

# DISTRIBUTION DESIGN CATALOGUE Section 11

**LU – Low Voltage Underground** 

HPC-1DC-07-0011-2014

For application to
Horizon Power
Electricity Distribution Networks



	Document Control		
Revision 8 Author	Name:	Riyazi Mohamed Faizal	
	Position:	Graduate Engineer	
Reviewed	Name:	Kai Chong Jee	
	Position:	Senior Standards and Plant Engineer	
Endorsed By	Name:	Johnathan Choi	
	Position:	Standards and Plant Manager	
Approved By	Name:	Victor Cheng	
	Position:	Manager Engineering and Project Services	
Date Created/Last Updated	13 <sup>th</sup> February 2024		
Review Frequency **	Annually		
Next Review Date **		13 <sup>th</sup> February 2025	

<sup>\*\*</sup> Frequency period is dependent upon circumstances— maximum is 5 years from last issue, review, or revision whichever is the latest. If left blank, the default shall be 1 year unless otherwise specified.

Revision Control			
Revision	Revision Date Description		
8 13/02/2024 Compatible Unit LV kiosk update (LU41, LU42 & LU43)			

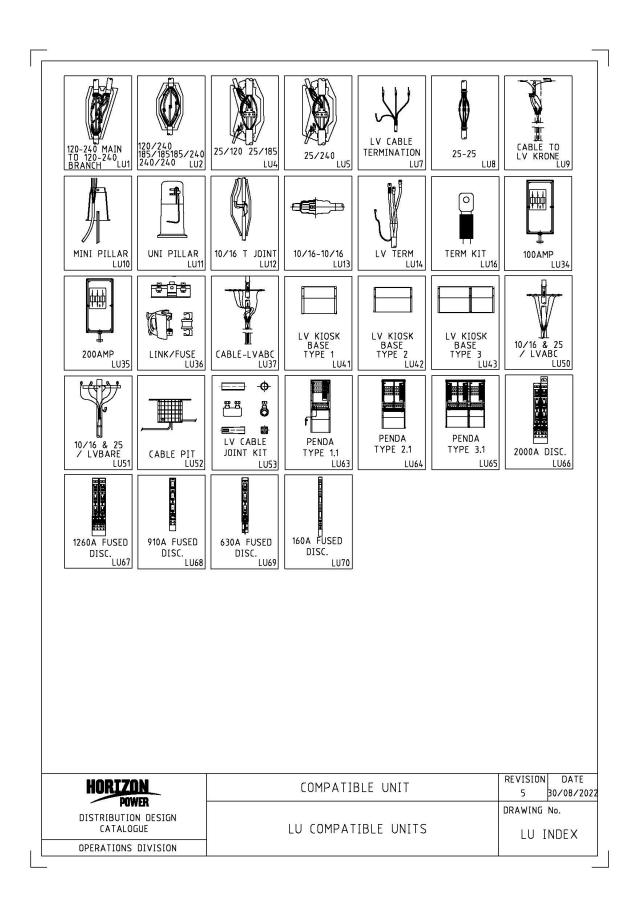
## Refer to Appendix A for Full Revision History.

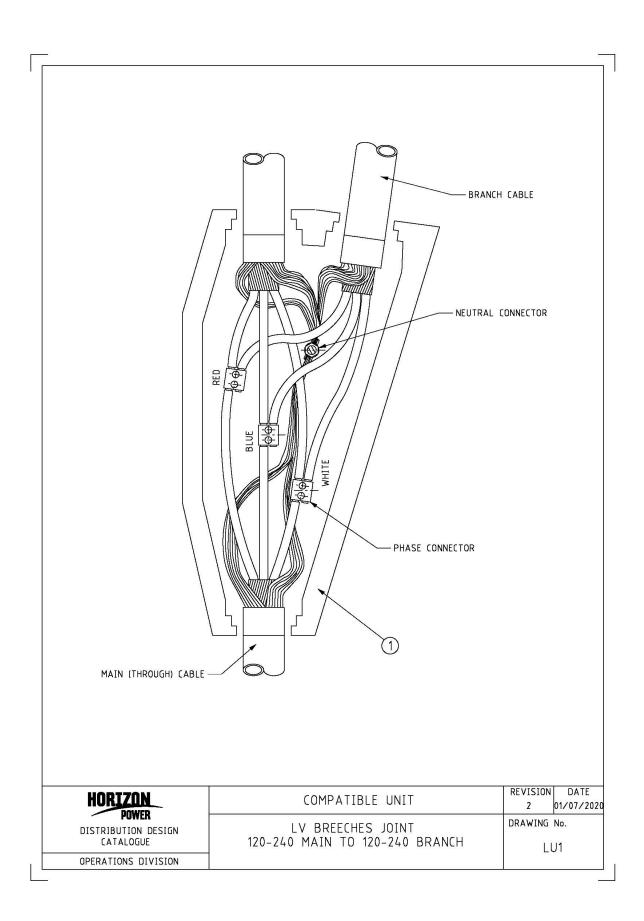
STAKEHOLDERS  The following positions shall be consulted if an update or review is required:	NOTILFICATION LIST  The following positions shall be notified of any authorised change:
Assets Managers	Field Practice Coordinators
Works Delivery Managers	Logistics Managers
Asset Service Delivery Managers	EPCM Contracts Manager

# LOW VOLTAGE UNDERGROUND LIST

CU	CU DESCRIPTION
LU1	LV Breeches joint 120-240 Main to 120-240 Branch
LU2	LV Straight joint 120/240, 185/185, 185/240 & 240/240
LU4	LV Tee joint 25/120-25/185
LU5	LV Tee joint 25/240
LU7_240	Universal pillar termination – 120 to 240
LU8	Straight joint 25/25
LU9_240	240sqmm Cable to LV Krone
<u>LU10</u>	Mini pillar & 1 x 25sqmm cable termination
LU10 2TERM	Mini pillar & 2 x 25sqmm cable termination
LU10_CABTERM	25sqmm cable termination to existing pillar
LU10_W/END	Mini pillar used for working end
<u>LU11</u>	Universal pillar
<u>LU12</u>	Tee joint 10/10-10/16-16/16
<u>LU13</u>	Straight joint 10/10-10/16-16/16
LU14_16/160A	Cable to fuse switch- 16 (Single phase) / 160A Base
LU14_25/160A	Cable to fuse switch- 25 / 160A Base
LU14 25/630A	Cable to fuse switch- 25 / 630A Base
LU14_120	Cable to fuse switch - 120
LU14_240	Cable to fuse switch – 185 / 240
<u>LU16_400CU16</u>	Transformer 400sqmm Cu M16 Termination Kit
<u>LU16_400CU12</u>	PENDA 400sqmm Cu M12 Termination Kit
<u>LU34</u>	Wall mounted box – 100 amp
<u>LU35</u>	Wall mounted box – 200 amp
<u>LU36_63A</u>	J-type fuse 63A and carrier for universal pillar
<u>LU36_100A</u>	J-type fuse 100A and carrier for universal pillar
<u>LU36_160A</u>	J-type fuse 160A and carrier for universal pillar
<u>LU36_200A</u>	J-type fuse 200A and carrier for universal pillar
<u>LU36_315A</u>	J-type fuse 315A and carrier for universal pillar
<u>LU36_Link</u>	Link 400 amp for universal pillar
<u>LU37_240</u>	Cable to LV ABC Switch for a 240sqmm sq cable
<u>LU41</u>	Base for LV kiosk Type 1
<u>LU42</u>	Base for LV kiosk Type 2
<u>LU43</u>	Base for LV kiosk Type 3
<u>LU50_25_95</u>	Cable to LVABC – 25 to 95
LU50_25_150	Cable to LVABC – 25 to 150
LU50_SL_95	Street light cable to 95 ABC
LU50_SL_150	Street light cable to 150 ABC
<u>LU51_25</u>	25sqmm CU cable to LV Bare Conductor
<u>LU51_SL</u>	Street light cable to LV Bare Conductor

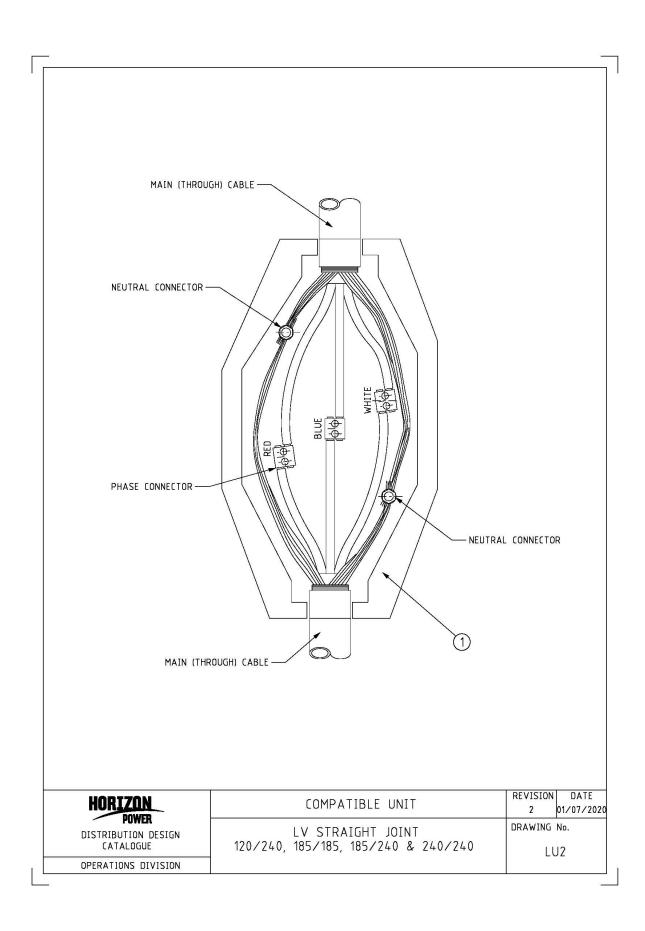
CU	CU DESCRIPTION
<u>LU52</u>	Below Ground Service Pit
<u>LU53</u>	Low Voltage Cable Joint Kit
<u>LU63</u>	Type 1.1 PENDA Kiosk
<u>LU64 I</u>	Type 2.1 PENDA Kiosk - I (Indoor)
<u>LU64_O</u>	Type 2.1 PENDA kiosk - O (Outdoor)
<u>LU65_I</u>	Type 3.1 PENDA Kiosk - I (Indoor)
<u>LU65_O</u>	Type 3.1 PENDA Kiosk - O (Outdoor)
LU66_TX	2000A Tx Switch Disconnector (Incoming Supply to PENDA)
LU66_CUST	2000A Customer Switch Disconnector (Connection to PENDA)
<u>LU67</u>	1260A Fused Switch Disconnector (Connection to PENDA)
<u>LU68</u>	910A Fused Switch Disconnector (Connection to PENDA)
<u>LU69</u>	630A Fused Switch Disconnector (Connection to PENDA)
<u>LU70</u>	160A Fused Switch Disconnector (Connection to PENDA)





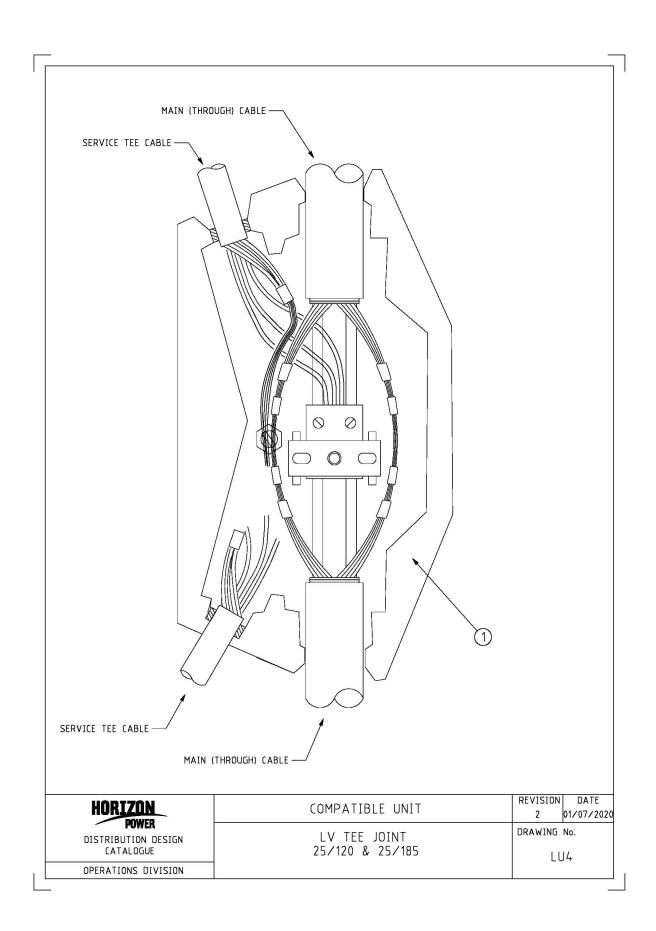
CU	CU DESCRIPTION
LU1	Breeches joint 120-240 Main to 120-240 Branch

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	FJ0063	LV Breech Joint kit –120-240sqmm to 120-240 sqmm wavecon XLPE cable	1	ea	
	KC0014	LV Joint resin, Guroflex two-part 4 litre	5	ea	



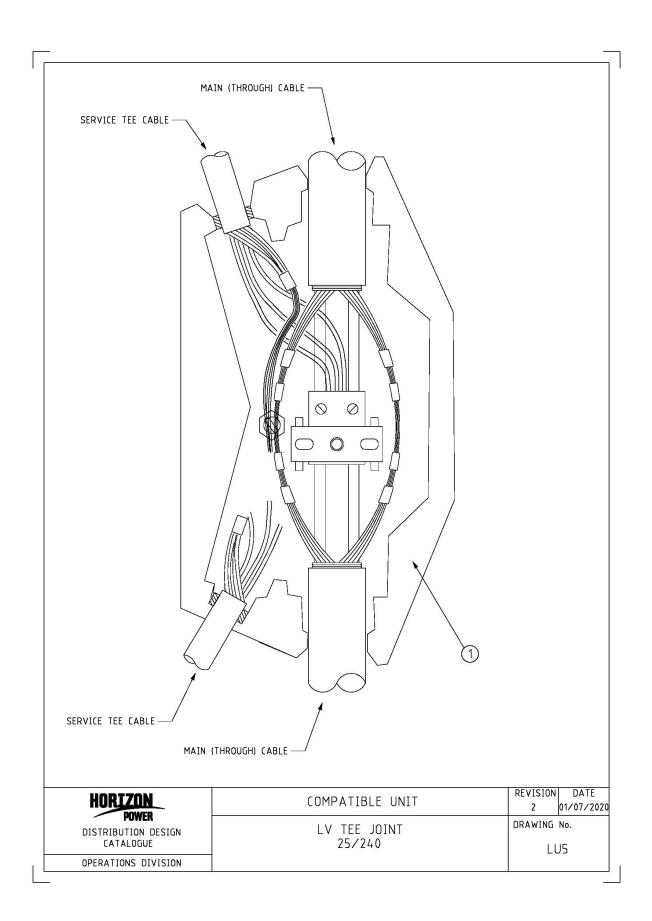
cu	CU DESCRIPTION
LU2	Straight joint 120/120-120/185-120/240-185/185-185/240-240/240

