PROJECT

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

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Elements

Bill of quantities

Load Profiles

Analysis

Elements

A1 - Assembly

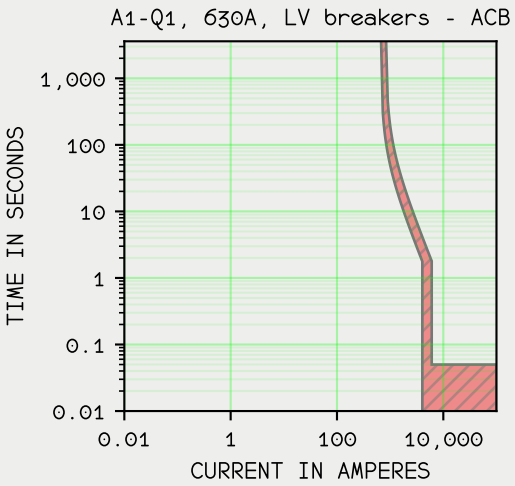
Sl.No.	Description	Value	Unit
1	Reference	A1	
2	Name	ASSEMBLY	
3	Text 1		
4	Text 2		
5	Text 3		
6	Sub-elements	A1-Q1, A1-B1, A1-Q2, A1-Q3, A1-Q4	

A1-B1 - Bus Bar

Sl.No.	Description	Value	Unit
1	Reference	A1-B1	
2	In	630	A
3	Isc	25.0	kA
4	#P(T)	1	
5	#P(B)	3	
6	Bay Width	16	pt

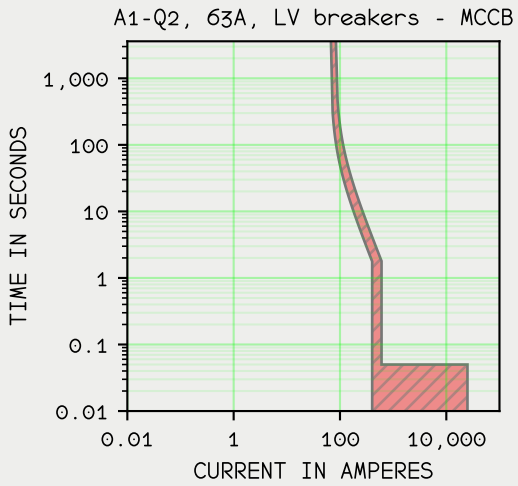
A1-Q1 - Circuit Breaker

Sl.No.	Description	Value	Unit
1	Reference	A1-Q1	
2	Name		
3	Closed ?	True	
4	Type	LV breakers	
5	Sub Type	ACB	
6	Line Protection curve	EM Trip	
7	Ground Protection curve	None	
8	Poles	TPN	
9	Un	0.415	kV
10	In	630	A
11	In_set	1	xIn
12	Isc	100.0	kA
13	Line Protection		

Sl.No.	Description	Value	Unit
		 Instantaneous pickup current : 8 xIn Conventional fusing current : 1.3 xIr Conventional non fusing current : 1.05 xIr Time multiplier setting : 1 Line fault delay : 0 s Convensional time : 2 Hrs Instantaneous trip time (min) : 0.001 s Instantaneous trip time (max) : 0.05 s k : 80 c : 0 alpha : 2 Current pickup tolerance : 20 % Time delay tolerance : 20 %	
14	Drawout type ?	False	

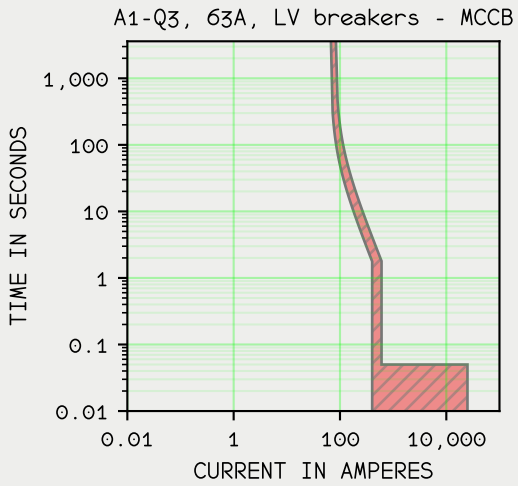
A1-Q2 - Circuit Breaker

Sl.No.	Description	Value	Unit
1	Reference	A1-Q2	
2	Name		
3	Closed ?	True	
4	Type	LV breakers	
5	Sub Type	MCCB	
6	Line Protection curve	EM Trip	
7	Ground Protection curve	None	
8	Poles	TPN	
9	Un	0.415	kV
10	In	63	A
11	In_set	1	xIn
12	Isc	25.0	kA
13	Line Protection		

Sl.No.	Description	Value	Unit
		 Instantaneous pickup current : 8 xIn Conventional fusing current : 1.3 xIr Conventional non fusing current : 1.05 xIr Time multiplier setting : 1 Line fault delay : 0 s Convensional time : 2 Hrs Instantaneous trip time (min) : 0.001 s Instantaneous trip time (max) : 0.05 s k : 80 c : 0 alpha : 2 Current pickup tolerance : 20 % Time delay tolerance : 20 %	
14	Drawout type ?	False	

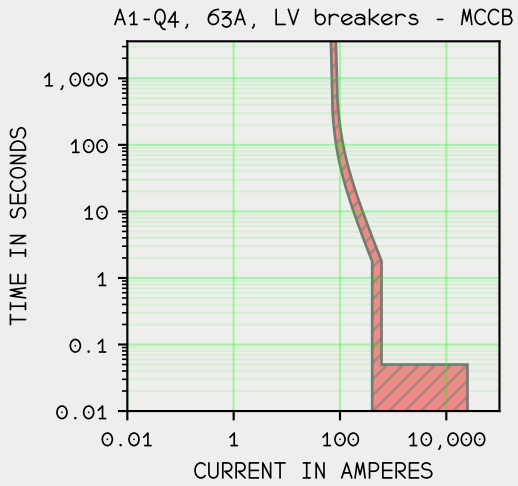
A1-Q3 - Circuit Breaker

Sl.No.	Description	Value	Unit
1	Reference	A1-Q3	
2	Name		
3	Closed ?	True	
4	Type	LV breakers	
5	Sub Type	MCCB	
6	Line Protection curve	EM Trip	
7	Ground Protection curve	None	
8	Poles	TPN	
9	Un	0.415	kV
10	In	63	A
11	In_set	1	xIn
12	Isc	25.0	kA
13	Line Protection		

Sl.No.	Description	Value	Unit
		 Instantaneous pickup current : 8 xIn Conventional fusing current : 1.3 xIr Conventional non fusing current : 1.05 xIr Time multiplier setting : 1 Line fault delay : 0 s Convensional time : 2 Hrs Instantaneous trip time (min) : 0.001 s Instantaneous trip time (max) : 0.05 s k : 80 c : 0 alpha : 2 Current pickup tolerance : 20 % Time delay tolerance : 20 %	
14	Drawout type ?	False	

A1-Q4 - Circuit Breaker

Sl.No.	Description	Value	Unit
1	Reference	A1-Q4	
2	Name		
3	Closed ?	True	
4	Type	LV breakers	
5	Sub Type	MCCB	
6	Line Protection curve	EM Trip	
7	Ground Protection curve	None	
8	Poles	DP	
9	Un	0.415	kV
10	In	63	A
11	In_set	1	xIn
12	Isc	25.0	kA
13	Line Protection		

Sl.No.	Description	Value	Unit
		 Instantaneous pickup current : 8 xIn Conventional fusing current : 1.3 xIr Conventional non fusing current : 1.05 xIr Time multiplier setting : 1 Line fault delay : 0 s Convensional time : 2 Hrs Instantaneous trip time (min) : 0.001 s Instantaneous trip time (max) : 0.05 s k : 80 c : 0 alpha : 2 Current pickup tolerance : 20 % Time delay tolerance : 20 %	
14	Drawout type ?	False	

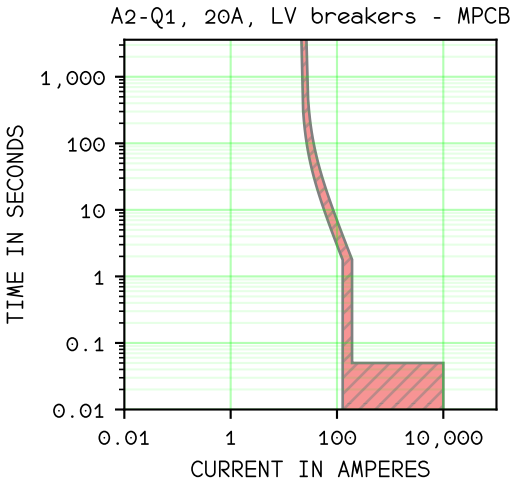
A2 - Assembly

Sl.No.	Description	Value	Unit
1	Reference	A2	
2	Name	ASSEMBLY	
3	Text 1		
4	Text 2		
5	Text 3		
6	Sub-elements	A2-Q1, A2-K1	

A2-K1 - Contactor

Sl.No.	Description	Value	Unit
1	Reference	A2-K1	
2	Name		
3	Type	AC-3	
4	Poles	TP	
5	Un	0.415	kV
6	In	20.0	A
7	Closed ?	True	

A2-Q1 - Circuit Breaker

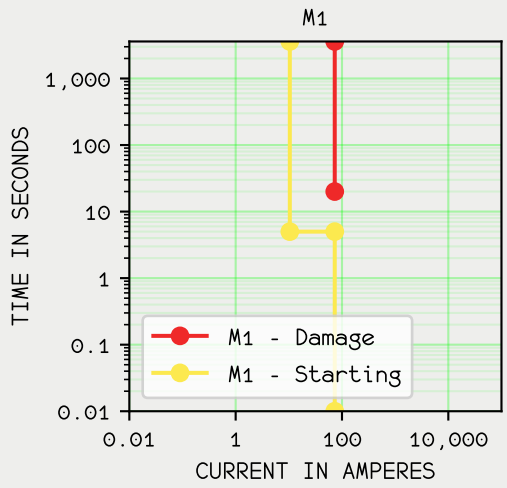
Sl.No.	Description	Value	Unit
1	Reference	A2-Q1	
2	Name		
3	Closed ?	True	
4	Type	LV breakers	
5	Sub Type	MPCB	
6	Line Protection curve	EM Trip	
7	Poles	TPN	
8	Un	0.415	kV
9	In	20.0	A
10	In_set	1	xIn
11	Isc	10	kA
12	Line Protection	 Instantaneous pickup current : 8 xIn Conventional fusing current : 1.3 xIr Conventional non fusing current : 1.05 xIr Time multiplier setting : 1 Line fault delay : 0 s Convensional time : 2 Hrs Instantaneous trip time (min) : 0.001 s Instantaneous trip time (max) : 0.05 s k : 80 c : 0 alpha : 2 Current pickup tolerance : 20 % Time delay tolerance : 20 %	
13	Drawout type ?	False	

G1 - External Grid

Sl.No.	Description	Value	Unit
1	Reference	G1	
2	Name	EXTERNAL GRID	
3	Vm	1	pu
4	Vm<	0	degree
5	Vn	11	kV
6	Ssc_max	500	MVA

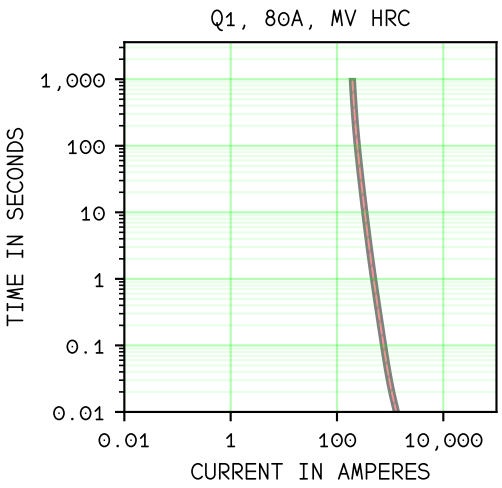
Sl.No.	Description	Value	Unit
7	Ssc_min	100	MVA
8	R/X max	0.2	
9	R/X min	0.05	
10	R0/X0 max	0.2	
11	R0/X0 min	0.1	
12	X0/X max	3	
13	X0/X min	1	
14	In Service ?	True	

M1 - Motor 3ph

Sl.No.	Description	Value	Unit
1	Reference	M1	
2	Name		
3	PF	0.85	
4	DF	1	
5	In Service ?	True	
6	Load Profile	Midrise Apartment - Building - Elevator	
7	Mechanical rated power	7.5	kW
8	Efficiency at operating point	88.1	%
9	Isc/In	7.0	
10	R/X	0.42	
11	Damage curve	 Acceleration time : 5 s Safe stall time : 20 s	

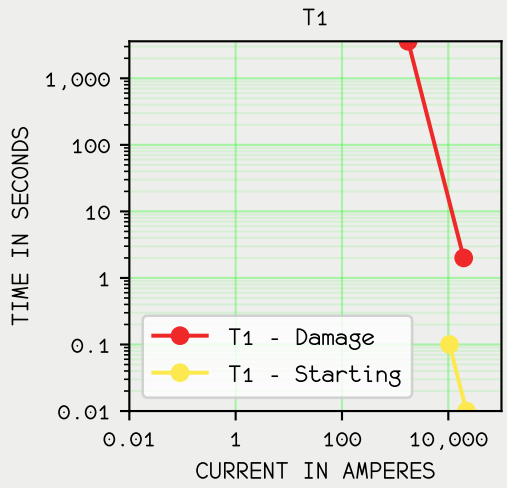
Q1 - Fuse

Sl.No.	Description	Value	Unit
1	Reference	Q1	
2	Name		
3	Closed ?	True	
4	Type	MV HRC	
5	Poles	TP	

