

Wireless Hot Foot with 14 Pin Receiver For Miller Welders

Weld Like a Pro
An ARC-ZONE.COM Product
Selection Guide

Operations Manual



Satisfaction Guarantee

Arc-Zone.com, Inc. warrants each new product against defects in material and workmanship for one year after the date of purchase. The owner of the equipment is responsible for removing and returning any defective unit(s) to Arc-Zone.com, Inc.

Arc-Zone.com, Inc. will repair or replace defective product without charge at its discretion. If the products are determined not to be defective or beyond the warranty period upon inspection by Arc-Zone, the customer may be held responsible for transportation charges. Exclusions from this warranty are abuse to the finish and any condition(s) determined by Arc-Zone.com, Inc. to have been caused by abnormal use or service. This warranty shall not apply to any Arc-Zone.com, Inc. product that has been improperly installed or altered from its original state.

Arc-Zone.com, Inc. reserves the right to discontinue or change specifications, designs, or materials on standard catalog items without notice. All product changes will be consistent with sound engineering principles and modern practices; such that fit, form, and function are not significantly altered. Changes made to custom special items will be communicated in advance to all relevant customers.

Claims for damage in shipment should be filed promptly with Arc-Zone. All correspondence covering the instrument should specify the model and serial number.

Arc-Zone.com, Inc. will make available on request such circuit diagrams, component drawings, component parts lists, descriptions, calibration instructions, or other information, which will assist the users or appropriately qualified technical personnel to repair those parts of the equipment which are classified by Arc-Zone as repairable.

Responsibility of Manufacturer

Arc-Zone is responsible for the effects on safety, reliability, and performance if:

- Assembly operations, extensions, readjustments, modifications, or repairs are carried out by persons authorized by Arc-Zone.com, Inc.
- The wireless control is used in accordance with the instructions for use.

IT IS THE RESPONSIBILITY OF THE USER to determine the suitability of a wireless control for the user's intended use and to determine that the wireless control chosen by the user and wiring up and installation of the same will comply with all Federal, State and Local safety and health regulations and codes.

Safety

The information presented in this section is important for the safety of the operator and also serves to enhance equipment reliability. This section describes how the terms Warning, Caution, Important and Note are used throughout the manual. In addition, Arc-Zone's standard equipment symbols are defined.

General Use

If the wireless control is cold to the touch or below ambient temperature, allow it to stabilize before use.

Periodically, whenever the integrity of the wireless control system is in doubt, test all functions. The wireless control has not been evaluated as functional safety devices for protection of humans or equipment.

Definitions Of Terminology

Four types of special notice are used throughout this manual. They are: Warning, Caution, Important, and Note. The warnings and cautions in this safety section relate to the equipment in general and apply to all aspects of the wireless control. Be sure to read the other chapters because there are additional warnings and cautions, which relate to specific features of the wireless control.

- **Warning**-A WARNING indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.
- **Caution**-A CAUTION indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury. Cautions are also used to avoid damage to equipment.
- **Important**-An IMPORTANT notice indicates an emphasized note. It is something you should be particularly aware of, something not readily apparent.
- **Note**-A NOTE indicates a particular point of information, something on which to focus your attention.

Warnings

- Read and follow all safety and operating instructions listed in this manual before installing, using, or servicing the wireless control system.
- Always disconnect the receiver from equipment before servicing the wireless control system.
- Use only genuine parts from Arc-Zone.
- To avoid personal injury, do not use this wireless control on machinery with an unguarded point of operation.
- Use of wireless control on machinery lacking effective point of operation safeguards can cause serious injury to the operator.

Wireless control should only be used where "Point of Operation" and "Pinch Point" guarding devices have been properly installed and are utilized so that it is **IMPOSSIBLE** for the operator's hands or fingers to remain within the point of operation during the machine cycle.

Accidental spills- In the event that fluids are accidentally spilled on the receiver, take the receiver out of operation and inspect for damage.

Electric shock- To reduce the risk of electrical shock, do not remove any covers. Refer servicing to qualified personnel.

Explosion hazard- Do not use this equipment in the presence of flammable materials.

Interfacing to equipment- Wireless receiver must be interfaced with welders listed in the compatibility chart. Be certain to consult manufacturer's specifications to maintain safe operation.

