PROJECT

EE&SM(E)-I CPWD WING ORGANISATION LOCATION

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X3 - Load 3ph	20

Elements

A1 - Assembly

SL.No.	Description	Value	Unit
1	Reference	A1	
2	Name	ASSEMBLY	
3	Text 1		
4	Text 2		
5	Text 3		
6	Sub-elements	A1-T1	

A1-T1 - Transformer

Sl.No.	Description	Value	Unit
1	Reference	A1-T1	
2	Name	IS1180, EEL2	
3	Sn	1.0	MVA
4	Un (HV)	11.0	kV
5	Un (LV)	0.415	kV
6	Usc (Real)	0.7	%
7	Usc	5.0	%
8	Uosc (Real)	0.7	%
9	Uosc	5.0	%
10	Zmo/Zo	10.0	%
11	ROm/XOm	0.0	
12	Fraction of UO on HV side	0.1	
13	Shift Degree	30.0	deg
14	Vector Group	Dyn	
15	Pfe	1.153	k₩
16	ΙΘ	2.4	%
17	HV Symbol	D	
18	LV Symbol	Yn	

A2 - Assembly

SL.No.	Description	Value	Unit
1	Reference	A2	
2	Name	ASSEMBLY	
3	Text 1		
4	Text 2		
5	Text 3		
6	Sub-elements	A2-B1, A2-Q1, A2-Q2, A2-Q3	

A2-B1 - Bus Bar

Sl.No.	Description	Value	Unit
1	Reference	A2-B1	
2	In	630	Α

SL.No.	Description	Value	Unit
3	Isc	25.0	kA
4	#P(T)	1	
5	#P(B)	3	
6	Bay Width	12	pt

A2-Q1 - Circuit Breaker

SL.No.	Description	Value	Unit
1	Reference	A2-Q1	
2	Туре	СВ	
3	Poles	TPN	
4	Un	0.415	kV
5	In	200	A
6	In_set	10	Α
7	Im	10	xIn
8	Isc	10	kA
9	Ion	-1	Α
10	Iom	-1	Α
11	Closed ?	True	

A2-Q2 - Circuit Breaker

SL.No.	Description	Value	Unit
1	Reference	A2-Q2	
2	Туре	СВ	
3	Poles	TPN	
4	Un	0.415	kV
5	In	200	Α
6	In_set	10	Α
7	Im	10	xIn
8	Isc	10	kA
9	Ion	-1	А
10	IOm	-1	А
11	Closed ?	True	

A2-Q3 - Circuit Breaker

SL.No.	Description	Value	Unit
1	Reference	A2-Q3	
2	Туре	СВ	
3	Poles	TPN	
4	Un	0.415	kV
5	In	200	A
6	In_set	10	A
7	Im	10	xIn
8	Isc	10	kA
9	Ion	-1	Α
10	IOm	-1	Α

SL.No.	Description	Value	Unit
11	Closed ?	True	

G1 - External Grid

SL.No.	Description	Value	Unit
1	Reference	G1	
2	Name	EXTERNAL GRID	
3	Vm	1	ри
4	Vm<	0	degree
5	Vn	11	kV
6	Ssc_max	500	MVA
7	Ssc_min	100	MVA
8	R/X max	0.2	
9	R/X min	0.05	
10	Ro/Xo max	0.2	
11	Ro/Xo min	0.1	
12	XO/X max	3	
13	XO/X min	1	
14	In Service ?	True	

W1 - Line (Custom Geometry)

SL.No.	Description	Value	Unit
1	Reference	W1	
2	Name	KSEB Feeder	
3	Length	1	km
4	R	0.431	Ohm/km
5	X	0.322	0hm/km
6	С	11.431	nF/km
7	Ron	0.579	Ohm/km
8	Xon	1.653	Ohm/km
9	Rog	0.579	Ohm/km
10	Xog	1.653	Ohm/km
11	Tf	250	degC
12	Imax	0.3	kA
13	Isc phase (1s)	8.145	kA
14	Isc cpe (1s)	0.0	kA
15	DF	1	
16	Designation	ACSR Raccoon (80)	
17	# Parallel Lines	1	
18	In Service ?	True	
19	Line type	OH Line - 3 phase with earth return Triangular arrangement	
2	Conductor material	Aluminium	
3	Phase nominal cross-sectional area	80.0	sq.mm.
4	Conductor Diameter	12.27	mm

SL.No.	Description	Value	Unit
5	D1	0.9	m
6	D2	0.6	m
7	Soil resistivity	100	Ohm.m
8	Line Working Temperature	70	degC
9	Additional DF	1	

W2 - LV Cable (IEC)