Sl.No.	Description	Value	Unit
6	Un	0.415	kV
7	In	80.0	A
8	In_set	1.0	xIn
9	Isc	63.0	kA
10	Line Protection		
11	Switch Disconnector ?	True	

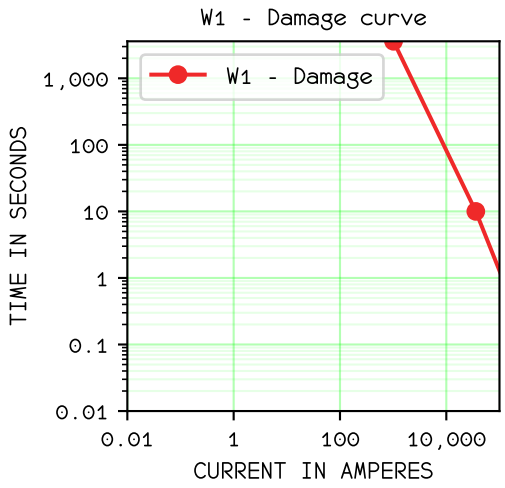
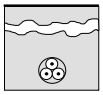
T1 - Transformer

Sl.No.	Description	Value	Unit
1	Reference	T1	
2	Name	IS1180, EEL2	
3	Sn	0.63	MVA
4	Un (HV)	11.0	kV
5	Un (LV)	0.415	kV
6	Usc (Real)	0.7	%
7	Usc	4.5	%
8	U0sc (Real)	0.7	%
9	U0sc	4.5	%
10	Zm0/Z0	10.0	%
11	R0m/X0m	0.0	
12	Fraction of U0 on HV side	0.1	
13	Shift Degree	30.0	deg
14	Vector Group	Dyn	
15	Pfe	0.713	kW
16	I0	2.5	%
17	HV Symbol	D	
18	LV Symbol	Yn	
19	Damage curve		

Sl.No.	Description	Value	Unit
		 Short time emergency load : 2 xIn Short circuit withstand time : 2 s Inrush current @ 0.1 s : 12 s Inrush current @ 0.01 s : 25 s	

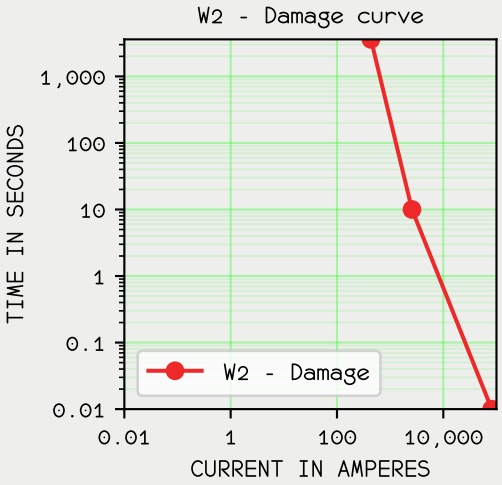
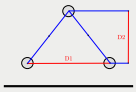
W1 - LV Cable (IEC)

Sl.No.	Description	Value	Unit
1	Reference	W1	
2	Name		
3	Length	0.3	km
4	Conductor material	Aluminium	
5	Insulation	XLPE/EPR	
6	R	0.123	Ohm/km
7	X	0.08	Ohm/km
8	C	330.0	nF/km
9	R0n	0.308	Ohm/km
10	X0n	0.32	Ohm/km
11	R0g	4.535	Ohm/km
12	X0g	0.74	Ohm/km
13	Tf	250	degC
14	Imax	0.314	kA
15	Isc phase (1s)	28.366	kA
16	Isc cpe (1s)	7.184	kA
17	DF	0.558	
18	Designation	3.5x300 A2XFY	
19	# Parallel Lines	4	
20	Damage curve		

Sl.No.	Description	Value	Unit
			
21	In Service ?	True	
22	Phase nominal cross-sectional area	300.0	sq.mm.
23	Neutral cross-sectional area	0.5	xSph
24	Type	3ph	
25	CPE Conductor	Cable armour	
26	Armour material	Steel	
27	Armour nominal cross-sectional area	139.0	sq.mm.
28	Laying type	 Reference method D2 - Multi-core cable in the ground	
7	Laying arrangement	Cables touching	
8	# of cables in group	4	
9	# of layers	1	
10	Ground temperature	30	degC
11	Soil thermal resistivity	2.5	K·m/W
12	Additional DF	1	

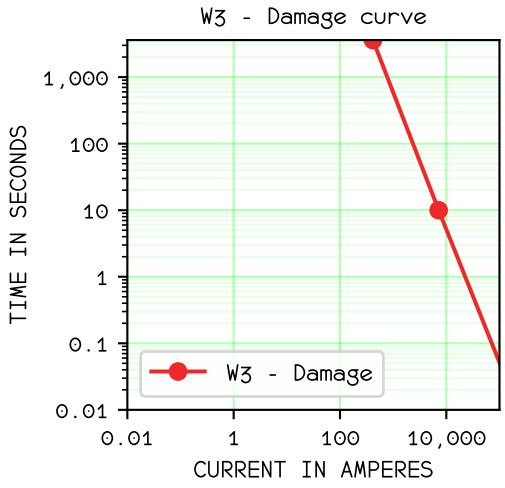
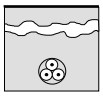
W2 - Line (Custom Geometry)

Sl.No.	Description	Value	Unit
1	Reference	W2	
2	Name	OH FEEDER	
3	Length	1	km
4	Conductor material	Aluminium	
5	R	0.431	Ohm/km
6	X	0.322	Ohm/km
7	C	11.431	nF/km
8	R0n	0.579	Ohm/km
9	X0n	1.653	Ohm/km
10	R0g	0.579	Ohm/km
11	X0g	1.653	Ohm/km

Sl.No.	Description	Value	Unit
12	Tf	250	degC
13	Imax	0.3	kA
14	Isc phase (1s)	8.145	kA
15	Isc cpe (1s)	0.0	kA
16	DF	1	
17	Designation	ACSR Raccoon (80)	
18	# Parallel Lines	1	
19	Damage curve		
20	In Service ?	True	
21	Line type	 OH Line - 3 phase with earth return Triangular arrangement	
2	Phase nominal cross-sectional area	80.0	sq.mm.
3	Conductor Diameter	12.27	mm
4	D1	0.9	m
5	D2	0.6	m
6	Soil resistivity	100	Ohm.m
7	Line Working Temperature	70	degC
8	Additional DF	1	

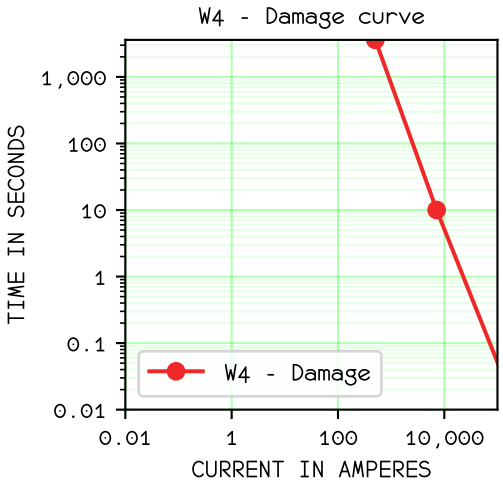
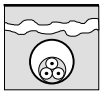
W3 - LV Cable (IEC)

Sl.No.	Description	Value	Unit
1	Reference	W3	
2	Name		
3	Length	0.3	km
4	Conductor material	Aluminium	
5	Insulation	XLPE/EPR	
6	R	0.308	Ohm/km
7	X	0.08	Ohm/km
8	C	290.0	nF/km
9	R0n	0.846	Ohm/km
10	X0n	0.32	Ohm/km
11	R0g	6.973	Ohm/km

Sl.No.	Description	Value	Unit
12	Xog	0.74	Ohm/km
13	Tf	250	degC
14	Imax	0.192	kA
15	Isc phase (1s)	11.346	kA
16	Isc cpe (1s)	4.755	kA
17	DF	0.75	
18	Designation	3.5x120 A2XFY	
19	# Parallel Lines	2	
20	Damage curve		
21	In Service ?	True	
22	Phase nominal cross-sectional area	120.0	sq.mm.
23	Neutral cross-sectional area	0.583	xSph
24	Type	3ph	
25	CPE Conductor	Cable armour	
26	Armour material	Steel	
27	Armour nominal cross-sectional area	92.0	sq.mm.
28	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	

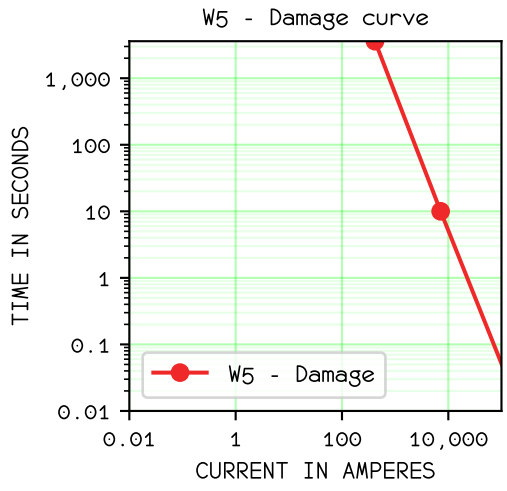
W4 - LV Cable (IEC)

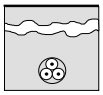
Sl.No.	Description	Value	Unit
1	Reference	W4	
2	Name		
3	Length	0.3	km

Sl.No.	Description	Value	Unit
4	Conductor material	Aluminium	
5	Insulation	XLPE/EPR	
6	R	0.308	Ohm/km
7	X	0.08	Ohm/km
8	C	290.0	nF/km
9	R0n	0.846	Ohm/km
10	X0n	0.32	Ohm/km
11	R0g	6.973	Ohm/km
12	X0g	0.74	Ohm/km
13	Tf	250	degC
14	Imax	0.174	kA
15	Isc phase (1s)	11.346	kA
16	Isc cpe (1s)	4.755	kA
17	DF	1	
18	Designation	3.5x120 A2XFY	
19	# Parallel Lines	2	
20	Damage curve		
21	In Service ?	True	
22	Phase nominal cross-sectional area	120.0	sq.mm.
23	Neutral cross-sectional area	0.583	xSph
24	Type	3ph	
25	CPE Conductor	Cable armour	
26	Armour material	Steel	
27	Armour nominal cross-sectional area	92.0	sq.mm.
28	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

Sl.No.	Description	Value	Unit
11	Additional DF	1	

W5 - LV Cable (IEC)

Sl.No.	Description	Value	Unit
1	Reference	W5	
2	Name		
3	Length	0.05	km
4	Conductor material	Aluminium	
5	Insulation	XLPE/EPR	
6	R	0.308	Ohm/km
7	X	0.08	Ohm/km
8	C	290.0	nF/km
9	R0n	0.846	Ohm/km
10	X0n	0.32	Ohm/km
11	R0g	6.973	Ohm/km
12	X0g	0.74	Ohm/km
13	Tf	250	degC
14	Imax	0.192	kA
15	Isc phase (1s)	11.346	kA
16	Isc cpe (1s)	4.755	kA
17	DF	0.75	
18	Designation	3.5x120 A2XFY	
19	# Parallel Lines	2	
20	Damage curve		
21	In Service ?	True	
22	Phase nominal cross-sectional area	120.0	sq.mm.
23	Neutral cross-sectional area	0.583	xSph
24	Type	3ph	
25	CPE Conductor	Cable armour	
26	Armour material	Steel	
27	Armour nominal cross-sectional area	92.0	sq.mm.

