

MULTI-POWER FENCE ENERGIZER

MBS100

MBS200

MBS400

MBS800

Instructions - ENG

Installatie instructies - NED

Notice d'installation - FRA

Betriebsanleitung - DEU

Monteringsvejledning - DAN

Instrucciones - ESP

Monteringsinstruktioner - SVE

Istruzioni per l'installazione - ITA

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Gallagher MBS100 MBS200 MBS400 MBS800
Multi-Power Energizer User Manual (for Animals)
Électrificateur de clôture pour animaux

3E4723 - Edition 3 - December 2018

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Contents

English	4
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Important Information	4
Overview	7
Installation Instructions	8
Understanding Your Energizer	13
Important Battery Information.....	15
Tips & Troubleshooting.....	16
Product Specifications	17
Waste Electrical And Electronic Equipment	18
Nederlands	19
<hr/>	
Belangrijke informatie	19
Overzicht	22
Installatieaanwijzingen	24
Begrijp uw schrikdraadapparaat	29
Belangrijke accu-informatie	31
Tips & Problemen Oplossen	32
Afgedankte elektrische en elektronische apparaten	33
ProductSpecificaties	34
Français	35
<hr/>	
Information Importante	35
Vue d'ensemble	39
Notice d'Installation	40
Comprendre l'électrificateur	45
Informations importantes sur la batterie.....	47
Conseils et Résolution de problèmes	48
Déchets d'équipements électriques et électroniques	49
Spécifications du produit.....	50
Deutsch	51
<hr/>	
Wichtige Informationen.....	51
Übersicht.....	55
Installationsanleitung	56


Ihres Elektrozaungerätes	61
Wichtige Batterieinformation.....	63
Tipps & Fehlersuche	64
Elektrische und elektronische Abfallprodukte.....	65
Produkt-Spezifizierungen.....	66
Dansk	67
Vigtig Information.....	67
Oversigt.....	70
Installationsanvisninger.....	71
Forstå din spændingsgiver.....	76
Vigtig information om batterier	78
Goder råd & fejlfinding	79
Affald af elektrisk og elektronisk udstyr.....	80
Produktspecifikationer	81
Español	82
Información Importante	82
Descripción general	85
Guía de instalacion	86
Entienda su energizador	91
Información Importante Sobre la Batería	93
Desecho de componentes y equipos electrónicos.....	93
Consejos y resolución de problemas.....	94
Especificaciones del producto.....	95
Svenska	96
Viktig information.....	96
Översikt.....	99
Installationsanvisningar.....	100
Lär dig förstå aggregat.....	105
Viktig batteriinformation.....	107
Tips & Felsökning	108
Produktspecifikationer	109
Avfall elektrisk och elektronisk utrustning.....	110

Informazioni Importanti	111
Panoramica	114
Istruzioni per l'installazione.....	115
Conoscere L'elettrificatore.....	120
Importanti informazioni sulla batteria	122
Consigli e risoluzione dei problemi.....	123
Specifiche tecniche	124
Rottamazione attrezzature Elettriche od Elettroniche.....	125

IMPORTANT INFORMATION

WARNING: Read all instructions.

Save these instructions.

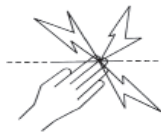
- **WARNING - Disconnect battery from energizer before charging.**
- **WARNING -** The appliance is not intended for use by young children or infirm persons without supervision.
- Young children should be supervised to ensure that they do not play with the appliance.
- Regularly inspect the supply cord, cables, wires and energizer for any damage. If found damaged in any way, immediately cease use of the energizer and return it to a Gallagher Authorised Service Centre for repair in order to avoid a hazard.
- It is recommended that, in all areas where there is a likely presence of unsupervised children who will be unaware of the dangers of electric fencing, that a suitably rated current limiting device having a resistance of not less than 500 ohms be connected between the energizer and the electric fence in this area.
-  Suitable to use with external power supply. Use only the Gallagher safety isolating power supply unit provided with this energizer.
- Do not use the energizer with non-rechargeable batteries.
- Refer servicing and replacement batteries to a Gallagher Authorised Service Centre.
- Check your local council for specific regulations.
- Fence wiring should be installed well away from any telephone or telegraph line or radio aerial.
- Well maintained electric fences kept clear of vegetation with high quality insulation are extremely unlikely to cause fires. In times of extreme fire risk, disconnect energizer.
- Do not mount in places exposed to heat sources (e.g. a sun heated metal wall.)
- Do not connect two Energizers to the same earth system.
- If connected to a mains power circuit that doesn't have a Residual Current Device (RCD), then a plug-in RCD should always be used.
- Electric animal fences shall be installed and operated so that they cause no electrical hazard to persons, animals or their surroundings.

