

1X800 MW WANAKBORI AHP & CHP PACKAGE

TECHNICAL SPECIFICATION FOR LOW VOLTAGE SWITCHGEAR

BHEL DOCUMENT NO. : EPD-TS-CPBG-14047-AHP_CHP, REV-0



**BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPORCELAINS DIVISION
BANGALORE – 560012**



**1X800 MW WANAKBORI Supercritical
Thermal Power Project AHP & CHP
Package
TECHNICAL SPECIFICATION FOR
LOW VOLTAGE SWITCHGEAR**

SPECIFICATION NO. : EPD-TS-CPBG-14047-AHP_CHP	
VOLUME	
SECTION -	
REVISION 0	DATE: 21/10/2017
SHEET 1	OF 1

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**IT IS CONFIRMED THAT OUR TECHNICAL OFFER COMPLIES WITH THE SPECIFICATION IN TOTO, & THAT
THERE ARE NO TECHNICAL DEVIATIONS.**

BIDDER'S STAMP & SIGNATURE
(REFER INSTRUCTION NO. 1 OF 'INSTRUCTIONS TO BIDDERS')



**1X800MW WANAKBORI TPS AHP &
PACKAGE
TECHNICAL SPECIFICATION FOR
LOW VOLTAGE SWITCHGEAR**

SPECIFICATION NO. : EPD-TS-CPBG-14047-AHP_CHP
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INSTRUCTIONS TO BIDDERS FOR PREPARING TECHNICAL OFFERS

1. Two signed and stamped copies of the following shall be furnished by all bidders as technical offer:
 - a) Un-priced copy of TECHNICAL SPECIFICATION, Annexure-A, B, C, D, E and F duly stamped and signed by the bidder.
 - b) Complete dimension of all the boards including no. of panels, dimensions of each type of panels, module size of each type of feeders and minimum clearances required on all sides for each type of panels.
 - c) **No. of Verticals considered by bidder for each board are to be compulsory given along with offer.**
 - d) A copy of the sheet "Instructions to Bidders for Preparing Technical Offer" duly stamped and signed by the bidder.
 - e) A copy of sheet "List of Contents" duly stamped and signed by the bidder.
 - f) Technical deviation/ clarification, if any
 - g) No. Of Breaker panels, No. of MCC panels, Weight & Dimensions of all boards.
2. No technical submittals such as copies of type test certificates, data Sheets, write-ups, drawings, technical literature, etc. are required during tender stage. Any such submission, even if made, shall not be considered as part of offer.
3. Confirmations/ comments (if any) regarding delivery schedules shall be furnished as part of the commercial offer. Any reference elsewhere/ covering letter of technical offer shall not be considered by BHEL.
4. Any comments/ clarifications on technical/ inspection requirements furnished as part of bidder's covering letter shall not be considered by BHEL, and bidder's offer shall be construed to be in conformance with the specification.
5. Any changes made by the bidder in the price schedule with respect to the Item description/ quantities, notes etc. from those given in various annexures of specification shall not be considered (i.e., technical description, quantities, notes etc. as per specification shall prevail).
6. Bidders to quote for all items/sub items.
7. In case bidder is having any queries regarding technical parameters, clarification shall be obtained by the bidder before quoting. In case any technical deviations are observed during scrutiny w.r.t. to NIT, bidder shall meet the technical requirements without any price implication.
8. In case of any ambiguity in specification between various sections and end customer specification bidder should clearly bring out the same as technical deviations in the prescribed format failing which BHEL's interpretation / decision will be final and binding on the bidder.
9. Bidder should clearly bring out deviations, if any, in the deviation sheet. In case of no deviations, the words "NIL" or "No Deviation" should be clearly mentioned in the deviation sheet.
10. Bidder to complete the panel in all respects and dispatch to BHEL-EPD. Numerical relay is in BHEL-EPD scope and the same shall be fitted by BHEL in BHEL-EPD Premises. Bidder to carry out the relay wiring up to relay terminals with proper ferruling and wire terminations with



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suitable lugs. Relay terminal details shall be made available by BHEL-EPD in the Approved drawing(s) or while issuing manufacturing clearance.

11. The panel shall be tested at BHEL-EPD after fixing of numerical relay. In case any wiring mistakes are observed during testing at BHEL-EPD, bidder has to depute their representative/service engineer at BHEL-EPD to modify the same without any commercial implication. The representative shall be deputed within 2 working days from the date of intimation by BHEL-EPD.

12. Panel will be dispatched in the name of BHELEPD as manufacturer, BHEL-EPD may conduct the type test at CPRI/ERDA on same panel as manufacturer.

BIDDER'S STAMP & SIGNATURE



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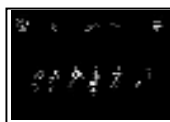
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SECTION – ‘A’

SCOPE OF ENQUIRY

- 1.0 This specification covers the design, manufacture, supply of one suitable Ethernet switch per board, relay parameterization, inspection and testing at manufacturer's works, proper packing and delivery to site / BHEL-EPD and site support , of **LOW VOLTAGE SWITCHGEAR** as mentioned in different sections of this specification for 1x800MW WANAKBORI Supercritical Thermal Power Project AHP & CHP PACKAGE.
- 2.0 It is not the intent to specify herein all the details of design & manufacture. However, the equipment shall conform in all respects to high standards of design, engineering and workmanship and shall be capable of performing in continuous commercial operation at least up to the bidder's guarantee period.
- 3.0 The general terms and conditions, instruction to bidder and other attachments referred to elsewhere are hereby made part of the tender specification.
- 4.0 The bidder shall be responsible for and governed by all requirements stipulated hereinafter.
- 5.0 Deviations, if any should be brought out very clearly on the deviation sheet enclosed with specification only. Otherwise it will be presumed that the bidder's offer is in line with what has been stated/ asked for in this specification.
- 6.0 The documents shall be in the English language and shall follow the MKS system of units.

[illegible]

 BHEL-EPD BANGALORE	DOCUMENT TITLE: 1x800MW SUPERCRITICAL THERMAL POWER PLANT GUJARAT STATE ELECTRICITY CORPORATION LIMITED GENERAL NOTES FOR LV SWITCHGEAR/PMCC/PCC ACDB/DCDB	DOCUMENT NO. EP-3-GN-047-001
		CUSTOMER : GSECL
		REV NO. :01; DATE: 26/02/2017
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A. Power Supply System

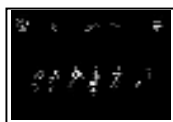
Voltage: 3ph 4 Wire, 415V±10% for AC , 50Hz±5% and 220V +10% and -15% for DC.

B. Panel Design

- Installation of the Panels is indoor.
- Operating height: 300mm to 1800mm from floor level.
- Gasket will be provided around doors, covers and other cutout edges.
- Louvers will be provided for Panels rated above 1600A. Up to and including 1600A louvers are not required. These louvers are backed with fine wire mesh provided at front & rear of horizontal bus bar chamber, rear covers of incomer and bus-coupler panels. Degree of Protection will be IP 54 for including and up to 1600A. Degree of Protection will be IP 42 for above 1600A since louvers will be provided.
- Panel will be single front for ACB and double front for the O/G feeders. D/O for incoming and outgoing feeders except for CST & Marshalling feeders.
- Incoming & outgoing feeder cable entry is bottom for MCC/DBs and Bus duct entry as per approved GA/Layout drawing for Incomers of PMCC/PCC.
- Base-frame of the panel will be Min. 75mm
- Main Earth Bus bar will be brought throughout the length of the panel and extended at both the ends in order to facilitate customer earth connection with two no.s of Nuts & Bolts.
- Each control module will be housed in a separate compartment.
- A full height vertical chamber (cable alley) with cable supports will be provided in each section to facilitate wiring except for ACB feeders. Width of the cable alley will be minimum 250mm.
- A horizontal wire way, extending the entire length will be provided at the top of each PMCC/MCC/DB for inter panel wiring.

C. Bus bar

- Bus bars are made up of high conductivity Aluminium (Grade E91E).
- All bus bar sleeves are of 1100V grade, colour coded and heat shrinkable type.
- All Accessible bus bar joints will be provided with removable shrouds of SMC/DMC/Polyamide.
- All live connections from bus bar up to switches will be shrouded in order to avoid accidental touch.
- Vertical bus bar rating will be minimum 200A.
- Maximum temperature limited to 90oc (i.e., 40oc rise over 50oc ambient) for plain joint and 105oc (i.e., 55oc rise over 50oc ambient) for silver plated joint.
- Separate Vertical bus bar will be provided for each vertical panel.
- All air circuit breaker end connections will be silver plated.
- All bus connections shall be provided with anti-oxide grease.
- Bimetallic connector will be used for connection between two dissimilar metals.
- Hardware for bus bar joints will be HT 8.8 Grade nuts and bolts and others will be 4.6 Grade.

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- Busbars shall be colour coded for easy identification and so located that the sequence R-Y-B shall be from left to right, top to bottom or front to rear when viewed from the front of the assembly. Adequate contact pressure shall be ensured by means of two-bolt connection with plain and spring washers and locknuts.

D. Control Bus bar

- All control bus bars will be made up of copper.
- AC Control Bus & Space Heater Bus size : Min. 6mm x 3mm for Ph. & N
- DC Control Bus size: Min. 6mm x 3mm for Ph. & N

E. Module

- All motor rated above 110kW, up to & including 160kW shall be ACB controlled.
- All motors below and including 110KW will be protected by Fuse-less Type-II Coordination equipment.
- All indicating instruments will be flush/semi-flush mounted on the module compartment door.
- All indicating instruments (96X96mm) shall be digital type with LED Display & flush mounted with accuracy class 0.5 suitable for DCS /PLC hook-up.
- Draw-out modules of same size will be electrically and physically interchangeable.
- Draw-out mechanism will be rack-in/out.
- At least 20% of spare module will be provide.
- Module main switch ON/OFF indication tag will be provided.
- Module position (i.e service /test / isolate) indication tag will be provided.
- Incomers, Bus-couplers & outgoing feeders rated up to & including 400A shall be MCCB controlled. Above 400A all incomers, Bus-couplers & outgoing Feeders shall be ACB controlled.

F. Caution / Safety plates

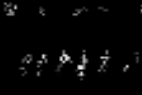
- "Live terminals" caution inscription plate are provided on the top of all the panels where the terminals are likely to remain live.
- "Live Cable" inscription plate are provided on all the cable alley chamber doors.
- "Danger" inscription plate will be provided at Incomers and bus-coupler in English.

G. Painting

- Thickness of the finished coat will be minimum 95-100microns with 2no. Of finished coats.
- Shade: RAL 7032.

H. Others

- All SCPD except ACB will have defeat interlock.
- Mechanical safety interlock will be provided to prevent ACB from being racked in or out of the service position when ACB is closed.
- All glands will be double compression type and made up of brass.

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- All terminal lugs will be made up of annealed tinned copper.
- Wiring shall be done with flexible, 1100V grade, fire resistance PVC insulated switchboard wires with stranded Copper conductors of 2.5 mm² for control, current and voltage circuits. For marshalling suitable core cable will be used.
- Each wire shall be identified, at both ends, with permanent markers bearing wire numbers as per approved wiring diagrams
- All spare contacts in breaker feeders are wired up to terminal block.
- Rating of the components shall be suitably Up-rated in order to meet type 2 coordination as per 13947.
- Terminal blocks shall be 660V grade box-clamp type with marking strips similar to ELMEX 10 mm² or equal. Terminals for C.T. secondary leads shall have provision for shorting.
- All incomers and circuit breakers operated motor feeders will be provided with 3-phase multifunction digital energy meter with pulse output and communication port for interfacing with Plant DCS / PLC.
- Material used for construction of panel is CRCA sheet metal. Thickness for load bearing members is 2mm and non-load bearing members is 1.6mm.
- Gland plate material will be of 3mm CRCA sheet metal for 3core cables and 4mm thick Aluminium sheet metal for 1C core cables.
- Ant-Vibration pad will be provided.
- All power, control switches and reset push buttons shall be mounted on module doors.
- All meter reading instruments shall be flush mounting type.
- Door interlock will be provided such that door cannot be open when breaker/MCCB is in 'ON' position.
- Indicating lamps are of clustered LED type.
- MCC/ACDBs are extendable on both sides with outgoing feeders.
- Terminal blocks shall be mounted vertically in panels and cubicles with clearance for at least 100 mm between two sets and between wall and terminal block.
- Terminal blocks shall be provided with white marking strips / self-adhesive marker cards. Power terminals shall have protection covers Bottom of the terminal block shall be at least 200 mm above the cable gland plate for bottom entry type panels.
- The last block in a rail-mounted assembly shall be closed with an end plate and end bracket.
- Maximum two connects only are allowed at any point if more than two connections Terminal block duplication will be done.
- Terminal blocks shall be of different colours depending on voltage levels
- Voltage Transducer shall have an accuracy class of 0.5.
- Drawing pocket shall be provided in the panel/ cabinets.
- To achieve module positive earthing suitable mechanism will be provided.

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3

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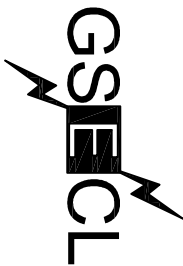
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8

CUSTOMER:



GUJARATH ELECTRICITY CORPORATION LIMITED
VADODARA, GUJARAT

PROJECT:

1x800 MW WANAKBORI THERMAL POWER STATION
EXTENTION UNIT-8

CUSTOMER CONSULTANT:



DEVELOPMENT CONSULTANT PVT LTD
KOLKATA

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DRG. NO. EP-3-DT-047-001

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	SCALE: NA	JOB NO. CR-14-047	DRG. NO. EP-3-DT-047-001	REV. 02
4							NAME	SIGN.	DATE				
3					DESIGNED		TRINATH		25.02.17				
2					DRAWN								
1					CHECKED		TRINATH		25.02.17				
REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	SCALE: NA	JOB NO. CR-14-047	DRG. NO. EP-3-DT-047-001	REV. 02



BHARAT HEAVY ELECTRICALS LIMITED
ELECTROFORCEIANS DIVISION BANGALORE

TITLE : DATA SHEET FOR LV SWGR/PMCC/PCC/
MCC/ACDB/DCDB/LMS/LPBS/LT BUSDUCT

NO. OF SHEETS: 10
SHEET: 01

DEVELOPMENT CONSULTANTS PRIVATE LIMITED			
Reviewed only for general conformance with contract drawings and specifications. Contractor to be responsible for any errors and for fulfillment of detailed requirements of contract documents.			
ACTION : 2		DATE : 04.04.17	
DISTRIBUTED BY : BR			
1	Distributed	4	Approved except as noted. Resubmission required.
2	Approved	5	Disapproved. See accompanying letter.
3	Approved except as noted. Forward final drawing.	6	For information and record only.
SEE COVERING LETTER			
Letter Ref. No.		Date :	



EPD,
BANGALORE

1X800MW STPP
CUSTOMER : GSECL
CONSULTANT: DCPL

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REV 02

LT PMCC/MCC/ACDB, 220V DCDB AND BUSDUCT FOR LT SWGR/PMCC/PCC/MCC /DB/BUSDUCT		
	1	LV Switchgear
	1.1	Make
		BHEL-EPD
	1.2	Type of Construction
		PMCC/PCC/MCC/ACDB/DCDB(floor mounted) : Double-front draw out type , compartmentalized. Circuit Breaker panels of PMCC/PCC/MCC: Single front
		ACDB/DCDB(Wall mounted) : Non Drawout type & Fixed.
	1.3	Mounting
		Circuit Breaker panels of PMCC / PCC / MCC shall be of single front construction
		PMCC/PCC/MCC/ACDB/DCDB : floor mounted
		ACDB & DCDB wall mounted also applicable.
	1.4	Reference standard
		IS : 13947 IEC: 60439-1
	1.5	Voltage
		415V±10% for AC , 50Hz±5%
		220V +10% and -15% for DC
	1.6	Busbar configuration
		3-phase . 4-wire for AC
		Positive-Negative for DC
	1.7	Short Circuit(SC) rating
		AC : 50kA for 1sec
		DC : 50KA for 1sec
	1.8	Impulse voltage rating (High voltage)
		2.5kV(rms) for 1min AC/DC - power circuit
	1.9	Enclosure
		For >1600A : IP-54(IP 42 for main bus bar chamber only) for PCC/PMCC/MCC
		for <1600A : IP-54 for PCC/PMCC/MCC
		For other panels except PMCC/MCC, degree of protection is IP-54.
		Minimum thickness of sheet metal
		Frames & Load bearing members :2mm
		Doors & covers : 1.6mm
	1.10	Working height (from floor level)
		300mm to 1800mm.
		Total height of the panel
		Max. 2415mm
	1.11	Draw out type modules in PMCC/PCC/MCC/DCDB/ACDB(ACDB & DCDB FLOOR MOUNTED TYPE)
		ACB feeders
		O/g supply feeders
		Motor Feeders
		SFU/MCCB incomer,buscoupler & O/G FEEDERS
		PT Modules
		Fixed type modules in PMCC/PCC/MCC/DCDB/ACDB(ACDB & DCDB FLOOR MOUNTED TYPE)
		Control Supply transformer
		Numerical Relays
		Space heater supply
		DC control supply
		Mashalling feeders
	1.12	Draw-out mechanism
		Rack-in/out
	1.13	Cable Alley
		Width : Min. 250mm (only for non-breaker outgoing modules)



