A single click of the SmartReader trigger.
- **Double-Click** - Two quick successive clicks of the SmartReader trigger.

Beeper

The beeper sounds in the following situations:

- on power up
- after a successful Electronic ID tag read
- when the trigger is pulled (single beep)
- on a duplicate tag read (two beeps). See *Duplicate Tags* (p 24)
- if maximum number of sessions reached (long single beep)
- The beeper can be turned on and off. See *SmartReader HR₃ Configurator User Manual*.

Vibrator

The handle will vibrate upon Electronic ID recognition. This is a single vibration period whether the tag is duplicate or unique.

The vibrator can be turned on and off, see *SmartReader HR₃ Configurator User Manual*.

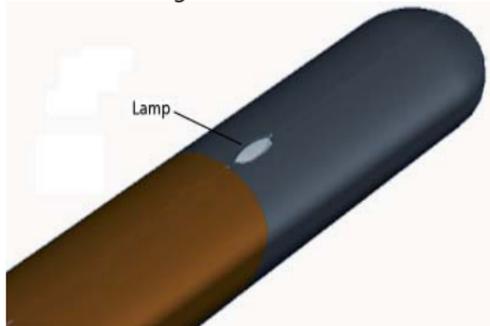
Bluetooth enabled

The SmartReader is Bluetooth enabled. This allows Electronic ID tag data to be wirelessly transmitted to a paired Bluetooth enabled device (e.g. Scale or other data logging devices). This is turned on or off depending on operating mode, which is altered in the Configurator. See the *SmartReader HR₃ Configurator User Manual*.

Lamp

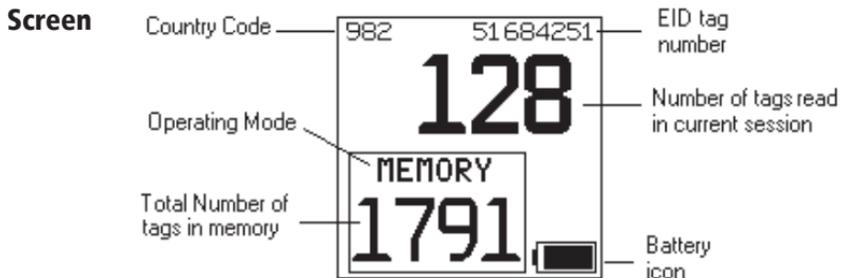
The lamp (red) illuminates for the following reasons:

- When the SmartReader scans for Electronic ID tags, the red lamp flashes on and off.
- On a successful tag read. The lamp remains solid for an extended period.



Note: If a tag is not read within the read period the lamp stops flashing.

The timing of the lamp illumination can be altered, see the *SmartReader HR₃ Configurator User Manual*.



Operating Mode

There are two operating modes on the SmartReader HR₃:

- **Memory mode** - The captured Electronic ID tag data is stored in the SmartReader in sessions until it is transferred to computer using the MyScale Pro software. See the *MyScale Pro for SmartReaders Use Manual*, and the above graphic.
- **Non-Memory mode** - The captured Electronic ID tag data is immediately sent out the Serial port (via Bluetooth or cable) to a Scale or data logging device.

Memory counter

Applicable when in Memory mode only - Displays OFF when in Non-memory mode.

The Memory counter indicates the total number of Electronic ID tags stored in the SmartReader regardless of the number of sessions involved.

The SmartReader HR₃ can store up to 5000 Electronic ID tags. When it reaches 5000, the counter is replaced with the word "FULL".

EID tag number

Displays the full 16 digit Electronic ID tag number of the last read tag.

The first 4 digits identify the country code or the manufacturer. The last 12 digits identify the individual animal.

Bluetooth symbol

If the bluetooth icon is visible on the SmartReader screen, the internal Bluetooth module is communicating to another device (scale or computer).

Note: A visible Bluetooth symbol does not mean the Scale or data logging device is ready to accept the transmitted data. See the appropriate manufacturer's documentation for further information.



Battery Icon

During **operation**, the Battery icon shows the level of charge in the internal battery, see *Battery icon status - Operation* (p 16).

During **charging**, the Battery icon shows the stage of charging, see *Battery icon status - Charging* (p 16).