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	FJ0062	LV Straight Joint kit –120-240sqmm wavecon XLPE cable	1	ea	
	KC0014	LV Joint resin, Guroflex two-part 4 litre	2	ea	



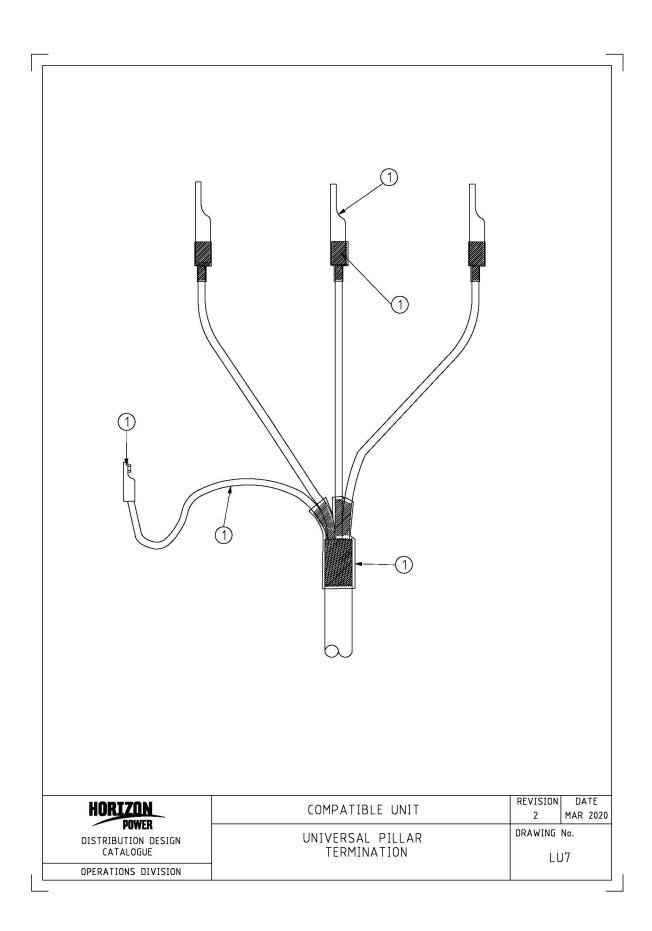
CU	CU DESCRIPTION
LU4	LV Tee joint 25/120-25/185

N	ITEM NUMBER	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
	1	FJ0067	LV Tee Joint kit –120-185sqmm wavecon to 25sqmm service XLPE cable	1	ea	
		KC0014	LV Joint resin, Guroflex two-part 4 litre	2	ea	



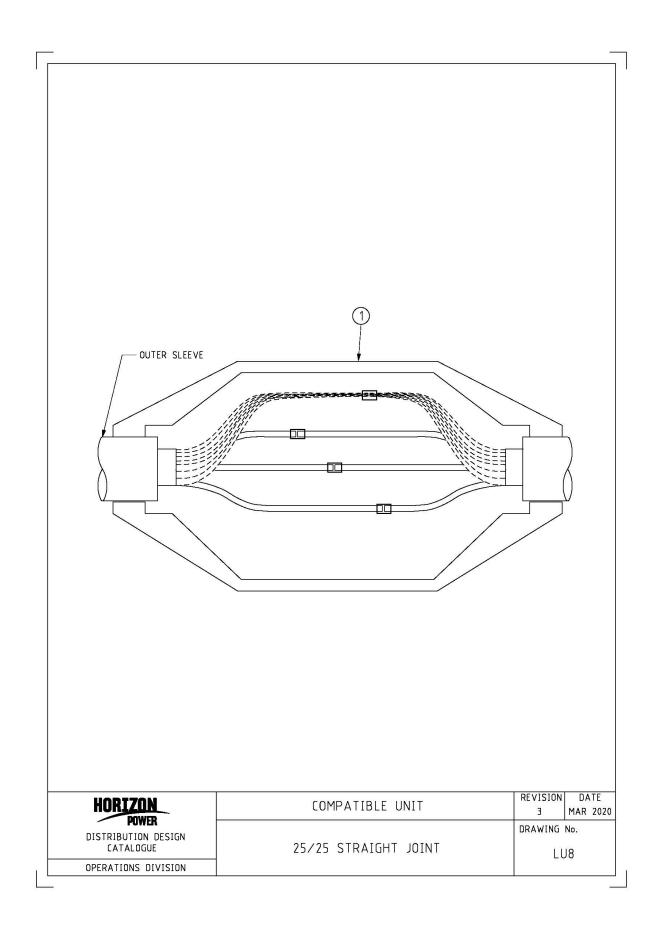
CU	CU DESCRIPTION
LU5	Tee joint 25/240

ITEM NUMBER	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	FJ0066	LV Tee Joint kit –240sqmm wavecon to 25sqmm service XLPE cable	1	ea	
	KC0014	LV Joint resin, Guroflex two-part 4 litre	2	ea	



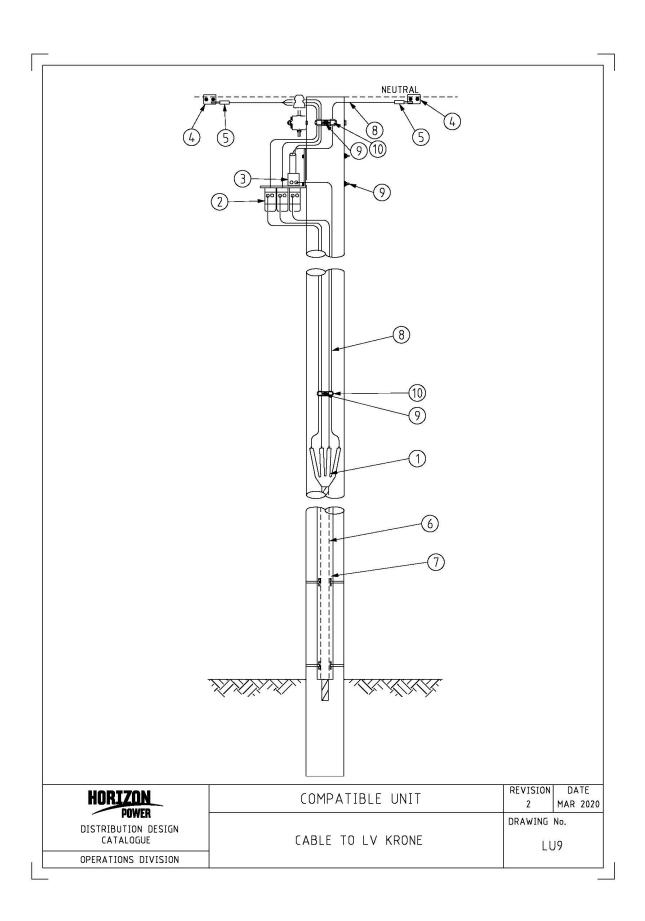
CU	CU DESCRIPTION
LU7_240	Universal pillar termination – 120 to 240

ITEM Number	STOCK Number	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	FJ0615	Termination Kit, for 120-240sqmm cable	1	ea	



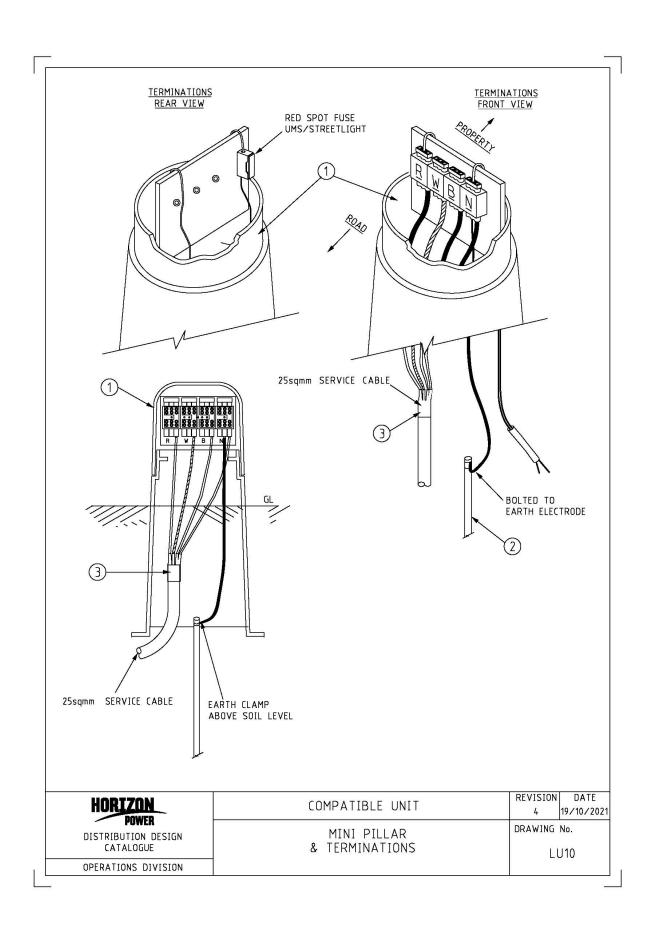
cu	CU DESCRIPTION
LU8	Straight joint 25/25

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	FJ0238	Joint Box – Straight for 25sqmm cable	1	ea	



CU	CU DESCRIPTION
LU9_240	240sqmm Cable to LV Krone

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	Unit of Measure	REMARKS
1	FC0499	Splice 95-150 ABC to 120-240sqmm	1	ea	
2	GS0111	Fuse disconnector (Rated 400A)	1	ea	
2	GF1101	Fuse link 315A	3	ea	
3	GS0109	Neutral block	1	ea	
4		PG Clamps – Select from CN9	4	ea	
5	CJ0496	Splice 150 ABC with alum tail	4	ea	
6	CB3120	Cable saddle, galvanised	3	ea	
7	HT6320	Cable protector steel, galvanised channel	1	ea	
8	FT0150	Lead 150 ABC 4m long	1	ea	
9	AB6733	Pole bolt – M16 x 400 mm long with nut and washers	4	ea	
10	CC0110	Suspension clamp – 150 ABC	4	ea	
10	AN2005	M16 nut galvanized	2	ea	



CU	CU DESCRIPTION
LU10	Mini pillar & 1 x 25sqmm cable termination

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	FBH0059	Mini pillar	1	ea	
2	CE0135	Rod section 1.4 m long 15 mm diam. ALM CTE	1	ea	
2	CE0058	Clamp, double saddle type 13-15mm for earth rod	1	ea	
3	FE0109	heat shrink glove and sleeving	1	ea	

CU	CU DESCRIPTION
LU10_2TERM	Mini pillar & 2 x 25sqmm cable termination

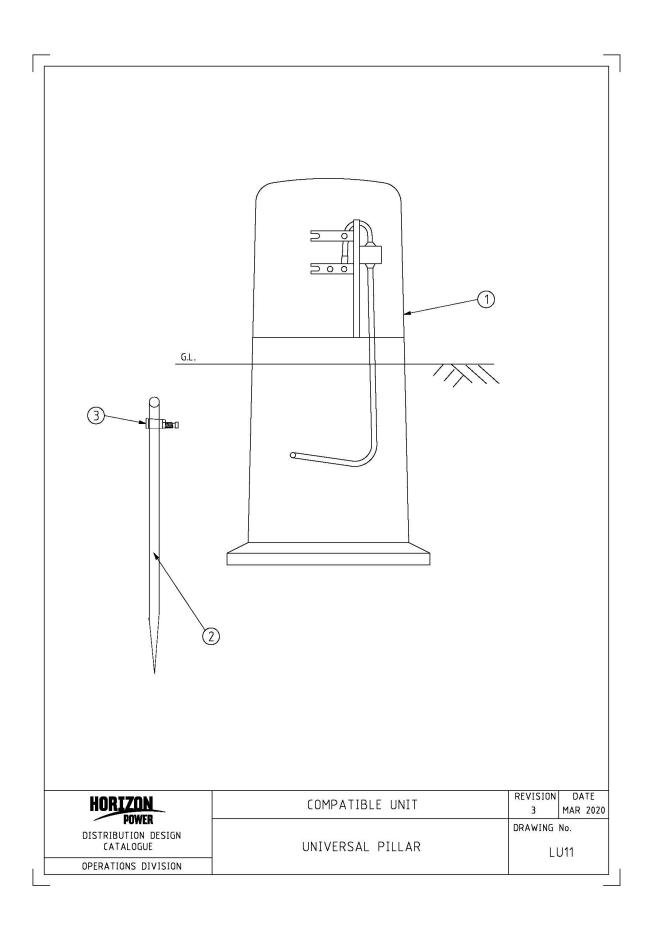
ITEM Number	STOCK Number	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	FBH0059	Mini pillar	1	ea	
2	CE0135	Rod section 1.4 m long 15 mm diam. ALM CTE	1	ea	
2	CE0058	Clamp, double saddle type 13-15mm for earth rod	1	ea	
3	FE0109	heat shrink glove and sleeving	2	ea	

CU	CU DESCRIPTION
LU10_CABTERM	25sqmm cable termination to existing pillar

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
3	FE0109	heat shrink glove and sleeving	1	ea	