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			provided with thermostat controlled space heater & CFL
	1.14	Shipping section	Lifting hooks or Lifting Rails
			Power Socket in cable alley.
1	1.15	Control terminals	SLIDING ISOLATING CONTACTS/ detachable plug-in type.
	1.16	Gland plate	Multi-core : 3mm for HRCA/CRCA Single Core : 4mm for non-magnetic material
	1.17	Gasket	Rubber/EPDM/PU foam
	1.18	Conductor size for door-earthing	2.5sq.mm Copper wire
	2	Bus Bar	
1	2.1	Material	High conductivity Aluminium Alloy
	2.2	Reference standard	IS-5082 / IEC 60439-1
	2.3	Max. temperature rise over 50Deg C ambient	plain bolted joint : 40Deg silver plated joint : 55deg
	2.4	Fault level	50kA rms for 1 sec
1	2.5	minimum clearance	Phase- Phase : 25mm Phase - Earth : 25mm
	2.6	Bus support insulator	
			Non-hygroscopic, Flame retardant, Track resistant type with high creepage and are interchangeable.
1		Type	
		Voltage Class	1.1kV
		Creepage	31mm/kV
	2.8	Color coding	Black sleeved. Intermittent color coding at regular intervals.
	2.9	Earth busbar size & material	50x6mm GI
1	3	Air Circuit Breaker	
	3.1	Reference Standard	IEC 60947-1,-2
	3.2	Service Voltage	415V AC @ 50Hz
	3.3	Short Circuit capacity	Ics = Icu =50kA and Icw =50kA for 1 sec
	3.4	Rated making current	>=2.1*Icu or min 105kA
	3.5	No. of Poles	3pole
	3.6	Ambient temperature	50deg Celsius.
	3.7	Anti-pumping feature	Provided
	3.8	Aux contacts	7NO+7NC
	3.9	opening time of breaker	<=80ms
	3.1	Total closing time	<=100ms
	3.11	Maximum temperature rise over ambient 50Deg C	55deg
2	3.12	Rated operating duty	Continuous
	3.13	Operation cycle	0-3'-CO-3'-O
	3.14	Impulse voltage	2.5kV rms 50Hz for 1 min withstand
	3.15	Closing mechanism	motor wound spring charging
	3.16	Tripping mechanism	Shunt trip
	3.18	Spring charging motor	
		Operating Voltage	220V DC
		permissible voltage variation	(85-110)%
	3.19	Closing coil	
		Operating Voltage	220V DC
		permissible voltage variation	(85-110)%



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	3.20	Tripping coil	
		Operating Voltage	220V DC
		permissible voltage variation	(70-110)%
	3.21	Rated current	As per approved rating
	4	Fuse	
	4.1	Reference standard	IS: 13703 / IEC: 60269
	4.2	Type	HRC link type
	4.3	breaking capacity	AC : 80kA rms
			DC : 25kA
	4.4	Voltage	AC : 415V, 240V, 110V
			DC : 220V
	4.5	Rated current	As per approved rating
	5	Moulded case circuit breaker (MCCB)	
	5.1	Reference standard	As per IEC 60947-2
	5.2	Service voltage	415V AC @ 50Hz
	5.3	Short Circuit capacity	Ics = Icu =50kA for 1 sec
	5.4	No. of poles	3-pole
	5.5	Impulse withstand voltage	min 2.5kV rms
	5.6	Rated insulation voltage	690V
	5.7	IP protection	IP40
	5.8	Pollution Degree	III
	5.9	mechanism	Single throw, air-break
	5.10	Rated current	As per approved rating
		Interlock	Door interlock will be provided in ON position. Pad locking in ON & OFF position.
	6	MPCB	
	6.1	Reference standard	As per IEC 60947-1,-2, 4-1
	6.2	Service voltage	415V AC @ 50Hz
	6.3	Short Circuit capacity	Icu =50kA for 1 sec
	6.4	No. of poles	3-pole
	6.5	Impulse withstand voltage	min 4kV rms
	6.6	Rated insulation voltage	690V
	6.7	Pollution Degree	III
	6.8	mechanism	Single throw, air-break
	6.9	Rated current	As per approved rating
	6.10	Class of protection	10
	6.11	Utilization category	AC3
		POWER CONTACTOR	
	7	Reference standard	As per IEC 60947- 4-1
	7.1	Service voltage	415V AC @ 50Hz
	7.3	No. of poles	3-pole
	7.4	Impulse withstand voltage	min 4kV rms
	7.5	Rated insulation voltage	690V
	7.6	Pollution Degree	III
	7.7	Class of protection	10/ 10A
	7.8	Utilization category	AC3 for unidirectional drives and AC4 for bi- directional /inching duty drives DC - Class I - category DC2



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	7.9	Coil voltage	AC : 240V
			DC : 220V
		No. of Auxilliary contacts	As per approved Scheme requirement/Min. as per spec. requirement
	7.10	Rated duty	Uninterrupted
	7.11	Rated current	As per approved rating & as per Type-II coordination for motors
	7.12	Max motor rating upto which contactor is used	110kW
		Contacts	with non-bouncing silver/ silver alloy coated
		AUXILLIARY CONTACTOR	
	7	Reference standard	As per IEC 60947- 4-1
	7.1	Coil Voltage	As per approved drawing and scheme requirement
	7.3	No. of contacts	As per approved Scheme requirement & Min. as per specification
	7.4	Impulse withstand voltage	min 4kV rms
	7.5	Rated insulation voltage	690V
	7.8	Utilization category	AC11
	7.9	Coil voltage	AC : 240V
			DC : 220V
	7.10	Rated duty	Uninterrupted
	7.11	Rated current	Min. 6Amps
	8	OLR (Over load Relay)	
	8.1	Reference standard	As per IEC 60947- 4-1
	8.2	Service voltage	415V AC @ 50Hz
	8.3	No. of poles	3-pole
	8.4	Rated insulation voltage	690V
	8.5	Impulse withstand voltage	min 4kV rms
	8.6	Class of protection	10/ 10A
	8.7	Utilization category	AC3
	8.8	protections	Overload & single phase protection
	8.9	Rated current	As per Type-II coordination for motors
	8.1 0	Current Transformer	Relays may be direct acting or C.T. operated, depending on current rating. C.T.s shall be included in the scope of supply.
		Reset	Relays will be of manual reset with single change over contact. Resetting of relayt is possible with module door is closed position.Color of resetting push button will be black.
	9	Current Transformers	
	9.1	Reference standard	IS: 2705
	9.2	Type	Resin Cast
	9.3	Basic insulation level	2.5kV rms
	9.4	Class of insulation	E
	9.5	Short circuit withstand	50kA rmsfor 1 sec



EPD,
BANGALORE

1X800MW STPP
CUSTOMER : GSECL
CONSULTANT: DCPL

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			105kA peak for 1 sec
	9.6	Accuracy Class	PS for REF
			5P20 for Protection
			1.0 , ISF<5 for metering for MCC/DB feeders. 0.5, ISF<5 for metering for PMCC incomer & Buscoupler.
	9.7	CT Ratio & Burden(VA)	As per approved rating
	10	Voltage Transformers	
	10.1	Reference standard	IS: 3156
	10.2	Type	Resin Cast
	10.3	Basic insulation level	2.5kV rms
	10.4	Class of insulation	E
	10.5	Short circuit withstand	50kA rmsfor 1 sec
			105kA peak for 1 sec
	10.6	Accuracy Class	0.5/3P for PMCC Incomer & Buscoupler
			1.0/3P for other type of boards.
	10.7	PT Ratio	Bus PT : 3Nos 1-phase (415/√3)/(110/√3) ,
			Line PT : 3Nos 1-phase (415/√3)/(110/√3)
	10.8	Over voltage factor	1.1*rated voltage
	10.9	Winding connection	
		Primary	Star
		Secondary	Star
	10.10	Burden (VA rating)	As per approved rating
	10.11	% regulation	<=5%
	11	Control Transformers	
	11.1	Reference standard	IS: 3156
	11.2	Type	Resin Cast
	11.3	Basic insulation level	2.5kV rms
	11.4	Class of insulation	E
	11.5	Short circuit withstand	50kA rmsfor 1 sec
			105kA peak for 1 sec
	11.6	PT Ratio	Control Supply : 415/240V with ±5% taps@ 2.5%
			Space heater : 415/240V with ±5% taps@ 2.5%
	11.7	Over voltage factor	1.1*rated voltage
	11.8	Winding connection	
	11.9	Primary	Star
		Secondary	Star
		Burden (VA rating)	As per approved rating
	11.10	% regulation	<=5%
	12	Ammeter	
	12.1	Type	Digital
	12.2	Accuracy class	0.5
	12.3	current coil rating	1A
	12.4	case size	96x96sq. mm
	13	Voltmeter	



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	13.1	Type	Digital
	13.2	Accuracy class	0.5
	13.3	voltage coil rating	AC : 110V
			DC: 220V
	13.4	case size	96x96sq. mm
	14	Multifunction meter	
	14.1	Reference standard	IEC 62052-11, IEC 62053-22,23
	14.2	Type	Digital
	14.3	Impulse	2kV rms for 1 minute
	14.4	Insulation withstand voltage	6kV
	14.5	Accuracy Class	0.5
	14.7	Aux Power supply	240V AC or 220V DC
	14.8	Communication	RS 485
1	14.9	case size	96x96sq. mm
	15	Transducer	
	15.1	Reference standard	IEC 60688
	15.2	Output	4-20mA dual
	15.3	Accuracy	0.5
	15.4	Aux supply	110V-240V AC/DC
	17	Switches	
	17.1	Reference standard	IEC 60947-5-1
	17.2	Type	TNC : Spring return
			Others : Stay put
	17.3	Type of handle	TNC : Pistol grip
			Others : wing type
	17.4	Switching mechanism	air-break
	17.5	Pole - Way configuration	As per the approved drawing
	17.6	Voltage grade	660V
	17.7	Current rating	As per the approved drawing
1		ON/OFF Switch pad locking	For ON/OFF switches of power feeder Handle will have provision for padlocking in ON and OFF position
		Mechanical interlock provision	All position selector switches shall be of lockable type.
	18	Indicating lamps	
	18.1	Type	Clustered LED
	18.2	Voltage	AC : 63.5V/110V/240V/415V
			DC : 220V
	18.3	Power consumption	2Watt.
	19	Push Button	
	19.1	Type	
	19.2	No. of contacts	2NO+2NC or as per manufacturer standard.
	19.3	Contact Rating	10A at 110V/240V AC
			2A at 220V DC
1		NUMERICAL RELAY:	
		Make	Siemens
		Model	Siprotech 7SJ6622 for IC/BC & OG
			Siprotech 7SJ6611 for Motor O/G



EPD,
BANGALORE

1X800MW STPP
CUSTOMER : GSECL
CONSULTANT: DCPL

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	20	Electromechanical Relay	
	20.1	Reference standard	IEC 60255
	20.2	Rated Voltage	220V DC
	20.3	No. of contacts	As per approved scheme requirement
	20.4	Rated current of contacts	5A
	20.5	Insulation voltage	2.5kV rms for 1min
	20.6	Inpulse voltage	4kV
	21	Local Motor starter	
	21.1	Reference standard	IS 13947/ IEC 60947-4-1
	21.2	Rated Voltage	415V AC @50Hz
	21.3	Rate current	As per approved drawing
	21.4	Degree of protection	IP54
	21.5	Thermal overload relay	As per the motor rating
	21.6	Enclosure material	CRCA sheet steel
	21.7	Sheet thickness	2mm or As per manufacturer's standard.
	21.8	Push button	START :Spring return
			STOP : Mushroom head, press to lock, lockable
	21.9	Current rating of contacts	As per motor rating
		contact material	non-bouncing silver/ silver alloy
	21.1	Auxilliary Contact Details	1C/O for OLR
	22	Local push button station	
	22.1	Reference Standard	
	22.2	Rated Voltage	240V AC / 415V AC @ 50Hz
	22.3	Enclosure material	CRCA shet steel for Non-flame proof
			Die cast aluminium for flame proof
	22.4	Thickness of Enclosure	1.6mm for sheet steel
			3mm for die cast aluminium
	22.5	Requirement of Canopy	Yes for outdoor applications
	22.6	Degree of protection	IP-55 for indoor.
			IP-65 for outdoor.
	22.7	Push button	START :Spring return
			STOP : Mushroom head, press to lock, lockable
	22.8	Current rating of contacts	min 10A at 240V AC
	23	MCB	
	23.1	Reference Standard	IEC 60947-2
	23.2	Rated Voltage	110V AC or 240V AC @50Hz
			220V DC
	23.3	Fault level	min 9kA
	23.4	Rated current	As per the approved drawing
	24	Timer	
	24.1	Reference Standard	
	24.2	Coil voltage	240V AC, 220V DC
	24.3	Type	Electronic
	24.4	Fucntion	ON delay
			OFF delay
			instantaneous



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1X800MW STPP
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CONSULTANT: DCPL

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	24.5	No. of contacts	2C/O
	25	Secondary Wiring	
	25.1	Type of insulation	PVC
	25.2	Voltage grade	1100V
	25.3	Conductor material	copper
	25.4	conductor size	2.5 sq.mm for control circuit
			2.5 sq.mm for current circuit
			2.5sq. Mm for PT circuit.
	25.5	Identification	Identified with ferrules at both ends
	26	Terminal Block	
	26.1	Type	Box-clamp with marking strips similar to ELMEX 10 mm ² or equal
	26.2	Voltage Grade	1100V
		CTTB	Terminals for C.T. secondary leads shall have provision for shorting. CT & VT secondary neutrals will be earthed through removable links so that earth of one circuit may be removed without disturbing others.
	27	Cable Termination	
	27.1	Cable termination provided	YES
	27.2	Power cable	XLPE insulated, FRLSH PVC Sheath
	27.3	Cable lugs	Crimp type
			material : tinned copper
	27.4	Cable gland	Double compression type with tapered washer
			material : Brass
	27.5	Gland plate	CRCA : 3mm
			non-magnetic material : 4mm
	28	Busduct connection	
	28.1	Entry of busduct	As per approved drawing and layout requirement, however if not mentioned same will be from top.
	29	Ground bus	
	29.1	Material	Galvanized Iron, The ground bus will be provided with two-bolt drilling with G.I. bolts & nuts at each end to receive 50 x 6 mm G.I. flats.
	29.2	Size	Min. 50x6mm
	30	Name plate	
	30.1	Material	Anodized aluminium
	30.2	Thickness	1.6mm
	30.3	Size (length x height)	75x20mm for instrument/ meters
			150x40mm for panels
	31	Space heater	
	31.1	Operating mechanism	Thermostat controlled
	31.2	rating	60W



EPD,
BANGALORE

1X800MW STPP
CUSTOMER : GSECL
CONSULTANT: DCPL

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REV 02

	31.3	Supply voltage	240V AC
	32	Plug & Socket	
	32.1	Type	5 pin, Industrial
	32.2	Rating	5A
	33	Painting	
	33.2	finish	RAL 7032
		No. of coats	2 Coats of Powder Coating
	34	Busduct	
	34.1	Reference Standard	IS 8623-2/ IEC 439-2
	34.2	Type	Non - Segregated, self cooled
	34.3	Installation location	Indoor/Outdoor(Will be provided with top having slopping shape)
	34.4	Rated Voltage	415V±10% for AC, 3Ph
	34.5	Phase	3-Phase, 4-wire
	34.6	Frequency	50Hz±5%
	34.7	Combined Voltage and Frequency Variation	10 %(absolute sum)
	34.8	Space heater service voltage	240 +/-10% , 50Hz +/-5%, 1 Ph
	34.9	One-minute power frequency withstand voltage (for space heater)	2.5kV rms (min)
	34.10	Rated Continuous Current	As per approved drawing; (4000A, 3200A, 2500A, 1600A, 1000A)
	34.11	Maximum temperature rise over 50 Deg.C ambient	
		a) Bus conductor	
		i) With Silver Plated bolted joints	55 deg C
		ii) With Plain or Tin joints	40 deg C
		b) Bus enclosure and structure	Accessible portion : 20deg C
			Non -accessible portion : 30 deg C
		c) Maximum conductor temperature after short circuit	250 Deg Cent.
	34.12	Insulation level	2.5kV for 1min
	34.13	Rated short time Current	50kA for 1 sec
	34.14	Rated making current (peak)	105kA for 1sec
	34.15	Material of the conductor	Aluminium
	34.16	Material of the enclosure	Aluminium having alloy grade 31000 (56% IACS)
	34.17	Voltage class of Bus support insulator	1.1kv
	34.18	Material characteristics of bus support insulator	Flame retardant, Non hygroscopic, tracking resisitant & high strength cast resin FRP
			Creepage distance : 31mm/kV
	34.19	Earth clearance	min 25mm
	34.20	Minimum clearance for busbars	Phase - Phase : 25mm
			Phase - Earth : 25mm
	34.21	Adapter Terminal Box	
		Material of Enclosure	Aluminium
		Thickness of material	3mm



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1X800MW STPP
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CONSULTANT: DCPL

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	34.22	Painting	Conductors and inside surface of enclosures will be treated with matt black paint for efficient heat dissipation. The interior surface finish shall be as per manufacturer's standard. The shade of exterior surface finish shall be light grey shade RAL 7032 for indoor part and battle ship gray shade 632 of IS-5 for outdoor.
	34.3	Shipping length of the bus duct	Max. length of Shipping will be 3meters
	34.4	type of flange joints	Flange joints will be provided with neoprene gaskets.
	34.5	Supporting structure	Galvanized Iron; Support shall be designed to provide tolerance of ± 12 mm. (1/2") in the horizontal and vertical directions.
	34.6	Grounding conductor	50x6 GI Flat will be run through out the length.
	34.7	Inspection door/window	Will be provided.

