

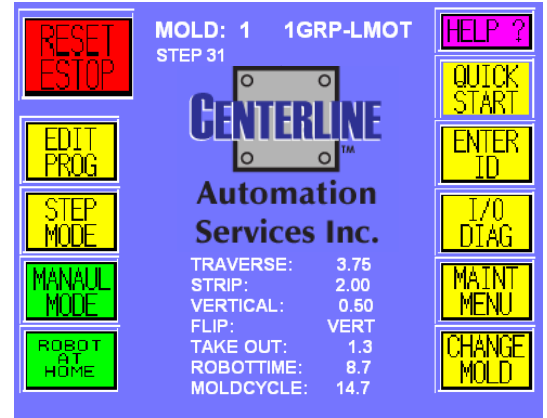
CenterLine Color Touch Screen Controller

Fully-Open Teach Pendant System in a Powerful Graphic Format:

- Responsive color touch-screen display
- Easy to follow onscreen pop-up menus
- Quick-start and easy Teach modes for quick start-ups
- Help screens for all robot operations
- Multilevel password protection
- Simple to read real time Input/ Output screens for all robot functions
- Robot and molding machine real time simulation screen
- Real time robot positions displayed along with cycle time, robot take-out time, and overall robot cycle time
- Quick set-up of simple and complex palletizing routines
- Pause Mode: Allows the robot to be stopped during full auto operation with the touch of a button, robot resumes full auto when button is depressed again




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COLOR TOUCH SCREEN (MAIN/HOME)

MOLD: 1 1GRP-LMOT
STEP 31



Automation Services Inc.

TRAVERSE: 3.75
STRIP: 2.00
VERTICAL: 0.50
FLIP: VERT
TAKE OUT: 1.3
ROBOTTIME: 8.7
MOLDCYCLE: 14.7

RESET
ESTOP

EDIT
PROG

STEP
MODE

MANUAL
MODE

ROBOT
AT
HOME

HELP ?

QUICK
START

ENTER
ID

I/O
DIAG

MAINT
MENU

CHANGE
MOLD

FLIP: A+ A- ROLL: B+ B- L/O

TRaverse: 3.75 POSITION SELECT

STRIP: 2.00 POSITION SELECT

VERTICAL: 0.50 POSITION SELECT

GRIP/VACS SEL: GRIP 1 OFF

MAIN ROBOT HOME PROG MODE

STEP	ACTION	INSTRUCTION	FRR/ERR?
1	ACCEL %		100.00
2	DECEL %		100.00
3	EX & WT	VERT TO MOLD 1	41.55
4	EX & WT	STRIP TO MOLD 1	6.75
5	EX & WT	EJECT FWD	0.00

MAIN RUN STOP PAUSE I/O

HELP MENU

POWER UP	PROGRAMMING	STEP MODE
HOMING	EX & WT	AUTO
CALIBRATING	EXEC.WAIT	TUNE UP
AUTOHOMING	MOVTHRU	CHANGE MOLD
AT HOME	DELAY, IF	MOLD NAMING
MANUAL	COUNTERS	MAINTENANCE
JOG SPEED	GOTO	HOME SETUP
JOG KEYS	INSRT,DELETE	POS SETUP
POSIT LIST	SPD,ACC,DEC	PALLET
TEACH POSIT	END PRG	MOTOR(AUTO)
PNEUMATICS	INSTRUCTION	MOTOR(MAN)
GRIP/VACS	# INSTR	GEARING
AUXILIARY	WORD INSTR	HELP

