



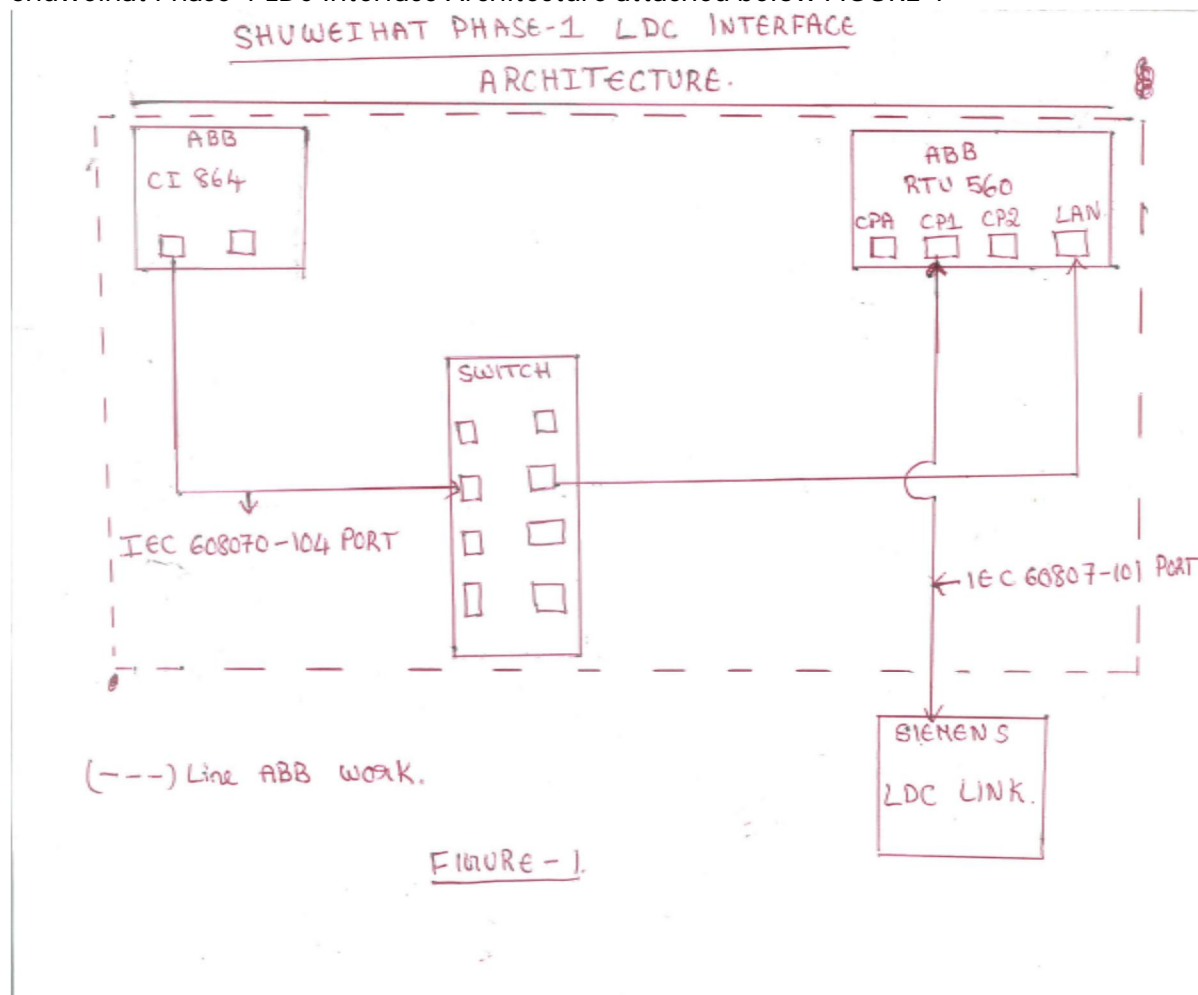
## SHUWEIHAT PHASE-1 LDC INTERFACE

### INTRODUCTION:

- 1) All signals that are interfaced to the "IEC 608070-104 port" are available in the control system through the MMS communication, which is the respective AC800M/800XA control system.  
All these signals are interfaced from CI864 module, IEC 60870-104 port (Cabinet 30CJC06) to RTU560 LAN port through network switch.
- 2) All signals that are interfaced and available at the RTU560 CP1 port (IEC 608070-101 port), which is linked to the LDC port. (Siemens System)