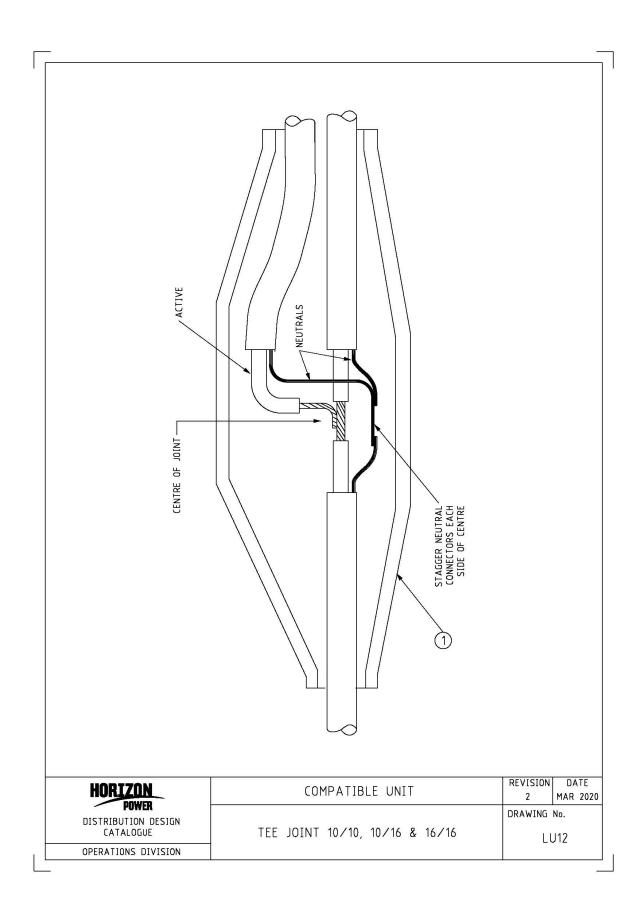
cu	CU DESCRIPTION
LU10_W/END	Mini pillar used for 120-240 Cable Working End

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	FBH0059	Mini pillar	1	ea	
3	FE0034	heat shrink glove	1	ea	
3	FE0055	insulation sleeving	2	mtr	
	UH0088	instruction tag	1	ea	



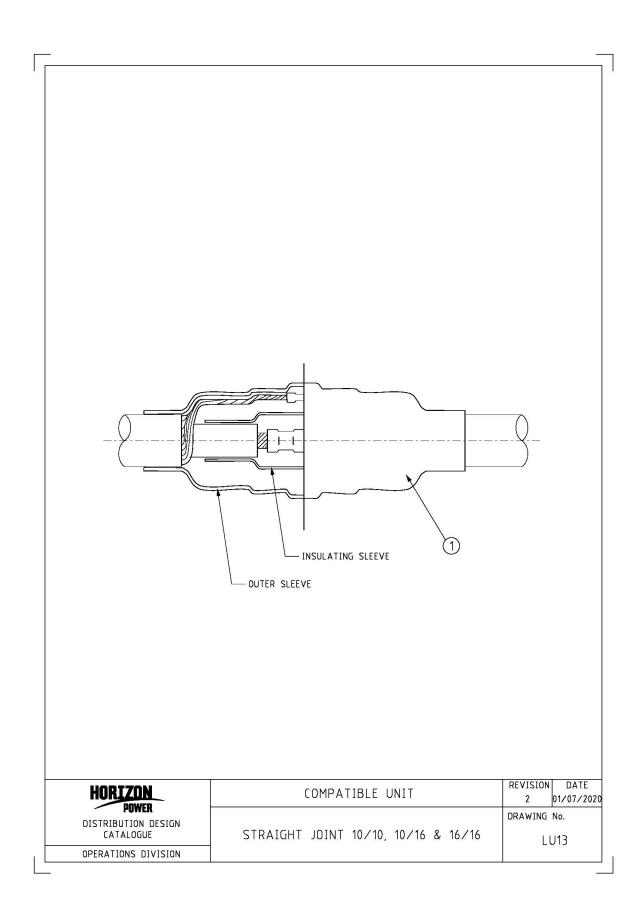
CU	CU DESCRIPTION
LU11	Universal pillar

ITEM NUMBER	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	FBH0855	Universal pillar	1	ea	
2	CE0135	Rod section 1.4 m long 15 mm diam. ALM CTE	1	ea	
3	CE0058	Clamp, double saddle type 13-15mm for earth rod	1	ea	



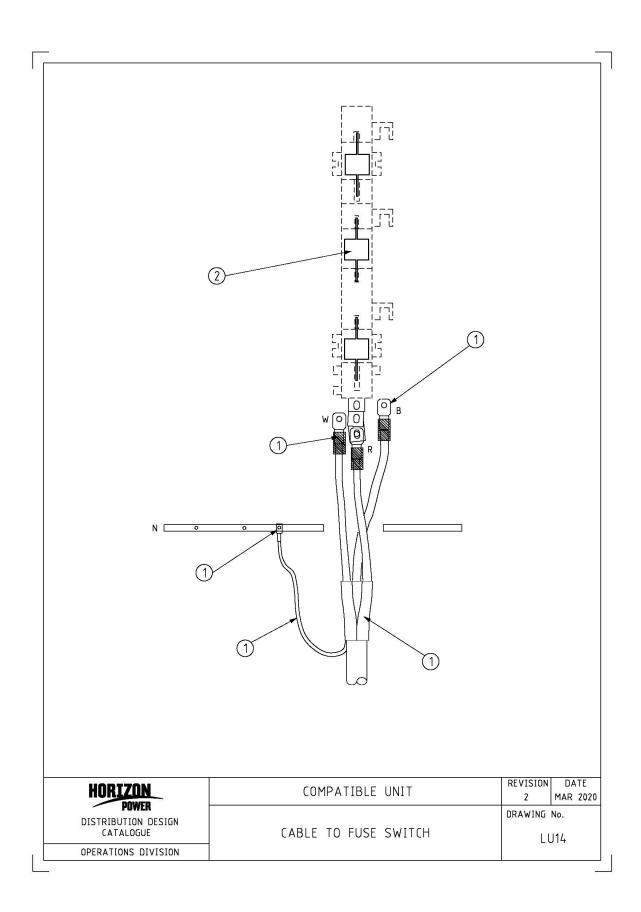
cu	CU DESCRIPTION
LU12	Tee joint 10/10-10/16-16/16

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	FJ0056	Joint Box – Tee for 10-16 sqmm 1ph cable	1	ea	Guroflex Resin included in Kit



CU	CU DESCRIPTION
LU13	Straight joint 10/10-10/16-16/16

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	FJ0237	Joint Box – Straight for 10-16 sqmm 1ph cable	1	ea	



CU	CU DESCRIPTION
LU14_16/160A	Cable to fuse switch – 16 (Single phase) /160A Base

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	FB0256	16sqmm M12 lug	2	ea	
1	FE0032	2 finger heat shrink glove	1	ea	
1	FE0071	Heat shrink tubing	1	mtr	
2	GF0502	Fuse 20A	1	ea	

CU	CU DESCRIPTION
LU14_25/160A	Cable to fuse switch – 25/160A Base

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	FL1442	25sqmm M8 lug	4	ea	
1	FE0109	25sqmm Cable termination kit	1	ea	
2	GF0504	Fuse 63A	3	ea	

CU	CU DESCRIPTION
LU14_25/630A	Cable to fuse switch – 25/630A Base

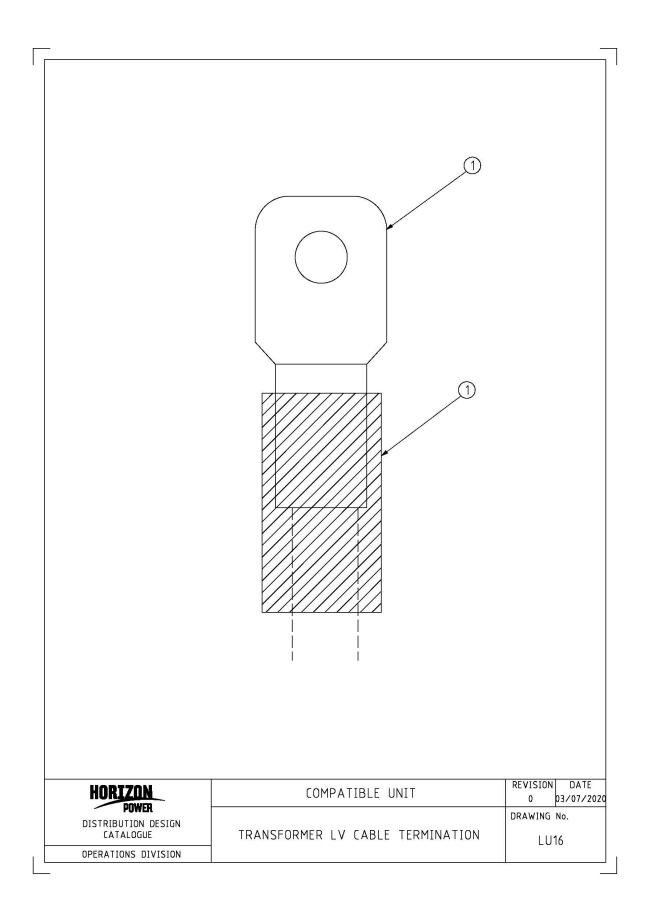
ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	FL1449	25sqmm M12 lug	4	ea	
1	FE0109	25sqmm Cable termination kit	1	ea	
2	GF2130	Fuse 100A	3	ea	

CU	CU DESCRIPTION
LU14_120	Cable to fuse switch - 120

 TEM MBER	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	FJ0615	Termination Kit, for 120sqmm to 240sqmm cable	1	ea	
2	GF1096	Fuse 200A	3	ea	

cu	CU DESCRIPTION
LU14_240	Cable to fuse switch – 185/240

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	FJ0615	Termination kit for 120-240sqmm cable	1	set	
2	GF1101	Fuse link 315A	3	ea	

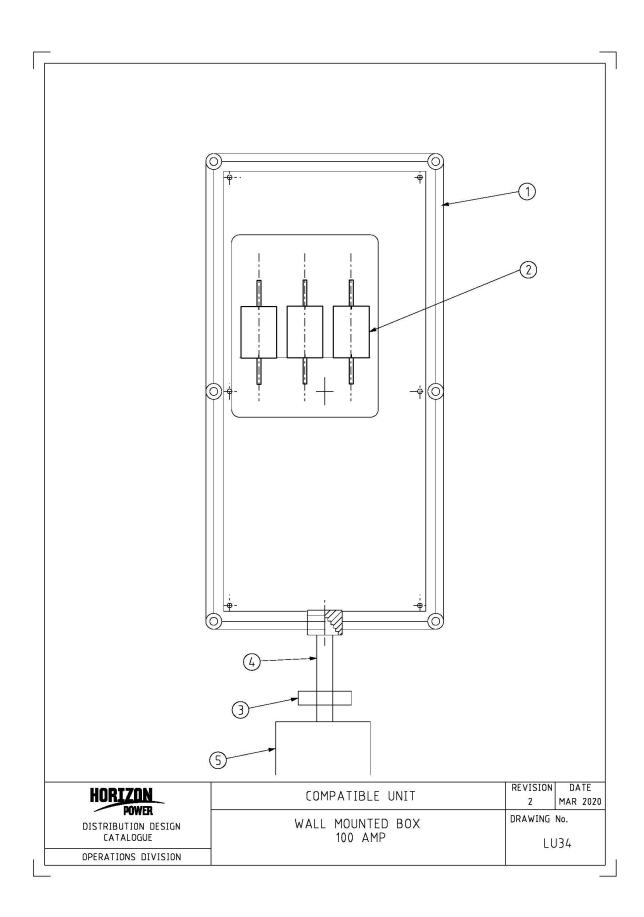


CU	CU DESCRIPTION
LU16_400CU16	Transformer 400sqmm CU M16 Termination Kit

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	FL0161	Termination Kit (2 per phase and 1 neutral with heat shrink)	1	ea	

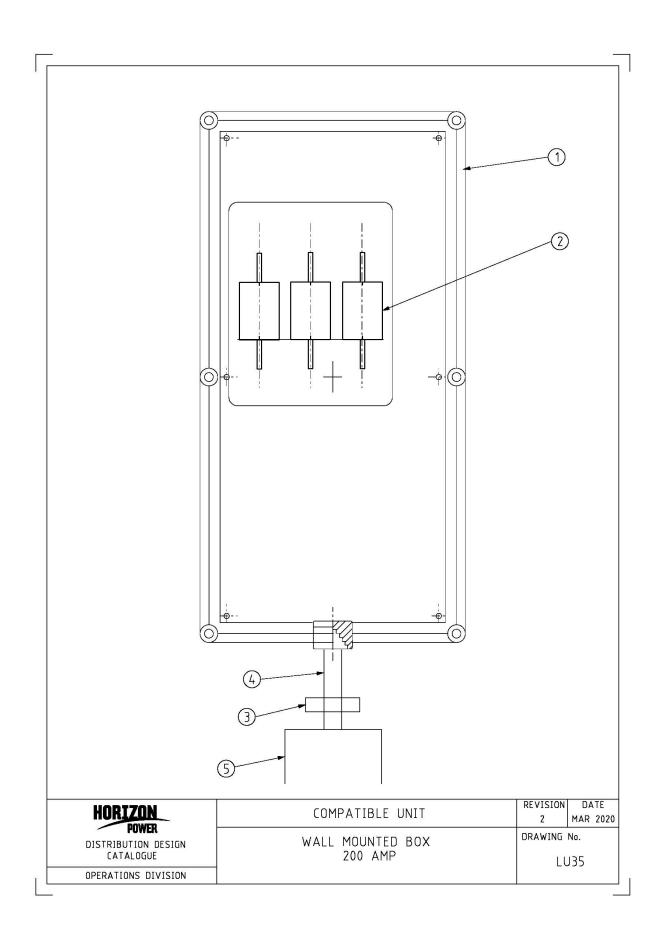
CU	CU DESCRIPTION
LU16_400CU12	PENDA 400sqmm CU M12 Termination Kit

ITEN Numb	STOCK R NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	FL0160	Termination Kit (2 per phase and 1 neutral with heat shrink)	1	ea	