- Do NOT become entangled in the fence. Avoid electric fence constructions that are likely to lead to the entanglement of animals or persons.
- **WARNING - INSTALLERS/USERS SHOULD NOTE:** Avoid contacting the fence with the head, mouth, neck or torso. Do not climb over, through or under a multi-wire electric fence. Use a gate or a specially designed crossing point.
- An electric animal fence shall not be supplied from two separate energizers or from independent fence circuits of the same energizer.
- For any two separate electric animal fences, each supplied from a separate energizer independently timed, the distance between the wires of the two electric animal fences shall be at least 2.5m. If this gap is to be closed, this shall be effected by means of electrically non-conductive material or an isolated metal barrier.
- Barbed wire or razor wire shall not be electrified by an energizer.
- A non-electrified fence incorporating barbed wire or razor wire may be used to support one or more off-set electrified wires of an electric animal fence. The supporting devices for the electrified wires shall be constructed so as to ensure that these wires are positioned at a minimum distance of 150 mm from the vertical plane of the non-electrified wires. The barbed wire and razor wire shall be earthed at regular intervals.
- Follow the energizer manufacturer's recommendations regarding earthing.
- Do not install an earth (ground) system for your electric fence within 10 m (33 ft) of any power, telecommunications or other system.
- Use high voltage lead-out cable in buildings to effectively insulate from the earthed structural parts of the building and where soil could corrode exposed galvanized wire. Do not use household electrical cable.
- Connecting leads that are run underground shall be run in conduit of insulating material or else insulated high voltage lead-out cable shall be used. Care must be taken to avoid damage to the connecting leads due to the effects of animal hooves or tractor wheels sinking into the ground.
- Connecting leads shall not be installed in the same conduit as the mains supply wiring, communication cables or data cables.
- Connecting leads and electric animal fence wires shall not cross above overhead power or communication lines.
- Crossings with overhead power lines shall be avoided wherever possible. If such a crossing cannot be avoided it shall be made underneath the power line and as nearly as possible at right angles to it.
- If connecting leads and electric animal fence wires are installed near an overhead power line, the clearances shall not be less than those shown in the table below.

Minimum clearances from power lines for electric animal fences

Power line Voltage V	Clearance m
Less than or equal to 1 000	3
Greater than 1 000 and less than or equal to 33 000	4
Greater than 33 000	8

- If connecting leads and electric animal fence wires are installed near an overhead power line, their height above the ground shall not exceed 3 m
This height applies either side of the orthogonal projection of the outermost conductors of the power line on the ground surface, for a distance of:-
 - 2 m for power lines operating at a nominal voltage not exceeding 1 000 V;
 - 15 m for power lines operating at a nominal voltage exceeding 1 000 V.
- Electric animal fences intended for deterring birds, household pet containment or training animals such as cows need only be supplied from low output energizers to obtain satisfactory and safe performance.
- In electric animal fences intended for deterring birds from roosting on buildings, no electric fence wire shall be connected to an earth stake. A warning sign shall be fitted to every point where persons may gain ready access to the conductors.
- Where an electric animal fence crosses a public pathway, a non-electrified gate shall be incorporated in the electric animal fence at that point or a crossing by means of stiles shall be provided. At any such crossing, the adjacent electrified wires shall carry warning signs.
- Any part of an electric animal fence that is installed along a public road or pathway shall be identified by electric fence warning signs (G6020) at regular intervals that are securely fastened to the fence posts or firmly clamped to the fence wires.
- The size of the warning sign shall be at least 100mm x 200mm.
- The background colour of both sides of the warning sign shall be yellow. The inscription on the sign shall be black and shall be either:
 - the substance of "CAUTION: Electric Fence" or,
 - the symbol shown:
- The inscription shall be indelible, inscribed on both sides of the warning sign and have a height of at least 25mm.
- Ensure that all mains operated, ancillary equipment connected to the electric animal fence circuit provides a degree of isolation between the fence circuit and the supply mains equivalent to that provided by the energizer.
- Protection from the weather shall be provided for the ancillary equipment unless this equipment is certified by the manufacturer as being suitable for use outdoors, and is of a type with a minimum degree of protection IPX4.