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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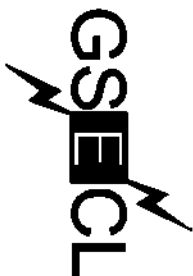
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CUSTOMER:



GUJARATH ELECTRICITY CORPORATION LIMITED
VADODARA, GUJARAT

PROJECT:

1x800 MW WANAKBORI THERMAL POWER STATION
EXTENTION UNIT-8

CUSTOMER CONSULTANT:



DEVELOPMENT CONSULTANT PVT LTD
KOLKATA

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DRG. NO. EP-3-GA-047-866

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SGN.	DATE	DR. :	FILE NO.:	SCALE	JOB NO.	DRG. NO.	NO. OF SHEETS	NO.	REV.
07																	
06																	
05							TRINATH	3.3.17	17.05.17								
04							TRINATH	3.3.17	17.05.17								
03							TRINATH	3.3.17	17.05.17								
02	05.08.17	REVISED AS PER UPDATED LOAD LIST	3.3.17	3.3.17	CHECKED												
01																	

BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE

GENERAL ARRANGEMENT

WT MCC (CHP MCC-1) NEAR WAGON TIPPLER



NO. OF SHEETS

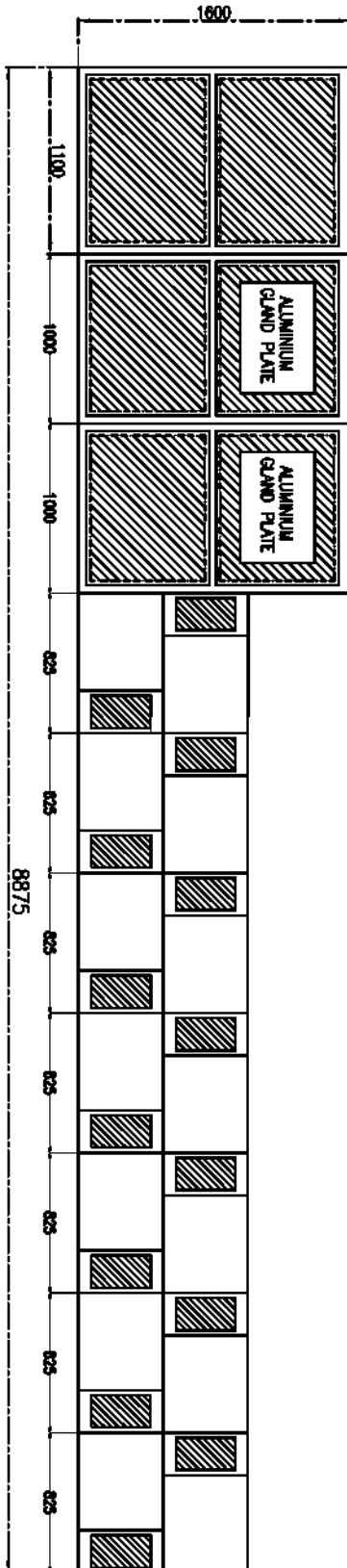
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REV.

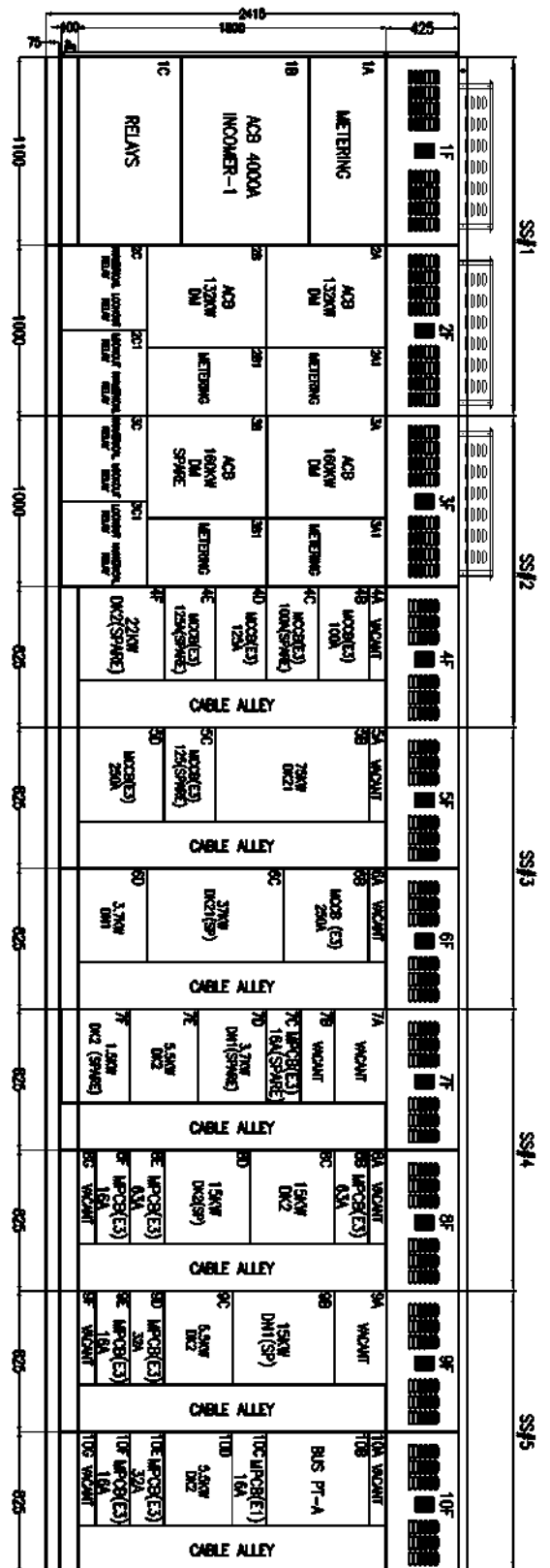
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INVENTORY NO.

REV. NO.	DATE	REVISION	BY	APPROVED	DESCRIPTION
01	05.03.17	REVISED AS PER UPDATED LOAD LIST			
02					
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06					
07					

FOUNDATION PLAN
DIMENSION IN MM:20050(W)X1600(D)X2415(H), WEIGHT:16500(KG)

FRONT VIEW



FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

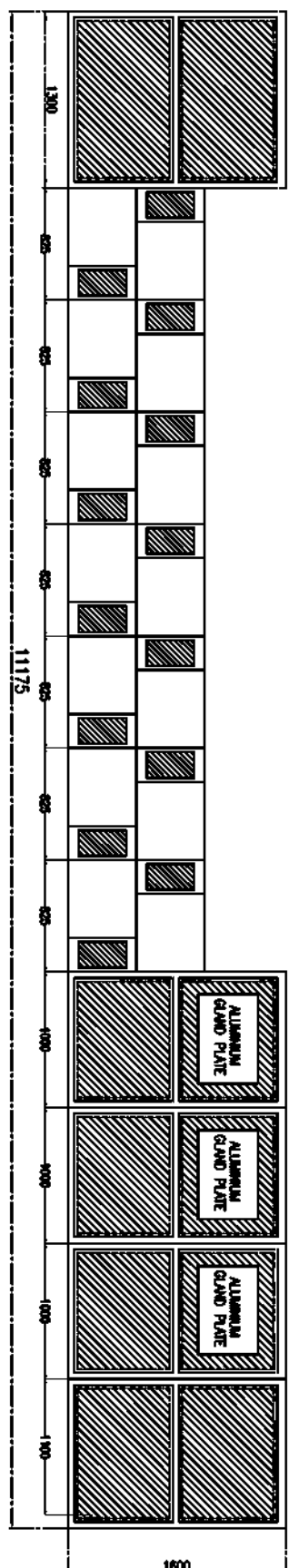
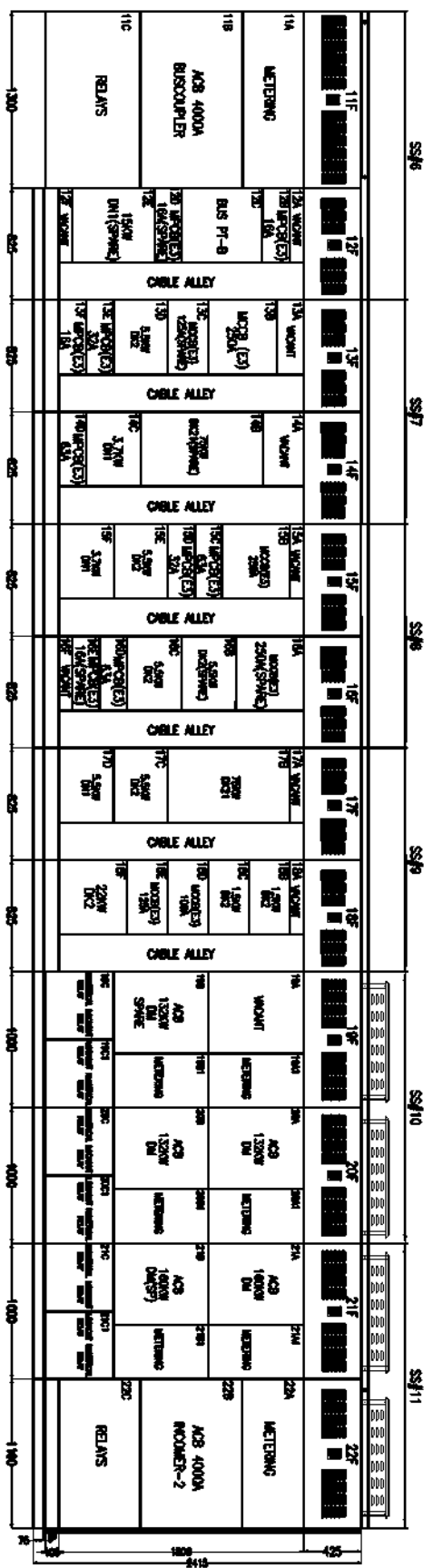
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DRG. NO. EP-3-GA-047-866

INVENTORY NO.		REV. NO.		DATE		DESCRIPTION		BY		APPROVED		KSS		FILE NO.		SCALE		JOB NO.		DRG. NO.		NO. OF SHEETS		NO. OF SHEETS		REV.	
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BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPORELAIR DIVISION BANGALORE

WT MCC (CHP MCC-1) NEAR WAGON TIPPLER

DRG. NO. EP-3-GA-047-866

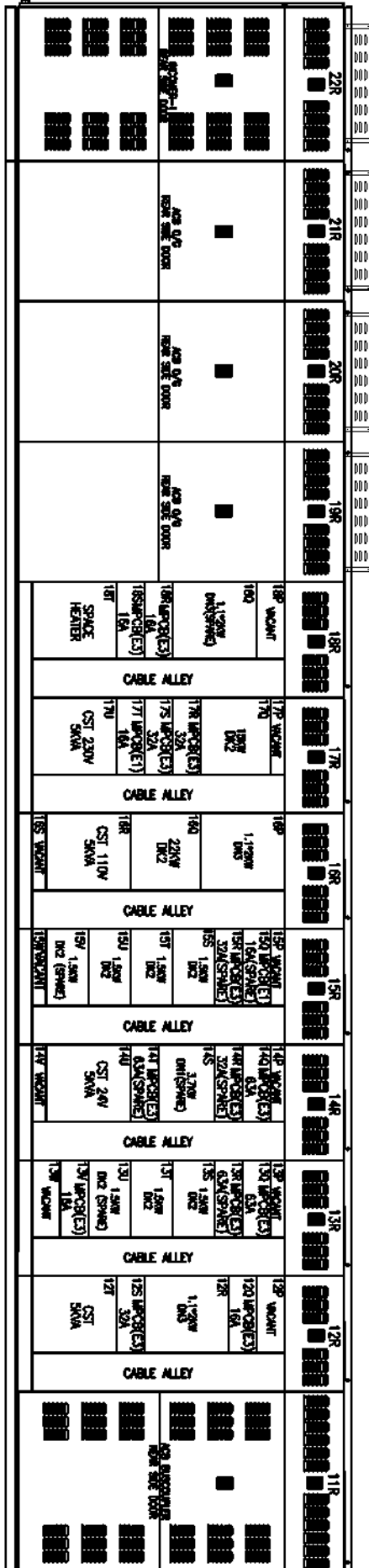
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10P VACANT	9P VACANT	8P VACANT	7P VACANT	6P VACANT	5P VACANT	4P VACANT	3P VACANT	2P VACANT	1P VACANT
100 1.120W DN2	90 1.120W DN1	80 2.20W DN2	70 1.100W DN2	60 WPCB(E3) 63A	50 WPCB(E3) 16A	40 WPCB(E3) 16A	30 WPCB(E3) 16A	20 WPCB(E3) 16A	10 WPCB(E3) 16A
CABLE ALLEY									
10R 1.120W DN2	9R 1.120W DN2	8R WPCB(E3) 63A	7R 1.120W DN2	6R WPCB(E3) 32A(SPACE)	5R WPCB(E3) 32A	4R WPCB(E3) 32A	3R WPCB(E3) 32A(SPACE)	2R WPCB(E3) 32A(SPACE)	1R WPCB(E3) 32A(SPACE)
CABLE ALLEY									
10S 1.100W DN2	9S CST 110V 50VA	8S WPCB(E3) 63A	7S 1.120W DN2	6S WPCB(E3) 32A(SPACE)	5S WPCB(E3) 32A	4S WPCB(E3) 32A	3S WPCB(E3) 32A(SPACE)	2S WPCB(E3) 32A(SPACE)	1S WPCB(E3) 32A(SPACE)
CABLE ALLEY									
10T 1.120W DN2 (S9)	9T VACANT	8T CST 24V 50VA	7T WPCB(E3) 32A(SPACE)	6T 1.120W DN2	5T VACANT	4T 1.120W DN2 (S9)	3T VACANT	2T VACANT	1T VACANT
CABLE ALLEY									
10U VACANT	9U VACANT	8U VACANT	7U VACANT	6U CST 230V 50VA	5U CST 50VA	4U SPACE HEADER	3U VACANT	2U VACANT	1U VACANT
CABLE ALLEY									

REAR VIEW

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DRG. NO. EP-3-GA-047-866

INVENTORY NO.									
REV.	DATE	DESCRIPTION	BY	APPRO.	APPROVED	NAME	SKN.	DATE	
07									
06									
05					DESIGNED	TRINATH	<i>P. Trinath</i>	17.05.17	
04									
03					DRAWN	TRINATH	<i>P. Trinath</i>	17.05.17	
02									
01	06.08.17	RENSED AS PER UPDATED LOAD LIST	<i>P. Trinath</i>	<i>P. Trinath</i>	CHECKED				
						KCSB	<i>[Signature]</i>	17.05.17	
DR :  FILE NO.: 8 TITLE : WT MCC (CHP MCC-1) NEAR WAGON TIPPLER									
BHARAT HEAVY ELECTRICALS LIMITED ELECTROBORCELAIN DIVISION BANGALORE									
GENERAL ARRANGEMENT						NO. OF SHEETS 07			
JOB NO. CP14047						SHEET. NO. 05			
SCALE						DRG. NO. EP-3-GA-047-866			
						REV. 01			



REAR VIEW

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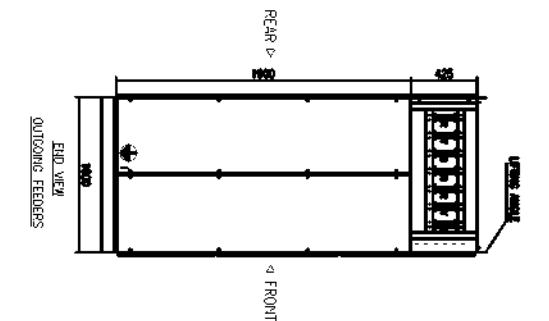
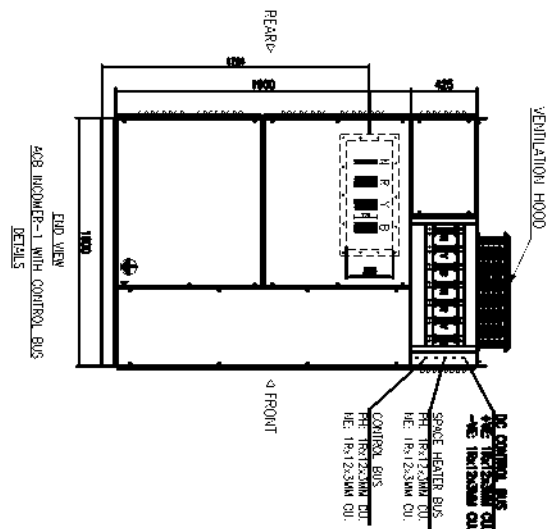
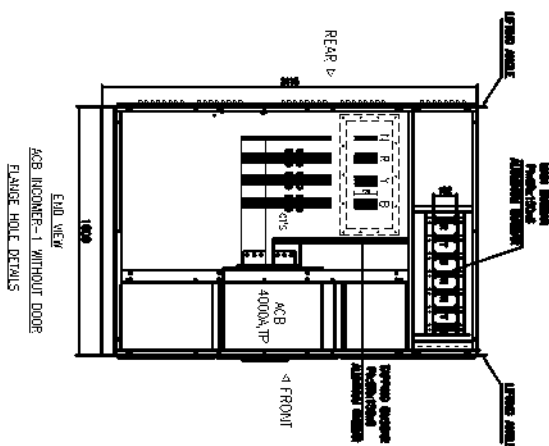
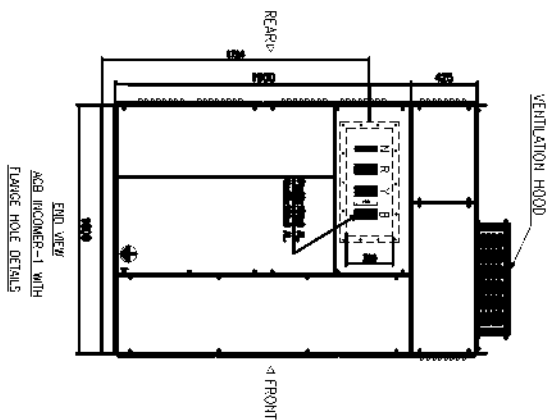
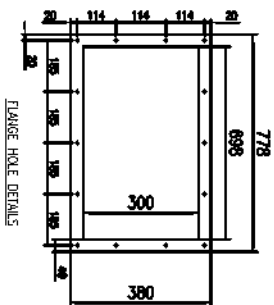
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INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPROVED	KSB	FILE NO.:	SCALE	JOB NO.	DRG. NO.	NO. OF SHEETS	NO.
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BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPORCELAIN DIVISION BANGALORE

TITLE :

