



You Can't Improve Your Welding If You Don't Measure It

Do you know which welders are least productive and need more training?

Are missed welds escaping detection?

Are welds on your parts being made within required parameters?



Insight
Welding Intelligence™

Insight

Welding Intelligence™

Increase productivity, improve quality and manage costs by measuring your welding activities.

The Insight portfolio ranges from basic dashboards that report welder productivity and weld parameter verification to real-time welder feedback in the weld cell. Improve first-time weld quality by identifying missed welds, detecting weld defects and achieving full traceability.

Most importantly, Insight solutions are capable of monitoring your entire fleet — regardless of equipment brand. Built-in functionality on Miller® equipment provides the benefit of being fully integrated. For your non-Miller power sources, Insight solutions include external data collection devices that enable you to manage your entire welding operation using a common software application.

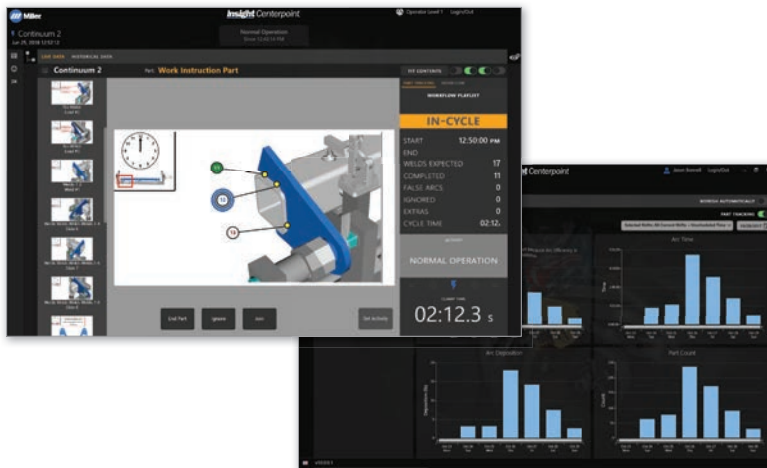
Which system is right for you?

Insight Core™

Simple, cloud-based welding information solution

- Reports productivity by welder or machine
- Verifies weld parameters
- Has built-in Wi-Fi/Ethernet connectivity
- Leverages existing investments

Learn more on page 4



Insight Centerpoint™

Advanced, real-time welder feedback solution

- Prevents missed welds
- Enforces proper weld sequences
- Drives consistent weld quality
- Provides welders with visual work instructions

Learn more on page 8

Insight ArcAgent™

Premium solution for any brand of power source

- Designed for universal weld data collection on new or old equipment
- Uses external sensors to measure amps, volts, wire-feed speed, gas flow
- Allows you to deploy either Insight Core or Insight Centerpoint using the appropriate Insight ArcAgent module
- Lets you benefit from Insight Welding Intelligence on any brand equipment

Learn more on pages 7 and 11



Insight Core™

Insight Core is a flexible, cloud-based industrial welding information management solution that delivers accurate, decision-ready information about welding processes — so you can take steps to reduce costs, boost output and increase product quality.

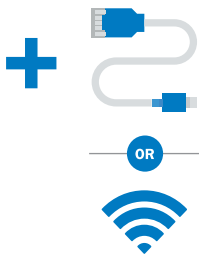


How it works

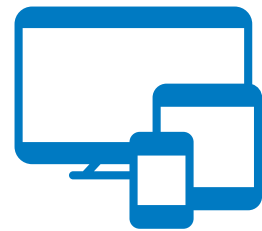
Of all weld data systems in the market, Insight Core is the easiest to install and has the greatest compatibility!



Internet connection:



Any device with internet browser



Uses standard web browsers; no software or applications to install or maintain



Innovative USB setup support for quick installation, easy data transfer and fast firmware updates



Secure data viewable on any web-enabled device utilizing user authentication



Onboard memory for those times when internet connections go down



No mandatory subscription fees



Operator ID feature enables all reporting to be tracked by person

Who/what is my most productive person/machine?

