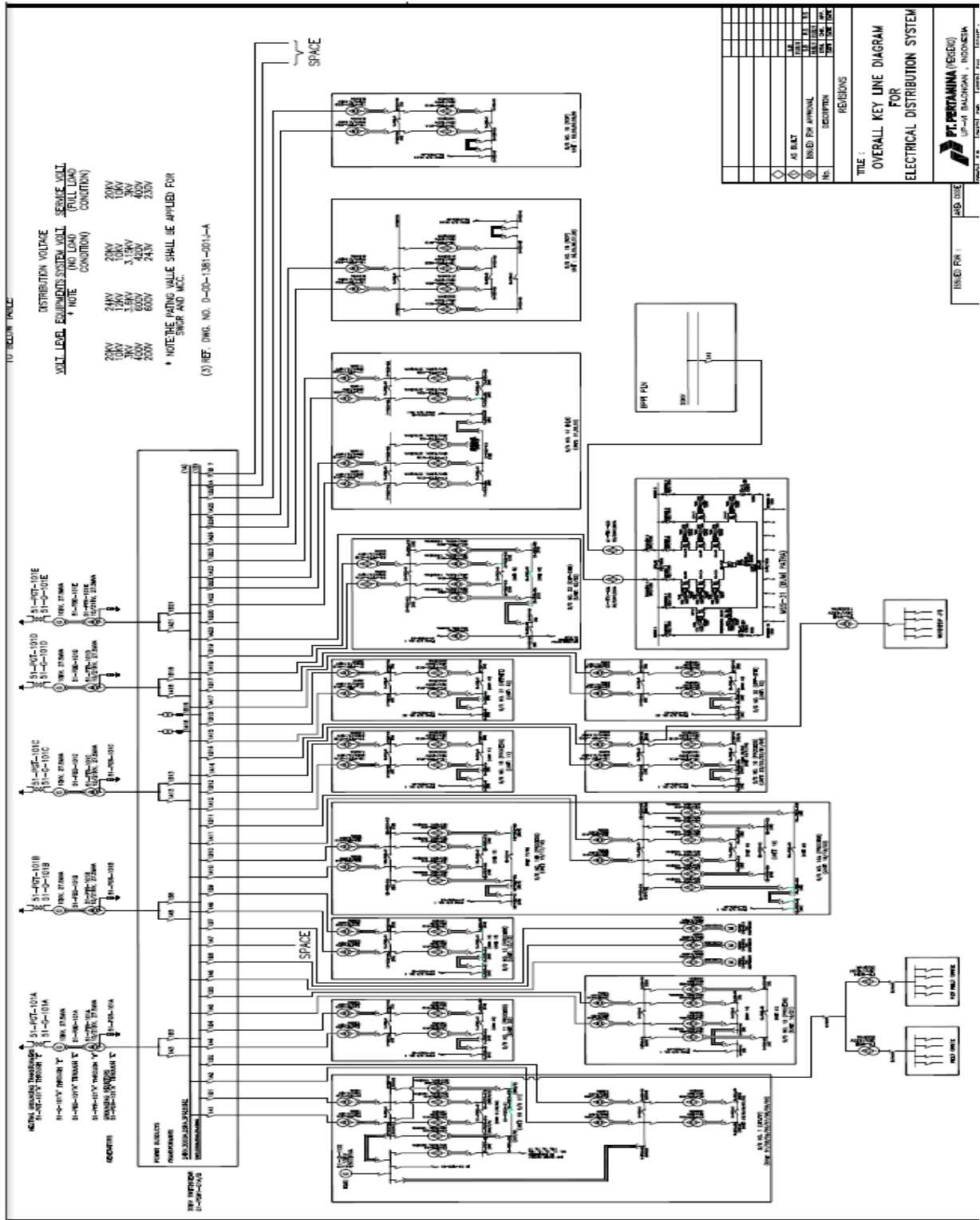
