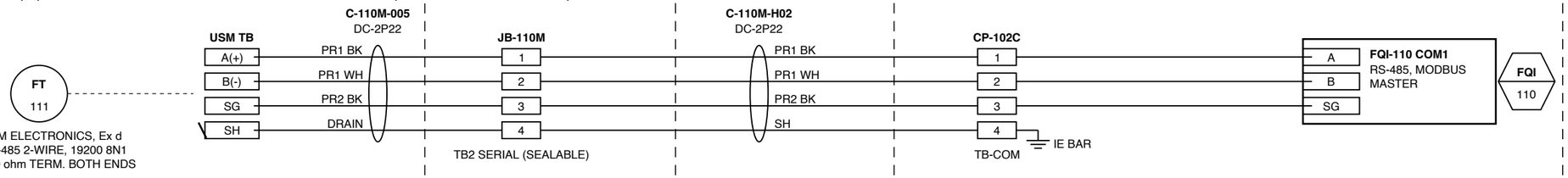
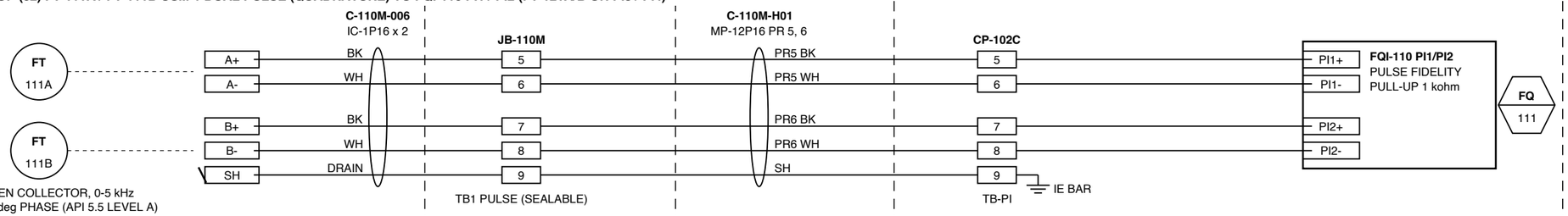
FIELD	FIELD JUNCTION BOX	HOMERUN	CONTROL BUILDING B-102 (PANEL)	POINT DATA

LOOP (e1) FT-111S USM-1 MODBUS RTU RS-485 TO FQI-110 COM1 (FT-121S SIMILAR ON COM2)



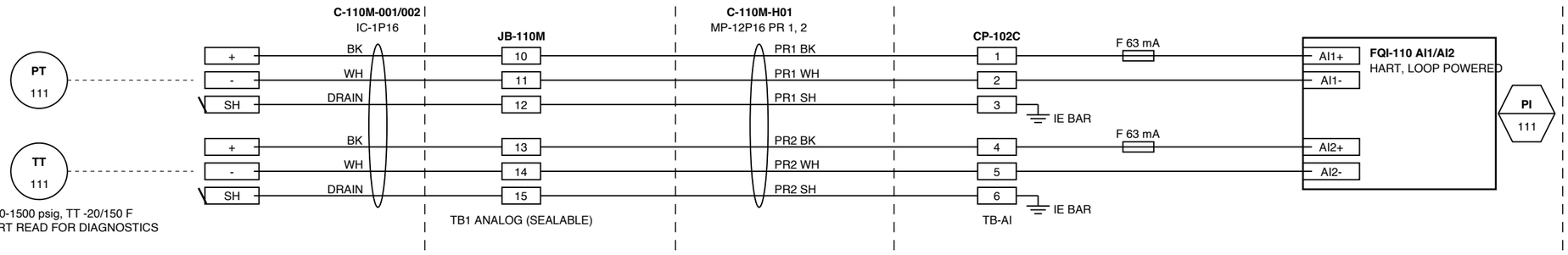
DIAGNOSTICS: PATH VOS, SNR, GAIN, SOS, PROFILE, SWIRL
FLOW (ACTUAL) FOR COMPARISON WITH PULSE (AGA 9)
DS: MEA (VOL 2)

LOOP (e2) FT-111A / FT-111B USM-1 DUAL PULSE (QUADRATURE) TO FQI-110 PI1 / PI2 (FT-121A/B ON PI3 / PI4)