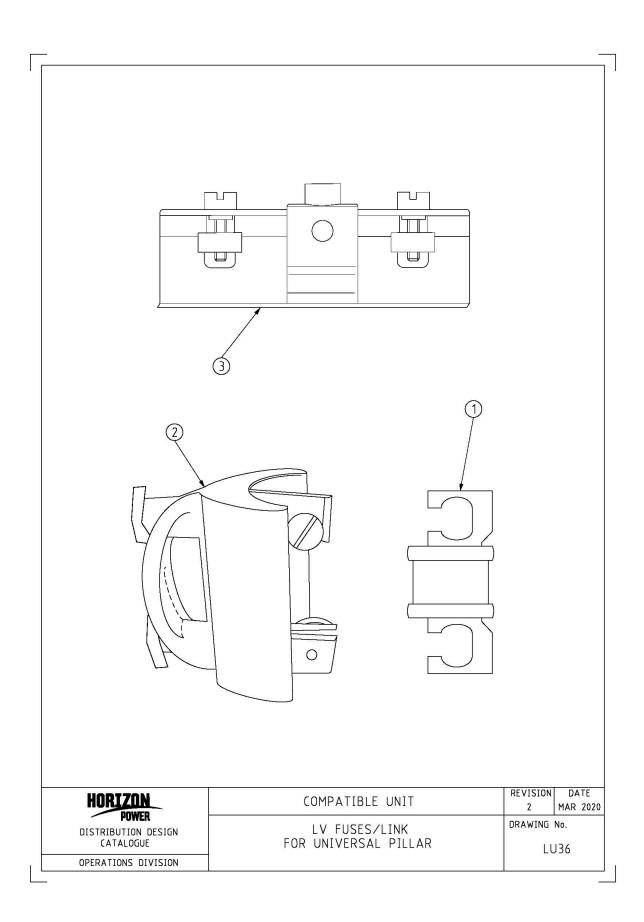
CU	CU DESCRIPTION
LU34	Wall mounted box – 100amp

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	FB0096	100 amp cutout	1	ea	
2	GF0505	fuse 100 amp	3	ea	
3	FM6310	saddle 50 mm	3	ea	
4	GC0010	Conduit grey PVC, 50 mm x 4 m long	1	lg	
5	HT6320	Cable protector steel, galvanised channel	1	ea	



CU	CU DESCRIPTION
LU35	Wall mounted box – 200amp

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	FB0097	200 amp cutout	1	ea	
2	GF0512	fuse 200 amp	3	ea	
3	FM6310	saddle 50 mm	3	ea	
4	GC0028	Conduit grey PVC, 80 mm x 4 m long	1	lg	
5	HT6320	Cable protector steel, galvanised channel	1	ea	



cu	CU DESCRIPTION
LU36_63A	J-type fuse 63A and carrier for universal pillar

ITEM NUMBER	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	GF1183	63A fuse	3	ea	
2	GF0260	fuse carrier	3	ea	

CU	CU DESCRIPTION
LU36_100A	J-type fuse 100A and carrier for universal pillar

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	GF1185	100A fuse	3	ea	
2	GF0260	fuse carrier	3	ea	

CU	CU DESCRIPTION
LU36_160A	J-type fuse 160A and carrier for universal pillar

ITEM NUMBER	STOCK Number	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	GF1187	160A fuse	3	ea	
2	GF0260	fuse carrier	3	ea	

CU	CU DESCRIPTION
LU36_200A	J-type fuse 200A and carrier for universal pillar

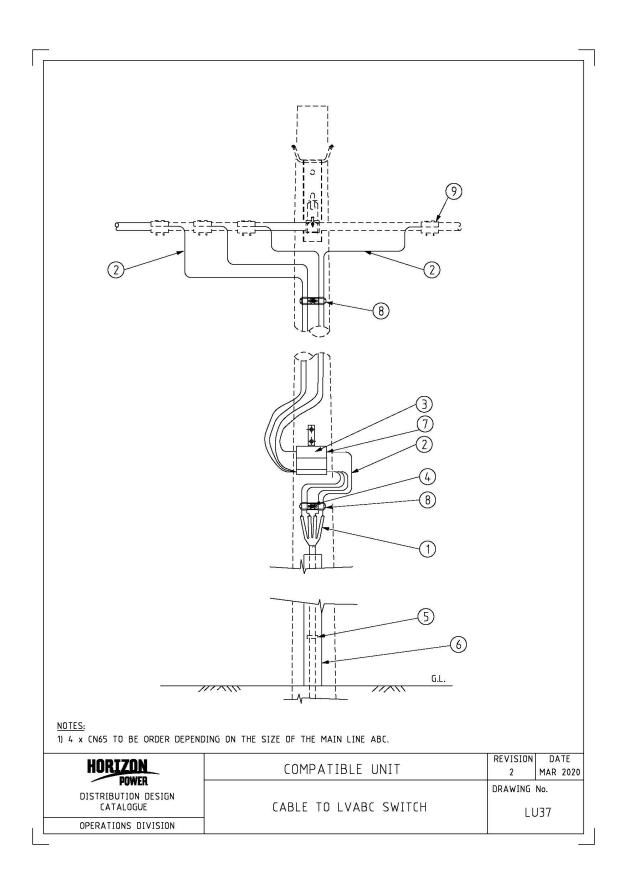
ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	GF1188	200A fuse	3	ea	
2	GF0260	fuse carrier	3	ea	

CU	CU DESCRIPTION
LU36_315A	J-type fuse 315A and carrier for universal pillar

ITEM NUMBER	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	GF1190	315A fuse	3	ea	
2	GF0260	fuse carrier	3	ea	

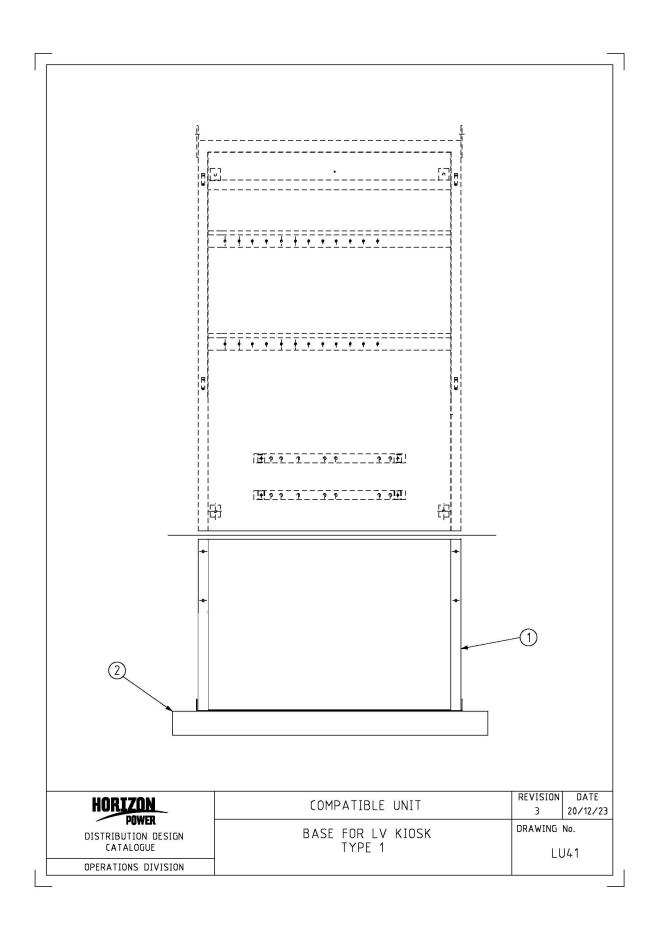
CU	CU DESCRIPTION
LU36_Link	Link 400 amp for universal pillar

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
3	GF1504	link 400A	3	ea	



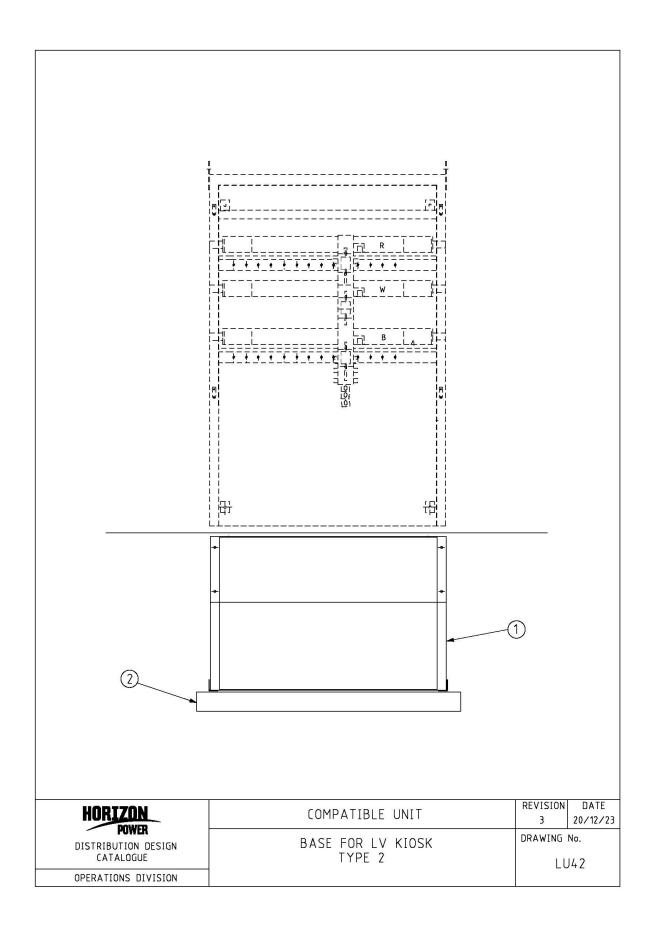
CU	CU DESCRIPTION
LU37_240	Cable to LV ABC Switch for 240sqmm cable

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	Unit of Measure	REMARKS
1	FC0499	Splice 95-150 ABC to 120-240sqmm	1	ea	
2	FT0150	Lead 150 ABC 4m long	1	ea	
3	GS0111	Fuse disconnector (Rated 400A)	1	ea	
3	GF1101	Fuse link 315A	3	ea	
4	AB6733	Pole bolt – M16 x 400 mm long with nut and washers	4	ea	
5	CB3120	Cable saddle, galvanised	3	ea	
6	HT6320	Cable protector steel, galvanised channel	1	ea	
7	GS0109	Neutral block	1	ea	
8	CC0110	Suspension clamp – 150 ABC	4	ea	
8	AN2005	M16 nut galvanized	2	ea	
9		IPC – Select from CN65	4	ea	



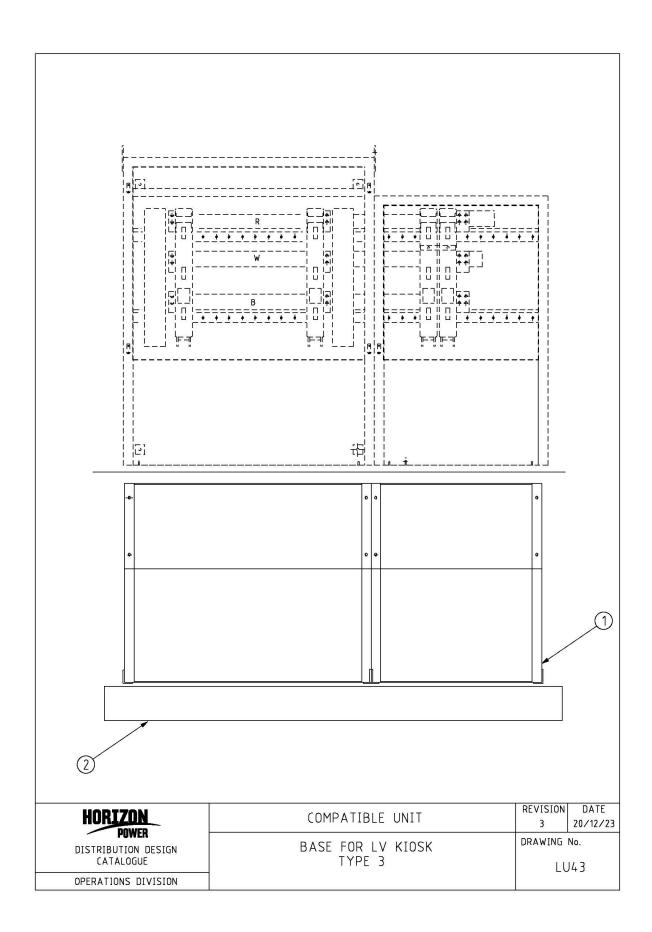
CU	CU DESCRIPTION
LU41	Base for LV kiosk Type 1

ITEM NUMBER	STOCK Number	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CBH0492	PENDA Type 1 Kiosk Galvanised Stand and Base	1	ea	
2	CAH1018	Concrete Base for PENDA Type 1 and 2 Kiosk Stand Base	1	ea	



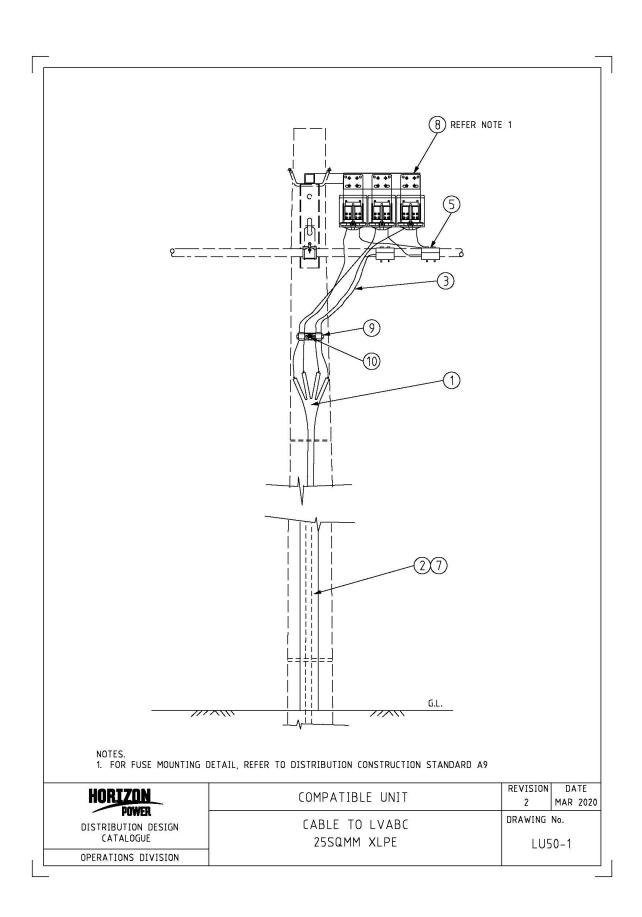
CU	CU DESCRIPTION
LU42	Base for LV Kiosk Type 2

