







OWNER:  شرکت ست و سوتی آوند ابراهیمان (سامانی نغاس)	BUSHEHR PETROCHEMICAL COMPANY MEG PLANT						EPC CONTRACTOR:  Chagalesh-Enerchimi-Steam Joint Venture BUPC-MEG PLANT PROJECT		
	MC :  شرکت ست و سوتی آوند ابراهیمان (سامانی نغاس)	<b>I/O LIST FOR EMERGENCY INSTRUMENT AIR COMPRESSOR</b>							
Owner Document Number: 17811-06B	Project	Area	Phase	Unit	Dis.	Doc.	Seq.	Contract No : 52-98/445	
	BU	20	VD	303	IN	LST	0084	Rev.: 03	Page 1 of 4

## I/O LIST FOR EMERGENCY INSTRUMENT AIR COMPRESSOR

 شرکت ست و سوتی آوند ابراهیمان توسعه ابراهیمان	 Chagalesh-Enerchimi-Steam Joint Venture BUPC-MEG PLANT PROJECT	BUSHEHR PETROCHEMICAL COMPANY MEG PLANT
<b>Document Review</b>		
Issue Purpose:	AFC	
Result Code: AP,AN,CM,RE,NC	AN	
Next Status : IFC,IFA,IFI,AFC,AB	AFC	
Responsible Department	MECHANICAL	
Commented Date	Feb/23/2022	
<b>Approval or review hereunder shall not be construed to relieve Vendor / Subcontractor of his responsibilities and liability under the contract.</b>		

Rev.	Date	Purpose of Issue	Prepared	Checked	Approved	AC Code
03	10/02/2022	Approved for Construction	KP	RB	JR	
02	06/01/2022	Approved for Construction	WZ	KP	JR	
01	24/11/2021	For approval	WZ	KP	JR	
00	14/10/2021	For approval	WZ	KP	JR	
Class: 1	Phase: P					



# Inputs and Outputs List



## 1 LEGEND

SIGNAL TYPE	SIGNAL LEVEL	SCHEDULE total amount *	USED total amount *	SPARE total amount*	SPARE %	NOTES
<b>AI</b> Analog Inputs	4-20 mA	16	7	9	56%	
<b>DI</b> Digital Inputs	24 VDC	32	18	14	44%	
<b>DO</b> Digital Outputs	24 VDC	32	16	16	50%	
<b>AI</b> Analog Inputs	4-20 mA					No IO, only through PID controller

\*Total amount considering redundant IOs. All IO's are redundant

According to existing PLC in your UCP, so PID controller is not accepted and AO card must be considered, and also PID controller has conflict with issued P&ID, in the P&ID, control valve has been controlled via UCP.  
Please consider one analogue output card to control control valve, with considering related pressure signal that coming to UCP.