Cautions

Daily testing- It is essential that the wireless control system be inspected and cleaned every day or before use.

Performance- The wireless control system operates on a frequency range of 2.405-2.480 GHz. It should be tested to assure compatibility with any device it is connected to or environment it is working in.

Report all problems experienced with the wireless control system. If the wireless control is not working properly, contact your service representative for service and discontinue its usage immediately until it has been repaired. On a **REGULAR BASIS**, inspect the batteries inside the wireless control for any leakage/corrosion/oxidization that could potentially damage or cause malfunctions of the electronics inside.

Modification- Changes or modifications not expressly approved by Arc-Zone.com, Inc. could void the user's authority to operate the equipment.

Static (ESD)- Use proper anti-static safe grounding methods and procedures before handling or touching electronic components or circuits to prevent any ESD damage.

Important

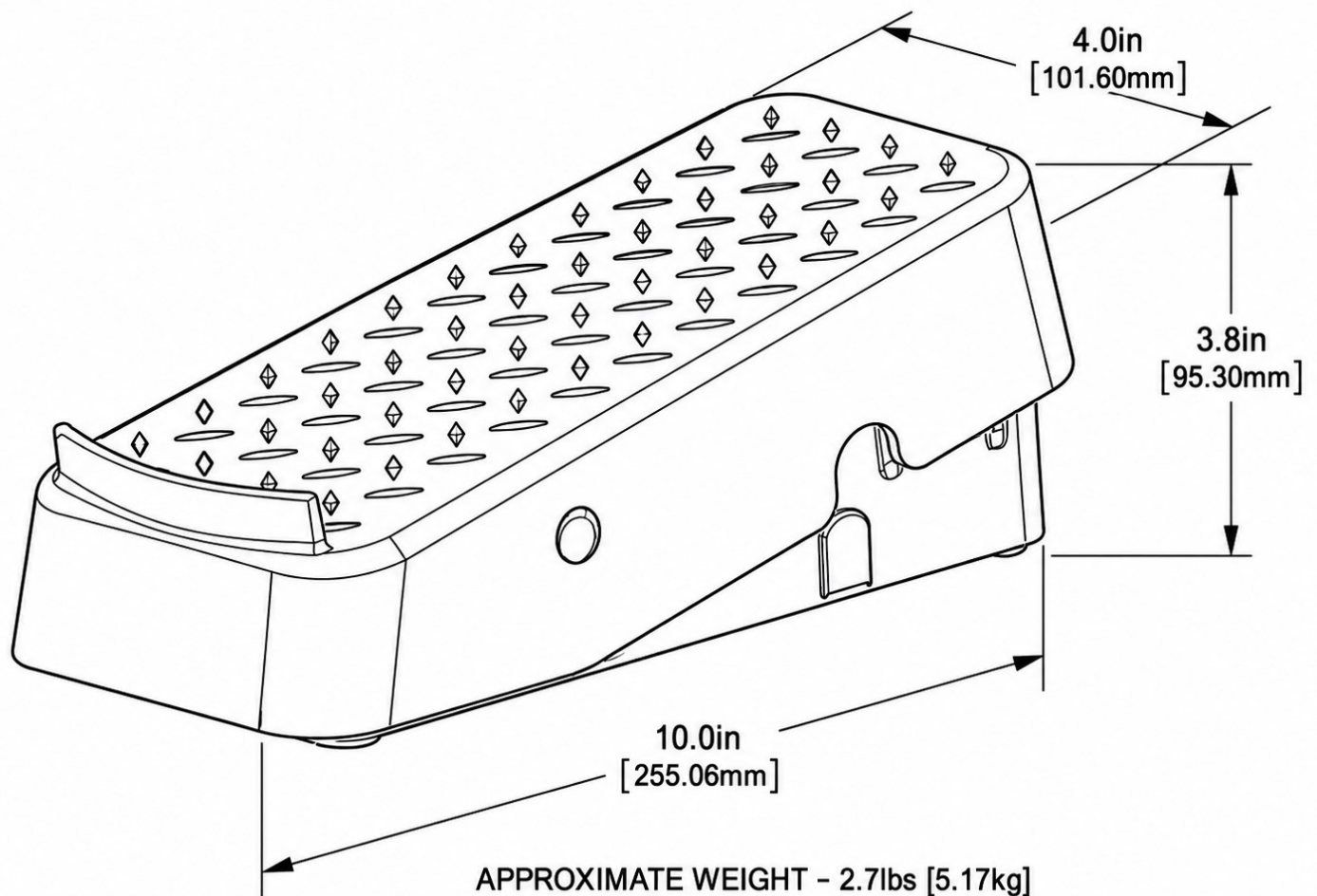
Performance- Up to 5 wireless control systems may be operated in a single room.