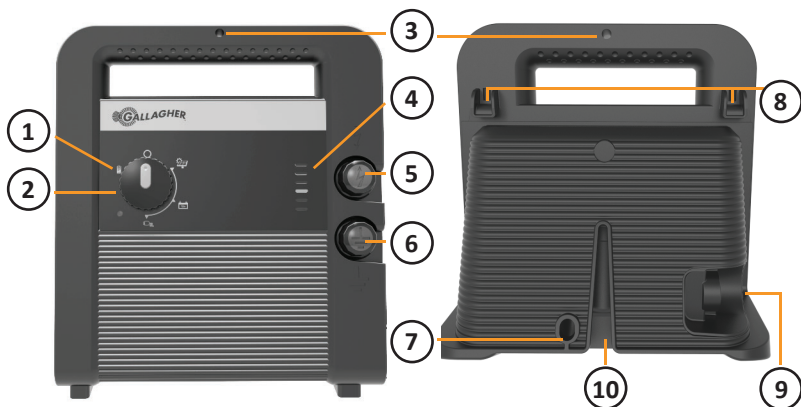
This energizer complies with international safety regulations and is manufactured to international standards.









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OVERVIEW



1	Low Battery Indicator	Red Flashing	Battery needs maintenance. See <i>Troubleshooting</i> p. 16.
2	Mode Selector Switch	 - Battery check  - OFF  - Solar and battery mode  - Battery only mode  - Mains power mode	
3	Mounting hole	Post / Wall mounting hole	
4	LED Bar Graph Indicator	Indicates fence performance with each fence pulse and battery health when in battery check mode.	
5	Fence Terminal 	Connects to fence	
6	Earth Terminal 	Connects to earth/ground stake	
7	Padlock attachment		
8	Wire hooks	For hanging the energizer on a fence wire	

9	Power connection	Connect 12V battery leadset or external mains power adaptor.
10	Steel post mount	Enables mounting on T-Post, Y Post or similar

INSTALLATION INSTRUCTIONS

Step 1. Mount the Energizer

Mount the energizer on a post or wall, out of reach of children. Install in a place where there is no risk of the energizer incurring mechanical damage, and where there is no risk of the leads being chewed by animals. If possible, install away from heavy electrical equipment e.g. pumps or other items that may cause electrical interference.

Permanent Installation

- Drill a single hole using a 4mm (5/32") diameter drill for timber walls, or a suitable wall plug for brick and concrete walls. (Figure 1.)
- Fix the 32mm screw provided into the wall leaving the head of the screw 3mm (1/8") out from the wall. (Figure 2.)
- Place the energizer over and slide down onto the mounting screw. (Figure 3.)
- Secure energizer by fixing the 50mm screw into the wall through the hole in the handle. (Figure 4.)

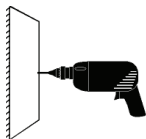


Figure 1

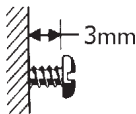


Figure 2

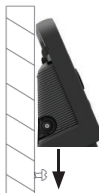


Figure 3



Figure 4

Permanent Fence

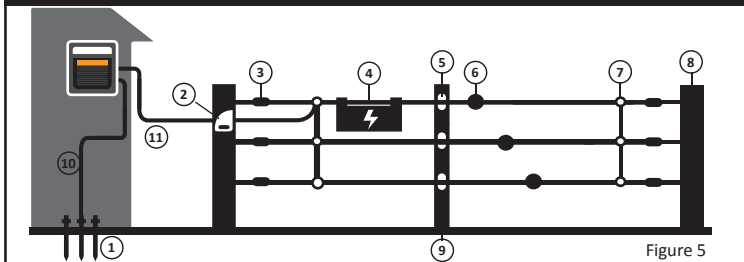


Figure 5

- | | | | |
|---------------------|-------------------|-----------------|---------------------------|
| 1. Ground rods | 4. Warning sign | 7. Joint clamps | 10. Earth Leadout (Green) |
| 2. Cut out switch | 5. Post insulator | 8. Strain post | 11. Live Leadout (Red) |
| 3. Strain insulator | 6. Wire tightener | 9. Line post | |

Portable Installation

Mount the energizer on a post, (Figure 6) or alternatively, hang the energizer directly onto a fence using the built-in wire hooks.