### ARCHITECTURE:

Shuweihat Phase-1 LDC Interface Architecture attached below FIGURE-1

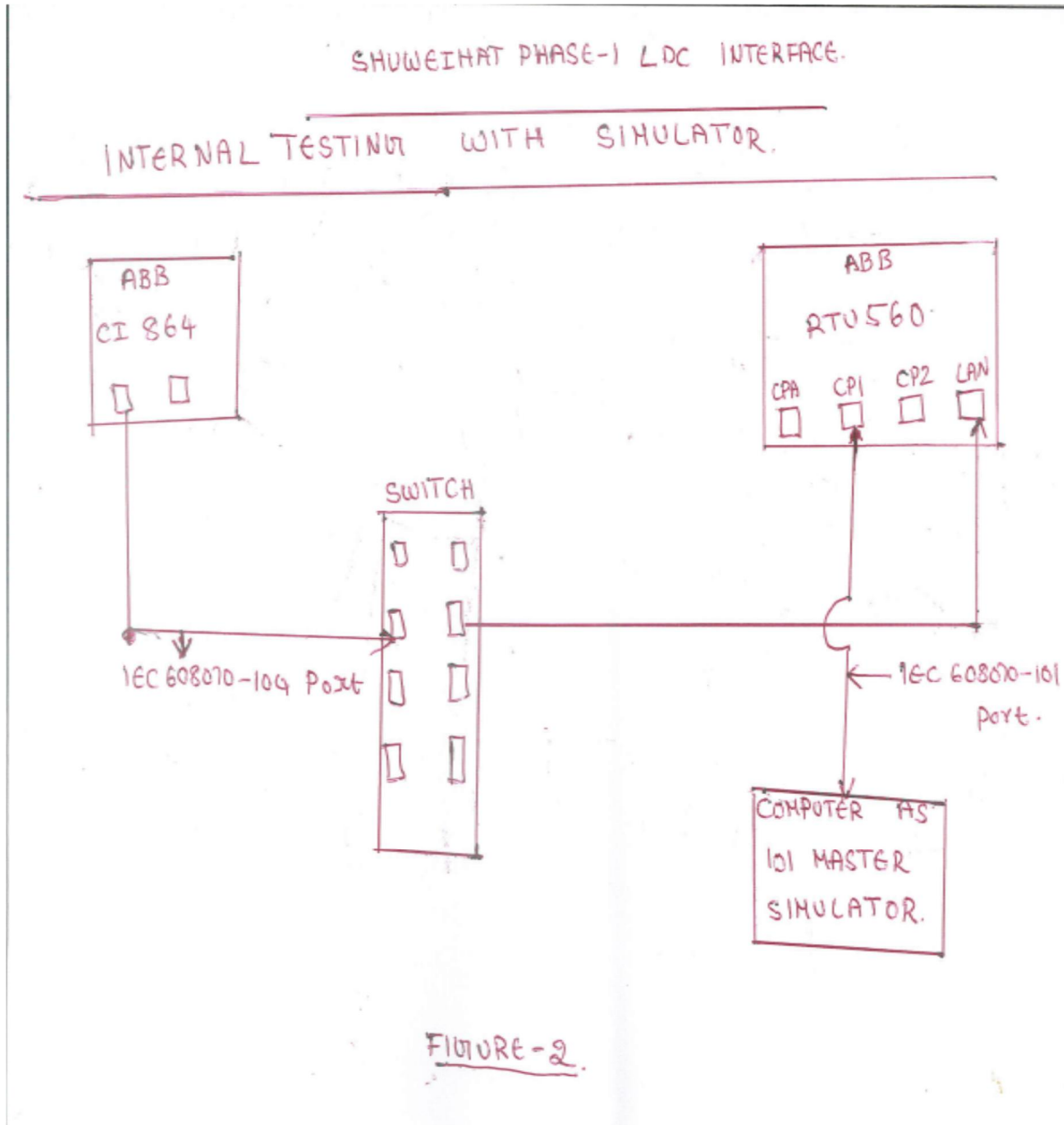




## SHUWEIHAT PHASE-1 LDC INTERFACE

### INTERNAL TESTING CONNECTIONS:

ABB has tested & verified internally Shuweihat Phase-1 LDC Interface Signals by using 101 Master Simulator. Architecture attached below FIGURE-2



### INTERNAL TESTING REPORT:



## SHUWEIHAT PHASE-1 LDC INTERFACE

Step-1:

ABB is able to read all the live values of signals from CI864 (IEC 60870-104) to RTU560 LAN port as (IEC 60870-104). Signal list attached below FIGURE-3 & FIGURE-4.