Loss of signal- If the receiver does not receive a signal from the wireless control for a period of 500ms when the wireless control is active, it has a fail-safe feature to automatically shut off all outputs. Refer to the output function section for more information.

The RF wireless control radiates in a 360 degrees mode of operation. However every application is different. You may need to adjust the position of the receiver or wireless control to obtain optimal performance.

Wireless Foot Control

ALL DIMENSIONS ARE FOR REFERENCE ONLY.



FUNCTIONS: All wireless control functions are automatically transmitted to the paired receiver continuously. Refer to the pairing section on how to pair and unpair the foot control and receiver. The wireless control will automatically enter ultra-low power mode (sleep mode) when not in use to achieve maximum battery life. Upon the reception of the functions from the wireless control, the receiver will adjust and activate the output level and contactor responsively and accordingly.

RANGE: Typical operating range between wireless control and receiver is 50 feet depending on environmental conditions and clearance around the system.

BATTERIES: Remove the bottom cover of the wireless control to expose the battery holder. Each wireless control is powered by 3 x AA Alkaline batteries for optimal performance. Follow the battery manufacturer's recommendations or your facilities policy for the proper storage, handling, installation, use and disposal of batteries.

Cautions

- Care must be taken when replacing the batteries according to the correct polarity labeled in each location.
- Replace batteries with high quality "AA" size alkaline batteries.
- Never mix battery manufacturers / types / old & new when replacing the batteries.
- If the wireless control will not be used for an extended period of time, remove the batteries to prevent damage due to possible battery leakage.

Important

Arc-Zone recommends the replacement of all batteries at least once a year regardless of actual usage for optimal and safe operation of the wireless control!

Electromagnetic Interference

FCC ID: UYI24

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

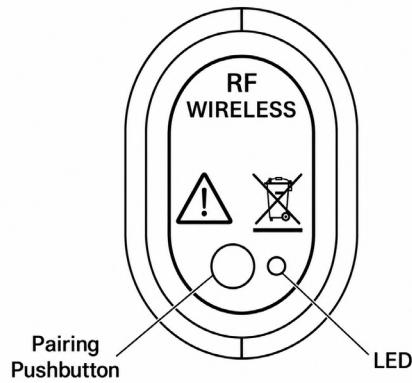
1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Make sure all high frequency sources are properly grounded, shielded, and as far away from the wireless control and receiver as possible to minimize the possibility of interference. Follow all precautions and recommendations by equipment manufacturers on how to minimize electric and magnetic fields (EMF), high frequency radiation, and interference.

Equipment Symbols

The following is a list of symbols used on products manufactured for Arc-Zone. Some symbols may not appear on your unit.

	ATTENTION: Consult Accompanying Documents
	Alternating Current (AC)
	Earth Ground
	Low Battery
	For Indoor Use Only
	WEEE Directive



PAIRING PUSHBUTTON:

Push and hold the pushbutton on the face of the receiver for 2 seconds to initiate the pairing sequence. Refer to the pairing section for more information and procedure on how to pair with a new wireless control.

LED:

LED Color	Indication
OFF	Normal Operation
Solid Red	Pairing Sequence Initiated & In Process
Solid Green	Waiting to Pair with a Foot Pedal (5 Second Window)
Flashing Red	1% Duty Cycle= Low Battery In Foot Control
	25% Duty Cycle= Wireless Foot Control Error
	50% Duty Cycle= Pairing Failure. Receiver Is Not Paired to Foot Control

Pairing

The welding machine must be turned on for all Pairing and Un-Pairing Procedures.

