

DAFTAR PUSTAKA

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Annex 14. Aerodrome Design and Operations, ICAO : 2009.

SKEP.157 – IX – 2003. Pemeliharaan dan pelaporan peralatan.

Emadi, Ali. Nasiri. Abdolhosein, Nasari. B. Bekiarov, Stoyan.2005.

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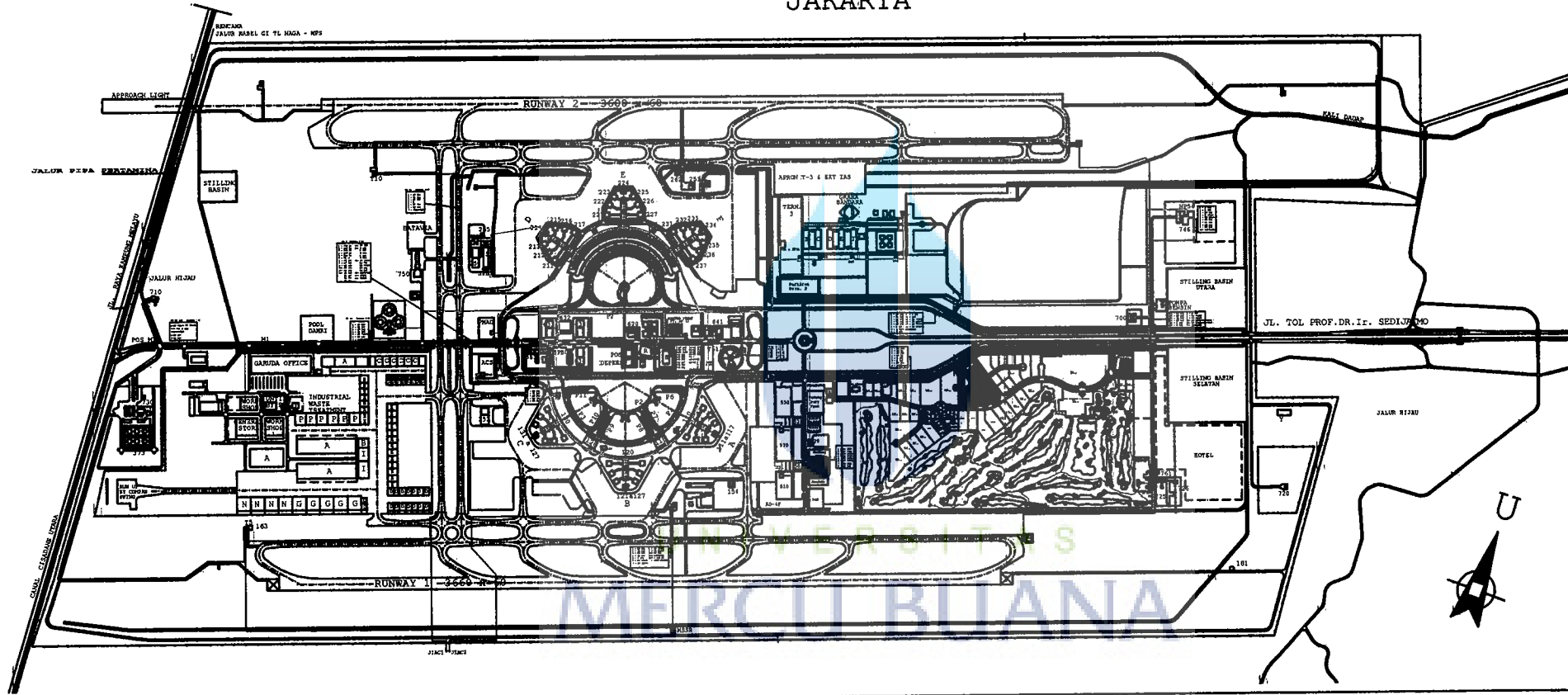
Hendri saputra, SsiT, MT. Teori umum **UPS dan Solar Cell.**

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BANDAR UDARA SOEKARNO-HATTA JAKARTA



KETERANGAN

LEGEND 1:

- EXISTING BOUNDARY
- NEW SITE BOUNDARY
- EXISTING LAYOUT
- PERSE 1
- PERSE 2

PERUBAHAN

KONSULTAN

PT (Persero) ANGKASA PURA II
Rencana Pembangunan
Bandara Soekarno-Hatta
TANGERANG

Struktur :

Direktur	Anggota
Manajer	
Manajer	
Manajer	
Manajer	

Proyek :

**BANDAR UDARA
INTERNASIONAL
SOEKARNO - HATTA**

Daftar :

**SITUASI
JALUR KABEL TM**

KETERANGAN WARNA KABEL TM

- KEMAS = JALURAN TERDEKAT
- KEMAS = JALURAN PRIORITY
- KEMAS = JALURAN NON PRIORITY
- KEMAS = JALURAN PRIORITY
- KEMAS = JALURAN NON PRIORITY

Skala	No. Dik
Tanggal	No. Proy

TERMINAL BUILDING

- 110. INTERNAL HALL
- 111. LIFTING MODULE A
- 112. DOMESTIC HALL
- 113. LIFTING MODULE A
- 114. DOMESTIC HALL 2
- 115. BOARDING LOUNGE
- 116. BOARDING LOUNGE
- 117. BOARDING LOUNGE

GENERAL BUILDING

- 151. SOUTH (DOWN) FIRE STATION
- 152. RAMP (EQUIPMENT) GARAGE
- 153. RAMP (EQUIPMENT) MAINTENANCE
- 154. COORDINATION DE LACERATION
- 155A. DELIVERER STATION
- 156. SUB POWER STATION (DOWN)
- 157. TAXI & TOLIT
- 158. SOUTH MIDDLE WALKER STATION
- 159. NORTH KEMAY FIRE STATION
- 242. SUB POWER STATION (UP)
- 243. NORTH MIDDLE WALKER
- 244. DECOMPRESSION CHAMBER
- 245. AIRPORT AUTHORITY BUILDING
- 246. CONTROL TOWER
- 247. OPERATIONAL BUILDING BLOCK A
- 248. OPERATIONAL BUILDING BLOCK B
- 249. OPERATIONAL BUILDING BLOCK C
- 250. TELEPHONE BUILDING

OTHER BUILDING

- 628. RADAN BAR HOSPITAL
- 629. GENERAL WORK SHOP
- 630. GENERAL SUPPLIES WAREHOUSE
- 631. EQUIPMENT MAINTENANCE WORKSHOP
- 632. EQUIPMENT GARAGE
- 633. SECURITY BUILDING
- 634. MAIN POWER STATION
- 635. POWER SUB STATION
- 636. ATC PREHOUT RADAR
- 637. VHF TRANSMITTING CENTRE

CARGO AREA

- 720. VHF RECEIVING CENTRE
- 721. MEYD STATION
- 722. MEYD PUMP SHED
- 723. TREATMENT BUILDING
- 724. TREATMENT BUILDING
- 725. CENTRAL FIRE STATION
- 726. FIRE STATION GARAGE
- 727. POWER SUB STATION
- 728. VHF TRANSMITTING CENTRE

OTHER BUILDING

- 2. POST OFFICE/AIRMAIL
- 3. BUREAU BANG
- 4. CUSTOM OFFICE
- 5. QUANTITIES
- 6. IMMIGRATION OFFICE
- 7. CUSTOM OFFICE
- 8. DELT AIRPORT AUTHORITY BUILDING
- 9. GARDEN CLUB CENTRE
- 10. MOSQUE
- 11. CHURCH
- 12. MEDICAL CENTRE
- 13. AIRPORT HEALTH
- 14. POST OFFICE
- 15. AIRCRAFT CATERING
- 16. EMERGENCY CLINIC/GARAT DAKURAT
- 17. KARANTINA BANG DAN TUBUKAN

FUELLING SYSTEM

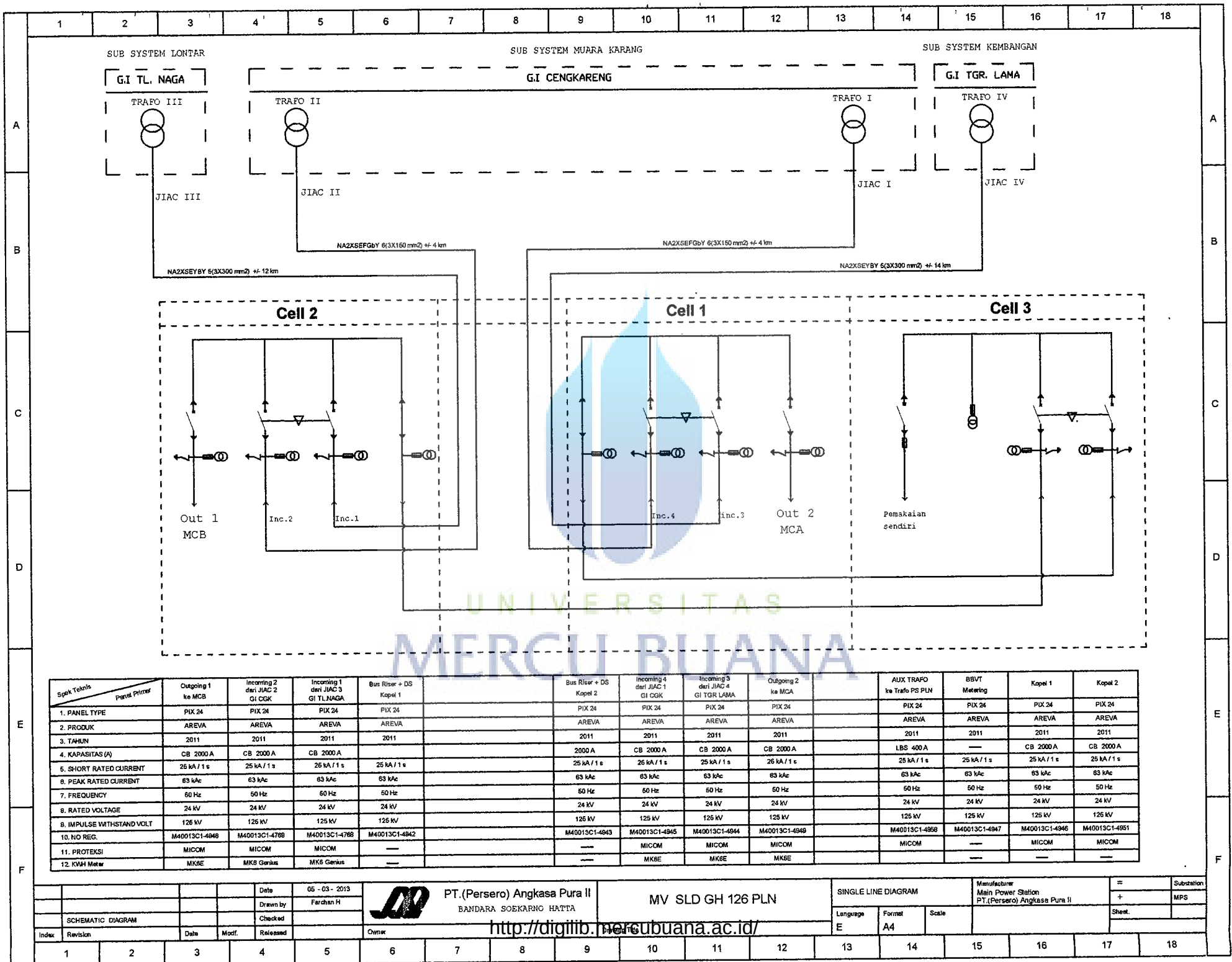
- 801. FREIGHT OFFICE
- 802. DOMESTIC FREIGHT TERMINAL
- 803. UTILITY BUILDING
- 804. INTERNATIONAL FREIGHT TERMINAL
- 805. SOCIAL BUILDING
- 806. CATERING
- 807. EMPLOYE
- 729. FUEL STORAGE ADMINISTRATIVE BUILDING
- 730. FUEL STORAGE GUARD HOUSE
- 731. FUEL STORAGE BRID PARK
- 732. FUEL STORAGE GARAGE
- 733. FUEL STORAGE PUMPING STATION
- 734. FUEL STORAGE TECHNICAL AND FIRE STATION

0 250 500 750

LAMPIRAN 2

SINGLE LINE MV SLD GH 126 PLN

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LAMPIRAN 3

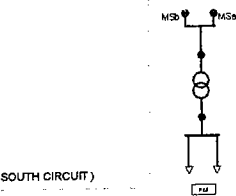
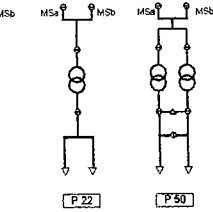
**SINGLE LINE DIAGRAM SALURAN TEGANGAN
MENENGAH (20KV) BANDARA SOEKARNO-HATTA**

UNIVERSITAS
MERCU BUANA

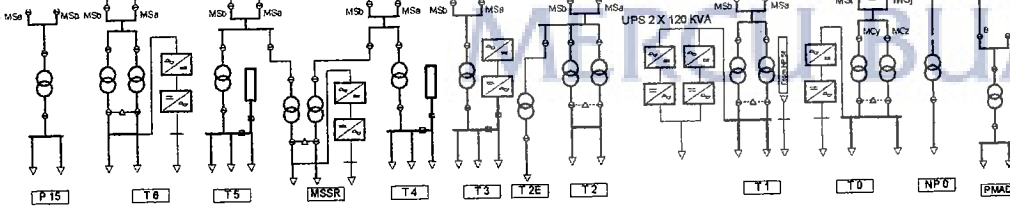
SINGLE LINE DIAGRAM SALURAN TEGANGAN MENENGAH (20KV) BANDARA SOEKARNO - HATTA

GENERAL PRIORITY NET WORK (NORTH CIRCUIT)

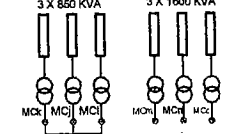
TECHNICAL NET WORK (NORTH CIRCUIT)



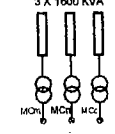
TECHNICAL NET WORK (SOUTH CIRCUIT)



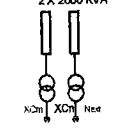
GENSET TEKNIK
3 X 850 KVA



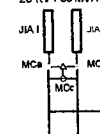
GENSET PRIORITY
3 X 1000 KVA



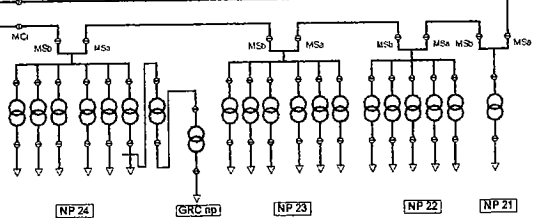
GENSET PRIORITY
2 X 2000 KVA



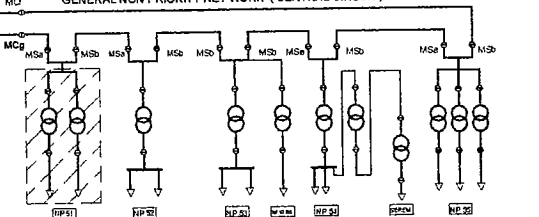
INCOMING PLN
20 KV / 35 MVA



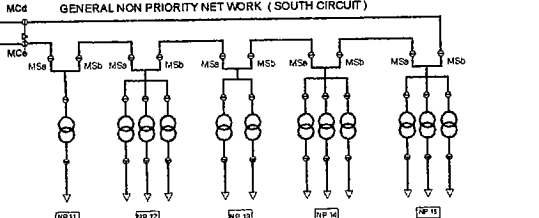
GENERAL NON PRIORITY NET WORK (NORTH CIRCUIT)



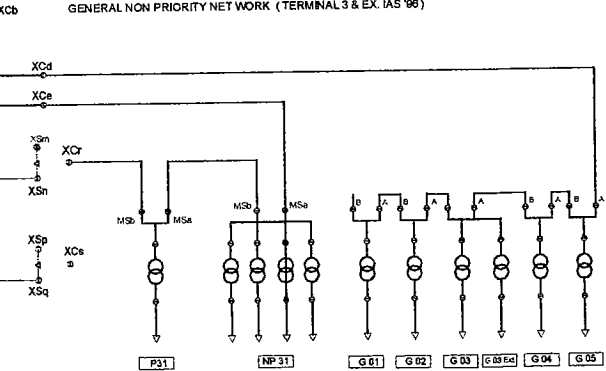
GENERAL NON PRIORITY NET WORK (CENTRAL CIRCUIT)



GENERAL NON PRIORITY NET WORK (SOUTH CIRCUIT)



GENERAL NON PRIORITY NET WORK (TERMINAL 3 & EX. IAS '98)



 PT. Purnama Angkasa Pura II BANDARA SOEKARNO - HATTA	DIGAMBAR	FAROUKH H.
	DIREKSI/ANALIS	DIKORONGKONG
	DIREKSI/ANALIS	DIKORONGKONG
	DIREKSI/ANALIS	DIKORONGKONG
	DIREKSI/ANALIS	DIKORONGKONG
TANGGAL : 12 Okt 2010	DIREKSI/ANALIS	DIKORONGKONG
SKALA :	DIREKSI/ANALIS	DIKORONGKONG
M P S	SINGLE LINE DIAGRAM 20KV BANDARA SOEKARNO - HATTA	

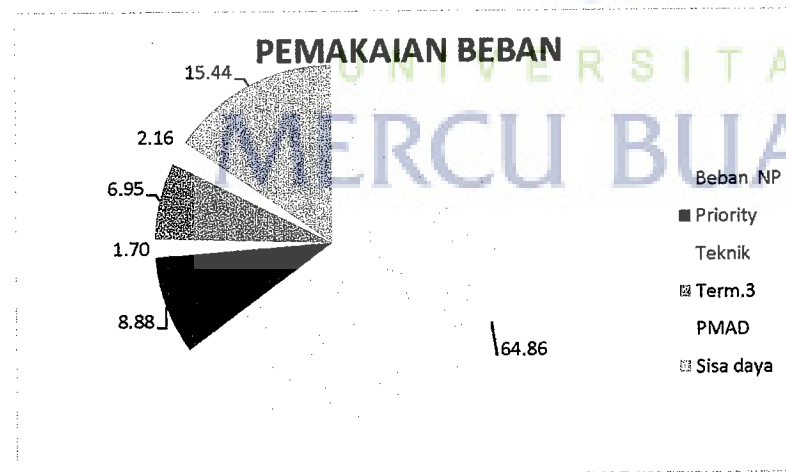
LAMPIRAN 4

**DATA BEBAN TOTAL BANDARA SOEKARNO-HATTA
TANGERANG**

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PENCATATAN BEBAN

NO	NAMA JARINGAN	BESAR ARUS PEMAKAIAN (A)			JUMLAH ARUS PERJARINGAN (A)			RATA-RATA	PEMAKAIAN DAYA		KETERANGAN
		L1	L2	L3	L1	L2	L3	JUMLAH	(MVA)	(dlm %)	
1	Non Priority Utara	333	338	334	652.3	661.1	654.9	656.1	22.70	64.86	Daya kontrak bandara soeta 35 MVA = 1020 A Setting Over Current: SEG MPS : 1032 A VAMP 40 (G.I) : 1020 A Tegangan 20 kV
2	Non Priority Tengah	156.3	157.6	153.2							
3	Non Priority Selatan	163	165.5	167.7							
4	Priority Utara	37.2	39.9	38.3	89.7	91.5	88.4	89.87	3.11	8.88	
5	Priority Selatan	52.5	51.6	50.1							
6	Teknik Utara	8.5	8.6	7.8	15.9	17.5	18.1	17	0.59	1.70	
7	Teknik Selatan	7.4	8.9	10.3							
8	Terminal 3				68	72	71	70	2.43	6.95	
	P31	13	14	13							
	NP31	54	56	56							
	IAS	1	2	2							
9	PMAD, NP0, TO	21.5	22	22.1	21.5	22	22.1	22	0.76	2.16	
10	TOTAL ARUS (A)				847.4	864.1	854.5	855			
11	JUMLAH DAYA YANG TERPAKAI (MVA)								29.59	84.56	
12	SISA DAYA TERSEDIA (MVA)								5.41	15.44	



LAMPIRAN 5

DATA BEBAN SUBSTATION T3

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SUBSTATION T 3

220 / 380 VAC
NEUTRAL : IT
BUSBAR : 3 PH + N
I C C :

AMPS

NUMBER	MODULE					CABLE		DESIGNATION OF FUNCTION	REMARK
	CB SIZES	POLES	AMP	KVA	SETT	SIZES (mm)	LENGTH (m)		
T 3 . 1 . MLT	LCA 630	4	500/360	250.101	380	2X4X1X95		INCOMING FROM TRANSFORMER MLT	UNELEC RECORD DT S 630 RH
BUSBAR	LCB 630	4	630	414.641	630	4 X 95		GENSET	MG COMPACT NS 630 N
BUSBAR	LCC 630	4	630	414.641	630			PLN	STR 23 SE MG COMPACT NS 630 N
T 3 . 1 . 01	160	3	25/15	16.454	25	2 X 4		PAPI BACK UP FLY WHEEL GENSET 125 KVA R8 SISI SELATAN [6 KVA / 6.6 A / ULMER]	STR 23 SE CHANGE OVER MODUL T3 08 (R8) KE T3 01 (R1) 06 JULI 2007
T 3 . 1 . 02	160	3	100/80	65.816	100	2 X 35		APPROACH BACK UP FLY WHEEL GENSET 125 KVA R2 [30 KVA / 20 A / ULMER]	
T 3 . 1 . 03	160	3	100/80	65.816	100	2 X 25		APPROACH BACK UP FLY WHEEL GENSET 125 KVA R3 [30 KVA / 20 A / ULMER]	
T 3 . 1 . 04	160	3	25/15	16.454	25	2 X 4		RUNWAY THRESHOLD & END LIGHT BACK UP FLY WHEEL GENSET 125 KVA R4 [6 KVA / 6.6 A / ULMER]	
T 3 . 1 . 05	160	3	63/40	26.3264	40	2 X 4		RUNWAY THRESHOLD LIGHT BACK UP FLY WHEEL GENSET 125 KVA R5 [6 KVA / 6.6 A / ULMER]	
T 3 . 1 . 06	160	3	63/40	26.3264	40	2 X 35		RUNWAY EDGE LIGHT BACK UP FLY WHEEL GENSET 125 KVA R6 [15 KW / 6.6 A / ALSTOM MCR 400]	
T 3 . 1 . 07	160	4	25/15	16.454	25	4 X 16		FLASHING SYSTEM	
T 3 . 1 . 08	160	3	25/15	16.454	25	2 X 4		HST CENTRE LINE EXIT S1 R7 [6 KVA / 6.6 A / ULMER]	
T 3 . 1 . 09	160	3	100/80	52.6528	80	2 X 35		APPROACH R1 [30 KVA / 20 A / ULMER]	CHANGE OVER MODUL T3 09 (R8) KE T3 01 (R1) 06 JULI 2007
T 3 . 1 . 10	160	3	25/15	16.454	25	2 X 4		PAPI SISI UTARA R9 [7.5 KVA / 6.6 A / ULMER]	
T 3 . 1 . 11	160	3	100/80	65.816	100	2 X 120		RUNWAY CENTRE LINE R10 [50 KVA / 20 A / ULMER]	
T 3 . 1 . 12	160	3	25/15	16.454	25			LOCALIZER	
T 3 . 1 . 13	160	4	25/15	16.454	25			POWER ROOM	
T 3 . 1 . 14	160	3	63/40	41.4641	63	2 (2 X 1 X 150)		GLIDE PATH	
T 3 . 1 . 15	160	3	63/40	26.3264	40	2 (2 X 1 X 150)		MIDDLE MARKER	
T 3 . 1 . 16	160	3	25/15	16.454	25	4 X 6		GENERATING SET ROOM BACK UP FLY WHEEL GENSET 125 KVA	
T 3 . 1 . 17	160	3	63/40	41.4641	63	4 X 10		ASSY. MOTOR	
T 3 . 1 . 18	160	4	160/100	82.27	125			CAMERA & SECURITY EQUIPMENT	
T 3 . 1 . 19	160	4	63/40	26.3264	40			SPARE	

