

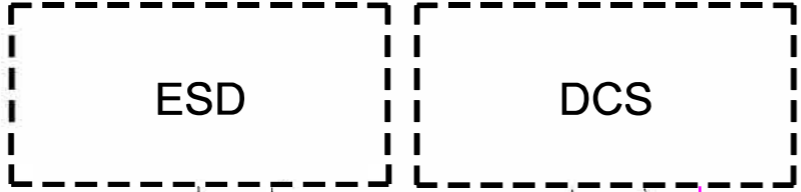
The PLC shall be based on proven and reliable technology satisfying TUV requirements and approvals for SIL-3 according to IEC-61511 or AK6 according to DIN V 19250.

conclusion meeting (2024/02/17):
S7-300 F is accepted by client for PLC

Isolators for safety loops shall have sufficient SIL certification based on result of HAZOP and SIL study.

NOTE
vendor reply: As a system Vendor meets SIL-3 but the transmitters are only rated for SIL2. Also, the application is a refrigeration package and SIL2 is more than suitable and safe. The offered system will include a fail safe sequence to stop the compressor in both option NORMAL STOP, and sudden SHUTDOWN.

For shutdown related signals, the IO card shall be fail safe, SIL3 and redundant.
conclusion meeting(2024/02/17):
comment is applicable for ESD signals



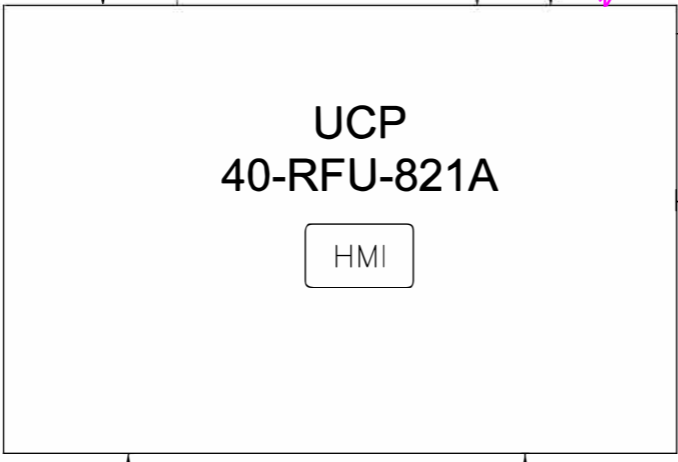
Vendor reply: This is not agreed with client

Vendor's PLC shall have capability to receive time synchronization signal (a bit) from plant DCS. Hardwire signal should be considered by Vendor for real time synchronization.

Vendor reply: Confirmed

CPU shall be redundant but there is no conclusion in this regard ,please clarify.

Power supply, CPU and communication modules of PLC to be redundant.
For close control loop (If any), the redundant IO card, shall be considered.
conclusion meeting (2024/02/17):
power supply, communication modules of PLC to be redundant.
For close control loop (If any), the redundant IO card, shall be considered.



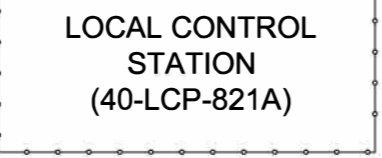
POWER SUPPLY
(2X110VAC +230VAC)

One operator station (including PC, monitor, keyboard, mouse and relevant interconnection cables to PLC panel) shall be considered for installation in control room.
conclusion meeting(2024/02/17):
engineering laptop including related software instead of operator station shall be considered
field instrument transmitters shall be considered as EXi

1. all required software for configuration of PLC , HMI monitoring , configuration/monitoring functionality through Hart protocol (Configuration/Calibration of Smart instruments trough engineering laptop) shall be supplied by vendor on engineering laptop.

Vendor reply: refer to TCL

FIELD



LEGEND

- ⊗ TRANSMITTER
- ⊕ CONTROL VALVE
- ⊖ SOLENOID VALVE
- HARDWIRE SIGNALS
- MODBUS TCP/IP (ETHERNET CABLE)

EQUIPMENT LIST

NO.	DESCRIPTION	QTY

Redundant DI & DO signals shall be foreseen by vendor for communication with plant hardwire console (Supplied by others).
HS-50301 (Emergency Stop Signal; Trip PU-5001)(NIS,REDUNDANT,PASSIVE,24 VDC / POTENTIAL FREE CONTACT)
HL-50301 (Common shutdown alarm from package PLC (UCP) to Plant HWC)(NIS,REDUNDANT,PASSIVE,24 VDC (CONSUMER LOAD))

Vendor reply: Confirmed that all hardwired signal for ESD will be wired to two different DI card to assure redundancy.
Vendor offer requires all signal in dry state.
In addition, the system detect BAD PV for any device that failed.

Please note that LCP (local control panel) is in vendor scope of work/supply and all motors and heaters (main motors and auxiliaries) shall be controlled via this Local Control Panel. All control signals- commands and indications will be sent from this vendor local control panel to the UCP and then will be transferred to MCC from UCP based on agreement between electrical and instrument department. Please confirm.
conclusion meeting (2024/02/17):
noted

00	13-AUG-22	FOR APPROVAL	H.K.	M.O.	A.M.	A.M.
REV.	DATE	POI	PREP. BY	CHKD. BY	APPD. BY	AUTH. BY
EIED			SCALE: N.T.S.			
DRAWING TITLE: CONTROL SYSTEM BLOCK DIAGRAM						
DRAWING NO.			Class	REV.	SHEET No.	SIZE
			1	00	1 OF 1	A3