WT MCC (CHP MCC-1) NEAR WAGON TIPPLER

NO. OF
SHEETS
07

SHEET
NO.
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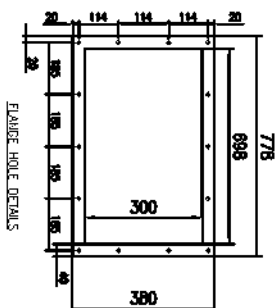
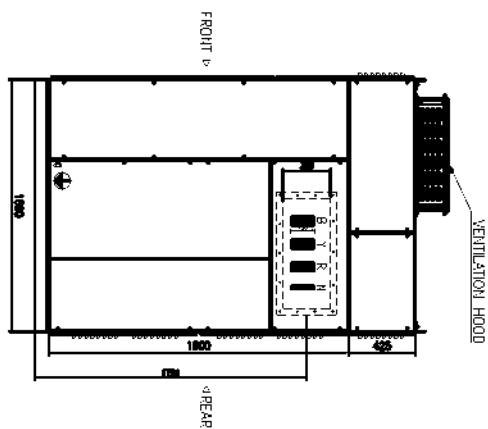
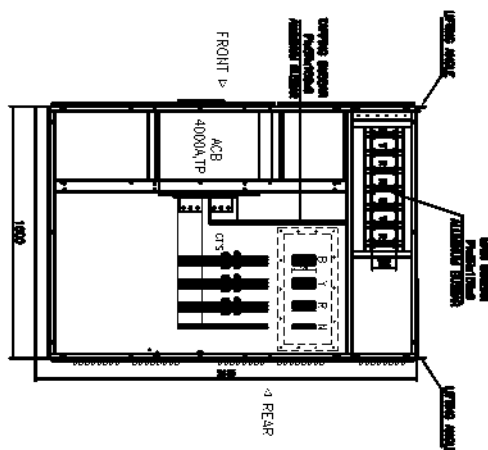
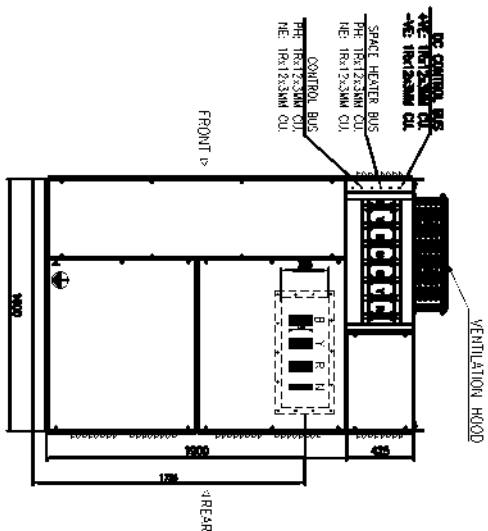
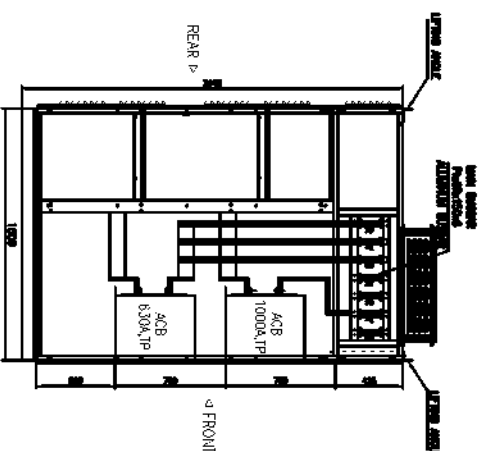
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INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPRO. APPROVED	KSB	17.05.17	3	FILE NO.:	SCALE	JOB NO. CP14047	DRG. NO. EP-3-GA-047-866	NO. OF SHEETS	07	REV. NO.	01
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04															
03															
02															
01	05.08.17	REVISED AS PER UPDATED LOAD LIST	K.S.B.	K.S.B.											

END VIEW
ACB INCOMER-2 WITH
FLANGE HOLE DETAILSEND VIEW
ACB INCOMER-2 WITHOUT DOOR
FLANGE HOLE DETAILSEND VIEW
ACB INCOMER-2 WITH CONTROL BUS
DETAILSEND VIEW
ACB OUTGOING FEEDERSBHARAT HEAVY ELECTRICALS LIMITED
ELECTROPORCELAIN DIVISION BANGALORE

TITLE :

GENERAL ARRANGEMENT
WT MCC (CHP MCC-1) NEAR WAGON TIPPLER

NO. OF SHEETS

07

SHEET NO.

07

SCALE

JOB NO. CP14047

DRG. NO. EP-3-GA-047-866

REV.

01

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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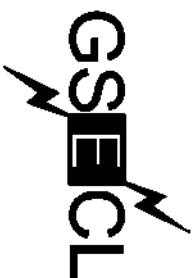
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CUSTOMER:



GUJARATH ELECTRICITY CORPORATION LIMITED
VADODARA, GUJARAT

PROJECT:

1x800 MW WANAKBORI THERMAL POWER STATION
EXTENTION UNIT-8

CUSTOMER CONSULTANT:



DEVELOPMENT CONSULTANT PVT LTD
KOLKATA

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DRG. NO. EP-3-GA-047-867

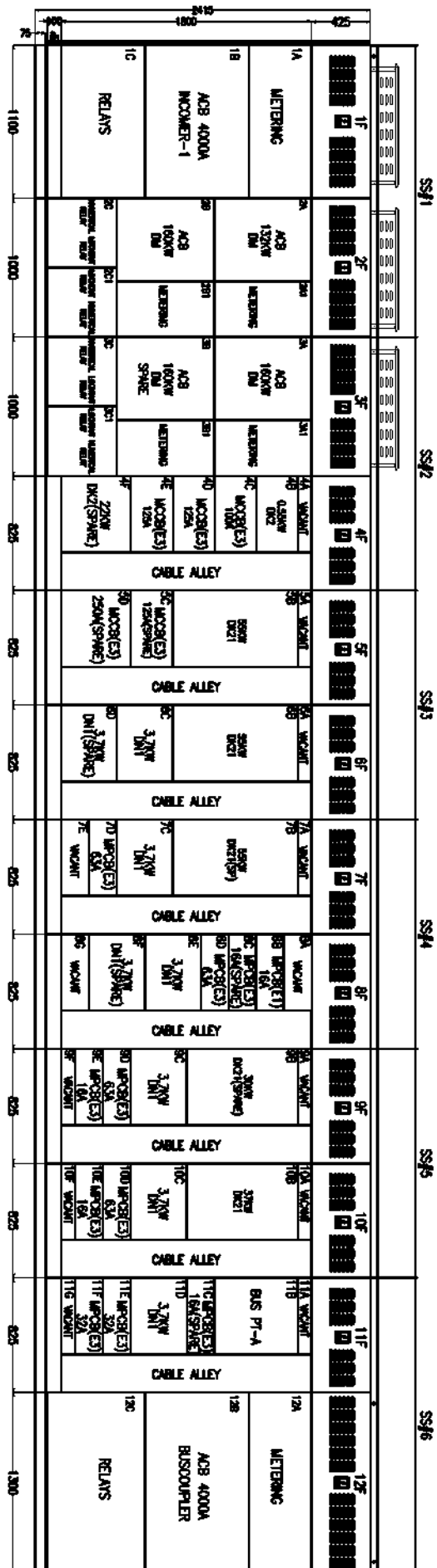
INVENTORY NO.

REV.	DATE	DESCRIPTION	BY	APPRO.	APPROVED	KSB	NAME	SKN.	DATE	FILE NO.	SCALE	JOB NO.	DRG. NO.	NO. OF SHEETS	REV.
01	04.08.17	REVISED AS PER UPDATED LOAD LIST	...	...	CHECKED		TRINATH	...	16.05.17	...		CP14047	EP-3-GA-047-867	07	01
02							TRINATH	...	16.05.17						
03							TRINATH	...	16.05.17						
04							TRINATH	...	16.05.17						
05							TRINATH	...	16.05.17						
06							TRINATH	...	16.05.17						
07							TRINATH	...	16.05.17						

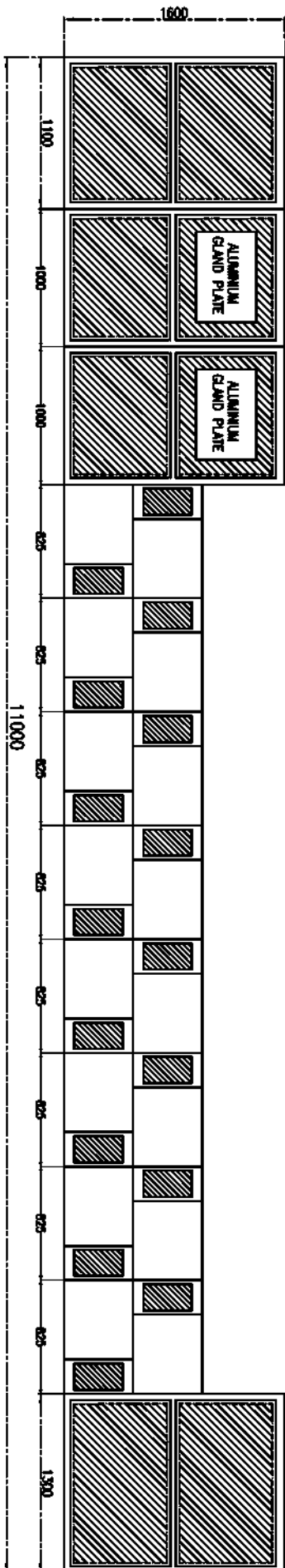
BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPORCELAIN DIVISION BANGALORE

GENERAL ARRANGEMENT
CHP MCC-2 (CH MCC) NEAR CRUSHER HOUSE

1 2 3 4 5 6 7 8



FRONT VIEW

FOUNDATION PLAN
DIMENSION IN MM: 31700(W)X1600(D)X2415(H), WEIGHT: 17000KG

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DRG. NO. EP-3-GA-047-867

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPROVED	DATE	FILE NO.	SCALE	JOB NO.	DRG. NO.	REV.
01	04.08.17	REMOVED AS PER UPDATED LOAD LIST							EP-3-GA-047-867	01
02										
03										
04										
05										
06										
07										

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPORCELAIN DIVISION BANGALOREGENERAL ARRANGMENT
CHP MCC-2 (CH MCC) NEAR CRUSHER HOUSE

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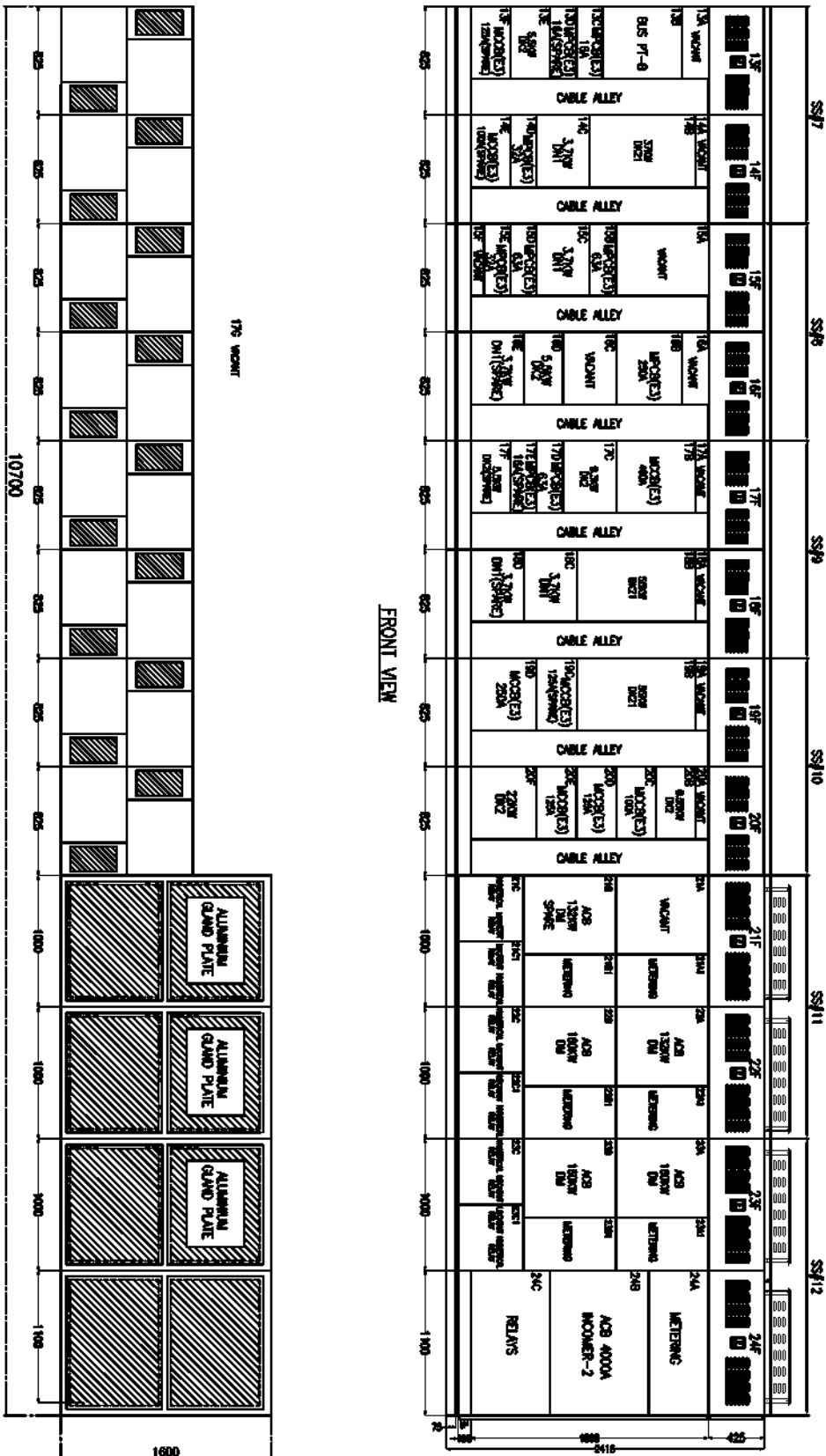
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DRG. NO. EP-3-GA-047-867

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPRO.	APPROVED	KSB	FILE NO.	SCALE	JOB NO.	DRG. NO.	REV.
01	04.08.17	REVISED AS PER UPDATED LOAD LIST	KSJ	KSJ	CHECKED		3			EP-3-GA-047-867	01
02											
03											
04											
05											
06											
07											



FRONT VIEW

FOUNDATION PLAN

BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE



TITLE :

GENERAL ARRANGEMENT
CHP MCC-2 (CH MCC) NEAR CRUSHER HOUSENO. OF
SHEETSSHEET
NO.

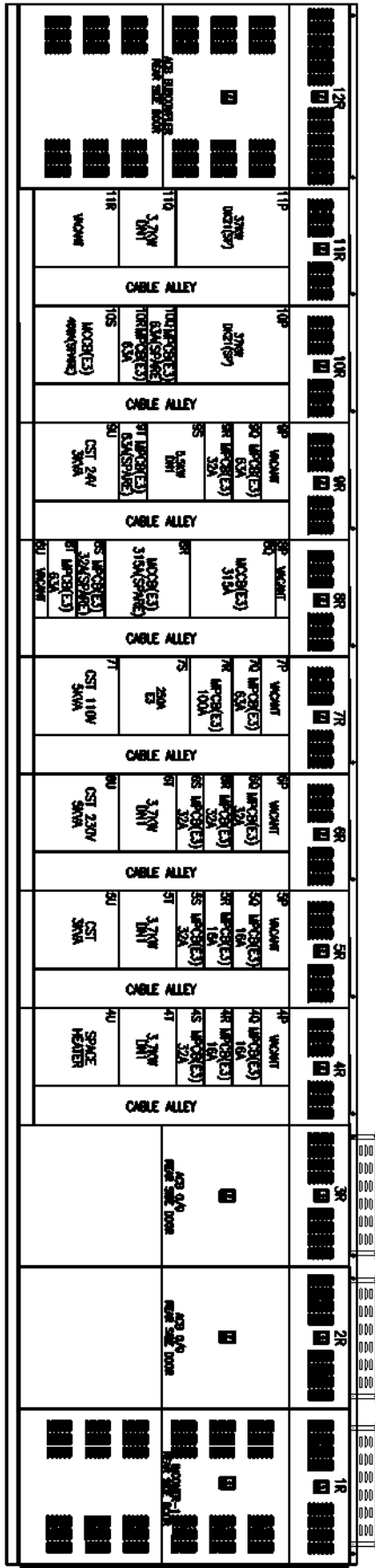
07

03

01

INVENTORY NO.