LAMPIRAN 6

DATA BEBAN SUBSTATION T8

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SUBSTATION T 8

380 / 220 VAC
NEUTRAL : IT
BUSBAR : 3 PH + N
I C C :

AMPS

NUMBER	MODULE					CABLE		DESIGNATION OF FUNCTION	REMARK
	CB SIZE	POLES	AMP	KVA	SETT	SIZE (mm)	LENGTH (m)		
T 8 . 1 . MLT	LCA 630	4	500/360	236.938	360	2X4X1X95		INCOMING FROM TRANSFORMER MLT	UNELEC RECORD DT S 630 RH
BUSBAR	LCB 630	4	630	373.177	567	4 X 95		GENSET	MG COMPACT NS 630 N / STR 23 SE
BUSBAR	LCC 630	4	630	373.177	567			PLN	MG COMPACT NS 630 N / STR 23 SE
T 8 . 1 . 01	160	3	100/80	65.816	100	2 X 35		APPROACH BACK UP FLY WHEEL GENSET 125 KVA R1 [30 KVA / 20 A / ULMER]	
T 8 . 1 . 02	160	3	100/80	65.816	100	2 X 35		APPROACH BACK UP FLY WHEEL GENSET 125 KVA R2 [30 KVA / 20 A / ULMER]	
T 8 . 1 . 03	160	3	25/15	16.454	25	2 X 4		PAPI BACK UP FLY WHEEL GENSET 125 KVA R8 SISI SELATAN [7.5 KVA / 6.6 A / ULMER]	CHANGE OVER MODUL T8 09 (R8) KE T8 03 (R3) 05 JULI 2007
T 8 . 1 . 04	160	3	25/15	16.454	25	2 X 4		RUNWAY THRESHOLD & END LIGHT BACK UP FLY WHEEL GENSET 125 KVA R4 [6 KVA / 6.6 A / ULMER]	
T 8 . 1 . 05	160	3	25/15	16.454	25	2 X 4		RUNWAY THRESHOLD LIGHT BACK UP FLY WHEEL GENSET 125 KVA R5 [7.5 KVA / 6.6 A / ULMER]	
T 8 . 1 . 06	160	3	25/15	16.454	25	2 X 35		RUNWAY EDGE LIGHT BACK UP FLY WHEEL GENSET 125 KVA R6 [15 KW / 6.6 A / ALSTOM MCR 400]	
T 8 . 1 . 07	160	4	25/15	16.454	25	4 X 16		FLASHING SYSTEM	
T 8 . 1 . 08	160	3	25/15	16.454	25	2 X 4		PAPI SISI UTARA R7 [7.5 KVA / 6.6 A / ULMER]	
T 8 . 1 . 09	160	3	100/80	52.6528	80	2 X 35		APPROACH R3 [25 KVA / 20 A / ULMER]	CHANGE OVER MODUL T8 09 (R8) KE T8 03 (R3) 05 JULI 2007
T 8 . 1 . 10	160	3	160/100	105.306	160	2 X 120		RUNWAY CENTRE LINE R9 [50 KVA / 20 A / AUGIER]	
T 8 . 1 . 11	160	3	63/40	41.4641	63			ASSY. MOTOR	
T 8 . 1 . 12	160	4	25/15	16.454	25			POWER ROOM	
T 8 . 1 . 13	160	3	100/80	65.816	100			BACK UP FLY WHEEL GENSET 125 KVA AUX. GENERATING CONTROL CUBICLE GENSET ROOM BACK UP FLY WHEEL GENSET 125 KVA	
T 8 . 1 . 14	160	3	63/40	41.4641	63	2 (2 X 1 X 120)		GLIDE PATH	
T 8 . 1 . 15	160	3	63/40	41.4641	63	2 (2 X 1 X 150)		MIDDLE MARKER	
T 8 . 1 . 16	160	3	25/15	16.454	25			SPARE MODUL RUSAK EX T8 . 11 ASSY. MOTOR	
T 8 . 1 . 17	160	4	40/25	26.3264	40			CAMERA	
T 8 . 1 . 18	160	3	63/40	41.4641	63			LOCALIZER	

LAMPIRAN 7

DATA BEBAN SUBSTATION T10

UNIVERSITAS
MERCU BUANA

SUBSTATION T 10

380 / 220 VAC
NEUTRAL : IT
BUSBAR : 3 PH + N
I C C :

AMPS

NUMBER	MODULE					CABLE		DESIGNATION OF FUNCTION LOAD	REMARK
	CB SIZE	POLES	AMP	KVA	SETT	SIZE (mm)	LENGTH (m)		
T 10 . 1 . MLT	LCA 630	4	500/360	250.101	380	2X4X1X95		INCOMING FROM TRANSFORMER MLT	UNELEC RECORD DT S 630 RH
BUSBAR	LCB 630	4	630	414.641	630	4 X 70		GENSET	MG COMPACT NS 630 N
BUSBAR	LCC 630	4	630	82.27	630			PLN	STR 23 SE MG COMPACT NS 630 N
T 10 . 1 . 01	160	3	100/80	65.816	100	2 X 35		APPROACH BACK UP FLY WHEEL GENSET 125 KVA R1 [30 KVA / 20 A / ULMER]	STR 23 SE
T 10 . 1 . 02	160	3	100/80	65.816	100	2 X 35		APPROACH BACK UP FLY WHEEL GENSET 125 KVA R2 [30 KVA / 20 A / ULMER]	
T 10 . 1 . 03	160	3	25/15	16.454	25	2 X 4		RUNWAY THRESHOLD & END LIGHT BACK UP FLY WHEEL GENSET 125 KVA R3 [7.5 KVA / 6.6 A / ULMER]	
T 10 . 1 . 04	160	3	40/25	26.3264	40	3 X 35		RUNWAY EDGE LIGHT BACK UP FLY WHEEL GENSET 125 KVA R4 [15 KW / 6.6 A / ALSTOM MCR 400]	
T 10 . 1 . 05	160	3	125/100	82.27	125	2 X 10		TAXIWAY EDGE LIGHT WC 1 & 2 / NP 2 R5 [15 KVA / 6.6 A / ULMER]	
T 10 . 1 . 06	160	3	100/80	52.6528	80	2 X 35		APPROACH R9 [30 KW / 20 A / HONEYWELL]	CHANGE OVER MODUL T10 07 (R7) KE T10 17 (R3) 05 JULI 2007
T 10 . 1 . 07	160	3	25/15	16.454	25	2 X 4		PAPI SISI UTARA R7 [7.5 KVA / 6.6 A / ULMER]	
T 10 . 1 . 08	160	3	160/100	105.306	160	2 X 120		RUNWAY CENTRE LINE R8 [50 KVA / 20 A / ULMER]	
T 10 . 1 . 09	160	3	40/25	26.3264	40			MIDDLE MARKER / ILS	
T 10 . 1 . 10	160	4	25/15	16.454	25			POWER ROOM	
T 10 . 1 . 11	160	3	100/80	65.816	100	4 X 6		AUX. GENERATING ROOM BACK UP FLY WHEEL GENSET 125 KVA	
T 10 . 1 . 12	160	3	63/40	41.4641	63	2 X 1 X 150		LOCALIZER / ILS BACK UP FLY WHEEL GENSET 125 KVA	
T 10 . 1 . 13	160	3	63/40	41.4641	63	4 X 10		ASSY. MOTOR	
T 10 . 1 . 14	160	3	160/100	105.306	160			GLIDE PATH / ILS	
T 10 . 1 . 15	160	3	25/15	16.454	25			RUNWAY THRESHOLD LIGHT BACK UP FLY WHEEL GENSET 125 KVA R10 [7.5 KVA / 6.6 A / HONEYWELL]	
T 10 . 1 . 16	160	4	25/15	16.454	25			FLASHING SYSTEM / HONEYWELL	
T 10 . 1 . 17	160	3	25/15	16.454	25	2 X 4		PAPI BACK UP FLY WHEEL GENSET 125 KVA R6 SISI SELATAN [6 KVA / 6.6 A / ULMER]	CHANGE OVER MODUL T10 07 (R7) KE T10 17 (R3) 05 JULI 2007

LAMPIRAN 8

SECONDARY POWER SUPPLY REQUIREMENTS

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Table 8-1. Secondary power supply requirements
(see 8.1.4)

Runway	Lighting aids requiring power	Maximum switch-over time
Non-instrument	Visual approach slope indicators ^a Runway edge ^b Runway threshold ^b Runway end ^b Obstacle ^a	See 8.1.4 and 8.1.9
Non-precision approach	Approach lighting system Visual approach slope indicators ^{a, d} Runway edge ^d Runway threshold ^d Runway end Obstacle ^a	15 seconds 15 seconds 15 seconds 15 seconds 15 seconds 15 seconds
Precision approach category I	Approach lighting system Runway edge ^d Visual approach slope indicators ^{a, d} Runway threshold ^d Runway end Essential taxiway ^a Obstacle ^a	15 seconds 15 seconds 15 seconds 15 seconds 15 seconds 15 seconds 15 seconds
Precision approach category II/III	Inner 300 m of the approach lighting system Other parts of the approach lighting system Obstacle ^a Runway edge Runway threshold Runway end Runway centre line Runway touchdown zone All stop bars Essential taxiway	1 second 15 seconds 15 seconds 15 seconds 1 second 1 second 1 second 1 second 1 second 1 second 15 seconds
Runway meant for take-off in runway visual range conditions less than a value of 800 m	Runway edge Runway end Runway centre line All stop bars ^c Essential taxiway ^a Obstacle ^a	15 seconds ^c 1 second 1 second 1 second 15 seconds 15 seconds

- a. Supplied with secondary power when their operation is essential to the safety of flight operation.
b. See Chapter 5, 5.3.2, regarding the use of emergency lighting.
c. One second where no runway centre line lights are provided.
d. One second where approaches are over hazardous or precipitous terrain.

LAMPIRAN 9

DATA GANGGUAN TAHUN 2008-2013

UNIVERSITAS
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DATA GANGGUAN PLN BULAN JANUARI S/D DESEMBER TAHUN 2008

NO	TANGGAL	JAM	URAIAN KEJADIAN	PENYEBAB GANGGUAN	AKIBAT TERHADAP OPERASI
1	27-Apr-08	10.15	Kedipan PLN	Gangguan penyulang Paiton trip	F/W T5 & 10 Onload kembali ke inservice => normal DLC3 T7 & T8 kerja direset OK
2	04-Mei-08	13.51	Kedipan PLN	Gangguan Penyulang Mandi GI Batujaya	Genset MPS tetap off = normal F/W Genset normal inservice
3	17-Mei-08	10.19	Kedipan PLN	Gangguan Penyulang Kosambi	F/W T10 Onload kembali ke inservice => normal
4	20-Mei-08	13.50	Kedipan PLN	Gangguan GI Teluk Naga	Genset MPS tetap off = normal F/W Genset normal inservice
5	24-Jun-08	23.16	Kedipan PLN	Gangguan Penyulang Hercules	Genset MPS tetap off = normal F/W Genset normal inservice
7	20-Jul-08	09.53 09.53	Kedipan PLN Kedipan PLN 2 x	Gangguan Penyulang Hercules Gangguan Penyulang Hercules	Genset MPS tetap off = normal F/W Genset normal inservice
8	21-Jul-08	06.00	Kedipan PLN	Gangguan Penyulang Garuda	Genset MPS tetap off = normal F/W Genset normal inservice
9	31-Agust-08	18.24	PLN Off sesaat	Gangguan PLTU Muara Karang (terkena petir)	GS T dan Genset P On Load Msi dan MSj ops remote gagal => dilokal F/W Genset semua Onload - F/W GS T10, T3 alarm => diblock
10	06-Sep-08	02.16 s.d 03.13	PLN OFF, Mca dan MCB off PLN ON normal kembali	Gangguan PLTU Muara Karang (Info PLN UPD Barat bpk Azis dan Sisko)	GS T dan Genset P On Load - GS 5 dan GS 4 lepas, beban GS 6 70% F/W Genset semua Onload - F/W GS T3 alarm 'Alt volt fault'
11	21-Sep-08	11.55	Kedipan PLN	Gangguan pembangkit di Muara Karang no 1 s/d 5 mati (Info PLN UPD Barat bpk Jumadi)	Genset MPS tetap off = normal F/W Genset semua Onload - F/W GS T4 tdk bisa inservice; direset Ok

12	22-Sep-08	11.55	Kedipan PLN	Gangguan penyalang di G.I Batujaya (Info PLN G.I Cengkareng Sdr Juli)	Genset MPS tetap off = normal F/W Genset semua Onload - F/W GS T5 tdk ada iindikasi, direset Ok - F/W GS T8 tdk ada iindikasi, direset Ok
13	10-Okt-08	10.19	Frequency PLN turun 49,00 Hz	Menhubungi PLN UPD Barat Sdr Dedi Gangguan akan diperiksa	Genset MPS tetap off = normal F/W Genset normal inservice
14	14-Okt-08	09.53	Frequency PLN turun 49,01 Hz	Menhubungi PLN UPD Barat Sdr Azis Gangguan akan diperiksa	Genset MPS tetap off = normal F/W Genset normal inservice
15	13-Des-08	17.30 s.d 17.50	PLN Off (JIAC I dan II) PLN ON normal kembali	Menhubungi PLN UPD Barat Sdr Heri Gangguan saat perawatan TM 150KV oleh Unit Jaringan Teknik	GS T dan Genset P On Load => normal F/W Genset semua Onload dan kembali inservice

Catatan :

Info gangguan dari via telepon menghubungi :

- PLN UPD Barat (021 - 3846530)
- GI Cengkareng (021 - 5501300)

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DATA GANGGUAN PLN BULAN JANUARI S/D NOVEMBER TAHUN 2009

NO	TANGGAL	JAM	URAIAN KEJADIAN	PENYEBAB GANGGUAN	AKIBAT TERHADAP OPERASI
1	08-Jan-09	17.54 17.57 22.14	Penyulang Jiak II (MCB) off Change over ke Jiak I (Mca) Penyulang Jiak II normal	Menghubungi PLN UPD Barat & G.I Batujaya (Info PLN UPD Barat Bpk Sisco) Gangguan penyulang Garuda & Pertamina	Genset Teknik & Priority On Load F/W GS on load =>ops normal F/w T5 direset normal MCP DLC3 kerja, direset normal NP 21 MDS open, direset normal Operasi penerbangan normal
2	26-Jan-09	08.47	Kedipan PLN	Gangguan Penyulang Cesna (Info UPD Barat Bpk Aziz)	Genset MPS tetap off = normal F/W Genset normal inservice
3	17-Mar-09	11.55	Kedipan PLN	Menghubungi PLN UPD Barat (Info PLN UPD Barat Bpk Jumadi) Gangguan penyulang PLTU Suralaya	Genset MPS tetap off = normal F/W GS T5 on load =>ops normal
4	17-Mar-09	11.55	Kedipan PLN	Menghubungi PLN UPD Barat (Info PLN UPD Barat Bpk Agus) Gangguan penyulang BOEING	Genset MPS tetap off = normal F/W GS inservice =>ops normal Operasi penerbangan normal
5	18-Mei-09	11,33	Kedipan PLN	Menghubungi GI Batujaya (Yuli) Gangguan GI Cikokol terkena sambaran petir	Genset MPS tetap off = normal F/W GS T 10 onload =>ops normal Operasi penerbangan normal
6	06-Jun-09	14,05	Kedipan PLN	Menghubungi PLN UPD Barat (Totok) Gangguan PLTU Muara Karang trip 1 unit	Genset MPS tetap off = normal F/W GS inservice =>ops normal Operasi penerbangan normal
7	08-Mei-09	18,15	Kedipan PLN	Menghubungi PLN UPD Barat (Totok) Gangguan SKTM GI Cengkareng	Genset MPS tetap off = normal F/W GS inservice =>ops normal Operasi penerbangan normal
8	29-Agust-09	1,18	Kedipan PLN	Menghubungi PLN GI Batujaya (Made) Gangguan Pelita 3 trip	MCp & MCq , MCF Trip direset normal Genset MPS tetap off = normal F/W GS T 10 onload =>ops normal Operasi penerbangan normal
9	30-Agust-09	20,42	Kedipan PLN	Menghubungi PLN UPD Barat (Totok) Gangguan Trafo 3 GI Cengkareng	Genset MPS tetap off = normal F/W GS inservice =>ops normal Operasi penerbangan normal
10	30-Sep-09	7,25	Info gangguan Suplai ke bandara tetap normal	GI Cawang trafo terbakar Info dari UPD Barat (Jumadi)	Genset MPS tetap off = normal F/W GS inservice =>ops normal Operasi penerbangan normal
11	24-Okt-09	13,53	Kedipan PLN	Menghubungi PLN UPD Barat (Azis) Gangguan Pelita 2 & 3 trip	MCp & MCq Trip direset normal Genset MPS tetap off = normal F/W GS inservice =>ops normal Operasi penerbangan normal
12	24-Okt-09	17,45	Kedipan PLN	Menghubungi PLN UPD Barat (Agus) Gangguan Pelita 2 trip	MCq Trip direset normal Genset MPS tetap off = normal F/W GS inservice =>ops normal Operasi penerbangan normal
13	25-Okt-09	4,51	Kedipan PLN	Menghubungi PLN UPD Barat (Agus) Gangguan belum diketahui	Genset MPS tetap off = normal F/W GS inservice =>ops normal Operasi penerbangan normal
14	28-Okt-09	21,50	Kedipan PLN	Menghubungi PLN GI Batujaya (Made) Gangguan di GI Batujaya	MCq DLC kerja direset normal Genset MPS tetap off = normal F/W GS inservice =>ops normal Operasi penerbangan normal
15	31-Okt-09	16,11	Kedipan PLN	Menghubungi PLN UPD Barat (Sudi) Gangguan di GI Cibinong	Genset MPS tetap off = normal F/W GS inservice =>ops normal Operasi penerbangan normal
16	02-Nop-09	23,45 2,35 2,50 3,10 4,15	Penyulang JIAC 1 & 2 Off JIAC 1 On, tetapi drop (17,2KV) JIAC 2 On, tetapi drop (18,4KV) Teg. JIAC 1 & 2 normal (19,5 KV)	Menghubungi PLN UPD Barat (Sisco) Gangguan SUTET 500/150 KV GI Gandul Disarankan PLN memakai JIAC 2	MCp & MCq Trip direset normal F/W GS T 10 onload =>ops normal GS T & P Onload Jaringan NP Off (Jiac 2 On load) Jaringan NP di-ON Jaringan T & P change over dari GS ke JIAC 2 Genset T & P di-Off Operasi penerbangan normal
17	05-Nop-09	10,31	Kedipan PLN	Menghubungi PLN UPD Barat (Sisco) Gangguan SUTET 500/150 KV GI Gandul	MCp & MCq , MCF Trip direset normal Genset MPS tetap off = normal F/W GS inservice =>ops normal Operasi penerbangan normal

NO	TANGGAL	JAM	URAIAN KEJADIAN	PENYEBAB GANGGUAN	AKIBAT TERHADAP OPERASI
18	06-Nop-09	9,30	Kedipan PLN	Menghubungi PLN GI Batujaya (Akbar) Gangguan trafo 4	Genset MPS tetap off = normal F/W GS inservice =>ops normal Operasi penerbangan normal
19	09-Nop-09	1,28	Kedipan PLN 10 detik	Menghubungi PLN GI Batujaya (Jumadi) Gangguan PLTU Muara Karang	GS T 1,2,3 & P 4 Onload (3 menit) F/W GS inservice =>ops normal Operasi penerbangan normal
20	09-Nop-09	11,12	JIAc 2 MCB berbeban Off	Gangguan kabel TM MCV - P50 MSb	MCp & MCq , MCF Trip direset normal MCv - P50 MSb DLC3 kerja trip GS T & P Onload sampai pukul 13.15 Sementara open loop ring jaringan P (pengusutan gangguan) F/W GS inservice =>ops normal Operasi penerbangan normal Close ring jaringan P (normal)
	10-Nop-09	11,15 13,12 8,30	Change over JIAC 2 ke JIAC 1 JIAC 2 MCB di On -	(JIAC 1 onload) Pemuliahan perbaikan kabel TM MCV-P50	

Catatan :
 Info gangguan, dari via telepon menghubungi :
 - PLN UPD Barat (021 - 3846530/31)
 - GI Cengkareng (021 - 5501300)



DATA GANGGUAN PLN BULAN JANUARI S/D DESEMBER 2010

NO	TANGGAL	JAM	URAIAN KEJADIAN	PENYEBAB GANGGUAN	AKIBAT TERHADAP OPERASI
1	23-Jun-10	4,33	JIAC I dan JIAC II kedipan	Menghubungi UPD Barat Gangguan PLN Muara Karang PLTGU II	GS T & P Onload normal
2	21-Jul-10	9,37 10,36 10,36 11,30	JIAC I drop tegangan : 17,75 KV JIAC II drop tegangan : 18,18 KV JIAC I 19,39 KV, JIAC II 19,36 KV JIAC I 20,22 KV JIAC II 20,71 KV Change over load dari GS ke JIAC I	Menghubungi PLN UPD Barat (Didi) Gangguan transmisi 150KV (M.Karang - Gandul)	GS T & P Onload sampai pukul 11.30 MCR trip, direset normal F/W GS T 10 onload => ops normal Jaringan NP diclose Operasi penerbangan normal
3	22-Jul-10	10,34 13,50	JIAC I Off JIAC I kembali normal	Menghubungi PLN (Bpk. Juli) Gangguan Trafo I GI PLN	GS T Onload Normal GS P gagal sinkron => di Block Jaringan kembali normal
4	24-Jul-10	5,22	Kedipan PLN	Menghubungi PLN GI Batujaya (Bpk. Rochmat) Gangguan pada GI Duri Kosambi	GS T & P Operasi normal
5	26-Jul-10	15,58	Kedipan PLN	Menghubungi PLN UPD Barat (Bpk. Yuli/Hendri) Gangguan pada penghantar Tangerang	GS T & P Operasi normal
6	03-Agust-10	8,22 9,08	JIAC I dan JIAC II Padam JIAC I 19,68 KV , JIAC II 19,76KV	Menghubungi PLN Gangguan pada pembangkit Muara Karang	GS T & P Onload normal Jaringan kembali normal
7	05-Agust-10	4,02	Kedipan PLN		GS T & P Operasi normal
8	23-Agust-10	2,20	Kedipan PLN	Menghubungi PLN UPD Barat (Bpk. Azis) Gangguan penyulang Mandi	GS T & P Operasi normal
9	02-Sep-10	15,12	Kedipan PLN	Menghubungi PLN UPD Barat (Bpk. Eardi) Penyulang di GI cengkareng gangguan	GS T & P Operasi normal
10	12-Sep-10	12,35 12,51	JIAC I Padam JIAC II closed	Menghubungi PLN UPD Barat Jaringan T90(Msa) - 10(Msb) Open , MCR dan MCs Open otomatis	JIAC II Closed
11	01-Okt-10	10,33 11,18	JIAC I dan JIAC II Padam JIAC I dan JIAC II Normal (20,05 KV)	Menghubungi PLN UPD Barat (Bpk. Hanin) Koordinasi petugas PLN MPS (Bpk. Hendrik) Gangguan Transmisi SUTET dari Kosambi yang mengarah ke GI Cenakarena	GS T & P Onload normal GS MPS II Onload normal
12	12-Okt-10	3,28 3,29	JIAC II Padam Change Over PLN/JIAC I (Mca) ON	Menghubungi PLN UPD Barat	CB Mch, Mcl, MCr, MCp, MCq, MCs relay bekerja Ground fault GS T Onload normal GS P running tapi tidak sempat Onload, karena MSm local dan tidak terjadi Change Over
13	9-Nov-10	16,25	Kedipan PLN	Menghubungi PLN UPD Barat (Bpk. Eko) Gangguan overload, moment arus pada Garuda	Peralatan Normal