Cable connector

A **Data and power cable** connects into the Cable connector. This cable enables:

- data to be transferred to a computer
- data to be transferred to scales
- the supplied **15 V battery charger** to charge the internal battery on the SmartReader. See *Charging using the 15 V battery charger* (p 14).
- the **12V battery cable** to charge the internal battery on the SmartReader. See *Charging using a 12 V battery* (p 15).

The cable connector is a serial port. All tag data is automatically sent out this port no matter which operating mode is selected.



Antenna

Any Electronic ID tags that come within 27 cm of the Antenna will be read. If there is more than one tag in the range of the reader, neither tag will get read.



The reader may capture tags up to 33 centimetres (13") away. Range settings are variable. See the *SmartReader HR₃ Configurator User Manual*.

Power options

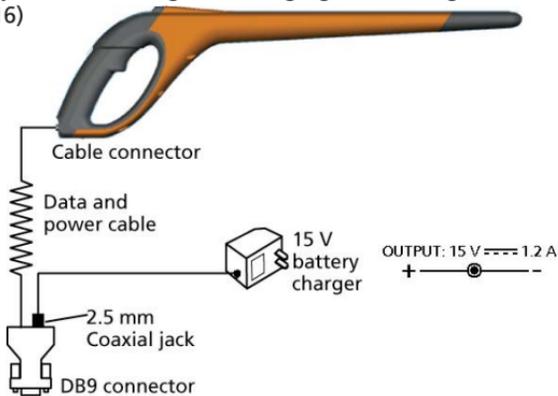
This section describes how to charge the internal battery in the SmartReader and how to operate the SmartReader when the internal battery is flat.

Note: The recommended ambient temperature limits for charging are 10° to 45° Celsius. If the temperature of the reader goes above 45°, the word “TEMP” will replace the battery icon on the screen and the reader will not charge.

Charging using the 15 V battery charger

To charge the SmartReader internal battery using the 15 V battery charger complete the following steps:

1. Plug the **Data and power cable** into the cable connector on the SmartReader.
2. Plug the **15 V battery charger** to the Data and power cable DB9 connector using the 2.5 mm Coaxial plug.
3. Plug the **15 V battery charger** into power socket and switch on.
4. Make sure the battery icon is showing that charging is occurring. See *Battery icon status - Charging* (p 16)

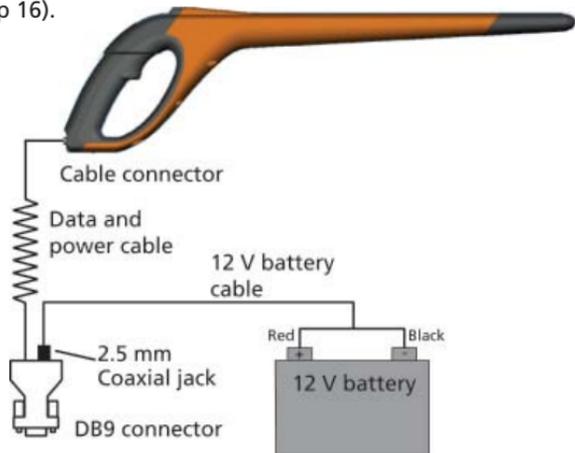


Note: While powered from the 15 V battery charger, Electronic ID tags cannot be read.

Charging using a 12 V battery

To charge the SmartReader internal battery using a 12 V battery, complete the following steps:

1. Plug the **Data and power cable** into the cable connector on the SmartReader.
2. Plug the **12 V battery cable** to the Data and power cable DB9 connector using the 2.5 mm Coaxial plug.
3. Connect the **12 V battery cable** to the 12 V battery. Connect the **Red** lead to the **positive** terminal. Connect the **Black** lead to the **negative** terminal.
4. Make sure the battery icon is showing that charging is occurring. See *Battery icon status – Charging* (p 16).



Note:

While charging using the 12 V battery cable, the reading of Electronic ID tags can continue.

When the trigger is Pulled and the SmartReader is scanning for Electronic ID tags, charging is temporarily stopped until a tag is read or until the read period ends.