ITEM Number	STOCK Number	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CBH0493	PENDA Type 2 Kiosk Galvanised Stand and Base	1	ea	
2	CAH1018	Concrete Base for PENDA Type 1 and 2 Kiosk Stand Base	1	ea	



CU	CU DESCRIPTION
LU43	Base for LV Kiosk Type 3

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CBH0494	PENDA Type 3 Kiosk Galvanised Stand and Base	1	ea	
2	CAH1019	Concrete Base for PENDA Type 3 Kiosk Stand Base	1	ea	

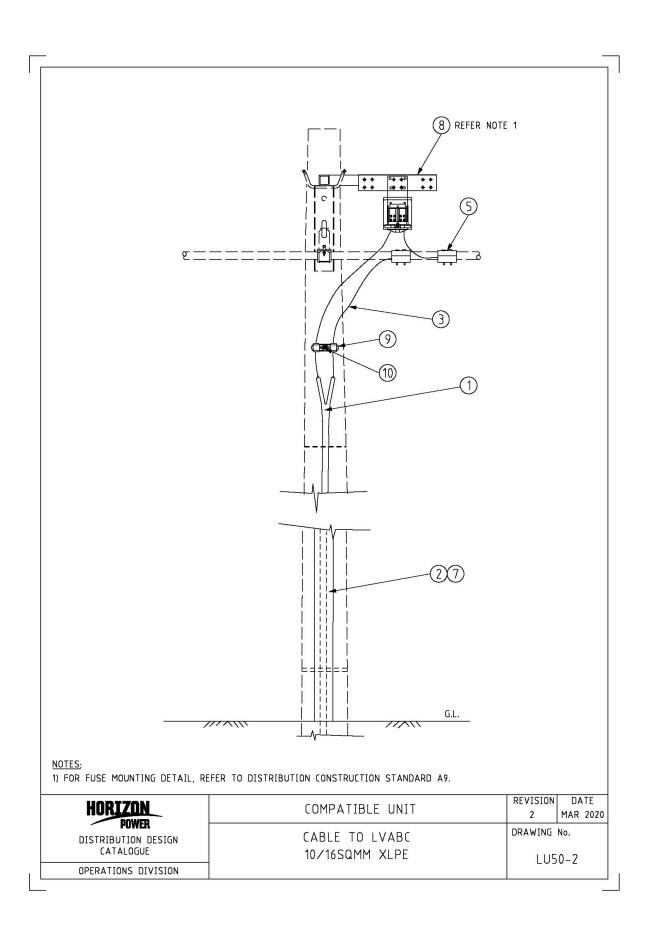


CU	CU DESCRIPTION
LU50_25_95	Cable to LVABC – 25 to 95

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	FE0031	Heat shrink glove 0.6/1kV, black polyolefin, 4-finger	1	ea	
2	GC0010	Conduit grey PVC, 50 mm x 4 m long	2	ea	
3	FE0071	Heat shrink 0.6/1kV, black polyolefin 15mm	5	mtr	
5	CC0088	Insulation piercing clamp 95 ABC Main to 2 x 35 service	4	ea	Max 2 cables
7	HT6320	Cable protector steel, galvanised channel	1	ea	
8	GF1801	Fuse holder 100 amp	3	ea	
8	GF1947	Fuse cartridge 100 amp	3	ea	
8	CB3019	Mounting T-bracket for fuse holders	1	ea	
8	CB3054	Flowline fuse mounting bracket, steel galvanised	1	ea	
9	CC0101	Suspension clamp, 95 ABC	2	ea	
9	AN2005	M16 nut galvanized	2	ea	
10	AB6733	Pole bolt – M16 x 400 mm long with nut and washers	1	ea	

cu	CU DESCRIPTION
LU50_25_150	Cable to LVABC – 25 to 150

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	Unit of Measure	REMARKS
1	FE0031	Heat shrink glove 0.6/1kV, black polyolefin, 4-finger	1	ea	
2	GC0010	Conduit grey PVC, 50 mm x 4 m long	2	ea	
3	FE0071	Heat shrink 0.6/1kV, black polyolefin 15mm	5	mtr	
5	CC0079	Insulation piercing clamp 150 ABC Main to 2 x 35 service	4	ea	Max 2 cables
7	HT6320	Cable protector steel, galvanised channel	1	ea	
8	GF1801	Fuse holder 100 amp	3	ea	
8	GF1947	Fuse cartridge 100 amp	3	ea	
8	CB3019	Mounting T-bracket for fuse holders	1	ea	
8	CB3054	Flowline fuse mounting bracket, steel galvanised	1	ea	
9	CC0101	Suspension clamp, 95 ABC	2	ea	
9	AN2005	M16 nut galvanized	2	ea	
10	AB6733	Pole bolt – M16 x 400 mm long with nut and washers	1	ea	

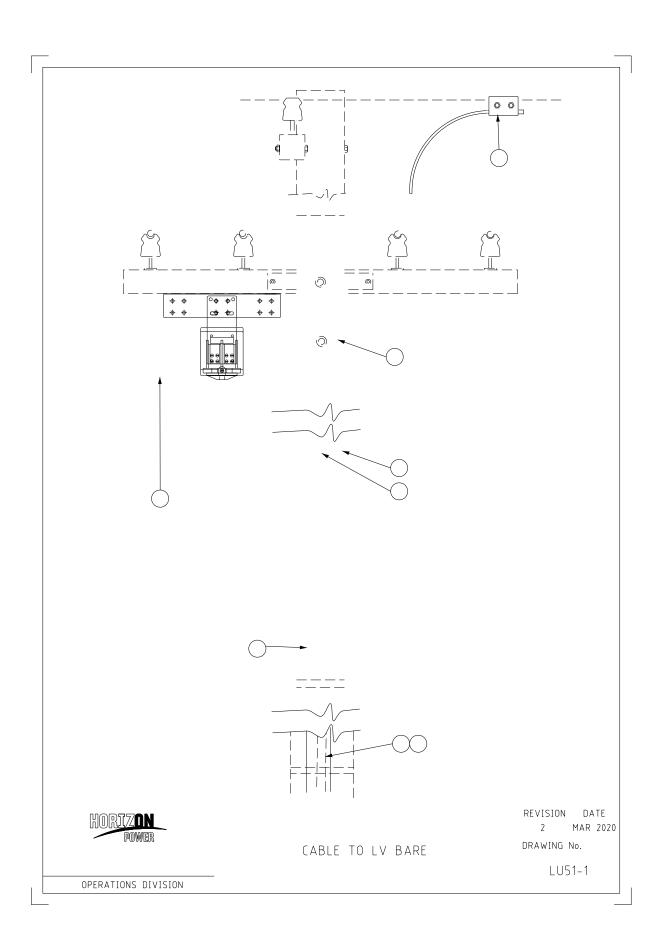


CU	CU DESCRIPTION
LU50_SL_95	Street light cable to 95 ABC

ITEM NUMBER	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	FE0032	Heat shrink glove 0.6/1kV, black polyolefin, 2-finger	1	ea	
2	GC7842	Conduit PVC 25 mm, 4 m long, grey	2	ea	
3	FE0071	Heat shrink 0.6/1kV, black polyolefin 15mm	4	mtr	
5	CC0088	Insulation piercing clamp 95 ABC Main to 2 x 35 service	2	ea	Max 2 cables
7	HT6320	Cable protector steel, galvanised channel	1	ea	
8	GF1801	Fuse holder 100 amp	1	ea	
8	GF1940	Fuse cartridge 30 amp	1	ea	
8	CB3019	Mounting T-bracket for fuse holders	1	ea	
8	CB3054	Flowline fuse mounting bracket, steel galvanised	1	ea	
9	CC0101	Suspension clamp, 95 ABC	2	ea	
9	AN2005	M16 nut galvanized	2	ea	
10	AB6733	Pole bolt – M16 x 400 mm long with nut and washers	1	ea	

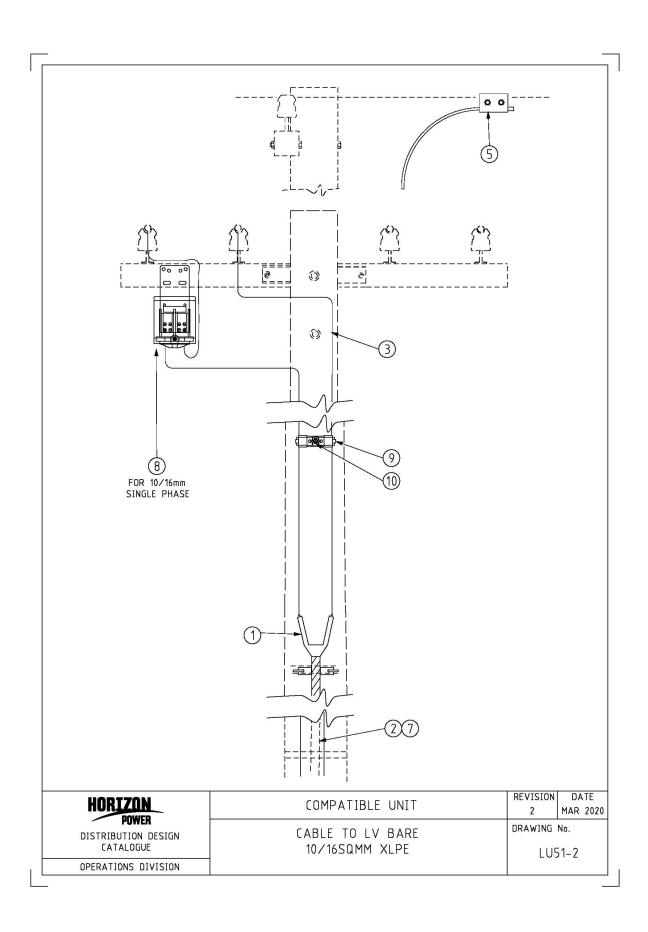
CU	CU DESCRIPTION
LU50_SL_150	Street light cable to 150 ABC

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	Unit of Measure	REMARKS
1	FE0032	Heat shrink glove 0.6/1kV, black polyolefin, 2-finger	1	ea	
2	GC7842	Conduit PVC 25 mm, 4 m long, grey	2	ea	
3	FE0071	Heat shrink 0.6/1kV, black polyolefin 15mm	4	mtr	
5	CC0079	Insulation piercing clamp 150 ABC Main to 2 x 35 service	2	ea	Max 2 cables
7	HT6320	Cable protector steel, galvanised channel	1	ea	
8	GF1801	Fuse holder 100 amp	1	ea	
8	GF1940	Fuse cartridge 30 amp	1	ea	
8	CB3019	Mounting T-bracket for fuse holders	1	ea	
8	CB3054	Flowline fuse mounting bracket, steel galvanised	1	ea	
9	CC0101	Suspension clamp, 95 ABC	2	ea	
9	AN2005	M16 nut galvanized	2	ea	
10	AB6733	Pole bolt – M16 x 400 mm long with nut and washers	1	ea	



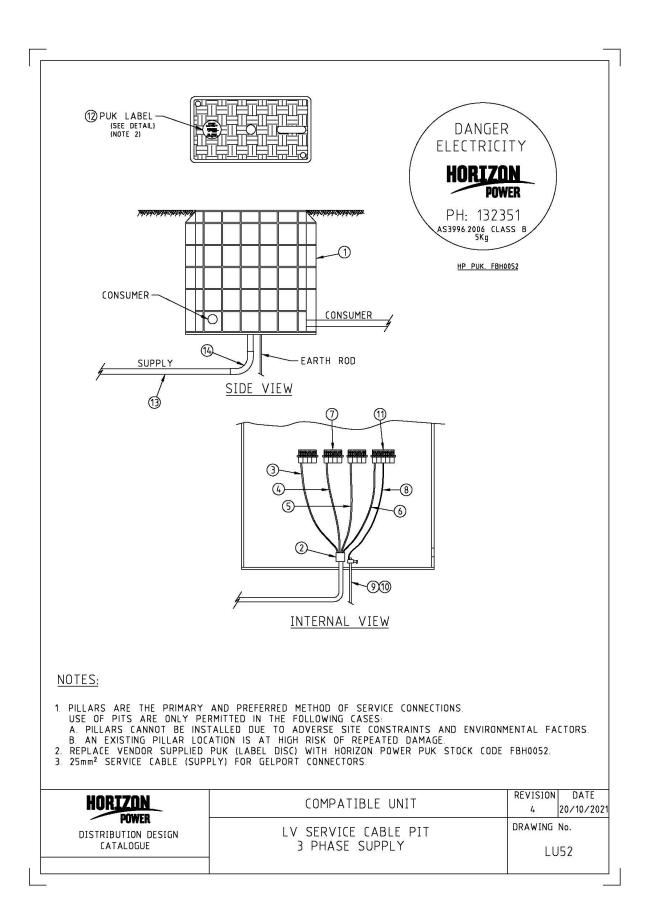
CU	CU DESCRIPTION
LU51_25	25sqmm CU cable to LV Bare Conductor

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	Unit of Measure	REMARKS
1	FE0031	Heat shrink glove 0.6/1kV, black polyolefin, 4-finger	1	ea	
2	GC0010	Conduit grey PVC, 50 mm x 4 m long	2	ea	
3	FE0071	Heat shrink 0.6/1kV, black polyolefin 15mm	8	mtr	
5		PG Clamps - Select from CN9	4	ea	
7	HT6320	Cable protector steel, galvanised channel	1	ea	
8	GF1801	Fuse holder 100 amp	3	ea	
8	GF1947	Fuse cartridge 100 amp	3	ea	
8	CB3019	Mounting T-bracket for fuse holders	1	ea	
8	CB3054	Flowline fuse mounting bracket, steel galvanised	1	ea	
9	CC0101	Suspension clamp, 95 ABC	2	ea	
9	AN2005	M16 nut galvanized	2	ea	
10	AB6733	Pole bolt – M16 x 400 mm long with nut and washers	1	ea	