Sl.No.	Description	Value	Unit
28	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	

X1 - Load 3ph

Sl.No.	Description	Value	Unit
1	Reference	X1	
2	Name		
3	Rated power	100.0	kVA
4	PF	0.8	
5	DF	1	
6	Inductive ?	True	
7	In Service ?	True	
8	Load Profile	Large Office - Building - Equipment	

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	
9	Load Profile	Midrise Apartment - Apartment - Equipment	

Bill of Quantities

Lines

Sl.No.	Reference	Name	Designation	Type	# Parallel Lines	Length	Imax	Derating Factor	In Service?	% Loading	% P Loss	Item Class
						km	kA			%	%	
1	W1		3.5x300 A2XFY	Under Ground	4	0.3	0.314	0.558	True	32.7	0.9	LV Cable (IEC)
2	W2	OH FEEDER	ACSR Raccoon (80)	Over Head	1	1	0.3	1	True	2.6	0.1	Line (Custom Geometry)
3	W3		3.5x120 A2XFY	Under Ground	2	0.3	0.192	0.75	True	1.9	0.1	LV Cable (IEC)
4	W4		3.5x120 A2XFY	Under Ground	2	0.3	0.174	1	True	37.9	3.2	LV Cable (IEC)
5	W5		3.5x120 A2XFY	Under Ground	2	0.05	0.192	0.75	True	45.8	0.5	LV Cable (IEC)

Loads

Sl.No.	Reference	Name	Rated power	PF	Sa	Sb	Sc	In Service?	Load Profile	Item Class
			kVA		kVA	kVA	kVA			
1	X1		100.0	0.8 lag				True	Large Office - Building - Equipment	Load 3ph
2	X2		25.0	0.8 lag	20.0+j15.0	0+j0	0+j0	True	Midrise Apartment - Apartment - Equipment	Load 1ph
3	M1		7.7735	0.85 lag				True	Midrise Apartment - Building - Elevator	Motor 3ph

Switches

Sl.No.	Reference	Type	Poles	Un	In	Closed
				kV	A	
1	Q1	MV HRC	TP	0.415	80.0	True
2	A1-Q1	LV breakers	TPN	0.415	630	True
3	A1-Q2	LV breakers	TPN	0.415	63	True
4	A1-Q3	LV breakers	TPN	0.415	63	True
5	A1-Q4	LV breakers	DP	0.415	63	True
6	A2-Q1	LV breakers	TPN	0.415	20.0	True
7	A2-K1	AC-3	TP	0.415	20.0	True

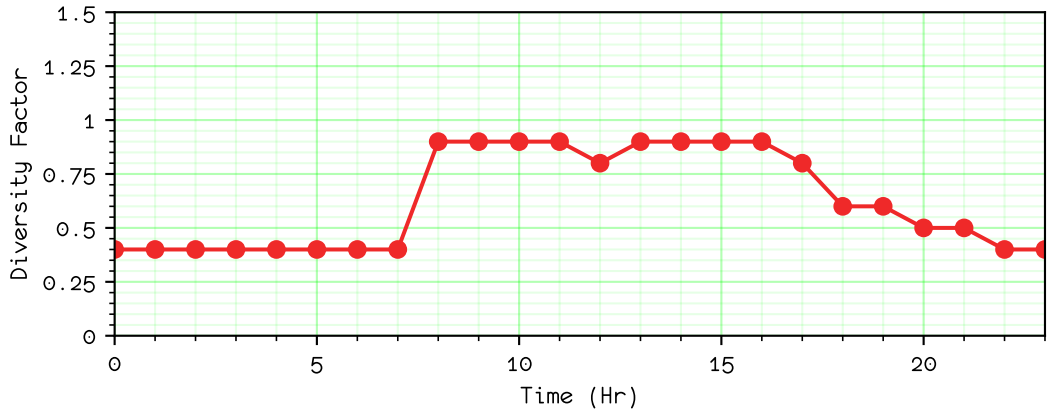
Nodes

Node ID	Vn	ΔV	Isc (sym, max)	Isc (sym, min)	Isc (L-G, max)	Isc (L-G, min)
	kV	%	kA	kA	kA	kA
1	0.415	0.97	19.5921	15.9603	20.0814	16.8972
5	0.415	2.35	11.4888	7.9599	2.0608	1.0446
2	11.0	0.07	9.2284	3.5921	5.2633	2.871
4	11.0	0.07	9.2284	3.5921	5.2633	2.871
3	11.0	0.01	26.2461	5.2515	15.7488	5.2464
10	0.415	2.35	11.4888	7.9599	2.0608	1.0446
11	0.415	2.35	11.4888	7.9599	2.0608	1.0446
12	0.415	2.46	3.9126	2.0704	0.5713	0.3118
13	0.415	2.35	11.4888	7.9599	2.0608	1.0446
6	0.415	4.66	3.8623	2.0138	0.5211	0.2552
7	0.415	5.07	3.4533	1.783	0.4632	0.2266
14	0.415	2.35	11.4888	7.9599	2.0608	1.0446
15						
8	0.415	2.46	3.9126	2.0704	0.5713	0.3118

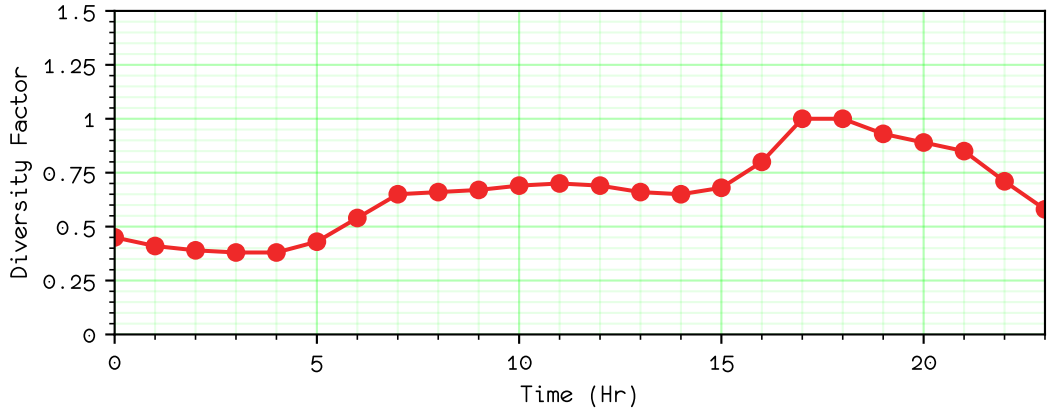
Node ID	Vn	ΔV	Isc (sym, max)	Isc (sym, min)	Isc (L-G, max)	Isc (L-G, min)
9	0.415	2.46	3.9126	2.0704	0.5713	0.3118

Load Profiles

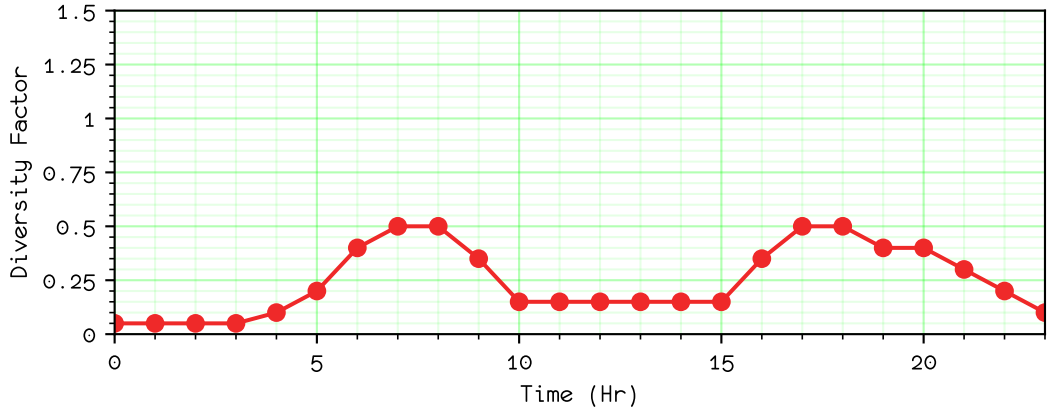
Large Office - Building - Equipment



Midrise Apartment - Apartment - Equipment



Midrise Apartment - Building - Elevator



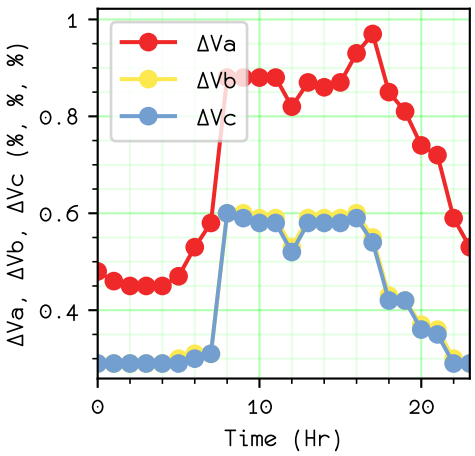
Analysis

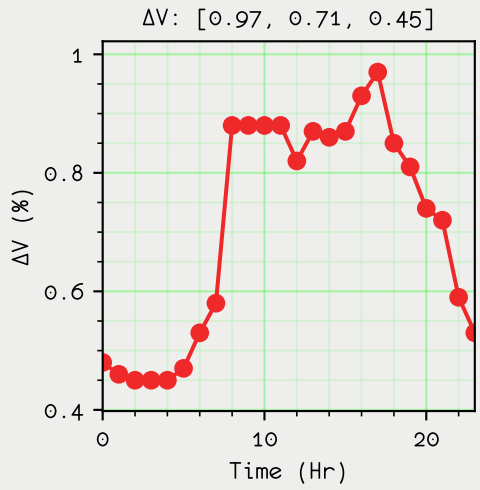
Analysis options

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	Include graphs in report	True	
8	Grid voltage tolerance	6.0	%
9	Grid Frequency	50	Hz
10	Fault resistance	0.0	Ohm
11	Fault reactance	0.0	Ohm

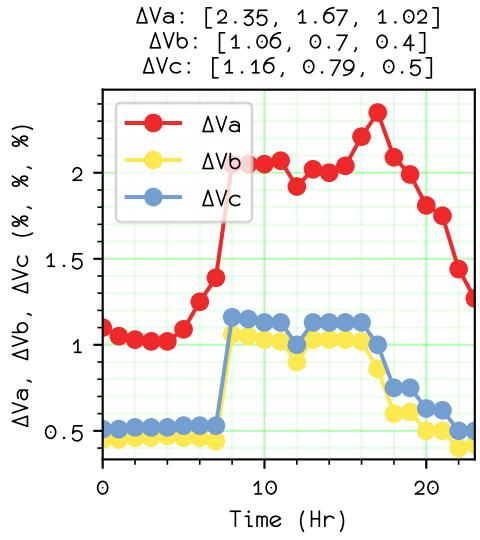
Analysis results

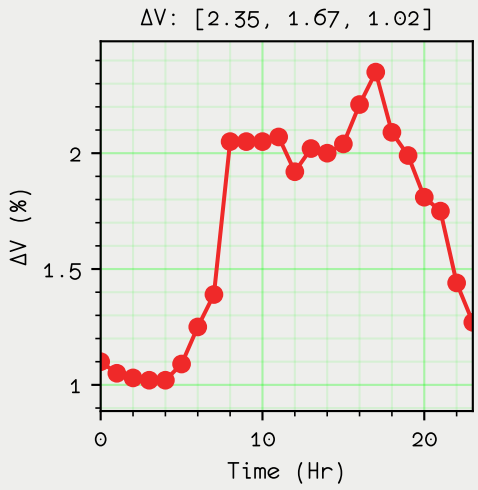
1 - Network Node

Sl.No.	Description	Value	Unit
1	Vn	0.415	kV
2	ΔVa, ΔVb, ΔVc	ΔVa: [0.97, 0.71, 0.45] ΔVb: [0.6, 0.43, 0.29] ΔVc: [0.6, 0.43, 0.29] 	%, %, %
3	ΔV		%

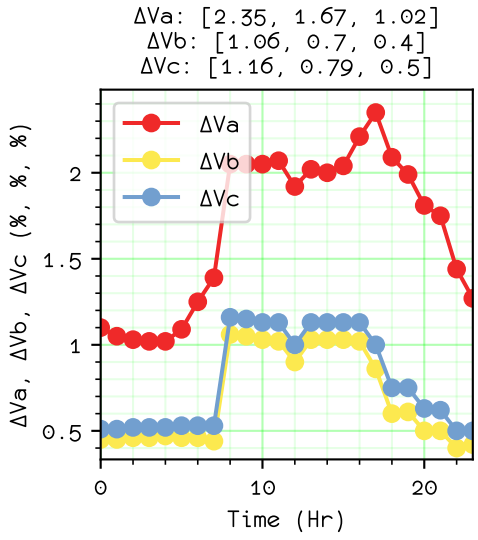
Sl.No.	Description	Value	Unit
			
4	ΔV (max)	0.97	%
5	Isc (sym, max)	19.5921	kA
6	Isc (sym, min)	15.9603	kA
7	Isc (L-G, max)	20.0814	kA
8	Isc (L-G, min)	16.8972	kA

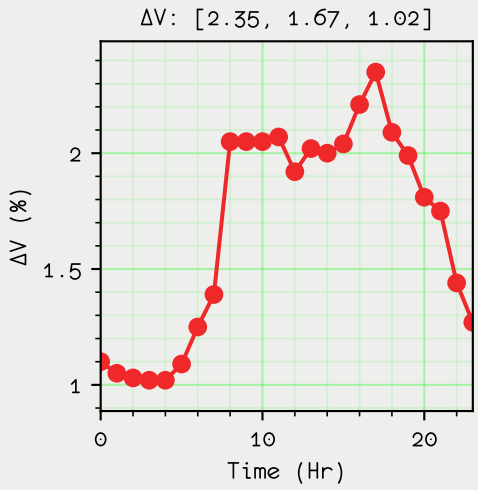
10 - Network Node

Sl.No.	Description	Value	Unit
1	Vn	0.415	kV
2	ΔVa, ΔVb, ΔVc		%, %, %
3	ΔV		%

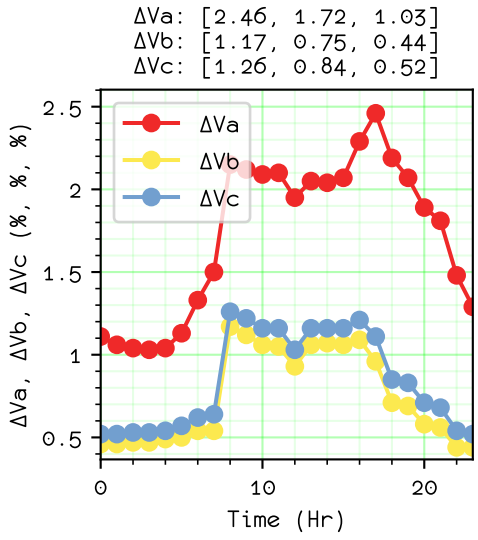
Sl.No.	Description	Value	Unit
			
4	ΔV (max)	2.35	%
5	Isc (sym, max)	11.4888	kA
6	Isc (sym, min)	7.9599	kA
7	Isc (L-G, max)	2.0608	kA
8	Isc (L-G, min)	1.0446	kA