QUICK TEACH

HOME POSITION

TRaverse (X) 3.56

STRIP (Y) 2.34

VERTICAL (Z) 0.50

MOLD 1 PICKUP

TRaverse (X) 3.56

MOLD 1 6.54

STRIP (Y) 2.34

MOLD 1 47.87

VERTICAL (Z) 0.50

50% JOG

MAIN MANUAL PROG TEACH

INPUT DIAGNOSTICS

E-STOP X0	FLIP VERT X10	X4 O T
AUX 1 X1	FLIP HORZ X11	X- O T
AUX 2 X2	G/V 1 X12	X HOME
AUX 3 X3	G/V 2 X13	Y O T
SEC READY X4	G/V 3 X14	Z- O T
SPARE X5	G/V 4 X15	Y HOME
HNDOFF DONE X6	ROLL 90 X16	Z+ O T
SPARE X7	ROLL HOME X17	Z- O T
MOLD OPEN X8	ROLL 45 X18	Z HOME
MOLD CLOSE X9	MIDPIN OUT X19	X = 3.75
EJECT BACK XA	G/V 5 X1A	Y = 2.00
EJECT FWD XB	BALLAST X1B	Z = 0.50
CORE SET XC	G/V 6 X1C	TIMERS
CORE PULL XD	G/V 7 X1D	TAKE OUT
GATE CLOSE XE	SPARE X1E	ROBOT TIME
IMM AUTO XF	G/V 8 X1F	MOLD CYCLE

EXIT I/O DIAG VIEW OUTPUTS

MOLD UTILITIES

MOLD # 1 MOLD NAME 1GP-LMOT

A	B	C	D	E	F	BS	CLR
G	H	I	J	K	L	7	8 9
L	M	N	O	P	4	5	6
Q	R	S	T	U	1	2	3
V	W	X	Y	Z	0	-	ENT

MAINTENANCE

CONVEYOR SETUP

RUN TIME: 5.0 SECS

AUTO LUBE SETUP

AUTO CYCLES PER LUBE: 1000

LUBE SHOTS PER CYCLE: 10

SCREEN Saver OFF

PASS WORD SETUP

CUBOID SETUP

MAIN HOME POS. PALLET MOTOR SETUP

MAINTENANCE SCREEN

MAINTENANCE [?]

CONVEYOR SETUP

RUN TIME: 5.0 SECS [Slider]

AUTO LUBE SETUP

AUTO CYCLES PER LUBE: 1000 [Slider]

LUBE SHOTS PER CYCLE: 10 [Slider]

SCREEN SAVER OFF

PASS WORD SETUP

CUBOID SETUP

MOTOR SETUP

MAIN HOME SETUP POS. SETUP PALLET SETUP MOTOR SETUP

Help Button on every screen

Screen Saver

5 Levels of Set-up

PASSWORD SETUP

SET PASSWORD FOR LEVEL: 5

0

MANUAL MOLD CHANGE PROGRAM MODE MAINTENANCE CUBOID SETUP MOTOR SETUP MOTOR GEARING

MAIN MAINT MENU

Safety Zone Set-up

DUNGS SIDE OF GATE FOR ROVER TRAVEL: 26.03

VERTICAL OF THE GATES: 1.00

LOWEST NUMBER IN THE MOLD: 33.66

VERTICAL OF THE MOLD: 48.14

HIGHEST NUMBER IN THE MOLD: 55.49

RIGHT SIDE OF GROUP GFR: 76.86

50% JOG

A+ A-

X+ X-

Y+ Y-

Z+ Z-

MAIN MAINT MENU

Homing Set-up

HOMING SET UP [?]

FLIP OVER TIEBARS? VERTICAL

ROLL UNIT IN USE? NOT IN USE

TOOL PICKS OFF? MOVEABLE SIDE

EJECTOR BYPASS? OFF

CORES BYPASS? OFF

MAIN MAINT MENU

Position & Grip/Vac Set-up

POSITION AMOUNTS [?]

TRAVERSE AXIS = 16 GRIPPERS = 2

STRIP AXIS = 16 VACUUMS = 2

VERTICAL AXIS = 18

MAIN MAINT MENU

Palletizing Set-up

PALLETIZING SET UP [?]

X AXIS = 5

Y AXIS = 2

Z AXIS = 4

PARTS = 0

TYPE = SIMPLE

MAIN MAINT MENU

Motor RPM Set-up

X-AXIS MOTOR AUTO SETUP [?]

