

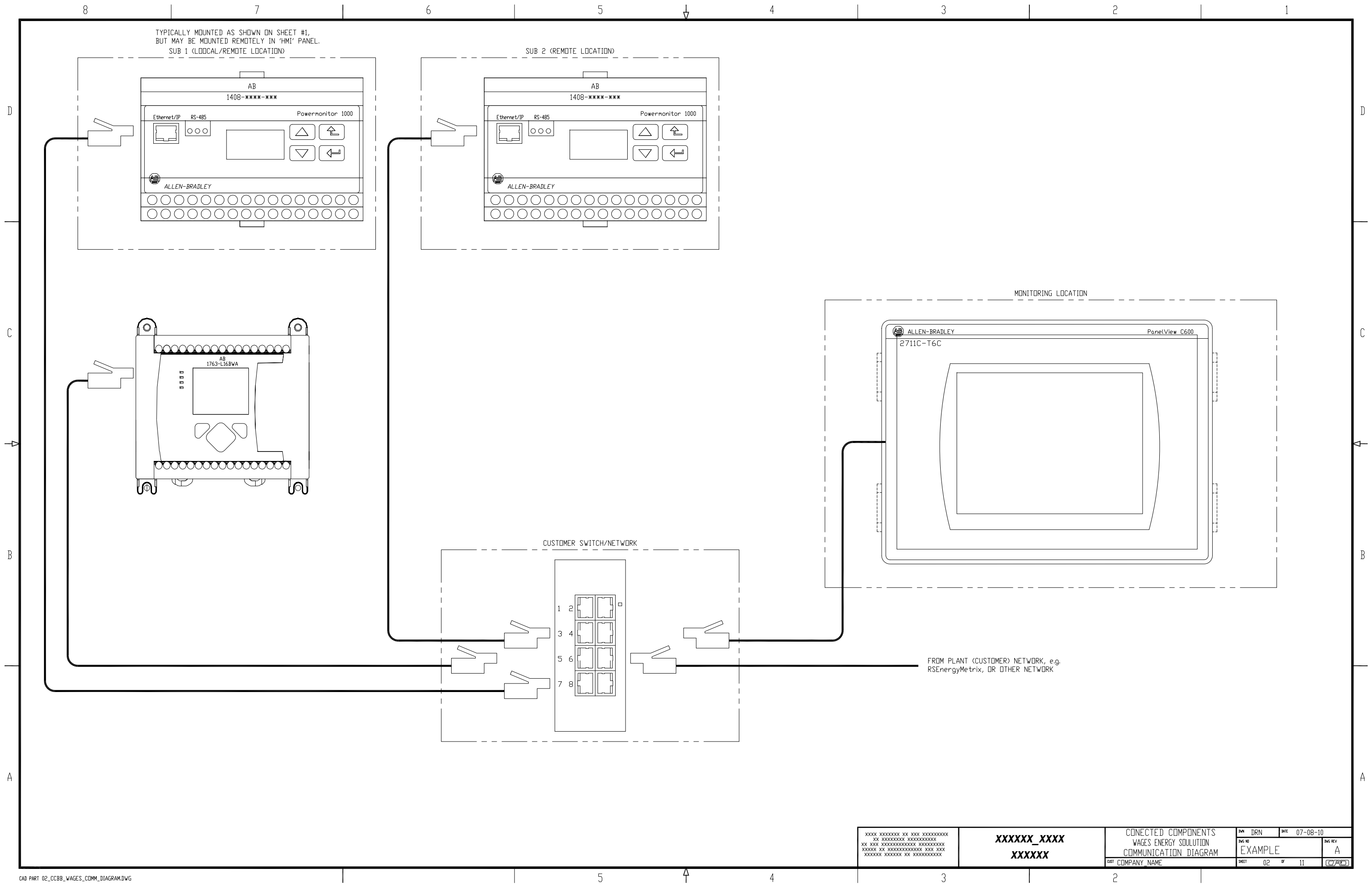
ITEM	QTY	DESCRIPTION	MFG	CATALOG
01	1	CONCEPT WALL-MOUNT ENCLOSURE	HOFFMAN	CSD20248
02	1	24" X 20" SUBPAN	HOFFMAN	CP2420
03	A/R	1X4 GRAY SLOT WIRE DUCT	PANDUIT	FIX4LG6
04	1	PANEL GROUND LUG #8AWG	ILSCO	TA-2
05	A/R	RAIL, DIN MTG, 25MM, 1M	AB	199-DR1
06	9	END ANCHOR	AB	1492-EAJ35
07	14	SCREW CONNECTION TERMINAL BLOCK; 1492-J	AB	1492-J4
08	1	END BARRIER; 1492-J	AB	1492-EBJ3
09	3	GROUP MARKER CARRIER	AB	1492-GM35
10	2	1AMP CIRCUIT BREAKER	AB	1492-SPID010
11	1	PS, COMPACT, 50 W, 24-28V	AB	1606-XLP50E
12	1	6" COMPONENT CLASS TOUCHSCREEN, COLOR	AB	2711C-T6C
13	2	ETHERNET CABLE, CAT5, RJ45 STRAIGHT MALE	AB	1485J-M8TBJM-2
14	1	GROUNDING BAR SYSTEM, 9 POS	SQUARE-D	PK9GTA
15	1	ETHERNET SWITCH 5 COPPER PORTS UNMANAGED	AB	1783-US05T
16	1	MICROLOGIX 1100, 120/240VAC POWER, 10IN, 6 RELAY OUT	AB	1763-L16BWA