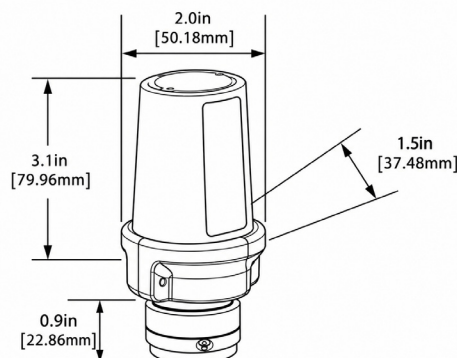
The Wireless Foot Controller (Foot Pedal) and receiver have been paired and tested at the factory, but may still require pairing before initial use.

Each receiver can only be paired with one Foot Pedal at any time. Upon each successful pairing, the new pairing information is automatically saved in the receiver's memory indefinitely so both receiver and Foot Pedal will remain paired indefinitely and ready to work together whenever there is power, without requiring another pairing process at each power up.

Only authorized & trained personnel should be permitted to change Foot Pedal & receiver pairing. Before pairing a Foot Pedal with a receiver, the technician **MUST** make sure that wireless control is not already paired with another receiver. If that Foot Pedal is already paired with another receiver, the Technician **MUST** un-pair them first before establishing new pairing. Refer to the following sections below on how to Un-pair and Pair Foot Pedal and receiver.

Receiver

ALL DIMENSIONS ARE FOR REFERENCE ONLY.



APPROXIMATE WEIGHT = 0.2lbs [0.09kg]

Pinout:

Connector Pin Diagram	Pin	Designation
	A	10-35VAC/VDC Power Input
	B	Contactor Output. Closure With Pin A When Activated
	C	0-1 0VDC Reference Voltage Input. Set Maximum Control Output Voltage Level
	D	Common Return for All Pins
	E	Control Output Voltage

RECEIVER INSTALLATION

1. Turn off welder power source.
2. Connect the receiver to the remote control 14pin receptacle on welder.
3. Turn on the welder power source.
4. Pair wireless control with receiver if not already paired.

FAILSAFE LOCKOUT: Receiver will immediately enter the failsafe lockout mode whenever any of the following conditions is true:

- Severe RF interference
- Battery failures
- Wireless control failures
- Receiver failures

Once the receiver is in the failsafe lockout mode, only the reception of a valid RF transmission from the paired wireless control, and without any of the failures above, will end lockout and return receiver back to normal operation.

WARNING: DO NOT pair any Foot Pedal that is currently paired with another receiver!

How to Un-pair Foot Pedal & Receiver:

It is critical to perform this procedure before pairing any Foot Pedal with a receiver.

1. Verify that the Foot Pedal and receiver are still paired with each other.
2. Ensure that no one is installing/replacing batteries in another Foot Pedal within 20 feet of the receiver.
3. Leave the Foot Pedal untouched at this point.
4. Press and hold the pairing pushbutton on the receiver for 2 seconds. This will initialize the receiver and start the pairing process. The receiver's LED should turn RED for ~10 to 15 seconds at this time.
5. Wait for the receiver LED to change its color from RED to GREEN to flashing RED. It should take ~ 10-20 seconds. The flashing RED LED indicates the receiver is no longer paired with any Foot Pedal. It is now safe to pair this Foot Pedal with any unpaired receiver.

How to Pair a Foot Pedal with a Receiver:

1. Before pairing a new Foot Pedal with a receiver, the Technician **MUST** make sure the new Foot Pedal is **NOT** already paired with another receiver. If the new Foot Pedal is already paired with another receiver, the Technician must locate that receiver and un-pair the two before going to the next step.
2. Unscrew the 4 screws at the bottom of the Foot Pedal to remove the base plate so the batteries are accessible.
3. Remove one of the batteries and wait for at least 5 seconds before installing the battery back.

Warning: Be very careful not to activate the Foot Pedal during this process. If the Foot Pedal is accidentally activated after installing the battery back, repeat Step 3.

Note: Be ready to activate the Foot Pedal only when instructed in the steps below. Make sure the Foot Pedal is located within 2 feet from the receiver during the entire pairing process.



4. Press and hold the pushbuttons on the receiver for 2 seconds to activate the pairing process. The receiver's LED should turn RED for ~10 to 15 seconds, then wait for the receiver LED to change its color from RED to GREEN.
5. Once it turns GREEN, you have ~5 seconds to activate the Foot Pedal in order to complete the pairing process. The receiver LED should change its color from GREEN to off and then GREEN again for ~10 to 15 seconds to indicate successful pairing. If pairing was unsuccessful, the receiver will remain inoperable with its LED flashing RED color at 50% duty cycle; if this happens, return to Step 3.