Quickly and easily compare and analyze productivity by machine, welder and shift to find inconsistencies. Companies using Insight Core have been able to double their productivity in as few as four weeks!



ARC TIME AND QUALITY ANALYSIS

1/1/2018 – 1/5/2018 AND 1/8/2018 – 1/12/2018



● Arc Off - 18.73%
● Arc On - 16.27%



● Within Limits - 83902
● Outside Limits - 16083
● Not Measurable - 0 Welds

Top Producers		
	Device	Arc On %
1	Base Deck 1	48.66
2	Base Deck 2	48.66
3	Wheels	40.53
4	Axle Shafts	38.78
5	Cross Member	33.78

Bottom Producers		
	Device	Arc On %
1	Operator Cab	48.66
2	Tack and Fit Station E	48.66
3	Repair Station 1	40.53
4	Repair Station 2	38.78
5	Rework Finishing	33.78

Top Performers			
	Device	Within Limits	Outside Limits
1	Base Deck 1	15	0
2	Repair Station 1	2564	95
3	Axle Housings	9803	441
4	Rework Finishing	464	22
5	Tack and Fit Station D	15083	924

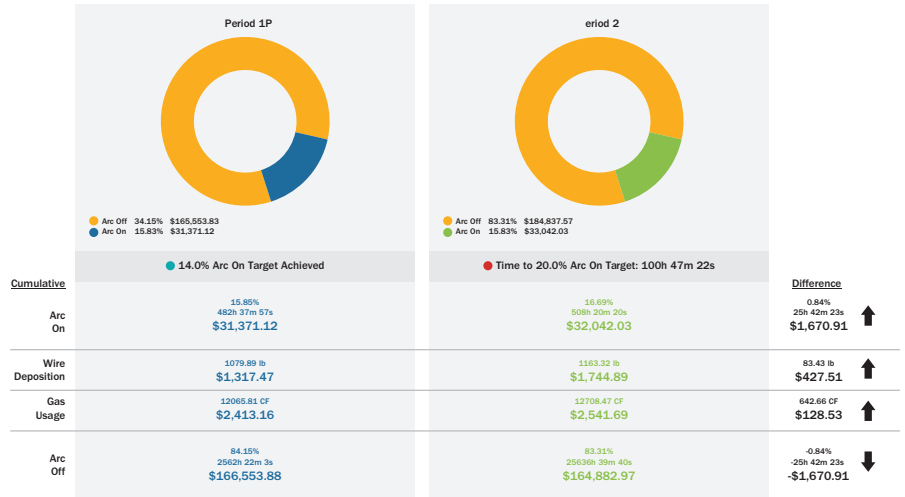
Bottom Performers			
	Device	Within Limits	Outside Limits
1	Boom Arm	2723	1201
2	Tack and Fit Station A	1795	941
3	Hydraulic Mounts	2940	1610
4	Shovel and Claw	1937	1393
5	Base Deck 2	0	15

See how much of your operation's arc-on time is within expected threshold ranges, analyzing both machines and welders. Problems with machines can be resolved, top-performing welders can be rewarded and lesser-performing welders can receive additional training.

What are my true welding costs?