The screenshot shows a web browser window with the URL <http://172.18.100.1/> and the page title "NEW560CMG [1]". The interface is divided into several sections:

- Left Navigation Menu:** Includes System Diagnosis, Network Tree, Hardware Tree, Archive Information, Configuration, Firmware, Homepage, Administration, Help, and Others (with links for Configuration (HTML) and Firmware (HTML)).
- Tree View:** Shows a hierarchical structure starting with "IED IED\_PLC", followed by "SFI" and "MFI". Under "MFI", it lists "RTU540 NEW560CMG", "DIN rail mounted: New\_S2", "DIN rail", "560CMG10", "Slot PSU: 560PSU11", "Slot CMU: 560CMU10", "CP1: Line: T101", and "Ethernet Interface: Line: TO-PLC".
- Monitoring Information Table:** Titled "IED: PLC", it lists various signal names and their status. The signals are: SPI\_30GKB60AA001\_Cls (OFF), SPI\_30GKB60AA001\_Opn (ON), SPI\_30GKB61AA001\_Cls (OFF), SPI\_30GKB61AA001\_Opn (ON), SPI\_30GKB62AA001\_Cls (OFF), SPI\_30GKB62AA001\_Opn (ON), SPI\_30GKB63AA001\_Cls (ON), SPI\_30GKB63AA001\_Opn (ON), SPI\_30GKB63AA003\_Cls (ON), SPI\_30GKB63AA003\_Opn (OFF), SPI\_30GKB63AA004\_Cls (OFF), SPI\_30GKB63AA004\_Opn (ON), SPI\_30GKB63AA005\_Cls (ON), SPI\_30GKB63AA005\_Opn (OFF), SPI\_30GKB63AP001\_Fault (OFF), SPI\_30GKB63AP001\_Status (ON), SPI\_30GKB64AA001\_Opn (ON), SPI\_30GKB64AA003\_Cls (ON), SPI\_30GKB64AA003\_Opn (OFF), SPI\_30GKB64AA004\_Cls (OFF), and SPI\_30GKB64AA004\_Opn (ON). Each entry includes a timestamp and the text "(2016-12-09, 21:52:05.921 WT TIV NSY SB)".
- Bottom:** A "Clear Display" link is visible below the table.

FIGURE-3



## SHUWEIHAT PHASE-1 LDC INTERFACE

The screenshot shows the ABB IED configuration and monitoring interface. The browser address bar shows the URL <http://172.18.100.1/> and the page title is "NEW560CMG [1]".

**Left Navigation Menu:**

- System Diagnosis
- Network Tree
- Hardware Tree
- Archive Information
- Configuration
- Firmware
- Homepage
- Administration
- Help
- Others
  - Configuration (HTML)
  - Firmware (HTML)
- Log Off

**Central Tree View:**

- IED IED: PLC
  - SPI
    - 1 - 20
    - 21 - 40
    - 41 - 60
    - 61 - 80
    - 81 - 98
  - MFI
  - RTU540: NEW560CMG
    - DIN rail mounted: New\_S2
      - DIN rail
        - 560CMG10
          - Slot PSU: 560PSU11
          - Slot CMU: 560CMU10
            - CP1 Line: T101
            - Ethernet Interface: Line: TO-PLC

**Monitoring Information Panel:**

IED: PLC

MFI: 30GKB70CF001_XQ50	14924.864258	(2016-12-20, 18:29:57.275 ST)
MFI: 30GKB70CF001_XQ50	14.216830	(2016-12-09, 21:52:06.380 WT TIV NSY SB)
MFI: 30GKB71CF001_XQ50	10200.686523	(2016-12-20, 18:29:57.275 ST)
MFI: 30GKB71CF001_XQ50	9.732967	(2016-12-09, 21:52:06.379 WT TIV NSY SB)
MFI: 30GKB80CF001_XQ50	1100.709595	(2016-12-20, 18:29:57.261 ST)
MFI: 30GKB80CF001_XQ50	4.077973	(2016-12-09, 21:52:06.303 WT TIV NSY SB)
MFI: 30GKB81CF001_XQ50	3270.832275	(2016-12-20, 18:29:57.275 ST)
MFI: 30GKB81CF001_XQ50	10.258640	(2016-12-09, 21:52:06.379 WT TIV NSY SB)
MFI: 30GKB89CF001_XQ50	0.172122	(2016-12-20, 18:26:25.249 ST)
MFI: 30GKB89CF001_XQ50	0.000000	(2016-12-09, 21:52:06.302 WT TIV NSY SB)
MFI: _30GKB16CL011_XU50	13.868992	(2016-12-09, 21:52:06.304 WT TIV NSY SB)
MFI: _30GKB16CL021_XU50	13.879791	(2016-12-09, 21:52:06.304 WT TIV NSY SB)
MFI: _30GKB16CL031_XU50	14.383789	(2016-12-09, 21:52:06.303 WT TIV NSY SB)
MFI: _30GKB16CL041_XU50	13.823992	(2016-12-09, 21:52:06.303 WT TIV NSY SB)
MFI: _30GKB16CL051_XU50	13.804192	(2016-12-09, 21:52:06.306 WT TIV NSY SB)
MFI: _30GKB16CL061_XU50	13.814991	(2016-12-09, 21:52:06.306 WT TIV NSY SB)