NO	TANGGAL	JAM	URAIAN KEJADIAN	PENYEBAB GANGGUAN	AKIBAT TERHADAP OPERASI
14	16-Nov-10	6,01	Kedipan PLN	Menghubungi PLN UPD Barat (Bpk. Agus) Gangguan Gardu Petukangan Trafo 1	F/W Genset T9 Onload
15	28-Nov-10	20,37	Kedipan Listrik PLN	Menghubungi PLN Batujaya (Bpk. Rahmat) JIAC III Trip, Rele kerja. Gangguan Suralaya, Trafo unit 3 Suralaya Meledak	F/W Genset T9 Onload F/W Genset T5 Onload
16	05-Des-10	8,36 8.41 - 10.01	Kedipan PLN Peralatan seluruh LC di Close	Menghubungi PLN UPD Barat (Bpk. Hary) Ada pemeliharaan trafo di GI Cengkareng	NP11 LCA, NP12 LCA & LCB, NP13 LCA & LCB, NP14 LCA & LCC, NP15 LCB, NP22LCD, NP24 LCD Open
17	16-Des-10	12,53	Kedipan PLN	Menghubungi PLN UPD Barat (Bpk. Sugiyanto) Penghantar II Gandul Petukangan Trip ...	Peralatan Normal

Catatan :
 Info gangguan, dari via telepon menghubungi :
 - PLN UPD Barat (021 - 3846530/31)
 - GI Cengkareng (021 - 5501300)



DATA GANGGUAN PLN BULAN JANUARI S/D DESEMBER 2011

NO	TANGGAL	JAM	URAIAN KEJADIAN	PENYEBAB GANGGUAN	AKIBAT TERHADAP OPERASI
1	21-Jan-11	18,44	Kedipan PLN	Menghubungi PLN UPD Barat (Bpk. Keny & Bpk. Jumadi) Gangguan Trafo di GI Tangerang	Peralatan Normal
2	25-Jan-11	1,10	Kedipan PLN	Menghubungi PLN UPD Barat (Bpk. Azis) Gangguan Trafo di GI Tangerang	Peralatan Normal
3	06-Feb-11	9,31	Frekuensi turun 49,13 Hz	Menghubungi PLN UPD Barat (Bpk. Jumadi) Paition unit I & unit II Trip	Peralatan Normal
		10,10	Frekuensi Normal 50,5 Hz		
4	18-Mar-11	13,09	Frekuensi & Tegangan PLN turun (49,17 Hz & 19,7 kV)	Menghubungi PLN UPD Barat (Bpk. Henry) Gangguan pada PLTU Drajat 2 (Cirebon) 150 kV	Peralatan Normal
		13,19	Frekuensi & Tegangan PLN Normal		
5	18-Mar-11	18,20	Frekuensi PLN Turun	Menghubungi PLN UPD Barat (Bpk. Henry) Gangguan pada PLTU Gresik	Peralatan Normal
6	22-Mar-11	10,20	Frekuensi PLN Turun (49,17 Hz / 19,88 kV)	Menghubungi PLN UPD Barat (Bpk. Azis) PLTU Gangguan	Peralatan MPS Normal
		10,30	Frekuensi PLN Normal		
7	09-Apr-11	20,25	Kedipan PLN	Menghubungi PLN UPD Barat (Bpk. Dedi) Penyulang Garuda I Beban Drop dari 40 A ke 5 A	Peralatan Normal
8	06-Mei-11	10,25	Kedipan PLN	Menghubungi PLN UPD Barat (Bpk. Samim) Penghantar Duri Kosambi Trip	Peralatan di Mps tidak terganggu
9	10-Mei-11	18,17	Kedipan PLN	Menghubungi PLN UPD Barat (Bpk. Akson) Trafo I di Bekasi Trip	Peralatan di Mps tidak terganggu
10	20-Mei-11	13,46	Kedipan PLN	Menghubungi PLN UPD Barat (Bpk. Agus) Kemungkinan gangguan penghantar Pembangkit Muara Karang Menghubungi PLN GI Batu Jaya (Bpk. Yuli)	Peralatan tetap beroperasi normal

NO	TANGGAL	JAM	URAIAN KEJADIAN	PENYEBAB GANGGUAN	AKIBAT TERHADAP OPERASI
				Sumber tidak diketahui	
11	27-Jun-11	6,23	Kedipan PLN	Menghubungi PLN UPD Barat (Bpk. Ahmad) Penyebab belum bisa dipastikan	Peralatan tetap bekerja normal
12	04-Jul-11	22,29	Kedipan PLN	Menghubungi PLN UPD Barat (Bpk. Azis) Gangguan Penyulang Serathon trip	Peralatan tetap beroperasi normal, Genset tidak bekerja
13	04-Okt-11	23,16	Kedipan PLN sebanyak 2x	Menghubungi PLN GI Batu Jaya (Bpk. Junaedi) Penghantar Duri Kosambi ke Grogol Trip	F/W Genset T4 sementara diBlock Listrik & Operasi penerbangan Bandara normal
14	01-Des-11	18,30	Kedipan PLN	Menghubungi PLN UPD Barat (Bpk. Hendrik) Penyulang Mantel 20 kV di GI Cengkareng Trip	Peralatan Normal
15	01-Des-11	18,40	Kedipan PLN	Menghubungi PLN UPD Barat (Bpk. Hendrik) Gangguan Penghantar 500 kV (Depok-Tasik) Trip	Genset tidak running, Peralatan listrik Normal
16	23-Des-11	14,58	Kedipan PLN	Menghubungi PLN UPD Barat (Bpk. Hendrik) Ada pekerjaan Trafo 5 di GI Cengkareng	Genset tidak running, Peralatan Listrik & Operasi penerbangan Bandara normal

Catatan :

Info gangguan, dari via telepon menghubungi :

- PLN UPD Barat
- GI Cengkareng

(021 - 3846530/31)

(021 - 5501300)

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DATA GANGGUAN PLN BULAN JANUARI S/D DESEMBER 2012

NO	TANGGAL	JAM	URAIAN KEJADIAN	PENYEBAB GANGGUAN	AKIBAT TERHADAP OPERASI
1	01-Apr-12	16.48	Kedipan PLN	Menghubungi PLN UPD Barat (Bpk. Dwi) Gangguan Penghantar 150 KV antara GI Duri Kosambi dan GI Cengkareng, Trafo 5 GI Cengkareng Trip	Operasi Penerbangan & listrik bandara normal
2.	03-Apr-12	00.27	JIAC 1 off (padam),	Menghubungi GI Cengkareng (Bpk Arif) Gangguan Kabel JIAC 1 E rusak Megger kabel JIAC 1E 5 KV selama 1 menit: L1E-G = 23,6 G L2E-G = 10 K L3E-G = 27,3 G	MCA change ke MCB MCh, MCt, MCv & MCq trip earth fault (sepam)
		04.53	Penormalan kembali tegangan JIAC 1		Operasi Penerbangan & listrik bandara normal
2	25-Apr-12	13.18	JIAC I & JIAC II Off (Padam)	Menghubungi PLN UPD Barat (Bpk. Yuli & Akse) Gangguan Interbus Trafo 500 kV GI gandum	Genset T, P & T3 On-Load jam 14.51 Mca & MCB posisi Local F/W Genset & UPS On-Load Normal
		14.05	JIAC I On (17 kV & 49 Hz)		
		14.10	JIAC II On (16 kV & 49 Hz)		
		14.25	JIAC I & JIAC 2 Normal		Jaringan NP di Close dari Feeder MCB
		14.55	Change over Genset ke JIAC II		Operasi Penerbangan Normal
3.	13-Mei-12	19.45	tegangan JIAC II phase R dan T 19,9 kv	dilaporkan ke PLN UPD Barat (bapak Aji)	Operasi Penerbangan Normal
4.	12-Jul-12	20.49	Kedipan PLN	Menghubungi GI Cengkareng (Bpk Arif) Gangguan antara muara karang - duri kosambi Menghubungi UPD Barat (Bpk Jumadi) Gangguan muara karang - muara angke	T7 UPS 120 KVA otonomi sesaat Operasi Penerbangan normal
5.	13-Jul-12	09.30	Tegangan incoming JIAC 1 dan 2 turun: MCA = 19.750 KV MCB = 19.600 KV	Menghubungi UPD Barat (Bpk Dwi) Keterangan : Tidak terjadi apa-apa. dari Gardu GI menaikkan tapping trafo untuk memulihkan tegangan.	

NO	TANGGAL	JAM	URAIAN KEJADIAN	PENYEBAB GANGGUAN	AKIBAT TERHADAP OPERASI
					Operasi Penerbangan normal
		10.02		Tegangan JIAC 1 & 2 normal MCA = 20.500 KV MCB = 20.350 KV	
6.	16-Jul-12	10.00	Kedipan PLN	Menghubungi UPD Barat (Bpk Hendra) Penyulang Duri Kosambi- Kebon Jeruk Trip (ground fault)	Operasi Penerbangan normal
7.	24-Jul-12	17.40	Kedipan PLN	Menghubungi UPD Barat (Bpk Hendra) Informasi gangguan sedang dilacak Menghubungi GI Batu Jaya (Bpk Arif) Gangguan di penyulang Tangerang Lama 150 KV	Operasi Penerbangan normal
8.	24-Agust-12	11.30	Tegangan PLN MCA 19,65 KV	Menghubungi GI Batujaya (Bpk Arif) Tegangan dinaikan 20,01 KV	Operasi Penerbangan normal
9.	24-Sep-12	15.04	Kedipan PLN 2 kali	Menghubungi UPD Barat (Bpk Aziz) Belum ada informasi jelas dari PLN	UPS T7 Otonomi Genset Teknik dan Priority, tidak sempat running Operasi penerbangan normal
10.	24-Sep-12	15.06	JIAC 1 & 2 off (padam)	Menghubungi UPD Barat (bpk Aziz, bpk Hendra, dan Bpk Dwi) Gangguan penghantar 150 KV dari GI duri kosambi GI Cengkareng	Genset Teknik dan Priority, running Genset terminal 3 running Genset mobil 1000 KVA running
		18.01	tegangan /kembali normal		operasi penerbangan normal
11.	16-Sep-12	10.30	JIAC 1 drop tegangan 19,3 KV	Menghubungi UPD Barat (Bpk Hendra) JIAC 1 tegangan normal kembali 19,8 KV	operasi penerbangan normal
		11.20	Tegangan PLN drop 19,03 KV	Menghubungi ke GI Cengkareng (Bpk Aris) tegangan dinaikan ke 20,2 KV	operasi penerbangan normal
12.	16-Okt-12	09.01	Kedipan PLN	Menghubungi APD Barat (Bpk Dwi) Pengantar Duri Kosambi 150 KV trip	operasi penerbangan normal
13.	17-Okt-12	08.40	JIAC 2 Off (pelaksanaan potong sambung kabel JIAC 2	Pelaksanaan potong sambung kabel JIAC 2: dari GI ke GH dan dari GH ke MPS	operasi penerbangan normal
		14.34	JIAC 2 On	Pekerjaan potong sambung kabel JIAC 2 selesai	operasi penerbangan normal
14.	22-Okt-12	09.30	Tegangan JIAC 1 drop	Menghubungi GI Batujaya (Bpk Jaya)	operasi penerbangan normal

NO	TANGGAL	JAM	URAIAN KEJADIAN	PENYEBAB GANGGUAN	AKIBAT TERHADAP OPERASI
			Phase 1 = 19,58 KV Phase 2 = 19,71 KV Phase 3 = 19,62 KV	Tegangan di normalkan kembali	
15.	24-Okt-12	20.37	Kedipan PLN	Menghubungi PLN APD /Barat (Bpk Hendra) Gangguan penghantar 150 KV Teluknaga - Sepatan "Recloser"	operasi penerbangan normal
16	14-Des-12	16.30	Tegangan PLN Mca (stanby) drop menjadi 18,18 kV	Koordinasi dengan petugas standby P. Rafi dan UPD /Barat P. Didik, info dari GI Tangerang lama P. Rian Tap changer trafo sudah max. Suplay 150 kV Jatake- Kit Balaraja drop sampai 130 kV	operasi penerbangan normal
17	31-Des-12	09.49	Padam listrik Kabel TM terkena ekskavator arah G.03 Ke G.03 Ext	Cek SEPAM XCD Phase fault - Element 1 group A = 6679/6914/7009 A - Element 2 group A = 6679/6914/7009 A Kabel TM terkena ekskavator arah G.03 ke G.03 Ext	Genset Teknik dan Priority running Genset terminal 3 running operasi penerbangan normal

Catatan :
guan, dari via telepon menghubungi :
- PLN UPD Barat
- GI Cengkareng

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(021 - 5501300)

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DATA GANGGUAN PLN BULAN JANUARI S/D DESEMBER 2013

NO	TANGGAL	JAM	URAIAN KEJADIAN	PENYEBAB GANGGUAN	AKIBAT TERHADAP OPERASI
	4-Jan-13	23.10	Tegangan PLN terlalu Tinggi teg= 20,91/21,02/20,88 kV	Koordinasi dengan PLN GI Tangerang lama P. Sabiran Informasi ada gangguan dan dilakukan penormalan	operasi penerbangan normal
	5-Jan-13	21.30	Tegangan PLN terlalu Tinggi teg= 20,91/21,23/20,92 kV	Koordinasi dengan PLN GI Tangerang lama P. Sabiran Informasi ada gangguan dan dilakukan penormalan	operasi penerbangan normal
	9-Jan-13	01.20	Tegangan PLN terlalu Tinggi teg= 20,9/21/20,9 kV	Koordinasi dengan PLN GI Tangerang lama P. Ryan Informasi ada gangguan dan dilakukan penormalan	operasi penerbangan normal
	12-Jan-13	21.28	Tegangan PLN terlalu Tinggi teg= 20,77/21,06/20,72 kV	Koordinasi dengan PLN GI Tangerang lama P. Ryan Informasi ada gangguan dan dilakukan penormalan	operasi penerbangan normal
	15-Jan-13	11.00	Frequensi incoming Mca Drop Freq= 48,79 Hz	Koordinasi dengan PLN GI Tangerang lama P. Sarifan Informasi ada gangguan dan dilakukan penormalan	operasi penerbangan normal
	17-Jan-13	21.21	Kedipan PLN teg= 20,28/20,45/20,33 kV	Koordinasi dengan UPD Barat P. Dwi, Informasi penghantar Duri Kosambi Change over	operasi penerbangan normal
	20-Jan-13	23.35	Tegangan PLN terlalu Tinggi teg= 21,04 kV	Koordinasi dengan PLN GI Tangerang Lama P. Yopi, informasi tegangan diturunkan	operasi penerbangan normal
1	21-Jan-13	09.06	Tegangan PLN Drop	Koordinasi dengan PLN GI Tangerang lama (P. Diran) Seting Tapping Trafo Maksimum . Koordinasi dengan PLN GI Teluk Naga P. Bambang Koordinasi dengan UPD Barat P. Dwi, Info pembangkit Muara Karang Shutdown Koordinasi dengan UPD Barat P. Dwi, Info pembangkit Muara Karang Shutdown Tegangan PLN Mca 19,0 kV (Main) MCb 19,4 kV (Standby)	Peralatan Keselamatan Penerbangan dan Penunjang operasional penerbangan "operasi normal", Jaringan Priority di suplay dua Genset dan jaringan teknik disuplay dua Genset CB P50 MCB untuk pumping station di off untuk mengurangi beban genset priority operasi penerbangan normal
2	21-Jan-13	00.05	Tegangan PLN terlalu Tinggi teg = 21,9/22/21,9 kV	Koordinasi dengan Petugas PLN P. Abas, untuk menurunkan tegangan	operasi penerbangan normal

NO	TANGGAL	JAM	URAIAN KEJADIAN	PENYEBAB GANGGUAN	AKIBAT TERHADAP OPERASI
3	25-Jan-13	10.50	Tegangan PLN Drop teg= 19,6/19,74/19,66 kV	Koordinasi dengan Petugas IPLN P. Abas, informasi tegangan 150 kV turun Koordinasi dengan UPD Barat P. Andik Informasi ada CB yang turun	operasi penerbangan normal
	25-Jan-13	12.12	Tegangan PLN terlalu Tinggi teg= 20,53/20,99/21,58 kV	Koordinasi dengan Petugas IPLN P. Abas, informasi tap Changer diturunkan	operasi penerbangan normal
	25-Feb-13		Tegangan PLN drop teg= 19,5/19,7/19,6 kV	Koordinasi dengan UPD Barat P. Diri, informasi agar tegangan dinaikkan	operasi penerbangan normal
4	26-Feb-13	10.07	Tegangan PLN drop teg= 19,67/19,8/19,73 kV	Koordinasi dengan GI Batu Jaya P. Rachmad, informasi teg 150 kV turun Menjadi 14,2 kV Koordinasi dengan UPD Barat P. Cece, tegangan normal	operasi penerbangan normal

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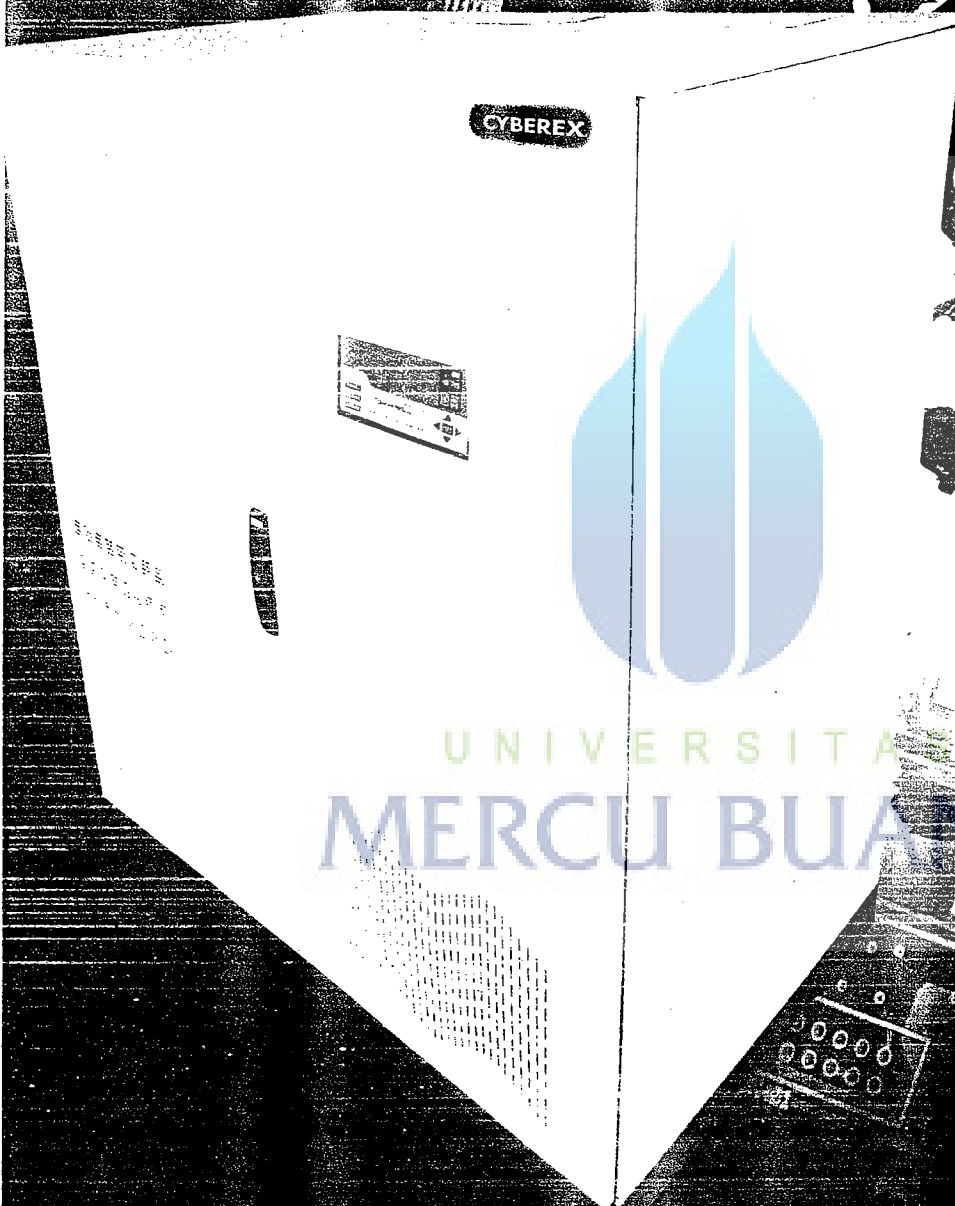
SPESIFIKASI UPS CYBEREX

U N I V E R S I T A S

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CYBERWAVE

UPS



CI3 SERIES

10 kVA / 8 kW

20 kVA / 16 kW

30 kVA / 24 kW

40 kVA / 32 kW

60 kVA / 48 kW

80 kVA / 64 kW

100 kVA / 80 kW

120 kVA / 96 kW

140 kVA / 112 kW

160 kVA / 128 kW

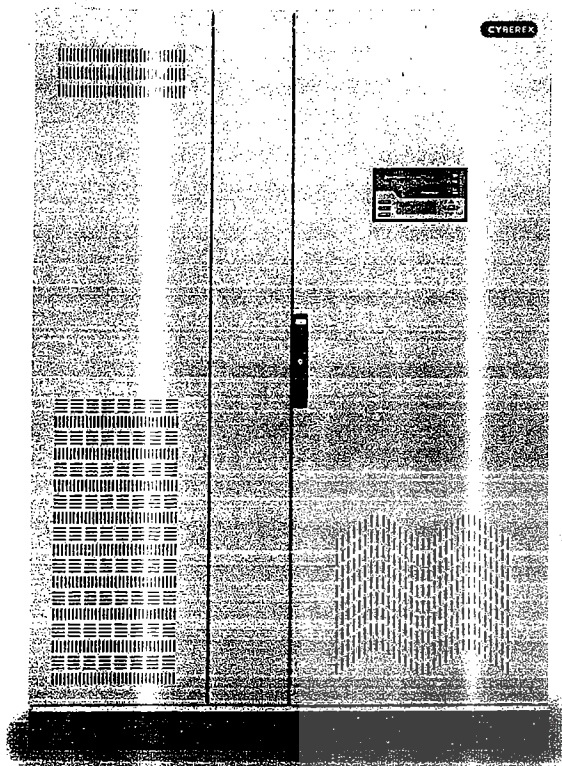
225 kVA / 180 kW

330 kVA / 264 kW



CYBERWAVE UPS CI 3 SERIES

UNINTERRUPTIBLE POWER SUPPLY

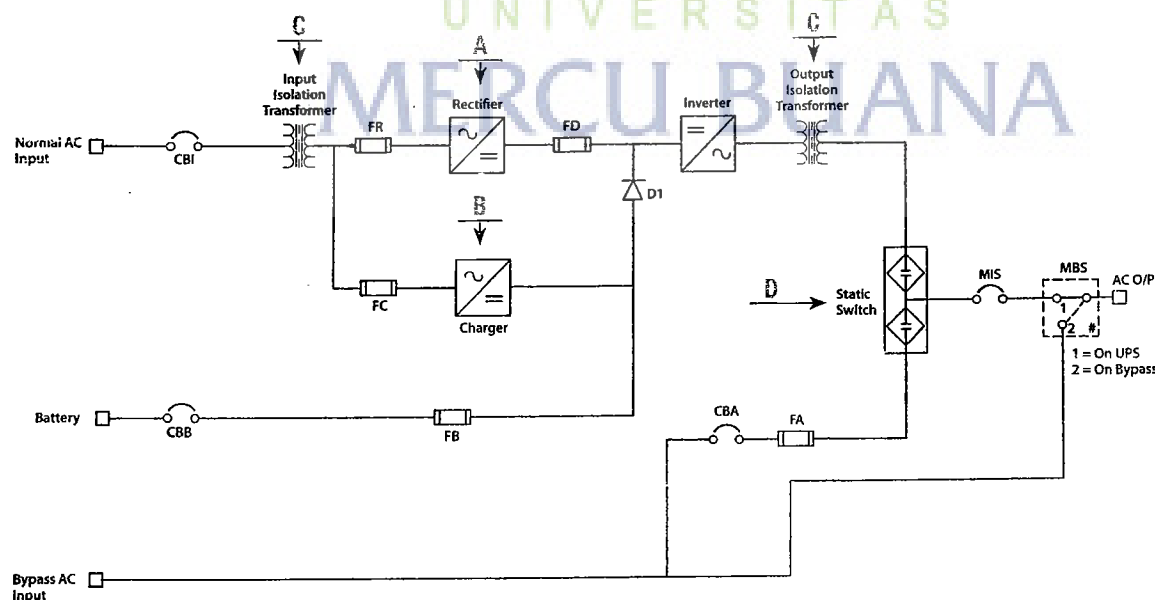


The market leader for nearly 50 years, Thomas and Betts Power Solutions offers a true online, double conversion UPS system developed to IEC standards as an optimal and cost effective solution for applications in oil and gas, power generation, and heavy manufacturing processes. Ranging from 10-330kVA, the Cyberwave CI 3 Series incorporates state of the art system topology for increased system efficiency and battery life. Designed for a 20 year life, these systems feature PWM inverter technology, DSP digital controls, parallel redundancy, and rugged overload and fault clearing capabilities. In addition, the CI 3 Series includes fiber optic data paths for enhanced and accurate controls and communication, an input and output isolation transformer, and a fully rated, rugged static transfer switch. For critical industrial applications, the CI 3 Series ensures increased system reliability and security that only come from having truly uninterruptible power.

