

Manufacturing Execution System

A manufacturing execution system (MES) allows you to track parts, providing traceability throughout the product's life cycle.



Implementing an MES is key to Industry 4.0 transformation, allowing you to use big data to improve decision-making processes in the real-world



Example automotive components engraved with DMX codes

Integrated Pinhole Beam Probe

The pinhole beam probe provides detailed 4D measurements and analysis of the beam shape and power instantaneously. Fully integrable to the HMI for automating sequences, with no operator skill required, enabling the welding system to run at optimum levels.

The probe also comes with a powerful review tool, which analyses large quantities of probe data, suitable for monitoring machine health or for research applications. Other benefits include:



- › Compares multiple scans to determine accurate surface-focus of high-power beams, improving reproducibility and reducing the defect rate
- › Checks beam calibration regularly and creates reports for traceability
- › Quicker and more reliable than making and inspecting a series of trial welds
- › Essential for adherence to the highest quality standards, providing certification in quality processes and audits

High-Speed Data Capture

A dedicated PC integrates into the welder to enable high-speed and high-channel count logging of welding parameters: up to 2m samples per section (single channel), with counts up to 80 channels. User-definable channels are available for customer use, including thermocouples and strain gauges. Other benefits include:



- › Capture up to 32 channels of high-resolution data at up to 20,000 times per second
- › Every weld creates a new data log file and report for traceability and easy review
- › Intuitive review programme providing a detailed analysis of previous welds with data export to Excel or CSV
- › Potential to reduce hardware costs through lower-speed demands and channel counts
- › Set-up additional channels capable of reading thermocouple sensors
- › User-configurable tolerance settings and channels

Real-Time Remote Parameter Readout



- › Monitor parameters from welder remotely without interrupting machine process
- › Readout via Bluetooth or Ethernet to tablet, phone, or PC
- › Programmable QA limits for ease of analysis

Daily Calibration Analysis System

Automatically checks the machine at the start of every day, precisely calibrating deflection systems and generating a report on machine health. Checks performed of:



- › High voltage
- › Beam current
- › Gun alignment and alignment system
- › Focus system
- › Filament Drive
- › Beam deflection speed, accuracy, and linearity
- › CNC and deflection accuracy
- › mA to mm deflection scaling

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