Length	SL.No.	Description	Value	Unit
Length	1	Reference	W2	
A	2	Name		
5	3	Length	0.3	km
6	4	R	0.308	Ohm/km
Ron	5	X	0.08	Ohm/km
Non	6	С	290.0	nF/km
9 Rog 6.973 Ohm/km 10 Xog 0.74 Ohm/km 11 Tf 250 degC 12 Imax 0.192 kA 13 Isc phase (1s) 11.346 kA 14 Isc cpe (1s) 4.755 kA 15 DF 0.6 16 Designation 3.5x120 A2XFY 17 # Parallel Lines 5 18 In Service ? True 19 Conductor material Aluminium 20 Insulation XLPE/EPR 21 Phase nominal cross-sectional area 0.583 xSph 22 Neutral cross-sectional area 0.583 xSph 23 Type 3ph 24 CPE Conductor Cable armour 25 Armour material Steel 26 Armour nominal cross-sectional area 92.0 27 Laying type Reference method D2 - Multi-core cable in the ground 8 # of cables in group 4 9 # of Layers 1 10 Ground temperature 20 degC 11 Soil thermal resistivity 2.5 K·m/W	7	Ron	0.846	Ohm/km
10	8	Xon	0.32	Ohm/km
11 Tf 250 degC 12 Imax 0.192 kA 13 Isc phase (1s) 11.346 kA 14 Isc cpe (1s) 4.755 kA 15 DF 0.6 CA 16 Designation 3.5x120 A2XFY CA 17 # Parallel Lines 5 True 18 In Service ? True COnductor material Aluminium XLPE/EPR 20 Insulation XLPE/EPR XLPE/EPR Sq.mm. 21 Phase nominal cross-sectional area 0.583 xSph 22 Neutral cross-sectional area 0.583 xSph 23 Type 3ph Steel 24 CPE Conductor Cable armour Steel 25 Armour material Steel Steel 26 Armour nominal cross-sectional area 92.0 Reference method D2 - Multi-core cable in the ground 27 Laying type Autin for the ground Autin for the ground	9	Rog	6.973	Ohm/km
12	10	Xog	0.74	Ohm/km
13 Isc phase (1s) 11.346 kA 14 Isc cpe (1s) 4.755 kA 15 DF 0.6	11	Tf	250	degC
14 Isc cpe (1s) 4.755 kA 15 DF 0.6	12	Imax	0.192	kA
15 DF	13	Isc phase (1s)	11.346	kA
Designation 3.5x120 A2XFY # Parallel Lines In Service ? Conductor material Insulation Insulation XLPE/EPR Phase nominal cross-sectional area Neutral cross-sectional area Neutral cross-sectional area CPE Conductor Armour material Armour nominal cross-sectional area Armour nominal cross-sectional area Tayle Armour nominal cross-sectional area Parallel Lines 120.0 \$q.mm. \$q.mm. Armour delta area \$q.mm. Reference method D2 - Multi-core cable in the ground Laying type # of cables in group # to f Layers Count area Armour area Reference method D2 - Multi-core cable in the ground Armour area Reference method D2 - Multi-core cable in the ground Armour area Reference method D2 - Multi-core cable in the ground Armour area Reference method D2 - Multi-core cable in the ground Armour area Reference method D2 - Multi-core cable in the ground Armour area Reference method D2 - Multi-core cable in the ground Armour area Reference method D2 - Multi-core cable in the ground Armour area Reference method D2 - Multi-core cable in the ground Armour area Reference method D2 - Multi-core cable in the ground Armour area Reference method D2 - Multi-core cable in the ground Armour nominal cross-sectional area Reference method D2 - Multi-core cable in the ground Armour nominal cross-sectional area Reference method D2 - Multi-core cable in the ground Armour nominal cross-sectional area Reference method D2 - Multi-core cable in the ground Armour nominal cross-sectional area Reference method D2 - Multi-core cable in the ground Armour nominal cross-sectional area Reference method D2 - Multi-core cable in the ground Armour nominal cross-sectional area Reference method D2 - Multi-core cable in the ground Armour nominal cross-sectional area Reference method D2 - Multi-core cable in the ground	14	Isc cpe (1s)	4.755	kA
# Parallel Lines 5 In Service ? True Conductor material Aluminium Insulation XLPE/EPR Phase nominal cross-sectional area 0.583 xSph Reference method D2 - Multi-core cable in the ground Laying arrangement Cables touching # of cables in group 4 Ground temperature 20 Sill thermal resistivity 2.5	15	DF	0.6	İ
In Service ? True Conductor material Insulation XLPE/EPR Phase nominal cross-sectional area Neutral cross-sectional area CPE Conductor Armour material Armour nominal cross-sectional area 22 Armour nominal sections area 24 CPE Conductor Cable armour Steel Armour nominal cross-sectional area 26 Armour nominal cross-sectional area 7 Laying type Cables touching # of cables in group # of layers 1 Coround temperature 20 degC K·m/W	16	Designation	3.5×120 A2XFY	