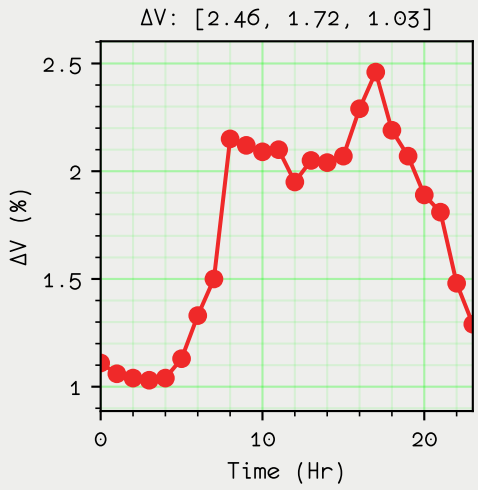
11 - Network Node

Sl.No.	Description	Value	Unit
1	Vn	0.415	kV
2	ΔVa, ΔVb, ΔVc		%, %, %
3	ΔV		%

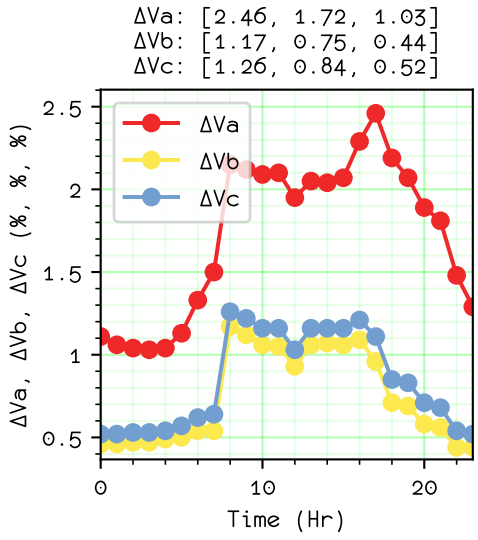
Sl.No.	Description	Value	Unit
			
4	ΔV (max)	2.35	%
5	Isc (sym, max)	11.4888	kA
6	Isc (sym, min)	7.9599	kA
7	Isc (L-G, max)	2.0608	kA
8	Isc (L-G, min)	1.0446	kA

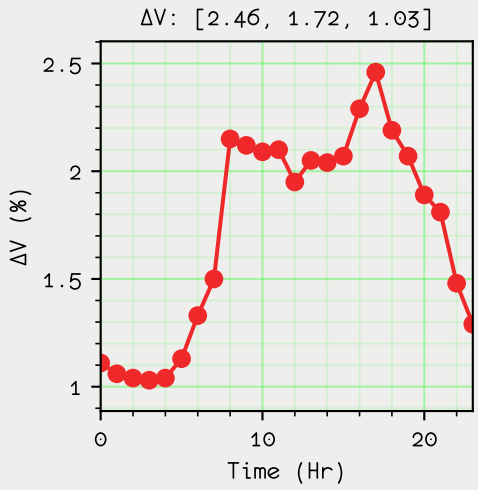
12 - Network Node

Sl.No.	Description	Value	Unit
1	Vn	0.415	kV
2	ΔVa, ΔVb, ΔVc		%, %, %
3	ΔV		%

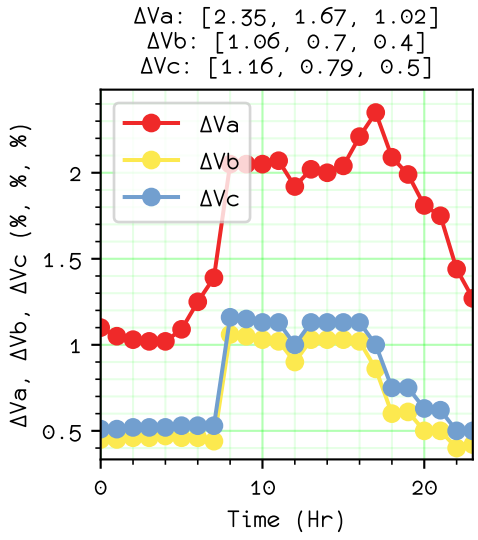
Sl.No.	Description	Value	Unit
			
4	ΔV (max)	2.46	%
5	Isc (sym, max)	3.9126	kA
6	Isc (sym, min)	2.0704	kA
7	Isc (L-G, max)	0.5713	kA
8	Isc (L-G, min)	0.3118	kA

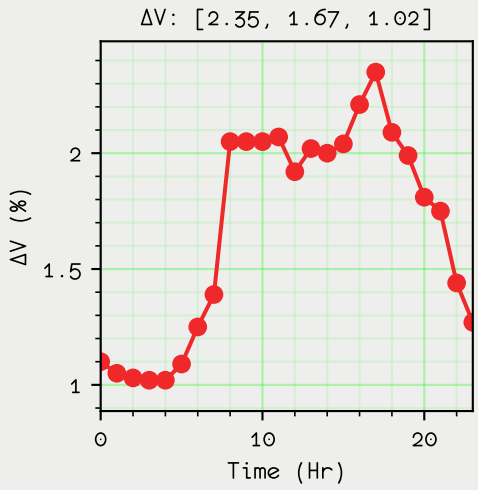
12 - Network Node

Sl.No.	Description	Value	Unit
1	Vn	0.415	kV
2	ΔVa, ΔVb, ΔVc		%, %, %
3	ΔV		%

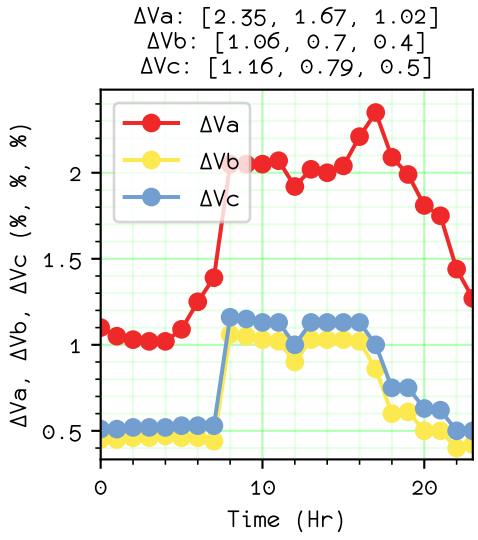
Sl.No.	Description	Value	Unit
			
4	ΔV (max)	2.46	%
5	Isc (sym, max)	3.9126	kA
6	Isc (sym, min)	2.0704	kA
7	Isc (L-G, max)	0.5713	kA
8	Isc (L-G, min)	0.3118	kA

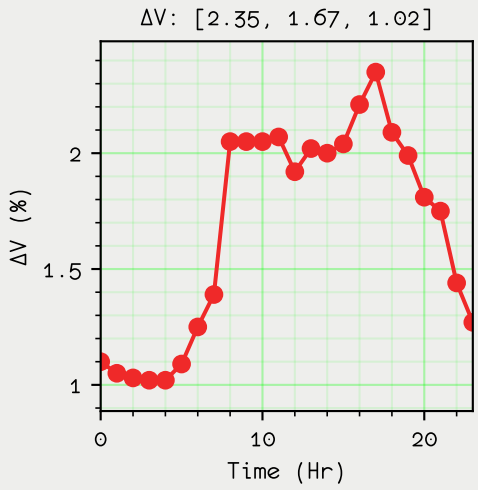
13 - Network Node

Sl.No.	Description	Value	Unit
1	Vn	0.415	kV
2	ΔVa, ΔVb, ΔVc		%, %, %
3	ΔV		%

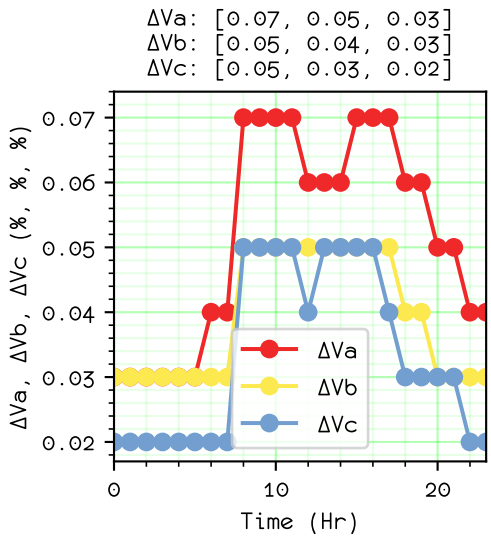
Sl.No.	Description	Value	Unit
			
4	ΔV (max)	2.35	%
5	Isc (sym, max)	11.4888	kA
6	Isc (sym, min)	7.9599	kA
7	Isc (L-G, max)	2.0608	kA
8	Isc (L-G, min)	1.0446	kA

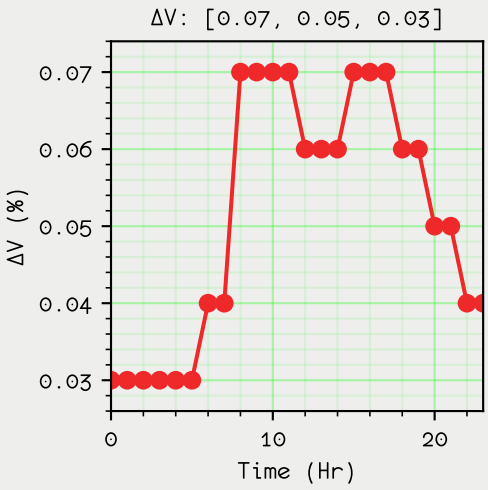
14 - Network Node

Sl.No.	Description	Value	Unit
1	Vn	0.415	kV
2	ΔVa, ΔVb, ΔVc		%, %, %
3	ΔV		%

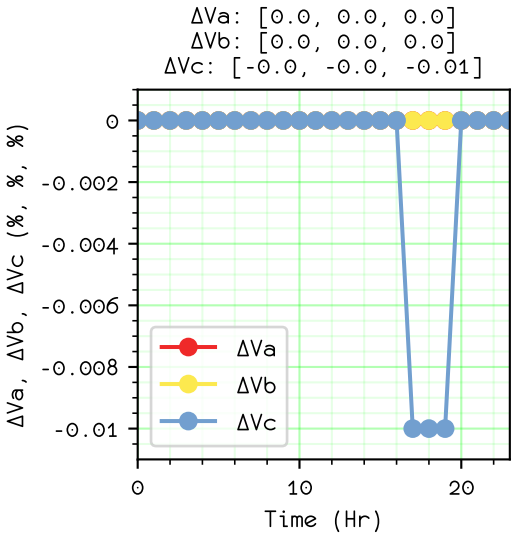
Sl.No.	Description	Value	Unit
			
4	ΔV (max)	2.35	%
5	Isc (sym, max)	11.4888	kA
6	Isc (sym, min)	7.9599	kA
7	Isc (L-G, max)	2.0608	kA
8	Isc (L-G, min)	1.0446	kA

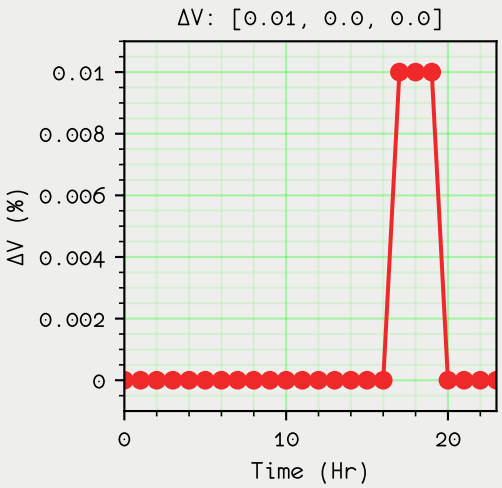
2 - Network Node

Sl.No.	Description	Value	Unit
1	Vn	11.0	kV
2	ΔVa, ΔVb, ΔVc		%, %, %
3	ΔV		%

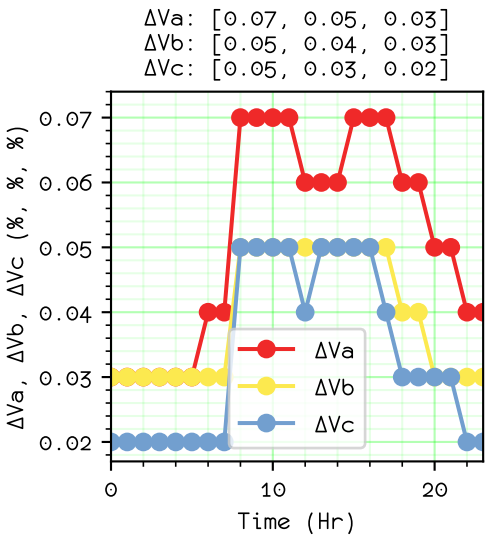
Sl.No.	Description	Value	Unit
			
4	ΔV (max)	0.07	%
5	Isc (sym, max)	9.2284	kA
6	Isc (sym, min)	3.5921	kA
7	Isc (L-G, max)	5.2633	kA
8	Isc (L-G, min)	2.871	kA