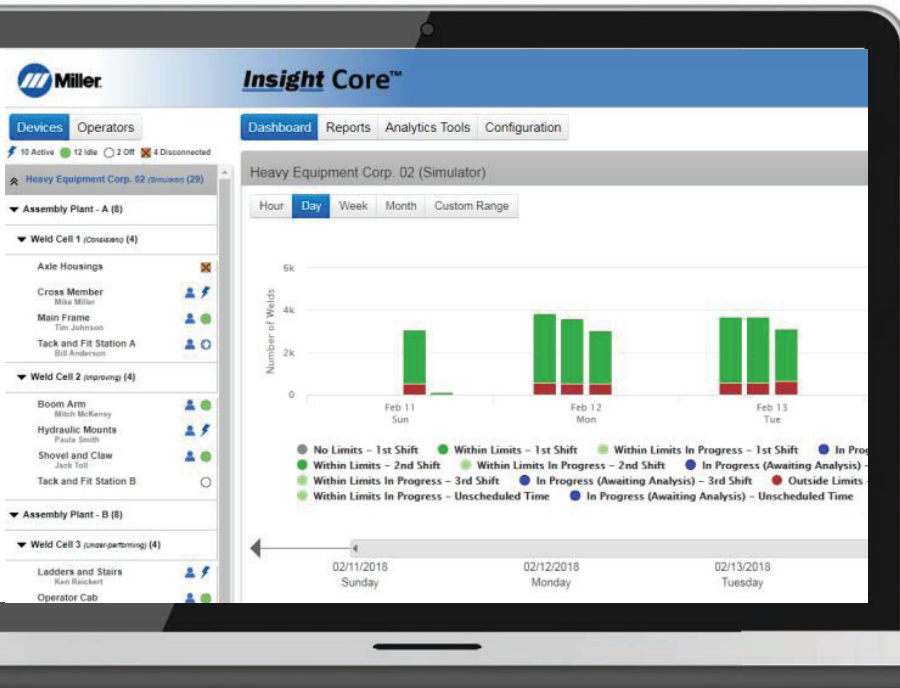
What if you could see that a 10 percent arc-on time cost you \$20,000 — but the remaining arc-off time cost you \$180,000? Insight Core's Data to Dollars analysis can help you control business costs and the non-welding related activities that cause downtime.

DATA TO DOLLARS



The cost of non-welding time has decreased by \$1,670.91

Are your weld's quality risks increasing or decreasing?



Do you know whether your company's welds are within acceptable ranges for amperage, voltage and wire-feed speed? Insight Core can tell you. It can also provide a date and time stamp, including a weld trace, for every weld. You'll have the necessary documentation to identify machines or welders that operate outside of expected parameters — so you can drive continuous improvement of the products you manufacture.

Program # 1	Process: RMD-Pulse	Gas: 25% Argon, 75% Helium
Weld Duration: 47.0s	Avg Volts: 28.00V	Avg Amps: 281.50A
Avg WFS: 517.00ipm	Cmd Volts: 25.00V	Cmd Amps: 300.00A
Operators: Patrick Oleery		

The first and last second of the weld are not considered for quality purposes

Quality trace displays weld parameter verification



Options for any weld shop

Whether your equipment fleet is old or new, consists of Miller® machines or has mixed brands, there's an Insight Core solution that can work for you.



Existing Miller® equipment
14-pin module



Insight Core™ capabilities

		Power Source Operation Status	Volts	Amps	Arc-On Time	Arc On %	Quality Threshold Evaluation	Goal Setting	Wire-Feed Speed (m/min, m/min)	Deposition (lb., kg)	Deposition Rate (lb/hr, kg/hr)	Power Source Error Indication										
14-Pin Insight Core Module Required	MIG	Deltaweld® 302/452/652 Deltaweld® CE 402/602/852	Standard Features on ALL Insight Core™ Products	Additional Features When Using MPa Feeder																		
		Invision™ MPa 350/352/450 Invision™ 354MP/456MP/456P																				
		AlumaPower™ MPa 350/450																				
	MULTI-PROCESS	Dimension™ 302/452/650/652/1000 Dimension™ NT 450/500/450 ArcReach® Dimension™ CE 562/812 XMT® CC/CV 304/350/425/450/456 XMT® MPa 350/450 <i>Note: Not compatible with XMT VS models</i>																				
STICK	Gold Star® 302/452/652 Gold Star® CE 402/602/852																					
SUBMERGED ARC	SubArc DC 650/800/1000/1250 Digital ¹ SubArc AC/DC Digital ¹ 1000/12500 SubArc DC ² 650/800/1000/1250 SubArc AC/DC ² 1000/1250 Summit Arc™ ² 1000/1250																					
Integrated in Power Source	ADVANCED PROCESS	Access®/Auto-Access™ ³ 300/450/675 Continuum™ 350/500																				

¹ The SubArc Digital Series requires Insight Core to SubArc Digital Series Adapter Kit (#301 295) to operate on Insight Core system with a SubArc Interface Digital or Analog Control (BLACK case).

