Rollon » Engineering Resources to build Cartesian Robot

Engineering Resources to build Cartesian Robot	Quantum Rollon	Customer
Design		
Define Strokes required for the application		x
Identify Load capacity required		x
Define Motion parameters		x
Identify function of the Cartesian Robotic Arms		x
Define End of Arm Tooling required		x
Define Mounting Surface		x
Mechanical Sizing - 3 actuators	x	
Fixing Brackets - Design, specify and make prints for the machinist	x	
Mounting Brackets - Design method of mounting axis to machine base	x	
Motor Mounts - Design interfaces and source mounts	x	
Cable Management - Design brackets, size cable carriers, define cable lengths & attachment	x	
Electrical Resources		
Size Servo Motors - 3 motors	x	
Size Drives with appropriate voltage and wattage - 3 drives optimize the system	x	
Define Control System and understand capabilities for complex motion commands	x	
Provide Training on programming the PLC - provide sample logic for moves	x	
Program the PLC - set up the High Speed Input and High Speed Output points		x
Specify HMI - ensure proper communication with controller and data mgmt & acquisition	x	
Provide Training on programming the HMI - Provide sample screens	x	
Program HMI - Define Screens - Graphics, Alarms, Reports, Recipes		x
Size Enclosure for Control Box - Ensure adequate temperature control	x	
Specify incoming voltage management - breakers, power supplies, etc.	x	
Specify control signal wires	x	
Specify 24 VDC for control and I/O - determine IO count & loop power	x	
Layout the PLC backplane and determine wiring diagram to each module	x	
Panel CAD or Visio Drawing	x	
Conform to UL508 and IEEE standards - (optional) ISO9001 binder	x	
Define E-stop circuit and connections to drives and control system	x	
Design cable layout through the box to the motors	x	
Design I/O connection locations and runs back to the box	x	
Define network interfaces - eWON - secure remote access router	x	
Create Kit of Parts		
Determine all parts required & assemble into 1 kit P/N that ships at the same time to customer	x	
Order Custom Kit P/N (part number) specific for the machine/robot		x
Mechanical Assembly		
Mount actuators to brackets and align		x
Mount cable brackets to actuators		x
Fish cables through cable carriers		x
Align Home Switches and fish through cable carriers		x
Attach EOT to actuators		x
Mount X-axis to machine base		x
Electrical - Assembly		
Connect Power Source		x
Connect to Customer Network		x
Connect I/O wires to connection points		x
Connect umbilical cord to X-axis		x
Commissioning		
Define I/O in HMI		x
Teach Points		x
Define Path and sequence		x
Run Commissioning diagnostic and run in program		x