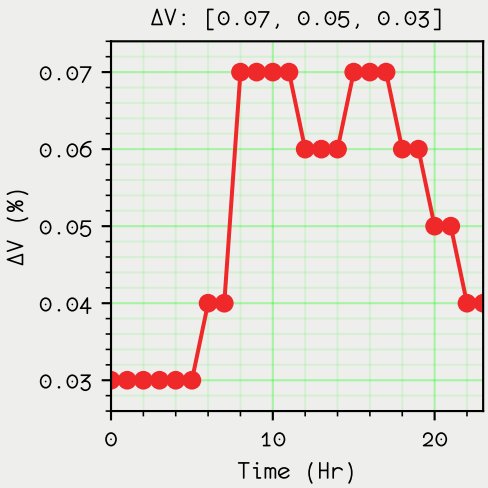
3 - Network Node

Sl.No.	Description	Value	Unit
1	Vn	11.0	kV
2	ΔVa, ΔVb, ΔVc		%, %, %
3	ΔV		%

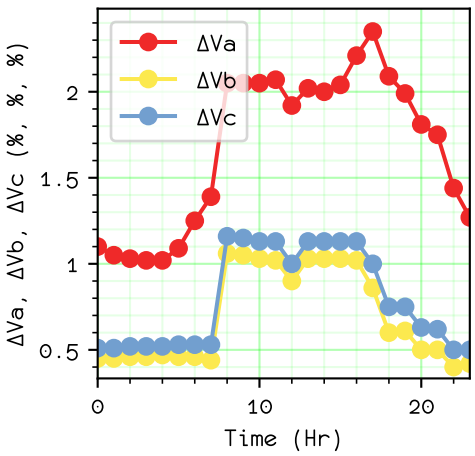
Sl.No.	Description	Value	Unit
			
4	ΔV (max)	0.01	%
5	Isc (sym, max)	26.2461	kA
6	Isc (sym, min)	5.2515	kA
7	Isc (L-G, max)	15.7488	kA
8	Isc (L-G, min)	5.2464	kA

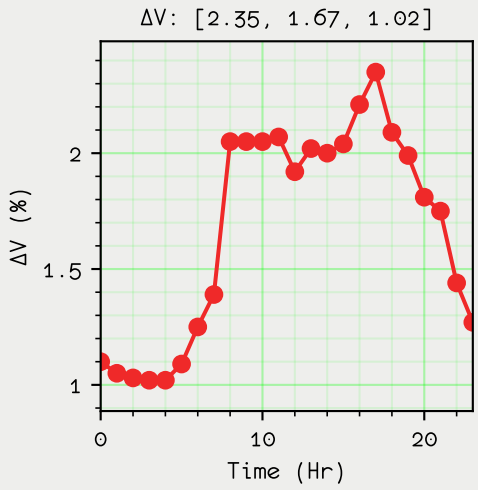
4 - Network Node

Sl.No.	Description	Value	Unit
1	Vn	11.0	kV
2	ΔVa, ΔVb, ΔVc		%, %, %
3	ΔV		%

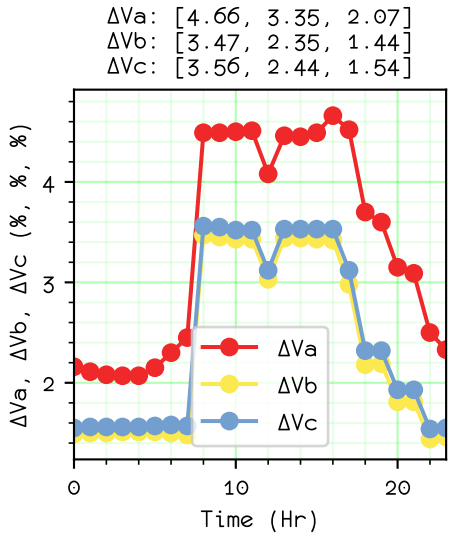
Sl.No.	Description	Value	Unit
		ΔV: [0.07, 0.05, 0.03] 	
4	ΔV (max)	0.07	%
5	Isc (sym, max)	9.2284	kA
6	Isc (sym, min)	3.5921	kA
7	Isc (L-G, max)	5.2633	kA
8	Isc (L-G, min)	2.871	kA

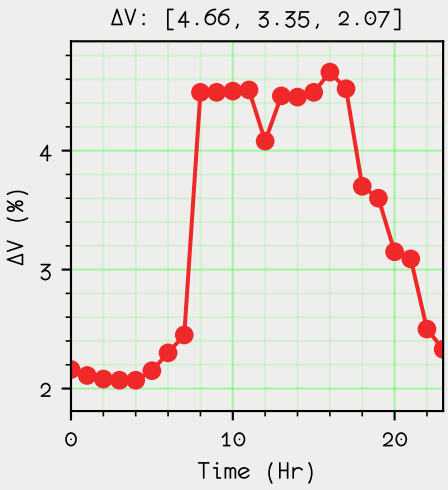
5 - Network Node

Sl.No.	Description	Value	Unit
1	Vn	0.415	kV
2	ΔVa, ΔVb, ΔVc	ΔVa: [2.35, 1.67, 1.02] ΔVb: [1.06, 0.7, 0.4] ΔVc: [1.16, 0.79, 0.5] 	%, %, %
3	ΔV		%

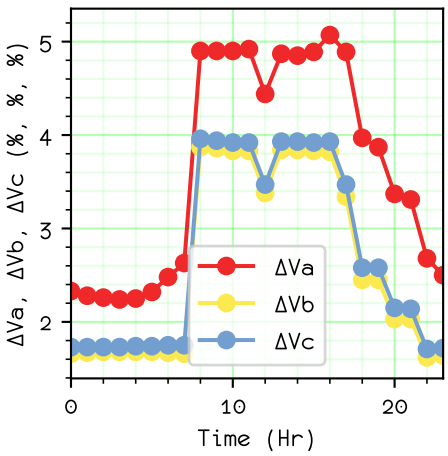
Sl.No.	Description	Value	Unit
			
4	ΔV (max)	2.35	%
5	Isc (sym, max)	11.4888	kA
6	Isc (sym, min)	7.9599	kA
7	Isc (L-G, max)	2.0608	kA
8	Isc (L-G, min)	1.0446	kA

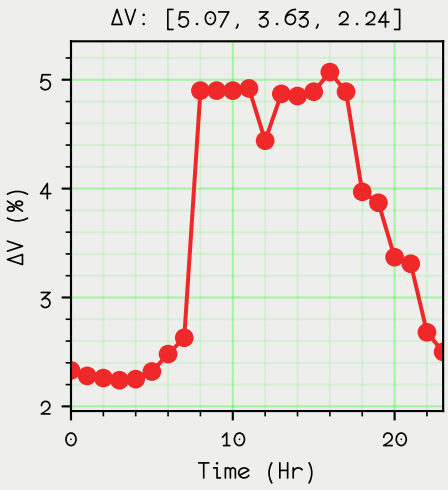
6 - Network Node

Sl.No.	Description	Value	Unit
1	Vn	0.415	kV
2	ΔVa, ΔVb, ΔVc		%, %, %
3	ΔV		%

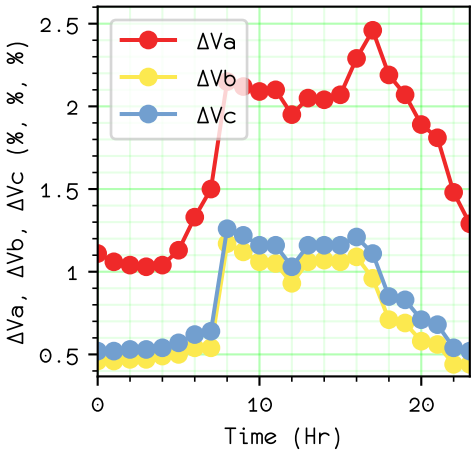
Sl.No.	Description	Value	Unit
		ΔV: [4.66, 3.35, 2.07] 	
4	ΔV (max)	4.66	%
5	Isc (sym, max)	3.8623	kA
6	Isc (sym, min)	2.0138	kA
7	Isc (L-G, max)	0.5211	kA
8	Isc (L-G, min)	0.2552	kA

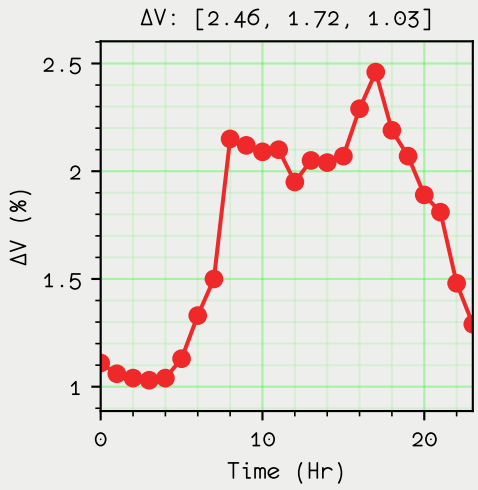
7 - Network Node

Sl.No.	Description	Value	Unit
1	Vn	0.415	kV
2	ΔVa, ΔVb, ΔVc	ΔVa: [5.07, 3.63, 2.24] ΔVb: [3.87, 2.63, 1.62] ΔVc: [3.96, 2.72, 1.71] 	%, %, %
3	ΔV		%

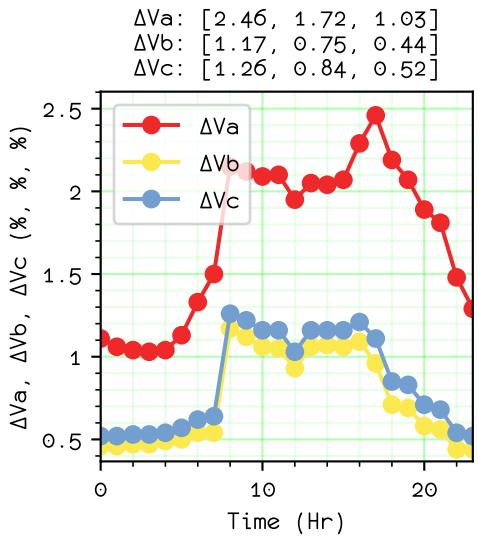
Sl.No.	Description	Value	Unit
		ΔV: [5.07, 3.63, 2.24] 	
4	ΔV (max)	5.07	%
5	Isc (sym, max)	3.4533	kA
6	Isc (sym, min)	1.783	kA
7	Isc (L-G, max)	0.4632	kA
8	Isc (L-G, min)	0.2266	kA

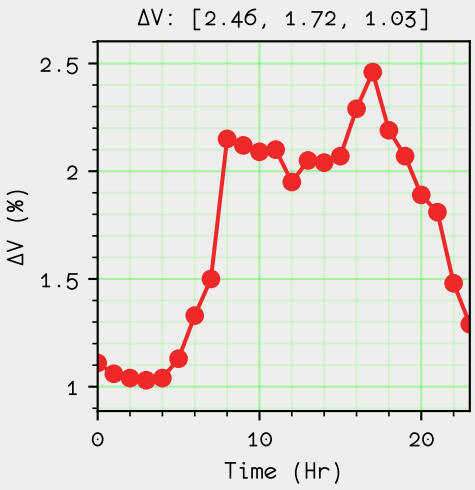
8 - Network Node

Sl.No.	Description	Value	Unit
1	Vn	0.415	kV
2	ΔVa, ΔVb, ΔVc	ΔVa: [2.46, 1.72, 1.03] ΔVb: [1.17, 0.75, 0.44] ΔVc: [1.26, 0.84, 0.52] 	%, %, %
3	ΔV		%

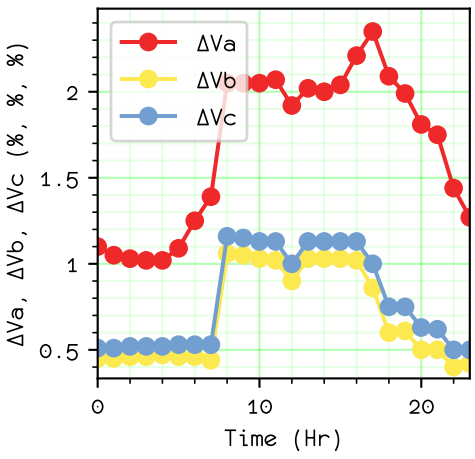
Sl.No.	Description	Value	Unit
			
4	ΔV (max)	2.46	%
5	Isc (sym, max)	3.9126	kA
6	Isc (sym, min)	2.0704	kA
7	Isc (L-G, max)	0.5713	kA
8	Isc (L-G, min)	0.3118	kA