FEATURES

- IEC 62040 compliant; ideal for international applications
- IGBT based PWM inverter; digital signal processor for accurate and reliable controls
- Input power factor near unity at full loads with reducing reflected harmonics
- Single phase fully rated static switch for increased reliability and security
- Internal communication facilitates high-speed CAN bus for improved signal transfer and between processors
- High-speed branch fuse clearing design provides enhanced fault clearing capability
- Input and output isolation transformer provides continuous, clean and regulated power without external effects
- Monitoring via LAN through SNMP, modbus, profibus protocol communication for accurate system analysis

HARDWARE CONFIGURATION



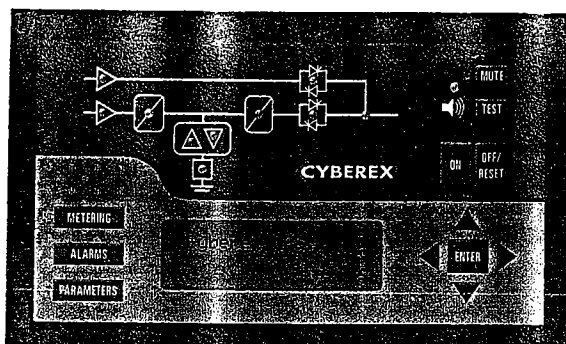
HARDWARE CONFIGURATION KEY

- A Unregulated bus enables flexible battery string configurations and low reflected harmonics
- B Separate battery charger reduces ripple on battery for increased battery life and efficiency
- C Input and output isolation transformer for maximum reliability
- D Fully rated static switch for increased redundancy and reliability – make before break operation to ensure no load droop

For more information go to www.tnbpowersolutions.com



MIMIC DISPLAY

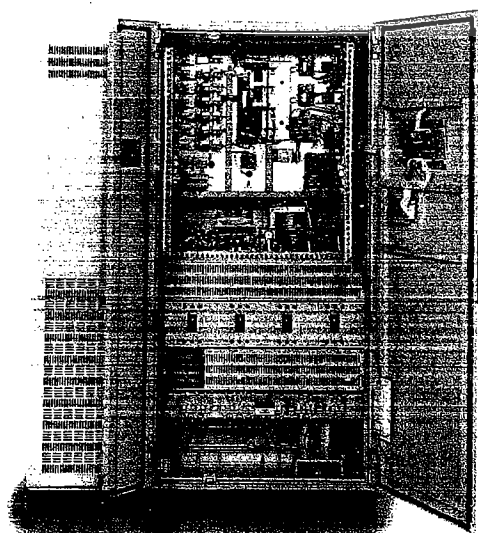


MIMIC/LED INDICATIONS

- Mains Input
- Bypass Input
- Load on Bypass
- Charger Status
- Inverter Operation
- Load on Inverter
- Synchronization – Bypass Inverter
- Battery Operations
- Battery Discharge
- Battery MCCB
- Alarm Indication

OPTIONS

- Parallel or Hot Standby Redundancy
- Input Isolation Transformer
- Bypass Line Regulator
- AC Distribution Panel
- PC Based Monitoring and Recording Unit
- RS-485 Communication Port
- Monitoring on LAN through SNMP
- Monitoring on LAN through Profibus
- Battery Monitoring System
- Remote Annunciator
- Automatic Shutdown Kit
- DCS Connectivity through Modbus / Profibus
- Individual Battery Health Monitoring Systems (BHMS)
- IGBT-Based Rectifier (<5% THDI)
- 12 Pulse Rectifier for Input Harmonic Reduction (<10%)
- Harmonic Filter (5th, 7th, 11th, & 13th)



MAIN INPUT

Voltage	415 VAC (Std) 480 VAC (Optional)
Voltage Range	+15 – 20% at Full Load +15 – 25% at 75% Load
Phase	3 Phase, 3 Wire
Frequency	50 Hz (Standard) 60 Hz (Optional)
Frequency Range	+/- 6%
Input Power Factor	> 0.95 at Full Load
Input Current Harmonics	< 28% at Full Load

DC BUS CHARGER

Voltage	110, 120, 220, 240, 360
Maximum DC Bus Ripple without Battery	< 2% RMS 100% load
Maximum DC Bus Ripple with Battery	< 1% RMS 100% load

OUTPUT

Nominal Voltage	380/400/415V (Standard) 480/208V (Optional)
Load Power Factor Rated	0.80
DC – AC Efficiency	92%
Load Crest Factor	3:1
Voltage Regulation Steady State 100% Step Load	< +/- 1% +/- 5%
Recovery Time	< 20 msec return to 98.9% nominal voltage
Overload	125% 10 minutes • 150% 1 minute
Fault Clearing Capability	Fast acting fuse (4 msec)
Bypass Synchronization Window	+/- 1% to 6% Field Programmable
Internal Oscillator	+/- 0.1%
Slew Rate	1 Hz/Sec
Total Harmonic Distortion Linear Load	< 3%
Nonlinear Load (Crest Factor 3:1)	< 5%
Frequency	50 Hz (Standard) • 60 Hz (Optional)

OPERATING CONDITIONS

Ambient Temperature	0–45° C
Altitude	up to 1000 Meters from MSL
Humidity	90% Non-Condensing
Audible Noise @	55–75 dBA at 1 meter (Model Dependent)

ENCLOSURE

Construction	CRCA Steel Sheet
Protection Class	IP21 (Standard) • IP31, IP41 (Optional)
Finish (Powder Coated)	RAL 7032 (Other Colors Optional)
Ventilation	Forced Air (Internal Fans)
Cable Entry	Bottom – (Top Optional)

DIMENSIONS

kVA	Width	Depth	Height	Weight
10	1870 (mm) 6.1 (ft)	750 (mm) 2.46 (ft)	1800 (mm) 5.90 (ft)	700 (kg) 1540 (lbs)
20	2630 (mm) 8.6 (ft)	750 (mm) 2.46 (ft)	1900 (mm) 6.23 (ft)	750 (kg) 1650 (lbs)
30	2630 (mm) 8.6 (ft)	850 (mm) 2.79 (ft)	2000 (mm) 6.56 (ft)	1100 (kg) 2420 (lbs)
40	2900 (mm) 9.5 (ft)	850 (mm) 2.79 (ft)	2000 (mm) 6.56 (ft)	1500 (kg) 3300 (lbs)
60	3700 (mm) 12.1 (ft)	1000 (mm) 3.28 (ft)	2000 (mm) 6.56 (ft)	1600 (kg) 3520 (lbs)
80	3900 (mm) 12.8 (ft)	1000 (mm) 3.28 (ft)	2000 (mm) 6.56 (ft)	2000 (kg) 4400 (lbs)
100	3900 (mm) 12.80 (ft)	950 (mm) 3.12 (ft)	2000 (mm) 6.56 (ft)	2100 (kg) 4630 (lbs)
120	3900 (mm) 12.80 (ft)	1050 (mm) 3.44 (ft)	2000 (mm) 6.56 (ft)	2250 (kg) 4960 (lbs)
140	4200 (mm) 13.78 (ft)	1050 (mm) 3.44 (ft)	2000 (mm) 6.56 (ft)	2400 (kg) 5291 (lbs)
160	4200 (mm) 13.78 (ft)	1050 (mm) 3.44 (ft)	2000 (mm) 6.6 (ft)	2600 (kg) 5732 (lbs)
225	4200 (mm) 13.78 (ft)	1050 (mm) 3.44 (ft)	2000 (mm) 6.6 (ft)	TBD
330	4200 (mm) 13.78 (ft)	1050 (mm) 3.44 (ft)	2000 (mm) 6.6 (ft)	TBD

* Dimensions are for PR systems • Dimensions confirmed after approval drawings

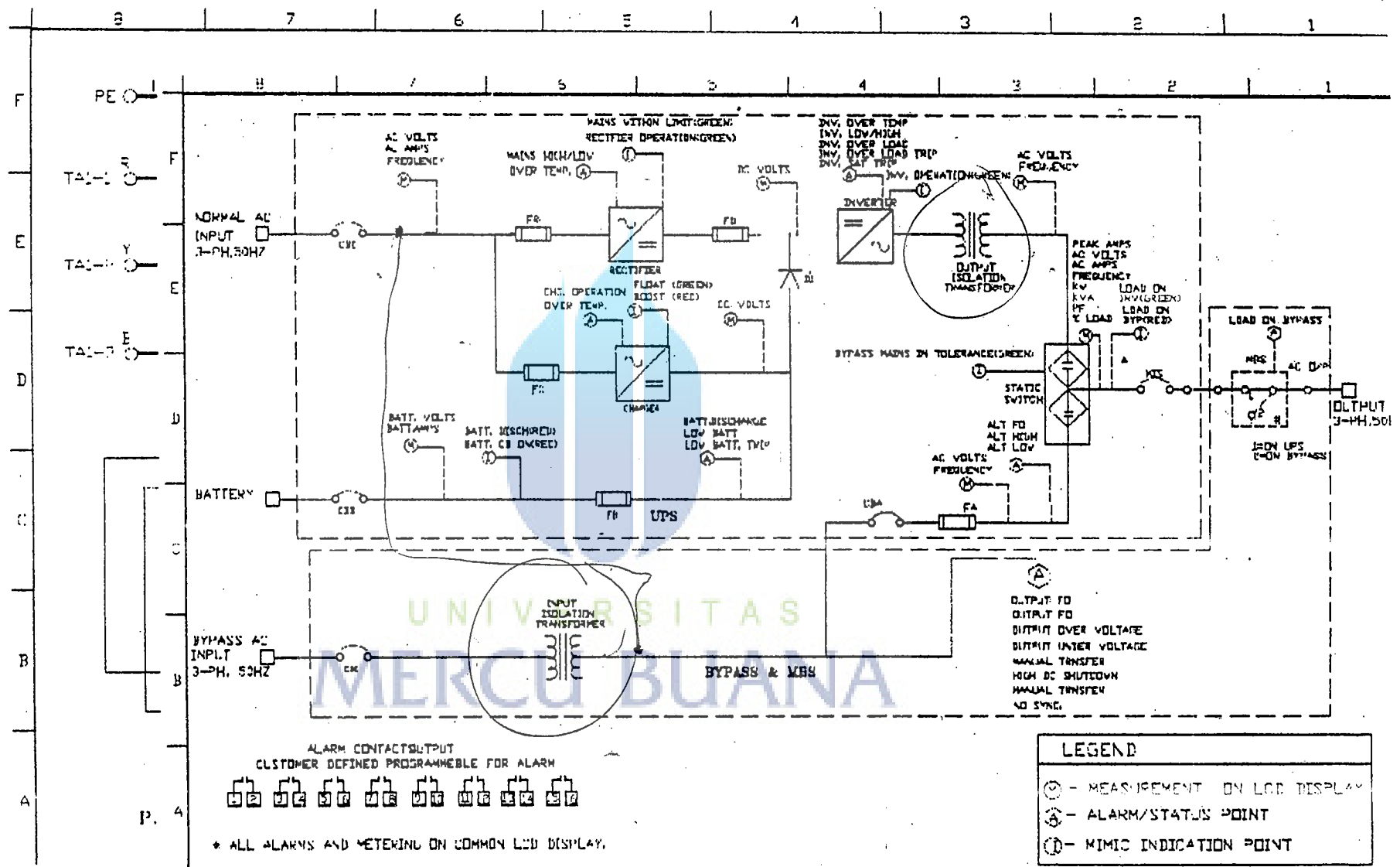
VOLTAGE METERS	Input (Mains)	CURRENT METERS	Input (Mains)
	Alternate		Battery
	Battery		Inverter
	Inverter		Load
FREQUENCY METERS	Load	POWER METERS	Total KVA
	Mains		Total KW
	Alternate		Total Power Factor
	Inverter		UPS KVA
			UPS KW
			UPS Power Factor

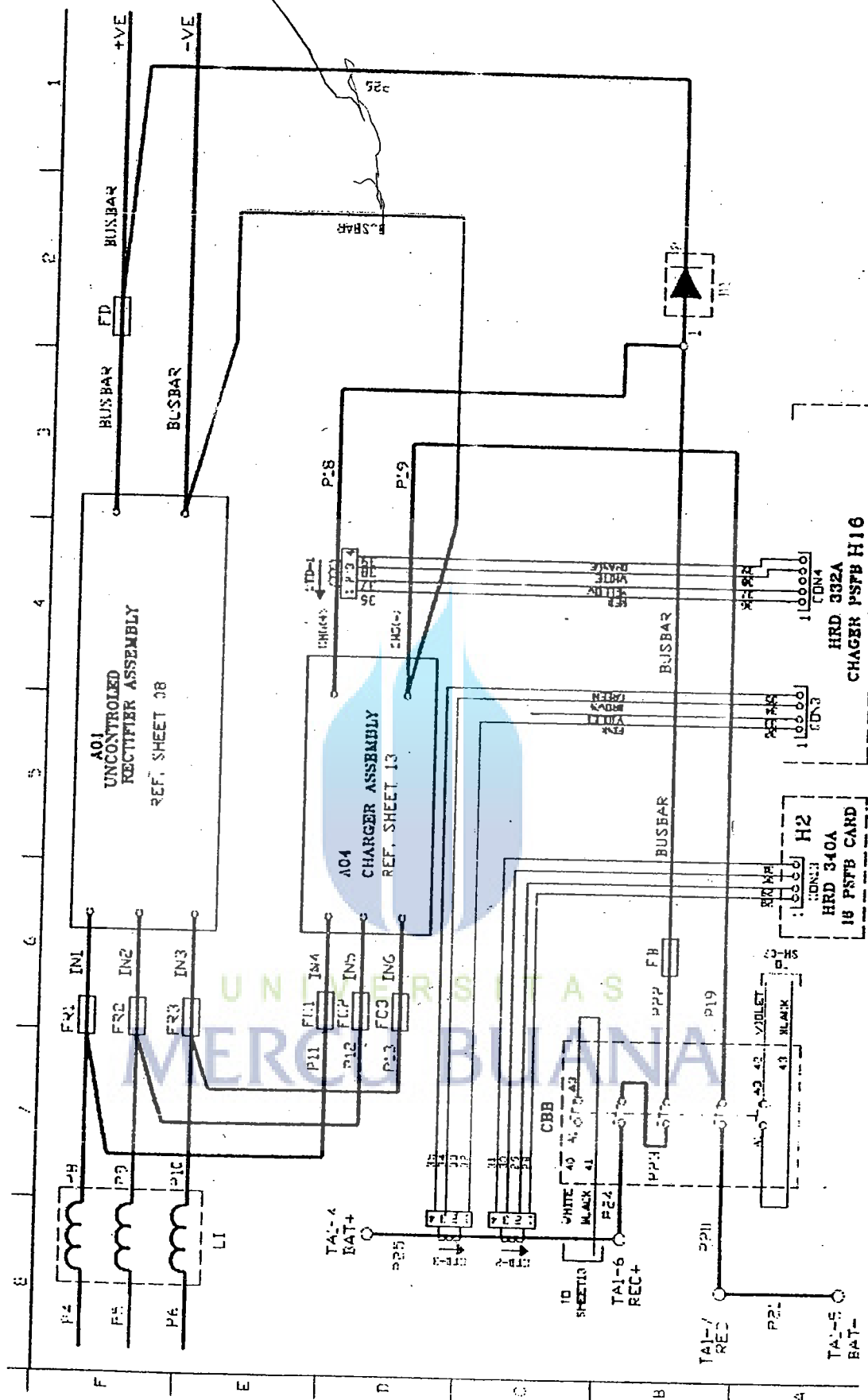
Model	10	15	20	30	40
1000	10	10	10	10	—
1500	15	15	15	15	—
2000	20	20	20	20	—
3000	30	30	30	30	—
4000	40	40	40	40	—
5000	—	—	50	50	—
6000	—	—	60	60	—
8000	—	—	80	80	—
10000	—	—	100	100	—
12000	—	—	—	—	120
16000	—	—	—	—	160

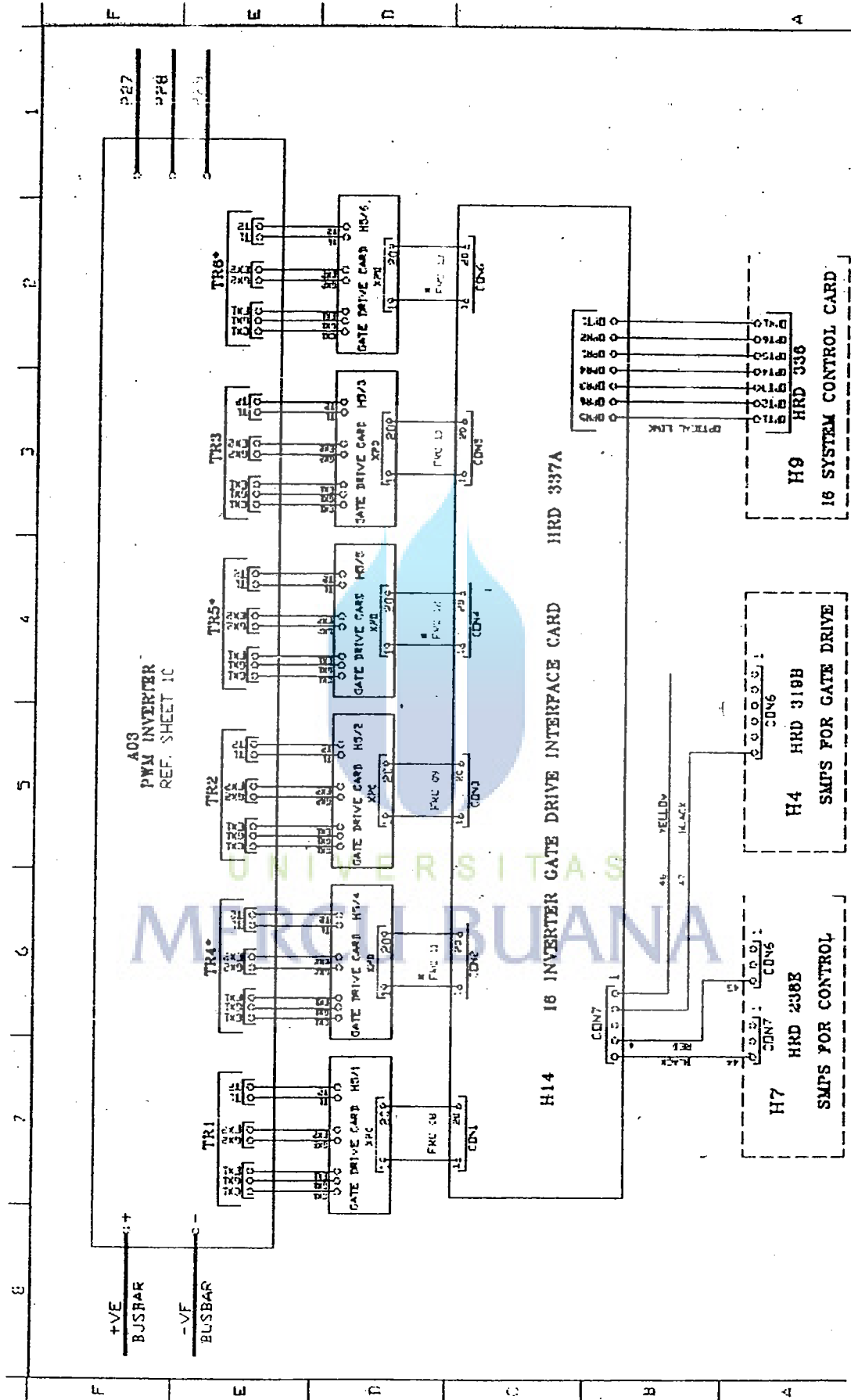
Higher ratings and other voltages available on request.