Conductor material Aluminium Insulation	17	# Parallel Lines	5	
Insulation ZLPE/EPR Phase nominal cross-sectional area Neutral cross-sectional area Cable armour Cable armour Steel Armour nominal cross-sectional area Perence method D2 - Multi-core cable in the ground Laying type Reference method D2 - Multi-core cable in the ground Cables touching # of cables in group # of layers Cables touching # of layers Cables touching Soil thermal resistivity New Yellow Sq. mm.	18	In Service ?	True	
Phase nominal cross-sectional area 120.0 sq.mm. Neutral cross-sectional area 0.583 xSph Type 3ph CPE Conductor Cable armour Armour material Steel Armour nominal cross-sectional area 92.0 sq.mm. Laying type Reference method D2 - Multi-core cable in the ground Laying arrangement Cables touching # of cables in group 4 # of layers 1 Ground temperature 20 degC Soil thermal resistivity 2.5 K·m/W	19	Conductor material	Aluminium	İ
cross-sectional area 22 Neutral cross-sectional area 23 Type 3ph 24 CPE Conductor 25 Armour material 26 Armour nominal cross-sectional area 27 Laying type 28 # of cables in group 9 # of layers 10 Ground temperature 29 Neutral cross-sectional area 120.0 Sq.mm. Cable armour Steel 92.0 Reference method D2 - Multi-core cable in the ground Cables touching 4 # of cables in group 4 # of layers 10 Ground temperature 20 degC K·m/W	20	Insulation	XLPE/EPR	
Type 3ph 24 CPE Conductor Cable armour 25 Armour material Steel 26 Armour nominal cross-sectional area 27 Laying type Taying arrangement 8 # of cables in group 9 # of layers 10 Ground temperature 20 Armour nominal cross-sectional area 3ph 2able armour 3ph 3ph 2able armour 3ph 3ph 2able armour 3ph 3ph 2able armour 3ple armour 3ple armour 3ple armour 3ple armour 3ph 3ph 2able armour 3ple armour 3ph 3ple armour 4ple	21		120.0	sq.mm.
Cable armour 25 Armour material 26 Armour nominal cross-sectional area 27 Laying type Taying arrangement 8 # of cables in group 9 # of layers 10 Ground temperature 28 Steel 92.0 Reference method D2 - Multi-core cable in the ground Cables touching 4 9 # of layers 1 0 Ground temperature 20 degC 11 Soil thermal resistivity 2.5 K·m/W	22	Neutral cross-sectional area	0.583	xSph
Armour material Armour nominal cross-sectional area Page 10 Armour nominal cross-sectional area Page 27 Laying type Reference method D2 - Multi-core cable in the ground August arrangement Cables touching # of cables in group # of layers Cround temperature Coround temperature Steel 92.0 Reference method D2 - Multi-core cable in the ground August arrangement Cables touching # of cables in group # of layers Coround temperature 20 Coround temperature	23	Type	3ph	
Armour nominal cross-sectional area 26 Armour nominal cross-sectional area 27 Laying type Taying arrangement Cables touching # of cables in group # of layers 10 Ground temperature 20 Ground temperature 20 K·m/W	24	CPE Conductor	Cable armour	
cross-sectional area 27 Laying type Reference method D2 - Multi-core cable in the ground 7 Laying arrangement 8 # of cables in group 9 # of layers 1 10 Ground temperature 20 degC 11 Soil thermal resistivity 9 **Sq.mm. **Sq.mm. **Sq.mm. **Sq.mm. **Cables touching 4 20 degC K·m/W	25	Armour material	Steel	
27 Laying type Multi-core cable in the ground Daying arrangement Cables touching	26	1	92.0	sq.mm.
8 # of cables in group 4 9 # of layers 1 10 Ground temperature 20 degC 11 Soil thermal resistivity 2.5 K·m/W	27	Laying type	Multi-core cable	
9 # of layers 1 10 Ground temperature 20 degC 11 Soil thermal resistivity 2.5 K·m/W	7	Laying arrangement	Cables touching	
10 Ground temperature 20 degC 11 Soil thermal resistivity 2.5 K·m/W	8	# of cables in group	4	
11 Soil thermal resistivity 2.5 K·m/W	9	# of layers	1	
	10	Ground temperature	20	degC
12 Additional DF 1	11	Soil thermal resistivity	2.5	K·m/W
	12	Additional DF	1	