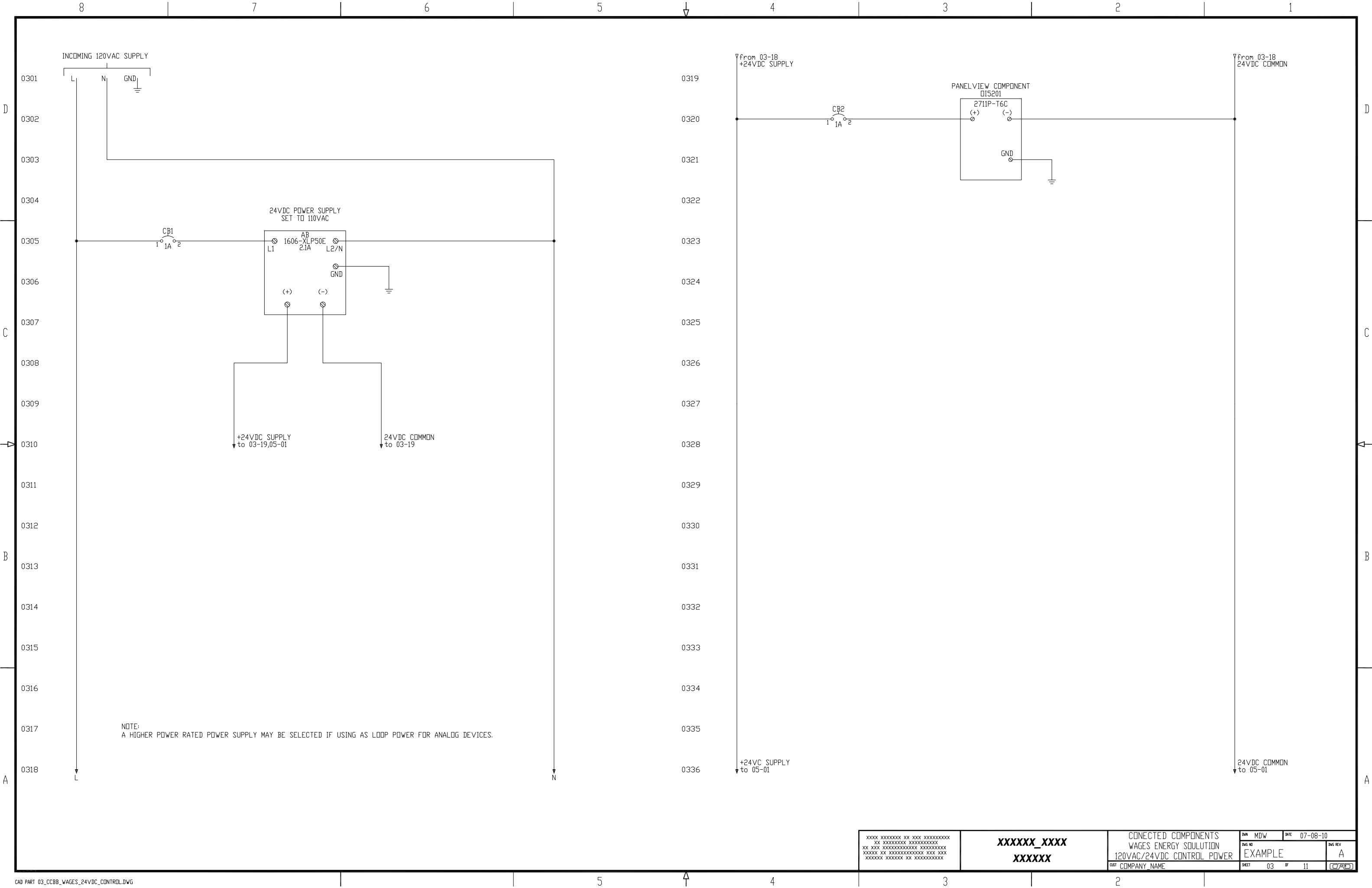
OPTIONAL HARDWARE

ITEM	QTY	DESCRIPTION	MFG	CATALOG
17	1	4 CHANNEL ANALOG INPUT CARD	AB	1762-IF4
18	1	ENERGY MONITOR EM3, 120/240VAC, SERIAL RS-485/ETHERNET	AB	1408-EM3A-ENT
19	1	FUSE AND SHORTING BLOCK KIT	AB	1400-PM-ACC

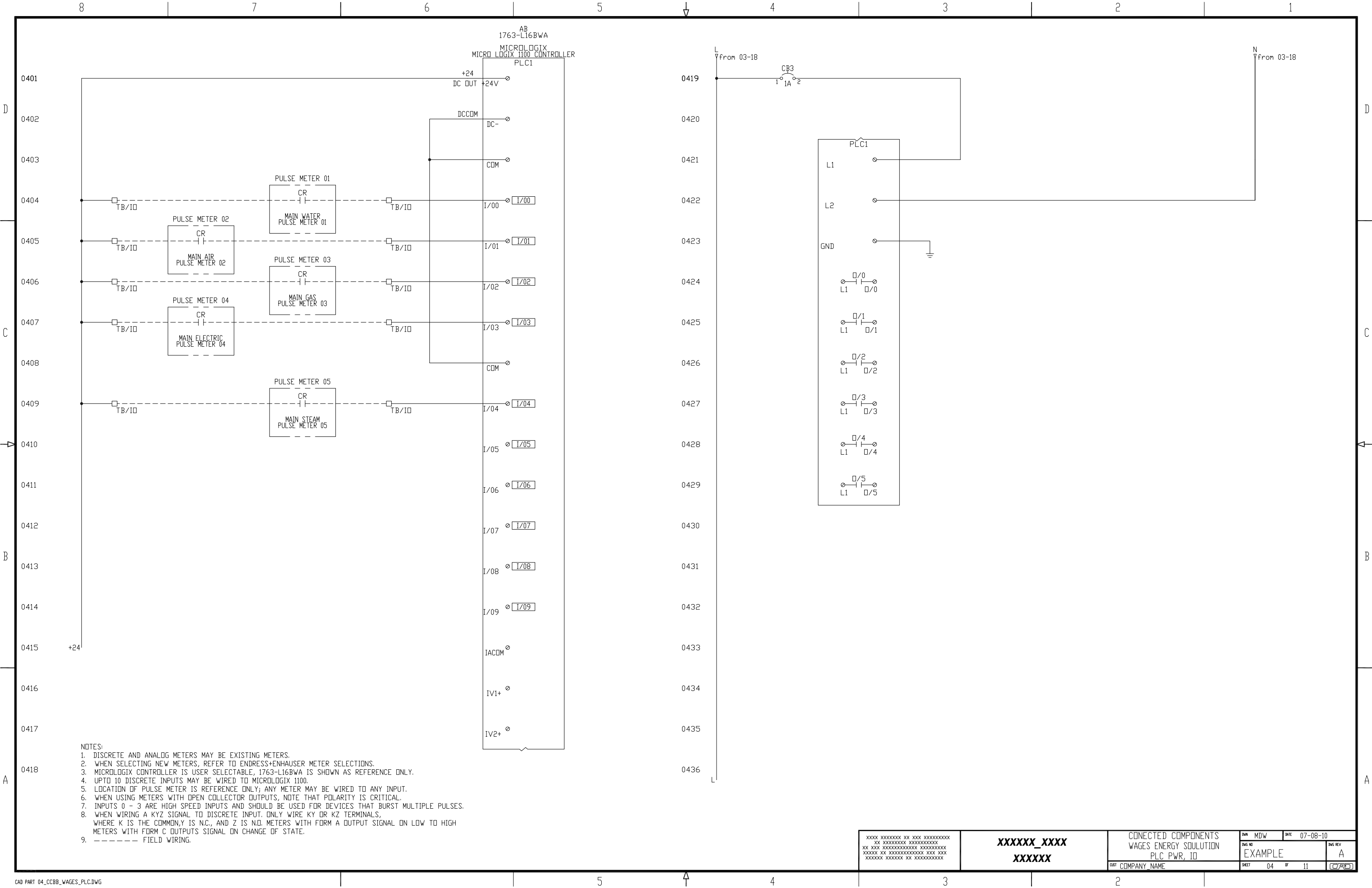
KIT 1400-PM-ACC ** 1 KIT PER POWER MONITOR