Portable Fence

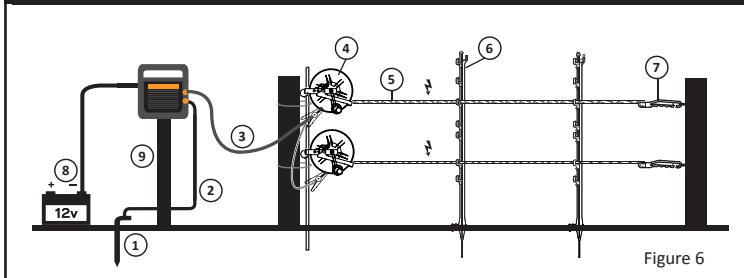


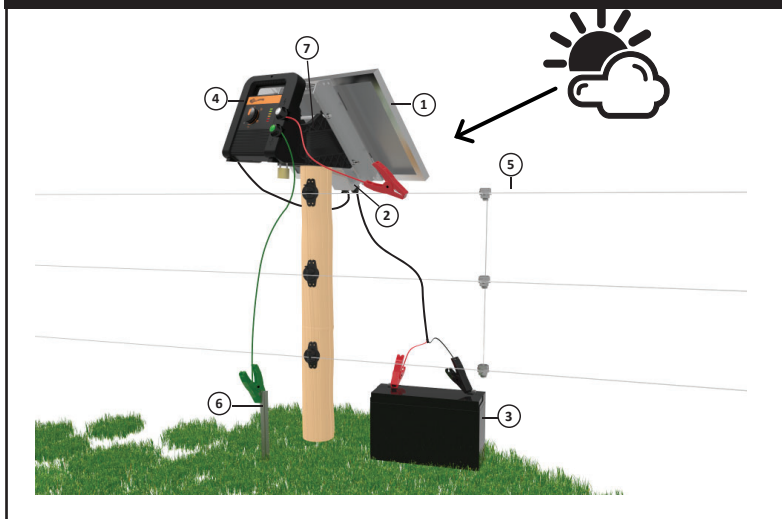
Figure 6

- | | | |
|------------------|------------------------|---------------------|
| 1. Ground rod | 4. Reel | 7. Insul-grip |
| 2. Earth (Green) | 5. Polywire/Turbo wire | 8. Leadset /Battery |
| 3. Live (Red) | 6. Tread in Post | 9. Post |

Solar installation

Mount Energizer to the Gallagher solar bracket in a place where there is no risk of mechanical damage. (Complete installation instructions come with the Solar Bracket Kitset G49521 and G49541).

Solar Powered



- | | | | |
|----------------|--------------|----------------|------------|
| 1. Solar panel | 3. Battery | 5. Fence | 7. Bracket |
| 2. Regulator | 4. Energizer | 6. Earth stake | |



CAUTION:

Never leave the energizer face down.



Step 2. Connect Earth and Fence

Permanent Installation

Connect the red and green energizer terminals to the fence and earth stake using lead-out cable. Attach lead-out cable to the fence using a joint clamp. (Figure 5)

Portable Installation

Using the leadsets provided:

- Connect energizer earth (green) terminal to the earth stake installed at least 3 ft (1 m) into the ground. (Figure 7)
- Connect energizer fence (red) terminal to the fence.

Step 3. Connect the Power

- Ensure energizer switch is set to OFF before connecting power.
- Ensure the fence is ready to operate.

Battery

Using the supplied battery leadset:

- Insert battery leadset into the power socket of the energizer.
- Connect red lead to the (+) terminal of the battery,
- Connect black lead to the (-) terminal of the battery.