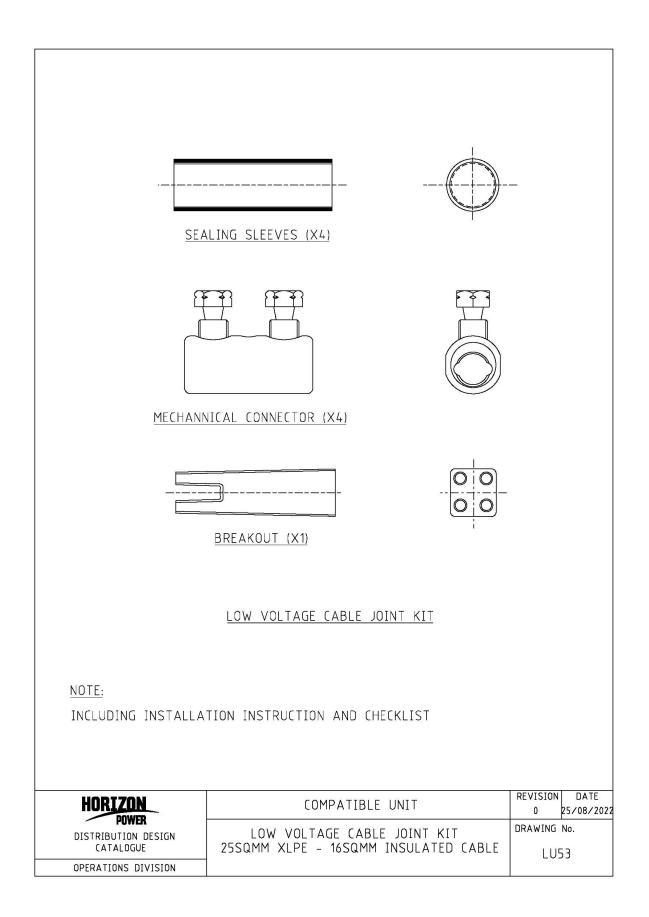
CU	CU DESCRIPTION
LU51_SL	Street light cable to LV bare conductor

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	Unit of Measure	REMARKS
1	FE0032	Heat shrink glove 0.6/1kV, black polyolefin, 2-finger	1	ea	
2	GC7842	Conduit PVC 25 mm, 4 m long, grey	2	ea	
3	FE0071	Heat shrink 0.6/1kV, black polyolefin 15mm	4	mtr	
5		PG Clamps – Select from CN9	2	ea	
7	HT6320	Cable protector steel, galvanised channel	1	ea	
8	GF1801	Fuse holder 100 amp	1	ea	
8	GF1940	Fuse cartridge 30 amp	1	ea	
9	CC0101	Suspension clamp, 95 ABC	2	ea	
9	AN2005	M16 nut galvanized	2	ea	
10	AB6733	Pole bolt – M16 x 400 mm long with nut and washers	1	ea	



CU	CU DESCRIPTION
LU52	Below Ground Service Pit

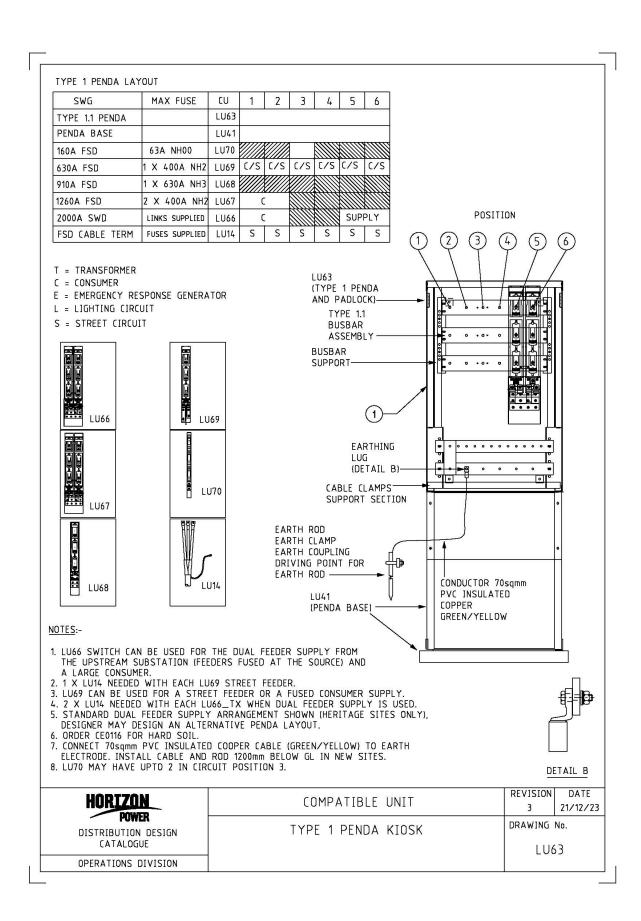
ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	Unit of Measure	REMARKS
1	FB0051	Service pit	1	ea	2 x 3ph 3 services + 1ph UMS
2	FE0109	4-finger glove and black heatshrink sleeving	1	ea	
3	FE0102	Red heatshrink sleeving	1	ea	
4	FE0103	White heatshrink sleeving	1	ea	
5	FE0104	Blue heatshrink sleeving	1	ea	
6	FE0071	Black heatshrink sleeving	1	ea	
7	CC0846	4-port gel port	3	ea	
8	EE1205	25sqmm earth cable	2	m	
9	CE0058	Double saddle earth clamp	1	ea	
10	CE0135	Earth rod	1	ea	
11	CC0851	5-port gel port	1	ea	
12	FBH0052	PUK	1	ea	
13	GC0024	40mm 4m length conduit (HD orange)	1	ea	
14	GC0479	40mm 90 deg. Bend conduit	1	ea	



CU	CU DESCRIPTION
LU53	Low Voltage Cable Joint Kit

ITEM STOC NUMBER NUMB		QTY RQD	Unit of Measure	REMARKS
1 FJH16	5 Low Voltage Cable Joint Kit	1	Kit	
	1 x Breakout (Black) (502K046/S) 4 x Sealing Sleeves 250mm (Black) (MWTM-25/8-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2	,		

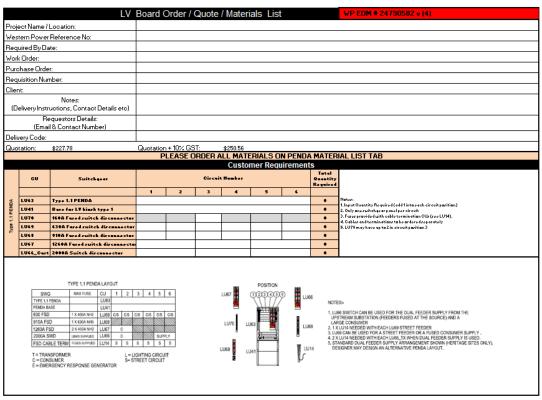
# PENDA LOW VOLTAGE KIOSKS SECTION



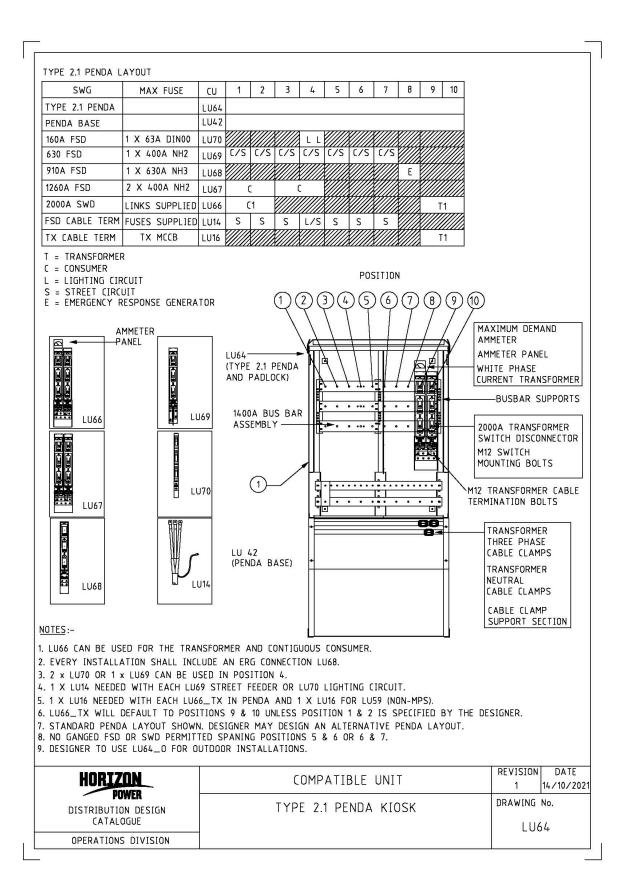
CU	CU DESCRIPTION
LU63	Type 1 PENDA Kiosk

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1		Type 1.1 PENDA	1	ea	
		Conductor 70mm pvc insulated copper green / yellow	3	metre	
		Earth rod	2	ea	
		Earth clamp	1	ea	
		Earth coupling	1	ea	
		Earthing Lug	1	ea	
		Driving point for earth rods	1	ea	
		Padlock	1	ea	
		Type 1.1 bus bar assembly	1	set	
		Bus bar supports	2	ea	
		Cable clamp support section	2	ea	

Use the below Low Voltage Board Order/Quote/Material List (DM# 16874336) to order



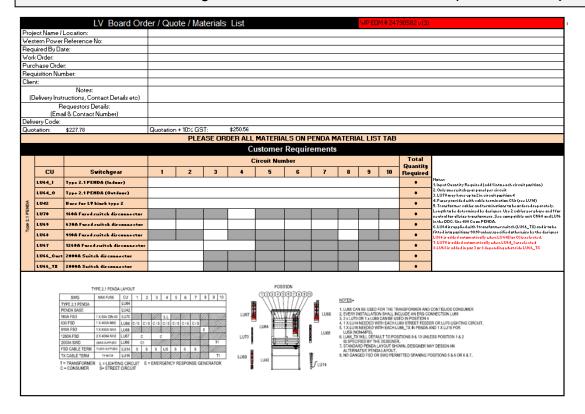
- Base for LV kiosk Type 1 (LU41) required to be selected in order form.
- <u>Use the PENDA ordering form (DM# 16874336) following the notes to configure the LV switchgear required for the design. Submit the form to Western Power for a quotation and then enter pricing manually into the Ellipse CU. There are no prepopulated materials and costs for PENDA in this CU.</u>
- <u>LU70 is suitable for installation within LU63, Order LU70 where required.</u>
- LU70 may have up to 2 in circuit position 3.



CU	CU DESCRIPTION
LU64_I	Type 2.1 PENDA Kiosk – I (Indoor)

ITEM Number	STOCK Number	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1		Type 2.1 PENDA	1	ea	
		Maximum demand ammeter	1	ea	
		Ammeter panel	1	ea	
		White phase current transformer	1	ea	
		Bus bar supports	3	ea	
		1400A bus bar assembly	1	ea	
		2000A transformer switch disconnector	1	ea	
		M12 switch mounting bolts	2	kit	
		M12 transformer cable termination bolts	2	kit	
		Transformer 3 phase cable clamps (per phase)	2	kit	
		Transformer neutral cable clamps	1	ea	
		Cable clamp support section	2	ea	

Use the below Low Voltage Board Order/Quote/Material List (DM# 16874336) to order

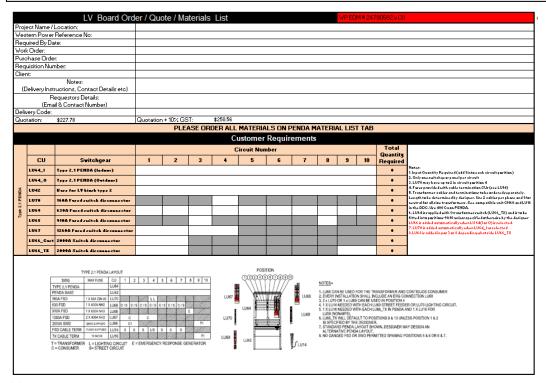


- LU42- Base for LV kiosk Type 2 required to be selected in order form.
- Use the PENDA ordering form (DM# 16874336) following the notes to configure the LV switchgear required for the design. Submit the form to Western Power for a quotation and then enter pricing manually into the Ellipse CU. There are no prepopulated materials and costs for PENDA in this CU.

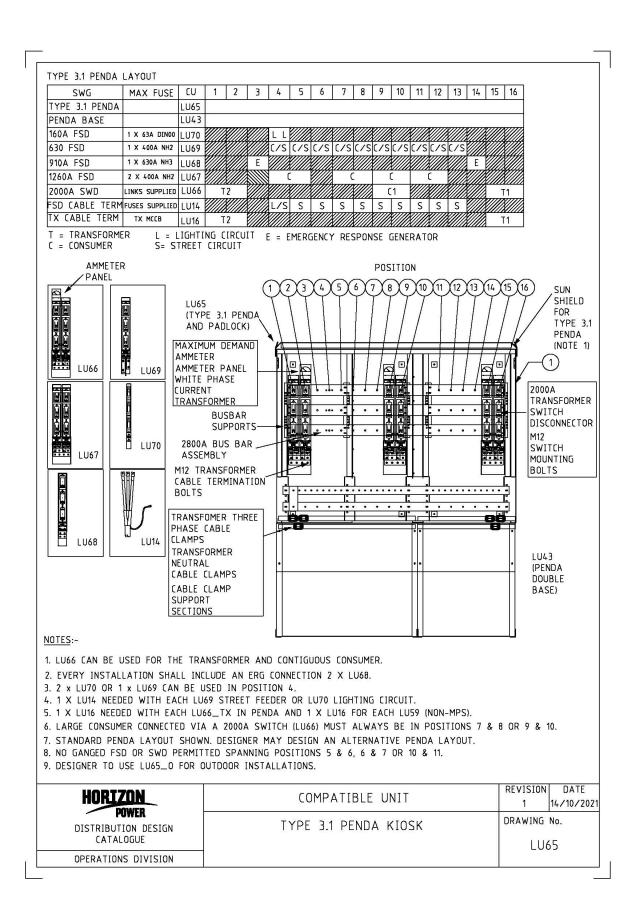
CU	CU DESCRIPTION
LU64_O	Type 2.1 PENDA Kiosk – O (Outdoor)

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	Unit of Measure	REMARKS
1		Type 2.1 PENDA	1	ea	
		Maximum demand ammeter	1	ea	
		Ammeter panel	1	ea	
		White phase current transformer	1	ea	
		Bus bar supports	3	ea	
		1400A bus bar assembly	1	ea	
		2000A transformer switch disconnector	1	ea	
		M12 switch mounting bolts	2	kit	
		M12 transformer cable termination bolts	2	kit	
		Transformer 3 phase cable clamps (per phase)	2	kit	
		Transformer neutral cable clamps	1	ea	
		Cable clamp support section	2	ea	
		Sun shield for Type 2.1 PENDA	1	ea	
		Padlock	1	ea	