MAX AUTO SPEED: 4500 RPM

MAX ACCEL: 0.600 SECS

MAX DECEL: 0.600 SECS

AUTO ADJUST SPEED IN AUTOMATIC

MANUAL SETUP

MAX JOG SPEED: 250 RPM

500 RPM: HOMING SPEED

ACCEL/DECEL: 2.000 SECS

Y-AXIS SET UP Z-AXIS SET UP MAINT MENU

MANUAL MODE SCREEN

Current Positions Displayed in Inches

FLIP: **A+** | **A-** ROLL: **B+** | **B-** **QUICK POSITION TEACH**

TRAVERSE: 3.75 **X+** | **X-** **POSITION SELECT**

CURRENT POSITION

STRIP : 2.00 **Y+** | **Y-** **POSITION SELECT**

CURRENT POSITION

VERTICAL: 0.50 **Z+** | **Z-** **POSITION SELECT**

CURRENT POSITION

GRIP/VACS SEL : GRIP 1 OFF **GRP/VAC SELECT**

MAIN **ROBOT AT HOME** **PROG MODE** **ALL GR/VAC AUX** **50% JOG SPEED**

Quick Teach Screen

QUICK MOVES LIST **TEACH**

HOME POSITION	MOLD 1 PICKUP
TRAVERSE(X): 0.00	TRAVERSE(X): 1.69
MOLD1(Y): 0.00	MOLD1(Y): 0.22
STRIP(Z): 2.00	STRIP(Z): 0.00
VERTICAL(Z): 0.50	VERTICAL(Z): 0.32
PART RELEASE1	PART RELEASE2
TRAVERSE(X): 0.00	TRAVERSE(X): 0.00
STRIP(Z): 0.00	STRIP(Z): 0.00
VERTICAL(Z): 0.00	VERTICAL(Z): 0.00

STEP ACTION INSTRUCTION **BACK**

000 EX & WT GO TO HOME

Traverse Teach Positions

TRAVERSE POSITIONS LIST **?**

TRAV MOLD 1: 3.75	TRAV AUX 5: 0.00
TRAV MOLD 2: 0.00	TRAV AUX 6: 0.00
TRAV PRS 1: 0.00	TRAV AUX 7: 0.00
TRAV PRS 2: 0.00	TRAV AUX 8: 0.00
TRAV AUX 1: 0.00	TRAV AUX 9: 0.00
TRAV AUX 2: 0.00	TRAV AUX 10: 0.00
TRAV AUX 3: 0.00	TRAV PLTSTR: 0.00
TRAV AUX 4: 0.00	TRAV PLINKT: 0.00

CURRENT POSITION: 3.75 **TEACH** **BACK**

Main Screen

STOP MOLD: 1 1GRP-LMOT **HELP** **?**

STEP 31 **QUICK START**

EDIT PROG **ENTER ID**

STEP MODE **I/O DTAG**

MANUAL MODE **MAINT MENU**

ROBOT AT HOME **CHANGE MOLD**

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TRAVERSE: 3.75
STRIP: 2.00
VERTICAL: 0.50
FLIP: VERT
TAKE OUT: 1.3
ROBOT TIME: 8.7
MOLDCYCLE: 14.7

Program Sequence

STEP	ACTION	INSTRUCTION	PAR/BRP ?
0	SPEED %		100.00
1	ACCEL %		100.00
2	DECEL %		100.00
3	EX & WT	VERT TO MOLD 1	41.55
4	EX & WT	STRIP TO MOLD 1	6.75

MAIN **MANUAL**

Grip/Vac Selection

GRIPS & VACS **?**

GRIP 1 =Y12/X12 **N/A** =Y16/X16

GRIP 2 =Y13/X13 **N/A** =Y17/X17

VAC 1 =Y14/X14 **N/A** =Y18/X18

VAC 2 =Y15/X15 **N/A** =Y19/X19

MAIN **MANUAL MODE** **AUX I/O** **IMM I/O** **NEXT AUX I/O**

Jog Speed Setting (0-100 %)

7	8	9	CLR
4	5	6	▲
1	2	3	▼
0	-	ENT	