DRG. NO. EP-3-GA-047-867

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REAR VIEW

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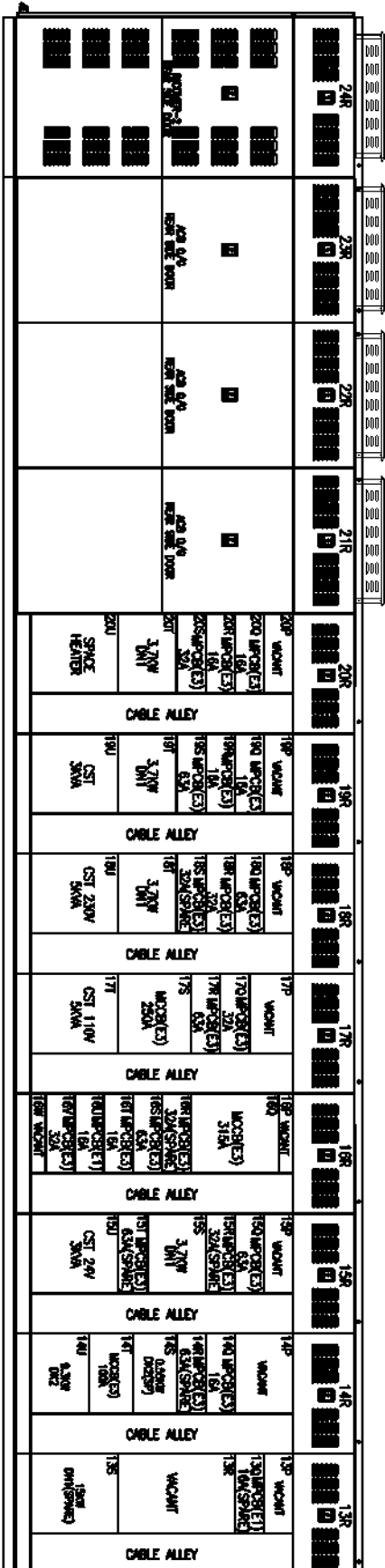
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DRG. NO. EP-3-GA-047-867

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPRO.	APPROVED	KSB	NAME	SKN.	DATE	FILE NO.	SCALE	JOB NO.	DRG. NO.	REV.
01	04.08.17	REVISED AS PER UPDATED LOAD LIST			CHECKED		TRINATH		16.05.17	3		CP14047	EP-3-GA-047-867	01
02														
03														
04														
05														
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07														

REAR VIEW



BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPORCELAIN DIVISION BANGALORE

GENERAL ARRANGEMENT
CHP MCC-2 (CH MCC) NEAR CRUSHER HOUSE

NO. OF
SHEETS
07

NO. OF
SHEETS
05

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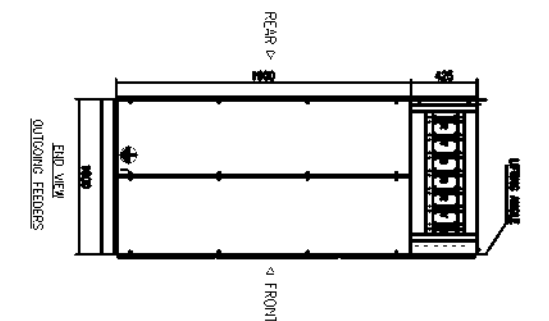
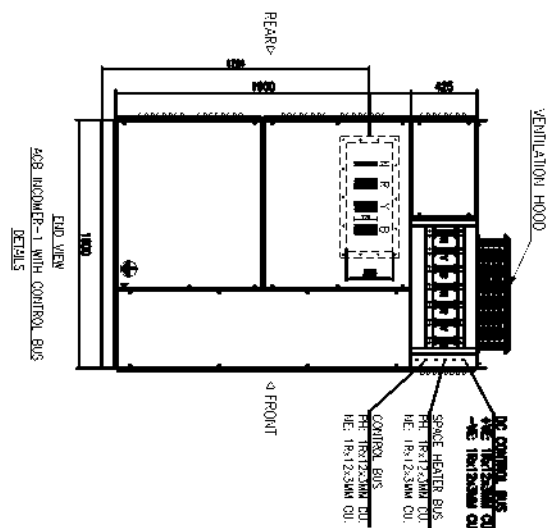
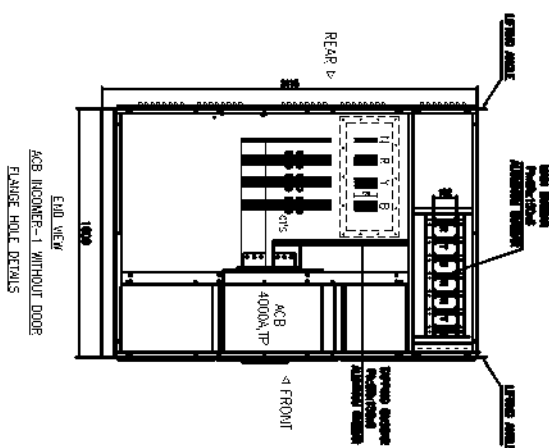
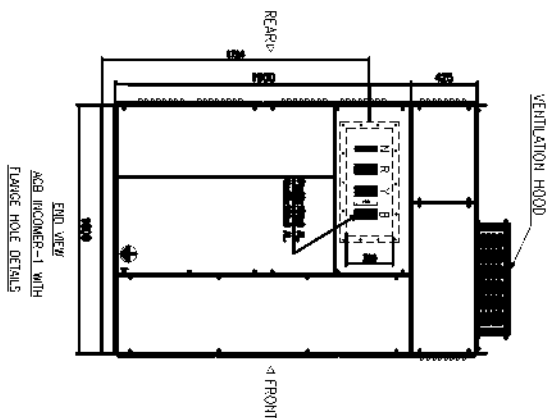
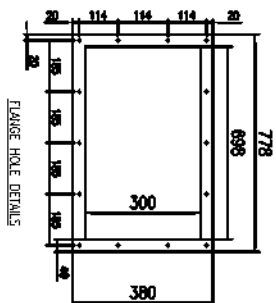
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DRG. NO. EP-3-GA-047-867

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPRO.	APPROVED	KSB	NAME	SKN.	DATE	DR. :	FILE NO.:	SCALE	JOB NO.	DRG. NO.	NO. OF SHEETS	REV.
07																
06																
05							TRINATH	16.05.17								
04							TRINATH	16.05.17								
03							TRINATH	16.05.17								
02																
01	04.08.17	REVISED AS PER UPDATED LOAD LIST														
NO.																



BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE

GENERAL ARRANGEMENT

CHP MCC-2 (CH MCC) NEAR CRUSHER HOUSE



NO. OF SHEETS

07

SHEET NO.

06

REV.

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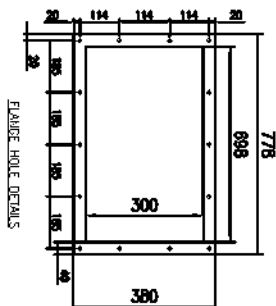
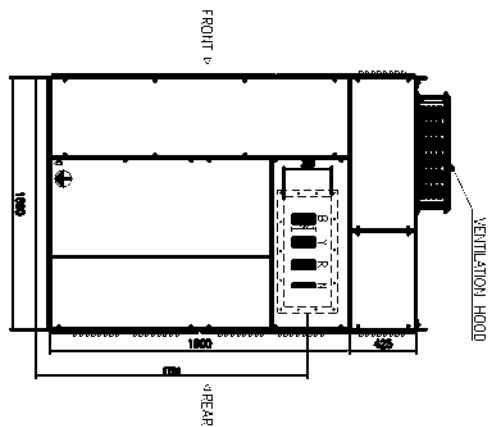
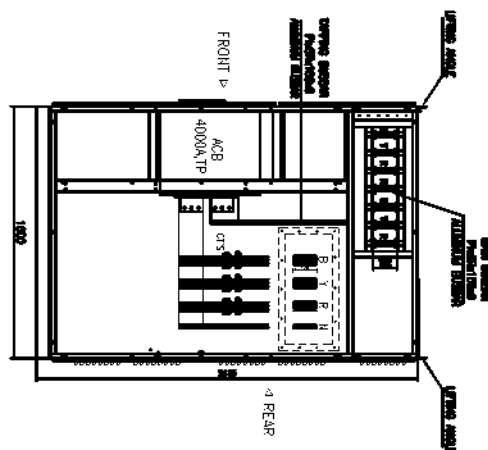
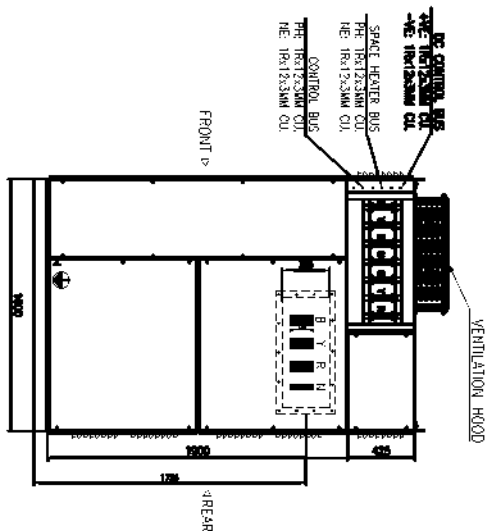
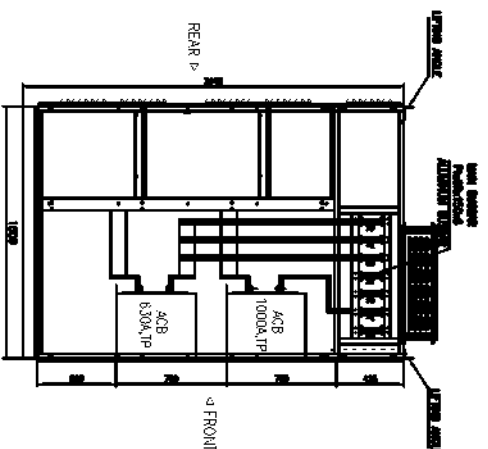
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DRG. NO. EP-3-GA-047-867

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPRO. APPROVED	KSB	16.05.17	3	FILE NO.:	SCALE	JOB NO. CP14047	DRG. NO. EP-3-GA-047-867	NO. OF SHEETS	07	REV. NO.	01
07															
06															
05															
04															
03															
02															
01	04.08.17	REVISED AS PER UPDATED LOAD LIST	كشك	كشك	CHECKED										

END VIEW
ACB INCOMER-2 WITH
FLANGE HOLE DETAILSEND VIEW
ACB INCOMER-2 WITHOUT DOOR
FLANGE HOLE DETAILSEND VIEW
ACB INCOMER-2 WITH CONTROL BUS
DETAILSEND VIEW
ACB OUTGOING FEEDERSBHARAT HEAVY ELECTRICALS LIMITED
ELECTROPORCELAIN DIVISION BANGALORE

TITLE :

GENERAL ARRANGEMENT
CHP MCC-2 (CH MCC) NEAR CRUSHER HOUSENO. OF SHEETS
07SHEET NO.
07

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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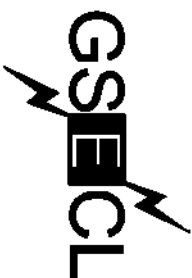
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CUSTOMER:



GUJARATH ELECTRICITY CORPORATION LIMITED
VADODARA, GUJARAT

PROJECT:

1x800 MW WANAKBORI THERMAL POWER STATION
EXTENTION UNIT-8

CUSTOMER CONSULTANT:



DEVELOPMENT CONSULTANT PVT LTD
KOLKATA

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DRG. NO. EP-3-GA-047-868

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPRO. APPROVED	KSB	NAME	SKN.	DATE	FILE NO.	SCALE	JOB NO.	DRG. NO.	NO. OF SHEETS	NO.	REV.
07															
06															
05						DESIGNED	TRINATH	17.05.17							
04						DRAWN	TRINATH	17.05.17							
03						CHECKED									
02															
01	04.08.17	REVERSED AS PER UPDATED LOAD LIST													

BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE



TITLE :

TP-4 MCC (CHP MCC-3) NEAR TP-4

GENERAL ARRANGEMENT



NO. OF SHEETS

NO.

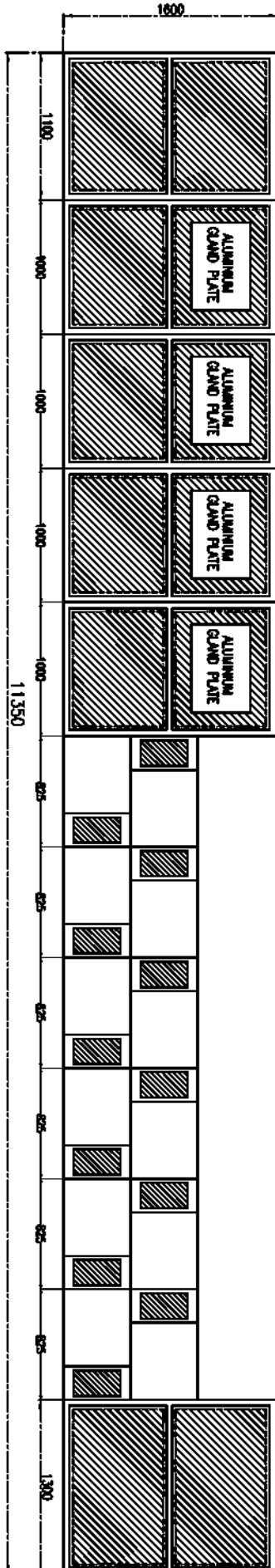
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NO.

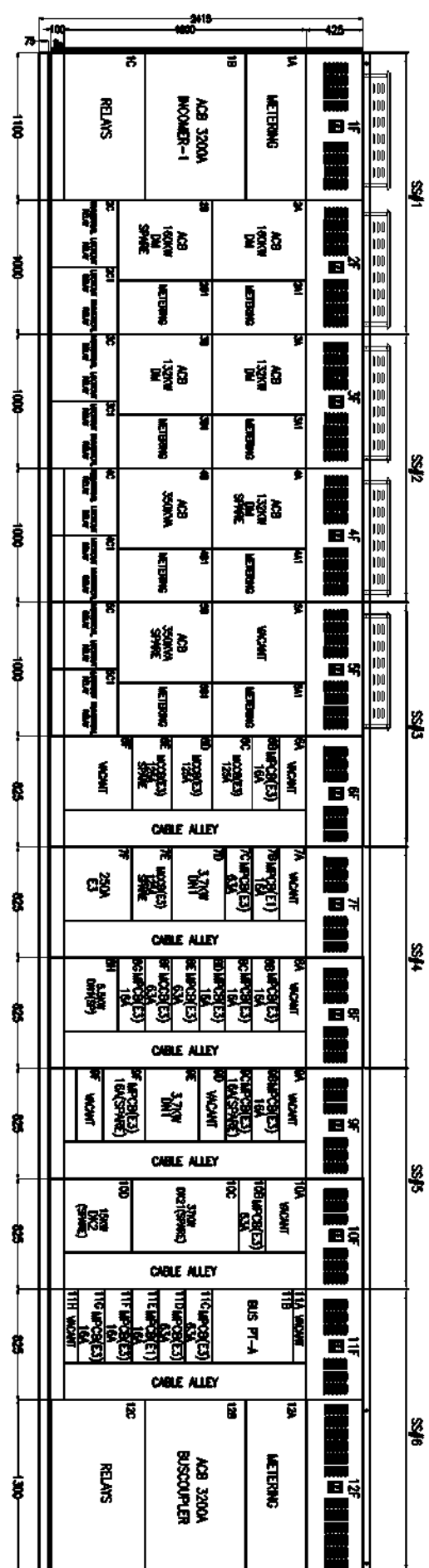
DRG. NO. EP-3-GA-047-868

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPROVED	APPROVED	DATE	NAME	SKN.	DATE	FILE NO.	SCALE	JOB NO.	DRG. NO.	REV.
01	04.08.17	REVISED AS PER UPDATED LOAD LIST	J.A.S.	J.A.S.	K.S.B.	17.05.17	TRINATH	J.A.S.	17.05.17	3	TP-4 MCC (CHP MCC-3) NEAR TP-4	08	EP-3-GA-047-868	01
02														02
03														03
04														04
05														05
06														06
07														07

FOUNDATION PLAN
DIMENSION IN MM: 20400(W)X1600(D)X2415(H), WEIGHT: 16500KG

FRONT VIEW



FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1 2 3 4 5 6 7 8

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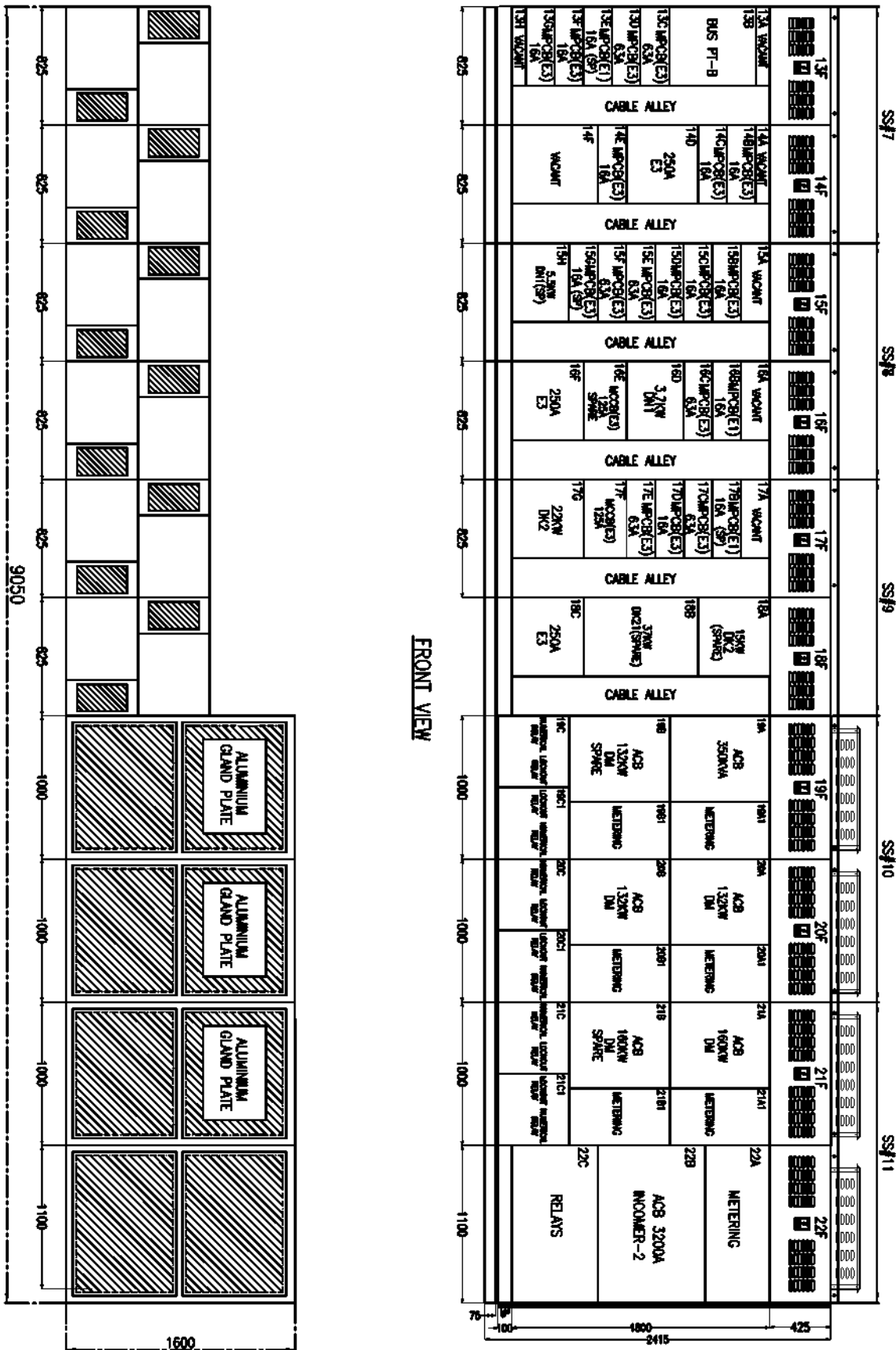
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DRG. NO. EP-3-GA-047-868

