

AccuFast II

Non-Contact Seam Finding Sensor

Key Benefits

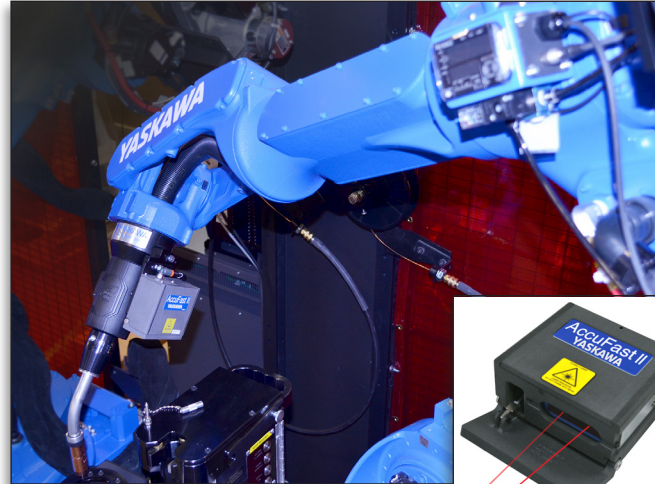
- Improve weld quality
- Reduce cycle times
- Built-in jobs for different joint types
- Compatible with variety of materials

Application

Arc Welding

Controller

DX200
DX100



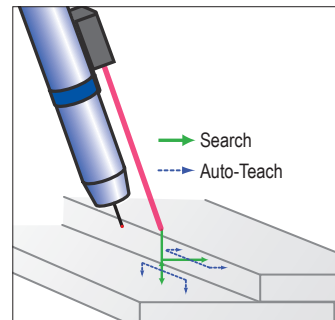
- Economical non-contact seam finder utilizes a commercial point laser – instead of touch sensing with the weld wire – which allows the robot to quickly and accurately locate welding seams.
- AccuFast II features improved sensor capabilities that enable increased performance by providing more reliable and repeatable feedback to the robot controller regarding part position. Readings are provided for a variety of materials and at angles of measurement that were not formerly possible.
- Greatly reduces cycle times by removing the need to cut the wire between welds (search, then weld), and by searching at faster speeds due to elimination of wire deflection (no weld wire to bend).
- Point laser provides input to robot when focal point is reached. Analogous to touch sense and same jobs are used.
- The sensor provides an input to the robot when the laser “touches” by reading its programmed focal length.
- Macro Job routines simplify programming by providing a single instruction in the robot job for detecting a seam or feature.
- Macro Jobs with the Auto-Teach function automatically find the taught part location and the part orientation. The robot searches perpendicular to the joint wall, even if the part is positioned at an angle.
- Works on a variety of materials and is impervious to ambient lighting and most surface conditions (reflective surfaces may decrease performance).
- The sensor is enclosed in a housing with pneumatic shutter door and positive air pressure to protect it from weld spatter and fumes.
- Laser amplifier is housed in a steel enclosure that is mounted to the upper arm of the robot. Its design allows settings to be made and adjusted without opening the enclosure. The amplifier is protected from the weld environment.

AccuFast II

- AccuFast II is compact, mounted in-line with the welding torch and is compatible with Yaskawa Motoman's industry-leading MA- and VA-series thru-arm robots, as well as standard 6-axis robots.
- Can be combined with ComArc thru-arc seam tracking for contoured parts or long seams that may distort while welding.
- The sensor uses the same input and output signals as traditional touch sense, allowing it to be easily retrofitted into existing robot installations. Touch sensing option can be combined with AccuFast II to detect joints that may have optic interference.
- Macro Job routines are provided for:
 - 1D touch
 - 1D normal touch
 - 2D touch with lap height control
 - Edge search (scans across part until signal changes for edge)
 - 3 pt circle search (inside or outside diameter, check for circle diameter)
 - Other joints can be detected by adding results of multiple searches
- Standard software routines to easily define Tool Center Point (TCP) for torch and laser sensor:
 - AccuFast TCP macro job
 - Torch TCP function
- Optional devices to check and maintain Tool Center Point (TCP) for the torch and laser sensor:
 - Laser target
 - ToolSight®

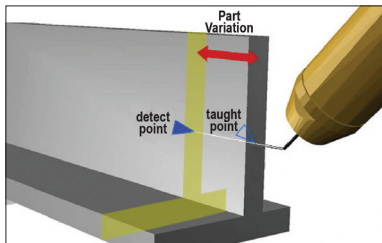


Optional laser target for laser TCP

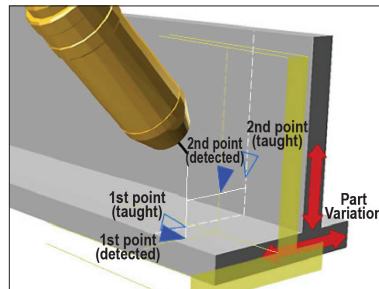


Macro jobs with auto-teach make programming sensor easy AND accurate

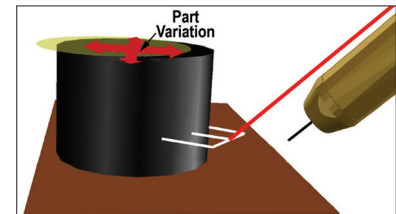
Standard Macro Routines



1D search - for parts that vary in one direction; or combine with other search results



Fillet search - detect horizontal and vertical legs for offset of the joint



Circle search – inside or outside diameter

Not shown – lap and edge search

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