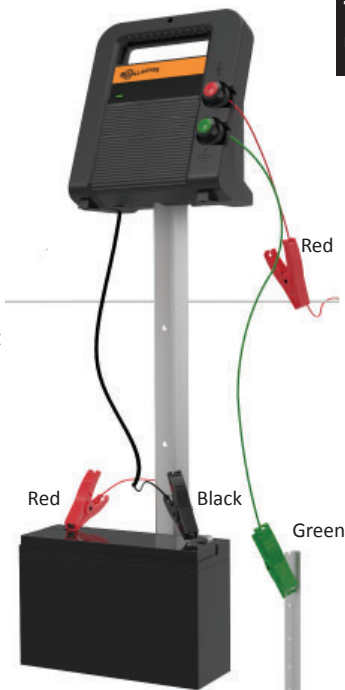


Figure 7

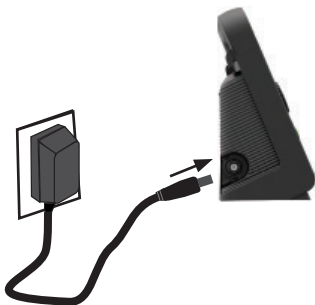
Important: ONLY use a 12 V deep cycle lead acid rechargeable battery.

Mains Power

Connect energizer to mains power using the supplied mains power adaptor.



CAUTION: Energizer must be installed under cover when connected to mains power.



110/230 VAC mains power DC adapter








Solar

The energizer can be installed with solar panels and batteries as part of a solar installation. (Refer to Solar Kit instructions for full installation details.)

UNDERSTANDING YOUR ENERGIZER

Using the Mode Selector Switch




	Mode	Description
	Battery Check	The battery charge level is displayed on the bar graph. Battery voltage will be displayed for approximately 10 seconds only to conserve battery. To recheck battery, switch off the energizer then switch back to battery check mode.
	OFF	Energizer is OFF. If you are not using the energizer for extended periods, disconnect the battery from the energizer.
	Solar	Smart battery management ensures the energizer operates continuously. If the battery voltage is low due to prolonged periods of low sunlight, the energizer will reduce stored energy and pulse rate to protect the battery from long term damage.
	Battery	Energizer operates at maximum energy and normal pulse rate until 40% of battery capacity remains. Suitable for users who require best energizer performance and are prepared to replace the battery when needed.
	Mains Power	Energizer operates at maximum energy and normal pulse rate. Suitable for indoor permanent installations where mains power is available.

Note: The energizer stops pulsing if the battery drops below 10% to protect the battery from permanent damage. The energizer will turn on again automatically if the battery voltage increases again. (For example if a solar panel is connected and starts recharging the battery.)

Bar Graph

The output voltage and battery health bar chart provide convenient feedback on the performance of your energizer system.




Output Voltage

Green 	Fence OK
Yellow 	Fence is under some load, still delivering an effective shock but needs attention.
Red 	Fence is under heavy load and requires maintenance.

Battery Check Mode

Battery check mode displays the battery condition over the past few days.



Green 	Battery OK
Yellow 	Battery needs charging.
Red 	Battery needs attention.

Low Battery Warning



The low battery warning LED will flash red in any switch position (except OFF) to indicate the battery has less than 40% charge remaining.

IMPORTANT BATTERY INFORMATION

Battery Type	Use 12V deep cycle lead acid batteries. Batteries of the same type and manufacture can be connected in parallel to increase capacity.
Battery Replacement	Switch energizer OFF. Disconnect energizer from the battery. Replace with fully charged battery for best performance.
Battery Charging	Batteries must be in a well ventilated area while charging. Charge batteries before storage.
Battery Storage	Store batteries in a dry place between 0 deg C and 30 deg C. Do not leave batteries below 50% charge (12 V) for a prolonged period of time.
Disposing Batteries	All lead acid batteries must be disposed of safely according to local regulations. Use suitable protective clothing and containers for any leaking batteries.

TIPS & TROUBLESHOOTING

Symptom	Problem	Solution
Energizer has started to run slowly	The internal temperature of the energizer is too high.	Mount the energizer in a cool area, out of direct sunlight and with adequate ventilation.
	Low battery capacity	Check battery voltage using the battery check mode. Replace with fully charged battery or ensure solar panel is getting enough sun to allow batteries to charge.
Energizer does not operate	Battery has less than 10% capacity remaining.	Replace with fully charged battery or ensure solar panel is getting enough sun to allow batteries to charge.
	Energizer is Off	Check power source is connected. Ensure mode selector switch is ON.
	Faulty energizer	Have energizer repaired
Electric fence voltage is below 3000V or your stock are escaping	Faulty energizer	Disconnect energizer from fence and earth. Measure across the fence and earth terminals using a Gallagher fence volt meter. If the voltage is less than 5000v, have energizer repaired.
	Inadequate earthing	Improve the earth system by adding more galvanised earth stakes to the earth system until the earth voltage is 200V or below.
	Loose Connections	Check the electrical connections are secure e.g. from the fence to the red terminal, from the earth system to the green terminal, at gates etc.