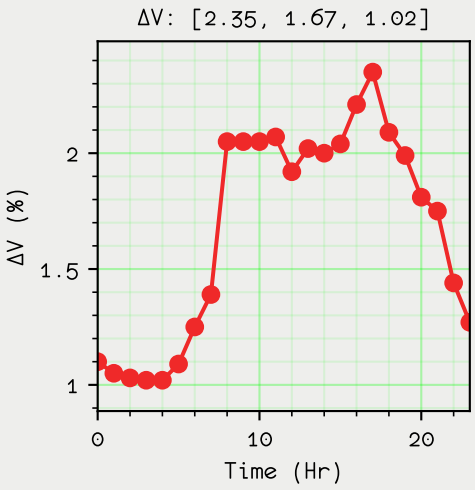
9 - Network Node

Sl.No.	Description	Value	Unit
1	Vn	0.415	kV
2	ΔVa, ΔVb, ΔVc		%, %, %
3	ΔV		%

Sl.No.	Description	Value	Unit
		ΔV: [2.46, 1.72, 1.03] 	
4	ΔV (max)	2.46	%
5	Isc (sym, max)	3.9126	kA
6	Isc (sym, min)	2.0704	kA
7	Isc (L-G, max)	0.5713	kA
8	Isc (L-G, min)	0.3118	kA

A1-B1 - Bus Bar

Sl.No.	Description	Value	Unit
1	Vn	0.415	kV
2	ΔVa, ΔVb, ΔVc	ΔVa: [2.35, 1.67, 1.02] ΔVb: [1.06, 0.7, 0.4] ΔVc: [1.16, 0.79, 0.5] 	%, %, %
3	ΔV		%

Sl.No.	Description	Value	Unit
			
4	ΔV (max)	2.35	%
5	Isc (sym, max)	11.4888	kA
6	Isc (sym, min)	7.9599	kA
7	Isc (L-G, max)	2.0608	kA
8	Isc (L-G, min)	1.0446	kA

A1-Q1 - Circuit Breaker

Sl.No.	Description	Value	Unit
1	Vn	0.415	kV

A1-Q2 - Circuit Breaker

Sl.No.	Description	Value	Unit
1	Vn	0.415	kV

A1-Q3 - Circuit Breaker

Sl.No.	Description	Value	Unit
1	Vn	0.415	kV

A1-Q4 - Circuit Breaker

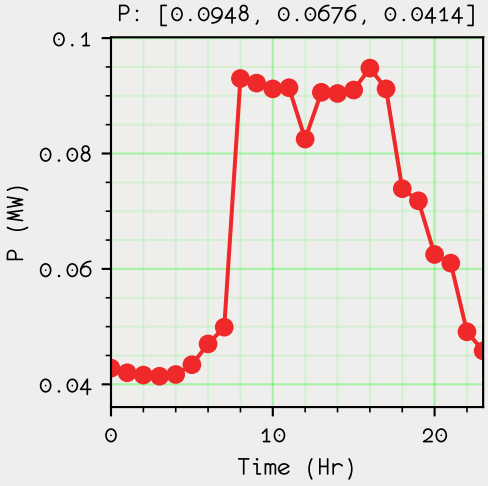
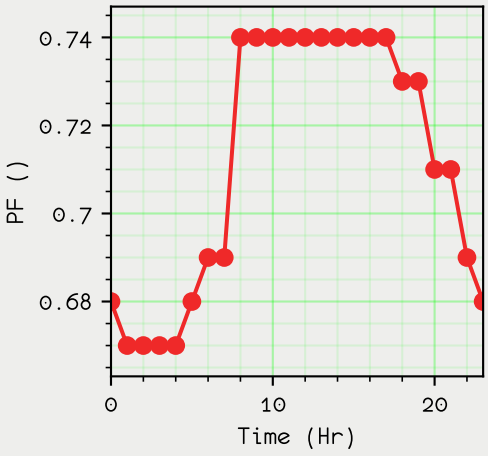
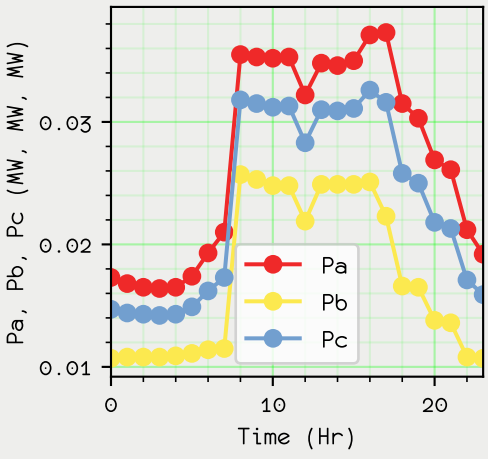
Sl.No.	Description	Value	Unit
1	Vn	0.415	kV

A2-Q1 - Circuit Breaker

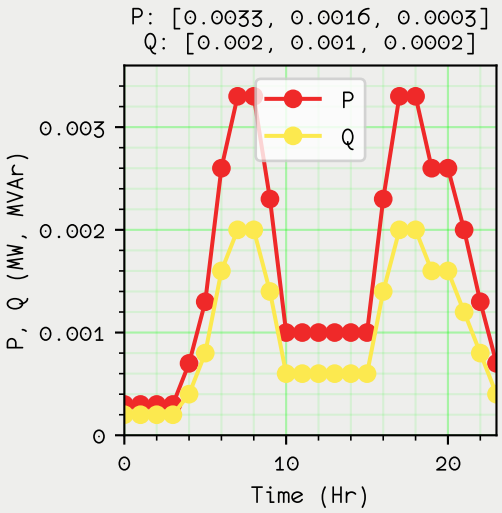
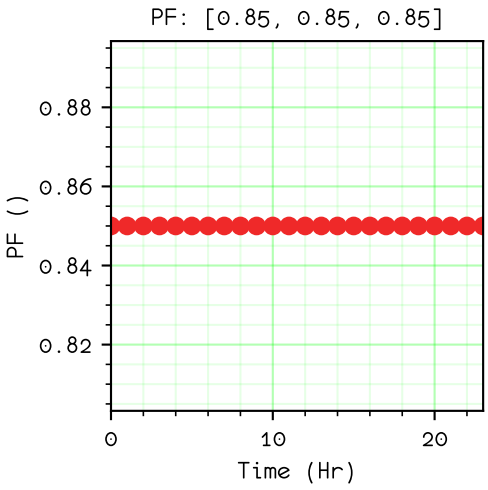
Sl.No.	Description	Value	Unit
1	Vn	0.415	kV

G1 - External Grid

Sl.No.	Description	Value	Unit
1	P		MW

Sl.No.	Description	Value	Unit
		P: [0.0948, 0.0676, 0.0414] 	
2	P (max)	0.0948	MW
3	PF	PF: [0.74, 0.71, 0.67] 	
4	PF (min)	0.67	
5	Pa, Pb, Pc	Pa: [0.0373, 0.027, 0.0164] Pb: [0.0257, 0.0173, 0.0107] Pc: [0.0326, 0.0233, 0.0142] 	MW, MW, MW

M1 - Motor 3ph

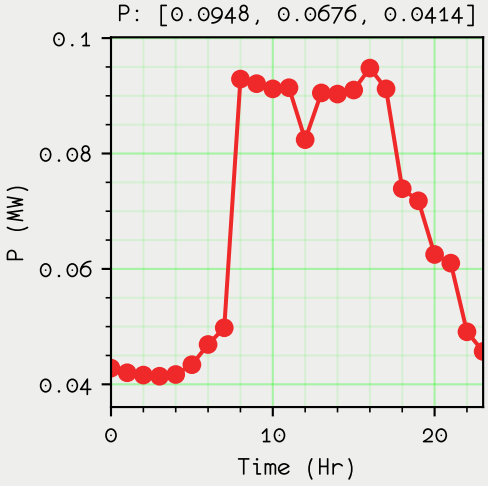
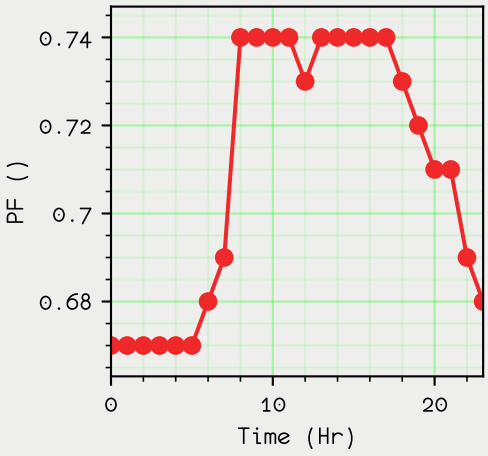
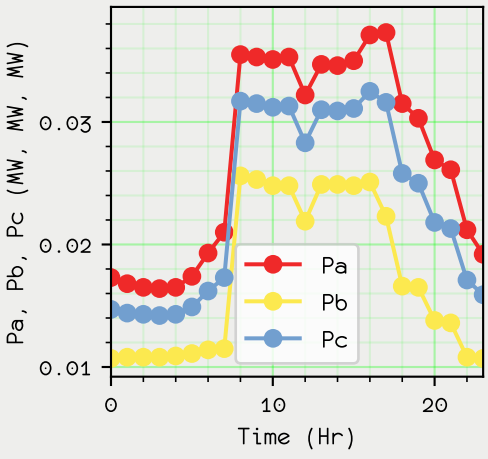
Sl.No.	Description	Value	Unit
1	P, Q		MW, MVAr
2	PF		
3	Vn	0.415	kV

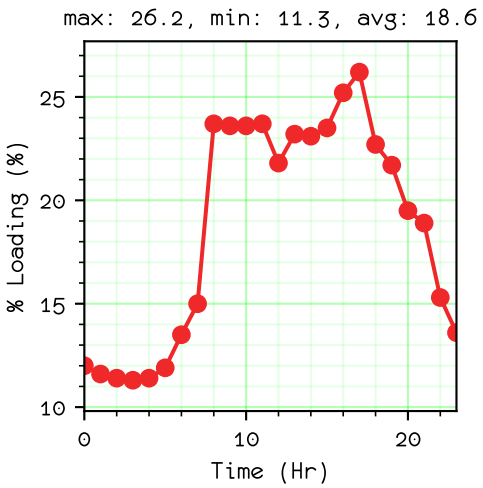
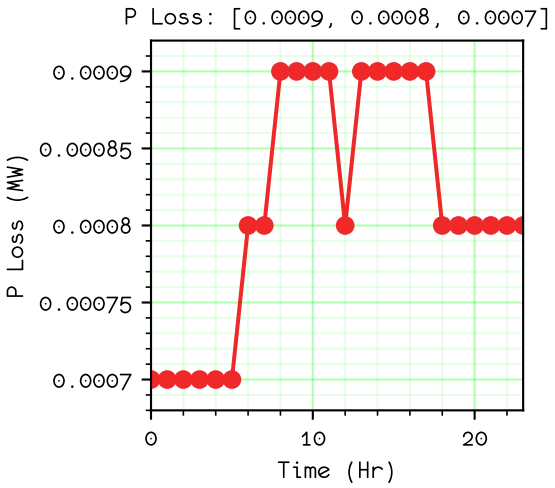
Q1 - Fuse

Sl.No.	Description	Value	Unit
1	Vn	11.0	kV

T1 - Transformer

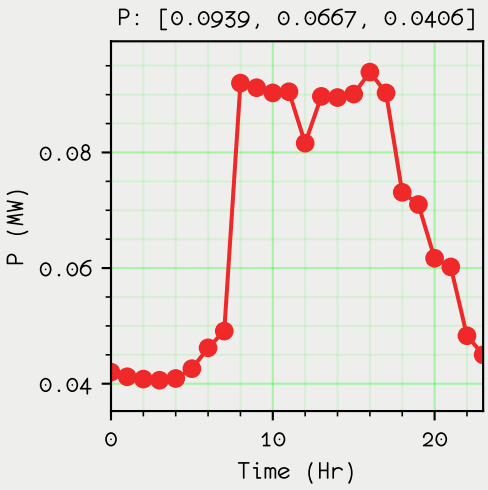
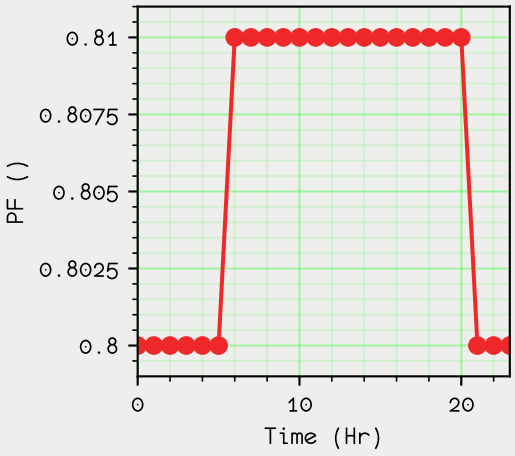
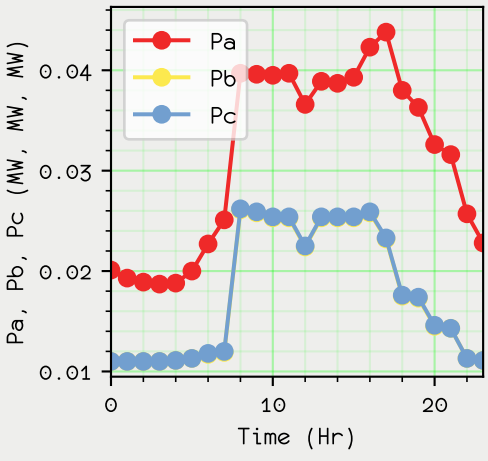
Sl.No.	Description	Value	Unit
1	P		MW