ITEM	QTY	DESCRIPTION		
01	1	FUSE BLOCK, 3 POLE		
02	1	FUSE BLOCK, 1 POLE		
03	1	SHORTING BLOCK, 8 POLE		
04	1	FUSE, 1AMP, TIME DELAY, 600VAC		
05	3	FUSE, 10AMP, TIME DELAY, 600VAC		



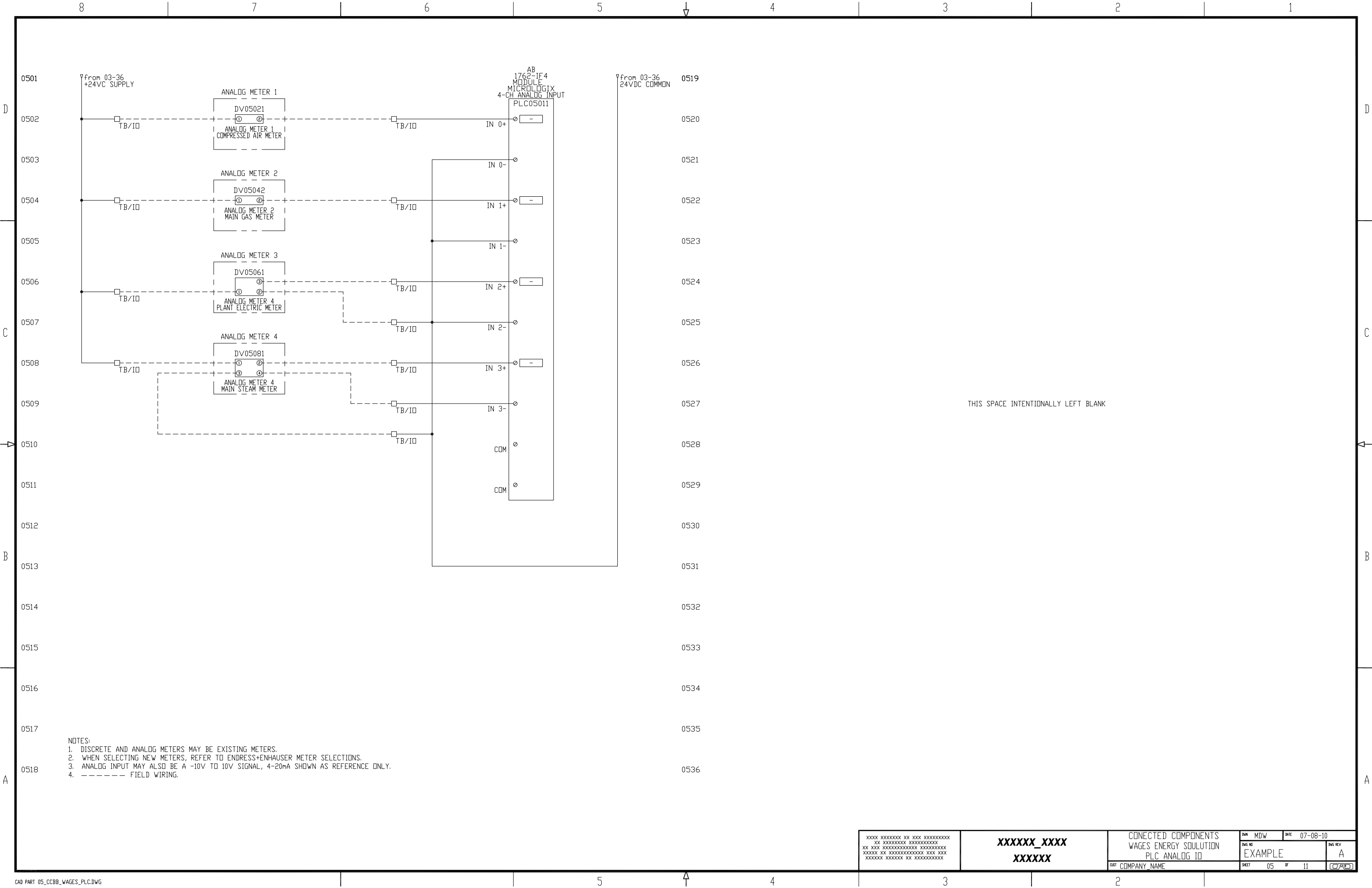


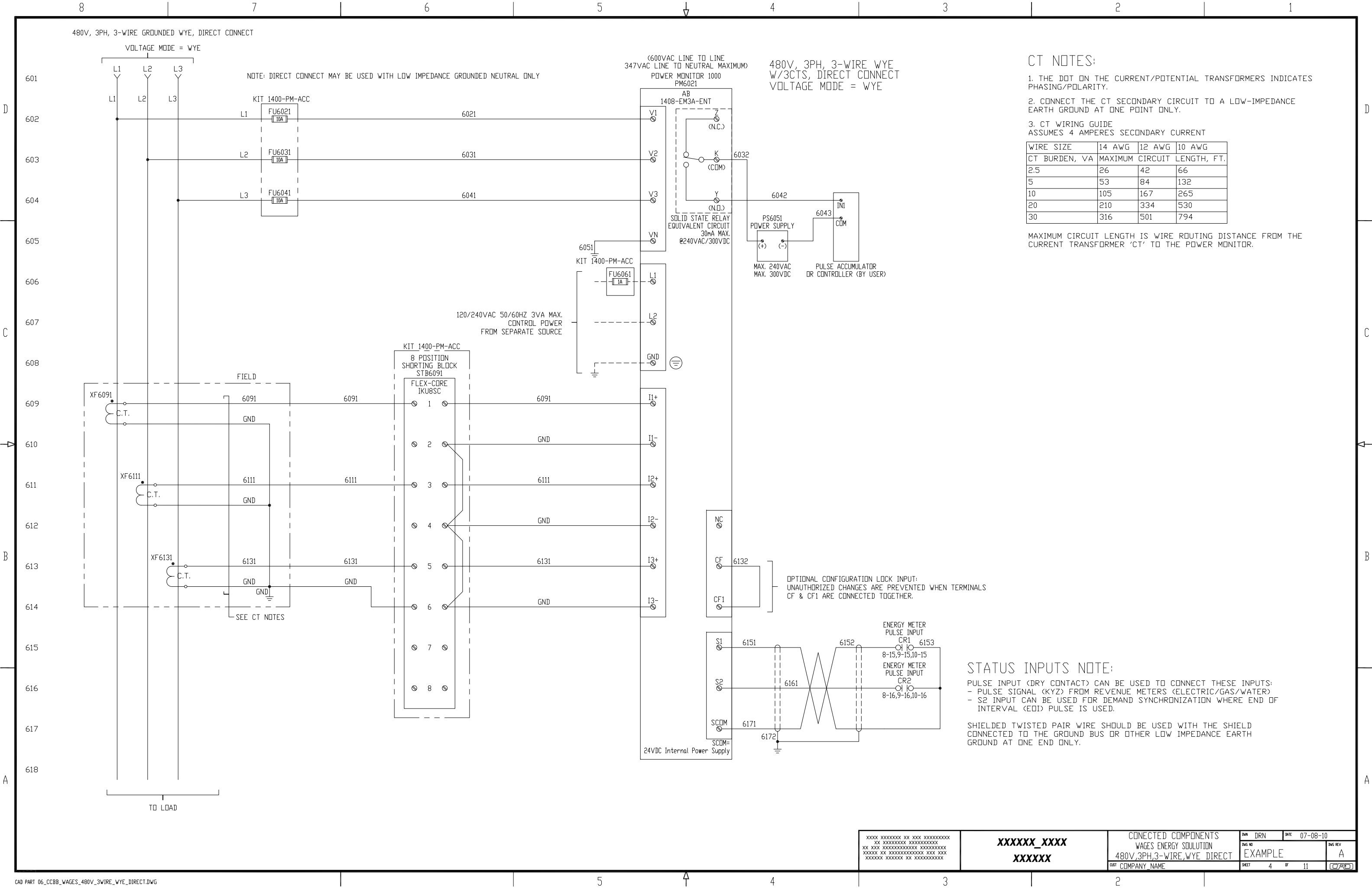
XXXX XXXXXXXX XX XXX XXXXXXXXXX XX XXXXXXXXXX XXXXXXXXXX XX XXX XXXXXXXXXX XXXXXXXXXX XXXXXX XX XXXXXXXXXX XXX XXX XXXXXX XXXXXXXX XX XXXXXXXXXX	XXXXXX_XXXX XXXXXX	CONNECTED COMPONENTS		DWG NO	MDW	DATE	07-08-10
		WAGES ENERGY SOLUTION		EXAMPLE		A	
		120VAC/24VDC CONTROL POWER					
		CUST COMPANY NAME		SHEET	03	OF	11



