NORGREN AUTOMATION SOLUTIONS
NUT SENSORS
INNOVATION TO INCREASE QUALITY, AND REDUCE COST
YOU CAN SEE OUR THINKING

LEAN MANUFACTURING

- Reduce per part cost
- Increase productivity
- Improve profitability
- Easy to install
- Versatile
- Weld nuts
- Eliminate rework
- Eliminate scrap
- Increase part quality
- Radial detection
- Sensing area
- Extremely sensitive
- Detect hidden parts
- Detect manual inspection
- Extremely durable
- Able to detect circl. able to detect M4 nut
- Affordable
- Works with steel or aluminum
- Decrease inspection time
- Eliminate scrap

www.norgren.com
WITH A SALES AND SERVICE NETWORK IN 75 COUNTRIES – AS WELL AS MANUFACTURING CAPABILITY IN THE USA, GERMANY, CHINA, UK, SWITZERLAND, CZECH REPUBLIC, MEXICO AND BRAZIL – NORGREN HAS GENUINE GLOBAL CAPABILITY.

We also think local and niche: on focusing our resources on delivering a specific product, solution or service to meet our customers’ needs.

As a responsible business, we’re committed to working practices which contribute positively to the environments in which we work. Our products – including our brand new IVAC – are setting new standards for efficiency, helping customers reduce air usage and energy costs while improving overall performance. We offer:

→ **INNOVATION & TECHNICAL EXCELLENCE** through four global technical centres and the experience of specialist engineering teams. We have a portfolio of patented solutions, and are always developing new and cost-effective technologies.

→ **HIGH PERFORMANCE PRODUCTS** covering pneumatic actuators, airline preparation, fittings and valves. We can supply these either singly to meet MRO needs, or combined in powerful customised solutions.

→ **EXCEPTIONAL LOCAL SERVICE** delivered through Key Account Management teams and sector specialists committed to understanding and meeting our customers’ engineering challenges, wherever they are.
NORGREN AUTOMATION SOLUTIONS is a leader in engineered solutions for the automotive and automation industry.

In car assemblies, an automatic system welds nuts to sheet metal so auto body parts can be bolted together later. If a nut is missing or not aligned with the hole, the part may have to be scrapped. But these nuts are often hidden from view, making visual inspection slow and costly. Existing hidden part sensors could measure thickness, indicating whether a nut was present but they were expensive and difficult to configure into a workable package. Automotive manufacturers needed a sensor that was:

→ Sensitive
→ Easy to calibrate
→ Affordable

NAS MET THE CUSTOMER CHALLENGE

Manufacturers now have a probe that is:

→ PRECISE – The sensor easily detects whether a nut is present or absent. Furthermore, it can be calibrated to detect thread quality using a simple hand adjustment and an LED indicator.
→ AGILE – An optional spring mount allows the probe to retract without damage if a hole is missing. The probe can also offset up to five degrees when a hole and nut are misaligned.
→ COST-EFFECTIVE – Not only does the new radial sensor technology make the probe affordable, but manufacturers realize significant savings by eliminating manual inspections and avoiding scrap of costly car assemblies.
NUT DETECTION
The probe can be used to verify nut presence prior to allowing the weld process to proceed or immediately after the attachment process to verify nut presence.

THREAD DETECTION IN NUTS OR SHEET METAL
SNP probes can be calibrated to detect missing threads in nuts or sheet metal.

NAS can design a complete check solution for your specific requirement.

Nut detection:
- No nut, no input
- Nut present, sensor output turns on
- Threads in nut, output from sensor
- No threads in nut, no output from sensor
- Threads in sheet metal, output from sensor
- No threads in sheet metal, no output from sensor

To customer’s control
10-30 VDC input power and load output
Load on LED (nut present)
Power on LED
Monitor adjustment
Potentiometer
THREAD DETECTION IN STEEL PLATE OF CASTING
NAS can help you determine the best combination of Sensors to detect missing threads. We will test your product samples to make the best possible recommendation based on the results of our factory tests.

GOOD THREAD / BAD THREAD / PARTIAL THREAD DETECTION
SNP Nut Sensors can detect not only missing threads, but also threads that are not to specification. Variations in tapping operation can result in holes losing the thread on one side at the exit end of the hole. SNP Sensors can be calibrated to detect such incomplete, imperfect, and out of specification threads.