

W7 Specification Sheet

W7 · 7-Axis Industrial Robot



7

Controlled axes

Configurable

Tool ecosystem

Native

External-axis coordination

One

Platform across ARC

ROBOT

Robot type	Industrial articulated robot
Architecture	Serial articulated robotic arm
Axes	7 (kinematically redundant)
Mounting	Floor, wall, inverted, rail
Installation	ARC system or engineered integration
Primary applications	Welding, handling, machining, finishing, dispensing, inspection

MOTION & CONTROL

Controller	Catfish Control X
Motion bus	EtherCAT
Redundancy resolution	Holds torch position and angle while the elbow repositions
External axes	Coordinated rails, positioners, gantries
Multi-robot coordination	Supported

PROCESS

Welding process integration	GMAW (MIG/MAG) platform support; FCAW
Tool interface	Multi-process end-effector architecture
Automatic tool changing	Configurable
Seam sensing	Supported / configuration dependent
Sensing	Native 3D vision and laser seam-sensor interface
Vision integration	Supported
Process monitoring	Supported

TOOL ECOSYSTEM

Tool ecosystem	Configurable tool ecosystem
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Tools	MIG/GMAW welding torch, Parallel mechanical gripper, Vacuum gripper array, Drilling/machining spindle, Grinding/surface-finishing tool, 3D vision/laser scanner, Sealant/adhesive dispensing tool, Touch probe/metrology tool, Sanding/polishing tooling, Fastening/torque tooling
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SOFTWARE

Offline programming	Supported
Digital twin	Supported
CAD-based programming	Supported
Production traceability	Supported
Programming	Catfish Studio offline programming and simulation
CAD import	STEP, IGES, Parasolid

INTEGRATION

Plant protocols	EtherNet/IP, PROFINET, OPC UA
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SAFETY

Safety architecture	Installation-specific industrial safety architecture
Safety elements	Emergency-stop circuits, safety-rated interlocks, safety PLC, perimeter guarding, access gates, area scanners, light curtains, machine-state monitoring, controlled zones, status towers, safe-stop functions
Safety functions	Safety-rated functions are implemented through the installation-specific industrial safety architecture.
Real-time loop	Cloud is never in the real-time loop

FUNCTIONS

Seventh-Axis Redundancy

A redundant joint gives W7 a family of postures for every tool position.

Torch-Angle Hold

The elbow repositions around frames while torch position and angle stay fixed.

External-Axis Sync

Rails, positioners and gantries move in one trajectory with the arm through Control X.

Automatic Tool Changing

One arm switches between weld, handle, drill, grind, inspect and dispense tools.

Seam Sensing Interface

Native 3D vision and laser seam-sensor inputs locate the real joint before the arc starts.

Offline Programming

Paths are built and simulated in Catfish Studio from STEP, IGES or Parasolid models.

Flexible Mounting

Floor, wall, inverted or rail mounting fits the arm to the workspace.