Symptom	Problem	Solution
	Short on the fence line	Check the voltage on the fence every 33m (100ft) using Gallagher Fault Finder. The closer to a fault, the lower the voltage reading will be. Become aware of things that cause faults and always be on the lookout for: stray pieces of wire on the fence, heavy vegetation growth, cracked or broken insulators, broken wires.

PRODUCT SPECIFICATIONS

	MBS100**	MBS200	MBS400	MBS800
Battery Type	12 V	12 V	12 V	12 V
Battery Performance	18 days*	12 days*	9 days*	5 days*
Peak Current	285 mA	310 mA	900 mA	1000 mA
Average Current	118 mA	176 mA	195 mA	331 mA
Output Voltage (no load)	8.1 kV	9.0 kV	9.1 kV	9.2 kV
Stored Energy	1.25 J	2J	4J	8 J (USA, NZ, AUS) 7.55 J (Europe)
Output Energy	0.97 J	1.5 J	3.0 J	5.9 J (USA, NZ, AUS) 4.7 J (Europe)
Dimensions: HxWxD	221mm x 203mm x 107mm		280mm x 260mm x 140mm	
Weight	1.31 kg		2.6 kg	2.9 kg
IP Rating	IPX4			
Mains Adaptor	Input: 110-240 Vac, Output 15 V 0.8A, 12W Europe - G40121, North America - G40123, AUS/NZ - G40125			

*based on a fully charged 100 Ah battery.

**MBS100 Not available in Europe or North America.

WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT



This symbol on the product indicates that this product, packaging and with special care of the battery 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.



ENG - WARRANTY

Register your product online at www.gallagherams.com and receive the following benefits:

- Helpful customer service and technical support.
- A record which can help if your product is lost or stolen.
- Notification of special offers and product updates (optional).

2 YEAR WARRANTY for this product from the date of purchase.

A dated sales receipt/invoice is essential for any future warranty claim. In addition please complete the details below and keep this card OR simply register your product online at

www.gallagherams.com

NED - GARANTIE

Registreer uw product online www.gallagherams.com en profiteer van de volgende voordelen:

- Klantenservice en technische ondersteuning
- De mogelijkheid om aan te aangeven wanneer uw product verloren of gestolen is.
- Melding van speciale aanbiedingen en product updates (optioneel)

2 JAAR GARANTIE op dit product vanaf de aankoopdatum. Een gedateerde aanschaffbon/factuur is essentieel bij het claimen van garantie. Vul de gevraagde gegevens onderstaand in en bewaar deze kaart goed of registreer uw product op www.gallagherams.com

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- Déclaration de perte ou de vol
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DEUX ANS DE GARANTIE à compter de la date d'achat. Une facture d'achat datée doit être présentée pour toute éventuelle déclaration. Merci également de compléter et de garder la carte ci-dessous OU BIEN d'enregistrer votre produit sur www.gallagherams.com.

Model/Type/Modèle

Purchase Date/Aankoopdatum/Date d'achat

Serial No./Serie nummer/Numéro de série

Dealer/Aankoppunt/Distributeur

ENG - WARRANTY CONDITIONS

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. This excludes any consumables provided with, or inside, the product where the warranty period is 90 days (e.g. cleaning materials; batteries - rechargeable and non-rechargeable; etc.). Gallagher will repair or replace at their option any faulty product returned to them or their Dealer within this time period. Exchange modules are guaranteed for 90 days from date-of-fitting.

This warranty does not cover damage due to: incorrect input voltage, contamination by battery acid, physical mishandling, lightning strike, water immersion, damage to external wiring. Gallagher, their Distributors and their Dealers accept no responsibility for the misuse of this product or for any accident caused by tampering with or modification to or misuse of this product. This does not affect your statutory rights.

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