

# VeriFast™ IA

## Smart Pin Sensing System



The VeriFast™ IA (Integrated Amplifier) Nut Detection Solution is CenterLine's latest system for monitoring weld pin position, an important part of the projection welding process.

## Main Features

- Ability to sense:
  - fastener presence and orientation at the point of weld
  - piloted and non-piloted nuts
  - welding stud lengths
  - infinite weld pin positions (fully extended, fully retracted, etc.)
  - measurement of projection collapse
- Uses standard, readily available consumables.
- Compact design.
- Easy to set up and maintain.
- Available in two standard pin stroke lengths, 22 mm & 50 mm.
- Real time linear position is communicated from the electrode to the monitoring system and can be calibrated to indicate actual measurement.



## Why use a VeriFast™ IA?

The VeriFast™ IA technology has many unique & beneficial features derived from its core principles of operation and the materials and techniques used in its construction.

**Extreme accuracy** - The VeriFast™ IA system has an extremely high measurement resolution. When considering system signal noise, the practical resolution is 0.0009" (0.02 mm), enabling the system to detect minute changes in process conditions effectively.

**VeriFast™ IA weld bodies are wired directly** to the control system without the need for a Signal Conditioner, making the installation process faster and easier.

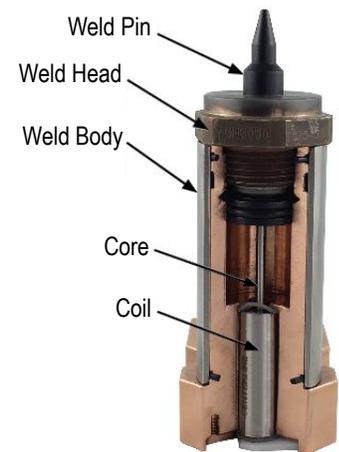
**Unaffected by foreign matter** such as grease, oil, water and weld dust. The IA coil is contained inside the CenterLine weld body.

**Extended mechanical life** - There is no contact between the core and coil of the VeriFast™ IA; no parts can rub together or wear out. This results in lower maintenance costs and extended mechanical life.

**Environmentally robust** - Internal shield minimizes the effects of external AC or DC fields. Both the casing of the coil and the core are made of corrosion-resistant metals.

**Standard Solutions** - VeriFast™ IA is available in a large assortment of styles and weld body sizes to support process requirements.

**Robust low-pressure molded connector.**



# VeriFast™ IA Mounting Styles

## Base Mount



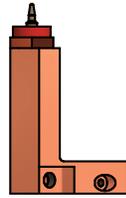
SXAR

SXKR

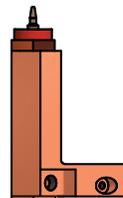
SXTR

SXHR, SXJR

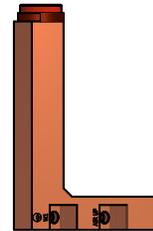
SXQR



SXVR



SXWR



SYVR

## Tapered Mount



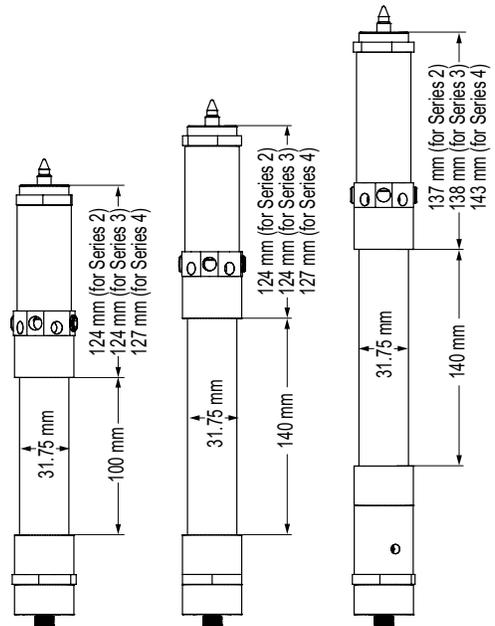
SXCR

## Threaded Mount



SXGR

## Clamp Mount



## How It Works

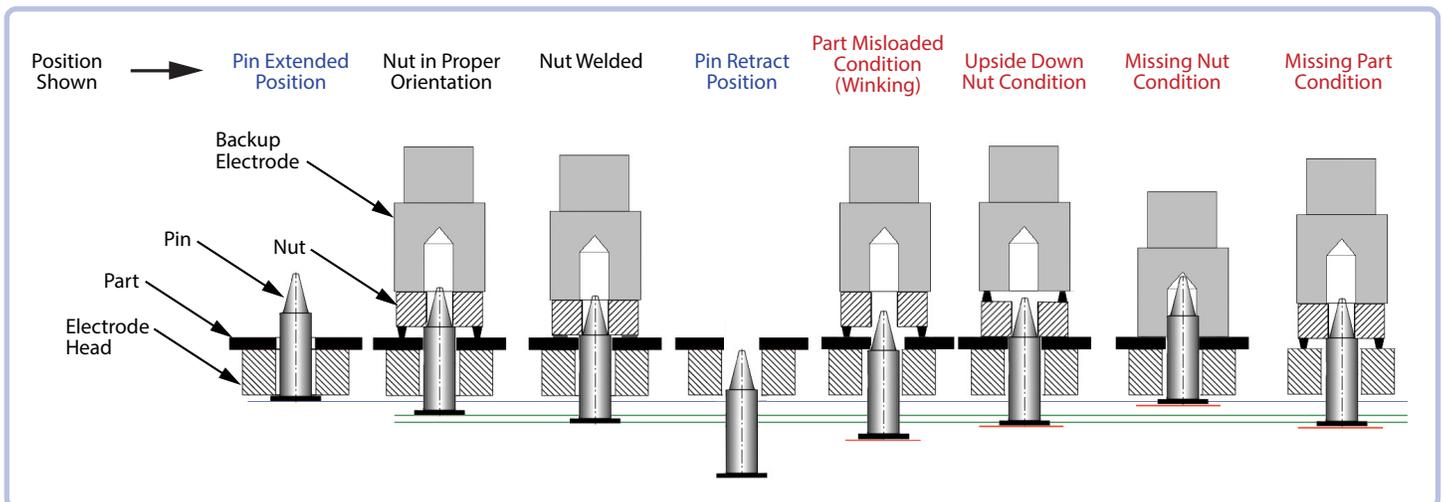
The VeriFast™ IA system is monitored by the PLC/HMI or MicroView™.