W3 - LV Cable (IEC)

SL.No.	Description	Value	Unit
1	Reference	W3	
2	Name		
3	Length	0.3	km
4	R	0.308	Ohm/km
5	X	0.08	Ohm/km
6	С	290.0	nF/km
7	Ron	0.846	Ohm/km
8	Xon	0.32	Ohm/km
9	Rog	6.973	Ohm/km
10	Xog	0.74	Ohm/km
11	Tf	250	degC
12	Imax	0.174	kA
13	Isc phase (1s)	11.346	kA
14	Isc cpe (1s)	4.755	kA
15	DF	1	
16	Designation	3.5×120 A2XFY	
17	# Parallel Lines	2	
18	In Service ?	True	
19	Conductor material	Aluminium	
20	Insulation	XLPE/EPR	
21	Phase nominal cross-sectional area	120.0	sq.mm.
22	Neutral cross-sectional area	0.583	xSph
23	Type	3ph	
24	CPE Conductor	Cable armour	
25	Armour material	Steel	
26	Armour nominal cross-sectional area	92.0	sq.mm.
27	Laying type	Reference method D1 - Multi-core cable in ducts in the ground	
6	Laying arrangement	Ducts touching	
7	# of cables in group	1	
8	# of layers	1	
9	Ground temperature	20	degC
10	Soil thermal resistivity	2.5	K·m/W
11	Additional DF	1	

W4 - LV Cable (IEC)

SL.No.	Description	Value	Unit
1	Reference	W4	
2	Name		
3	Length	0.3	km
4	R	0.308	Ohm/km
5	X	0.08	Ohm/km

SL.No.	Description	Value	Unit
6	С	290.0	nF/km
7	Ron	0.846	Ohm/km
8	Xon	0.32	Ohm/km
9	Rog	6.973	Ohm/km
10	Xog	0.74	Ohm/km
11	Tf	250	degC
12	Imax	0.192	kA
13	Isc phase (1s)	11.346	kA
14	Isc cpe (1s)	4.755	kA
15	DF	0.75	
16	Designation	3.5×120 A2XFY	
17	# Parallel Lines	2	
18	In Service ?	True	
19	Conductor material	Aluminium	
20	Insulation	XLPE/EPR	
21	Phase nominal cross-sectional area	120.0	sq.mm.
22	Neutral cross-sectional area	0.583	xSph
23	Type	3ph	
24	CPE Conductor	Cable armour	
25	Armour material	Steel	
26	Armour nominal cross-sectional area	92.0	sq.mm.
27	Laying type	Reference method D2 - Multi-core cable in the ground	
7	Laying arrangement	Cables touching	
8	# of cables in group	2	
9	# of layers	1	
10	Ground temperature	20	degC
11	Soil thermal resistivity	2.5	K·m/W
12	Additional DF	1	

W5 - LV Cable (IEC)

SL.No.	Description	Value	Unit
1	Reference	W5	
2	Name		
3	Length	0.05	km
4	R	0.308	Ohm/km
5	X	0.08	Ohm/km
6	С	290.0	nF/km
7	Ron	0.846	Ohm/km
8	Xon	0.32	Ohm/km
9	Rog	6.973	Ohm/km
10	Xog	0.74	Ohm/km
11	Tf	250	degC
12	Imax	0.192	kA

SL.No.	Description	Value	Unit
13	Isc phase (1s)	11.346	kA
14	Isc cpe (1s)	4.755	kA
15	DF	0.75	
16	Designation	3.5×120 A2XFY	
17	# Parallel Lines	2	
18	In Service ?	True	
19	Conductor material	Aluminium	
20	Insulation	XLPE/EPR	Ì
21	Phase nominal cross-sectional area	120.0	sq.mm.
22	Neutral cross-sectional area	0.583	xSph
23	Type	3ph	
24	CPE Conductor	Cable armour	
25	Armour material	Steel	
26	Armour nominal cross-sectional area	92.0	sq.mm.
27	Laying type	Reference method D2 - Multi-core cable in the ground	
7	Laying arrangement	Cables touching	i
8	# of cables in group	2	
9	# of layers	1	
10	Ground temperature	20	degC
11	Soil thermal resistivity	2.5	K·m/W
12	Additional DF	1	

X1 - Load 3ph

SL.No.	Description	Value	Unit
1	Reference	X1	
2	Name		
3	Rated power	100.0	kW
4	PF	0.8	
5	DF	1	
6	Inductive ?	True	
7	In Service ?	True	
8	Load Profile	Office Load	

X2 - Load 1ph

SL.No.	Description	Value	Unit
1	Reference	X2	
2	Name		
3	Rated power	25.0	kVA
4	PF	0.8	
5	DF	1	
6	Phase	A	
7	Inductive ?	True	
8	In Service ?	True	

