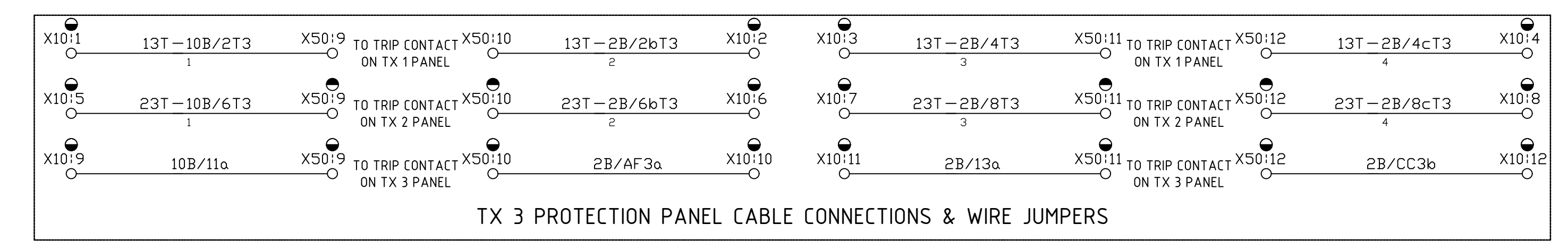
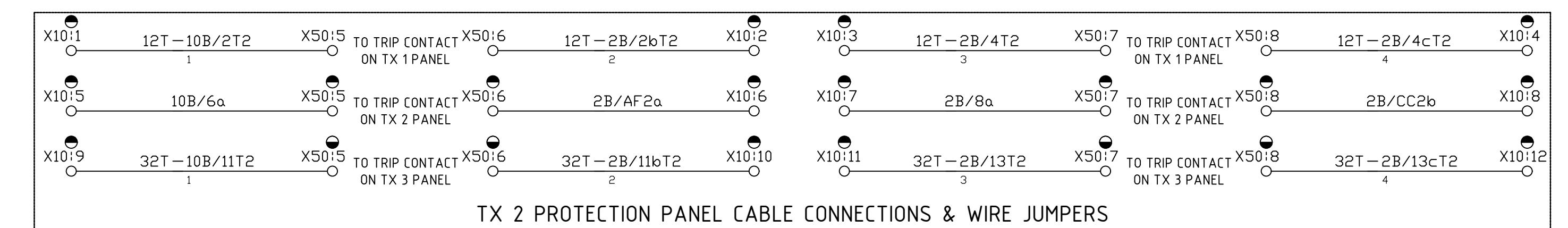
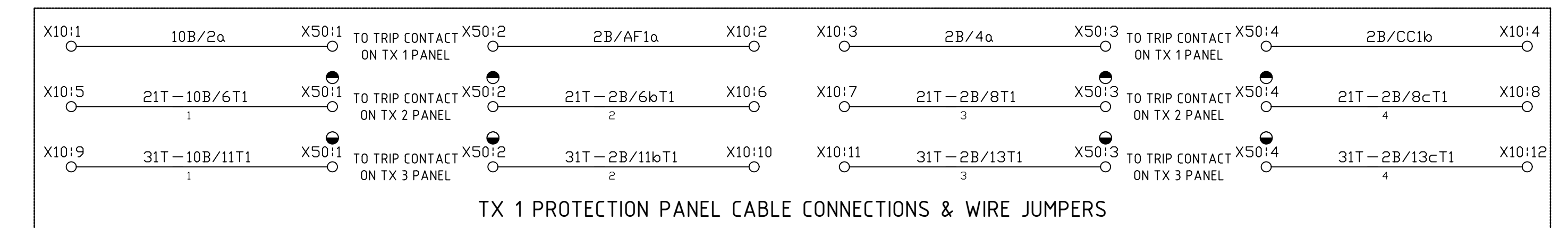