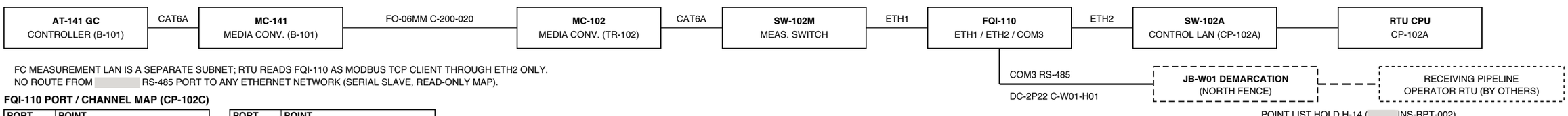
K-FACTOR PER CALIBRATION CERT.
PULSE FIDELITY: A/B COMPARE, ALARM ON MISSING / EXTRA PULSES (API MPMS 5.5)
SHIELD: ONE OVERALL PER PAIR

LOOP (e3) PT-111 / TT-111 RUN 1 CUSTODY P AND T, 4-20 mA HART TO FQI-110 AI1 / AI2 (RUN 2 ON AI3 / AI4)



RANGES PER MEA DATASHEET
CAL. TO API 21.1 AUDIT TRAIL
SEALS ON JB-110M AND CP-102C

LOOP (e4) COMMUNICATIONS: GC AT-141 MODBUS TCP OVER FIBRE; FQI-110 TO RTU (MODBUS TCP) AND TO [redacted] DEMARCATION (RS-485)



FC MEASUREMENT LAN IS A SEPARATE SUBNET; RTU READS FQI-110 AS MODBUS TCP CLIENT THROUGH ETH2 ONLY.
NO ROUTE FROM [redacted] RS-485 PORT TO ANY ETHERNET NETWORK (SERIAL SLAVE, READ-ONLY MAP).

FQI-110 PORT / CHANNEL MAP (CP-102C)

PORT	POINT
AI1	PT-111
AI2	TT-111
AI3	PT-121
AI4	TT-121
PI1	FT-111A
PI2	FT-111B
PI3	FT-121A

PORT	POINT
PI4	FT-121B
DO1	SY-146
COM1	FT-111S
COM2	FT-121S
COM3	FQI-110S1 (JB-W01)
ETH1	AT-141E (MEAS. LAN)
ETH2	FQI-110E1 (RTU LAN)

NOTES / REFERENCES

1. CABLE NOS: C-<JB>-NNN FIELD, C-<JB>-HNN HOMERUN, C-200-NNN DIRECT. FINAL NOS PER LST-002.
2. SHIELD GROUNDED AT PANEL IE BAR ONLY; FIELD END CUT AND TAPED (/); OWN TERMINAL IN JB.
3. SIS TERMINALS AND CABLES YELLOW, SEGREGATED FROM BPCS (IEC 61511-1 CL. 11.2).
4. CARD/CH PER CARD MAP ON SHEETS 1 AND 2. HOMERUN = USED PAIRS + 20 %, NEXT STD SIZE.
5. WIRE COLOURS: PAIR BK(+)/WH(-); TRIAD BK/WH/RD; MULTICORES NUMBERED; DRAIN SLEEVED.
6. TYPICALS: OTHER LOOPS OF THE SAME TYPE FOLLOW THESE SHEETS WITH TAGS PER LST-002.

REF: [redacted]INS-LST-002 I/O LIST
REF: [redacted]INS-DWG-005 PANEL LAYOUT

REVISIONS

REV	DATE	DESCRIPTION	BY	CHK	APP
A	2026-09-29	ISSUED FOR REVIEW (IFR)			

PRELIMINARY - ISSUED FOR REVIEW - NOT FOR CONSTRUCTION

ENGINEER OF RECORD SEAL

NOT SEALED
PRELIMINARY

[redacted] PE NO. _____

PROJECT

[redacted]
120 MMSCFD RECEIPT INTO [redacted]
[redacted] COUNTY, [redacted]

DISCIPLINE: INSTRUMENTATION
SCALE: NTS

TYPICAL LOOP DIAGRAMS

FLOW COMPUTER FQI-110 SERIAL, PULSE, AI, ETHERNET

DRAWN: ____ CHECKED: ____ APPROVED: ____

DWG NO.

[redacted]INS-DWG-002

SHEET 5 OF 5 REV A