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPROVED	NAME	SKN.	DATE	FILE NO.	SCALE	JOB NO.	DRG. NO.	REV.
01	04.08.17	REVISED AS PER UPDATED LOAD LIST	12.05.17	12.05.17	TRINATH	17.05.17	17.05.17	3	1:1	CP14047	EP-3-GA-047-868	01
02												
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FOUNDATION PLAN

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPORCELAIN DIVISION BANGALOREGENERAL ARRANGEMENT
TP-4 MCC (CHP MCC-3) NEAR TP-4NO. OF SHEETS
07
SHEET NO.
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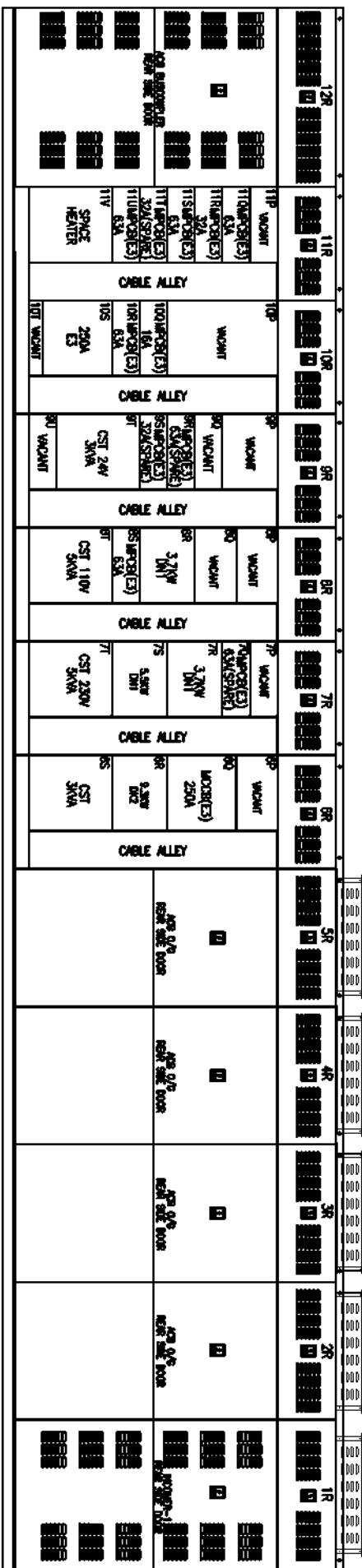
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DRG. NO. EP-3-GA-047-868

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPROVED	APPROVED	NAME	SKN.	DATE	FILE NO.	SCALE	JOB NO.	DRG. NO.	REV.
01	04.08.17	REVERSED AS PER UPDATED LOAD LIST	13.08.17	13.08.17	CHECKED				3		108	CP14047	01
02													
03													
04													
05													
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07													

REAR VIEW



BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE

GENERAL ARRANGMENT

TP-4 MCC (CHP MCC-3) NEAR TP-4

NO. OF SHEETS 07

SHEET NO. 04

REV. NO. 01

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DRG. NO. EP-3-GA-047-868

INVENTORY NO.

FORM 66-301 A

22R	21R	20R	19R	18R	17R	16R	15R	14R	13R

REAR VIEW

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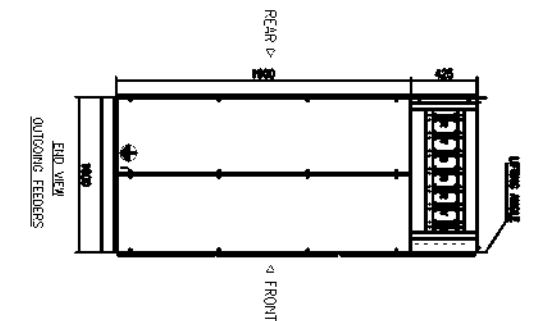
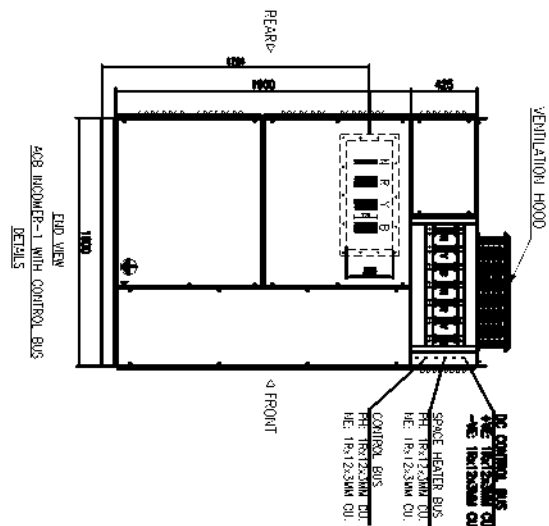
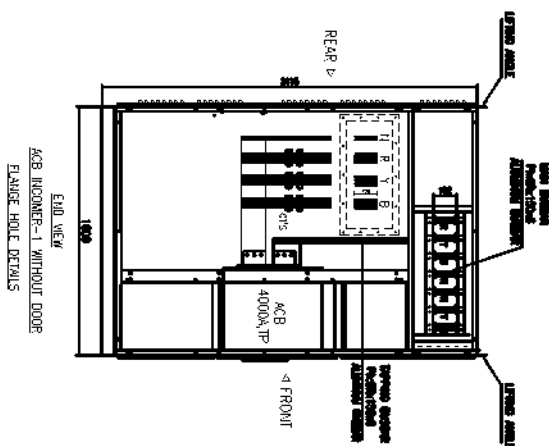
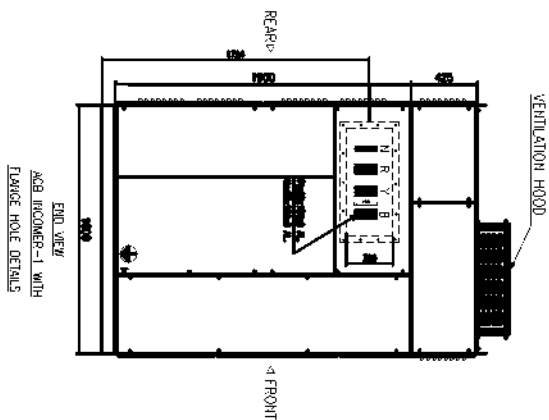
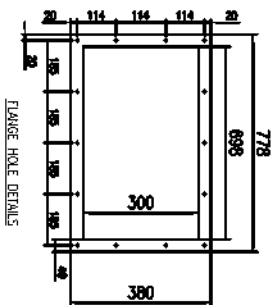
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DRG. NO. EP-3-GA-047-868

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPROD.	APPROVED	KSB	NAME	SKN.	DATE	DR. :	FILE NO.:	SCALE	JOB NO.	DRG. NO.	NO. OF SHEETS	REV.
07																
06																
05							TRINATH		17.05.17							
04							TRINATH		17.05.17							
03							TRINATH		17.05.17							
02																
01	04.08.17	REVISED AS PER UPDATED LOAD LIST	PAJ	PAJ	CHECKED											



BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPORCELAIN DIVISION BANGALORE

TITLE :

TP-4 MCC (CHP MCC-3) NEAR TP-4

NO. OF
SHEETS
07

NO.
06

REV.
01

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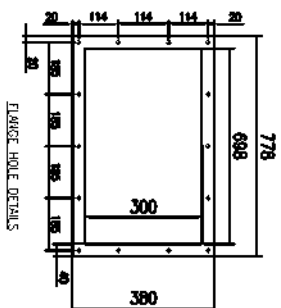
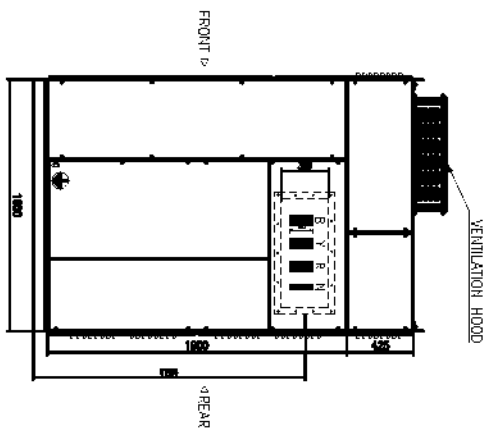
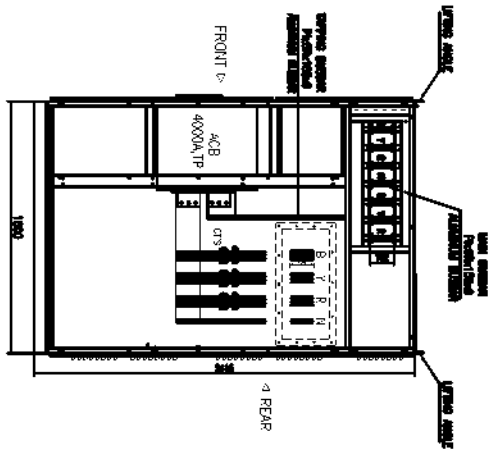
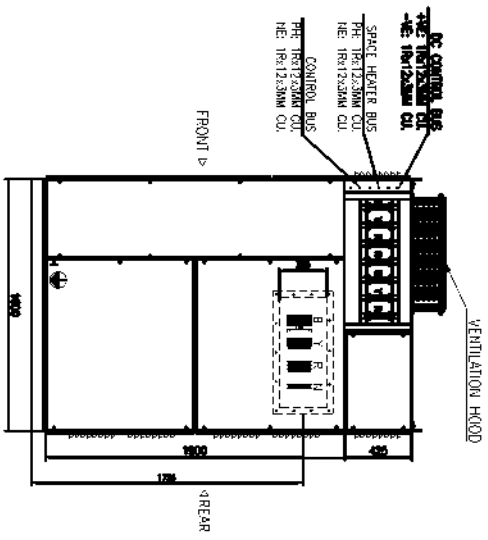
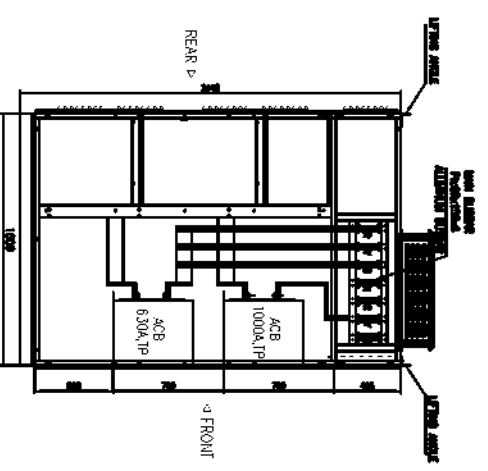
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DRG. NO. EP-3-GA-047-868

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPRO.	APPROVED	KSB	FILE NO.:	SCALE	JOB NO.	DRG. NO.	REV.
01	04.08.17	REVERSED AS PER UPDATED LOAD LIST	13.12.17	13.12.17	CHECKED		3		108 NO. CP14047	EP-3-GA-047-868	01
02											
03											
04					DESIGNED	TRINATH	17.05.17				
05											
06											
07											

END VIEW
ACB INCOMER-2 WITH
FLANGE HOLE DETAILSEND VIEW
ACB INCOMER-2 WITHOUT DOOR
FLANGE HOLE DETAILSEND VIEW
ACB INCOMER-2 WITH CONTROL BUS
DETAILSEND VIEW
ACB OUTGOING FEEDERSBHARAT HEAVY ELECTRICALS LIMITED
ELECTROPORCELAIN DIVISION BANGALORE

TITLE :

TP-4 MCC (CHP MCC-3) NEAR TP-4

NO. OF
SHEETS

07

SHEET
NO.

07

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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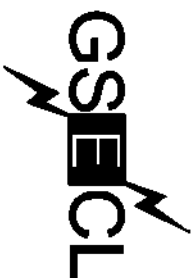
5

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CUSTOMER:



GUJARATH ELECTRICITY CORPORATION LIMITED
VADODARA, GUJARAT

PROJECT:

1x800 MW WANAKBORI THERMAL POWER STATION
EXTENTION UNIT-8

CUSTOMER CONSULTANT:



DEVELOPMENT CONSULTANT PVT LTD
KOLKATA

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DRG. NO. EP-3-GA-047-869

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPRO. APPROVED	KSB	NAME	SKN.	DATE	FILE NO.	SCALE	JOB NO.	DRG. NO.	NO. OF SHEETS	REV.
07													07	
06														
05						DESIGNED	TRINATH	20.05.17						
04						DRAWN	TRINATH	20.05.17						
03						CHECKED								
02														
01	05.09.17	REMOVED AS PER UPDATED LOAD LIST												

BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE



TITLE :

GENERAL ARRANGEMENT
AHS MCC (AHS MCC-1) NEAR TP-6

SCALE

JOB NO. CP14047

DRG. NO. EP-3-GA-047-869



NO. OF SHEETS

SHEET

NO.

REV.

1 2 3 4 5 6 7 8

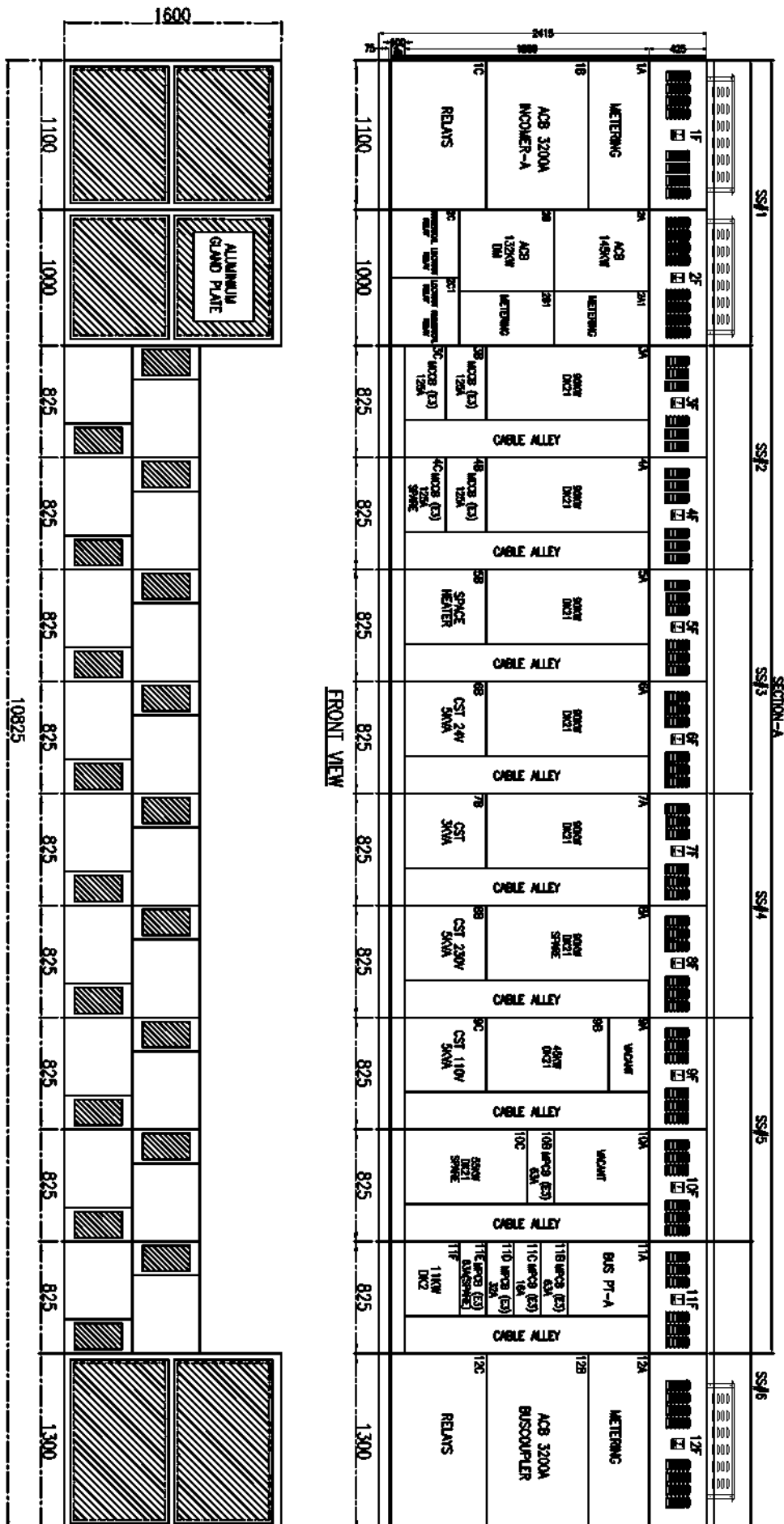
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DRG. NO. EP-3-GA-047-869

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPRO.	APPROVED	KSB	FILE NO.	SCALE	JOB NO.	DRG. NO.	REV.
01	06.09.17	REVISED AS PER UPDATED LOAD LIST	AA-28	AA-28			8		CP14047	EP-3-GA-047-869	01
02											02
03											
04											
05											
06											
07											07

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPORECELAN DIVISION BANGALORE

TITLE:

GENERAL ARRANGMENT

AHS MCC (AHS MCC-1) NEAR TP-6



NO. OF SHEETS

07

SHEET NO.

