

CABLE N°	ORIGIN	DESTINATION	SIZE	CORE				CABLE FUNCTION
				FERRULE	NUMBER	COLOUR	FUNCTION	
1A	SERVICE BOARD FUSES	SERVICE BOARD	4 CABLES 1C x 16mm <sup>2</sup>	-	-	R W B Bk	A PHASE B PHASE C PHASE NEUTRAL	SERVICE BOARD SUPPLY
2A 3A 4A	TRANSFORMER AIR CIRCUIT BREAKER	SERVICE BOARD	1C x 16mm <sup>2</sup>	-	-	W	B PHASE	SERVICE BOARD ALT SUPPLY
5A	SERVICE BOARD	BATTERY CHARGER	2C 2.5mm <sup>2</sup>	A N	1 2	R Bk	ACTIVE NEUTRAL	BATTERY CHARGER AC SUPPLY
6A	SERVICE BOARD	SUBSTATION LIGHT CIRCUITS	2C 2.5mm <sup>2</sup>	A N	1 2	R Bk	ACTIVE NEUTRAL	SUBSTATION LIGHTING
8A 9A 10A	SERVICE BOARD	DRY TYPE TRANSFORMER	2C 2.5mm <sup>2</sup>	A N	1 2	R Bk	ACTIVE NEUTRAL	DRY TYPE TRANSFORMER FAN SUPPLY
11A	SERVICE BOARD	CONTROL POINT SERVICE BOARD	SEE A1-178233 NOTE 8	A N	1 2	R Bk	ACTIVE NEUTRAL	CONTROL POINT SUPPLY
12A	SERVICE BOARD	SUBSTATION FAN	4C 7/0.67	A B C E	1 2 3 4	R W B GY	A PHASE B PHASE C PHASE EARTH	SUBSTATION FAN SUPPLY
13A	SERVICE BOARD	SCADA	2C 2.5mm <sup>2</sup>	A N	1 2	R Bk	ACTIVE NEUTRAL	SCADA SUPPLY
1ACB 2ACB 3ACB	TRANSFORMER AIR CIRCUIT BREAKER	TRANSFORMER PROTECTION PANEL	8C 7/0.67	1x 2x 3x 4x 5x 6x 7x 8x	1 2 3 4 5 6 7 8	R W B GR GW GB G BL	NEG TRIP TRIP POS TRIP POS TRIP POS TRIP POS TRIP POS TRIP POS	ACB TRIP
4ACB 5ACB	CUSTOMER SUPPLY AIR CIRCUIT BREAKER	CUSTOMER SUPPLY OC PROTECTION PANEL	2C 2.5mm <sup>2</sup>	1 2/OC-1	1 2	R Bk	NEG TRIP	ACB TRIP
1CS 2CS	CUSTOMER SUPPLY OC CT's	CUSTOMER SUPPLY OC PROTECTION PANEL	8C 7/0.67	21 22 23 24 25 26 SP SP	1 2 3 4 5 6 7 8	R W B GR GW GB G Bk	A PHASE B PHASE C PHASE A NON POL B NON POL C NON POL SPARE SPARE	CUSTOMER SUPPLY OC PROTECTION