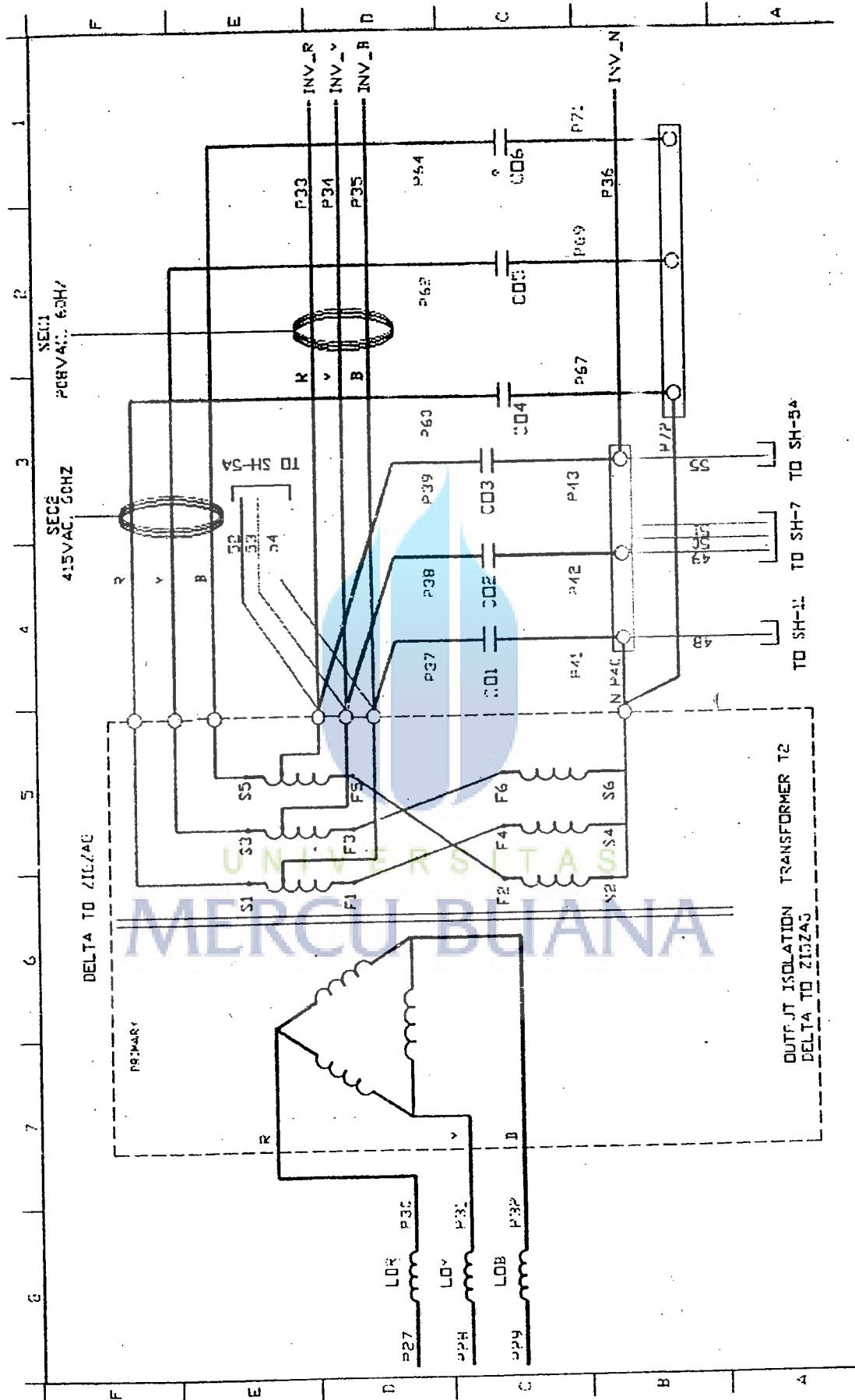
INPUT	Under voltage	Input Low
	Over voltage	Input High
DC	Over voltage	High DC Shutdown
BATTERY	Discharging	Bat Discharge
	Under voltage	Low Battery
	End of battery discharge	Low Battery Trip
INVERTER	Under voltage	Inv Low
	Over voltage	Inv High
	IGBT limb fault	Inv Sat Trip
	Overload	Overload
	Overload Trip (inverse time)	Inv Over LD Trip
	Over temperature	Inv Over Temp
ALTERNATE	Under voltage	Alt. Low
	Over voltage	Alt. High
	Frequency out of range	Alt. FO
STATIC SW	Transfer to Bypass	Load On Bypass

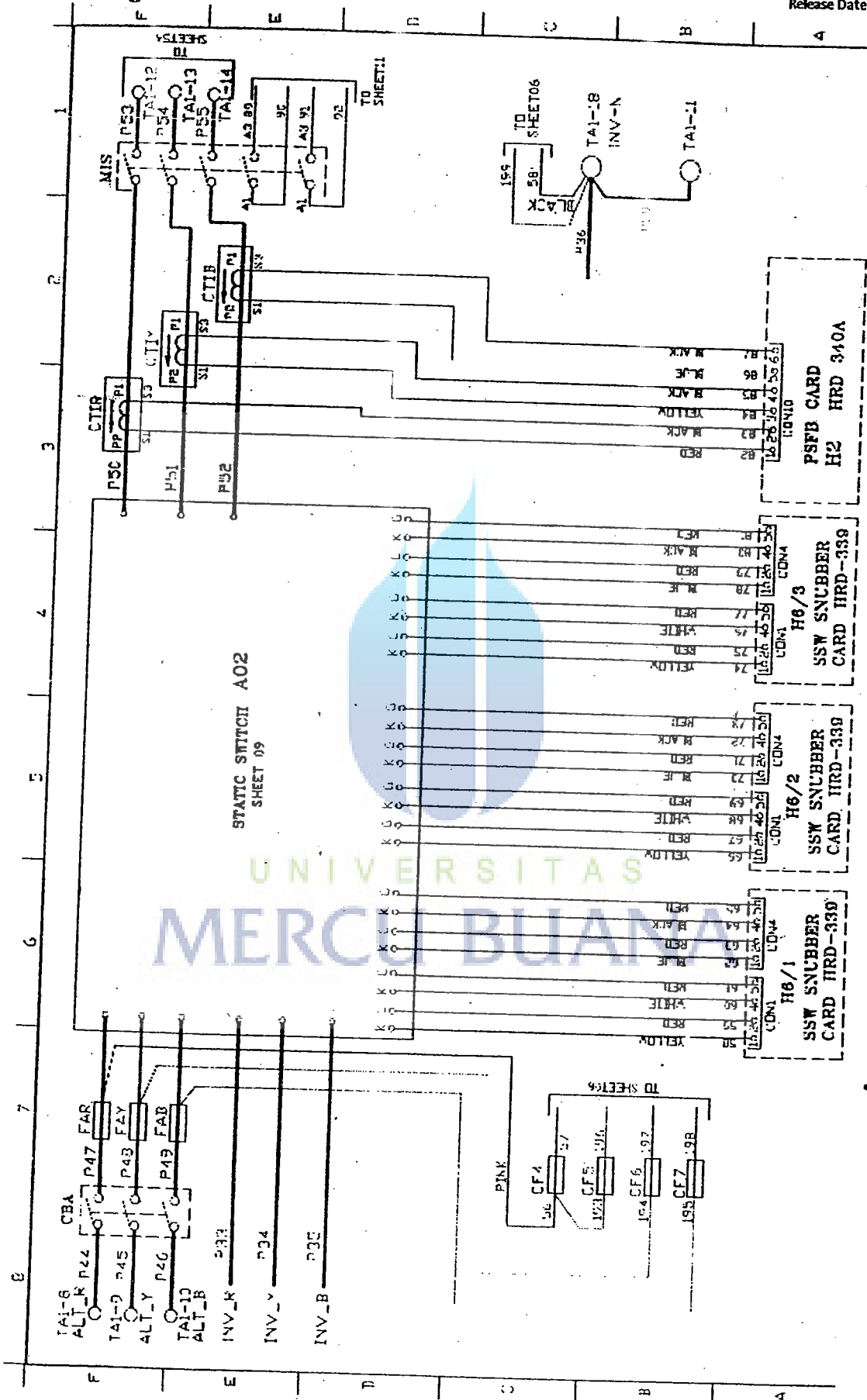
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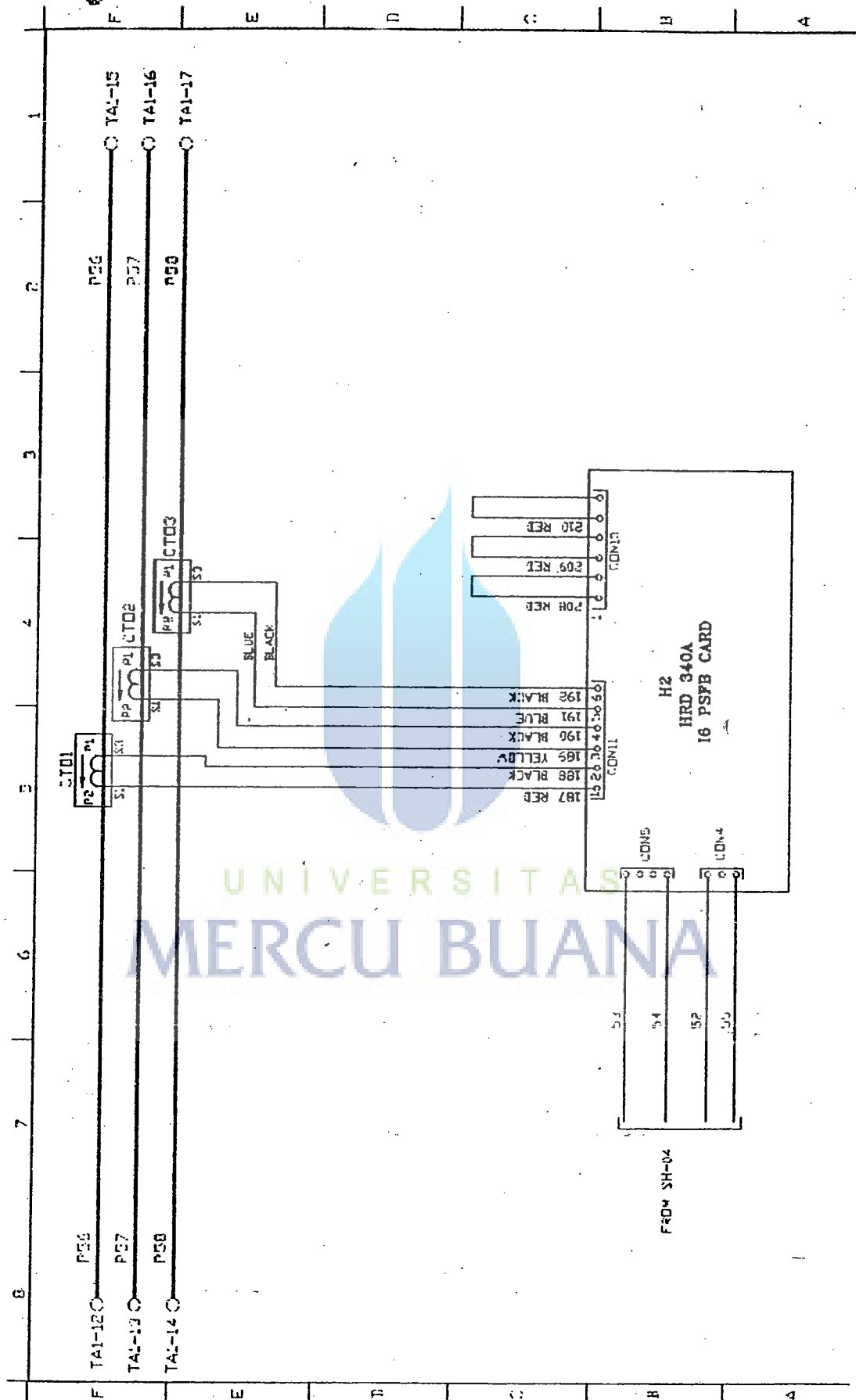