SL.No.	Description	Value	Unit
9	Load Profile	Hostel load	

X3 - Load 3ph

SL.No.	Description	Value	Unit
1	Reference	X3	
2	Name		
3	Rated power	150.0	kW
4	PF	0.8	
5	DF	1	
6	Inductive ?	True	
7	In Service ?	True	
8	Load Profile	Residential load	

Bill of Quantities

Lines

SL.No.	Referen ce	Name	Designation	Type	# Paralle l Lines	_	Imax	Deratin 3 Factor		% Loading	% P loss	Item Class
						km	kA			%	%	
1	W1	KSEB Feeder	ACSR Raccoon (80)	Over Head	1	1	0.3	1	True	5.7	0.1	Line (Custom Geometry)
2	W2		3.5×120 A2XFY	Under Ground	5	0.3	0.192	0.6	True	82.1	3.9	LV Cable (IEC)
3	W3		3.5×120 A2XFY	Under Ground	2	0.3	0.174	1	True	43.8	3.7	LV Cable (IEC)
4	W4		3.5×120 A2XFY	Under Ground	2	0.3	0.192	0.75	True	79.1	5.5	LV Cable (IEC)
5	W5		3.5×120 A2XFY	Under Ground	2	0.05	0.192	0.75	True	53.0	0.6	LV Cable (IEC)

Loads

SL.No.	Referen ce	IName	Rated power	PF	Sa	Sb	Sc	In Service ?	Load Profile	Item Class
			kVA		kVA	kVA	kVA			
1	X1		100.0	0.8 lag				True	Office load	Load 3ph
2	X2		25.0	0.8 lag	20.0+j15.0	0+j0	0+j0	True	Hostel load	Load 1ph
3	X3		150.0	0.8 lag				True	Residential load	Load 3ph

Switches

SL.No.	Reference	Type	Poles	Un	In	Closed
				kV	A	
1	A2-Q1	СВ	TPN	0.415	200	True

13 Bill of Quantities

SL.No.	Reference	Type	Poles	Un	In	Closed
2	A2-Q2	СВ	TPN	0.415	200	True
3	A2-Q3	СВ	TPN	0.415	200	True

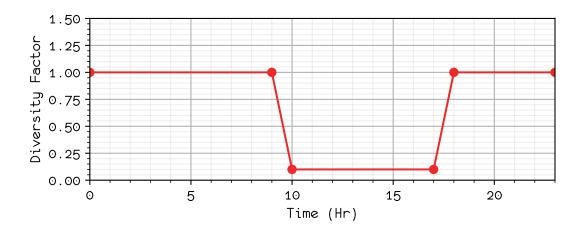
Nodes

Node ID	Vn	ΔV	Isc (sym, max)	Isc (sym, min)	Isc (L-G, max)	Isc (L-G, min)
	kV	%	kA	kA	kA	kA
1	11.0	0.01	26.2432	5.2486	15.7459	5.2436
2	11.0	0.15	9.2255	3.5892	5.2605	2.8682
3	0.415	1.38	27.1184	21.2378	28.0725	22.9503
4	0.415	5.45	10.2159	5.5706	1.6155	0.7723
5	0.415	5.45	10.2159	5.5706	1.6155	0.7723
6	0.415	5.45	10.2159	5.5706	1.6155	0.7723
7	0.415	5.45	10.2159	5.5706	1.6155	0.7723
8	0.415	8.3	3.5238	1.7575	0.4679	0.2222
9	0.415	9.38	3.5238	1.7575	0.4679	0.2222
10	0.415	8.78	3.1724	1.5764	0.4184	0.1986

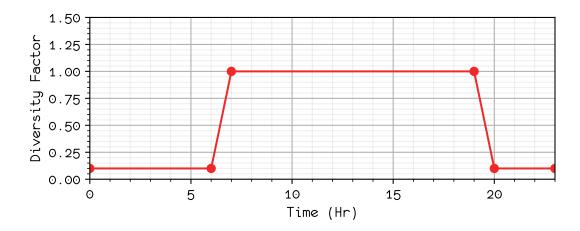
Load Profiles

Load Profiles

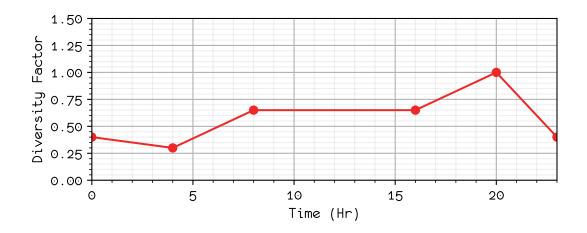
Hostel load



Office load



Residential load



Analysis

Analysis options

Sl.No.	Description	Value	Unit
1	Run diagnostics	True	
2	Enable assymetric power flow calculation	True	
3	Run time series power flow	True	
4	Run symmetric short circuit calculation	True	
5	Run line to ground short circuit calculation	True	
6	Export results of simulation	True	
7	Grid voltage tolerance	6.0	%
8	Grid Frequency	50	Hz
9	Fault resistance	0.0	Ohm
10	Fault reactance	0.0	Ohm