Miller Compatibility Chart

Welders	Compatible	Welders	Compatible
Axcess® Series	No	Maxstar® 150 S	No
Aerowave®	No	Maxstar® 150 STL/STH	Yes (1,7)
Big Blue® Air Pak	Yes (4)	Maxstar® 200 SD,DX,LX	Yes
Big Blue® Turbo	Yes (4)	Maxstar® 200 STR	No
Big Blue®, Big 40® CC	No	Maxstar® 350/700	Yes
Big Blue®, Big 40® CC/CV	Yes (4)	Miller Du-Op®	Yes
Big Blue® 300 Pro	Yes	Millermatic® (All)	No
Blue® 350 PipePro	Yes	PipePro® 304	Yes (5)
Big Blue® 400 Eco Pro	Yes	PipePro® 450 RFC	No
Blue Star®	No	Pipeworx™	Yes (8)
Bobcat™ Series	No	PRO®300	Yes
CP-302	Yes (3)	Renegade™ 180	No
CST™ 280	Yes (2)	Shopmate™ 300	Yes
CST™ 280 Rack	Yes (2)	SRH-444	No
Delta-Fab™	Yes	Subarc DC 650,1000	Yes
Deltaweld® Series	Yes	Summit Arc™ 1000,1250	Yes
Dialarc® 250	No	Syncrowave® 200	Yes
Dimension™ Series	Yes	Syncrowave® 250DX/350LX	Yes
Diversion™ 165	No	Thunderbolt®	No
Diversion™ 180	Yes (6)	Trailblazer® Series	No
Dynasty® 200/350/700	Yes	Trailblazer®	No
Goldstar® Series	Yes	Wildcat® 200	No
HF251	No	XMT® 304/350	Yes
Invision™ MPA,MP,And P	Yes	XMT®350VS	No
Mark VI™	Yes	XMT® 350 VS Rack	No
Mark VIII-2®	No	XMT®Rack	Yes

Notes:

1. With Miller Adapter 300507
2. Only Controls Output Level - No Contactor Control
3. Only Activates Contactor
4. Must Disconnect Diagnostic Board PC9 from welder(Refer to welder operators manual on how to locate and remove this board)
5. With Miller Adapter 300749
6. With Miller Adapter 300688
7. Only works in TIG mode
8. Starting with and after S/N MA470021G

Cleaning

Dampen a non-abrasive cloth with soap and water, then wring it out until slightly damp. Gently rub the soiled area until clean, then wipe away any remaining fluid from the surface.

Caution:

- Do not use abrasive cloth, sharp objects, or abrasive cleaners.
- Do not immerse the WC or receiver under running water.

Specifications

- Range: 50 feet typical
- Frequency: 2.4GHz ISM Band
- Latency: 50 milliseconds Maximum
- Up to 5 systems working in the same room/area
- Auto sleep and extreme low power operation
- Battery life
 - 1 years without any activation depending on environmental conditions
 - 4000 hours of operation @ 50% duty cycle depending on environmental conditions

Designed to Meet the Following

- UL 508
- IP66 (Transmitter)
- NEMA 12 (Receiver)
- EN61000-6-2: 2001 Generic Standards- Immunity for industrial environments.
- EN61000-6-4: 2001 Generic Standards-Emission standard for industrial environments
- IEC 61000-4-2: 2001 Electrostatic Immunity
- IEC 61000-4-3: 2006 Radiated Electromagnetic Field Immunity @ 1 0uv/m
- IEC 61000-4-4: 2004 Electrical Fast Transients Immunity
- IEC 61000-4-5: 2005 Surge Immunity
- IEC 61000-4-8: 2001 Power Frequency Magnetic Field Immunity
- IEC 61000-4-11: 2004 Voltage Dips and Variations
- EN 55011: 1998 +A1:1999 + A2:2002 and FCC Part 15.B Radiated and Conducted Emissions, Group 1 Class B
- IEC 61000-3-2: 2000 Power Harmonics Class A
- IEC 61000-3-3: 1995 + A1: 2001 +A2: 2005 Voltage Fluctuation