LSPS Susol Design Report

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· Versior

1. Introduction

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1. Ik": initial symmetrical short-circuit current
   r.m.s. value of the a.c. symmetrical component of a prospective (available) short-circuit current

2. Ip: peak short-circuit current
   maximum possible instantaneous value of the prospective (available) short-circuit current

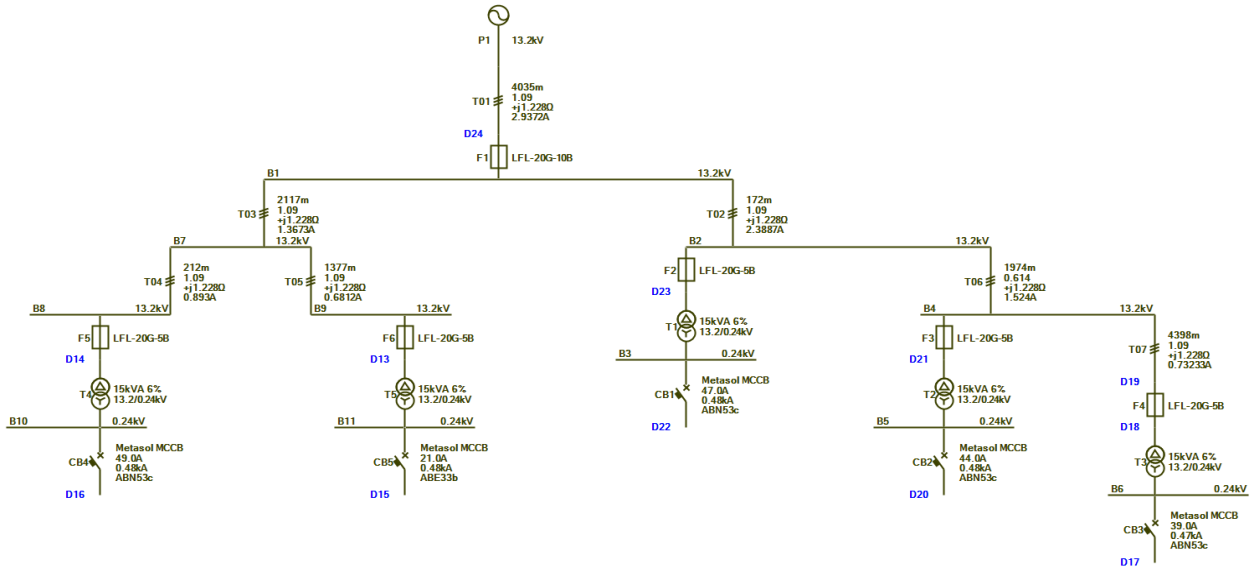
3. Ibsym: Symmetrical short-circuit breaking current

4. Ibasym: Asymmetrical short-circuit breaking current

5. Ik: Steady-state short-circuit current

6. Id.c: decaying component of short-circuit current

2. Configuration



LSIS LSPS Susol Design

3. System summary

System Information

- Base kVA : 100000 kVA
- Systemp Hz : 60 Hz
- Fault impedance: 0 Ω

Utility bus	Total No.	:	1	EA
	Min. SC curre	:	1	MVA
	Max. SC curr	:	1	MVA
Generator	Total No.	:	0	EA
	Effective cap	:	0	kVA
	Total capacit	:	0	kVA
Transformer	Total No.	:	5	EA
	Total capacit	:	75	kVA
Cable	3ϕ cable len	:	14285.0(	m
	1ϕ cable len	:	0.00	m
	Total length	:	14285.0(	m
Motor	Total No.	:	0	EA
	Min. capacity	:	-	kW
	Max. capacity	:	-	kW
	Total capacit	:	0	kW
Fuse	Total No.	:	6	EA
	Min. current	:	5	A
	Max. current	:	10	A
Relay	Total No.	:	0	EA
Load	Total No.	:	0	EA
Switches	Total No.	:	5	EA
LBS	Total No.	:	0	EA
ATLS	Total No.	:	0	EA
Capacitors	Total No.	:	0	EA
Reactor	Total No.	:	0	EA

PV	Total No.	:	0	EA
	Effective cap.	:	0	kVA
	Total capacit	:	0	kVA
WIND	Total No.	:	0	EA
	Effective cap.	:	0	kVA
	Total capacit	:	0	kVA
BESS	Total No.	:	0	EA
	Effective cap.	:	0	kVA
	Total capacit	:	0	kVA

Circuit breaker selection of low voltage

Name	CB Name	CB Type	AF (A)	Inmax (A)	Icu (kA)	Rating Current	Continuous Rated Curre	Long Delay I_long	Long Delay T_long	Short Delay I_m	Short Delay T_m	Instanta I_t
CB1	ABN53c	Metasol MCCB Thermal(Fixed)	50	50	30							
CB2	ABN53c	Metasol MCCB Thermal(Fixed)	50	50	30							
CB3	ABN53c	Metasol MCCB Thermal(Fixed)	50	40	30							
CB4	ABN53c	Metasol MCCB Thermal(Fixed)	50	50	30							
CB5	ABE33b	Metasol MCCB Thermal(Fixed)	30	30	5							

Fuse selection

Name	Standard	Inmax(A)	Fuse Name
F1	DIN	10	LFL-20G-10B
F2	DIN	5	LFL-20G-5B
F3	DIN	5	LFL-20G-5B
F4	DIN	5	LFL-20G-5B
F5	DIN	5	LFL-20G-5B
F6	DIN	5	LFL-20G-5B

11. Short-circuit currents of each bus

Three Phase Fault

Fault bus	Phase	I(p)	1/2cycles				3cycles				5cycles				Steady State	
			X/R	I"(k)	I(dc)	I(asym)	X/R	I(break)	I(dc)	I(asym)	X/R	I(break)	I(dc)	I(asym)	X/R	I(ste
D24	-	117	8.20	42	40	58										
D23	-	116	8.14	42	40	58										
D22	-	1217	5.55	478	383	613										
D21	-	114	7.82	41	39	57										
D20	-	1213	5.52	476	381	610										
D19	-	108	6.67	40	35	53										
D18	-	108	6.67	40	35	53										
D17	-	1205	5.39	473	373	603										
D16	-	1213	5.48	476	379	609										
D15	-	1210	5.45	475	377	607										
D14	-	113	7.46	41	38	56										
D13	-	111	7.15	41	37	55										
P1	-	123	10.00	43	45	62										
B1	-	117	8.20	42	40	58										
B2	-	116	8.14	42	40	58										
B3	-	1217	5.55	478	383	613										
B4	-	114	7.82	41	39	57										
B5	-	1213	5.52	476	381	610										
B6	-	1205	5.39	473	373	603										
B7	-	113	7.53	41	38	57										
B8	-	113	7.46	41	38	56										
B9	-	111	7.15	41	37	55										
B10	-	1213	5.48	476	379	609										
B11	-	1210	5.45	475	377	607										