Analysis results

1 - Network Node

SL.No.	Description	Value	Unit
1	Vn	11.0	kV
2	ΔVa, ΔVb, ΔVc	ΔVa: [0.0, 0.0, 0.0] ΔVb: [0.0, 0.0, 0.0] ΔVc: [-0.0, -0.0, -0.01]	%, %, %
3	ΔV	ΔV: [0.01, 0.0, 0.0]	%
4	ΔV (max)	0.01	%
5	Isc (sym, max)	26.2432	kA
6	Isc (sym, min)	5.2486	kA
7	Isc (L-G, max)	15.7459	kA
8	Isc (L-G, min)	5.2436	kA

10 - Network Node

SL.No.	Description	Value	Unit
1	Vn	0.415	kV
2	ΔVa, ΔVb, ΔVc	ΔVa: [8.78, 5.37, 2.79] ΔVb: [6.73, 4.06, 1.01] ΔVc: [6.49, 3.9, 0.8]	%, %, %
3	ΔV	ΔV: [8.78, 5.37, 2.79]	%
4	ΔV (max)	8.78	%
5	Isc (sym, max)	3.1724	kA
6	Isc (sym, min)	1.5764	kA
7	Isc (L-G, max)	0.4184	kA
8	Isc (L-G, min)	0.1986	kA

2 - Network Node

SL.No.	Description	Value	Unit
1	Vn	11.0	kV
2	ΔVa, ΔVb, ΔVc	ΔVa: [0.15, 0.1, 0.06] ΔVb: [0.13, 0.08, 0.04] ΔVc: [0.12, 0.08, 0.03]	%, %, %
3	ΔV	ΔV: [0.15, 0.1, 0.06]	%
4	ΔV (max)	0.15	%
5	Isc (sym, max)	9.2255	kA
6	Isc (sym, min)	3.5892	kA
7	Isc (L-G, max)	5.2605	kA
8	Isc (L-G, min)	2.8682	kA

3 - Network Node

Sl.No.	Description	Value	Unit
1	Vn	0.415	kV
2	ΔVa, ΔVb, ΔVc	ΔVa: [1.38, 0.9, 0.59] ΔVb: [1.07, 0.69, 0.3] ΔVc: [1.05, 0.68, 0.29]	%, %, %
3	ΔV	ΔV: [1.38, 0.9, 0.59]	%
4	ΔV (max)	1.38	%
5	Isc (sym, max)	27.1184	kA
6	Isc (sym, min)	21.2378	kA
7	Isc (L-G, max)	28.0725	kA
8	Isc (L-G, min)	22.9503	kA

4 - Network Node

Sl.No.	Description	Value	Unit
1	Vn	0.415	kV
2	ΔVa, ΔVb, ΔVc	ΔVa: [5.45, 3.47, 2.48] ΔVb: [3.53, 2.19, 0.71] ΔVc: [3.3, 2.03, 0.5]	%, %, %
3	ΔV	ΔV: [5.45, 3.47, 2.48]	%
4	ΔV (max)	5.45	%
5	Isc (sym, max)	10.2159	kA
6	Isc (sym, min)	5.5706	kA
7	Isc (L-G, max)	1.6155	kA
8	Isc (L-G, min)	0.7723	kA

5 - Network Node

SL.No.	Description	Value	Unit
1	Vn	0.415	kV
2	ΔVa, ΔVb, ΔVc	ΔVa: [5.45, 3.47, 2.48] ΔVb: [3.53, 2.19, 0.71] ΔVc: [3.3, 2.03, 0.5]	%, %, %
3	ΔV	ΔV: [5.45, 3.47, 2.48]	%
4	ΔV (max)	5.45	%
5	Isc (sym, max)	10.2159	kA

SL.No.	Description	Value	Unit
6	Isc (sym, min)	5.5706	kA
7	Isc (L-G, max)	1.6155	kA
8	Isc (L-G, min)	0.7723	kA

6 - Network Node

SL.No.	Description	Value	Unit
1	Vn	0.415	kV
2	ΔVa, ΔVb, ΔVc	ΔVa: [5.45, 3.47, 2.48] ΔVb: [3.53, 2.19, 0.71] ΔVc: [3.3, 2.03, 0.5]	%, %, %
3	ΔV	ΔV: [5.45, 3.47, 2.48]	%
4	ΔV (max)	5.45	%
5	Isc (sym, max)	10.2159	kA
6	Isc (sym, min)	5.5706	kA
7	Isc (L-G, max)	1.6155	kA
8	Isc (L-G, min)	0.7723	kA