[Clear Display](#)

FIGURE-4



## SHUWEIHAT PHASE-1 LDC INTERFACE

Step-2:

ABB is able to send all the values from RTU560 CP1 port (IEC 60870-101) to 101 Master Simulator. Signal List attached below FIGURE-5.

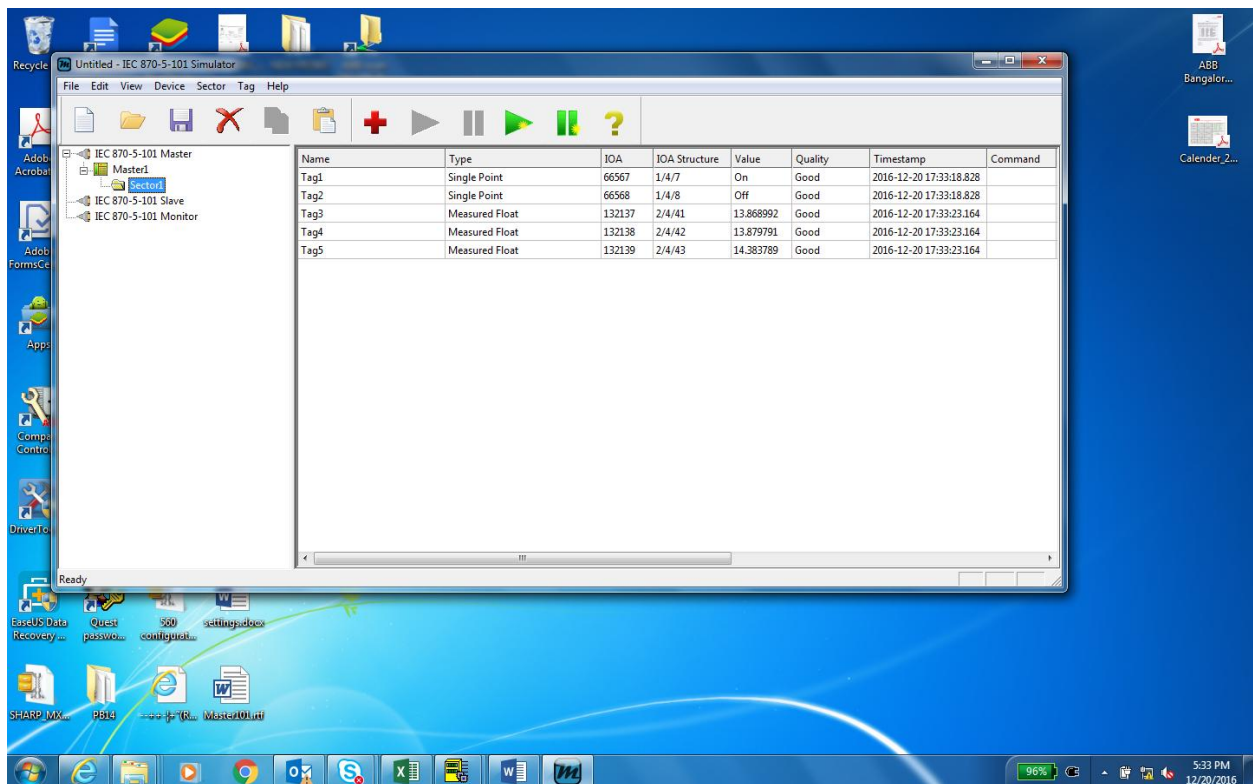


FIGURE-5

Step-3:

The cable from RTU560 CP1 port (IEC608070-101) is connected to LDC.

Conclusion:

We have tested & verified all corresponding signals which are interfaced to IEC60870-104 & IEC60870-101 port.

Furthermore, LDC to check from their end & confirm.