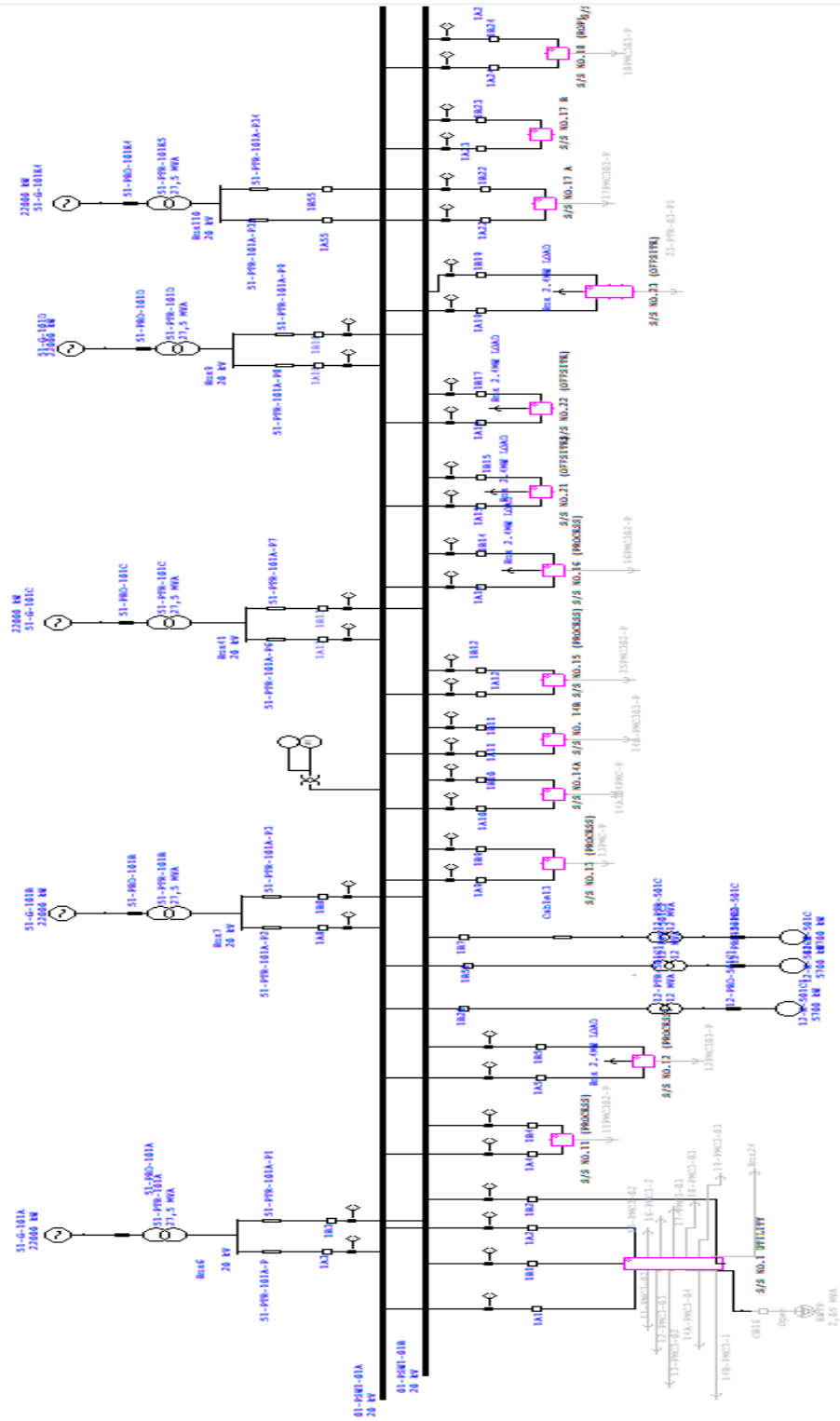