² The SubArc Series requires a 115 VAC to Legacy 14-Pin Accessories Adapter Cord (#301 259) to operate on Insight Core system with an HDC Automatic Weld Control (BLUE case). Non-SubArc 115 VAC wire feeders are not compatible with the 14-Pin Core Module. The SubArc Series is able to run Insight Core by using 115 VAC to Legacy 14-Pin Accessories Adapter Cord (#301 259). Please contact your Miller sales representative for questions or assistance in selecting the proper adapter for your Submerged Arc power source.

³ Access/Auto-Access units without Insight Core can use Upgrade Module (#301 081) to get Insight Core capabilities.



Universal brand capability

With an ArcAgent™ module, you can have the power of Insight Core on any machine from any manufacturer, giving you complete coverage of your facility.



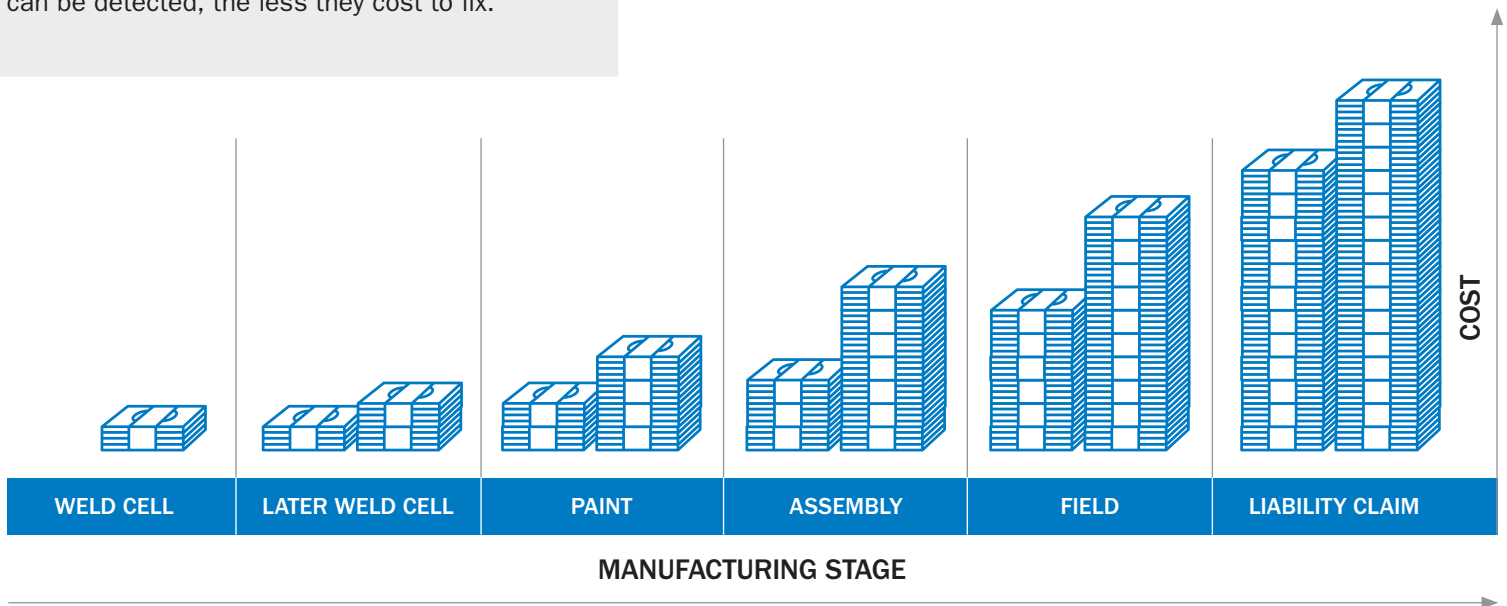
Insight Centerpoint™

Insight Centerpoint is an advanced system that provides real-time welder feedback to help control all aspects of the welding and fabrication process. Insight Centerpoint drives both quality and productivity by identifying potential problems before a component leaves the weld cell, improving first-time weld quality.