02

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

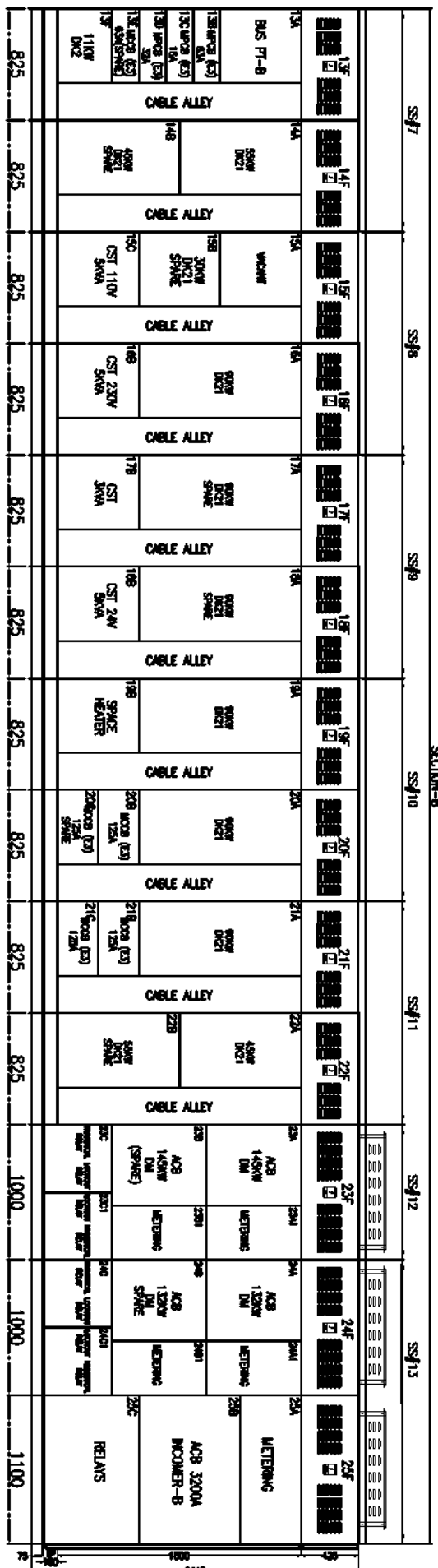
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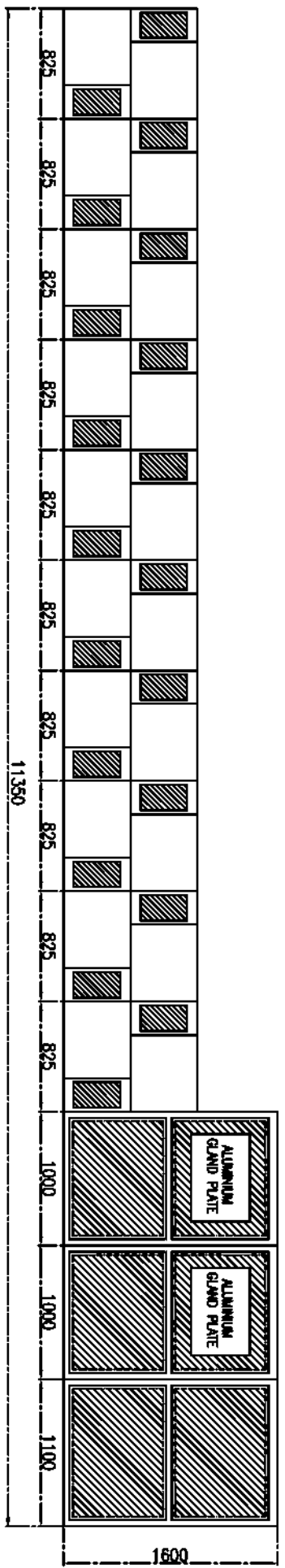
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DRG. NO. EP-3-GA-047-869

SECTION-B



FRONT VIEW



FOUNDATION PLAN

INVENTORY NO.		DRG. NO. EP-3-GA-047-869	
07			
06			
05			
04			
03			
02			
01	08.08.17	REUSED AS PER UPDATED LOAD LIST	
REV.	DATE	DESCRIPTION	BY
			APPL.
			APPROVED
			KSS
			20.05.17
			3
			FILE NO.:
			SCALE
			JOB NO. CP14047
			DRG. NO. EP-3-GA-047-869
BHARAT HEAVY ELECTRICALS LIMITED		ELECTROPORECELAN DIVISION BANGALORE	
GENERAL ARRANGEMENT		AHS MCC (AHS MCC-1) NEAR TP-6	
NO. OF SHEETS		NO. OF SHEETS	
07		03	
REV.		REV.	
01		01	

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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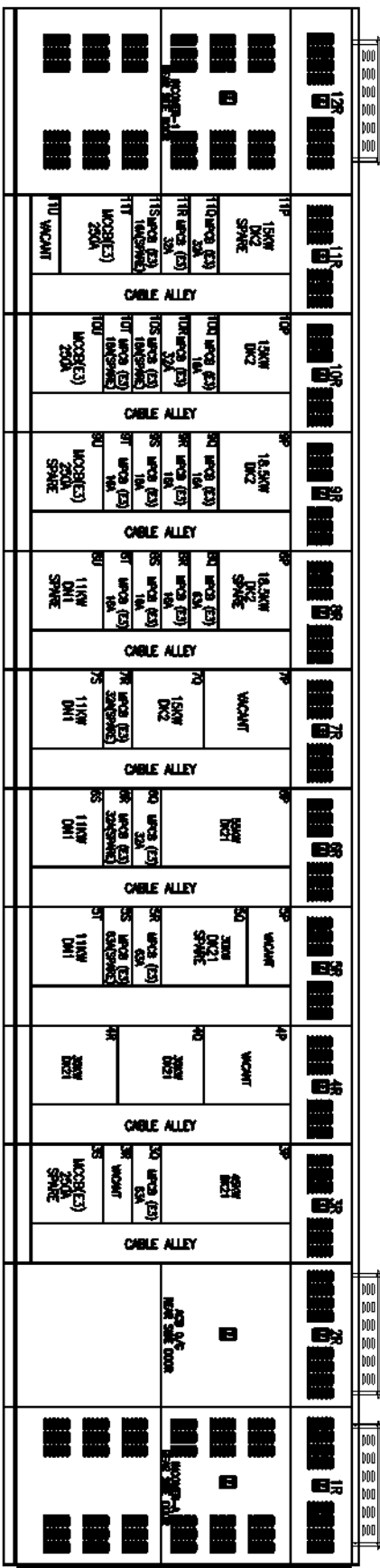
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DRG. NO. EP-3-GA-047-869



REAR VIEW

INVENTORY NO.		DRG. NO. EP-3-GA-047-869	
07			
06			
05			
04			
03			
02			
01	05.09.17	REVISED AS PER UPDATED LOAD LIST	
REV. NO.	DATE	DESCRIPTION	
		BY	APPROVED
		APPROVED	KSB
			20.05.17
			3
			FILE NO.:
			SCALE
			JOB NO. CP14047
			DRG. NO. EP-3-GA-047-869
BHARAT HEAVY ELECTRICALS LIMITED		ELECTROPORCELAIN DIVISION BANGALORE	
TITLE :		GENERAL ARRANGMENT	
		AHS MCC (AHS MCC-1) NEAR TP-6	
NO. OF SHEETS	07	NO. OF SHEETS	04
REV.	01	REV.	01

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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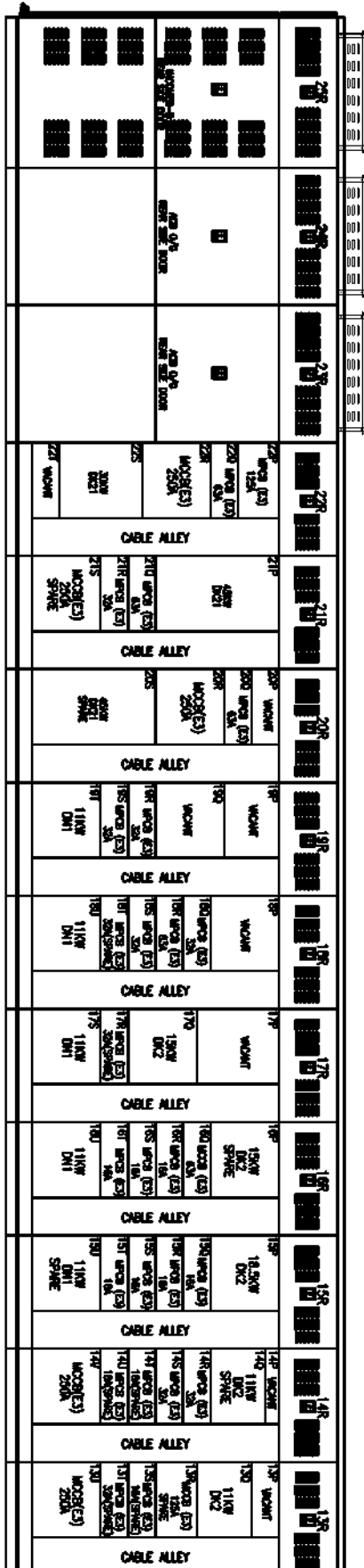
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DRG. NO. EP-3-GA-047-869



REAR VIEW

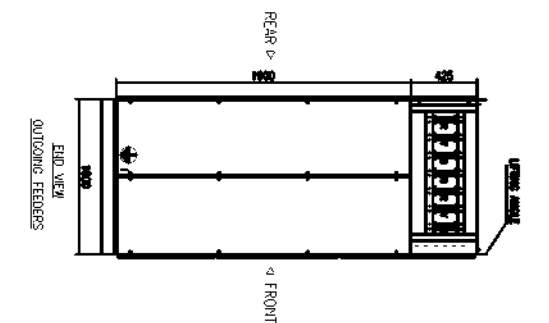
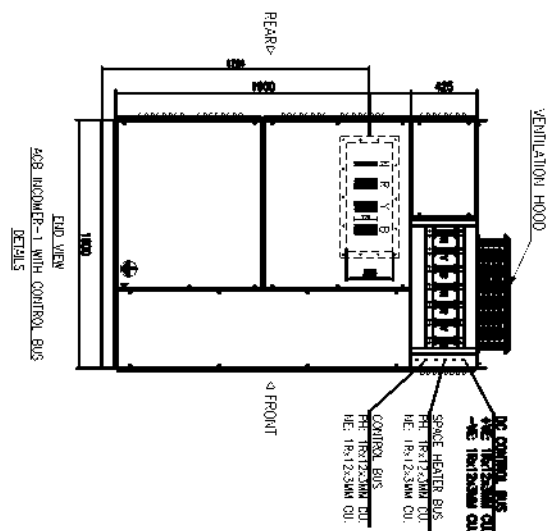
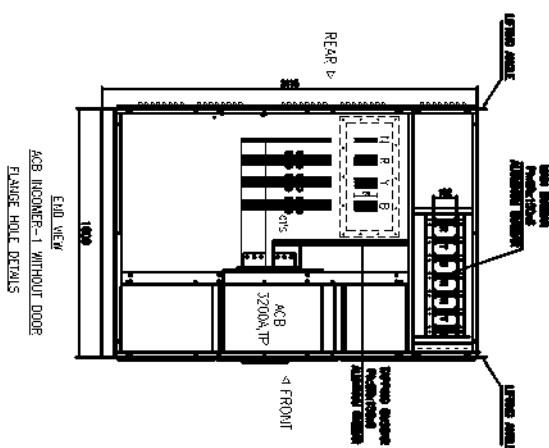
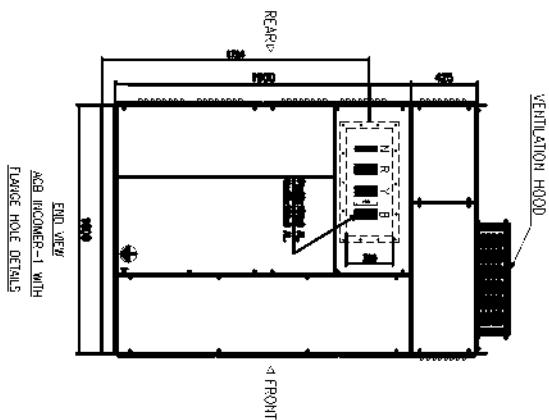
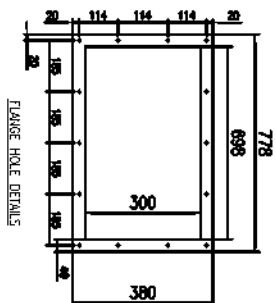
INVENTORY NO.	07	06	05	04	03	02	01
REV.	05.09.17	REMOVED AS PER UPDATED LOAD LIST	13.04.17	13.04.17	13.04.17	13.04.17	13.04.17
DATE							
BY							
APPROVED							
NAME	TRINATH	TRINATH	TRINATH	TRINATH	TRINATH	TRINATH	TRINATH
SKN.	20.05.17	20.05.17	20.05.17	20.05.17	20.05.17	20.05.17	20.05.17
DATE							
FILE NO.	3	3	3	3	3	3	3
SCALE							
JOB NO.	CP14047	CP14047	CP14047	CP14047	CP14047	CP14047	CP14047
DRG. NO.	EP-3-GA-047-869	EP-3-GA-047-869	EP-3-GA-047-869	EP-3-GA-047-869	EP-3-GA-047-869	EP-3-GA-047-869	EP-3-GA-047-869
TITLE	BHARAT HEAVY ELECTRICALS LIMITED ELECTROPORCELAIN DIVISION BANGALORE						
GENERAL ARRANGMENT	AHS MCC (AHS MCC-1) NEAR TP-6						
NO. OF SHEETS	07	06	05	04	03	02	01
NO. OF SHEETS	07	06	05	04	03	02	01

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DRG. NO. EP-3-GA-047-869

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPROVED	KSB	FILE NO.:	SCALE	JOB NO. CP14047	DRG. NO. EP-3-GA-047-869	NO. OF SHEETS	NO. OF SHEETS	REV.
01	05.08.17	REVISED AS PER UPDATED LOAD LIST	A.S.	CHECKED		DR :				07	06	01
02												
03												
04												
05												
06												
07												



BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPORCELAIN DIVISION BANGALORE

GENERAL ARRANGEMENT
AHS MCC (AHS MCC-1) NEAR TP-6



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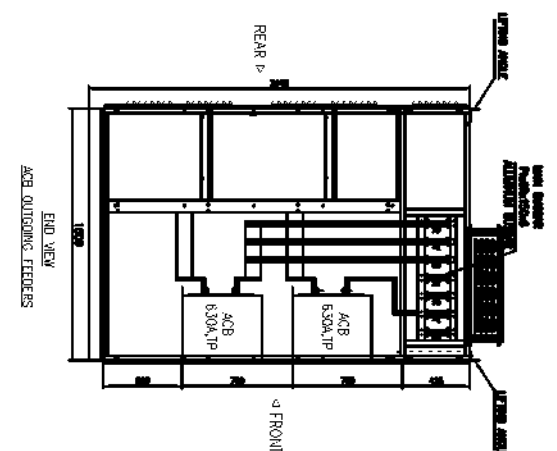
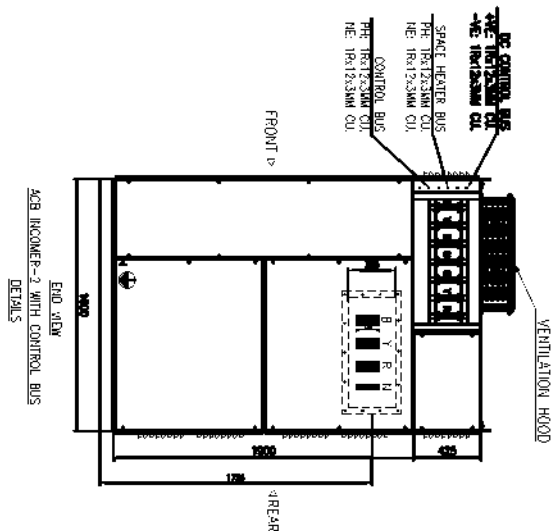
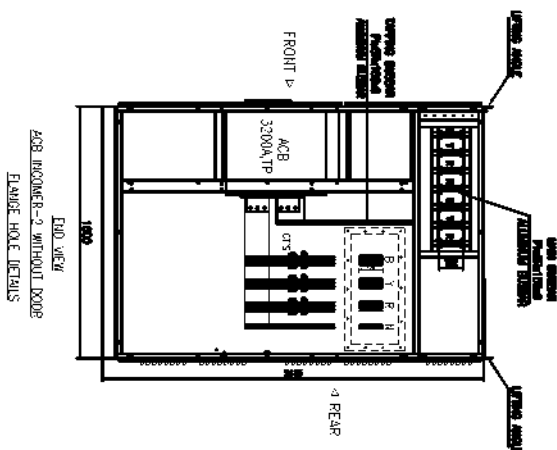
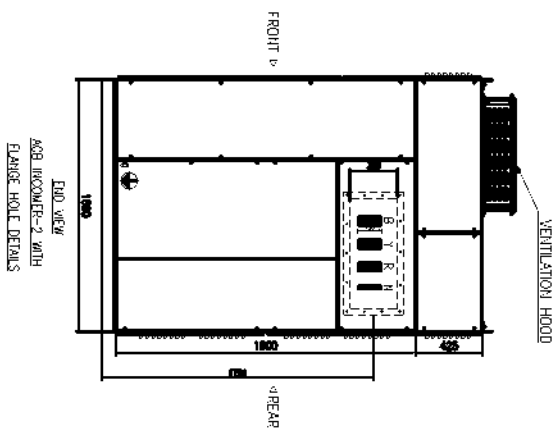
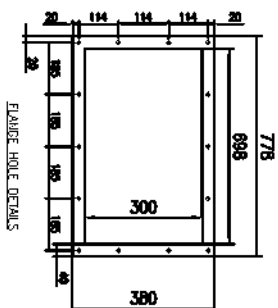
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DRG. NO. EP-3-GA-047-869

