

Client: _____
Project: _____
Project Location: _____
Revision: _____
Date: _____



PLC System - Minimum Requirements

Most of the electrical components in your system will be driven by a motor of some sort.

How smart your system will interpret faults for your operators will depend on the signals you choose to monitor
However remember the more inputs and outputs you have the equipment and programming costs increase too.

Electric Motors	Total QTY	Motor Control Starter Type					
		D.O.L.	Star Delta	Soft Start	VSD	Other	
Typical Digital Inputs per motor							
	"All" or QTY	Yes/No	Description of Input Type			Sub totals	Comment
			Circuit Breaker Tripped				
			Relay -Motor Running Signal [Typical Minimum Required signal]				
			Thermal Overload or Fault				
			Stop Button [if not from HMI screen]				
			Start Button [if not from HMI screen]				
			Estop				
			Field Isolator				
			No Load Current Sensor				
			Underspeed Switch [typically for belt driven loads & conveyors]				
			other -				
						Sub Total DI:	
Typical Digital Outputs per motor							
	All or QTY	Yes/No	Description of Output Type				
			Run - turn on [Typical Minimum Required signal]				
			Fault Lamp				
			Remote Reset control				
			other -				
						Sub total DO:	
Typical Variable Speed Drive I/O Considerations							
Should have fault feed back and run signal as minimum [so mark in Quantity above]							
Speed Control							
						Fixed Steps digital QTY	
Signal Type	0-10Volt	0-20mA	4-20mA				
						Sub total AI:	
Speed Feedback							
Signal Type	0-10Volt	0-20mA	4-20mA				
						Sub total AO:	

CONTROL	Digital Inputs		Analog Inputs - Signal Types				Digital Outputs		
	Opened QTY	Closed QTY	0-10Volt QTY	0-20mA QTY	4-20mA QTY	Other	on/off QTY	Open QTY	Close QTY
Linear Movement Devices									
Valves									
Air/Hydraulic Rams									
other-									

Sun total DI:

Sub total AI:

Sub total DO:

MONITORING	Digital Inputs	Analog Inputs - Signal Types					Analog Out - Retransmit or		
	Simple Switch QTY	0-10Volt QTY	0-20mA QTY	4-20mA QTY	Termo coule QTY	RTD 0-100ohm QTY	Other	0-10Volt QTY	0-20mA QTY
Process Variables									

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Pressure									
Level									
Weight									
Flow									
Temperature									
other -									

Sub total DI:

Sub total AI:

Sub total AO:

MONITORING LOCATIONS	Digital Inputs		Digital Outputs	
	Simple Switch QTY	Other	Simple Switch QTY	Other
Devices				
Proximitys				
Limit Switches				
Infra Red				
Plant Interlocks				

Sub total DI:

Sub total DO:



Control Logic Overview [how the PLC code is to be written]	Yes/No
Simple sequence starting and stopping with plant interlocks - Auto mode	
Individual stoping and starting of each plant item - manual mode	
Plant Alarms - one general alarm	
Detailed description Alarms	
How many PI loops are required	
Do you have a detailed functional description of the process	

List Process Variables used for control

List Process Variables that will be display only

PLC Documentation	Yes/No	QTY
Program Provided on disc [pdf version]		
Printed out copy of program		
PLC Electrical Connections on disc [pdf/CAD]		
PLC Electrical Connections printed		

PLC Software	Yes/No	QTY
PLC Programming Software		
Program Provided on disc [as programmed]		

Total PLC System Inputs & Outputs

DI	
DO	
AI	
AO	
Total I/O	

PLC Brand preferences

- 1 _____
- 2 _____
- 3 _____
- 4 _____

Operator Interface - Minimum Requirements

Human Machine Interface [HMI] -Operator Terminal	Yes/No	QTY
Do you require Trending of process variables?		
Do require data transfer to business software systems capability?		
Control Panel with Push buttons		
Monochrome smallest screen practicable		
Monochrome screen approx height = width =		
Colour screen smallest screen practicable		
Colour screen approx height = width =		
Personal Computer Type HMI Interface located in Control Room		
Personal Computer Type HMI Interface located in Control Cabinet		
other -		

HMI Brand preferences

- 1 _____
- 2 _____
- 3 _____
- 4 _____

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Minimum Display Screens - What would you like to see on your HMI?	Yes/No
Simple box type graphical indicators with text	
2 dimensional simple graphics that resemble the plant	
2 dimensional pretty graphics that show the plant in more detail	
3 dimensional pretty graphics	
Actual photos of the plant in some areas	



List some screens you might expect to have in your HMI;

HMI Controlling Parameters for Operators	Yes/No	Comment
Simple Stop/Start & Set Points the code does the rest		
Batch monitoring and data logging		
Do you require direct access to any PID loop controlling parameters		
Display raw digital input and output signals for diagnostics		
Simple - General Alarming of faults		
Fault specific alarms		
Alarming with detailed comments for diagnostics		

HMI Documentation	Yes/No	QTY
HMI Operators Manual on disc [pdf version]		
HMI Operators Manual printed version		
Operator Training		

HMI Software	Yes/No	QTY
HMI Development Software		
HMI Program on disc [as programmed]		
HMI Licence - Tags		