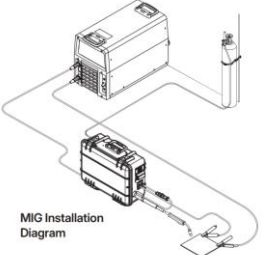
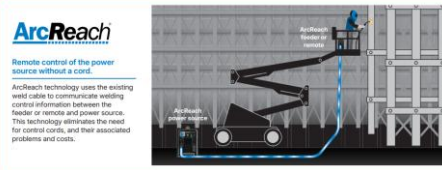


PURPOSE Explain the three common feeder-control architectures, what happens electrically when the trigger is pulled, and why a compatible welding output alone does not automatically mean a voltage-sensing suitcase feeder will function with every power source.

1 | THE THREE FEEDER ARCHITECTURES

BENCH / CONTROL-CABLE	VOLTAGE-SENSING SUITCASE	ARCREACH SUITCASE
Standard installation  Dedicated command path. 14 Pin Control Cable. Trigger input is handled by the feeder/control system, which tells the power source when to energize weld output by closing the contactor on circuit. The Miller 12RC Suitcase feeder does have a 14 pin control circuit and can be used with the Deltaweld Inverter Platform.	 Uses the welding circuit. The feeder derives operating power and voltage feedback from OCV/arc voltage and does not use a conventional feeder control cable. The power source in this case need to have the ability for the operator to latch on the welder output.	 Control over the weld cables. With an ArcReach-compatible power source, the weld cables carry welding power plus ArcReach control communication back to the power supply which allows the welder to make point of use adjustments to the process. Our motto, DON'T WALK, WELD!"

2 | WHAT HAPPENS WHEN THE TRIGGER IS PULLED

BENCH / CONTROL-CABLE	VOLTAGE-SENSING	ARCREACH
- Operator pulls the gun trigger. - Feeder electronics receive the trigger input. - Dedicated control wiring/ArcConnect commands the power source contactor/output. - The source establishes the commanded CV output. - The feeder drives wire; wire contacts the work; the arc is established.	- The feeder must already have usable weld-circuit voltage available from the power source. - OCV powers the feeder electronics and provides the voltage-sensing reference. - Operator pulls the trigger; the feeder starts the wire-drive sequence. - Wire contacts the work and the energized welding circuit establishes the arc. - The extra volt sensing cable is used to complete the circuitry for powering the suitcase feeder and sense arc voltage.	- The ArcReach feeder is connected through the weld leads to an ArcReach-compatible power source. - The system associates over the welding circuit - no separate control cable is required. - Parameter commands from the feeder are communicated back to the source over the weld cables. - The source establishes/adjusts welding output and the feeder drives wire. - Supported systems add point-of-use control and features such as Cable Length Compensation.

3 | DELTAWELD 350/500 APPLICATION NOTE

CRITICAL DISTINCTION: A standard voltage-sensing SuitCase does not provide the conventional feeder contactor-closure command used by the Deltaweld feeder interface. A simple weld-lead-only connection therefore requires an approved means for the exact power-source configuration to make and hold weld output available. OCV capability by itself is not enough. Verify the specific Miller-approved connection method for the exact Deltaweld stock number/configuration before field installation.

4 | ENGINEERING COMPARISON

Function	Bench Top or Suitcase w/ control-cable	Voltage-sensing SuitCase	ArcReach SuitCase + compatible source
Feeder operating power	Feeder/control system	Weld-circuit OCV / arc voltage	Weld circuit
Contactor/output command	Dedicated control interface commands source output	No conventional feeder contactor command	ArcReach-supported control functions are communicated over the weld circuit
Wire-feed speed	Set/controlled by feeder	Set/controlled by feeder	Set/controlled at feeder
Voltage setting	Source or supported feeder remote, depending on system	Normally set at source in standard VS operation	Set at feeder on supported ArcReach system
Separate control cable	Yes, system dependent	No	No
Voltage feedback	System/control dependent	Not at source	Feeder/source communicate; supported systems compensate for cable effects
Primary advantage	Integrated fixed-station control	Portable feeder with minimal cabling	Portable feeder plus point-of-use remote control
Best fit	Production cells and fixed fabrication stations	Remote work where source can provide required output state	Construction, shipbuilding, structural and large-fabrication work where remote adjustment adds value

5 | WHAT ARCREACH ADDS

CAPABILITIES - Remote parameter adjustment at the weld joint without a separate control cable. - Communication between compatible feeder/remote and power source over the existing weld cables. - Fewer trips back to the power source when voltage or process settings need adjustment. - On supported systems, Cable Length Compensation automatically accounts for weld-cable voltage drop.	BOUNDARIES - ArcReach capability requires compatible equipment on both ends of the system. - An ArcReach SuitCase can still operate as a conventional voltage-sensing feeder when used on a suitable non-ArcReach power source, but ArcReach remote-control features are then unavailable. - Do not confuse 'voltage sensing' with 'ArcReach communication': voltage sensing uses OCV to power suitcase; ArcReach adds a control/communications layer. - Always confirm the supported feature set for the exact source + feeder combination.
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6 | TROUBLESHOOTING LOGIC

Bench feeder: no arc/no feed	Separate the problem into trigger/control, feeder power, wire-drive path, contactor/output command, and weld-circuit checks. A failed control path can prevent the source from ever energizing.
VS SuitCase: feeder dead/no arc	First verify that usable OCV/output is actually present at the feeder. Then check polarity, weld leads, work connection, feeder input range, wire path, and trigger. If the source requires a remote contactor closure and has no approved Output-On method, a VS Suitcase will not function properly.
ArcReach: remote control missing	Verify that both the source and feeder are ArcReach-compatible, the system has properly associated, weld-lead connections are sound, and the selected operating mode supports the desired ArcReach functions.

7 | SELECTION GUIDE

CHOOSE A BENCH FEEDER WHEN The application is a fixed production cell, integrated controls matter, and the feeder/power-source package is designed around a dedicated control connection.	CHOOSE A VS or RC SUITCASE WHEN Portability matters and the power source is specifically suitable for voltage-sensing feeder operation, including the required output/OCV behavior.	CHOOSE ARCREACH WHEN The operator is remote from the power source and point-of-use parameter control, reduced control cabling, and cable-drop compensation provide meaningful productivity or safety value.
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8 | ENGINEERING INSIGHT

A voltage-sensing feeder is not simply a bench feeder with the control cable removed. Its architecture assumes the welding circuit itself can provide the operating voltage and feedback it needs. ArcReach goes one step further by adding remote control communication over those same weld cables when both ends support the technology. The practical compatibility question is always: **Can the source provide the correct weld output, and is there a valid way for that output to become available to the feeder?**

TECHNICAL BASIS

- Miller Electric - Deltaweld 500 Owner's Manual.
 - Miller Electric - ArcReach SuitCase 12 product information and owner's documentation.
- Unleash Your Welding Potential | ER-001 Rev. 2 | August 2026 | Engineering Better Welds. Building Better Operations.

- [Miller Electric - ArcReach Welding Systems / ArcReach FAQ.](#)
- [Miller Electric - ArcReach Product Selector Guide.](#)