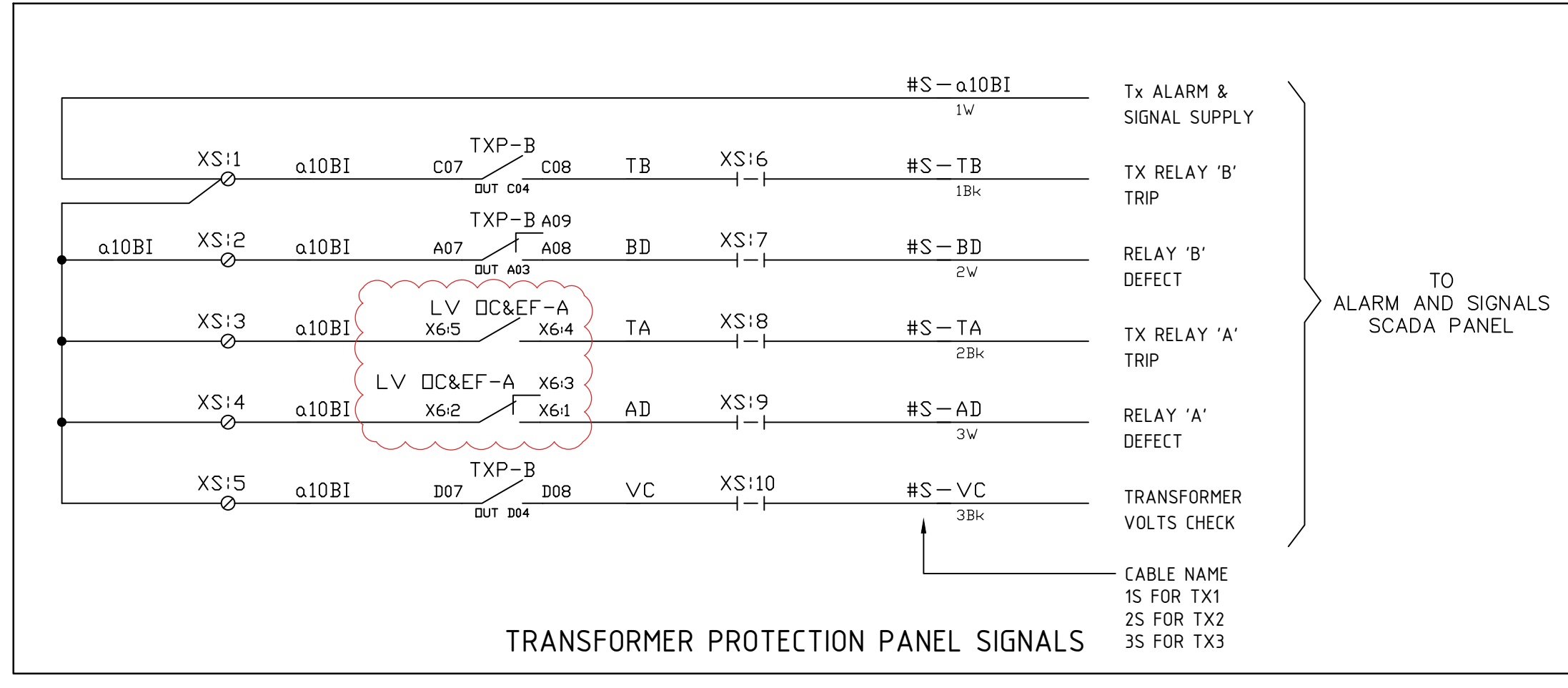
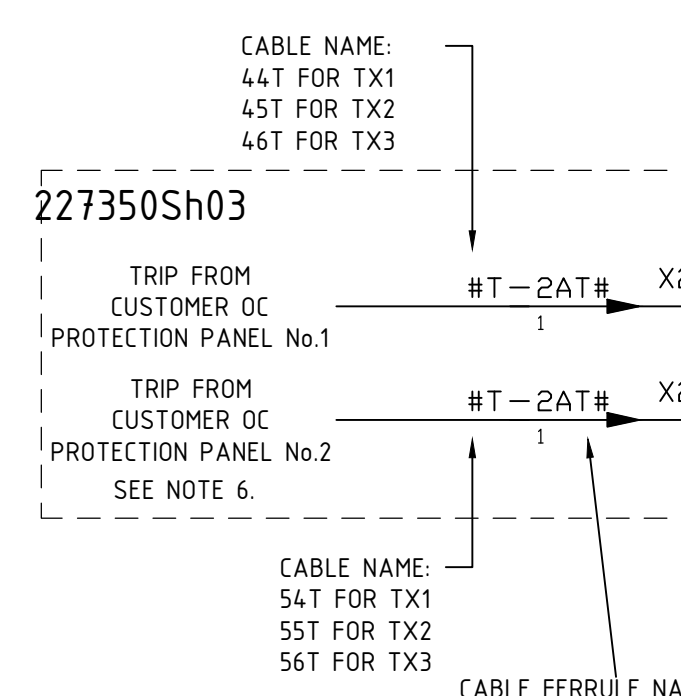
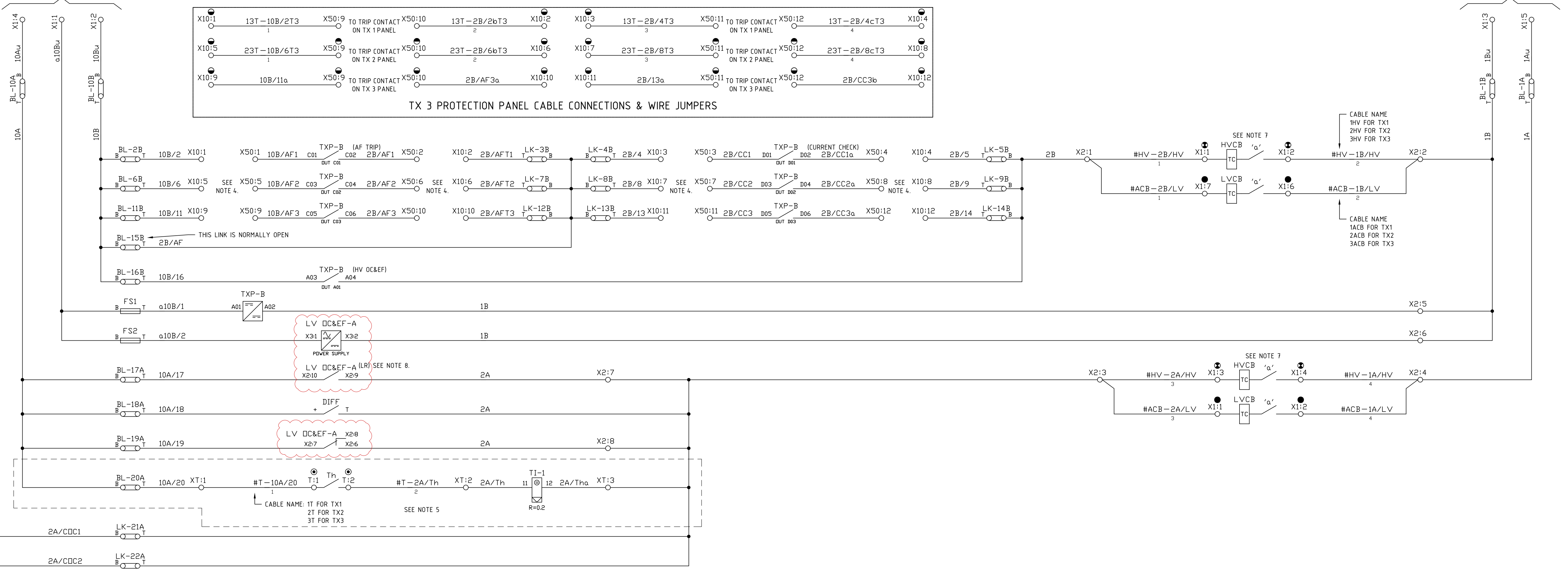
- NOTES:**
- THE 'B' END OF A FUSE OR LINK THIS (B) INDICATES THE BOTTOM CONNECTION.
 - THIS DRAWING SHOWS THE PROTECTION SCHEMATICS WHICH ARE TO BE USED IN CONJUNCTION WITH RMICB CHAMBER TYPE SUBSTATIONS & SHOULD BE READ IN CONJUNCTION WITH NETWORK STANDARDS & THE SUBSTATION DESIGN INFORMATION PACKAGE.
 - TERMINAL SYMBOLS REPRESENT LOCATION OF TERMINALS.
 TRANSFORMER 1 PROTECTION PANEL
 TRANSFORMER CONNECTION BOX (DRY TYPE)
 TRANSFORMER 11kV RMICB
 TRANSFORMER 415V AIR CIRCUIT BREAKER
 TRANSFORMER 2 PROTECTION PANEL
 TRANSFORMER 3 PROTECTION PANEL