The VeriFast™ IA signal indicates the position of the fastener weld pin in various stages of travel. The values of this signal are then compared to programmed set point values (with tolerances) to indicate the presence and orientation of fasteners and/or parts. Results that do not match the set point values can be used to trigger either an interruption in the cycle, or a warning message indicating that the process has fallen outside of the tolerance window. These occurrences can indicate a potential fastener or part quality issue.



## Set Positions for Presence and Orientation of Fasteners & Parts

The diagram below shows various conditions that may be present for a projection nut welding application. It indicates the difference between correct fastener orientation and error conditions.



- Other conditions that may be present (not shown) are: weld pin retracted & multiple material thickness using the same fastener.
- The VeriFast™ IA system has the ability to detect differences as small as 0.0009" (0.02 mm) (assuming a maximum of 10mV analog signal noise).

## Control Connection Requirements

Minimum recommended control connection requirements are:

**Analog Input Interface:** PLC is recommended

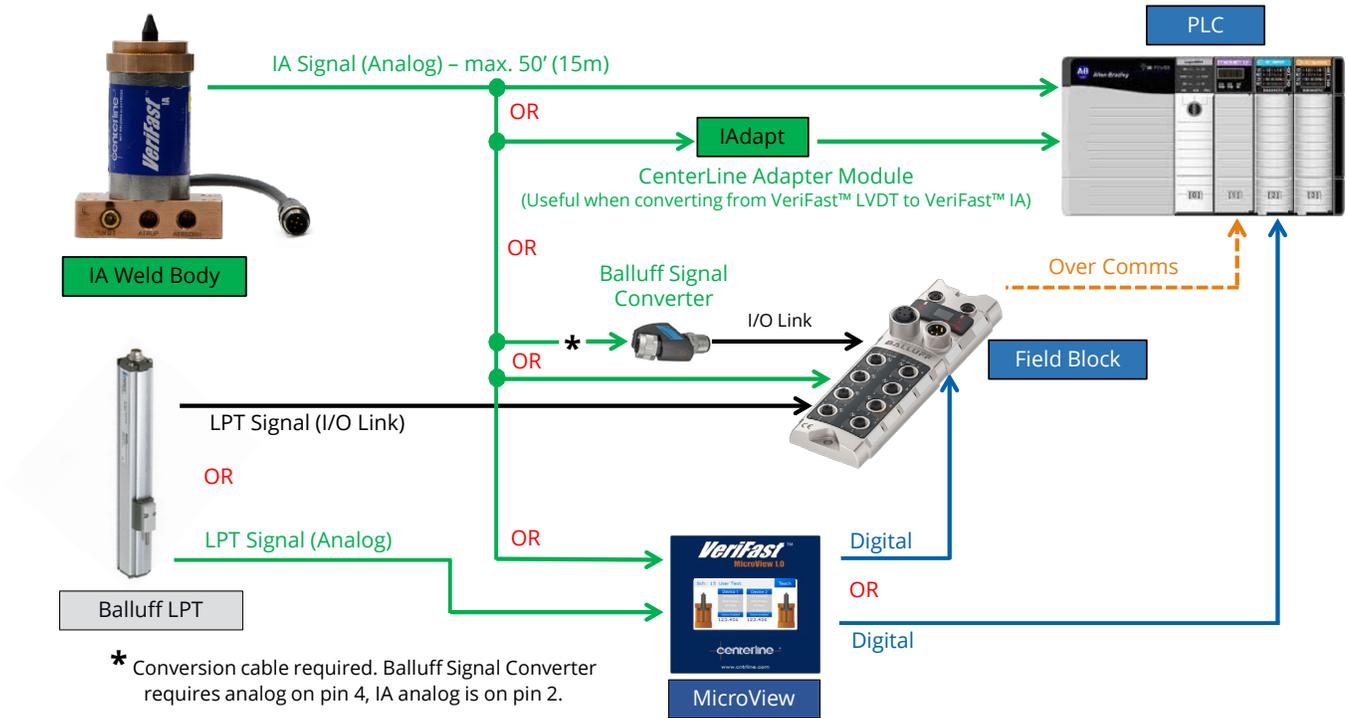
**Required Input Type:** 0-10 V DC

**Control Voltage:** 24 V DC

**Sampling Resolution:** 16 bit (14 bit is acceptable, however, lower measurement resolution will result.)

Contact CenterLine for more information about the VeriFast™ IA system.

# Controls Solution - Overview



**CENTERLINE (WINDSOR) LIMITED**  
 CENTERED ON SOLUTIONS



www.cntrline.com



415 Morton Dr.  
 Windsor ON  
 N9J 3T8



Telephone  
 +1 519-734-8464  
 Fax  
 +1 519-734-2000



E-mail  
 info@cntrline.com