- NOTES:
1. DISCRETE AND ANALOG METERS MAY BE EXISTING METERS.
 2. WHEN SELECTING NEW METERS, REFER TO ENDRSS+ENHAUSER METER SELECTIONS.
 3. MICROLOGIX CONTROLLER IS USER SELECTABLE, 1763-L16BWA IS SHOWN AS REFERENCE ONLY.
 4. UPTO 10 DISCRETE INPUTS MAY BE WIRED TO MICROLOGIX 1100.
 5. LOCATION OF PULSE METER IS REFERENCE ONLY; ANY METER MAY BE WIRED TO ANY INPUT.
 6. WHEN USING METERS WITH OPEN COLLECTOR OUTPUTS, NOTE THAT POLARITY IS CRITICAL.
 7. INPUTS 0 - 3 ARE HIGH SPEED INPUTS AND SHOULD BE USED FOR DEVICES THAT BURST MULTIPLE PULSES.
 8. WHEN WIRING A KYZ SIGNAL TO DISCRETE INPUT. ONLY WIRE KY OR KZ TERMINALS, WHERE K IS THE COMMON, Y IS N.C., AND Z IS N.O. METERS WITH FORM A OUTPUT SIGNAL ON LOW TO HIGH METERS WITH FORM C OUTPUTS SIGNAL ON CHANGE OF STATE.
 9. ----- FIELD WIRING.

XXXX XXXXXXXX XX XXX XXXXXXXXXX XX XXXXXXXXXXXX XXXXXXXXXXXX XXXXXX XX XXXXXXXXXXXXXXXX XXX XXX XXXXXXXX XXXXXX XX XXXXXXXXXXXX	XXXXXX_XXXX XXXXXX	CONNECTED COMPONENTS WAGES ENERGY SOLUTION PLC PWR, IO		SWN MDW	DATE 07-08-10
		EXAMPLE		SWG REV	A
		SHEET 04 OF 11		C/P/D	

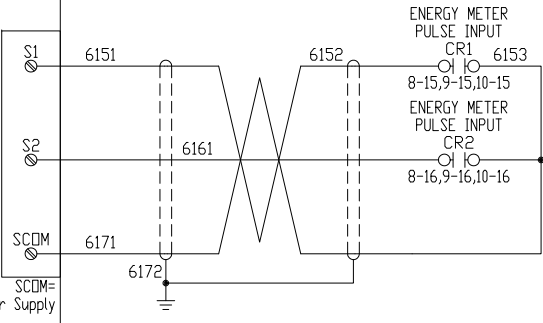
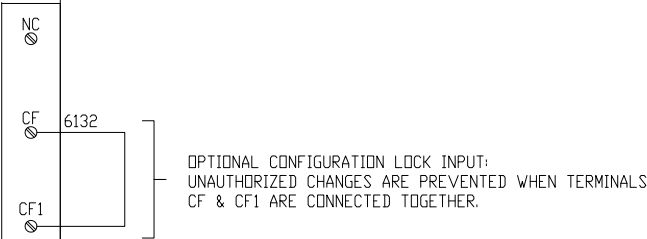




- CT NOTES:
- 1. THE DOT ON THE CURRENT/POTENTIAL TRANSFORMERS INDICATES PHASING/POLARITY.
 - 2. CONNECT THE CT SECONDARY CIRCUIT TO A LOW-IMPEDANCE EARTH GROUND AT ONE POINT ONLY.
 - 3. CT WIRING GUIDE ASSUMES 4 AMPERES SECONDARY CURRENT

WIRE SIZE	14 AWG	12 AWG	10 AWG
CT BURDEN, VA	MAXIMUM CIRCUIT LENGTH, FT.		
2.5	26	42	66
5	53	84	132
10	105	167	265
20	210	334	530
30	316	501	794

MAXIMUM CIRCUIT LENGTH IS WIRE ROUTING DISTANCE FROM THE CURRENT TRANSFORMER 'CT' TO THE POWER MONITOR.