7 - Network Node

SL.No.	Description	Value	Unit
1	Vn	0.415	kV
2	ΔVa, ΔVb, ΔVc	ΔVa: [5.45, 3.47, 2.48] ΔVb: [3.53, 2.19, 0.71] ΔVc: [3.3, 2.03, 0.5]	%, %, %
3	ΔV	ΔV: [5.45, 3.47, 2.48]	%
4	ΔV (max)	5.45	%
5	Isc (sym, max)	10.2159	kA
6	Isc (sym, min)	5.5706	kA
7	Isc (L-G, max)	1.6155	kA
8	Isc (L-G, min)	0.7723	kA

8 - Network Node

SL.No.	Description	Value	Unit
1	Vn	0.415	kV
2	ΔVa, ΔVb, ΔVc	ΔVa: [8.3, 5.1, 2.75] ΔVb: [6.28, 3.79, 0.97] ΔVc: [6.03, 3.63, 0.76]	%, %, %
3	ΔV	ΔV: [8.3, 5.1, 2.75]	%
4	ΔV (max)	8.3	%
5	Isc (sym, max)	3.5238	kA
6	Isc (sym, min)	1.7575	kA
7	Isc (L-G, max)	0.4679	kA
8	Isc (L-G, min)	0.2222	kA

9 - Network Node

SL.No.	Description	Value	Unit
1	Vn	0.415	kV

St.No.	Description	Value	Unit
2	ΔVa, ΔVb, ΔVc	ΔVa: [9.38, 5.93, 3.69] ΔVb: [7.31, 4.6, 1.88] ΔVc: [7.06, 4.44, 1.67]	%, %, %
3	ΔV	ΔV: [9.38, 5.93, 3.69]	%
4	ΔV (max)	9.38	%
5	Isc (sym, max)	3.5238	kA
6	Isc (sym, min)	1.7575	kA
7	Isc (L-G, max)	0.4679	kA
8	Isc (L-G, min)	0.2222	kA

9 - Network Node

SL.No.	Description	Value	Unit
1	Vn	0.415	kV
2	ΔVa, ΔVb, ΔVc	ΔVa: [9.38, 5.93, 3.69] ΔVb: [7.31, 4.6, 1.88] ΔVc: [7.06, 4.44, 1.67]	%, %, %
3	ΔV	ΔV: [9.38, 5.93, 3.69]	%
4	ΔV (max)	9.38	%
5	Isc (sym, max)	3.5238	kA
6	Isc (sym, min)	1.7575	kA
7	Isc (L-G, max)	0.4679	kA
8	Isc (L-G, min)	0.2222	kA

A1-T1 - Transformer

SL.No.	Description	Value	Unit
1	Pa HV, Qa HV, Pb HV, Qb HV, Pc HV, Qc HV	Pa HV: [0.0845, 0.0526, 0.0293] Qa HV: [0.0689, 0.0462, 0.0294] Pb HV: [0.0677, 0.0417, 0.0143] Qb HV: [0.0673, 0.045, 0.0277] Pc HV: [0.0776, 0.0482, 0.0233] Qc HV: [0.0536, 0.0361, 0.0156]	MW, MVAr, MW, MVAr, MW, MVAr
2	Pa LV, Qa LV, Pb LV, Qb LV, Pc LV, Qc LV	Pa LV: [-0.0288, -0.0521, -0.0838] Qa LV: [-0.0212, -0.0375, -0.0592] Pb LV: [-0.0139, -0.0412, -0.0673] Qb LV: [-0.0197, -0.0365, -0.0582] Pc LV: [-0.0288, -0.0521, -0.0838] Qc LV: [-0.0212, -0.0375, -0.0592]	MW, MVAr, MW, MVAr, MW, MVAr
3	% Loading	max: 34.0, min: 13.4, avg: 21.7	%
4	P Loss	P Loss: [0.0017, 0.0014, 0.0012]	MW
5	P Loss (max)	0.0017	MW
6	% Loading (max) (max)	34.0	%

A2-B1 - Bus Bar

SL.No.	Description	Value	Unit
1	Vn	0.415	kV
2	ΔVa, ΔVb, ΔVc	ΔVa: [5.45, 3.47, 2.48] ΔVb: [3.53, 2.19, 0.71] ΔVc: [3.3, 2.03, 0.5]	%, %, %
3	ΔV	ΔV: [5.45, 3.47, 2.48]	%

SL.No.	Description	Value	Unit
4	ΔV (max)	5.45	%
5	Isc (sym, max)	10.2159	kA
6	Isc (sym, min)	5.5706	kA
7	Isc (L-G, max)	1.6155	kA
8	Isc (L-G, min)	0.7723	kA