3CS 4CS	CUSTOMER SUPPLY OC PROTECTION PANEL	SUMMATED OC PROTECTION PANEL	2C 7/0.67	2/OC 10	1 2	R Bk	TRIP PROT -VE	CUSTOMER SUPPLY PROT TRIP
1CT 2CT 3CT	TRANSFORMER HV DIFFERENTIAL CT'S	TRANSFORMER PROTECTION PANEL	8C 7/0.67	31H 32H 33H 34H 35H 36H SP SP	1 2 3 4 5 6 7 8	R W B GR GW GB G Bk	A PHASE B PHASE C PHASE A NON POL B NON POL C NON POL SPARE SPARE	TRANSFORMER DIFFERENTIAL PROTECTION
4CT 5CT 6CT	TRANSFORMER LV DIFFERENTIAL CT'S	TRANSFORMER PROTECTION PANEL	8C 7/0.67	31 32 33 34 35 36 SP SP	1 2 3 4 5 6 7 8	R W B GR GW GB G Bk	A PHASE B PHASE C PHASE A NON POL B NON POL C NON POL SPARE SPARE	TRANSFORMER DIFFERENTIAL PROTECTION
1D	BATTERY CHARGER	TRIPPING BATTERIES	2C 7/0.67	10u 1u	1 2	R Bk	PROT -VE PROT -VE	20V DC PROT SUPPLY
2D	TRIPPING BATTERIES	A TRANSFORMER PROTECTION PANEL	2C 7/0.67	10u 1u	1 2	R Bk	PROT +VE PROT -VE	20V DC PROT SUPPLY
3D	A TRANSFORMER PROTECTION PANEL	B TRANSFORMER PROTECTION PANEL	2C 7/0.67	10u 1u	1 2	R Bk	PROT +VE PROT -VE	20V DC PROT SUPPLY
4D	B TRANSFORMER PROTECTION PANEL	C TRANSFORMER PROTECTION PANEL	2C 7/0.67	10u 1u	1 2	R Bk	PROT +VE PROT -VE	20V DC PROT SUPPLY
5D	C TRANSFORMER PROTECTION PANEL	SUMMATED OC PROTECTION PANEL	2C 7/0.67	10u 1u	1 2	R Bk	PROT +VE PROT -VE	20V DC PROT SUPPLY
6D	SUMMATED OC PROTECTION PANEL	BATTERY TEST BOX	2C 7/0.67	10u 1u	1 2	R Bk	PROT +VE PROT -VE	20V DC PROT SUPPLY
F	SERVICE BOARD	SIGNAL MARSHALLING BOX	2C 7/0.50	F1 F2	1 2	R Bk	SIGNAL	FAN FAIL SIGNAL
1FC 2FC	FAN CONTROL PANEL	FAN CONTROL THERMOSTAT	2C 7/0.67	F3 F4	1 2	R Bk	POS NEG	FAN CONTROL THERMOSTAT
3FC	FAN CONTROL PANEL	AIR VANE SWITCH	2C 7/0.67	F7 F8	1 2	R Bk	POS NEG	AIR VANE SWITCH
4FC	FAN CONTROL PANEL	FIRE DETECTOR THERMOSTAT	2C 7/0.67	F9 F10	1 2	R Bk	POS NEG	FIRE DETECTOR THERMOSTAT