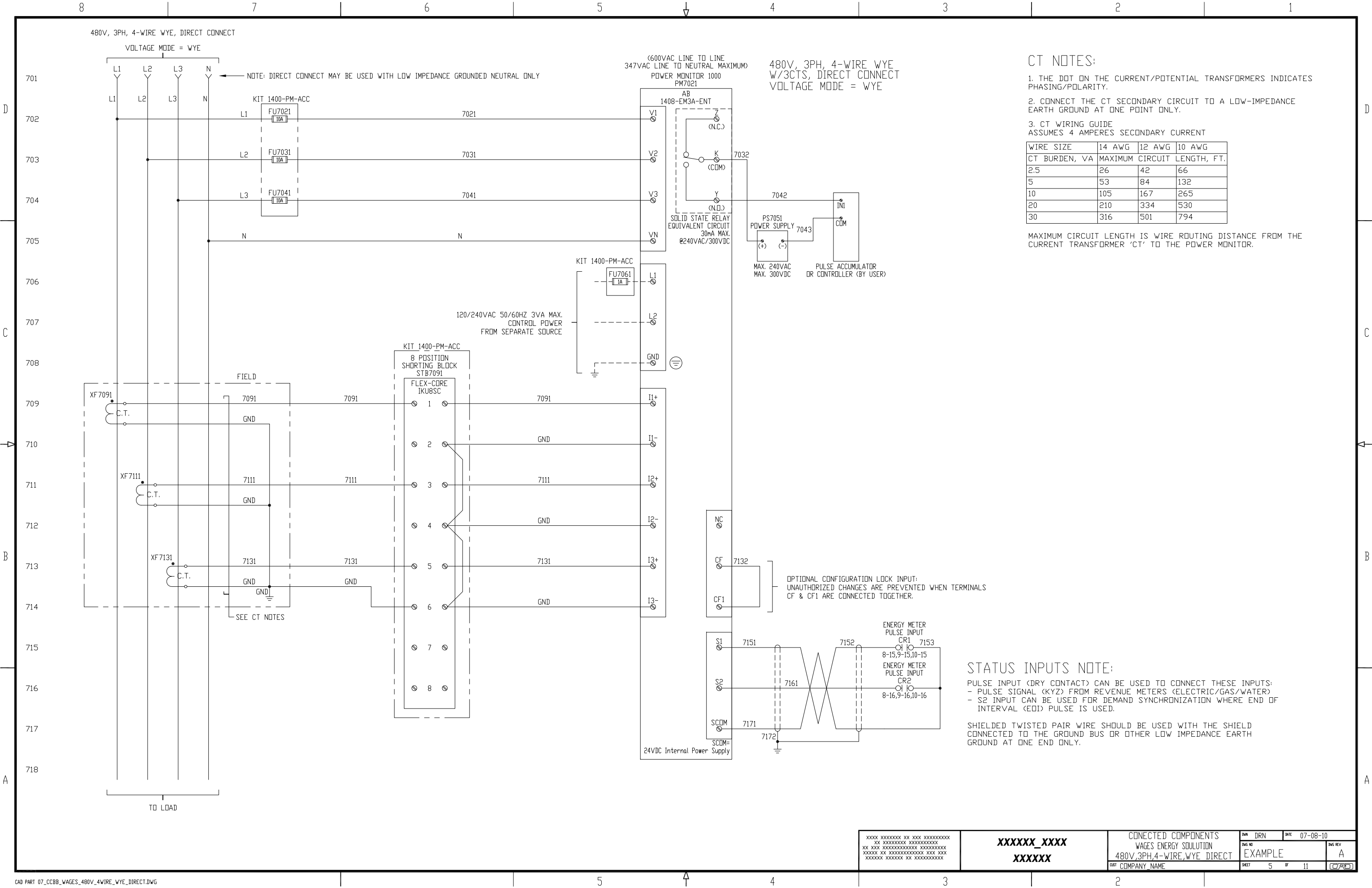


STATUS INPUTS NOTE:

PULSE INPUT (DRY CONTACT) CAN BE USED TO CONNECT THESE INPUTS:

- PULSE SIGNAL (KYZ) FROM REVENUE METERS (ELECTRIC/GAS/WATER)
- S2 INPUT CAN BE USED FOR DEMAND SYNCHRONIZATION WHERE END OF INTERVAL (EOI) PULSE IS USED.

SHIELDED TWISTED PAIR WIRE SHOULD BE USED WITH THE SHIELD CONNECTED TO THE GROUND BUS OR OTHER LOW IMPEDANCE EARTH GROUND AT ONE END ONLY.

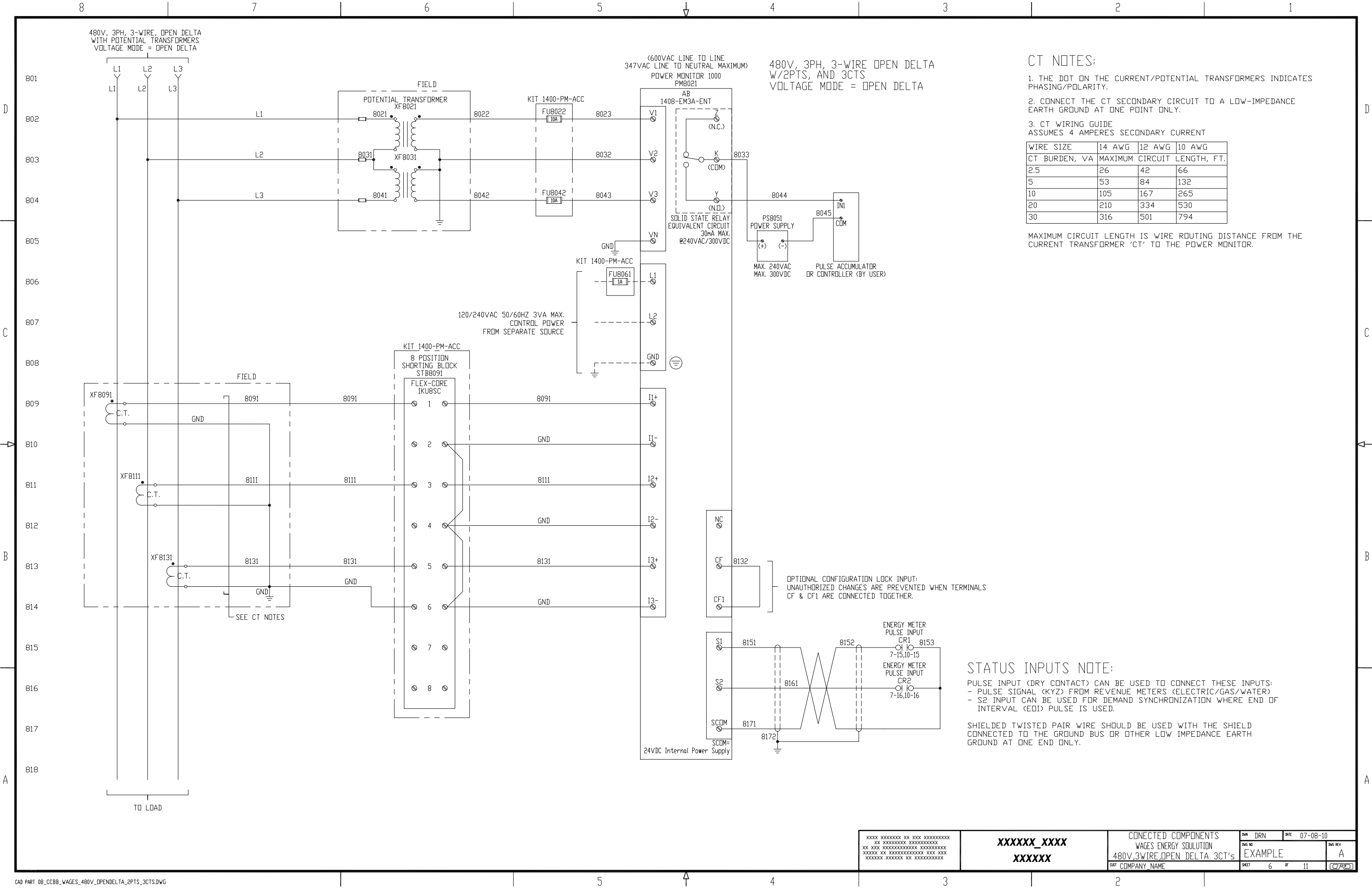


- CT NOTES:
- 1. THE DOT ON THE CURRENT/POTENTIAL TRANSFORMERS INDICATES PHASING/POLARITY.
 - 2. CONNECT THE CT SECONDARY CIRCUIT TO A LOW-IMPEDANCE EARTH GROUND AT ONE POINT ONLY.
 - 3. CT WIRING GUIDE ASSUMES 4 AMPERES SECONDARY CURRENT

WIRE SIZE	14 AWG	12 AWG	10 AWG
CT BURDEN, VA	MAXIMUM CIRCUIT LENGTH, FT.		
2.5	26	42	66
5	53	84	132
10	105	167	265
20	210	334	530
30	316	501	794

MAXIMUM CIRCUIT LENGTH IS WIRE ROUTING DISTANCE FROM THE CURRENT TRANSFORMER 'CT' TO THE POWER MONITOR.

