<u>O Motors</u>	Customizable "Control System In A Box" - Ready For Industrial Use
Great	Reduce the learning curve / engineering
educationa	by months with a pre-configured, ready
tool also !	to run PLC motor control system with
Model:	sensors and pneumatics.
# of Motors:::	0; #of Digital Inputs: 24; #of Digital Outputs: 8; #of Relay Outputs 16; Analog Inps: 3
PLC Type:	Unitronics v1040 with 10" touchscreen - Connected to IO via expansion cable
Sensors:	0 Turck / Banner or of similar quality; with +24Vdc 3 light LED signal stacklight
:	all components mounted on din rails w/ panduit
Control Voltage:	+24V DC - 10 amp power supply
Input Voltage:	120V AC ; 15 amp power cord



Control System Component Description:

This automation control system allows the user to operate motors and outputs immediately from the HMI touchscreen interface. The maintenance screens allow direct manipulation of all motors and outputs once system has initialized. An sensor input screen displays the status of all connected sensors and inputs from connected smart motors. Each axis is programmed with a homing program that will allow / dis-allow automatically homimg at power up based on a setup parameter on one of the HMI motor setup parameter screens.

System is ready for use out of the box after plugging in Unitronics v1040 PLC / HMI expansion cable, RS232 communications cable into port #2, and plugging in Unitronics v1040 PLC power cable (shown on supplied diagram). Next plug in the 120VAC power cable to power up motion control system. The "E-Stop" button will need to be pulled out to allow motion control (Red light on stacklight will be ON with E-stop button pushed). Initialization is complete when green light on stacklight is ON. Motion control system is ready for use at end of initialization.

- Pre-loaded PLC with latest Visilogic ladder logic software program in Unitronics v1040 10" HMI panel ready for use at power up. Comes with 15ft long expansion cable, 15 ft long power cable; Two (2)15 ft long RS232 communications cables for HMI to MDrive control.

- All cabling and interconnect wiring is pre-connected on supplied electrical panel with components mounted on TS35 din rail. Electrical connection diagram for power supply, HMI / PLC.

- Visilogic ladder / HMI software and Schneider Electric motor control software will be pre-loaded onto a laptop computer with necessary communication cables for downloading software to Unitronics PLC and Mdrive motors. Laptop PC will come as part of package with system.

- Phone support will be available free of charge.

- Customization of PLC and motor software is available at vendor request to Hall Control Systems.

Potential Uses:

- Litton, Herbert Arnold, Heathway,or any type of lathe / motion control system SIGNED

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- Inspection control system
- Education ladder logic / motion control teaching / training system
- Any system that needs motion / PLC controls

Motion Control System Contents - 2 Motors:

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Component Parts

- 1 Unitronics v1040-T20B 10" PLC / HMI
- 1 Visilogic PLC Ladder / HMI programming software
- 1 Downloadable Visilogic ladder program executable
- 1 Unitronics PLC / HMI to PC USB Communications / Programming Cable
- 1 Unitronics PLC / HMI 15 ft Expansion I/O cable
- 1 Unitronics PLC /HMI RS232 Communications cable for MDrive Interface
- 1 Unitronics v1040-T20B PLC / HMI +24V power cable
- 1 10 Amp +24V DC power supply with plug in power cord

Ordering Information:

Part #: HCS-5670 Note: * All cable lengths can be extended or shortened at customer's request

Contact Information:

Hall Control Systems, Inc. via Ebay email process



Motion Control System Menus

Customization based each customer is expected for main screen images. The main process control subroutine can be written by the customer or by the HCS, Inc at customer request.