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1FT 2FT 3FT	TRANSFORMER PROTECTION PANEL	SIGNAL DISCONNECTION BOX	2C 7/0.67	BP1 BP2	1 2	R Bk	TRIP	FEEDER TRIP
1M	A TRANSFORMER AIR CIRCUIT BREAKER	B TRANSFORMER AIR CIRCUIT BREAKER	2C 7/0.67	28 28n	1 2	R Bk	B PHASE B NON POL	MDI
2M	B TRANSFORMER AIR CIRCUIT BREAKER	C TRANSFORMER AIR CIRCUIT BREAKER	2C 7/0.67	28 28n	1 2	R Bk	B PHASE B NON POL	MDI
3M	C TRANSFORMER AIR CIRCUIT BREAKER	SUBSTATION MDI TRANSUDER ON SERVICE BOARD	2C 7/0.67	28 28n	1 2	R Bk	B PHASE B NON POL	MDI
MDI	SUBSTATION MDI TRANSUDER ON SERVICE BOARD	SIGNAL DISCONNECTION BOX	2 PAIR TWISTED & SHIELDED	A1- A1- A2- A2-	1 2 3 4	R W B Bk	MDI 1 INDICATION MDI 2 INDICATION	MDI CURRENT INDICATION
1P	A PILOT ISOLATION BOX	SIGNAL DISCONNECTION BOX	2C 7/0.50	TR1 TR2	1 2	R RW	A TRANSFORMER PILOT	PILOT ISOLATION
2P	B PILOT ISOLATION BOX	SIGNAL DISCONNECTION BOX	2C 7/0.50	TY1 TY2	1 2	Y YW	B TRANSFORMER PILOT	PILOT ISOLATION
3P	C PILOT ISOLATION BOX	SIGNAL DISCONNECTION BOX	2C 7/0.50	TB1 TB2	1 2	B BW	C TRANSFORMER PILOT	PILOT ISOLATION
4P	A PILOT ISOLATION BOX	A PILOT MARSHALLING BOX	4C 7/0.40	TR1 TR2 SR3 SR4	1 2 3 4	R W B Bk	A TRANSFORMER PILOT	PILOT MARSHALLING
5P	B PILOT ISOLATION BOX	B PILOT MARSHALLING BOX	4C 7/0.40	TY1 TY2 SY3 SY4	1 2 3 4	R W B Bk	B TRANSFORMER PILOT	PILOT MARSHALLING
6P	C PILOT ISOLATION BOX	C PILOT MARSHALLING BOX	4C 7/0.40	TB1 TB2 SB3 SB4	1 2 3 4	R W B Bk	C TRANSFORMER PILOT	PILOT MARSHALLING
7P	A PILOT MARSHALLING BOX	SIGNAL DISCONNECTION BOX	2C 7/0.50	TR1 TR2	1 2	R RW	A TRANSFORMER PILOT	PILOT ISOLATION
8P	B PILOT MARSHALLING BOX	SIGNAL DISCONNECTION BOX	2C 7/0.50	TY1 TY2	1 2	Y YW	B TRANSFORMER PILOT	PILOT ISOLATION
9P	C PILOT MARSHALLING BOX	SIGNAL DISCONNECTION BOX	2C 7/0.50	TB1 TB2	1 2	B BW	C TRANSFORMER PILOT	PILOT ISOLATION
1P/1	A PILOT ISOLATION BOX	3 WAY I&E SWITCH A	2C 7/0.50	TR1 TR2	1 2	R RW	A TRANSFORMER PILOT	PILOT INTERCONNECTION
1P/2	A PILOT ISOLATION BOX	3 WAY I&E SWITCH A	2C 7/0.50	P1c P2c	1 2	R RW	A TRANSFORMER PILOT	PILOT INTERCONNECTION
1P/3	A PILOT ISOLATION BOX	3 WAY I&E SWITCH A	2C 7/0.50	P1a P2a	1 2	R RW	A TRANSFORMER PILOT	PILOT INTERCONNECTION
1P/4	3 WAY I&E SWITCH A	3 WAY I&E SWITCH A	2C 7/0.50	P1b P2b	1 2	R RW	A TRANSFORMER PILOT	PILOT INTERCONNECTION
2P/1	B PILOT ISOLATION BOX	3 WAY I&E SWITCH B	2C 7/0.50	TR1 TR2	1 2	Y YW	B TRANSFORMER PILOT	PILOT INTERCONNECTION
2P/2	B PILOT ISOLATION BOX	3 WAY I&E SWITCH B	2C 7/0.50	P1c P2c	1 2	Y YW	B TRANSFORMER PILOT	PILOT INTERCONNECTION
2P/3	B PILOT ISOLATION BOX	3 WAY I&E SWITCH B	2C 7/0.50	P1a P2a	1 2	Y YW	B TRANSFORMER PILOT	PILOT INTERCONNECTION
2P/4	3 WAY I&E SWITCH B	3 WAY I&E SWITCH B	2C 7/0.50	P1b P2b	1 2	Y YW	B TRANSFORMER PILOT	PILOT INTERCONNECTION
3P/1	C PILOT ISOLATION BOX	3 WAY I&E SWITCH C	2C 7/0.50	TR1 TR2	1 2	B BW	C TRANSFORMER PILOT	PILOT INTERCONNECTION
3P/2	C PILOT ISOLATION BOX	3 WAY I&E SWITCH C	2C 7/0.50	P1c P2c	1 2	B BW	C TRANSFORMER PILOT	PILOT INTERCONNECTION
3P/3	C PILOT ISOLATION BOX	3 WAY I&E SWITCH C	2C 7/0.50	P1a P2a	1 2	B BW	C TRANSFORMER PILOT	PILOT INTERCONNECTION
3P/4	3 WAY I&E SWITCH C	3 WAY I&E SWITCH C	2C 7/0.50	P1b P2b	1 2	B BW	C TRANSFORMER PILOT	PILOT INTERCONNECTION