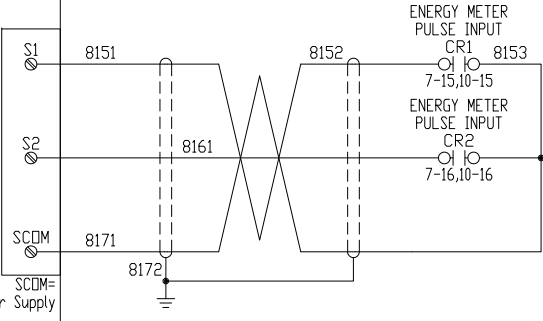
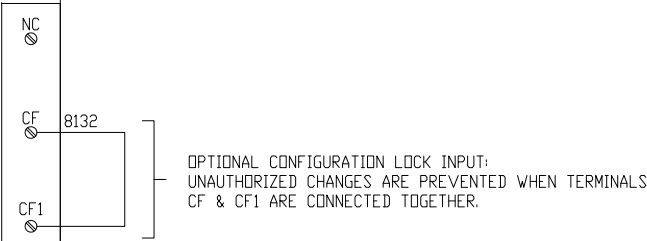
- STATUS INPUTS NOTE:
- PULSE INPUT (DRY CONTACT) CAN BE USED TO CONNECT THESE INPUTS:
 - PULSE SIGNAL (KYZ) FROM REVENUE METERS (ELECTRIC/GAS/WATER)
 - S2 INPUT CAN BE USED FOR DEMAND SYNCHRONIZATION WHERE END OF INTERVAL (EOI) PULSE IS USED.
- SHIELDED TWISTED PAIR WIRE SHOULD BE USED WITH THE SHIELD CONNECTED TO THE GROUND BUS OR OTHER LOW IMPEDANCE EARTH GROUND AT ONE END ONLY.



- CT NOTES:
- 1. THE DOT ON THE CURRENT/POTENTIAL TRANSFORMERS INDICATES PHASING/POLARITY.
 - 2. CONNECT THE CT SECONDARY CIRCUIT TO A LOW-IMPEDANCE EARTH GROUND AT ONE POINT ONLY.
 - 3. CT WIRING GUIDE ASSUMES 4 AMPERES SECONDARY CURRENT

WIRE SIZE	14 AWG	12 AWG	10 AWG
CT BURDEN, VA	MAXIMUM CIRCUIT LENGTH, FT.		
2.5	26	42	66
5	53	84	132
10	105	167	265
20	210	334	530
30	316	501	794

MAXIMUM CIRCUIT LENGTH IS WIRE ROUTING DISTANCE FROM THE CURRENT TRANSFORMER 'CT' TO THE POWER MONITOR.

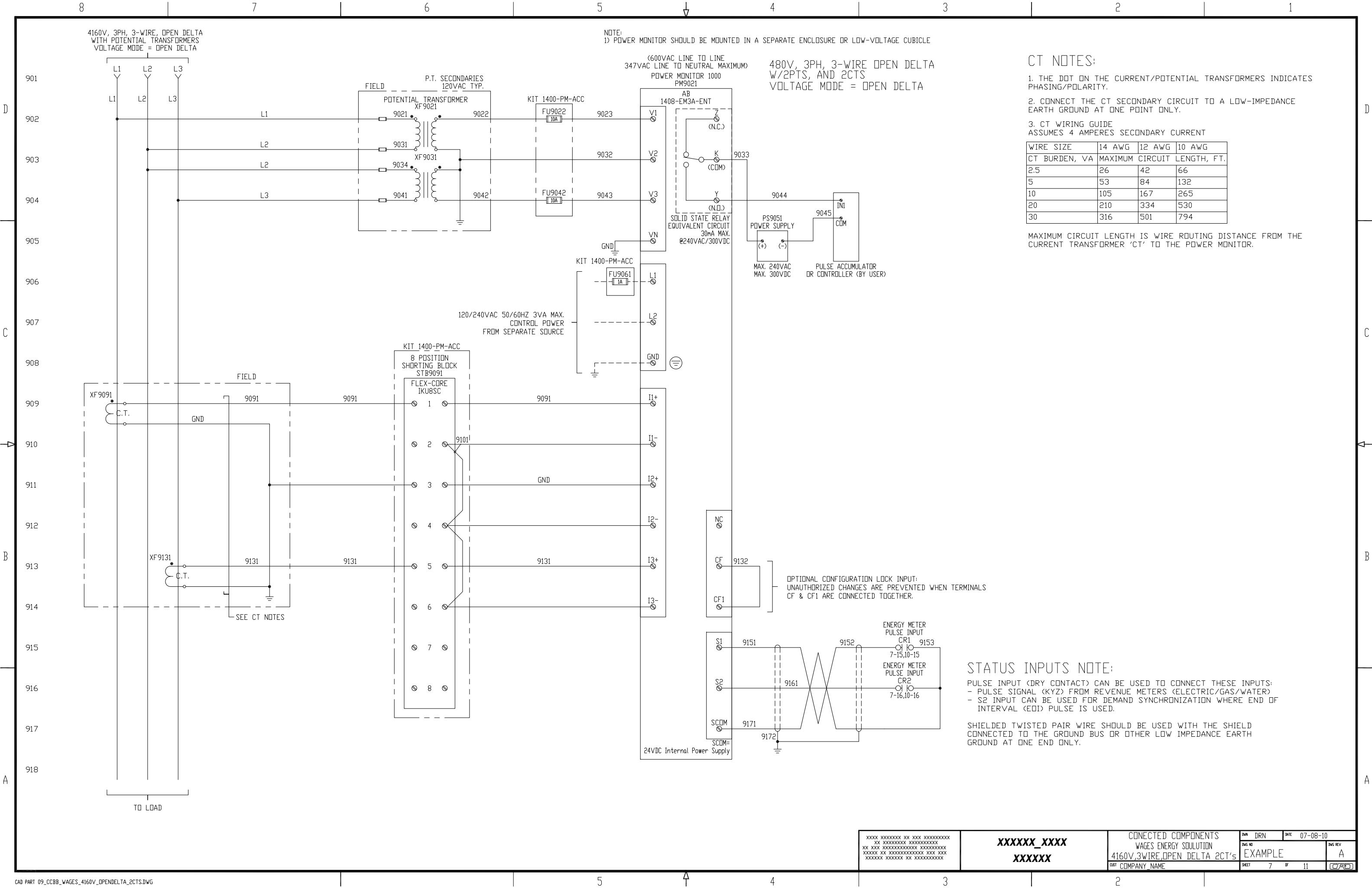


STATUS INPUTS NOTE:

PULSE INPUT (DRY CONTACT) CAN BE USED TO CONNECT THESE INPUTS:

- PULSE SIGNAL (KYZ) FROM REVENUE METERS (ELECTRIC/GAS/WATER)
- S2 INPUT CAN BE USED FOR DEMAND SYNCHRONIZATION WHERE END OF INTERVAL (EOI) PULSE IS USED.