# **LAMPIRAN**

Lampiran 1. Diagram Satu Garis Bus 20 kV PERTAMINA RU-VI Balongan



Lampiran 2. Diagram Satu Garis Bus 20 kV PERTAMINA RU-VI Balongan Pemodelan ETAP



## Lampiran 3. Data Sheet Kabel

## BS6622/BS7835 Three core Armoured 22kV XLPE Stranded Copper Conductors

### Constructional Data

Cross-sectional area mm <sup>2</sup>	Minimum average thickness of insulation mm	Nominal diameter over insulation mm	Nominal thickness of PVC/LSOH bedding mm	Nominal number and diameter of armoured wires no./mm	Nominal thickness of PVC/LSOH over sheath mm	Nominal overall diameter of cable mm
70	5.5	23.4	1.8	68/2.5	3.0	68.1
95	5.5	25.1	1.7	70/2.5	3.2	72.3
120	5.5	26.8	1.7	59/3.15	3.3	77.1
150	5.5	27.9	1.8	62/3.15	3.4	80.3
185	5.5	29.7	1.9	65/3.15	3.6	84.7
240	5.5	31.9	2.0	70/3.15	3.7	89.9
300	5.5	34.2	2.0	74/3.15	3.9	95.2
400	5.5	36.9	2.2	79/3.15	4.1	101.9

### Installation Data

Cross-sectional area mm <sup>2</sup>	Approximate cable weight kg/m	Nominal drum length m	Minimum bending radius mm	Nominal internal diameter of ducts mm
70	7.8	500	850	125
95	9.1	350	900	125
120	11.0	350	950	125
150	12.1	350	1000	125
185	13.8	300	1050	125
240	16.1	250	1100	125
300	18.4	250	1150	150
400	21.7	250	1250	150

### Electrical Data

Cross-sectional area mm <sup>2</sup>	Maximum DC resistance of conductor at 20°C μOhms/m	Maximum AC resistance of conductor at 90°C μOhms/m	Reactance at 50Hz μOhms/m	Impedance at 50Hz μOhms/m	Maximum capacitance pF/m	Maximum charging current at normal voltage and frequency mA/m
70	268.0	348	121.0	363	207	0.83
95	193.0	248	114.0	272	229	0.92
120	153.0	196	110.0	225	249	1.00
150	124.0	159	107.0	191	266	1.06
185	99.1	128	103.0	164	289	1.16
240	75.4	98	99.5	139	318	1.27
300	60.1	89	94.4	123	348	1.39
400	47.0	64	91.2	111	383	1.53

## Lampiran 4. Spesifikasi Panel Distribusi 20 kV

For more info:  
 Catalogue  
 AMTED.3080.32EN

## Primary Distribution Switchgear MCset 4

Modular primary distribution switchgear

3



MCset 4

### Overview

MCset 4 is an indoor, metal-enclosed withdrawable circuit breaker sulphur hexafluoride (SF<sub>6</sub>) switchgear intended for the MV section of HV/MV substations and high-power MV/MV substations, with a service voltage up to 24kV / 2500A.

MCset 4 includes a wide range of functional units to accommodate primary distribution application needs.

- AD - in-closer or feeder
- CL-GL - line up bus section
- TT - busbar metering and Earthing
- DI - switch-fuse feeder
- RD - direct in-closer

### Electrical characteristics

Rated voltage	Ur	kV	24
<b>Insulation level</b>			
Power frequency withstand	Ud	50Hz, 1 min (kV rms)	50
Lighting impulse withstand	Up	1.2/50 μs (kV peak)	125
<b>Rated current</b>			
Rated busbar current	In	A	630 - 1250 - 2500
Short-time withstand current	Ith	kA/3s	16
			25
			31.5
		kA/1s	630 - 1250 - 2500



MCset 4

### Main characteristics

Internal arc withstand

- 3 side protection: 25kA/1s or 31.5kA/0.15s, A-FL
- 4 side protection: 25kA/1s or 31.5kA/0.15s, A-FLR in accordance with AS 62271-200

Protection index

- Air insulated switchgear (AIS)
- Class: PM (metallic partition)
- Loss of service continuity classes: LSC2B
- Units in switchboard: IP3X (IP4X)
- Between compartments: IP2X

### Applications

- Public distribution, heavy industry, oil and gas, infrastructure.
- Marine
- Motor control - Motorpact
- Thermal monitoring
- Network protection - Sepam
- Intelligent networks - remote management and monitoring (Powerlogic SCADA)

