

OWNER:



شرکت ست و سوسی تو سید ایرانیا
(سهامی خاص)

**BUSHEHR PETROCHEMICAL COMPANY
MEG PLANT**

**MODBUS LIST FOR NITROGEN GAS
BOOSTER**

EPC CONTRACTOR:



Chagalesh-Enzerchimi-Steam
Joint Venture
BUPC-MEG PLANT PROJECT



MC :



Project	Area	Phase	Unit	Dis.	Doc.	Seq.
BU	20	VD	303	IN	LST	0057

Contract No : 52-98/445	
Rev.:	Page
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Owner Document Number:
17811-56A

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1 GENERAL

This section defines the signals to be made available by the LCP for transmission over the Modbus to the FCS

The LCP will be acting as the Slave node and the FCS as the Master node.

2 Modbus communication settings (configuration parameters)

2.1. LCP to/from FCS

General Data	
Protocol:	Modbus TCP/IP
Baud Rate	<i>Not Applicable</i>
Primary Master Parameters	
Master Id No.	<i>By Customer</i>
Interface	<i>By Customer</i>
IP-Address	<i>By Customer</i>
Subnet Mask	<i>By Customer</i>
Gateway	<i>By Customer</i>
Primary Slave Parameters	
Slave Id No.	10
Interface	CP-443-1
IP-Address	192.168.10.10
Subnet Mask	255.255.255.0
Gateway	192.168.10.254
Secondary Master Parameters	
Master Id No.	<i>By Customer</i>
Interface	<i>By Customer</i>
IP-Address	<i>By Customer</i>
Subnet Mask	<i>By Customer</i>
Gateway	<i>By Customer</i>
Secondary Slave Parameters	
Slave Id No.	10
Interface	CM
IP-Address	192.168.10.20
Subnet Mask	255.255.255.0
Gateway	192.168.10.254