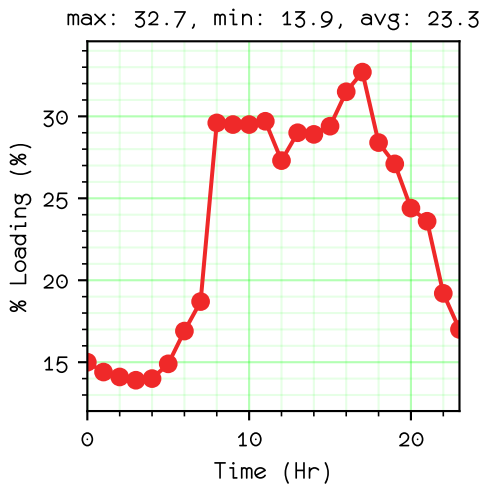
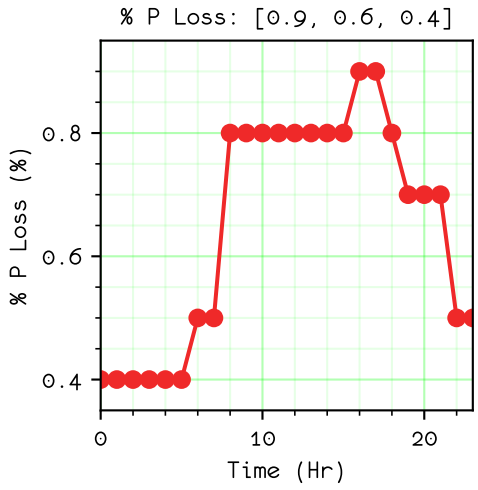
Sl.No.	Description	Value	Unit
		P: [0.0948, 0.0676, 0.0414] 	
2	P (max)	0.0948	MW
3	PF	PF: [0.74, 0.71, 0.67] 	
4	PF (min)	0.67	
5	Pa, Pb, Pc	Pa: [0.0373, 0.027, 0.0164] Pb: [0.0256, 0.0173, 0.0107] Pc: [0.0325, 0.0233, 0.0142] 	MW, MW, MW
6	% Loading		%

Sl.No.	Description	Value	Unit
			
7	% Loading (max)	26.2	%
8	P Loss		MW
9	P Loss (max)	0.0009	MW

W1 - LV Cable (IEC)

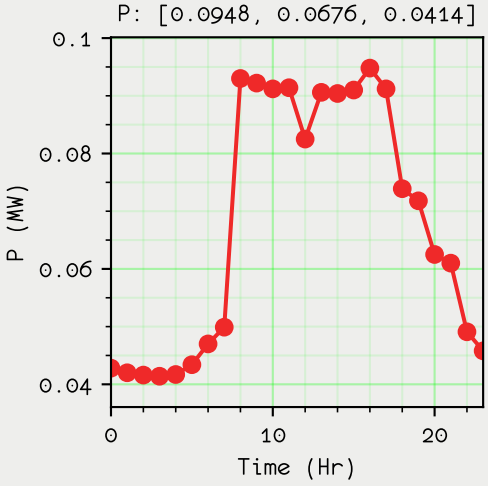
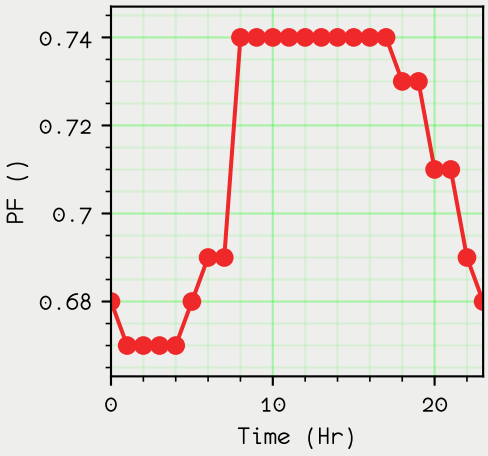
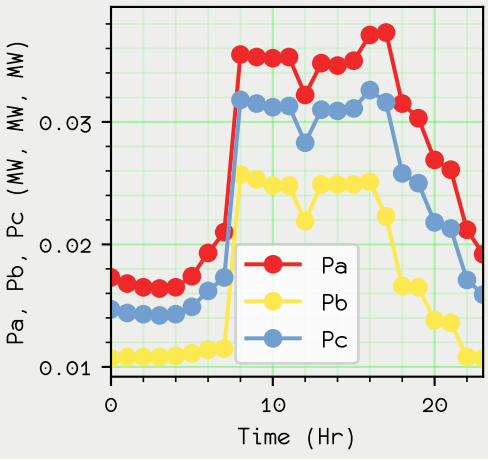
Sl.No.	Description	Value	Unit
1	P		MW

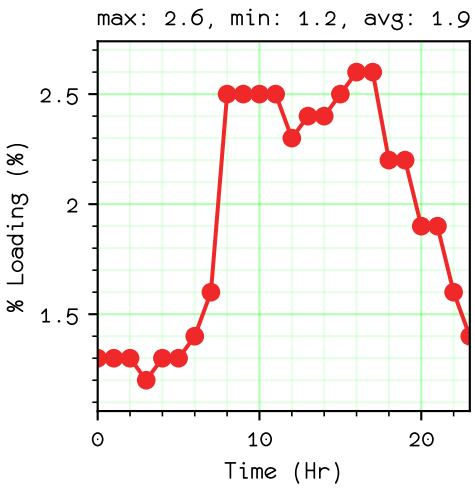
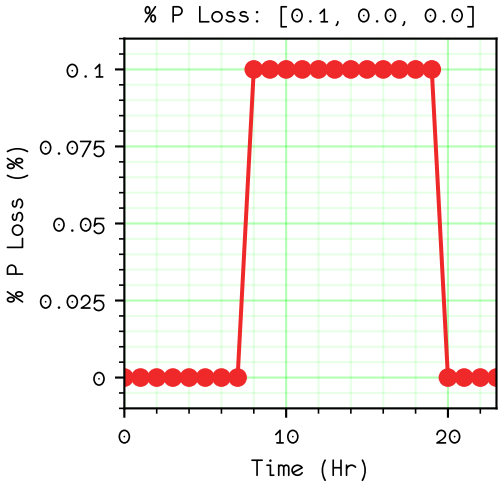
Sl.No.	Description	Value	Unit
		P: [0.0939, 0.0667, 0.0406] 	
2	P (max)	0.0939	MW
3	PF	PF: [0.81, 0.81, 0.8] 	
4	PF (min)	0.8	
5	Pa, Pb, Pc	Pa: [0.0438, 0.0312, 0.0187] Pb: [0.0261, 0.0177, 0.011] Pc: [0.0262, 0.0178, 0.011] 	MW, MW, MW
6	% Loading		%

Sl.No.	Description	Value	Unit
			
7	% Loading (max)	32.7	%
8	% P Loss		%
9	% P Loss (max)	0.9	%
10	Vn	0.415	kV

W2 - Line (Custom Geometry)

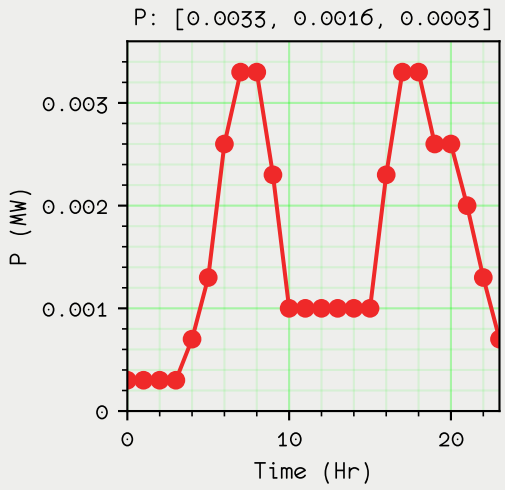
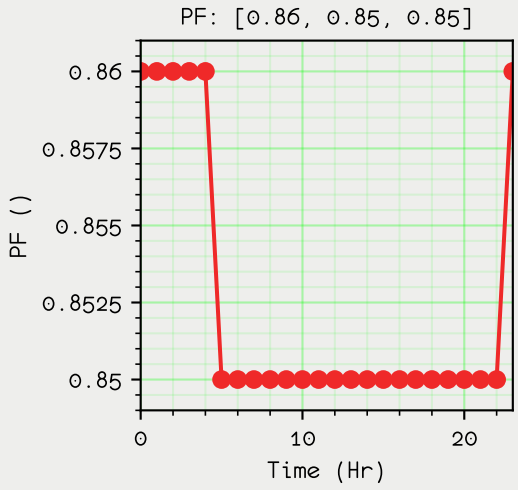
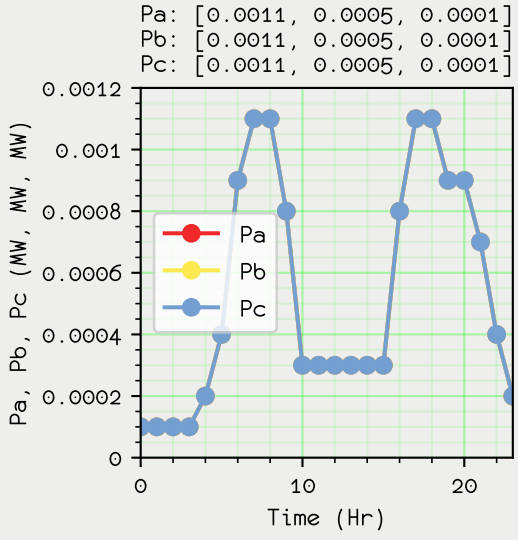
Sl.No.	Description	Value	Unit
1	P		MW

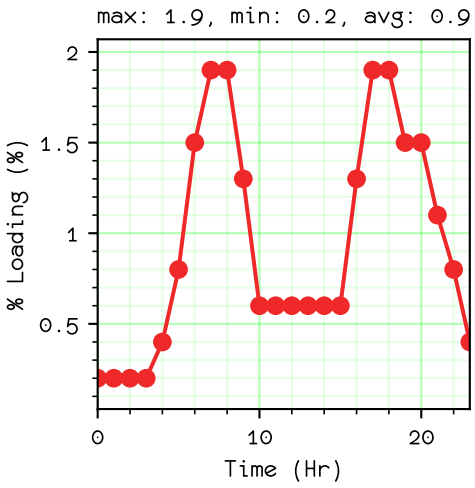
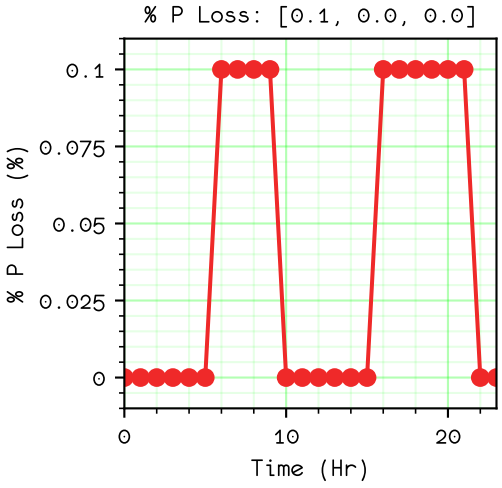
Sl.No.	Description	Value	Unit
		P: [0.0948, 0.0676, 0.0414] 	
2	P (max)	0.0948	MW
3	PF	PF: [0.74, 0.71, 0.67] 	
4	PF (min)	0.67	
5	Pa, Pb, Pc	Pa: [0.0373, 0.027, 0.0164] Pb: [0.0257, 0.0173, 0.0107] Pc: [0.0326, 0.0233, 0.0142] 	MW, MW, MW
6	% Loading		%

Sl.No.	Description	Value	Unit
			
7	% Loading (max)	2.6	%
8	% P Loss		%
9	% P Loss (max)	0.1	%
10	Vn	11.0	kV

W3 - LV Cable (IEC)