SHIELDED TWISTED PAIR WIRE SHOULD BE USED WITH THE SHIELD CONNECTED TO THE GROUND BUS OR OTHER LOW IMPEDANCE EARTH GROUND AT ONE END ONLY.



NOTE:
1) POWER MONITOR SHOULD BE MOUNTED IN A SEPARATE ENCLOSURE OR LOW-VOLTAGE CUBICLE

480V, 3PH, 3-WIRE OPEN DELTA
W/2PTS, AND 2CTS
VOLTAGE MODE = OPEN DELTA

- CT NOTES:
- 1. THE DOT ON THE CURRENT/POTENTIAL TRANSFORMERS INDICATES PHASING/POLARITY.
 - 2. CONNECT THE CT SECONDARY CIRCUIT TO A LOW-IMPEDANCE EARTH GROUND AT ONE POINT ONLY.
 - 3. CT WIRING GUIDE ASSUMES 4 AMPERES SECONDARY CURRENT

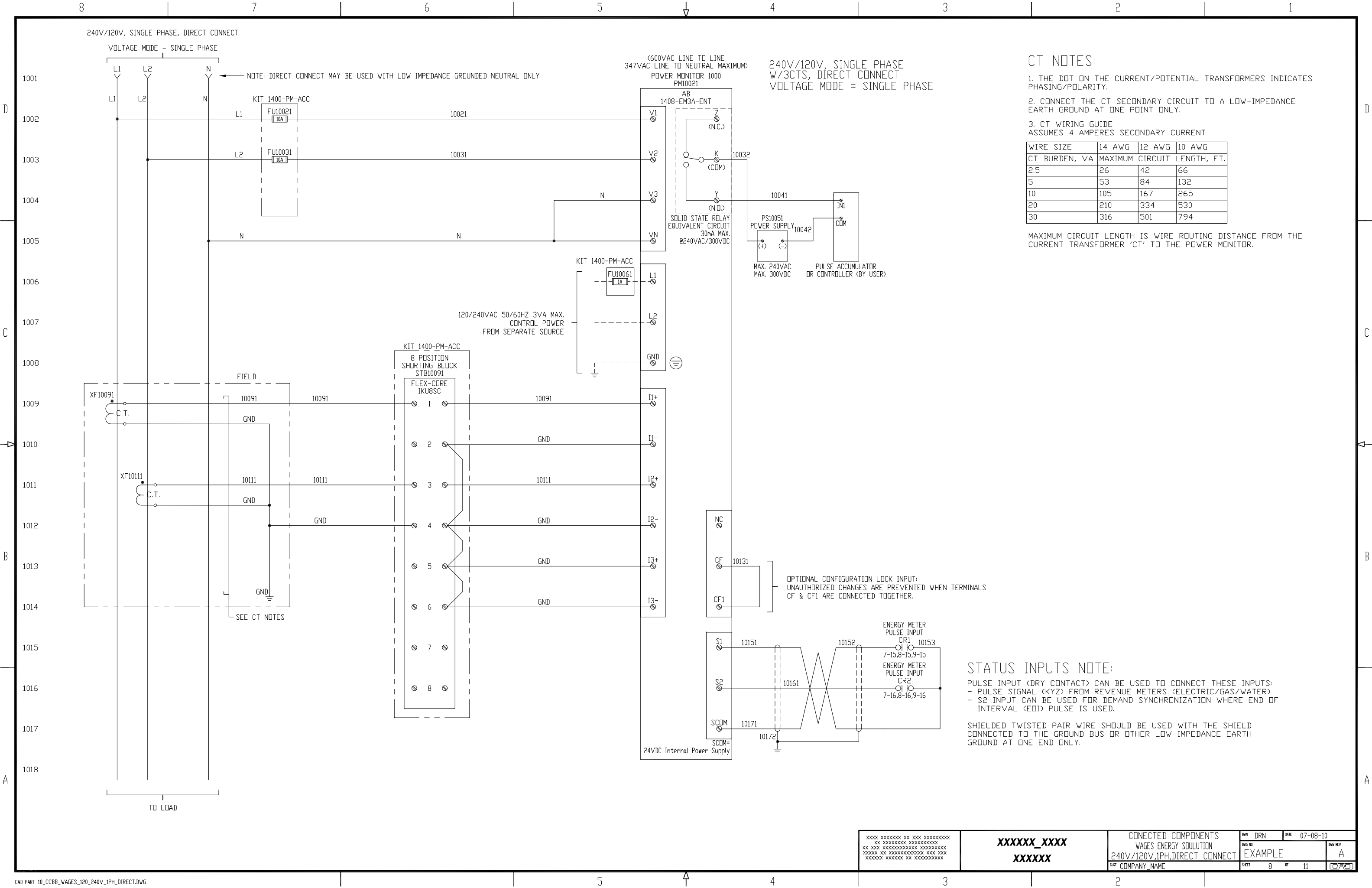
WIRE SIZE	14 AWG	12 AWG	10 AWG
CT BURDEN, VA	MAXIMUM CIRCUIT LENGTH, FT.		
2.5	26	42	66
5	53	84	132
10	105	167	265
20	210	334	530
30	316	501	794

MAXIMUM CIRCUIT LENGTH IS WIRE ROUTING DISTANCE FROM THE CURRENT TRANSFORMER 'CT' TO THE POWER MONITOR.

OPTIONAL CONFIGURATION LOCK INPUT:
UNAUTHORIZED CHANGES ARE PREVENTED WHEN TERMINALS CF & CF1 ARE CONNECTED TOGETHER.

- STATUS INPUTS NOTE:
- PULSE INPUT (DRY CONTACT) CAN BE USED TO CONNECT THESE INPUTS:
 - PULSE SIGNAL (KYZ) FROM REVENUE METERS (ELECTRIC/GAS/WATER)
 - S2 INPUT CAN BE USED FOR DEMAND SYNCHRONIZATION WHERE END OF INTERVAL (EOI) PULSE IS USED.