(17811-56A)- Modbus List

NO.	AIRPACK TAG NUMBER	SERVICE	HOLDING REGISTER	BIT NO.	SIGNAL TYPE	FUNCTION CODE	UNIT	SCALE		ALARM VALUE(S)	TRIP VALUE(S)	RAW LOW COUNT	RAW HIGH COUNT	ALARM / TRIP TYPE	STATE 0	STATE 1	REMARKS
								0%	100%								
1	XA-400	Watchdog Bit From FCS	40001	0	BOOL	3 (Read)	-	-	-	-	-	-	-	-	-	-	Common for the system
2	PB-10155	Compressor A Start pushbutton [UCP]	40010	0	BOOL	3 (Read)	-	-	-	-	-	-	-	-	Start	-	-
3	PB-10156	Compressor A Stop pushbutton [UCP]	40010	1	BOOL	3 (Read)	-	-	-	-	-	-	-	Stop	-	-	-
4	PB-10158	Compressor A Lamptest pushbutton [UCP]	40010	2	BOOL	3 (Read)	-	-	-	-	-	-	-	Off	Lamptest	-	-
5	PB-10159	Compressor A Accept pushbutton [UCP]	40010	3	BOOL	3 (Read)	-	-	-	-	-	-	-	Not Accept	Accept	-	-
6	PB-10160	Compressor A Reset pushbutton [UCP]	40010	4	BOOL	3 (Read)	-	-	-	-	-	-	-	Not Reset	Reset	-	-
7	HS-10151	Compressor A Local/Off/Remote switch [UCP]	40010	5	BOOL	3 (Read)	-	-	-	-	-	-	-	Local	Remote	-	-
8	PB-10151	Compressor A Start pushbutton [LP]	40010	6	BOOL	3 (Read)	-	-	-	-	-	-	-	-	Start	-	-
9	PB-10152	Compressor A Stop pushbutton [LP]	40010	7	BOOL	3 (Read)	-	-	-	-	-	-	-	Stop	-	-	-
10	PB-10154	Compressor A Lamptest pushbutton [LP]	40010	8	BOOL	3 (Read)	-	-	-	-	-	-	-	off	Lamptest	-	-
11	XL-10151	Compressor A Operational Lamp [LP]	40011	0	BOOL	3 (Read)	-	-	-	-	-	-	-	off	Operational	-	-
12	XL-10152	Compressor A running Lamp [LP]	40011	1	BOOL	3 (Read)	-	-	-	-	-	-	-	off	Running	-	-
13	XL-10153	Compressor A Common Alarm Lamp [LP]	40011	2	BOOL	3 (Read)	-	-	-	-	-	-	-	off	Common Alarm	-	-
14	XL-10154	Compressor A Common Trip Lamp [LP]	40011	3	BOOL	3 (Read)	-	-	-	-	-	-	-	off	Common Trip	-	-
15	XL-10156	Compressor A Operational Lamp [LP]	40011	4	BOOL	3 (Read)	-	-	-	-	-	-	-	off	Operational	-	-
16	XL-10157	Compressor A running Lamp [LP]	40011	5	BOOL	3 (Read)	-	-	-	-	-	-	-	off	Running	-	-
17	XL-10158	Compressor A Common Alarm Lamp [LP]	40011	6	BOOL	3 (Read)	-	-	-	-	-	-	-	off	Common Alarm	-	-
18	XL-10159	Compressor A Common Trip Lamp [LP]	40011	7	BOOL	3 (Read)	-	-	-	-	-	-	-	off	Common Alarm	-	-
19	HM-10151	Compressor A Hourmeter [LP]	40011	8	BOOL	3 (Read)	-	-	-	-	-	-	-	off	Hourmeter	-	-
20	XY-10151	Compressor A Inlet Solenoid valve	40012	0	BOOL	3 (Read)	-	-	-	-	-	-	-	Closed	Open	-	-
21	XY-10152	Compressor A Cooling Water Inlet Solenoid Valve	40012	1	BOOL	3 (Read)	-	-	-	-	-	-	-	Closed	Open	-	-
22	XS-10122 stop	Compressor A Main Motor Start/Stop	40013	0	BOOL	3 (Read)	-	-	-	-	-	-	-	Stop	Start	-	-
23	XL-10124	Compressor A Main Motor Running	40013	1	BOOL	3 (Read)	-	-	-	-	-	-	-	Not Running	Running	-	-
24	YAL-10125	Compressor A Main Motor Fault	40013	2	BOOL	3 (Read)	-	-	-	-	-	-	-	Fault	Healthy	-	-
25	XS-10123 stop	Compressor A Oilheater Start/Stop	40013	3	BOOL	3 (Read)	-	-	-	-	-	-	-	Stop	Start	-	-
26	XL-10126	Compressor A Oilheater running	40013	4	BOOL	3 (Read)	-	-	-	-	-	-	-	Not Running	Running	-	-
27	YAL-10127	Compressor A Oilheater fault	40013	5	BOOL	3 (Read)	-	-	-	-	-	-	-	Fault	Healthy	-	-
28	XA-300	Compressor A PID control valve fault	40013	6	BOOL	3 (Read)	-	-	-	-	-	-	-	Fault	Healthy	-	-
29	XA-301	Compressor A PID control active (on/off)	40013	7	BOOL	3 (Read)	-	-	-	-	-	-	-	Stop	Start	-	-
30	XA-310	Compressor A PID oilheater fault	40013	8	BOOL	3 (Read)	-	-	-	-	-	-	-	Fault	Healthy	-	-
31	XA-311	Compressor A PID oilheater Active (on/off)	40013	9	BOOL	3 (Read)	-	-	-	-	-	-	-	Stop	Start	-	-