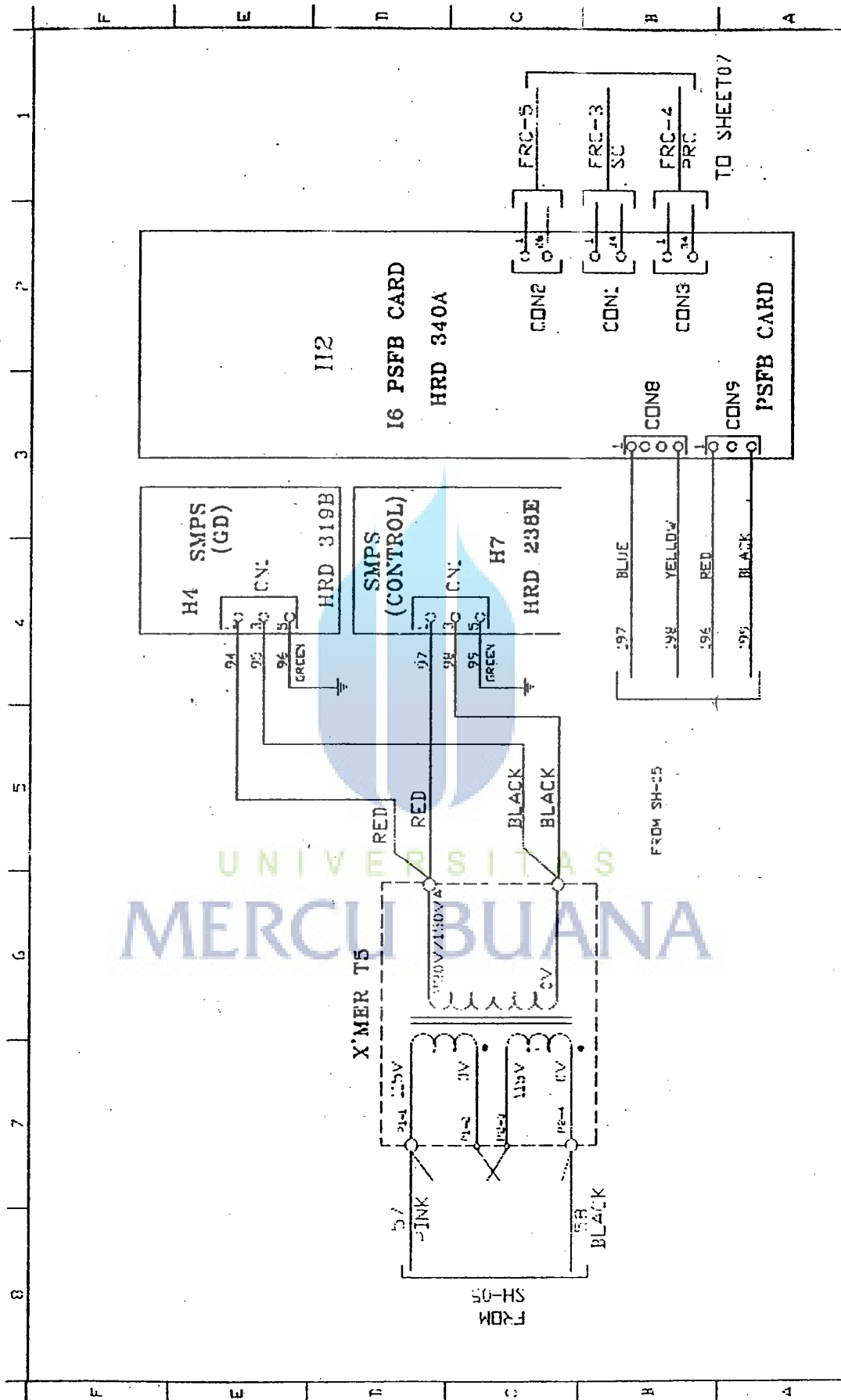


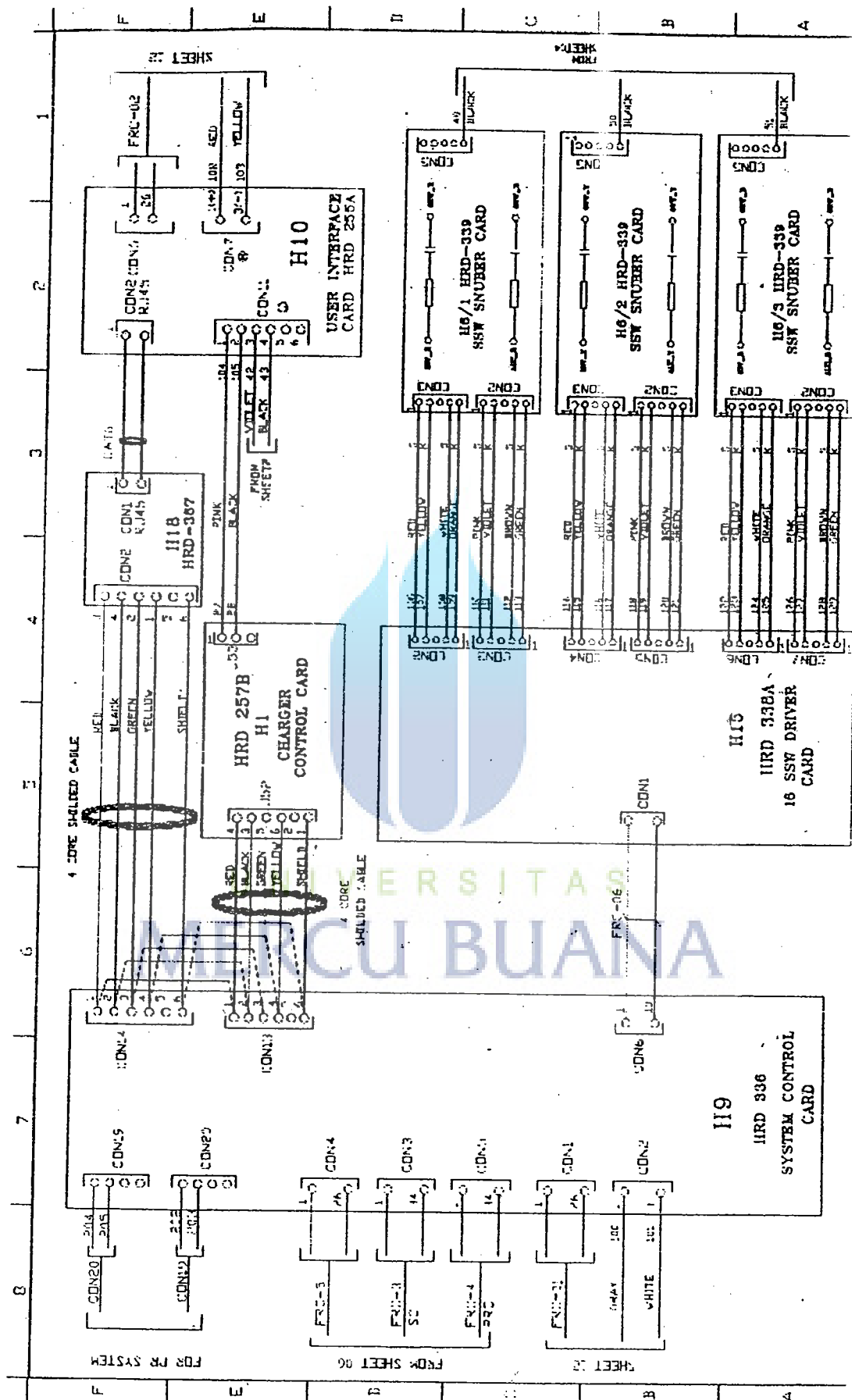


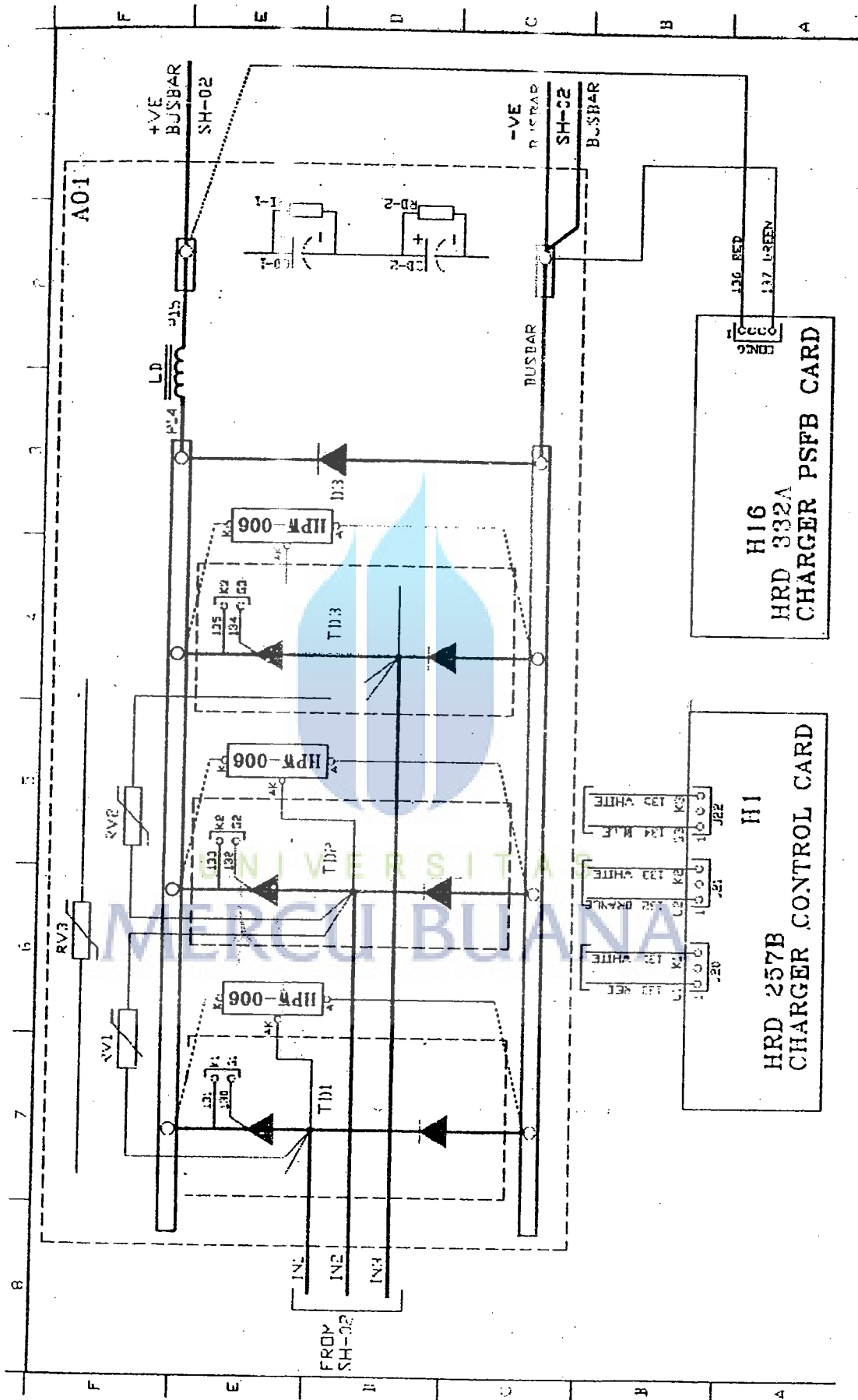


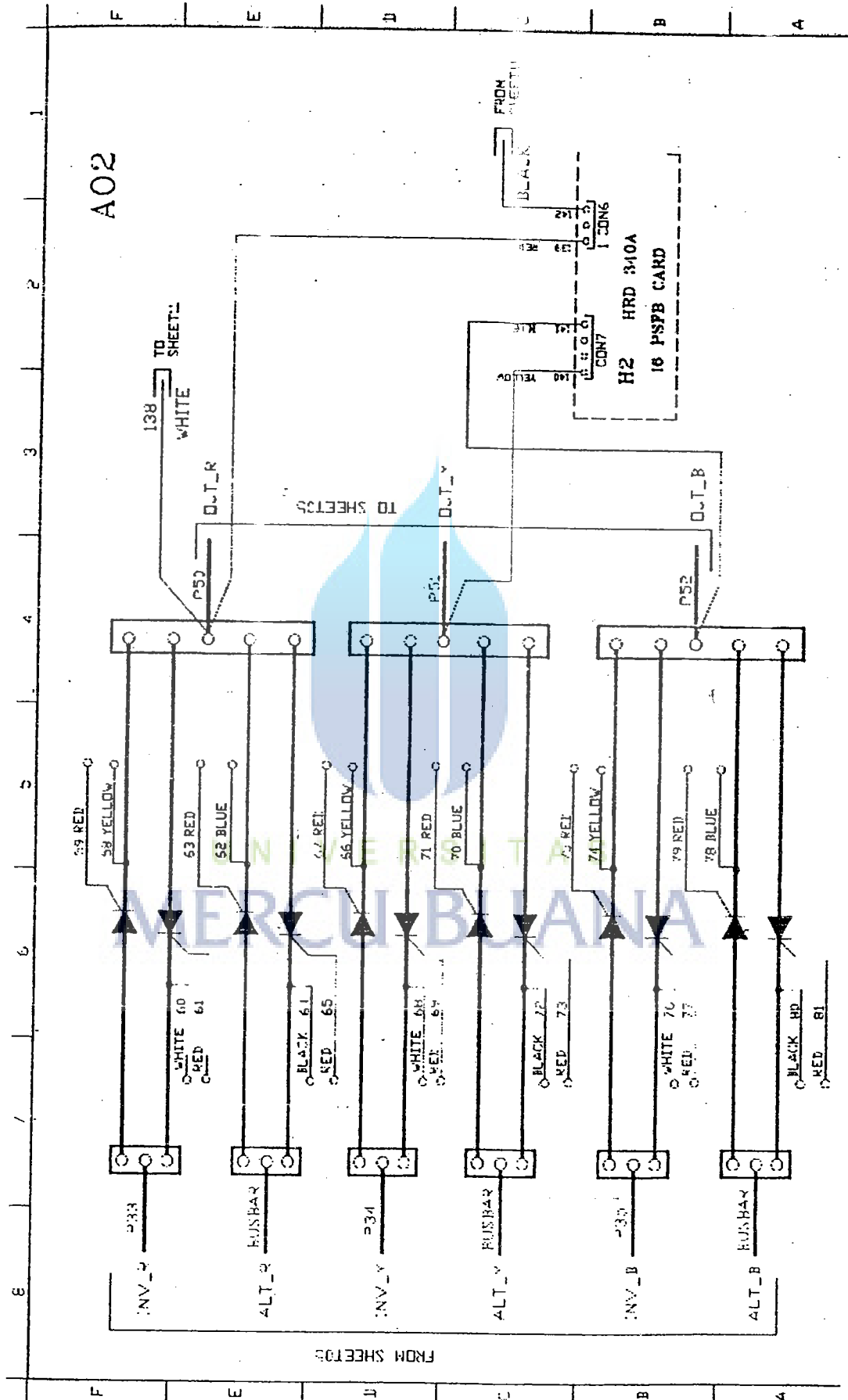


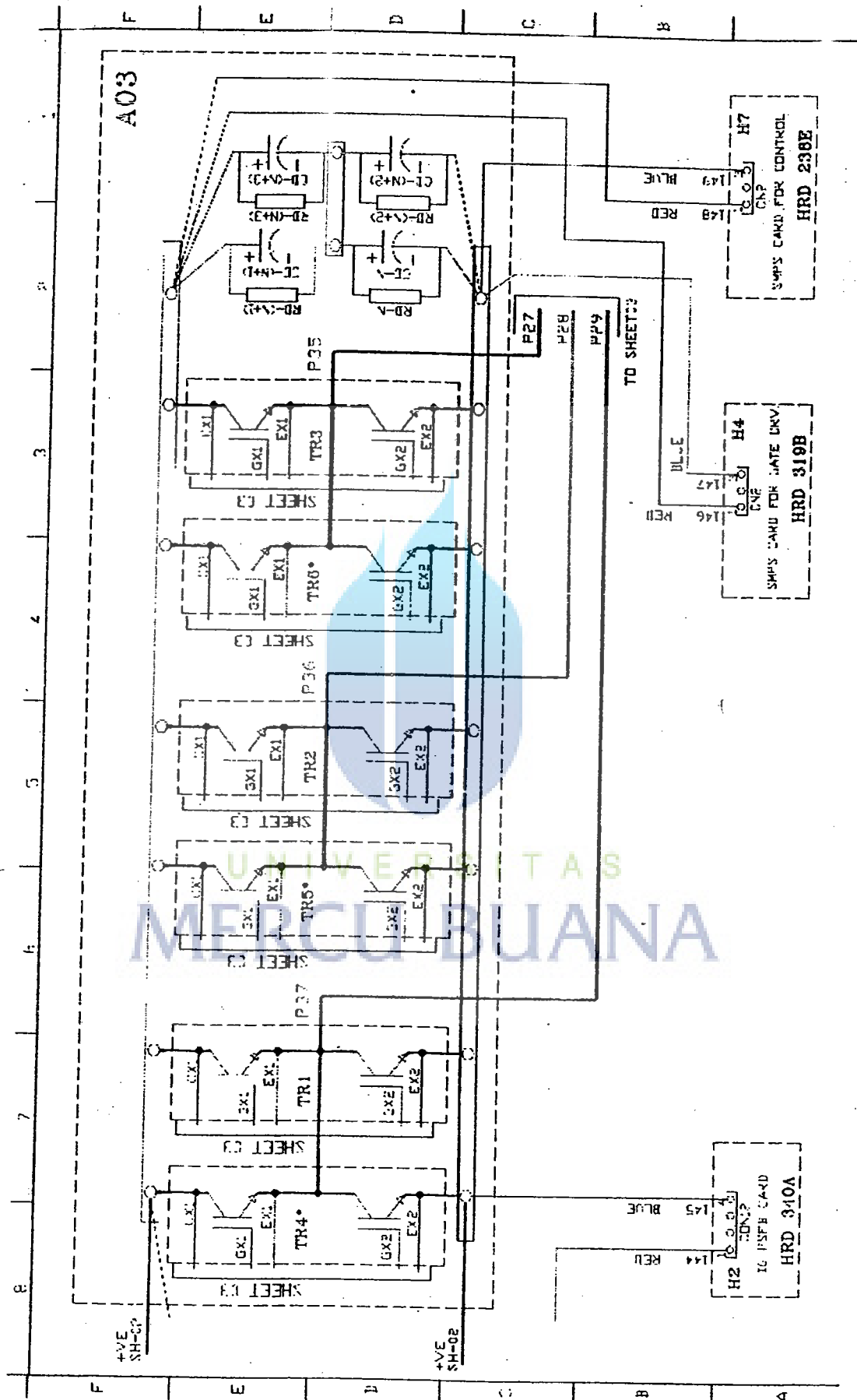


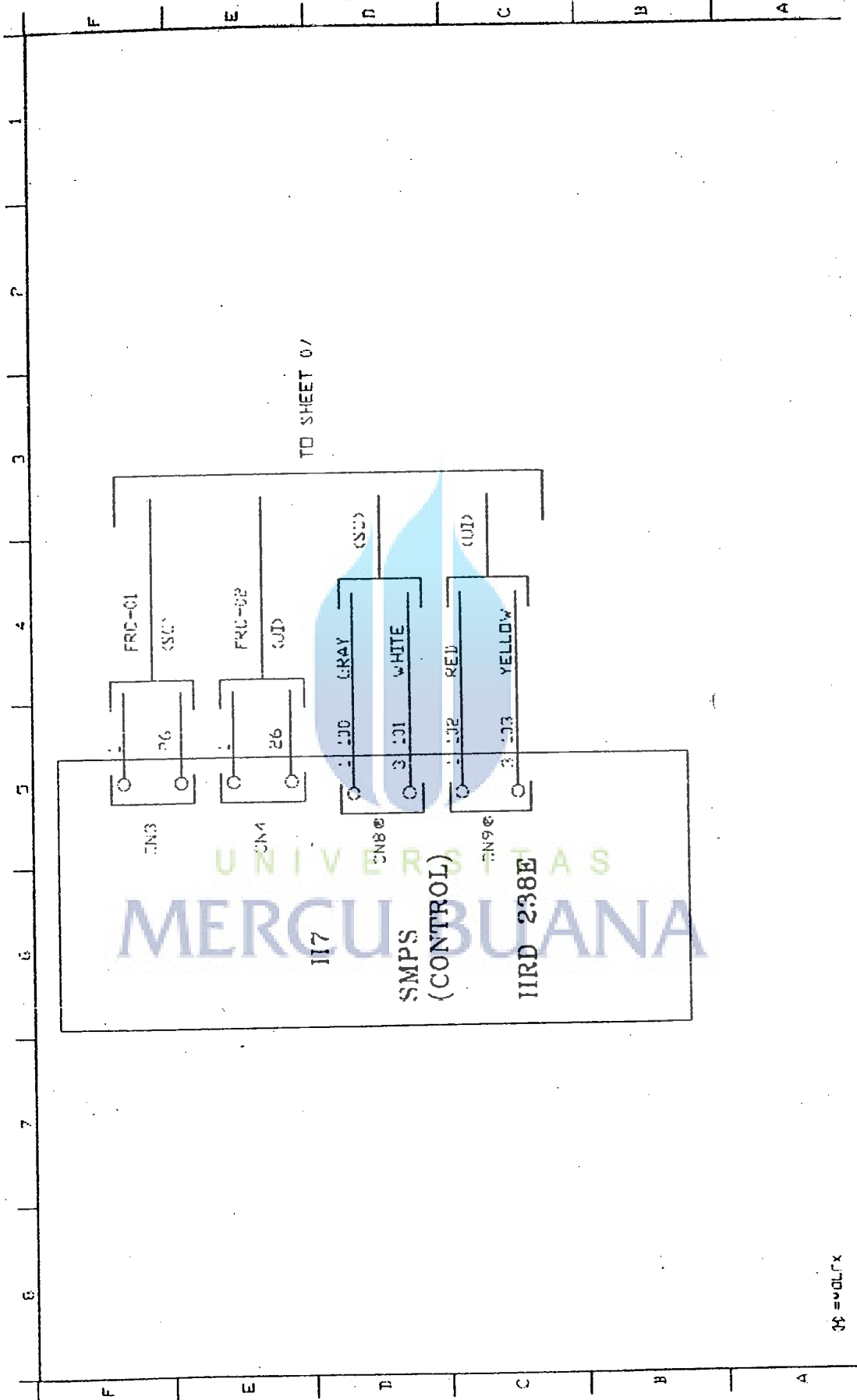


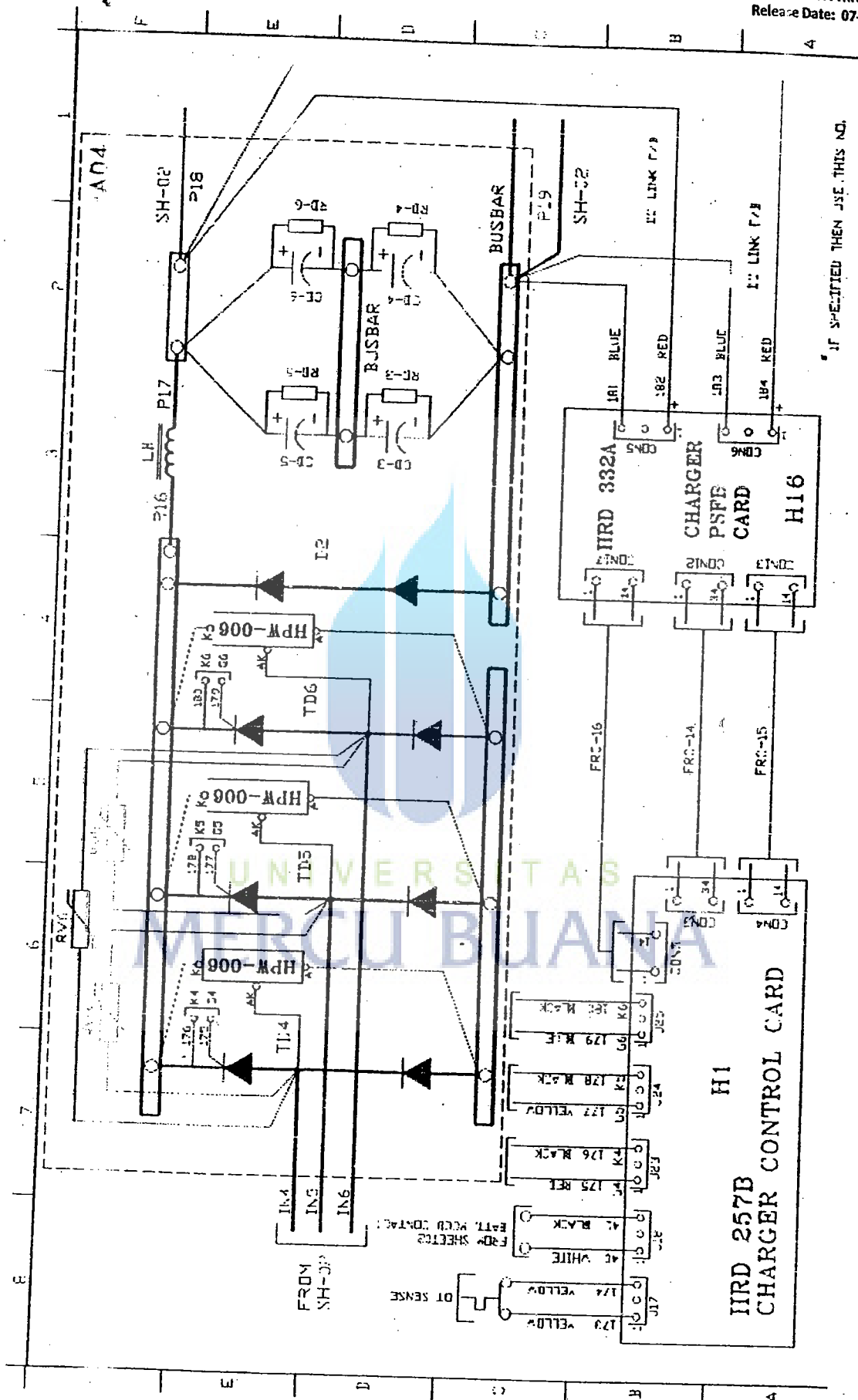


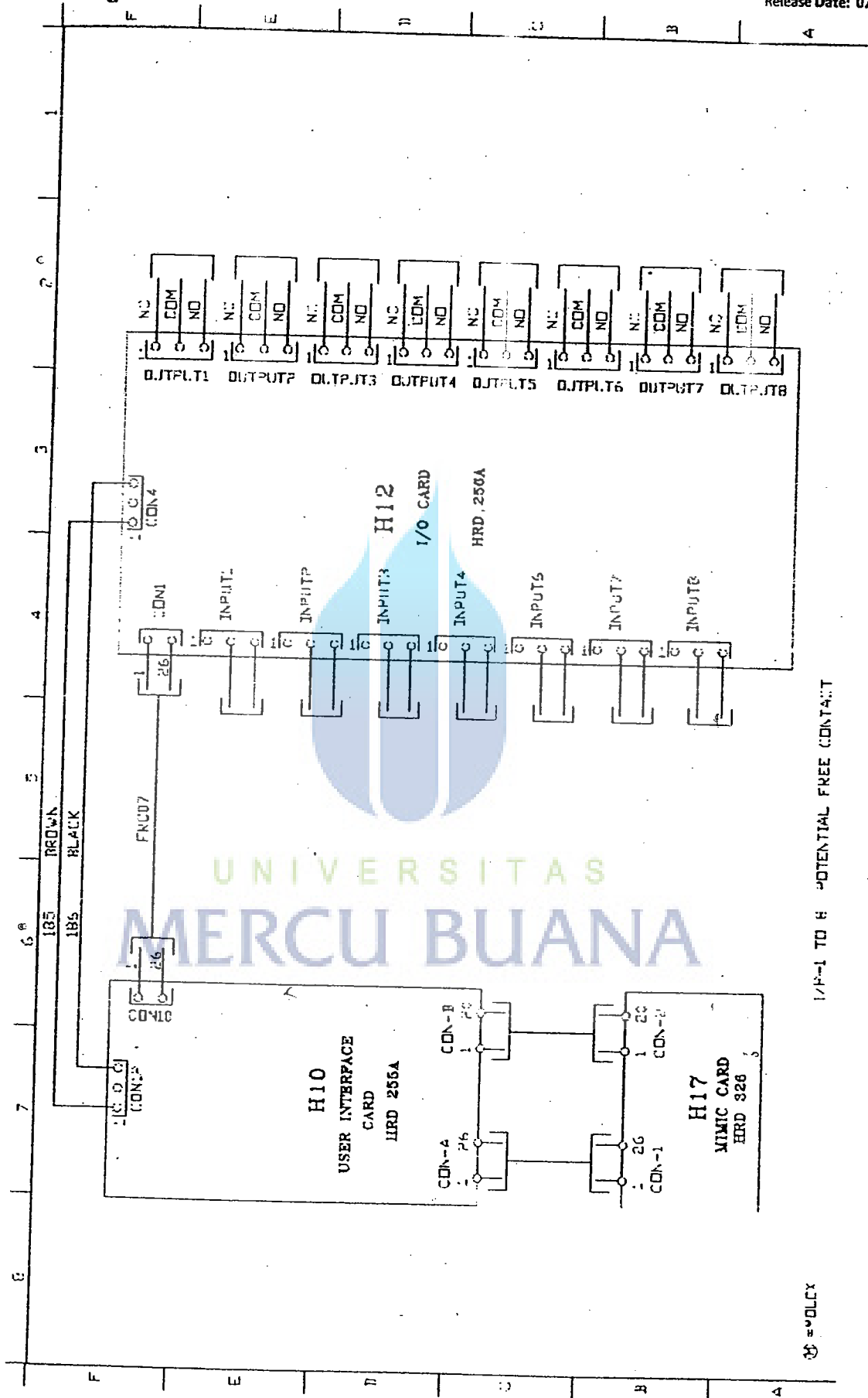












1/1-1 TO H POTENTIAL FREE CONTACT

0 = 0LX



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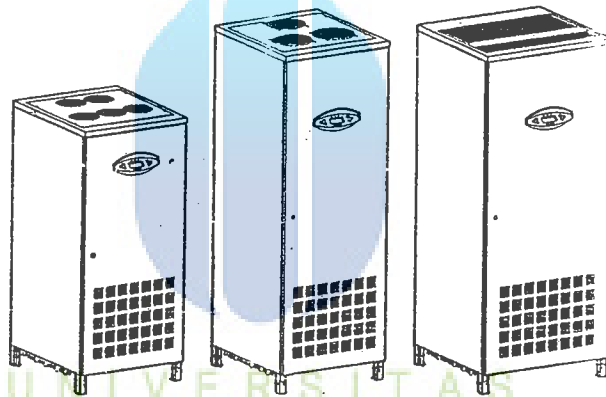
GE Consumer & Industrial
Power Protection

Technical Data Sheets

Digital Energy™ Uninterruptible Power Supply

LP 33 Series / 40 – 60 – 80 – 100 – 120 kVA

400 VAC CE – Series 0



Manufactured by:

GE Digital Energy
General Electric Company
CH – 6595 Riuzzino (Locarno)
Switzerland
T +41 (0)91 / 850 51 51
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GE imagination at work

CE



GENERAL DATA

Topology	VFI-SS 111, double conversion					
Nominal output apparent power at PF=0.6...0.8 lag.	kVA	40	60	80	100	120
Nominal output effective power at PF=0.8 lag.	kW	32	48	64	80	96
Overall efficiency at 100% load in VFI mode	%	92.8	93.3	92.8	92.8	92.8
Overall efficiency at 100% load in ECO mode	%	99	98.8	99	98.8	98.8
Heat dissipation at 100% load in VFI mode, PF=0.8 lag. and charged battery	kW	2.48	3.45	4.97	6.21	7.45
Cooling air (25°C ÷ 30°C)	m³/h	725	1010	1450	1815	2175
Audible noise level	dB(A)	64	67	67	70	70
Battery type	Valve regulated lead-acid (VRLA)					
Operating temperature range	UPS: 0°C ÷ 40°C					
Storage temperature range	-25°C ÷ +55°C					
Relative humidity	Max. 95% (non-condensing)					
Max. altitude without power derating	1000m					
Power derating (according to IEC 62040-3)	1500m: -5% / 2000m: -9% / 2500m: -14% / 3000m: -18%					
Protection degree	IP 20 (IEC 60529)					
Standards	EN 50091 / IEC 62040, CE marking					
EMC	EN 50091-2 / IEC 62040-2 Class A					
Electrostatic discharge immunity	4kV contact / 8kV air discharge					
Internal protection	All live parts shrouded					
Transport	Cabinet suitable for handling by forklift					
Colour	RAL 9003 (white)					
Installation	Can be positioned against a wall and floor fixed					
Service access	Front access only					
External cable connections	Bottom					
Cooling	Forced front to top by internal blower					
Paralleling (RPA version)	Up to 4 units parallelable for redundancy or capacity in RPA configuration (optional)					

RECTIFIER

Rectifier bridge	Three phase					
Standard input voltage	Nominal: 3 x 380V / 400V / 415V + N					
Input frequency	Rectifier accepted ph-ph voltage range: 320V ÷ 460V					
Input power factor	50/60Hz +/-10% (45 ÷ 66 Hz)					
Input current THD at 20% - 100% load	0.98 lag.					
Output voltage tolerance	<10% (optional <5%)					
Battery ripple current	+/- 1%					
Battery charging characteristic	<200 mA (pk-pk)					
Battery charging current limit	IU (DIN 41773), T° compensated floating voltage					
Input power data	Programmable					
Input power at inverter nominal load, PF=0.8 lag. and charged battery	kVA	40	60	80	100	120
	kW	34.5	51.5	69	86	103.2
Max. input power at inverter nominal load and max. battery recharge current (programmable)	kW	43.1	60.1	77.6	94.6	111.8
Max. battery charging current (programmable)	A	15	15	15	15	15

BATTERY					
Battery type	Valve regulated lead-acid (VRLA)				
Number of 12V blocks, 6 cells/block	40, placed in external cabinets				
Float voltage at 20°C	2 x 273 VDC				
Min. discharge voltage (programmable)	1.65V / cell				
Recharge time	6 + 8 hours				
Automatic and manual battery test	Standard				
Common battery in parallel system	Up to 4 units				
Battery power data	kVA	40	60	80	100
DC power at full load and PF=0.8 lag.	kW	34	51	68	85.1
DC power at full typical computer load (PF=0.66 lag)	kW	28	42.1	56.2	70.2
Matching battery cabinets	See optional features on page 3				
	120	102.2	84.3		

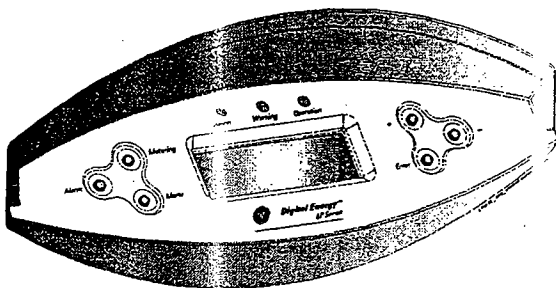
INVERTER	
Nominal output power at PF=0.6 ... 0.8 lag.	40 - 60 - 80 - 100 - 120 kVA
Nominal output voltage (on site programmable)	3 x 380V / 400V / 415V + N
Inverter bridge	IGBT technology
Output waveform	Sine wave
Output voltage tolerance:	
- static	+/- 1%
- dynamic (at load step 0 - 100 - 0%)	+/- 1%
- dynamic (at load step 0 - 50 - 0%)	+/- 0.5%
- recovery time to +/-1%	<3 ms
- output voltage THD for 100% linear load	<1%
- output voltage THD for 100% non-linear load (EN 50091)	<2.5%
Output voltage tolerance at 100% unbalanced load (Ph-N)	+/- 3%
Output frequency	50/60 Hz (selectable)
Output frequency tolerance:	
- free-running	+/- 0.1%
- with mains synchronisation adjustable to	+/- 4%
Phase displacement:	
- at 100% balanced load	120°: +/- 1%
- at 100% unbalanced load	120°: +/- 2%
Overload capability (at PF=0.8)	125% - 10 minutes, 150% - 1 minute
Short-circuit characteristic	Electronic short-circuit protection, current limit to 2.2 times In for 100 ms
MTCB clearance capability (selectivity)	20% In within 5-10 ms (with MTCB class C)
Crest factor	>3:1

BYPASS	
Input connection	- Common input (Rectifier & Bypass) - Dual input (optional)
Primary components	- Static switch (SCR) on bypass - Electromechanic contactors (backfeed protection) on bypass and inverter - 2 manual switches for maintenance bypass
Voltage limits for inverter/bypass load transfers	+/- 10% (adjustable)
Overload on bypass	200% for 5 minutes 40 kVA: 35 times In for 10 ms, non repetitive 60-80 kVA: 45 times In for 10 ms, non repetitive

INTERFACING	
Potential free contacts	- 4 - 28 user settable signals
Serial channel RS232 (on Delta 9 pin connector)	Standard
EPO (Emergency Power Off)	Standard
Extended Customer Interface Card (optional)	- Genset-On contact - 6 potential free alarm contacts - 1 auxiliary contact

Note: all indicated values are typical. Variations may be found from one unit to another.