 - SHOWN IS A STANDARD TRANSFORMER PROTECTION PANEL WITH OPTICAL ARC FLASH DETECTION. EACH TRANSFORMER PROTECTION INTEGRATES WITH THE OTHER. EACH PROTECTION PANEL IS TO BE CONFIGURED ON SITE, BY WIRE JUMPING/CABLING BETWEEN TERMINAL RAILS X10 & X50 TO PROTECT ITS RELEVANT TRANSFORMER AND THE 415V BUSBAR. ONLY WIRE JUMPING AND CABLING, FOR THE NUMBER OF TRANSFORMERS ACTUALLY IN THE DISTRIBUTION SUBSTATION, IS REQUIRED.
 - WHEN A DRY TYPE TRANSFORMER IS USED, BL-20A, THE THERMAL RELAY (TH) & A TRIP INDICATOR ARE TO BE CONNECTED. THE THERMAL RELAY IS LOCATED & SUPPLIED FROM THE TRANSFORMER BY THE TRANSFORMER MANUFACTURER. THE TRIP INDICATOR IS LOCATED ON THE TRANSFORMER PROTECTION PANEL & IS SUPPLIED BY AUSGRID.
 - FOR A CUSTOMER CABLE SUPPLY, THE CUSTOMER SWITCH CAN BE AN AIR CIRCUIT BREAKER OR A DISCONNECTOR. FOR A CUSTOMER BUSBAR SUPPLY, THE CUSTOMER SWITCH CAN BE AN AIR CIRCUIT BREAKER, A DISCONNECTOR OR A LINK. IN ALL OF THESE INSTALLATIONS, AN OVERCURRENT CT IS INSTALLED AS SHOWN ON THE AC SCHEMATIC. IN ALL CASES A CUSTOMER PROTECTION TRIP INITIATION WILL TRIP ALL THE TRANSFORMER HV RMICB'S & LV AIR CIRCUIT BREAKERS.
 - FOR UPPER LEVEL SUBSTATION THE RMICB IS LOCATED IN A CONTROL POINT WHICH IS REMOTE FROM THE SUBSTATION. FOR UPPER LEVEL SUBSTATION REFER TO THE CABLING DIAGRAM (DWG 227355SH01) FOR FURTHER INFORMATION CONNECTING THE RMICB TRIP COIL.
 - LOAD RELIEF IS DEFINED BY THE EQUIPMENT RATING.