32	XA-410	Compressor A common Trip	40014	0	BOOL	3 (Read)	-	-	-	-	-	-	-	HIGH	Trip	Healthy	-
33	XA-411	Compressor A common Alarm	40014	1	BOOL	3 (Read)	-	-	-	-	-	-	-	HIGH	Alarm	Healthy	-
34	TAH - 10151	Compressor A - TIT 10151 - High Alarm	40014	2	BOOL	3 (Read)	-	-	-	-	-	-	-	HIGH	Alarm	Healthy	-
35	TAH - 10152	Compressor A - TIT 10152 - High Alarm	40014	3	BOOL	3 (Read)	-	-	-	-	-	-	-	HIGH	Alarm	Healthy	-
36	TAH H - 10153	Compressor A - TIT 10153 - High Trip	40014	4	BOOL	3 (Read)	-	-	-	-	-	-	-	HIGH	Trip	Healthy	-
37	TAH - 10154	Compressor A - TIT 10154 - High Alarm	40014	5	BOOL	3 (Read)	-	-	-	-	-	-	-	HIGH	Alarm	Healthy	-
38	TAHH - 10155	Compressor A - TIT 10155 - High Trip	40014	6	BOOL	3 (Read)	-	-	-	-	-	-	-	HIGH	Trip	Healthy	-
39	PALL - 10153	Compressor A - PIT 10153 - Low Trip	40014	7	BOOL	3 (Read)	-	-	-	-	-	-	-	LOW	Trip	Healthy	-
40	PAHH - 10153	Compressor A - PIT 10153 - High Trip	40014	8	BOOL	3 (Read)	-	-	-	-	-	-	-	HIGH	Trip	Healthy	-
41	PALL - 10154	Compressor A - PIT 10154 - Low Trip	40014	9	BOOL	3 (Read)	-	-	-	-	-	-	-	LOW	Trip	Healthy	-
42	PAL - 10156	Compressor A - PIT 10156 - Low Alarm	40014	10	BOOL	3 (Read)	-	-	-	-	-	-	-	LOW	Alarm	Healthy	-
43	PALL - 10157	Compressor A - PIT 10157 - Low Trip	40014	11	BOOL	3 (Read)	-	-	-	-	-	-	-	LOW	Trip	Healthy	-
44	PAH - 10158	Compressor A - PIT 10158 - High Alarm	40014	12	BOOL	3 (Read)	-	-	-	-	-	-	-	HIGH	Alarm	Healthy	-
45	PAL - 10158	Compressor A - PIT 10158 - Low Alarm	40014	13	BOOL	3 (Read)	-	-	-	-	-	-	-	LOW	Alarm	Healthy	-
46	PAHH - 10159	Compressor A - PIT 10159 - High Trip	40014	14	BOOL	3 (Read)	-	-	-	-	-	-	-	HIGH	Trip	Healthy	-
47	PALL - 10159	Compressor A - PIT 10159 - Low Trip	40014	15	BOOL	3 (Read)	-	-	-	-	-	-	-	LOW	Trip	Healthy	-
48	FAL - 10151	Compressor A - FIT 10151 - Low Alarm	40015	0	BOOL	3 (Read)	-	-	-	-	-	-	-	LOW	Alarm	Healthy	-
49	VAHH - 10151	Compressor A - VT 10151 - High Trip	40015	1	BOOL	3 (Read)	-	-	-	-	-	-	-	HIGH	Trip	Healthy	-
50	HS-108-SD-1	Emergency Shutdown Command	40016	0	BOOL	3 (Read)	-	-	-	-	-	-	-	HIGH	ESD	Healthy	-
51	XAL-108-2	Compressor S/D Status	40016	1	BOOL	3 (Read)	-	-	-	-	-	-	-	HIGH	Alarm	Healthy	-
52	XCS-108	Time Synchronisation	40016	2	BOOL	3 (Read)	-	-	-	-	-	-	-	-	Standby	Sync Time	-
53	HS-10121-SD	Compressor A Forced Shutdown	40016	3	BOOL	3 (Read)	-	-	-	-	-	-	-	HIGH	Normal	Forced Shutdown	-
54	XA-510	Emergency circuit 1 Status [ESD circuit]	40016	4	BOOL	4 (Read)	-	-	-	-	-	-	-	HIGH	Not Healthy	Healthy	ESD Circuit one [1]
55	XA-511	Emergency circuit 2 Status [ESD circuit]	40016	5	BOOL	5 (Read)	-	-	-	-	-	-	-	HIGH	Not Healthy	Healthy	ESD Circuit two [2]
56	XA-401	Watchdog Bit to FCS	40020	0	BOOL	6 (Write)	-	-	-	-	-	-	-	-	-	-	Watchdog bit to FCS
57	XA-402	Time Synchronisation - Year	40021	-	INT	6 (Write)	-	-	-	-	-	-	-	-	-	-	Year [YYYY]
58	XA-403	Time Synchronisation - Month	40022	-	INT	6 (Write)	-	-	-	-	-	-	-	-	-	-	Month [MM]
59	XA-404	Time Synchronisation - Day	40023	-	INT	6 (Write)	-	-	-	-	-	-	-	-	-	-	Day [dd]
60	XA-405	Time Synchronisation - Week Day	40024	-	INT	6 (Write)	-	-	-	-	-	-	-	-	-	-	-
61	XA-406	Time Synchronisation - Hour	40025	-	INT	6 (Write)	-	-	-	-	-	-	-	-	-	-	Hour [HH]
62	XA-407	Time Synchronisation - Minute	40026	-	INT	6 (Write)	-	-	-	-	-	-	-	-	-	-	Minute [mm]
63	XA-408	Time Synchronisation - Second	40027	-	INT	6 (Write)	-	-	-	-	-	-	-	-	-	-	Second [ss]
64	XA-500	Compressor A - Remote Start FCS	40028	0	BOOL	6 (Write)	-	-	-	-	-	-	-	-	Start	-	Remote start signal from FCS