Stop losing money due to missed or defective welds!

The cost of missed or defective welds can be staggering if they result in a field failure or liability claim. Mistakes are going to happen. The earlier in the manufacturing process they can be detected, the less they cost to fix.



How it works — manual welding



- 1 Insight Centerpoint guides the welder through the fabrication process from pre-weld to post-weld in a standardized sequence.
- 2 The welder performs the welds according to the instructions presented by Insight Centerpoint's welder interface.
- 3 Insight Centerpoint lets the welder know when the part is complete – or if it contains welds that were missed, incomplete or outside of parameters.

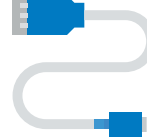
How it works — fixed or flexible automated welding



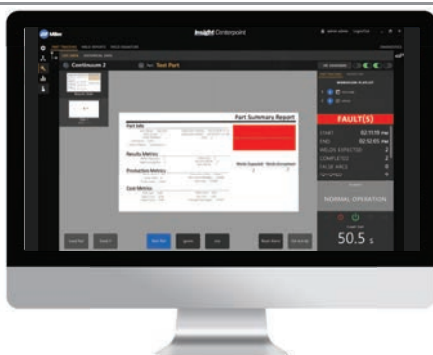
OR



+



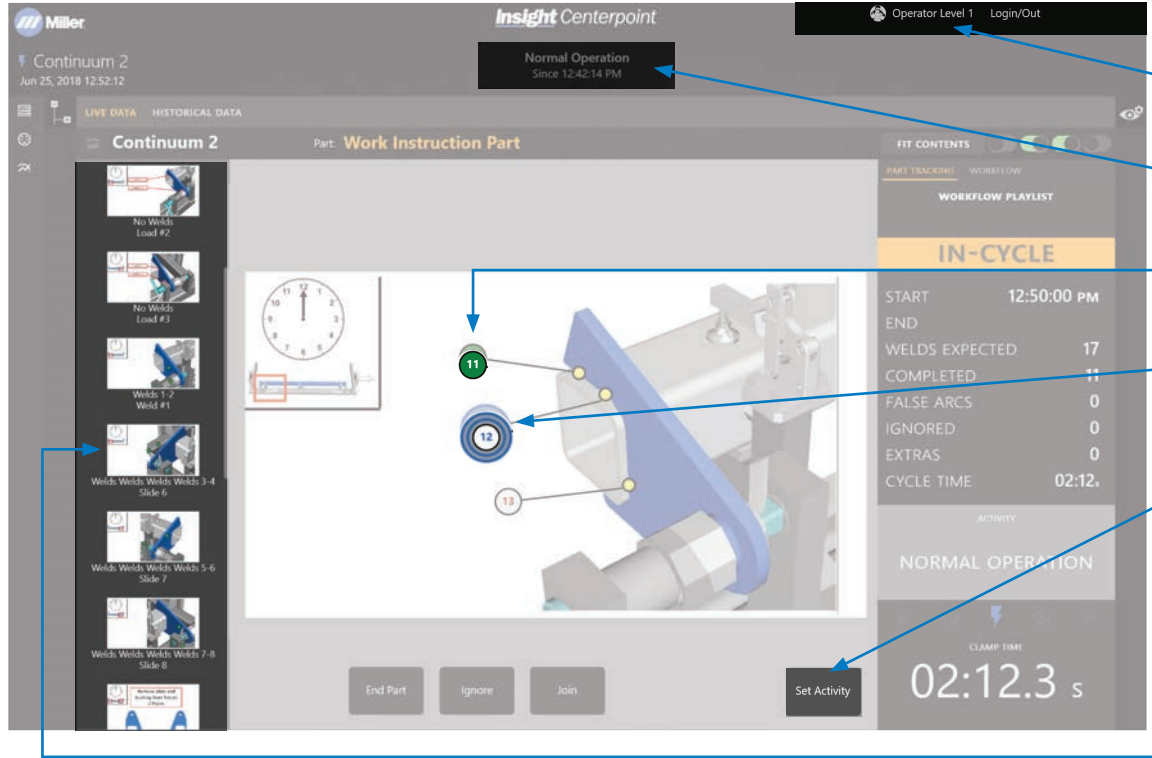
- 1 Insight Centerpoint collects welding parameters such as voltage, amperage, wire-feed speed and gas flow.