Motion Control System Main Maintenance

Maintenance Menu - Mair	
Pneumatics & I/O Status	
Motion Controls	
SPARE	V
SPARE	
 SPARE	
Product Development	
SPARE	

<u> Motion Control System - Process Parameters</u>										
Process Forming										
Axis #1 P	Params	Paramete	Separams	Axis #3 Params						
Position #1 Move Distance	26.400 mm	Position #1 Move Distance	<mark>126.400 mm</mark>	Position #1 Move Distance	6.100 mm					
Position #1 Move Velocity	1.30mm/s	Position #1 Move Velocity	15.30mm/s	Position #1 Move Velocity	3.40mm/s					
Position #2 Move Distance	98.560 mm	Position #2 Move Distance	303.230 mm	Position #2 Move Distance	18.50 mm					
Position #2 Move Velocity	0.25 mm/s	Position #2 Move Velocity	2.43 mm/s	Position #2 Move Velocity	1.43 mm/s					
1000	and the second	Position #3 Move Distance	0.10 mm	Position #3 Move Distance	45.65 mm					
and a		Position #3 Move Velocity	9.45 mm/s	Position #3 Move Velocity	1.45 mm/s					
1 Carlo		-								
			<u>Axis #4 - Spin</u>	dle Params						
			Spindle Speed	68 RPM						
					and the second					
PREV					EXIT					

	Motion Control System Maintenance Screen - Motion				<u>Motion Control System Developement / Testing</u> Screen						Motion Control System Maintenance Screen - Motion Controls					
PREV	REV Maintenance I/O Status			EXIT	BALL USK Product Development / Setup				ion	PREV Maintenance Screen - Motion Controls						
HS Chu	uck	TS Chuck	Tool		Spindle Controls		Pne	eumatic Controls	Extend Retra	ict	Absolute Move	Axis #1 Distance (in)			Axis #3 Distance (in)	Absolute Move
OPEN	CLOSE OPE	N CLOSE	Extend	Retract	Spindle Spindle On OFF	Upen HS Chuck	Chuck Chu	ck Chuck			Move Left	0.125	Move Right	Move Retract	5.000	Move Extend
					Fire Carriage C	ommands	Tailstock Comr	nands	Tool Carriage Commands			Velocity (in/s)			Velocity (in/s)	
Sensor Inputs	I/O O HMi Button & Drive Inputs	Control Signal Status PLC Output-:	> Motor	Pneu Stack Valves Light	Move Axis # to Position #	Abs or Incr Move Mode	Move Axis #2 to Position #1	Abs or Incr Move Mode	Move Axis #3 to Abs or Position #1	lincr Mode	Drive ON	0.300	Drive OFF	Drive ON	2.000	Drive OFF
Limit Spring	HMI Motor Out Buttons ->PLC Start #1 Sig	Sig->#1 Sig->## Home CW/Limit	2 Sig->#3 Sig->SP	SV#1 Red	Move Axis #	Abs or Incr	Move Axis #2 to	Abs or Incr	Move Axis #3 to Abs or	Incr		HOME	@ Startup		HOME	@ Startup
#2Home #2 Psh Limit Spring	E-Stop #2 Sig	Home CCW Limit	Ŏ	SV #2 Yellow	to Position #	Move Mode	Position #2	Move Mode	Position #2	Aode	Absolute Move	Axis #2 Distance (in)			Axis #4 Speed (RPM)	
Home #3Fwd		Perform Operation Signal #1	$\bigcirc \bigcirc$	SV #3 Green	Axis #1 Home	Motor	Move Axis #2 to Position #3	Abs or Incr	Move Axis #3 to Abs or	Incr	Move Left	0.010	Move Right	Rotate CW	145	Rotate CCW
	ON/OFF #3Sig	Perform Operation Signal #2	0	SV M	Axis #2 Home	VW				Aode	Drive ON	Velocity (in/s)	Drive OFF	Drive ON	STOP Rotation	Drive OFF
Crash Extend	SPARE SP Sig	Status Override Stat	us	Motor E-Stop	Axis #3 Home		Move Axis #2 to Position #4	Abs or Incr Move Mode	Command to Send to MDriv	/es		HOME	@ Startup	ALL Drives ON / OFF	HOME Lathe	
FootSw Retract		Status Messages / Alarms	T . T . D' . I		Spindle		Status Messages / Alar	rms 🔍			Douolon	=500'ers=3.008				EVIT
	I ext_to_Display text_to_Display Text_to_Display Text_to_Display			PREV NEXT	e			EX.	(IT	neagion		und Chief Ones D		044 K	LAIT	