Battery icon status - Operation

During operation, the battery icon on the SmartReader screen indicates the actual amount of charge left in the battery.

Note: To show the correct value the SmartReader must be turned on and disconnected from any external power supply.

Fully charged		The battery icon displays as a solid black block.
Partial charged		The battery icon displays a block that represents the amount of charge left in the internal battery pack.
Almost flat		The battery icon flashes the icon outline indicating that the SmartReader is about to shut down.
Completely flat		The screen is blank until a charging cable is connected.

Battery icon status - Charging

When the SmartReader is connected to an external power supply (12 V battery or 15V battery charger) the battery icon displays the charging status:

Charging		Battery icon shows all the bars constantly filling and then disappearing.
Topping up		Battery icon shows the first three bars constantly full and the remainder filling and then disappearing.
Trickle charging		Battery icon shows only one clear bar that is constantly travelling the length of the full icon.

Note: While charging using the 12 V battery cable, the reading of Electronic ID tags can continue. When the trigger is pulled and the SmartReader is scanning for Electronic ID tags, charging is temporarily stopped until a tag is read or until the read period ends.

While connected to the **15 V battery charger**, Electronic ID tags can not be read.

Setting up the SmartReader HR₃

Depending on how you intend using the SmartReader HR₃ you may need to set one or both the following options:

- the SmartReader operating mode, see *Selecting an operating mode* (p 18).
- the connection to Scale, see *Connecting to the Scale* (p 20).
 - Via Bluetooth (wireless)
 - Via cable

Note: You can also connect to a computer or other data logging device. See "Connecting the SmartReader to the computer" in the *SmartReader HR₃ Configurator User Manual*.

Operating modes

The SmartReader has two operating modes:

Memory Mode:

The captured Electronic ID tag data is stored in the SmartReader in sessions until it is transferred to computer using the MyScale Pro software.

If you are in **Memory mode** the following screen displays:



Non-Memory Mode:

1. If you are in **Non-memory mode** the following screen displays:
2. The captured Electronic ID tag data is immediately sent out the Serial port (via Bluetooth or cable) to a Scale or data logging device.



Selecting an operating mode

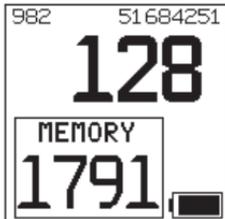
1. Activate the SmartReader (a Single-Click on the trigger).
The introduction screen displays briefly:



A Bluetooth connection attempt is made:



If not required, a single trigger click will cancel this attempt.
A screen similar to the following displays:



2. Identify the current operating mode.

If in Memory mode, the screen displays:	 The screen displays the word "MEMORY" in large, bold, black capital letters at the top. Below it, the number "7" is displayed in a very large, bold, black font.	If in Non-memory mode, the screen displays:	 The screen displays the word "MEMORY" in large, bold, black capital letters at the top. Below it, the word "OFF" is displayed in a very large, bold, black font.
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3. Determine which operating mode you need to be in.
4. If you need to change the operating mode, double-click the SmartReader trigger to access the menu options.

If in Memory mode, the screen displays:	 The screen displays the following text in black, centered: "CLICK START NEW", "DOUBLE CLICK MEMORY OFF", and "EXIT MENU 20".	If in Non-memory mode, the screen displays:	 The screen displays the following text in black, centered: "CLICK ZERO COUNT", "DOUBLE CLICK MEMORY ON", and "EXIT MENU 20".
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To select an option use the trigger and **Single Click** or **Double-Click** as required. If neither option is selected within 20 seconds the menu clears and the main screen displays.

Note: Delay period is able to be altered with the Configurator.

Memory mode options

New Session

Single-Click the trigger to close the current session and create a new session.

All Electronic ID tags read from that point on are saved into this new session.

The Memory counter is unaffected by this option.

See *Memory Counter* next.

Memory Counter

The Memory counter is only applicable when in **Memory mode**.

Once the memory is full, the **Memory counter** displays **FULL**. Note however that even when the memory is full, if a new EID tag is read the number of tag reads in the current session still increases (in the example shown, 28 is the number of tag reads).