Use the below Low Voltage Board Order/Quote/Material List (DM# 16874336) to order



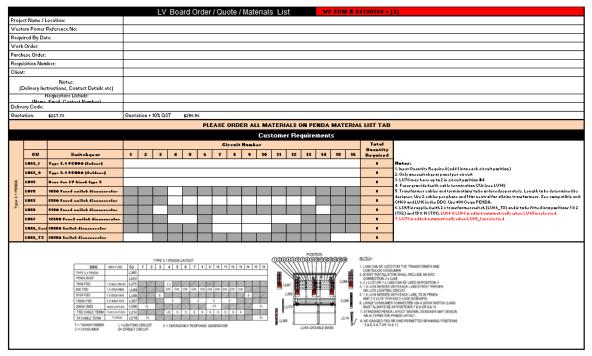
- <u>LU42- Base for LV kiosk Type 2 required to be selected in order form.</u>
- <u>Use the PENDA ordering form (DM# 16874336) following the notes to configure the LV switchgear required for the design. Submit the form to Western Power for a quotation and then enter pricing manually into the Ellipse CU. There are no prepopulated materials and costs for PENDA in this CU.</u>



cu	CU DESCRIPTION
LU65_I	Type 3.1 PENDA Kiosk – I (Indoor)

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1		Type 3.1 PENDA	1	ea	
		Maximum demand ammeter	2	ea	
		Ammeter panel	2	ea	
		White phase current transformer	2	ea	
		Bus bar supports	5	ea	
		2800A bus bar assembly	1	ea	
		2000A transformer switch disconnector	2	ea	
		M12 switch mounting bolts	4	kit	
		M12 transformer cable termination bolts	4	kit	
		Transformer 3 phase cable clamps (per phase)	4	kit	
		Transformer neutral cable clamps	2	ea	
		Cable clamp support section	2	ea	
		Cable clamp support section	2	ea	

Use the below Low Voltage Board Order/Quote/Material List (DM# 16874336) to order

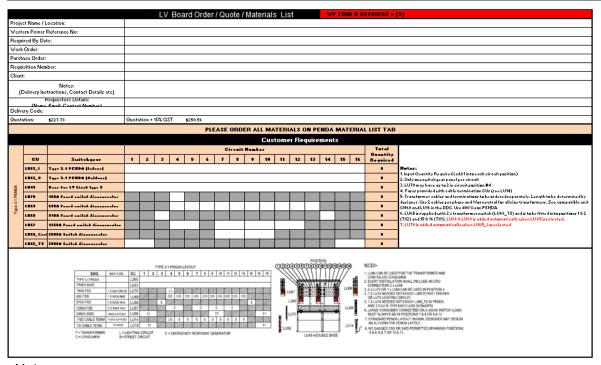


- <u>LU43- Base for LV kiosk Type 3 required to be selected in order form.</u>
- Use the PENDA ordering form (DM# 16874336) following the notes to configure the LV switchgear required for the design. Submit the form to Western Power for a quotation and then enter pricing manually into the Ellipse CU. There are no prepopulated materials and costs for PENDA in this CU.

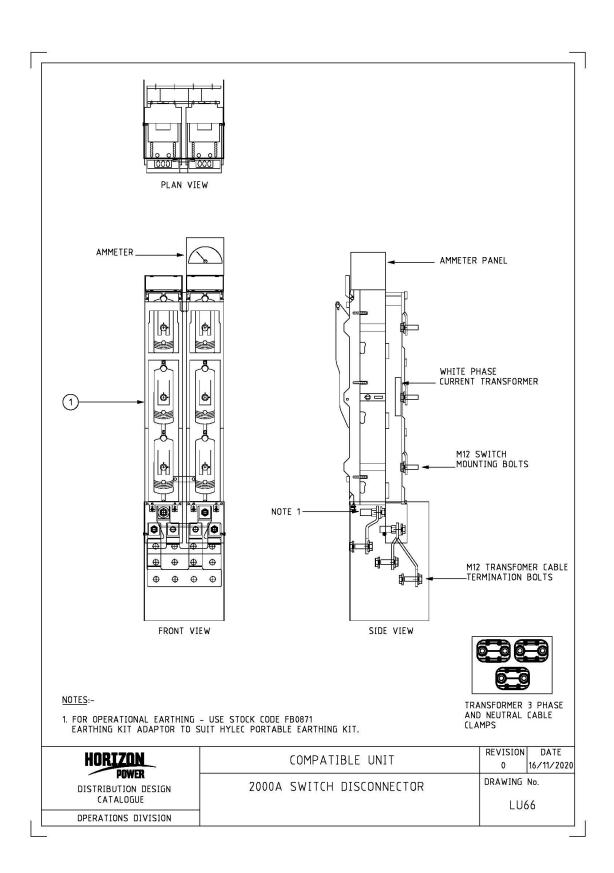
CU	CU DESCRIPTION
LU65_O	Type 3.1 PENDA Kiosk – O (Outdoor)

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1		Type 3.1 PENDA	1	ea	
		Maximum demand ammeter	2	ea	
		Ammeter panel	2	ea	
		White phase current transformer	2	ea	
		Bus bar supports	5	ea	
		2800A bus bar assembly	1	ea	
		2000A transformer switch disconnector	2	ea	
		M12 switch mounting bolts	4	kit	
		M12 transformer cable termination bolts	4	kit	
		Transformer 3 phase cable clamps (per phase)	4	kit	
		Transformer neutral cable clamps	2	ea	
		Cable clamp support section	2	ea	
		Cable clamp support section	2	ea	
		Sun shield for Type 2.1 PENDA	1	ea	
		Padlock	2	ea	

Use the below Low Voltage Board Order/Quote/Material List (DM# 16874336) to order



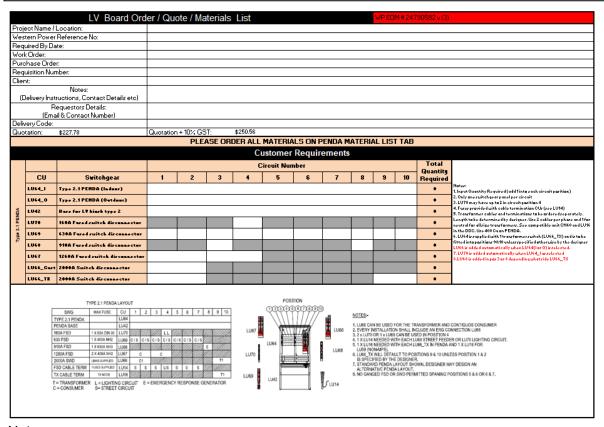
- <u>LU43- Base for LV kiosk Type 3 required to be selected in order form.</u>
- Use the PENDA ordering form (DM# 16874336) following the notes to configure the LV switchgear required for the design. Submit the form to Western Power for a quotation and then enter pricing manually into the Ellipse CU. There are no prepopulated materials and costs for PENDA in this CU.



cu	CU DESCRIPTION
LU66_TX	2000A Tx switch disconnector (incoming supply to PENDA)

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1		2000A transformer switch disconnector	1	ea	
		Maximum demand ammeter	1	ea	
		Ammeter panel	1	ea	
		White phase current transformer	1	ea	
		M12 switch mounting bolts	2	kit	
		M12 transformer cable termination bolts (per cable)	2	kit	
		Transformer 3 phase cable clamps (per phase)	2	kit	
		Transformer neutral cable clamps	1	kit	

Use the below Low Voltage Board Order/Quote/Material List (DM# 16874336) to order

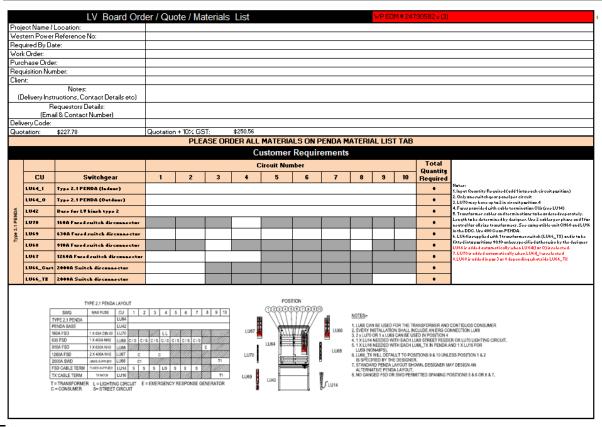


- Use the PENDA ordering form (DM# 16874336) following the notes to configure the LV switchgear required for the design. Submit the form to Western Power for a quotation and then enter pricing manually into the Ellipse CU. There are no prepopulated materials and costs for PENDA in this CU.
- Links supplied with LU66.
- <u>LU16 required for complete installation.</u>

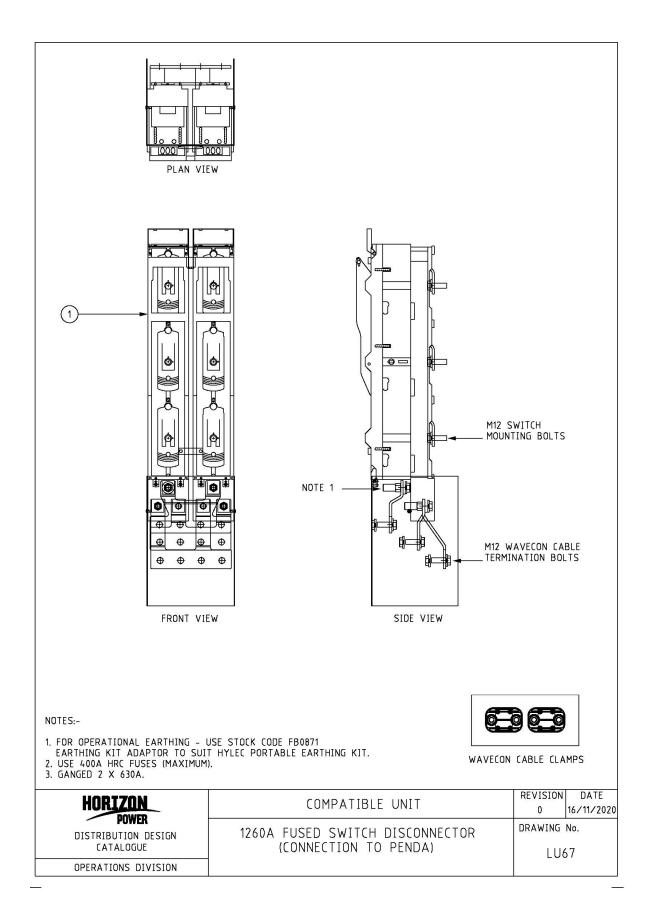
CU	CU DESCRIPTION
LU66_CUST	2000A Consumer switch disconnector (connection to PENDA)

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1		2000A transformer switch disconnector	1	ea	
		Maximum demand ammeter	1	ea	
		Ammeter panel	1	ea	
		White phase current transformer	1	ea	
		M12 switch mounting bolts	2	kit	
		M12 transformer cable termination bolts (per cable)	4	kit	
		Transformer 3 phase cable clamps (per phase)	4	kit	
		Transformer neutral cable clamps	2	kit	

Use the below Low Voltage Board Order/Quote/Material List (DM# 16874336) to order



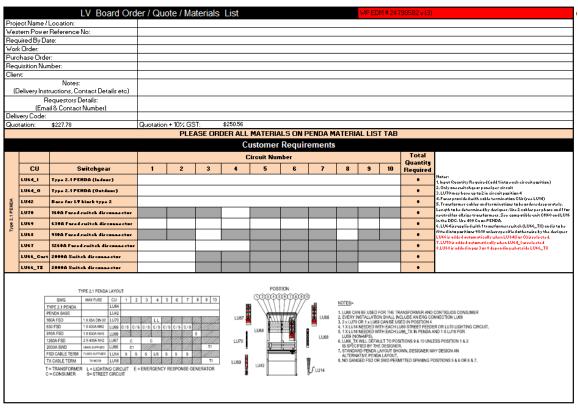
- Use the PENDA ordering form (DM# 16874336) following the notes to configure the LV switchgear required for the design. Submit the form to Western Power for a quotation and then enter pricing manually into the Ellipse CU. There are no prepopulated materials and costs for PENDA in this CU.
- Links supplied with LU66.
- LU16 required for complete installation.