Please refer to comment in previous page

TAG NUMBER	SERVICE DESCRIPTION	INSTRUMENT TYPE	LOCATION	CONTROL SYSTEM	I/O TYPE	SIGNAL TYPE	POWER SUPPLY	IS/NIS	CALIBRATED RANGE	ENG UNIT	STATE 0	STATE 1	SET POINT LL	SET POINT L	SET POINT H	SET POINT HH	PLD NUMBER	PROTOCOL
PIT-71103	Compressor Inlet Air Pressure Transmitter	TRANSMITTER	FIELD	PLC	AI 4-20 mA (redundant)	ANALOG	LOOP POWERED	IS	0...13.5	bar(a)	-	-	6.9	-	-	8.6	BU-20-VD-303-PR-DWG-0066	HART
PIT-71104	Compressor Oil System Oil Pressure Transmitter	TRANSMITTER	FIELD	PLC	AI 4-20 mA (redundant)	ANALOG	LOOP POWERED	IS	1...5	bar(g)	-	-	1.5	-	-	-	BU-20-VD-303-PR-DWG-0066	HART
PIT-71107	Compressor Outlet Air Pressure Transmitter	TRANSMITTER	FIELD	PLC	AI 4-20 mA (redundant)	ANALOG	LOOP POWERED	IS	1...36	bar(a)	-	-	18.5	19 (load/start)	21 (Unload/Stop)	21.5	BU-20-VD-303-PR-DWG-0066	HART
TIT-71101	Compressor Inlet Air Temperature Transmitter	TRANSMITTER	FIELD	PLC	AI 4-20 mA (redundant)	ANALOG	LOOP POWERED	IS	0...80	°C	-	-	-	-	56	-	BU-20-VD-303-PR-DWG-0066	HART
TIT-71102	Compressor Upstream After-Cooler Air Temperature Transmitter	TRANSMITTER	FIELD	PLC	AI 4-20 mA (redundant)	ANALOG	LOOP POWERED	IS	0...200	°C	-	-	-	-	-	195	BU-20-VD-303-PR-DWG-0066	HART
FT-71103	Compressor Cooling Water Outlet Water Flow Transmitter	TRANSMITTER	FIELD	PLC	AI 4-20 mA (redundant)	ANALOG	LOOP POWERED	IS	0...5	m <sup>3</sup> /hr	-	-	-	-	2.3	-	BU-20-VD-303-PR-DWG-0066	HART
VT-71101	Compressor Vibration Level Transmitter	TRANSMITTER	FIELD	PLC	AI 4-20 mA (redundant)	ANALOG	LOOP POWERED	IS	0...25	mm/s	-	-	-	-	-	8	BU-20-VD-303-PR-DWG-0066	HART
PIV-71101	PIV-71101 I/P Actuator	I/P CONVERTER	FIELD	PIB CONTROLLER	AO 4-20 mA (redundant)	ANALOG	LOOP POWERED	NIS	0...100	%	-	-	-	-	-	-	BU-20-VD-303-PR-DWG-0066	HART
XY-71101	Compressor Inlet Solenoid Valve	SOLENOID VALVE	FIELD	PLC	DO 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Open	Closed	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
XY-71102	Compressor Cooling Water Inlet Solenoid Valve	SOLENOID VALVE	FIELD	PLC	DO 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Open	Closed	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
PB-71101	Compressor Start Pushbutton	PUSHBUTTON	LP	PLC	DI 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	-	-	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
PB-71102	Compressor Stop Pushbutton	PUSHBUTTON	LP	PLC	DI 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Stop	-	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
PB-71103	Compressor Emergency Stop Button	ESD PUSHBUTTON	LP	PLC	DI 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Emergency Stop	Normal	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
PB-71104	Compressor Lamptest Pushbutton	PUSHBUTTON	LP	PLC	DI 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Off	Lampstest	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
PB-71105	Compressor Start Pushbutton	PUSHBUTTON	UCP	PLC	DI 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	-	Start	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
PB-71106	Compressor Stop Pushbutton	PUSHBUTTON	UCP	PLC	DI 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Stop	-	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
PB-71107	Compressor Emergency Stop Button	ESD PUSHBUTTON	UCP	PLC	DI 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Emergency Stop	Normal	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
PB-71108	Compressor Lamptest Pushbutton	PUSHBUTTON	UCP	PLC	DI 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Off	Lampstest	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
PB-71109	Compressor Accept Pushbutton	PUSHBUTTON	UCP	PLC	DI 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Not Accept	Accept	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
PB-71170	Compressor Reset Pushbutton	PUSHBUTTON	UCP	PLC	DI 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Not Reset	Reset	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
HS-71101	Compressor Local/Off/Remote Switch	SWITCH	LP	PLC	DI 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Off/Local	Remote	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
XL-71101	Compressor Operational Lamp	LAMP	LP	PLC	DO 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Off	Operational	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
XL-71102	Compressor Running Lamp	LAMP	LP	PLC	DO 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Off	Running	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
XL-71103	Compressor Common Alarm Lamp	LAMP	LP	PLC	DO 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Off	Common Alarm	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
XL-71104	Compressor Common Trip Lamp	LAMP	LP	PLC	DO 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Off	Common Trip	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
XL-71106	Compressor Operational Lamp	LAMP	UCP	PLC	DO 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Off	Operational	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
XL-71107	Compressor Running Lamp	LAMP	UCP	PLC	DO 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Off	Running	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
XL-71108	Compressor Common Alarm Lamp	LAMP	UCP	PLC	DO 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Off	Common Alarm	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
XL-71109	Compressor Common Trip Lamp	LAMP	UCP	PLC	DO 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Off	Common Trip	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
HM-71101	Compressor Hourmeter	HOURMETER	UCP	PLC	DO 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Off	Hourmeter	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
HS-71120-R	Compressor Reset ESD Relay	ESD RESET RELAY	UCP	PLC	DO 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Normal	Reset	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
HS-71121-SD	Compressor Forced Shutdown	INTERFACE RELAY	UCP	PLC	DO 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Normal	Forced Shutdown	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
XS-71122-SI/SP	Compressor Main Motor Start/Stop	INTERFACE RELAY	UCP	PLC	DO 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Stop	Start	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
XS-71123-SI/SP	Compressor Oil Heater ON/OFF	INTERFACE RELAY	UCP	PLC	DO 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Off	On	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
XL-71124	Compressor Main Motor Running	CONTACT	UCP	PLC	DI 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Not_Running	Running	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
VAL-71125	Compressor Main Motor Fault	CONTACT	UCP	PLC	DI 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Fault	Healthy	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
XL-71126	Heater Running	CONTACT	UCP	PLC	DI 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Not_Running	Running	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
VAL-71127	Heater Fault	CONTACT	UCP	PLC	DI 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Fault	Healthy	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
KCS-715	Time Synchronization	CONTACT	UCP	PLC	DI 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	-	-	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
HS-715-SD-1	Emergency Shutdown Command	SIGNAL TO/FROM ESD	UCP	ESD	DI 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	ESD	Healthy	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
MAI-715-2	Common Alarm	SIGNAL TO/FROM ESD	UCP	ESD	DO 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Alarm	Healthy	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-
XS-715	Interlock Switch Stop Compressor	SIGNAL TO/FROM FCS	UCP	FCS	DI 24VDC (redundant)	DIGITAL	24 VDC	NIS	-	-	Stop	Not Stop	-	-	-	-	BU-20-VD-303-PR-DWG-0066	-