Note: Once the memory is full in Memory mode, each time you read a new EID tag, by default, the oldest EID tag data is deleted and the newest EID tag data is stored. This can be changed using the 'Overwrite' setting in Configurator. For further details refer to the *SmartReader HR₃ Configurator User Manual*.



The Memory counter is returned to **0** by downloading tag data using MyScale Pro. For further details refer to the *MyScale Pro for SmartReaders User Manual*.

Session Limit

The SmartReader has a session limit of 100. While the current session number cannot be identified, if you reach the session limit the following screen displays:

If this occurs, you should immediately download the sessions using MyScale Pro. However, you can continue to read and store tags to the current session, providing there is sufficient space within the current session, or it has been configured to allow this. Refer to the *SmartReader HR₃ Configurator User Manual*.



Non-Memory mode options

Zero count

Single-Click the trigger to reset the number of tags read in the current session. Only applicable when in **Non-memory** mode.

Connecting to the Scale

When operating in **Non-memory** mode, you need to setup how the read Electronic ID tag data is to be transferred to a Scale.

There are two methods:

- Bluetooth (wireless), see *Bluetooth to Scale*. (p 21)
- Data and power cable, see *Data cable to Scale* (p 22).

Once you have set up the connection you need to test the connection, see *Testing the connection between Scale and SmartReader* (p 23).

Note: You can also connect to a computer or other data logging device. See “Connecting the SmartReader to the computer” in the *SmartReader HR₃ Configurator User Manual*.

Setting up the Scale

Consult the User Manual supplied with your scale. It is likely you will have to set the time and date and assign a communications port (the SmartReader connects to COM 2 on the Gallagher Scale).

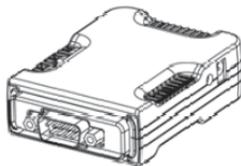
Bluetooth to Scale

1. Using the short Serial cable, plug the supplied Bluetooth to RS232 adaptor into the Scale (On a Gallagher Scale connect to Port 2).

Consult the scale User Manual to turn on the Scale and set it up to receive the Electronic ID tag data.

Note: Check that the switch on the side of the adaptor is set to the furthest position, (i.e. ‘PoRI’ on some adaptors), from the DB9 adaptor.

2. Activate the SmartReader or access the Bluetooth connection screen via the Click Trigger menu. The SmartReader screen activates and the following screen displays:



The Bluetooth icon displays on the SmartReader main screen if connection is made between the SmartReader and the Bluetooth to RS232 adaptor, or Bluetooth to USB adaptor.

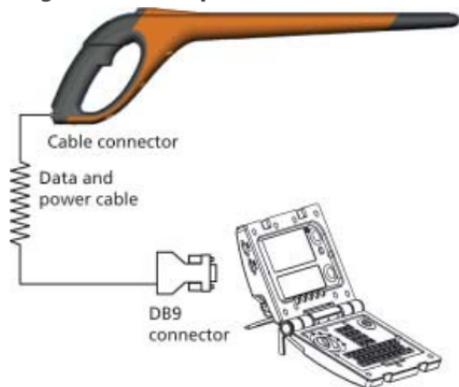


3. Test the connection between the Scale and the SmartReader, see *Testing the connection between Scale and SmartReader* (p 23).

Note: If you are connecting to a computer or other data logging device you need to have software running (not supplied) to collect the Electronic ID tag data.

Data and power cable to Scale

1. Plug the **Data and power cable** into the cable connector on the SmartReader.



2. Plug the **Data and power cable** DB9 into the Scale.
On a Gallagher Scale connect to Port 2.
3. Turn on the Gallagher Scale.
4. Set up the Gallagher Scale to receive the Electronic ID tag data. See *Setting up the Scale* (p 21).

Note: If you are connecting to a computer or other data logging device you need to have software running (not supplied) to collect the Electronic ID tag data.

5. Test the connection between the Scale and the SmartReader, see *Testing the connection between Scale and SmartReader* (p 23).

Pairing the RS232 Adaptor with your SmartReader

The process of pairing the RS232 Adaptor with the SmartReader is carried out by your Gallagher distributor. If you are receiving the Bluetooth adaptor with your SmartReader, the pairing will already be in effect. If you are having difficulties, take your SmartReader and your adaptor to your nearest distributor for pairing.