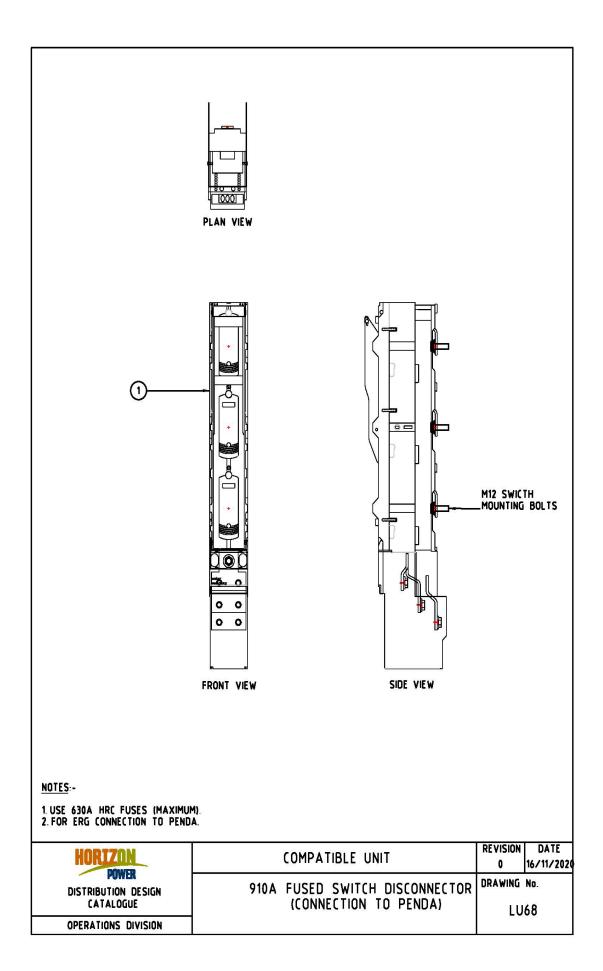
cu	CU DESCRIPTION
LU67	1260A Fused switch disconnector (connection to PENDA)

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1		1260A fused switch disconnector M12 switch mounting bolts M12 Wavecon cable termination bolts (per cable)	1 2 2	ea kit kit	
		Wavecon cable clamps (per cable)	2	kit	

Use the below Low Voltage Board Order/Quote/Material List (DM# 16874336) to order



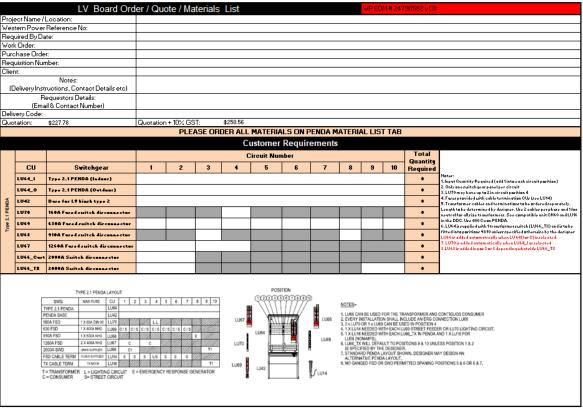
- Use the PENDA ordering form (DM# 16874336) following the notes to configure the
   <u>LV switchgear required for the design. Submit the form to Western Power for a
   quotation and then enter pricing manually into the Ellipse CU. There are no pre populated materials and costs for PENDA in this CU.
  </u>
- LU16 400CU12 (x2) and 6 x GF1102 required for complete installation.
- (use 4 x 400sqmm Cu cable (ECH1076) per phase)



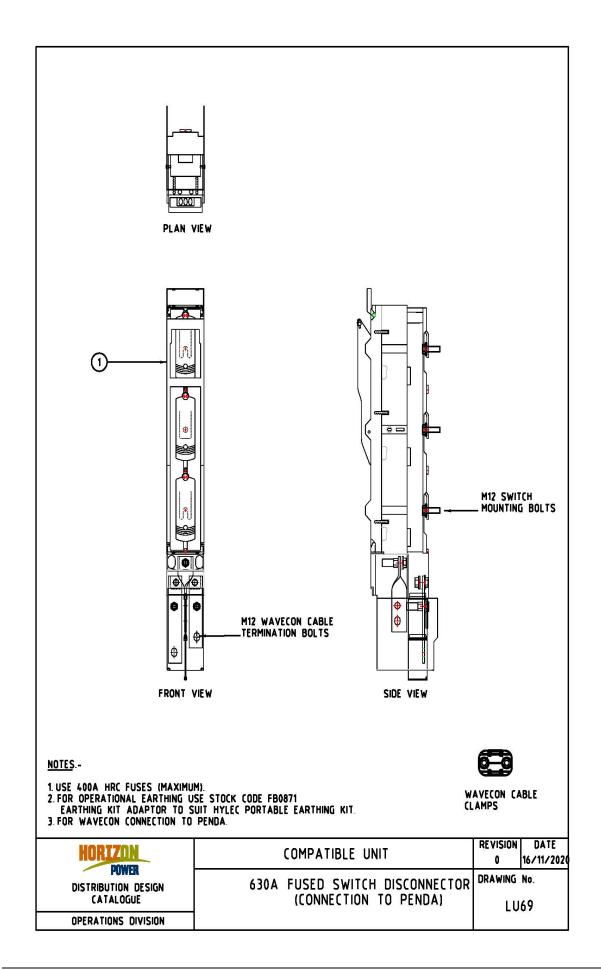
CU	CU DESCRIPTION
LU68	910A Fused switch disconnector (connection to PENDA)

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1		910A fused switch disconnector	1	ea	
		M12 switch mounting bolts	1	kit	

Use the below Low Voltage Board Order/Quote/Material List (DM# 16874336) to order



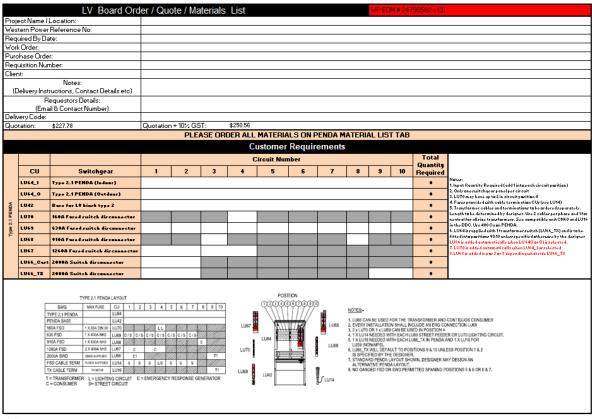
- Use the PENDA ordering form (DM# 16874336) following the notes to configure the
   <u>LV switchgear required for the design. Submit the form to Western Power for a</u>
   quotation and then enter pricing manually into the Ellipse CU. There are no pre populated materials and costs for PENDA in this CU.
- <u>LU14\_240 (x2) and 3 x GF1107 required for complete installation.</u>
- (use 240sqmm Al cable per phase).



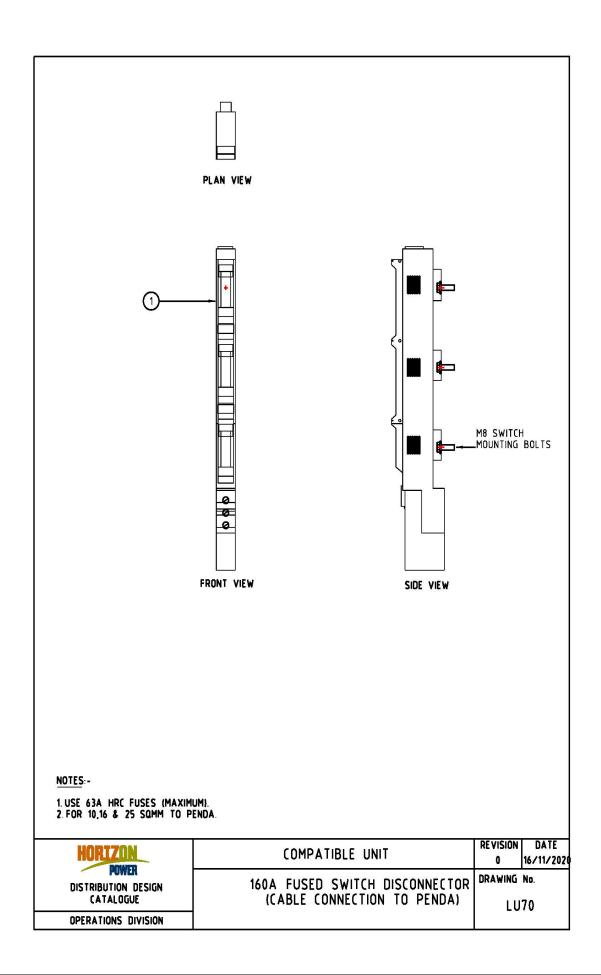
CU	CU DESCRIPTION
LU69	630A Fused switch disconnector (connection to PENDA)

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1		630A fused switch disconnector	1	ea	
		M12 switch mounting bolts	1	kit	
		M12 Wavecon cable termination bolts (per cable)	1	kit	
		Wavecon cable clamps (per cable)	1	kit	

Use the below Low Voltage Board Order/Quote/Material List (DM# 16874336) to order



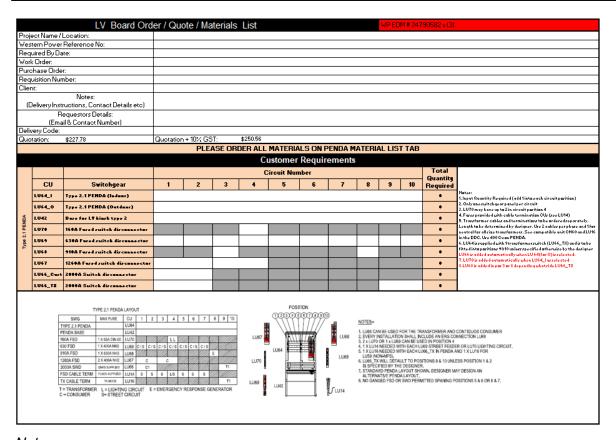
- Use the PENDA ordering form (DM# 16874336) following the notes to configure the LV switchgear required for the design. Submit the form to Western Power for a quotation and then enter pricing manually into the Ellipse CU. There are no prepopulated materials and costs for PENDA in this CU.
- Select suitable LU14 to order.



CU	CU DESCRIPTION
LU70	160A Fused switch disconnector (connection to PENDA)

ITEM Number	STOCK NUMBER	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1		160A fused switch disconnector	1	ea	
		M8 switch mounting bolts	1	kit	

Use the below Low Voltage Board Order/Quote/Material List (DM# 16874336) to order



- Use the PENDA ordering form (DM# 16874336) following the notes to configure the LV switchgear required for the design. Submit the form to Western Power for a quotation and then enter pricing manually into the Ellipse CU. There are no prepopulated materials and costs for PENDA in this CU.
- Use 63A HRC Fuses (max.).
- Select suitable LU14 to order.

#### APPENDIX A - REVISION INFORMATION

(Informative) Horizon Power has endeavoured to provide standards of the highest quality and would appreciate notification if any errors are found or even queries raised.

Each Standard makes use of its own comment sheet which is maintained throughout the life of the standard, which lists all comments made by stakeholders regarding the standard.

The document **DM# 2152546** can be used to record any errors or queries found in or pertaining to this standard, which can then be addressed whenever the standard gets reviewed.

Date	Rev No.	Notes
	0	Western Power Supplied
01/07/2009	1	Original Horizon Power issue
21/01/2014	2	<ul> <li>Index List CU Description</li> <li>LU50_SL_95 &amp; 150 changed to LU50_10_16_95 &amp; 150</li> <li>LU51_SL_AL &amp; CU changed to LU51_10_16_AL &amp; CU</li> </ul>
		LU6 Drawing  • Item (2) & (6) split to indicate parts  LU9 Drawing & List
		<ul> <li>Items shown better</li> <li>LU34 Drawing &amp; List</li> <li>Item (5) added – cable protector</li> <li>LU35 Drawing &amp; List</li> <li>Item (5) added – cable protector</li> <li>Item (3) changed from lug to saddle</li> <li>LU38 Drawing</li> <li>W.P.C. removed</li> <li>Earth Depth changed from 150 mm to 500 mm</li> <li>LU50 &amp; LU51 Drawing &amp; List</li> </ul>
23/02/2018	3	<ul> <li>Items (4) and (6) removed</li> <li>LU9 Drawing &amp; List</li> <li>Item (10) added</li> <li>LU37 Drawing &amp; List</li> <li>Items (7) &amp; (8) added</li> <li>LU50 Drawing &amp; List</li> <li>Items (9) &amp; (10) added</li> <li>LU51 Drawing &amp; List</li> <li>Items (8), (9) &amp; (10) added</li> </ul>
14/12/2020	4	Resin separated from joint kits, drawing to be updated and also item (1) modified and item (2) created for the following lists:  • LU1 • LU2 • LU3

Date	Rev No.	Notes
	0	Western Power Supplied
		• LU4 • LU5
		LU6 lists modified
		Item (2) changed from CC0138 to "select from CN9".
		Updating LU14 with new cable termination
		<ul> <li>LU14_16/160A</li> <li>LU14_25/160A</li> <li>LU14_25/630A</li> </ul>
		New CUs are added:
		<ul> <li>LU16</li> <li>LU63</li> <li>LU64</li> <li>LU65</li> <li>LU66</li> <li>LU67</li> <li>LU68</li> <li>LU69</li> <li>LU70</li> </ul>
		LU2 and LU3 are duplicates (LU3 removed)
		LU8 list modified:
		FJ0247 replaced with FJ0238.
		LU9 lists modified:
		Item (4) changed from CC0138 to "PG Clamps – Select from CN9".
		Item (4) CZ0307 removed from:
		<ul><li>LU10</li><li>LU10_2TERM</li><li>LU10_CABTERM</li></ul>
		Removed LU10_SLTERM – Use UM3_R instead.
		LU10_W/END
		Replace CZ0307 by UH0088
		Removed LU19- repeat of LU1
		Removed LU33- Single Phase S/L cable
		LU34 GF1177 replaces with GF0505
		LU35 GF1188 replaces with GF0512
		LU37 added item (9) – Select IPC clamp from CN65 Removed:
		<ul> <li>LU38</li> <li>LU39</li> <li>LU40</li> <li>LU44</li> <li>LU45</li> <li>LU46</li> <li>LU46A</li> <li>LU47</li> <li>LU49</li> </ul>

Date	Rev No.	Notes
	0	Western Power Supplied
		GF0550 is replaced with GF1940 for:
		<ul><li>LU50_SL_95</li><li>LU50_SL_150</li><li>LU50_SL</li></ul>
		LU51_25_AL renamed to LU51_25
		Item (5) changed to "PG Clamps – Select from CN9"
		LU51_SL_AL renamed to LU51_SL
		Item (5) changed to "PG Clamps – Select from CN9"
		LU51_25_CU removed
		LU51_SL_CU removed
		Modified LU52 – Changed to 3Ph Service Pit
		Stock item descriptions updated for consistency.
		Removed LU14_185.
28/04/2021	_	FC0498 is replaced with FC0499 for:
		<ul><li>LU6_240</li><li>LU9_240</li><li>LU37_240</li></ul>
	5	Removed:
		<ul><li>LU6_120,</li><li>LU9_120</li><li>LU37_120</li></ul>
30/10/2021		LU1 list modified
		<ul><li>FJ0043 replaced with FJ0063</li><li>KC0002 replaced with KC0014</li></ul>
		LU2 list modified
		<ul><li>FJ0042 replaced with FJ0062</li><li>KC0002 replaced with KC0014</li></ul>
		LU4 list modified
		<ul><li>FJ0047 replaced with FJ0067</li><li>KC0002 replaced with KC0014</li></ul>
		LU5 list modified
	6	<ul><li>FJ0046 replaced with FJ0066</li><li>KC0002 replaced with KC0014</li></ul>
		LU12 list modified
		FJ0241 replaced with FJ0056
		Remove LU6_185
		Remove LU6_240
		LU63, LU64, LU65, LU66, LU67, LU68, LU69 and LU70
		<ul><li>Update Order form with new version</li><li>Update notes of LU63</li></ul>
		Remove LU9_185