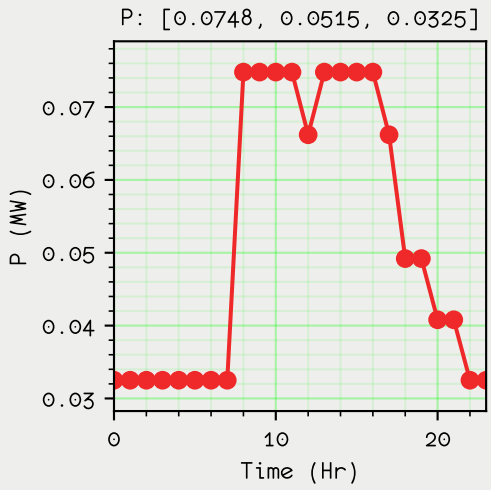
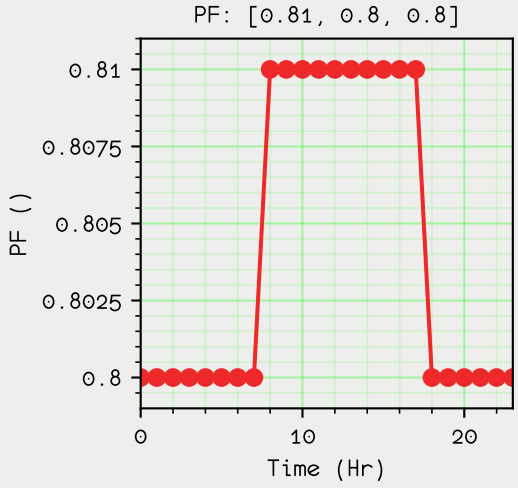
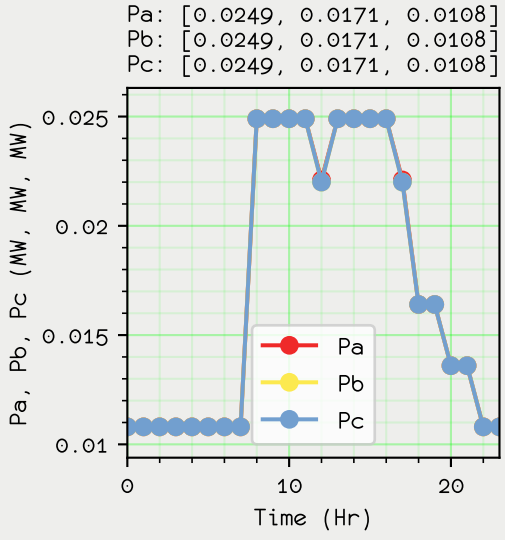
Sl.No.	Description	Value	Unit
1	P		MW

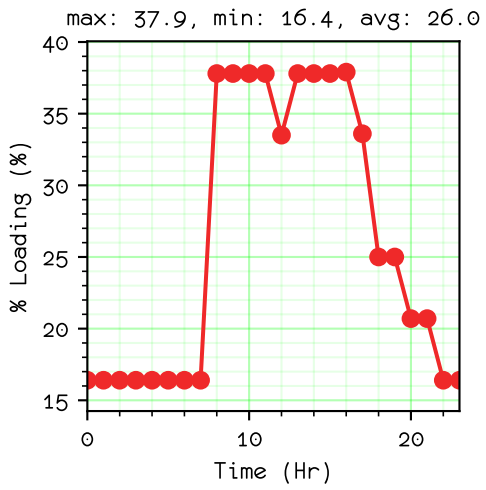
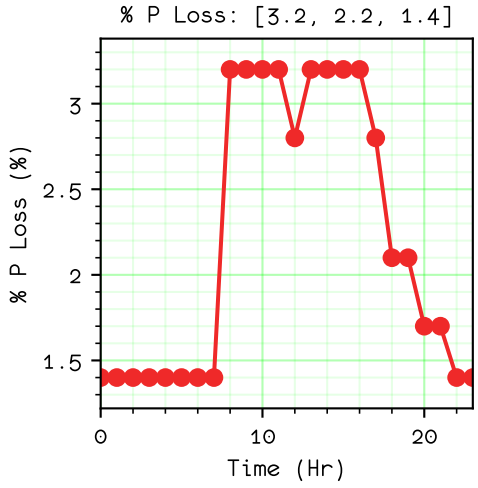
Sl.No.	Description	Value	Unit
			
2	P (max)	0.0033	MW
3	PF		
4	PF (min)	0.85	
5	Pa, Pb, Pc		MW, MW, MW
6	% Loading		%

Sl.No.	Description	Value	Unit
			
7	% Loading (max)	1.9	%
8	% P Loss		%
9	% P Loss (max)	0.1	%
10	Vn	0.415	kV

W4 - LV Cable (IEC)

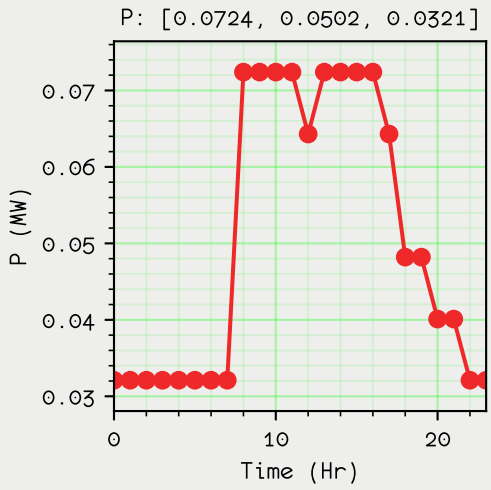
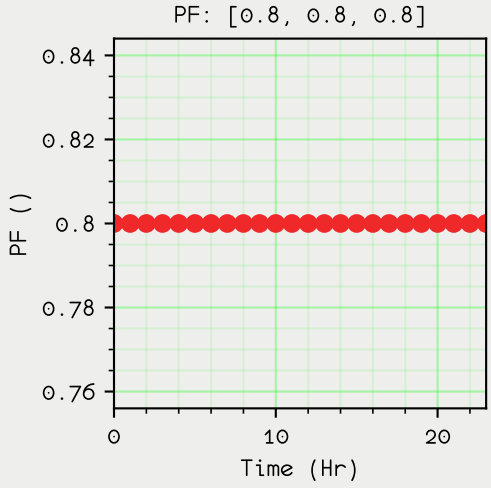
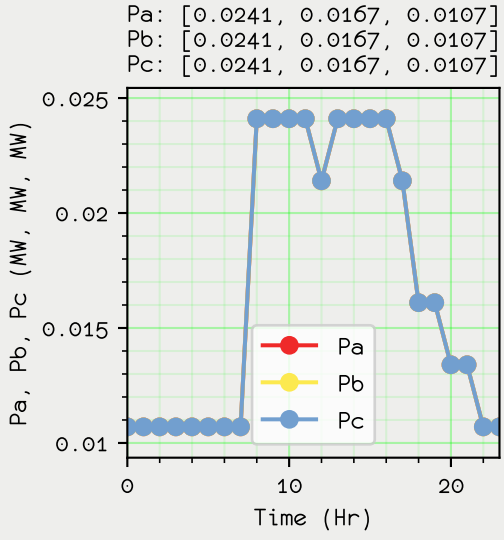
Sl.No.	Description	Value	Unit
1	P		MW

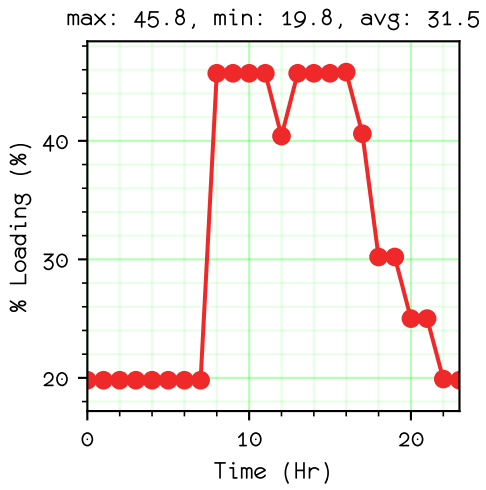
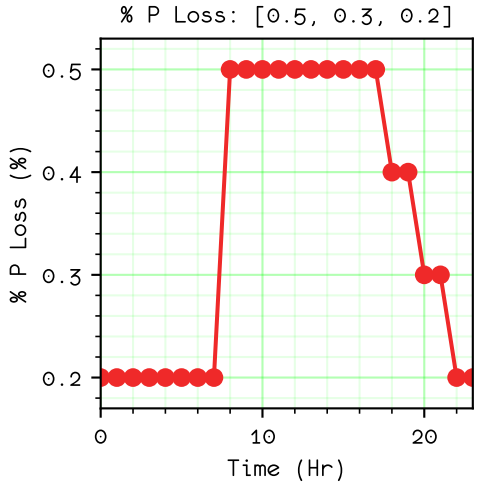
Sl.No.	Description	Value	Unit
			
2	P (max)	0.0748	MW
3	PF		
4	PF (min)	0.8	
5	Pa, Pb, Pc		MW, MW, MW
6	% Loading		%

Sl.No.	Description	Value	Unit
			
7	% Loading (max)	37.9	%
8	% P Loss		%
9	% P Loss (max)	3.2	%
10	Vn	0.415	kV

W5 - LV Cable (IEC)

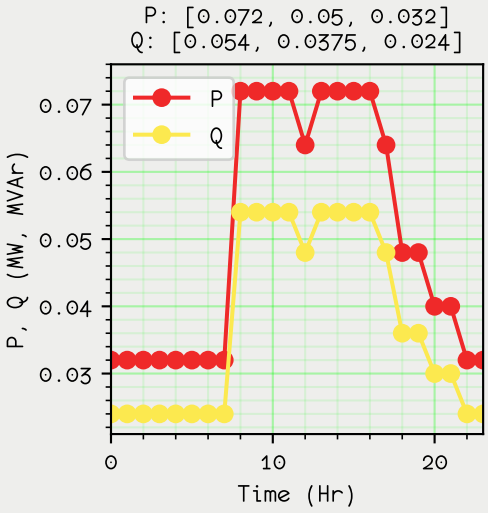
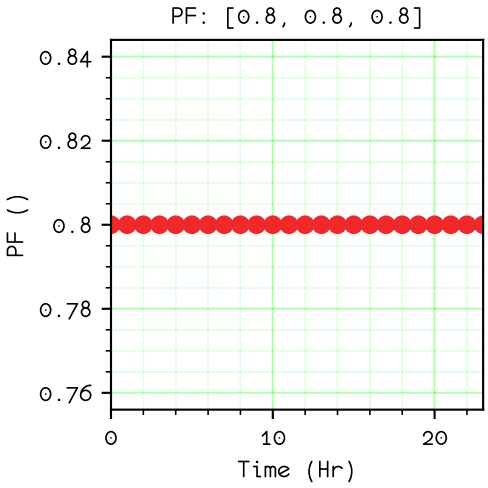
Sl.No.	Description	Value	Unit
1	P		MW

Sl.No.	Description	Value	Unit
			
2	P (max)	0.0724	MW
3	PF		
4	PF (min)	0.8	
5	Pa, Pb, Pc		MW, MW, MW
6	% Loading		%

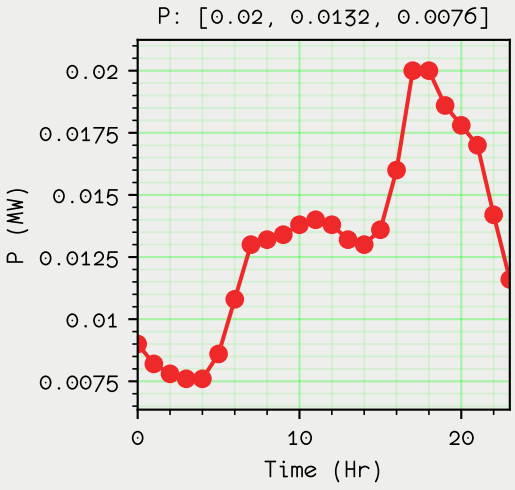
Sl.No.	Description	Value	Unit
			
7	% Loading (max)	45.8	%
8	% P Loss		%
9	% P Loss (max)	0.5	%
10	Vn	0.415	kV

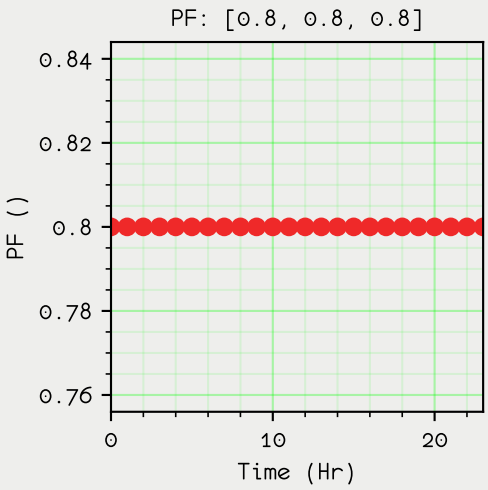
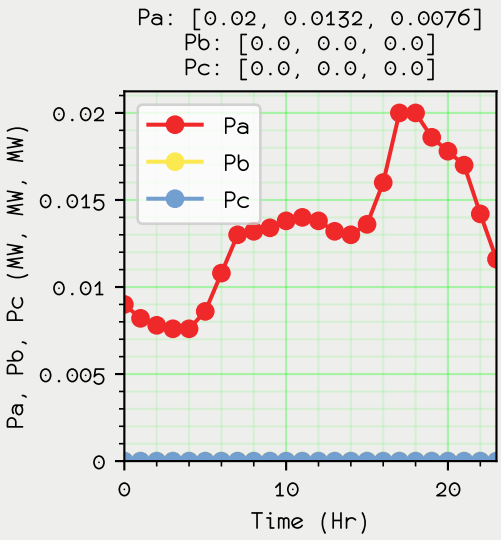
X1 - Load 3ph

Sl.No.	Description	Value	Unit
1	P, Q		MW, MVAr

Sl.No.	Description	Value	Unit
			
2	PF		

X2 - Load 1ph

Sl.No.	Description	Value	Unit
1	P		MW

Sl.No.	Description	Value	Unit
2	P (max)	0.02	MW
3	PF		
4	PF (min)	0.8	
5	Pa, Pb, Pc		MW, MW, MW