Testing the connection between Scale and SmartReader

Once the connection between the SmartReader and Scale is established you need to test the Scale is receiving the Electronic ID tag data from the SmartReader.

1. Activate the SmartReader.
2. Scan an Electronic ID tag.
3. Did the Electronic ID tag number display on the Scale?
 - If **yes**, the connection is working.
 - If **no**, the connection is not working.
Check the following:
 - that you have set up the Scale communications port.
 - that the Bluetooth connection icon is visible on the SmartReader.
 - the Bluetooth light is visible on the Bluetooth adapter.
 - that the Scale is set up correctly (refer to the *MyScale Pro for SmartReaders User Manual*).

Using the SmartReader

Once you have set up the SmartReader you are ready to use it to capture Electronic ID tag data.

For details on how to set up the SmartReader, see *Setting up the SmartReader* (p 17).

1. Single-Click the trigger to activate the SmartReader.
2. Single-Click the trigger to scan for Electronic ID tags.
3. Move the tip of the SmartReader towards the Electronic ID tag on the animal. Once an Electronic ID tag is read the SmartReader beeps and the lamp illuminates for an extended period.
4. Repeat from step 2 until all animals Electronic ID tags are read.

Notes:

- The SmartReader beeps twice if a duplicate tag is read.
- The SmartReader stops scanning for Electronic ID tags once a tag is read. You need to Single-Click the trigger to scan for the next Electronic ID tag.
- If an Electronic ID tag is not read within the read period the SmartReader stops scanning for tags.
- If the SmartReader is not used for a period it may timeout to conserve battery power. Reactivate with a single trigger click.

Duplicate tags

Duplicate tags are placed in a temporary storage area referred to as a buffer. The tag buffer can store data for up to 50 tags. A tag will only be retained for a defined period of time (the SmartReader must be activated for this time to decrement). These settings are able to be altered with the Configurator. For further details refer to the *SmartReader HR₃ Configurator User Manual*.

The tag buffer is emptied each time a new session is created, or the session count is reset to zero.

Accessories

USB Bluetooth Adaptor

Gallagher is able to supply an adapter (part number G03202) that uses a USB port to enable your computer to make wireless communication with your SmartReader.

The wireless connection can be used to download sessions or to connect to the Configurator.

Many modern computers are manufactured “Bluetooth enabled” and this accessory is not required for those models.

Specifications

Waste Electrical and Electronic Equipment



This symbol on the product or its packaging indicates that this product must not be disposed of with other waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city recycling office or the dealer from whom you purchased the product.

Approvals and Standards

FCC 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.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION

Changes or modifications not expressly approved by Gallagher Group Limited could void the user's authority to operate the equipment.



TWO YEAR WARRANTY

FOR THIS PRODUCT FROM DATE OF PURCHASE

MODEL

- Failure to follow care and maintenance guidelines described in the User Manual

.....
SERIAL NO

- Physical Mishandling

.....
DATE PURCHASED

- Lightning Strike

- Floods, fires or acts of God

- Use of an arc welder on loadbars or equipment or steelwork attached to loadbars while a WeighScale is connected

.....
This product is guaranteed free from defects in material or workmanship for a period of two years from date of purchase by the end user. Gallagher will repair or replace at their option any faulty product returned to them or their Dealer within this time period. Freight/forwarding costs incurred by the Customer in the warranty process remain the responsibility of the Customer.

Gallagher, their Distributors, and their Dealers accept no responsibility for the misuse of this product.

Gallagher, their Distributors, and their Dealers accept no responsibility for any accident caused subsequently to any tampering with or modification to or misuse of this product.

This warranty does not cover damage (including subsequent corrosive damage) due to:

Gallagher, their Distributors, and their Dealers accept no liability for consequences and/or secondary damages or losses of any kind sustained directly or indirectly, a result of failure or defect in any product, material, installation or service.

- Unauthorised repairs
- Modifications

PLEASE READ INSTRUCTIONS CAREFULLY BEFORE USE.
PLEASE COMPLETE DETAILS AND KEEP WITH YOUR RECEIPT — IT IS YOUR
PROOF OF WARRANTY