SEE DC SUPPLY AND CABLE LOOPING SCHEMATIC DWG 227350-4



TAGNAME	MFG	CATNO	DESC	REF_DWG
BL_LK	EUGAQUIP		MOULDED TYPE M5	507111
DIFF		K3M	DIFFERENTIAL FUSE RELAY	113243
EB			EARTH BAR	
FS1, FS2	ALSTOM	RS20P Black	Black FUSE - 2 STUD BACK CONNECTED	-
LV DC&EF-A	SIEMENS	7SR4504-2H20-1AA0	OVERCURRENT & EARTH FAULT RELAY	-
TXP-B	SCHWEITZER	SEL-751A	TRANSFORMER PROTECTION RELAY	222616
TI-1	RMS	3A32K37	TRIP INDICATOR TI-3 (0.2 ohm)	123399
Th			THERMAL RELAY IF INSTALLED (SUPPLIED WITH TX)	-
11kV CB			11kV RMI CIRCUIT BREAKER	-
LVCB			415V TRANSFORMER AIR CIRCUIT BREAKER	-
TC			TRIP COIL	-
'a'			AUXILIARY SWITCH (Open when CB Open)	-
X1, X2, X10	UTILUX	3820	RAIL MOUNTED TERMINAL	118547
X50, XT, T	UTILUX	3820	RAIL MOUNTED TERMINAL	118547
XS	WEIDMULLER	SAK 2.5	RAIL MOUNTED TERMINAL CAT No. 27966	-
XS	WEIDMULLER	SAKR	RAIL MOUNTED ISOLATING TERM CAT No. 41226	-

SEE DC SUPPLY AND CABLE LOOPING SCHEMATIC DWG 227350-4



LINK No.	LINK FUNCTION
BL-2B	TRANSFORMER 1 ARC FLASH DC BATTERY LINK
BL-6B	TRANSFORMER 2 ARC FLASH DC BATTERY LINK
BL-11B	TRANSFORMER 3 ARC FLASH DC BATTERY LINK
BL-15B	ARC FLASH BYPASS DC BATTERY LINK - NORMALLY OPEN
BL-16B	TX HV OVERCURRENT DC BATTERY LINK
BL-17A	TX LOAD RELIEF DC BATTERY LINK
BL-18A	TX DIFFERENTIAL DC BATTERY LINK
BL-19A	TX OVERCURRENT & EARTH FAULT DC BATTERY LINK
BL-20A	TX THERMAL DC BATTERY LINK - (SEE NOTE 5)
LK-3B	TRANSFORMER 1 ARC FLASH TRIP LINK
LK-4B	TRANSFORMER 1 CURRENT CHECK LINK
LK-5B	TRANSFORMER 1 CURRENT CHECK TRIP LINK
LK-7B	TRANSFORMER 2 ARC FLASH TRIP LINK
LK-8B	TRANSFORMER 2 CURRENT CHECK LINK
LK-9B	TRANSFORMER 2 CURRENT CHECK TRIP LINK
LK-12B	TRANSFORMER 3 ARC FLASH TRIP LINK
LK-13B	TRANSFORMER 3 CURRENT CHECK LINK
LK-14B	TRANSFORMER 3 CURRENT CHECK TRIP LINK
LK-21A	CUSTOMER DC No.1 TRIP LINK
LK-22A	CUSTOMER DC No.2 TRIP LINK
FS1	48V 'a10B' PROTECTION RELAY FUSE
FS2	48V 'a10B' PROTECTION RELAY FUSE
BL-10A	30V 'A' -VE BATTERY LINK
BL-1A	30V 'A' -VE BATTERY LINK
BL-10B	30V (TAP) 'B' -VE BATTERY LINK
BL-1B	'B' -VE BATTERY LINK
DC TEST LINK FUNCTION TABLE	