- 2 Insight Centerpoint analyzes the weld data collected and verifies that the weld was within your specifications.
- 3 The Insight Centerpoint welder interface shows whether the completed part is acceptable or needs to be inspected/reworked.

Part Tracking™

Provides complete governance of the welding process, including a welder interface that can guide a welder through a predetermined sequence of welds.



- Tracks all results by welder
- Indicates the current activity status
- Identifies acceptable or non-conforming welds
- Moving target guides the welder through proper welding sequence
- Allows selection and tracking of non-welding activities
- Shows a preview of operational steps

WorkFlow™

Enhances the capability of Part Tracking by adding virtually any type of instruction to ensure proper welding and assembly. Work instructions can be in the form of documents, images, audio, and video.



Examples:

- Safety warnings
- Reminders
- How to load the fixture
- How to pack the parts
- Company announcements



Reporting

Provides information via a wide range of preconfigured charts and reports.

Part analysis reports

- Part summary
- Parts per time
- Part faults per time
- Faults on a single part
- Weld counts per part
- Parts with missing welds
- Single part report

Productivity reports

- Arc efficiency
- Parts per hour
- Welds per hour
- Downtime analysis
- Cycle time

Costing analysis reports

- Wire usage
- Gas usage
- Summary reports
- Available by shift, day, week, month or year



Insight Centerpoint™ offers benefits for everyone in your operation

Effective training — By using Insight Centerpoint to deliver consistent electronic training, resources are freed to focus on production.

Digital mentoring — Enhance the welder’s ability to produce quality parts efficiently and consistently.

Data-driven operations — Management team members can get the information they need when they need it to make important business decisions.



Improve weld quality

- Create a full record of every weld on every part
- Present welders with step-by-step work instructions
- Have the confidence that all parts are properly welded



Increase productivity

- Save time inspecting welds
- Identify the impact of non-welding activities
- Keep your welders welding

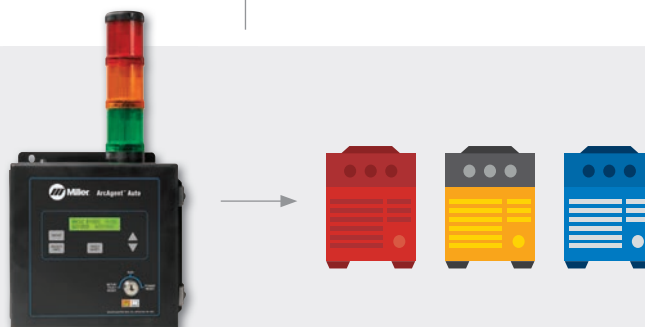


Manage costs

- Identify the true cost of a welded component
- Collect data to drive decisions
- Stop losing money due to missing or poor welds

Universal brand capability

With an ArcAgent™ module, you can have the power of Insight Centerpoint on any machine from any manufacturer, giving you a complete picture of your facility.



We're ready to show you how to use weld data to increase productivity, improve weld quality and manage costs.

Contact us today.

1-844-463-4328

insight@millerwelds.com



MillerWelds.com/insight

#284416 © Miller Electric Mfg. LLC

Miller, the Miller logo, Access, ArcReach, Deltaweld, Gold Star, The Power of Blue and XMT are registered trademarks of Illinois Tool Works, Inc. AlumaPower, Auto-Axcess, Dimension, Insight ArcAgent, Insight Centerpoint, Insight Core, Invision, Part Tracking, Welding Intelligence and WorkFlow are trademarks of Illinois Tool Works, Inc.

