

Plasma Technology Systems HMI -PLC Control System Option



The Plasma HMI System monitors and controls the Plasma System Process Controller, allowing the operator to initiate a process in automatic mode, change recipes, change set points, and manually activate devices, view trends, view alarms and export data for analysis. The system consists of or allows:



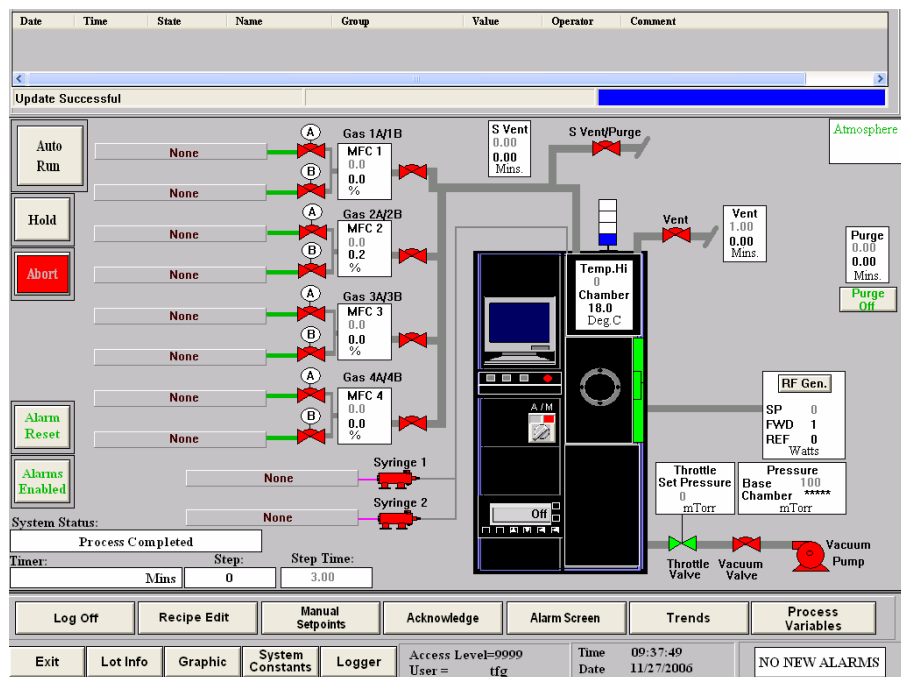
- Allen Bradley PLC
- Wonderware (21 CFR Part 11 compliant)
- HMI 15" touch screen
- Windows XP
- Mounting Arm
- Applicable software licenses
- Simultaneous viewing of parameters
- Recipe management through Wonderware allowing for storage capabilities for 600 process recipes with up to five separate steps each
- Control for external optional relay-driven liquid pump(s)
- Visual and audible alarms
- Alarm banner
- Multiple user levels controlled by Administrator
- Manual and Automatic mode operations for authorized user

- Separate screens for:
 - Recipe management
 - Lot information
 - Manual set points
 - Displaying active, acknowledged and historical alarms
 - Trend viewing and plotting of all parameters
 - Viewing process variables for present recipe step
 - Setting limits
 - Data logging of parameters
- Connection for USB, Network Cable, Keyboard and mouse
- Uninterruptible Power Supply to prevent damage due to unexpected power outages or inadvertent system shut downs

Alarm Banner displays current Alarms for the system.

Area Detail displays a view of the major components of the system and their current status.

Bottom Banner displays pushbuttons used for operating the system, as well as time, date and alarm status



SAMPLE GRAPHIC HMI MENU SCREEN

Select Recipe Save Delete Reload From Recipe Load To PLC Read From PLC

Recipe Setpoints in PC

Name	Setpoint	Description	Name	Setpoint	Description
Gas 1 [%]	0.0	Gas 1 Setpoint	Throt (mTorr)	0	Base Setpoint
Gas 2 [%]	0.0	Gas 2 Setpoint	Gas 1A	Ar	
Gas 3 [%]	0.0	Gas 3 Setpoint	Gas 1B	2	
Gas 4 [%]	0.0	Gas 4 Setpoint	Gas 2A	3	
Base (mTorr)	0	Base Setpoint	Gas 2B	4	
RF Power (Watts)	0	RF Setpoint	Gas 3A	5	
Process Time (Mins)	0.00	Process Setpoint	Gas 3B	6	
Pause Time (Mins)	0.00	Pause Setpoint	Gas 4A	7	
Purge Time (Mins)	0.00	Purge Setpoint	Gas 4B	8	
S Vent Time (Mins)	0.00	Slow Vent Setpoint	Liquid 1	9	
Vent Time (Mins)	0.01	Vent Setpoint	Liquid 2	10	
Temp Hi Limit (Deg.C)	-99	Temperature Hi Limit SP			

Use Default Gas/Liquid

Recipe Select: None Step 1 Step 2 Step 3 Step 4 Step 5 Clear Step Hide

Liquid Pump1 On Off Description Liquid Pump1 Select
Liquid Pump2 On Off Description Liquid Pump2 Select

SAMPLE RECIPE SCREEN

HISTORICAL ALARMS 0

Date	Time	State	Oper	Group	Name	Group	Val
01 Jul	14:44:36	UNACK	RT	dfg	Cycle Started	PV PB AUTO RUN	Report
01 Jul	14:44:37	UNACK	RT	dfg	Cycle Started	PV PB AUTO RUN	Report
01 Jul	14:44:38	UNACK	RT	dfg	Cycle Started	PV PB AUTO RUN	Report
01 Jul	14:44:39	UNACK	RT	dfg	Cycle Started	PV PB AUTO RUN	Report
01 Jul	14:44:42	UNACK	RT	dfg	Cycle Started	PV PB AUTO RUN	Report
01 Jul	14:44:31	UNACK	RT	dfg	Cycle Started	PV PB AUTO RUN	Report
01 Jul	14:40:00	UNACK	None		Cycle Completed	Phase 14	Report

Update Successful

SCREEN TYPE: HISTORICAL ALARMS (selected), ACTIVE ALARMS

ACKNOWLEDGE ALARMS

DISPLAYED ALARMS: Cycle Phase Report

Cycle Phase Report ALL ALARMS

SAMPLE ALARM SCREEN

Date	Time	State	Name	Group	Value	Operator	Comment
11/20/06	18:23:50	UNACK	Alarm Buzzer	PLASMA_SYSTEM	Normal	PLASMA/dfg	Alarm Buzzer Activated!
11/20/06	18:23:50	UNACK	ALM_MFC_2_NO...	PLASMA_SYSTEM	Alarm	PLASMA/dfg	Gas 2 Did Not Come Within Limits

Update Successful

System Status: Gas on

Timer: Mins 1 Step Time: 2.00

Log Off Recipe Edit Manual Setpoints Acknowledge Alarm Screen Trends Process Variables

Exit Lot Info Graphic Limits Logger Access Level=0000 User = tfg Time Date 18:23:50 11/20/2006

SAMPLE ALARM EVENT ON MAIN GRAPHIC