FRONT PANEL CONTROLS, SIGNALS AND ALARMS



LCD SCREEN

Shows the UPS data system data, events messages and UPS setting.

The data is displayed on 4 rows, 20 characters each, allowing the operator to select between English, German, French, Spanish, Italian, Finnish or Polish language.

CONTROL PANEL

Metering	Electrical parameters, operating statistics and information screens.
Alarm	Events (alarms, messages, commands, handling, etc.) and resets general alarm / buzzer.
Menu	Settings, LED-test and commands.
+	Scroll to following screen.
-	Scroll to previous screen.
Enter	Confirms the selected command.

INDICATION LED'S

Alarm (red)	On:	No mains available. Load supply at risk due to: - Battery empty; - Overtemperature; - Overload.
Warning (yellow)	Blinking:	Alarm not jeopardizing load supply.
Operation (green)	On:	LOAD ON INVERTER
	Blinking:	SERVICE REQUIRED

OPTIONS

BUILT-IN UPS OPTIONS:

1. Customer interface
2. RPA kit
3. Separate mains input (one for rectifier / one for bypass)
4. Input THDI <5%

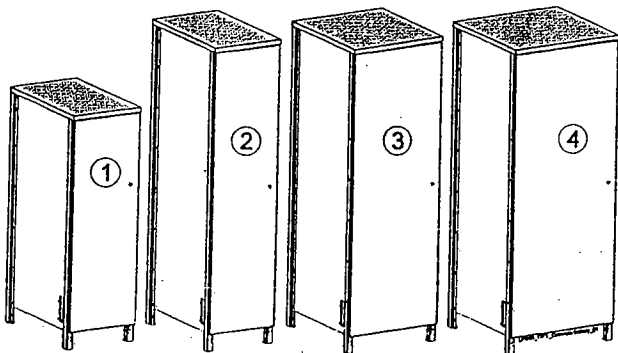
COMMUNICATION:

1. Advanced SNMP Card
2. JUMP software suite
3. IRIS service
4. Modbus RTU Interface

OPTIONS IN ADDITIONAL CABINETS:

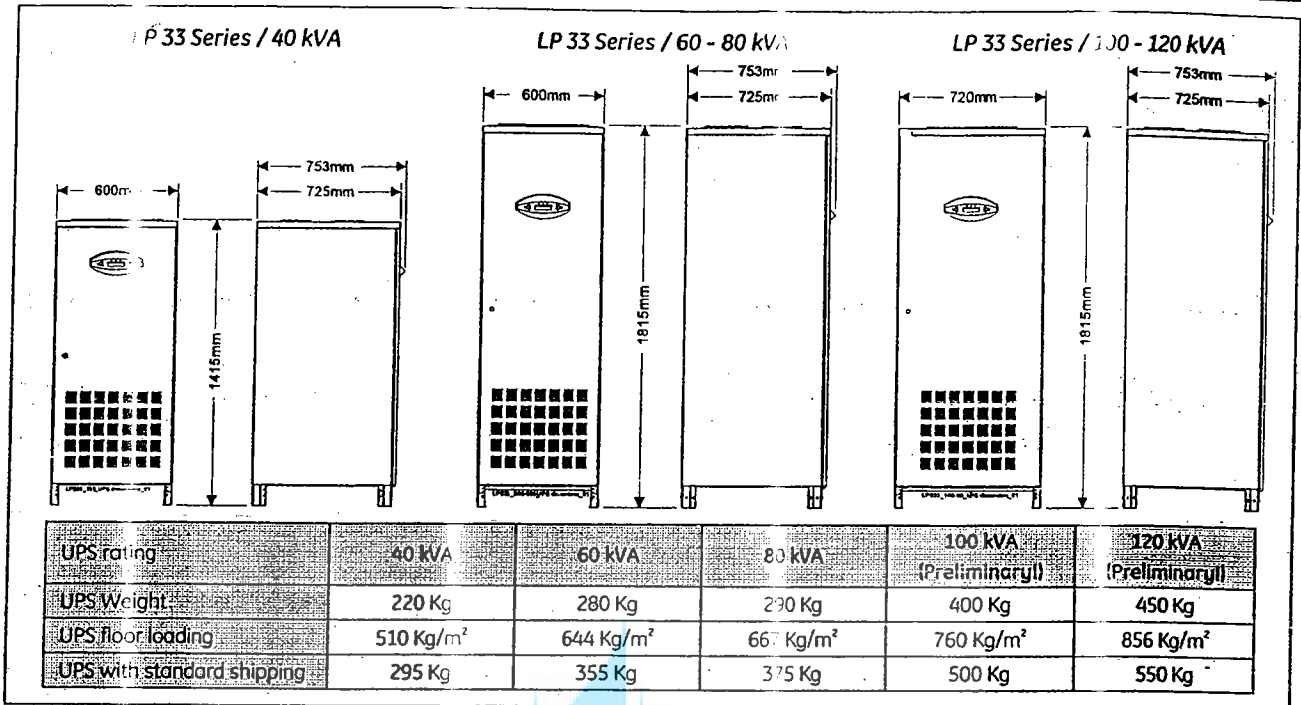
1. Empty battery cabinets

Dimensions (WxDxH): ① 430x725x1415 ② 430x725x1815 ③ 600x725x1815 ④ 780x725x1815

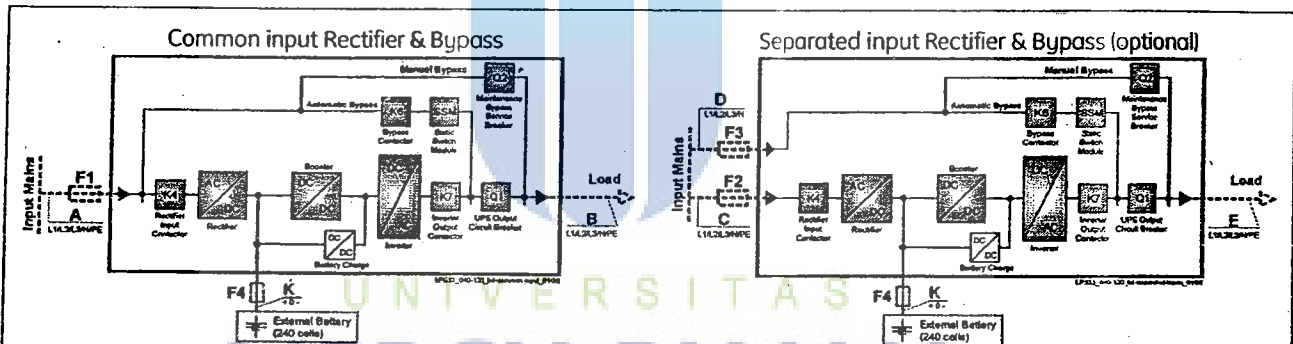


BATTERY TABLE				
UPS rating	Battery Capacity (High rate battery)	Autonomy time	Cabinet	Weight
40 kVA	22 Ah	8 minuti	①	360 Kg
	33 Ah	12 minuti		500 Kg
60 kVA	33 Ah	9 minuti	②	520 Kg
	50 Ah	12 minuti		775 Kg
80 kVA	66 Ah (2x33Ah)	19 minuti	③	960 Kg
	50 Ah	10 minuti		775 Kg
100 kVA	66 Ah (2x33Ah)	12 minuti	④	960 Kg
	66 Ah (2x33Ah)	10 minuti		1010 Kg
120 kVA	66 Ah (2x33Ah)	9 minutes	④	1010 Kg

TECHNICAL DATA



UPS BLOCK DIAGRAM, PROTECTIONS AND CABLE SECTIONS



Protections and cable sections

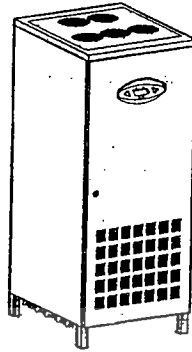
Protections for mains voltages 3x380/220V, 3x400/230V, 3x415/240V					Cable sections A, B, C, D, E and K recommended by European Standards Alternatively, local standards to be respected			
Fuses AgL or equivalent MTCB					Cable sections (mm ²)			
kVA	F1	F2	F3	F4	A / B / C	D	E	K
40	3 x 63 A	3 x 63 A	3 x 63 A	3 x 80 A	5 x 10	4 x 10	5 x 10	4 x 16
60	3 x 100 A	3 x 100 A	3 x 100 A	3 x 125 A	4 x 25 + 16	4 x 25	4 x 25 + 16	3 x 35 + 25
80	3 x 125 A	3 x 125 A	3 x 125 A	3 x 160 A	4 x 35 + 25	4 x 35	4 x 35 + 25	3 x 50 + 25
100	3 x 160 A	3 x 160 A	3 x 160 A	3 x 200 A	4 x 50 + 25	4 x 50	4 x 50 + 25	3 x 70 + 35
120	3 x 200 A	3 x 200 A	3 x 200 A	3 x 250 A	4 x 70 + 35	4 x 70	4 x 70 + 35	3 x 120 + 70

SEV/ASE cable sections recommended in Switzerland (mm²)

kVA	A / B / C	D	E	K
40	5 x 16	4 x 16	5 x 16	3 x 25 + 16
60 ✓	4 x 35 + 25	4 x 35	4 x 35 + 25	3 x 50 + 25
80	4 x 50 + 25	4 x 50	4 x 50 + 25	3 x 70 + 35
100	4 x 70 + 35	4 x 70	4 x 70 + 35	3 x 95 + 50
120 ✓	4 x 95 + 50	4 x 95	4 x 95 + 50	3 x 150 + 95

F1, F2, F3, F4, A, B, C, D, E, (K): supplied by customer
K: supplied by GE only with battery
F4: can be supplied by GE.

GE Consumer & Industrial
Power Protection



Schematics
Uninterruptible Power supply

Digital Energy™
LP 33 Series

40 kVA
400 Vac CE / Series 0

Manufactured by:

GE Digital Energy
General Electric Company
CH - 6595 Riazino (Locarno)
Svizzera
T +41 (0)91 / 850 51 51
F +41 (0)91 / 850 51 44
www.gedigitalenergy.com



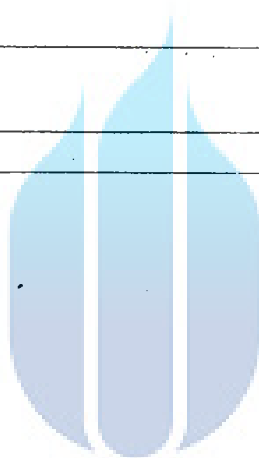
GE imagination at work

CE



Model: **LP 33 series / 40 kVA / Series 0**
 Date of issue: **15.11.2004**
 File name: **EDW_LPS_33E_40K_40K_OGB_V010**
 Revision: **1.0**
 Identification No.:

Up-dating		
Revision	Concern	Date



UNIVERSITAS

MERCU BUANA

TECHNICAL DIAGRAMS

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Functional drawing 2 input UPS (option)	392 293	page 3/5
Power birdge 2 pulse	392 293	page 4/5
Power birdge 6 pulse	392 293	page 5/5
Parallel connection (option)	392 453	page 1/1

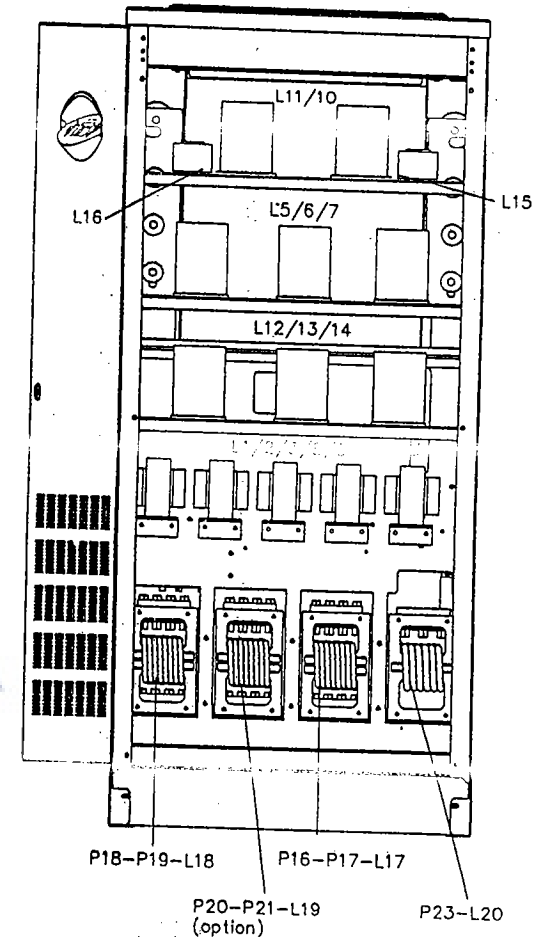
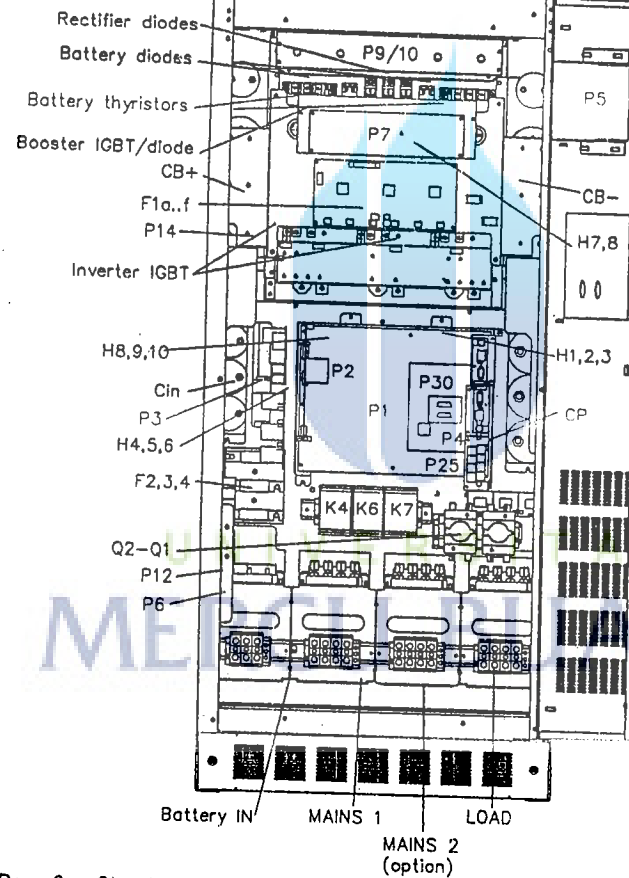
40kVA

FRONT VIEW

UPS CABINET

REAR VIEW

M1,2,3,4,5



Pag. 2 : Standard UPS schematic
 Pag. 3 : UPS with dual mains option schematic
 Pag. 4 : 2 pulse power bridge detail
 Pag. 5 : 6 pulse power bridge detail (option)

Preliminary 26.10.04

L1,2,3	BP-B-1174
L5,6,7,10,11	BP-B-1166
L8,9	BP-B-1175
L12,13,14	BP-F-1121
L15,16	BP-B-1172
L17,18,19	BP-B-1201
L20	BP-B-1202
K4,6	60A (220-230V)
K7	60A (24Vdc)
Q1,Q2	125A
H1,2,3,4,5,6	200A/4V
H7,8	200A/4V
H9,10,11 (only with 6 pulse option)	200A/4V
Cin_ph	3x100uF
Cin_batt	2x100uF
CP	3x200uF
F1a..f	160A
F2,3,4	63A
M1,2,3,4,5	340m3/h
P1= Control board	IM0094
P2= Power supply	IM0056
P3= Redundant power supply	IM0098
P4= Customer interface (opt.)	IM0005
P5= Panel board	IM0053/68(opt.)
P6= Fan control board	IM0039
P7= Booster driver	IM0091/96(opt.)
P8= Inverter driver	IM0102
P9= Battery charger	IM0093
P10= Electronic for batt. charger	IM0099
P11= SSM driver	IM0095
P12= Minimal load for bypass	IM0046
P13= RPA board (opt.)	IM0026
P14= Power board	IM0087
P15=	
P16,20= Interference suppress.board	IM0103
P17,18,19,21= Interference suppress.	IM0092
P23= Interference suppress.board	IM0104
P25= Relay card	0996
P30= SNMP card (opt.)	IM0025
P34= Connector adaptor for RPA (opt.)	IM0031
Rectifier diode	105A/1200V
Booster IGBT/Diode	195A/600V
Battery Thyristor	90A/1200V (diode+thyr.)
Battery diode	60A/1000V (snubber)
Inverter IGBT	150A/1200V
CB+ / -	2x(3x4700uF 450V)
Bleeder resistor	see IM0087
Bypass thyristor	90A/1200V

Condition	Revision	Date	Name	Contr.
		24.09.04	Cogliati M.	

Functional drawing



GE Digital Energy

Digital Energy™ LP Series

REPLACE

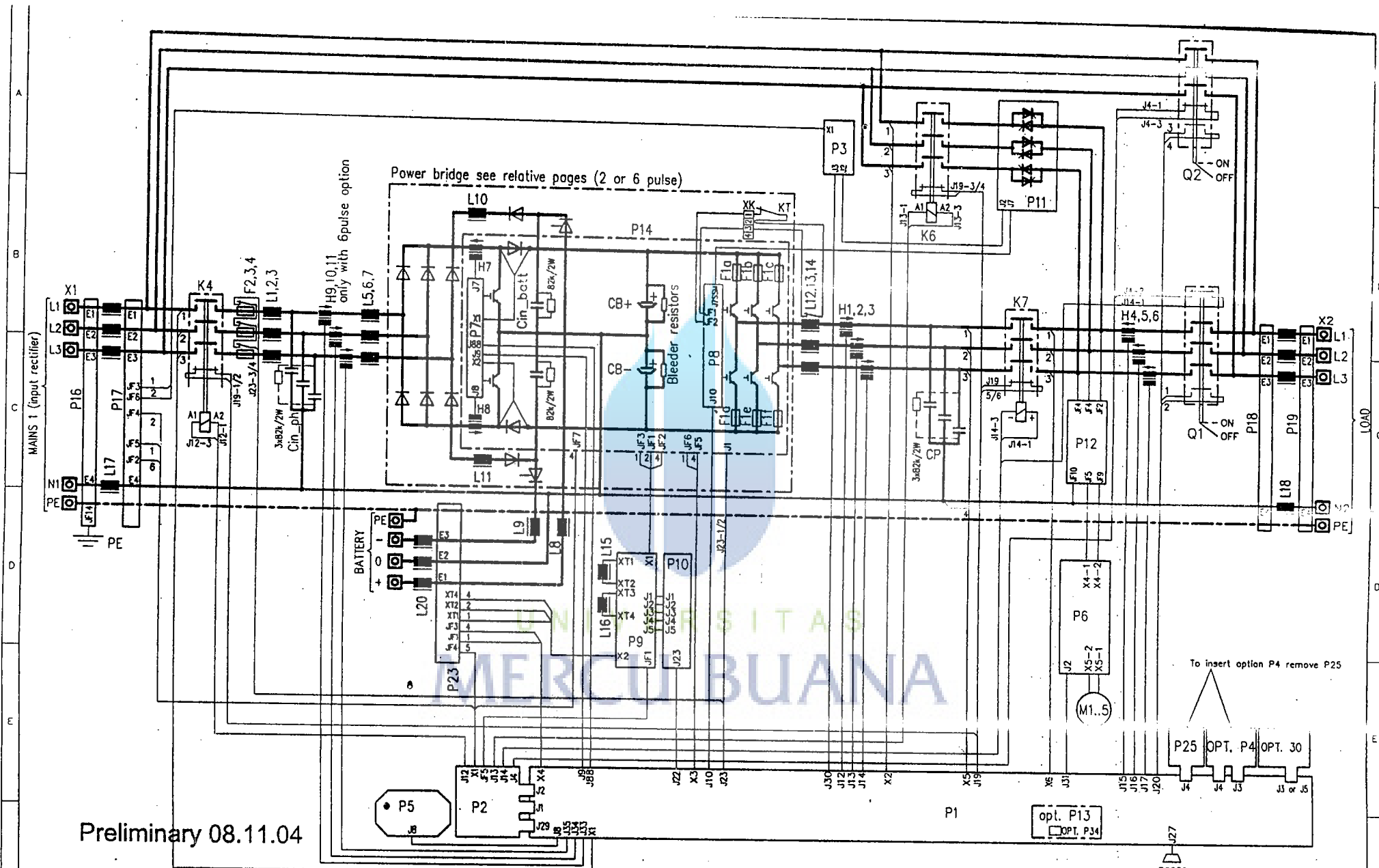
LP Series

SERIES

392293

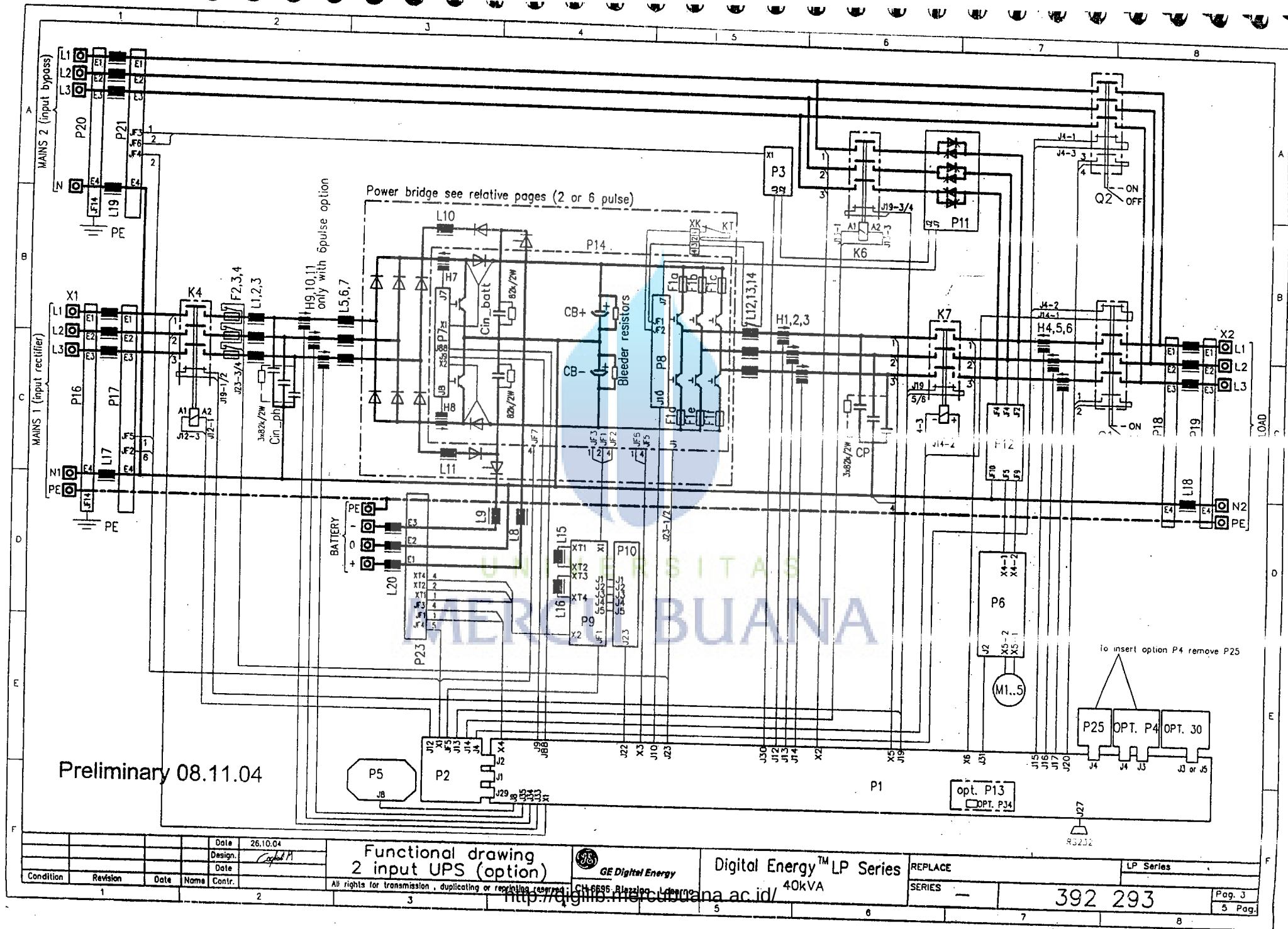
5 Pag.