TITLE	DWG No.
RMICB SUBSTATIONS WITH E TYPE LV BOARD AC SCHEMATIC WITH OPTICAL ARC FLASH DETECTION	227350-1
RMICB SUBSTATIONS WITH E TYPE LV BOARD TRANSFORMER DC SCHEMATIC WITH OPTICAL ARC FLASH DETECTION	227350-2
RMICB SUBSTATIONS WITH E TYPE LV BOARD CUSTOMER OVERCURRENT DC SCHEMATIC	227350-3
RMICB SUBSTATIONS WITH E TYPE LV BOARD DC SUPPLY CABLE LOOPING AND SCADA SCHEMATIC	227350-4
RMICB SUBSTATIONS WITH E TYPE LV BOARD WITH OPTICAL ARC FLASH DETECTION FIBRE LOOPING AND GENERAL MOUNTING DETAILS	227350-5
RMICB SUBSTATIONS WITH E TYPE LV BOARD TRANSFORMER PROTECTION PANEL WITH OPTICAL AFD STYLE 1 LAYOUT AND LABEL DETAILS DIAGRAM	227351-1
RMICB SUBSTATIONS WITH E TYPE LV BOARD TRANSFORMER PROTECTION PANEL STYLE 1 WIRING DIAGRAM	227351-2
RMICB SUBSTATIONS WITH E TYPE LV BOARD TRANSFORMER PROTECTION PANEL STYLE 1 CABLE CONNECTION DIAGRAM	227351-3
RMICB SUBSTATIONS WITH E TYPE LV BOARD TX WALL MOUNTED PROTN PANEL WITH OPTICAL AFD STYLE 2 LAYOUT AND LABEL DETAILS DIAGRAM	227352-1
RMICB SUBSTATIONS WITH E TYPE LV BOARD TRANSFORMER PROTECTION PANEL STYLE 2 WIRING DIAGRAM	227352-2
RMICB SUBSTATIONS WITH E TYPE LV BOARD TRANSFORMER PROTECTION PANEL STYLE 2 CABLE CONNECTION DIAGRAM	227352-3
RMICB SUBSTATIONS WITH E TYPE LV BOARD CUSTOMER OVERCURRENT WALL MOUNTED PROTN PANEL LAYOUT AND LABEL DETAILS DIAGRAM	227353-1
RMICB SUBSTATIONS WITH E TYPE LV BOARD CUSTOMER OVERCURRENT WIRING DIAGRAM	227353-2
RMICB SUBSTATIONS WITH E TYPE LV BOARD OPTICAL ARC FLASH DETECTION INDICATION PANEL SCHEMATIC DRILLING AND WIRING DIAGRAM	227354-1
RMICB SUBSTATIONS WITH E TYPE LV BOARD AND OPTICAL ARC FLASH DETECTION CABLING DIAGRAM	227355-1
RMICB SUBSTATIONS WITH E TYPE LV BOARD AND OPTICAL ARC FLASH DETECTION CABLE SCHEDULE	227355-2
RMICB SUBSTATIONS WITH E TYPE LV BOARD SUBURBAN TYPE SUBSTATION WITH 1500kVA TRANSFORMERS SERVICE BOARD GEN. ARRANGEMENT AND WIRING	227356-1
E TYPE LV BOARD MERLIN GERIN MASTERPAC TP AIR CIRCUIT BREAKERS EXTERNAL CONNECTIONS FOR AFD DIST. SUBSTATIONS	227357-1
RMICB SUBSTATIONS WITH E TYPE LV BOARD AND OPTICAL ARC FLASH DETECTION SCADA PANEL WIRING AND CABLING DETAILS	178227-1
EPOXY RESIN ENCASED PROTECTION CURRENT TRANSFORMER OUTLINE AND DETAILS	125190-1

AMD	DATE	DESCRIPTION	DRAWN BY	DESIGNED BY	CHECKED BY	APPROVED BY
2	08/08/2023	AMENDED TXP-B RELAY TYPE AS SHOWN.	L.M.	L.M.	M.B.	M.B.
3	12/06/2024	AC & DC LINKS NOW 5mm TYPE.	L.M.	L.M.	M.B.	M.B.
4	19/09/2024	REPLACED SCHNEIDER P115 WITH SIEMENS 7SR4504 IN LEGEND & SCHEMATIC CONNECTIONS.	L.M.	L.M.	M.B.	M.B.

24 Campbell Street
SYDNEY NSW 2000
P. 9272 3805

SCALE	NTS
DESIGNED	-
DRAWN	L.MARTINUZZI
CHECKED	B.HAINES
APPROVED	A.TURNER
DATE	31/05/2012
TRIM REF	-

RMICB SUBSTATIONS WITH E TYPE LV BOARD TRANSFORMER DC SCHEMATIC WITH OPTICAL ARC FLASH DETECTION

ISSUED FOR CONSTRUCTION	PROJECT NUMBER	DRAWING No	SHEET	AMD	SIZE
	SM-06717	227350	2	4	B1