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1S	SIGNAL MARSHALLING BOX	SIGNAL DISCONNECTION BOX	8C 7/0.50	25 26 29 30 31 32 33 34	1 2 3 4 5 6 7 8	R W B GR GW GB G Bk	A ACB SPARE A Th 1 COMM B ACB SPARE B Th 2 COMM	SIGNALS
2S	SIGNAL MARSHALLING BOX	SIGNAL DISCONNECTION BOX	8C 7/0.50	15 16 17 18 19 20 27 28	1 2 3 4 5 6 7 8	R W B GR GW GB G Bk	C ACB SPARE C Th 3 COMM MISC WATER FAN 4 COMM	SIGNALS
4S 5S 6S	TRANSFORMER AIR CIRCUIT BREAKER	SIGNAL MARSHALLING BOX	2C 7/0.50	63X 64X	1 2	R Bk	- -	ACB SIGNAL SWITCH
7S 8S 9S	TRANSFORMER PROTECTION PANEL	SIGNAL MARSHALLING BOX	8C 7/0.50	BS1 BS2 BS3 BS4 OS1 OS2 SP SP	1 2 3 4 5 6 7 8	R W B GR GW GB G Bk	Th DIFF & TxOC TxOC SPARE SPARE	TRIP SIGNALS
10S 11S 12S	DRY TYPE TRANSFORMER	SIGNAL MARSHALLING BOX	2C 7/0.67	Th1 Th2	1 2	R Bk	THERMAL SIGNAL	DRY TYPE TRANSFORMER SIGNAL
15E	1ST EMERGENCY PUSHBUTTON	SIGNAL DISCONNECTION BOX	2C 7/0.67	SE1 SE2	1 2	R Bk	SE SIGNAL COMMON	SUBSTATION EMERGENCY SIGNAL
25E	1ST EMERGENCY PUSHBUTTON	2ND EMERGENCY PUSHBUTTON	2C 7/0.67	SE1 SE2	1 2	R Bk	SE SIGNAL COMMON	SUBSTATION EMERGENCY SIGNAL
1T 2T 3T	DRY TYPE TRANSFORMER	TRANSFORMER PROTECTION PANEL	2C 7/0.67	10Th 2Th	1 2	R Bk	THERMAL TRIP	DRY TYPE TRANSFORMER THERMAL TRIP
41T 42T 43T	TRANSFORMER PROTECTION PANEL	SUMMATED OC PROTECTION PANEL	4C 7/0.67	21 22 23 24	1 2 3 4	R W B Bk	A PHASE B PHASE C PHASE NEUTRAL	SUMMATED OC PROTECTION
44T	A TRANSFORMER PROTECTION PANEL	SUMMATED OC PROT PANEL	2C 7/0.67	2/1 SP	1 2	R Bk	TRIP SPARE	TRIP TRIP
45T	B TRANSFORMER PROTECTION PANEL	SUMMATED OC PROT PANEL	2C 7/0.67	2/2 SP	1 2	R Bk	TRIP SPARE	TRIP TRIP
46T	C TRANSFORMER PROTECTION PANEL	SUMMATED OC PROT PANEL	2C 7/0.67	2/3 SP	1 2	R Bk	TRIP SPARE	TRIP TRIP
W	WATER FLOAT SWITCH	SIGNAL MARSHALLING BOX	2C 7/0.50	W1 W2	1 2	R Bk	SIGNAL COMMON	WATER LEVEL SIGNAL

REFERENCE DRAWINGS	
CITY BASEMENT, SURFACE AND ELEVATED SUBSTATIONS WITH E TYPE LV BOARD CABLING DIAGRAM	A0-178233
CITY CONTROL POINT & UPPER LEVEL SUBSTATIONS WITH E TYPE LV BOARD CABLING DIAGRAM	A0-178234
CITY SUBSTATIONS WITH E TYPE LV BOARD CONTROL, PROTECTION & SIGNAL SCHEMATIC	A0-178236

CONSTRUCTION



SCALE	AS SHOWN
DESIGNED	P JARVIS
CHECKED	P EASTON
APPROVED	P EASTON
DATE	23/07/09
PROJECT NUMBER	209/1/55/1
PROJTRAK NUMBER	

CITY DISTRIBUTION SUBSTATIONS WITH E TYPE LV BOARD CONTROL, PROTECTION AND SIGNALS CABLE SCHEDULE