<http://digitib.mercuiana.ac.id/>



Preliminary 08.11.04

Condition		Revision	Date	Name	Contr.	Functional drawing		 GE Digital Energy CH-8595 Riezino Locarno		Digital Energy™ LP Series 40kVA		REPLACE SERIES —		LP Series 392 293		Pg. 2	
1		2	26.10.04	Design	26.10.04	All rights for transmission, duplicating or reprinting reserved		CH-8595 Riezino Locarno		40kVA		—		392 293		Pg. 2	



Preliminary 08.11.04

				Date	26.10.04
				Design.	Agus M
				Date	
Condition	Revision	Date	Name	Contr.	
	1				

Functional drawing
2 input UPS (option)

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http://diglib.mercubuana.ac.id/



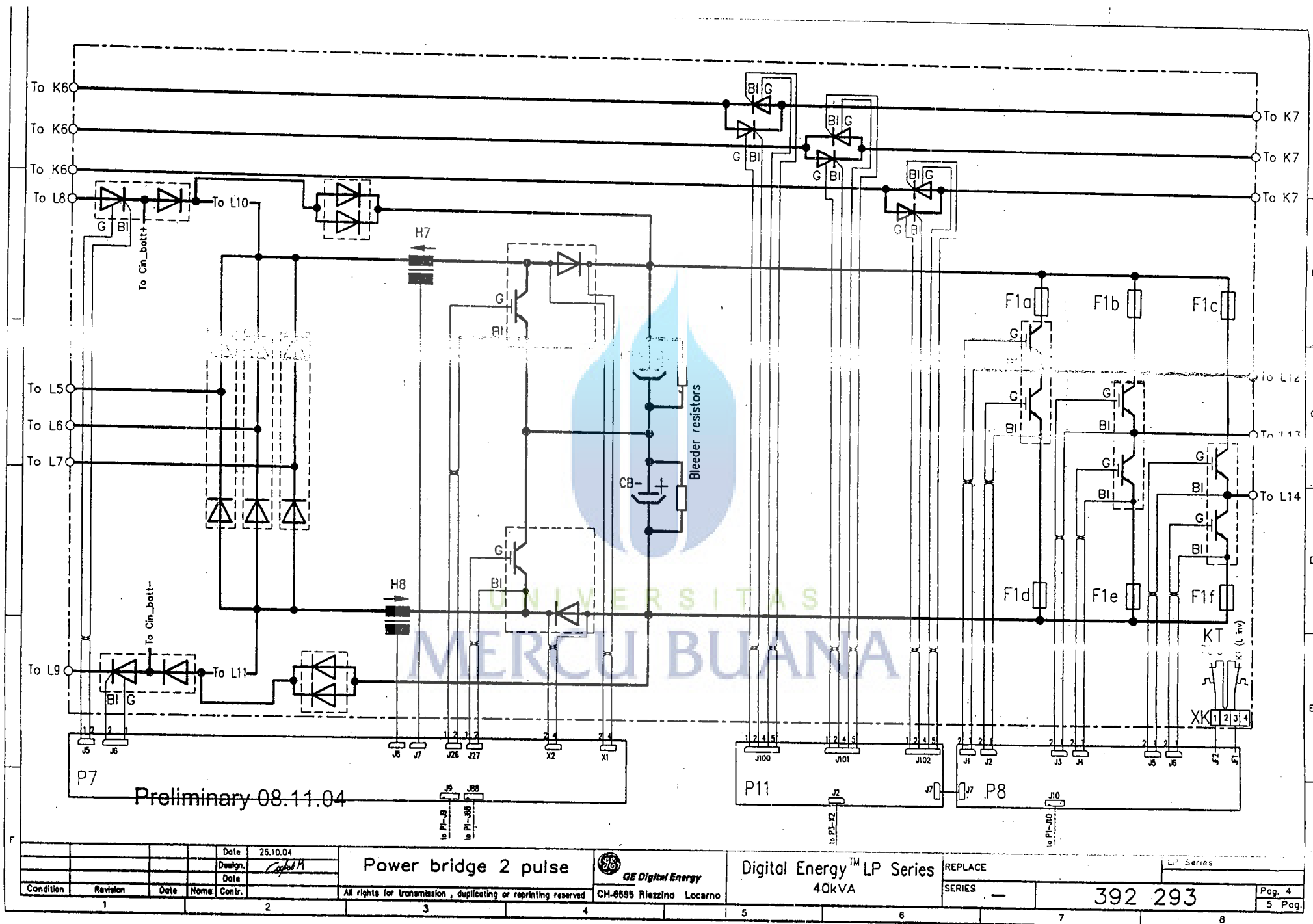
Digital Energy™ LP Series
40kVA

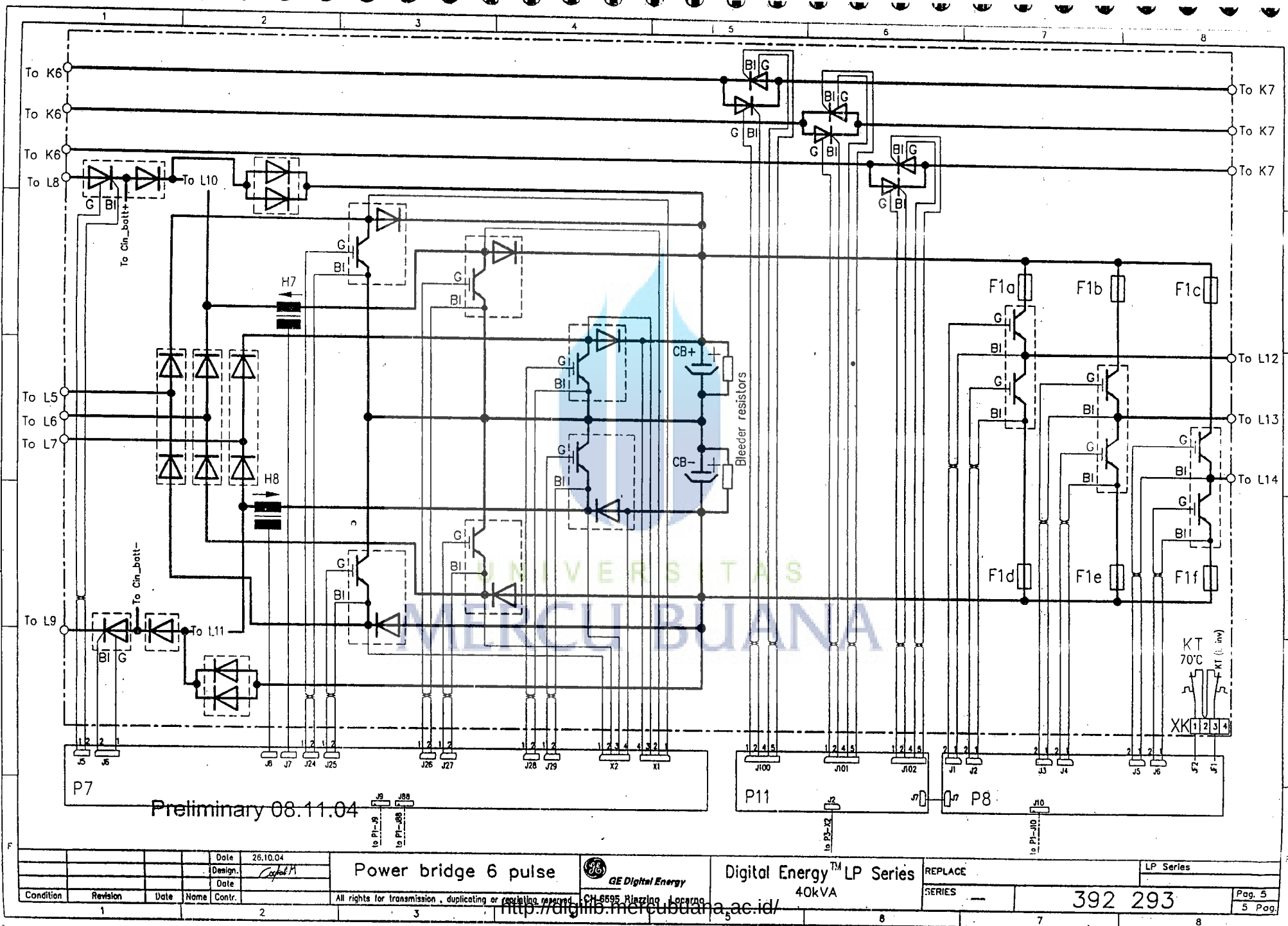
REPLACE
SERIES

LP Series

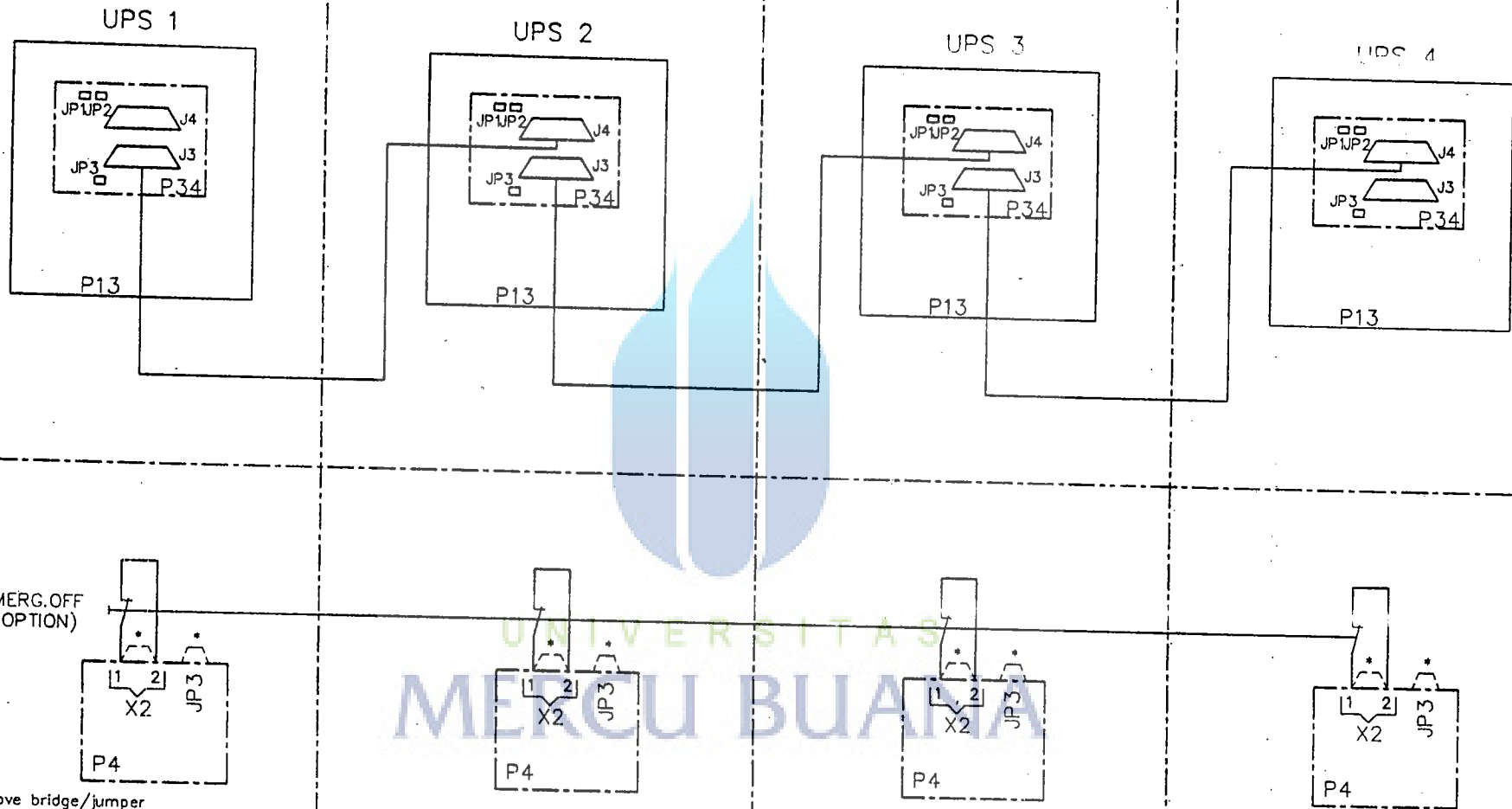
392 293

Pag. 3
5 Pag.





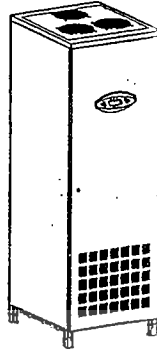
NOTE: INSERT JP1,JP2,JP3 ON P34 FOR FIRST AND LAST UPS



* Remove bridge/jumper

				Date	9.11.04	PARALLEL CONNECTION (OPTION)			Digital Energy™ LP Series	REPLACE		LP Series	
Condition	Revision	Date	Name	Contr.						SERIES	—	392 453	Pag. 1
1	2	3	4	5	6	7	8	9	10	11	12	13	14

GE Consumer & Industrial Power Protection



Schematics
Uninterruptible Power supply

Digital Energy™

LP 33 Series

60 & 80 kVA

400 Vac CE / Series 0

Manufactured by:

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www.gedigitalenergy.com



GE imagination at work

CE



Model: **LP 33 Series / 60 & 80 kVA / Series 0**
 Date of issue: **15.11.2004**
 File name: **EDW_LPS_33E_60K_80K_OGB_V010**
 Revision: **1.0**
 Identification No.:

Up-dating		
Revision	Concern	Date

TECHNICAL DIAGRAMS

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Power birdge 2 pulse (80 kVA)	390 023	page 6/7
Power birdge 6 pulse (80 kVA)	390 023	page 7/7
Parallel connection (option)	392 453	page 1/1

Preliminary 08.11.04

Power bridge see relative pages (2 or 6 pulse - 60 or 80kVA)

Hg,10,11
only with 6pulse option

To Insert option P4 remove P25

Condition	Revision	Date	Name	Contr.
		11.02.04		
		Design		
		Date		

Functional drawing 2 input UPS (option)



GE Digital Energy

Digital Energy™ LP Series

REPLACE

LP Series

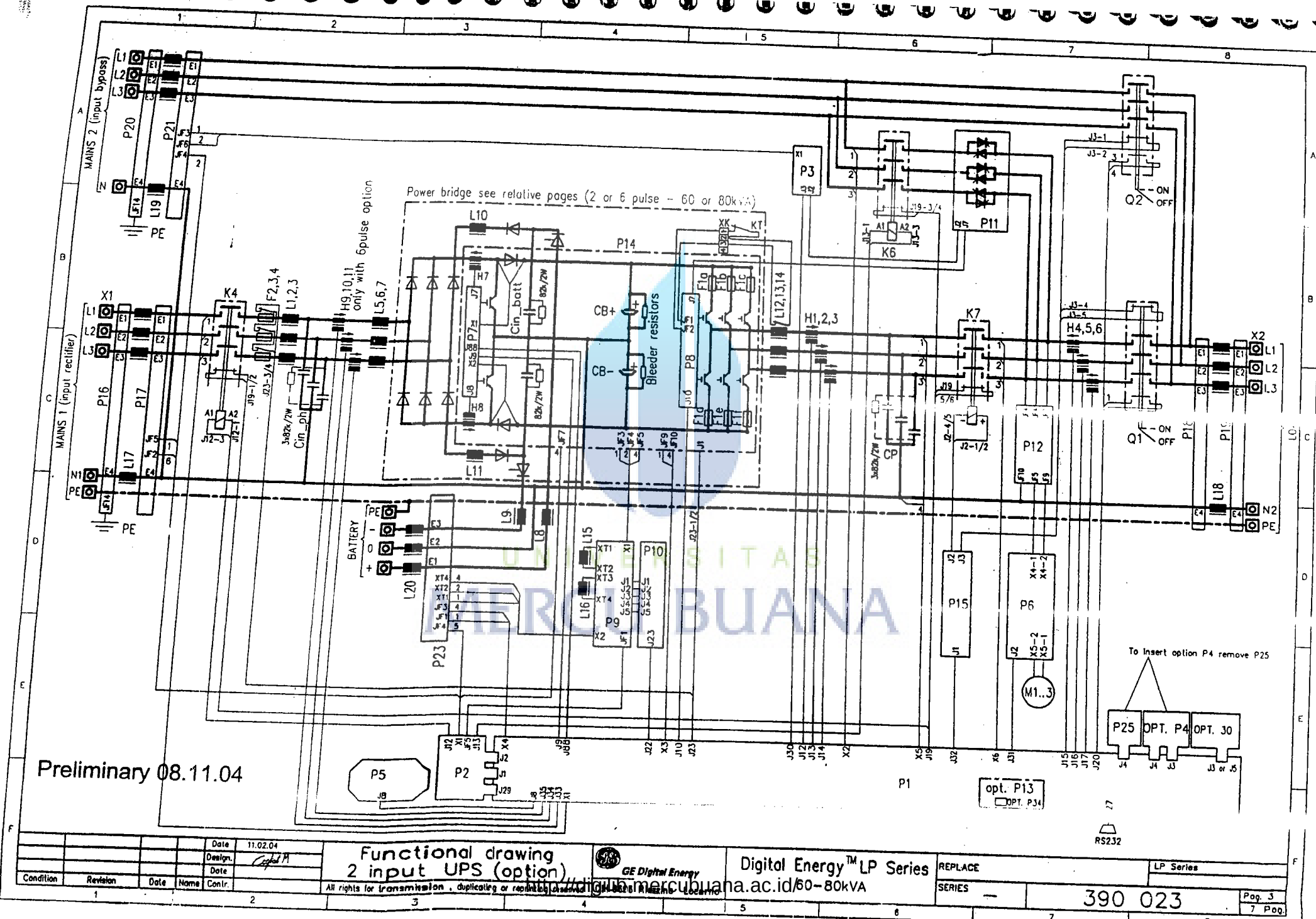
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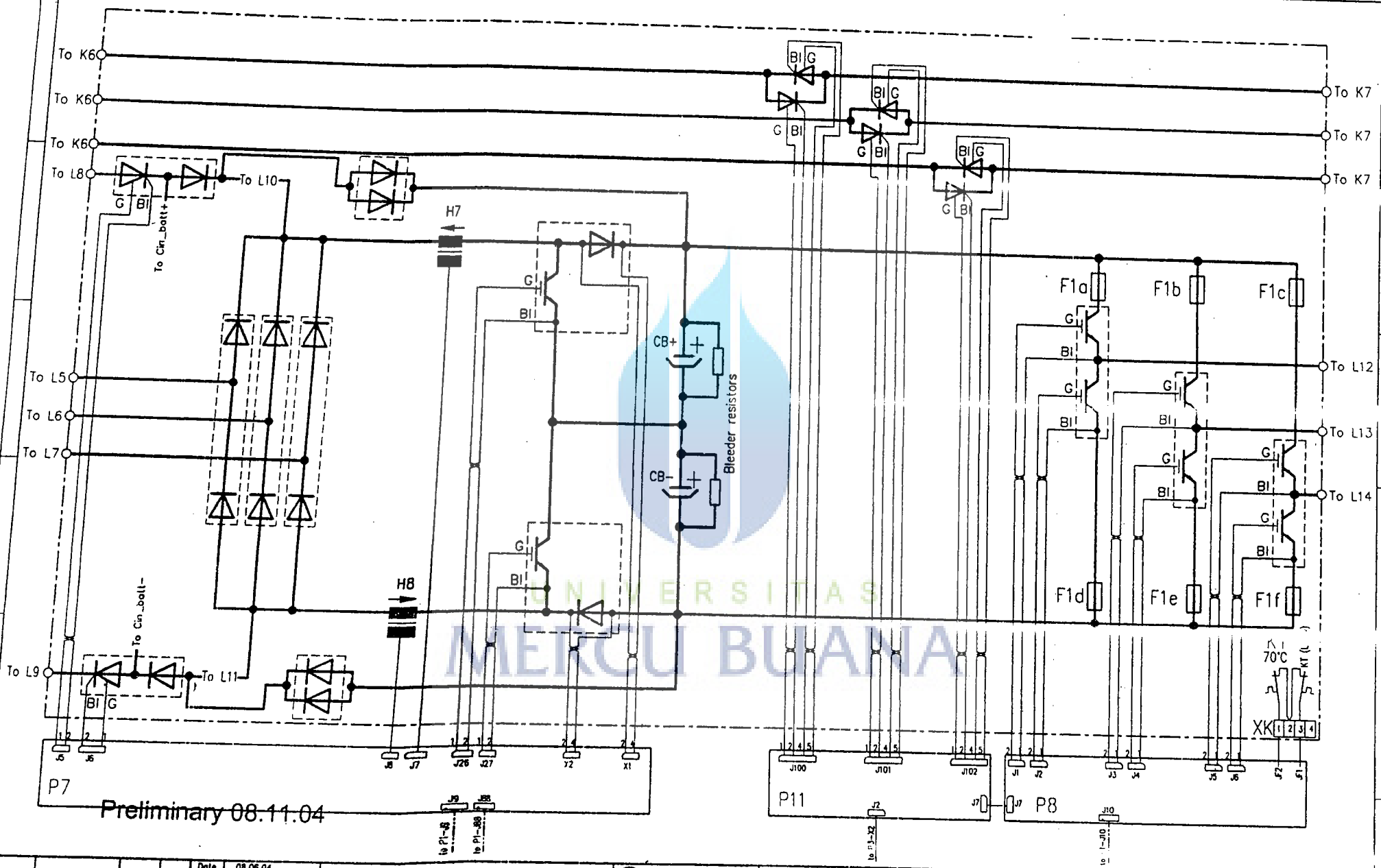
390 023

Page 3

7 Pages

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Preliminary 08.11.04

				Date	08.06.04	Power bridge 2 pulse	 GE Digital Energy	Digital Energy™ LP Series	REPLACE	LP Series	Pag. 4				
				Design	<i>08.06.04</i>										
				Date											
Condition	Revision	Date	Name	Contr.		All rights for transmission, duplicating or reprinting reserved	CH-6595 Riazino Locarno	60kVA	SERIES	—	390 023	7 Pag.			
1		2		3		4		5		6		7		8	