SHIELDED TWISTED PAIR WIRE SHOULD BE USED WITH THE SHIELD CONNECTED TO THE GROUND BUS OR OTHER LOW IMPEDANCE EARTH GROUND AT ONE END ONLY.

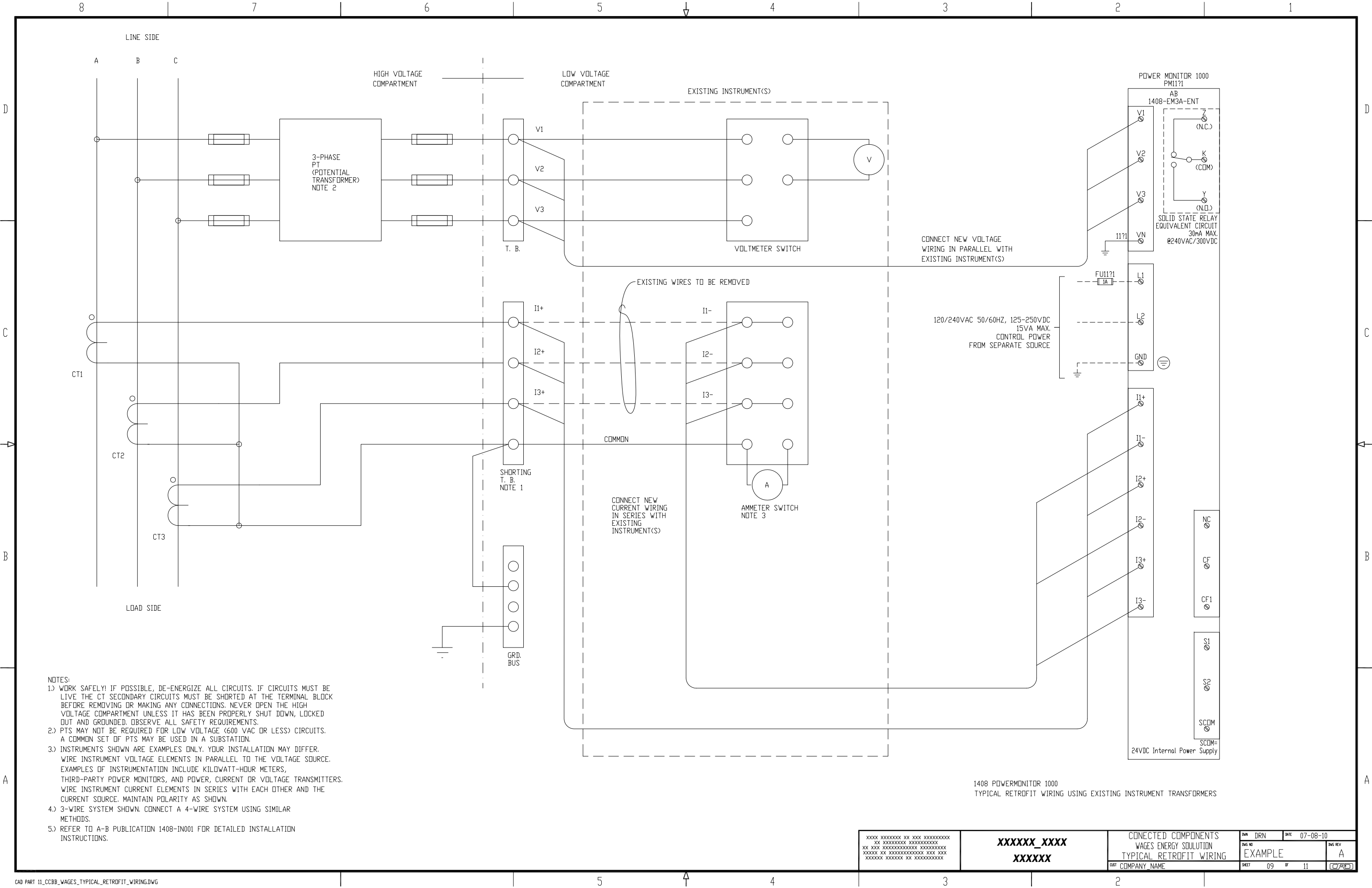


XXXX XXXXXXXX XX XXX XXXXXXXXXX
XX XXXXXXXXXXXX XXXXXXXXXXXX
XXXXXX XX XXXXXXXXXXXX XXX XXX
XXXXXXXX XXXXXXXX XX XXXXXXXXXXXX

XXXXXX_XXXX
XXXXXX

CONNECTED COMPONENTS
WAGES ENERGY SOLUTION
240V/120V,1PH,DIRECT CONNECT

SWN	DRN	DATE	07-08-10
DWG NO	EXAMPLE	DWG REV	A
SHEET	8	OF	11



- NOTES:
- 1.) WORK SAFELY! IF POSSIBLE, DE-ENERGIZE ALL CIRCUITS. IF CIRCUITS MUST BE LIVE THE CT SECONDARY CIRCUITS MUST BE SHORTED AT THE TERMINAL BLOCK BEFORE REMOVING OR MAKING ANY CONNECTIONS. NEVER OPEN THE HIGH VOLTAGE COMPARTMENT UNLESS IT HAS BEEN PROPERLY SHUT DOWN, LOCKED OUT AND GROUNDED. OBSERVE ALL SAFETY REQUIREMENTS.
 - 2.) PTS MAY NOT BE REQUIRED FOR LOW VOLTAGE (600 VAC OR LESS) CIRCUITS. A COMMON SET OF PTS MAY BE USED IN A SUBSTATION.
 - 3.) INSTRUMENTS SHOWN ARE EXAMPLES ONLY. YOUR INSTALLATION MAY DIFFER. WIRE INSTRUMENT VOLTAGE ELEMENTS IN PARALLEL TO THE VOLTAGE SOURCE. EXAMPLES OF INSTRUMENTATION INCLUDE KILOWATT-HOUR METERS, THIRD-PARTY POWER MONITORS, AND POWER, CURRENT OR VOLTAGE TRANSMITTERS. WIRE INSTRUMENT CURRENT ELEMENTS IN SERIES WITH EACH OTHER AND THE CURRENT SOURCE. MAINTAIN POLARITY AS SHOWN.
 - 4.) 3-WIRE SYSTEM SHOWN. CONNECT A 4-WIRE SYSTEM USING SIMILAR METHODS.
 - 5.) REFER TO A-B PUBLICATION 1408-IN001 FOR DETAILED INSTALLATION INSTRUCTIONS.

XXXX XXXXXXXX XX XXX XXXXXXXXXX XX XXXXXXXXXX XXXXXXXXXX XX XXX XXXXXXXXXX XXXXXXXXXX XXXXXX XXXXXXXXXX XXX XXX XXXXXX XXXXXXXX XX XXXXXXXXXX	XXXXXX_XXXX XXXXXX	CONNECTED COMPONENTS WAGES ENERGY SOLUTION TYPICAL RETROFIT WIRING	DATE 07-08-10	DRN	REV
			EXAMPLE		A
		COMPANY NAME	SHEET 09 OF 11		