G1 - External Grid

SL.No.	Description	Value	Unit
1	Pa, Pb, Pc, Qa, Qb, Qc	Pa: [0.0846, 0.0527, 0.0293] Pb: [0.0678, 0.0417, 0.0143] Pc: [0.0777, 0.0482, 0.0233] Qa: [0.0689, 0.0461, 0.0293] Qb: [0.0672, 0.0449, 0.0276] Qc: [0.0535, 0.036, 0.0155]	MW, MW, MW, MVAr, MVAr

W1 - Line (Custom Geometry)

St.No.	Description	Value	Unit
1	Pa from, Qa from, Pb from, Qb from, Pc from, Qc from	Pa from: [0.0846, 0.0527, 0.0293] Qa from: [0.0689, 0.0461, 0.0293] Pb from: [0.0678, 0.0417, 0.0143] Qb from: [0.0672, 0.0449, 0.0276] Pc from: [0.0678, 0.0417, 0.0143] Qc from: [0.0672, 0.0449, 0.0276]	MW, MVAr, MW, MVAr, MW, MVAr
2	% Loading	max: 5.7, min: 2.2, avg: 3.7	%
3	% P Loss	% P Loss: [0.1, 0.1, 0.1]	%
4	% P Loss (max)	0.1	%
5	% Loading (max) (max)	5.7	%

W2 - LV Cable (IEC)

SL.No.	Description	Value	Unit
1		Pa from: [0.0912, 0.0571, 0.0357] Qa from: [0.0646, 0.0411, 0.0263] Pb from: [0.0682, 0.0419, 0.0149] Qb from: [0.0491, 0.0304, 0.0111] Pc from: [0.0682, 0.0419, 0.0149] Qc from: [0.0491, 0.0304, 0.0111]	MW, MVAr, MW, MVAr, MW, MVAr
2	% Loading	max: 82.1, min: 32.3, avg: 51.4	%
3	% P Loss	% P Loss: [3.9, 2.5, 1.5]	%
4	% P Loss (max)	3.9	%
5	% Loading (max) (max)	82.1	%

W3 - LV Cable (IEC)

SL.No.	Description	Value	Unit
	Pa from, Qa from, Pb from, Qb from, Pc from, Qc from	Qb from: [0.0279, 0.0103, 0.0027] Qb from: [0.0203, 0.0119, 0.002]	MW, MVAr, MW, MVAr, MW, MVAr
2	% Loading	max: 43.8, min: 4.1, avg: 25.2	%

SL.No.	Description	Value	Unit
3	% P Loss	% P Loss: [3.7, 2.1, 0.3]	%
4	% P Loss (max)	3.7	%
5	% Loading (max) (max)	43.8	%

W4 - LV Cable (IEC)

SL.No.	Description	Value	Unit
1		Pa from: [0.0424, 0.0247, 0.0122] Qa from: [0.0306, 0.0181, 0.009] Pb from: [0.0423, 0.0247, 0.0122] Qb from: [0.0306, 0.0181, 0.009] Pc from: [0.0423, 0.0247, 0.0122] Qc from: [0.0306, 0.0181, 0.009]	MW, MVAr, MW, MVAr, MW, MVAr
2	% Loading	max: 79.1, min: 22.6, avg: 46.1	%
3	% P Loss	% P Loss: [5.5, 3.2, 1.6]	%
4	% P Loss (max)	5.5	%
5	% Loading (max) (max)	79.1	%

W5 - LV Cable (IEC)

SL.No.	Description	Value	Unit
1	Pa from, Qa from, Pb from, Qb from, Pc from, Qc from	Pb from: [0.0208, 0.0158, 0.002/] Oh from: [0.02 0.0118 0.002]	MW, MVAr, MW, MVAr, MW, MVAr
2	% Loading	max: 53.0, min: 5.0, avg: 30.5	%
3	% P Loss	% P Loss: [0.6, 0.4, 0.1]	%
4	% P Loss (max)	0.6	%
5	% Loading (max) (max)	53.0	%

X1 - Load 3ph

SL.No.	Description	Value	Unit
1		P: [0.08, 0.047, 0.008] Q: [0.06, 0.0352, 0.006]	MW, MVAr

X2 - Load 1ph

SL.No.	Description	Value	Unit
1	Pa, Pb, Pc, Qa, Qb, Qc	P6: [0.0, 0.0, 0.0] Pc: [0.0, 0.0, 0.0]	MW, MW, MW, MVAr, MVAr, MVAr

X3 - Load 3ph

SL.No.	Description	Value	Unit
1		P: [0.12, 0.0715, 0.036] Q: [0.09, 0.0536, 0.027]	MW, MVAr