(17811-56A)- Modbus List

NO.	AIRPACK TAG NUMBER	SERVICE	HOLDING REGISTER	BIT NO.	SIGNAL TYPE	FUNCTION CODE	UNIT	SCALE		ALARM VALUE(S)	TRIP VALUE(S)	RAW LOW COUNT	RAW HIGH COUNT	ALARM / TRIP TYPE	STATE 0	STATE 1	REMARKS
								0%	100%								
65	XA-501	Compressor A - Remote Stop FCS	40028	1	BOOL	6 (Write)	-	-	-	-	-	-	-	-	-	-	Remote stop Signal from FCS
66	TI1-10151	Compressor A - Inlet Nitrogen Temperature Transmitter	40030/40031	-	32Bit-Floating	3 (Read)	°C	0	80	56 H	-	-	-	Alarm	-	-	-
67	TI1-10152	Compressor A - 1st Stage Nitrogen Temperature	40032/40033	-	32Bit-Floating	3 (Read)	°C	0	200	160 H	-	-	-	Alarm	-	-	-
68	TI1-10153	Compressor A - 1st Stage Nitrogen Temperature	40034/40035	-	32Bit-Floating	3 (Read)	°C	0	200	-	170 HH	-	-	Trip	-	-	-
69	TI1-10154	Compressor A - 1st Stage Downstream Intercooler Nitrogen Temperature Transmitter	40036/40037	-	32Bit-Floating	3 (Read)	°C	0	80	50 H	-	-	-	Alarm	-	-	-
70	TI1-10155	Compressor A - Upstream After-cooler Nitrogen Temperature Transmitter	40038/40039	-	32Bit-Floating	3 (Read)	°C	0	200	-	140 HH	-	-	Trip	-	-	-
71	PI1-10153	Compressor A - Inlet Nitrogen Pressure Transmitter	40040/40041	-	32Bit-Floating	3 (Read)	Bar[a]	0	13.5	-	6.5 LL 6.9 HH	-	-	Trip	-	-	-
72	PI1-10154	Compressor A - Oil System Oil Pressure Transmitter	40042/40043	-	32Bit-Floating	3 (Read)	Bar[a]	-1	5	-	1.5 LL	-	-	Trip	-	-	-
73	PI1-10156	Compressor A - 1st Stage Downstream Intercooler Nitrogen Pressure Transmitter	40044/40045	-	32Bit-Floating	3 (Read)	Bar[a]	1	36	15 H	-	-	-	Alarm	-	-	-
74	PI1-10157	Compressor A - 1st Stage Downstream Intercooler Nitrogen Pressure Transmitter	40046/40047	-	32Bit-Floating	3 (Read)	Bar[a]	1	36	-	15.5 LL	-	-	Trip	-	-	-
75	PI1-10158	Compressor A - Outlet Nitrogen Pressure Transmitter	40048/40049	-	32Bit-Floating	3 (Read)	Bar[a]	1	36	22 L 23.5 H	-	-	-	Alarm	-	-	22 bar[a] is Load/Start 23 bar[a] Unload/Stop
76	PI1-10159	Compressor A - Outlet Nitrogen Pressure Transmitter	40050/40051	-	32Bit-Floating	3 (Read)	Bar[a]	1	36	-	21 LL 23.5 HH	-	-	Trip	-	-	-
77	VI-10151	Compressor A - Vibration Level Transmitter	40052/40053	-	32Bit-Floating	3 (Read)	mm/s	0	25	-	8 HH	-	-	Trip	-	-	-
78	FI1-10151	Compressor A - Cooling Water Outlet Water Flow Transmitter	40054/40055	-	32Bit-Floating	3 (Read)	m ³ /hr	0	20	13 L	-	-	-	Alarm	-	-	-