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPRO. APPROVED	KSB	FILE NO.:	SCALE	JOB NO. CP14047	DRG. NO. EP-3-GA-047-869	NO. OF SHEETS	SHEET NO.	REV.
07												
06												
05												
04												
03												
02												
01	05.08.17	REVISED AS PER UPDATED LOAD LIST	K.S.B.	20.05.17								



BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE

TITLE :

GENERAL ARRANGEMENT
AHS MCC (AHS MCC-1) NEAR TP-6NO. OF SHEETS
07SHEET NO.
07REV.
01

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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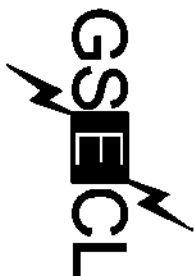
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CUSTOMER:



GUJARATH ELECTRICITY CORPORATION LIMITED
VADODARA, GUJARAT

PROJECT:

1x800 MW WANAKBORI THERMAL POWER STATION
EXTENTION UNIT-8

CUSTOMER CONSULTANT:



DEVELOPMENT CONSULTANT PVT LTD
KOLKATA

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DRG. NO. EP-3-GA-047-870

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SGN.	DATE	DR. :	FILE NO.:	SCALE	JOB NO.	DRG. NO.	NO. OF SHEETS	REV.
01	04.08.17	REMOVED AS PER UPDATED LOAD LIST	3.3.1.1	3.3.1.1	CHECKED		TRINATH	3.3.1.1	20.05.17						05	01
02							TRINATH	3.3.1.1	20.05.17							
03							TRINATH	3.3.1.1	20.05.17							
04							TRINATH	3.3.1.1	20.05.17							
05							TRINATH	3.3.1.1	20.05.17							
06							TRINATH	3.3.1.1	20.05.17							
07							TRINATH	3.3.1.1	20.05.17							

BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE

TITLE :

GENERAL ARRANGEMENT
AMRS MCC LOAD LIST (AHS MCC-3) (ASH DYKE AREA)

SCALE

JOB NO. CP14047

DRG. NO. EP-3-GA-047-870



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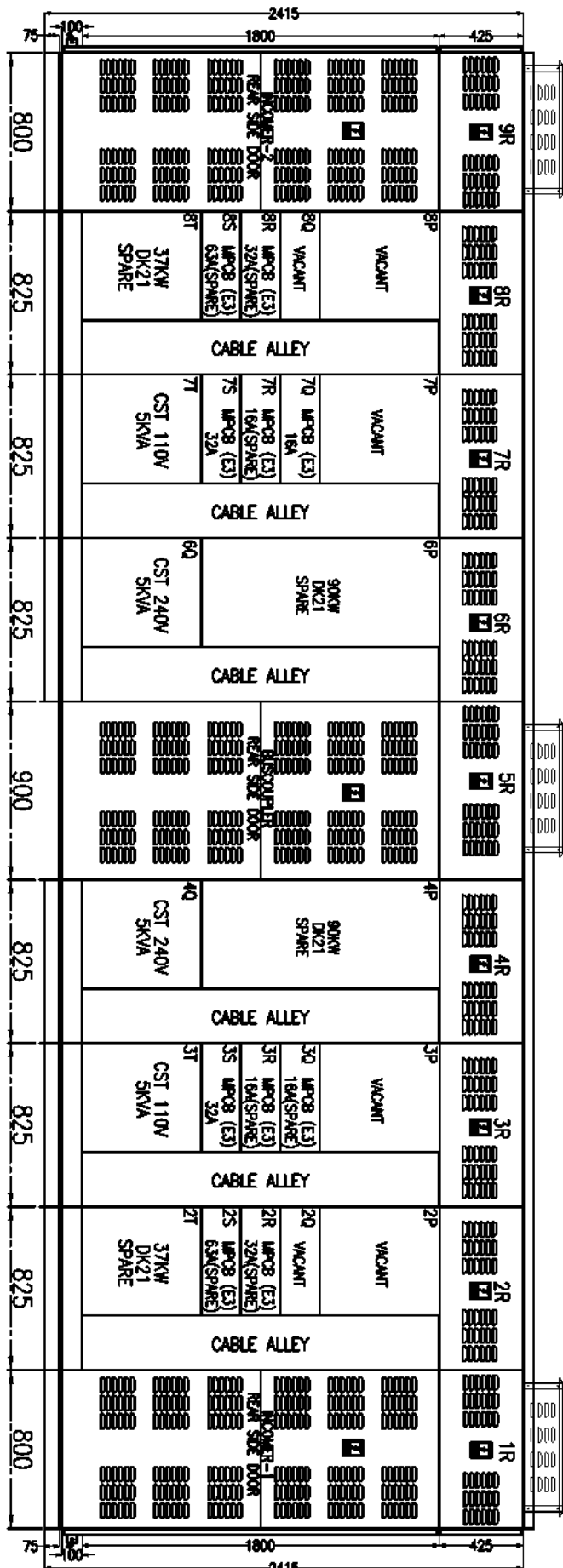
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DRG. NO. EP-3-GA-047-870

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPROVED	APPROVED	KSB	FILE NO.	SCALE	JOB NO.	DRG. NO.	NO. OF SHEETS	SHEET NO.	REV.
01	04.08.17	REvised AS PER UPDATED LOAD LIST	3.3.17	3.3.17	CHECKED		3		CP14047	EP-3-GA-047-870	05	03	01
02													
03													
04													
05													
06													
07													

REAR VIEW

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPORCELAIN DIVISION BANGALORE

TITLE :

AMRS MCC LOAD LIST (AHS MCC-3) (ASH DYKE AREA)



NO. OF SHEETS

SHEET NO.

REV.

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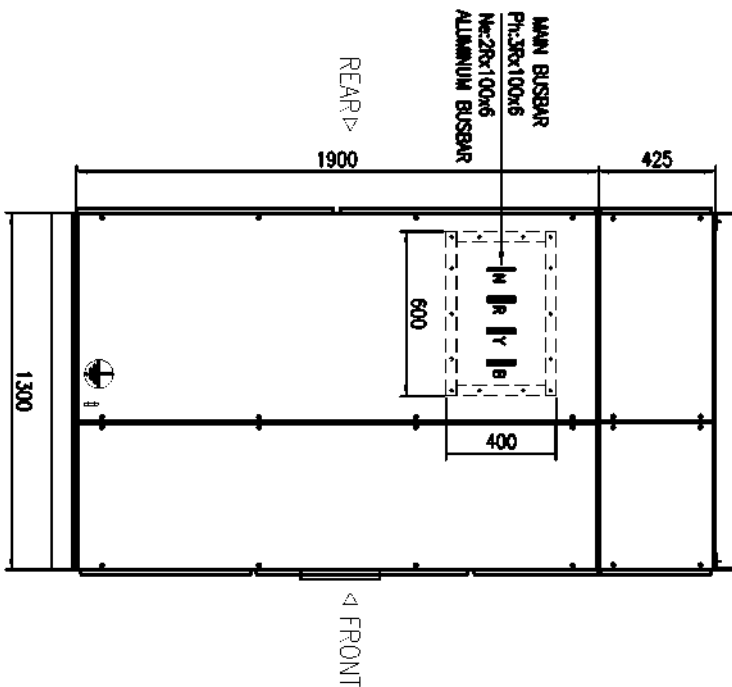
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DRG. NO. EP-3-GA-047-870

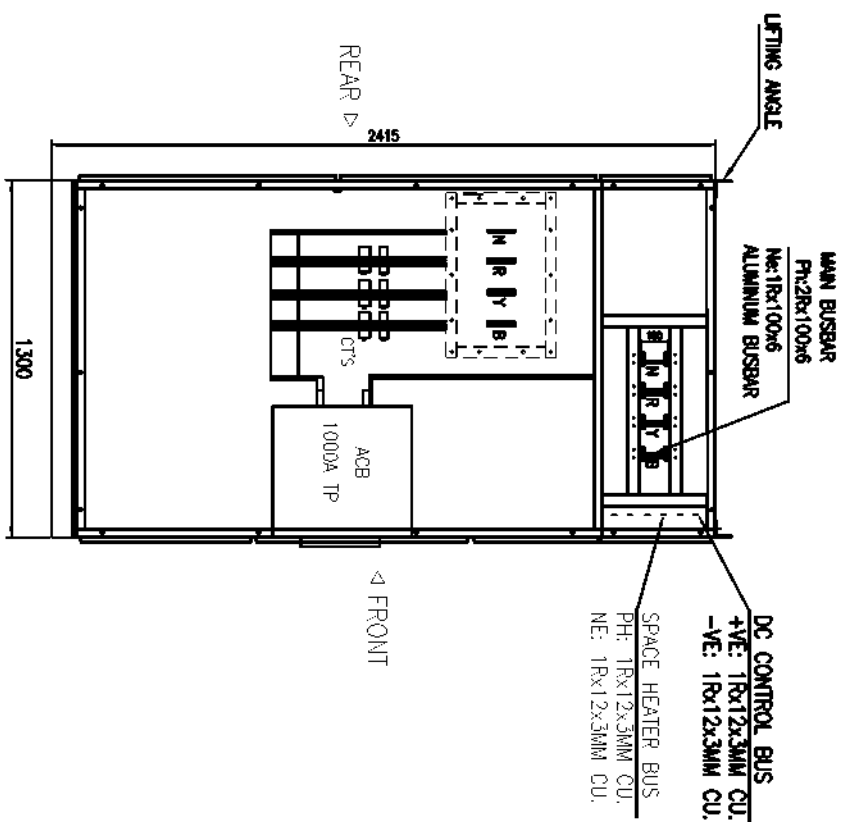
INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPRO. NO.	APPROVED	KSB	NAME	SKN.	DATE
07									
06									
05					DESIGNED		TRINATH	20.05.17	
04					DRAWN		TRINATH	20.05.17	
03									
02					CHECKED				
01	04.08.17	REVISED AS PER UPDATED LOAD LIST	20.05.17						



END VIEW

ACB INCOMER-1 WITH DOOR



END VIEW

ACB INCOMER-1 WITHOUT DOOR

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPORCELAIN DIVISION BANGALORE

TITLE :

GENERAL ARRANGEMENT
AWRS MCC LOAD LIST (AHS MCC-3) (ASH DYKE AREA)

SCALE

JOB NO. CP14047

DRG. NO. EP-3-GA-047-870



NO. OF SHEETS

05

SHEET NO.

04

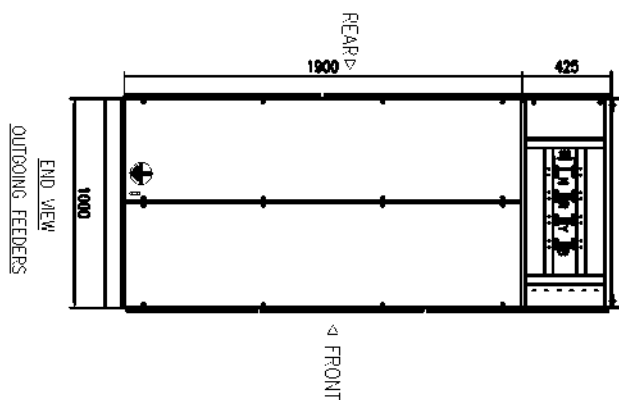
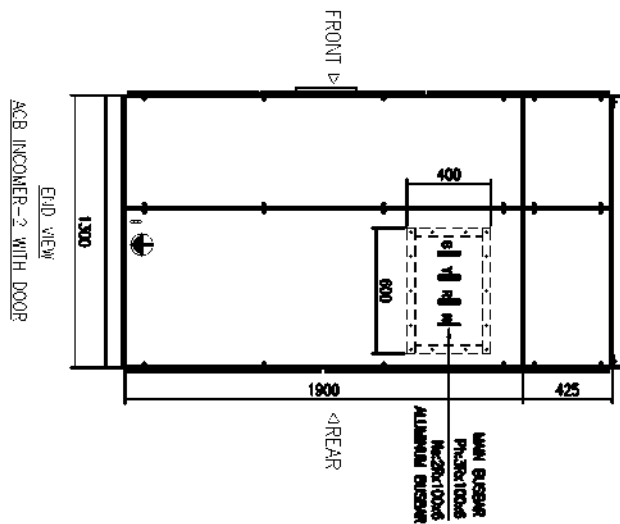
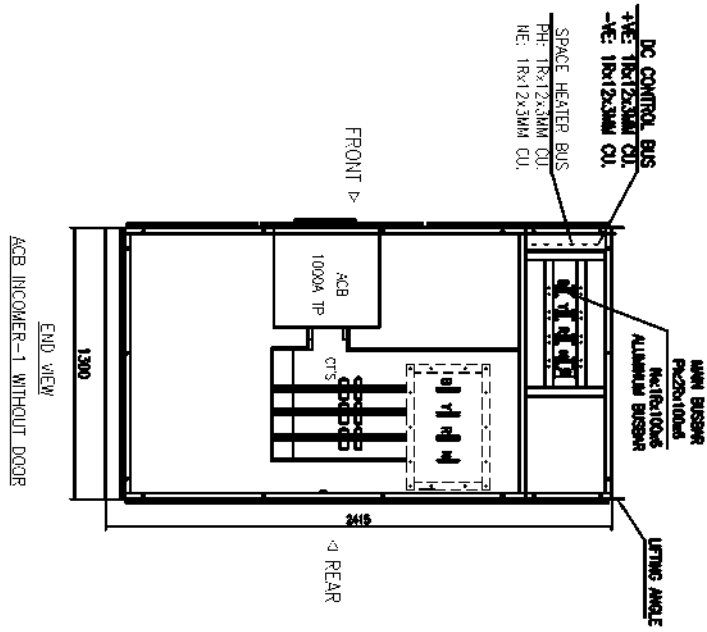
REV.

01

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DRG. NO. EP-3-GA-047-870

INVENTORY NO.

[illegible]

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1

2

3

4

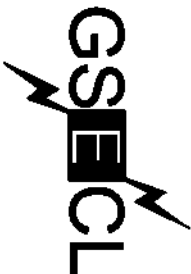
5

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CUSTOMER:



GUJARATH ELECTRICITY CORPORATION LIMITED
VADODARA, GUJARAT

PROJECT:

1x800 MW WANAKBORI THERMAL POWER STATION
EXTENTION UNIT-8

CUSTOMER CONSULTANT:



DEVELOPMENT CONSULTANT PVT LTD
KOLKATA

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DRG. NO. EP-3-GA-047-871

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPRO. APPROVED	KSB	NAME	SKN.	DATE	FILE NO.	SCALE	JOB NO.	DRG. NO.	NO. OF SHEETS	NO.	REV.
01	04.08.17	REVISED AS PER UPDATED LOAD LIST	3.3.2017	3.3.2017		TRINATH	3.3.2017	22.05.17	3	1:1	108	CP14047	07	01	01
02						TRINATH	3.3.2017	22.05.17							
03						TRINATH	3.3.2017	22.05.17							
04						TRINATH	3.3.2017	22.05.17							
05						TRINATH	3.3.2017	22.05.17							
06						TRINATH	3.3.2017	22.05.17							
07						TRINATH	3.3.2017	22.05.17							

BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE

GENERAL ARRANGEMENT

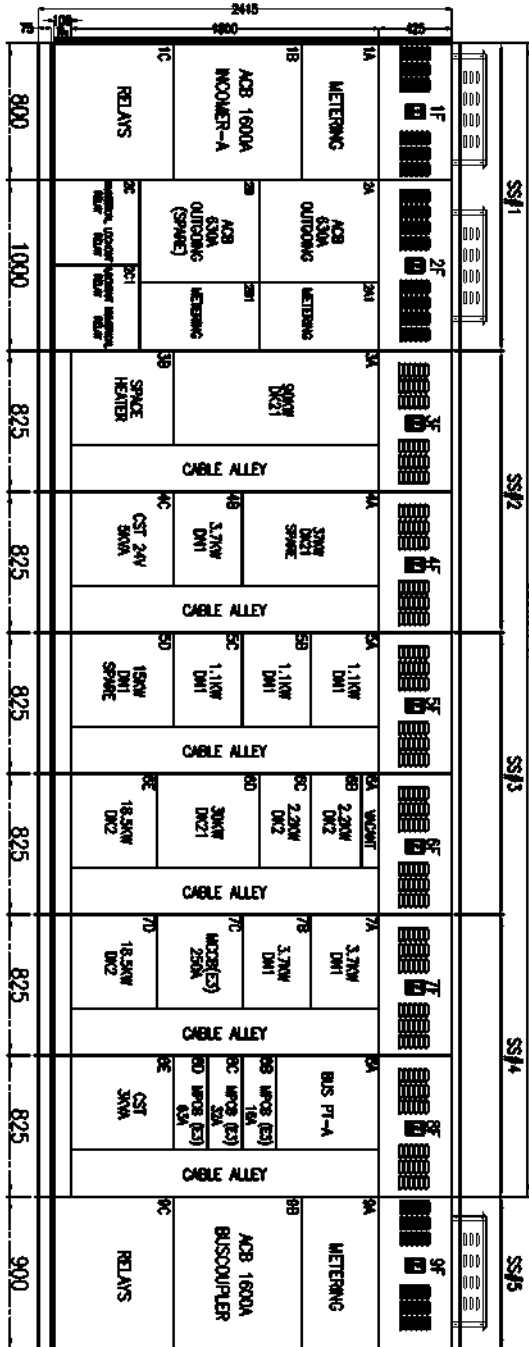
SILO MCC LOAD LIST (AHS MCC-2) (NEAR FLY ASH SILO)



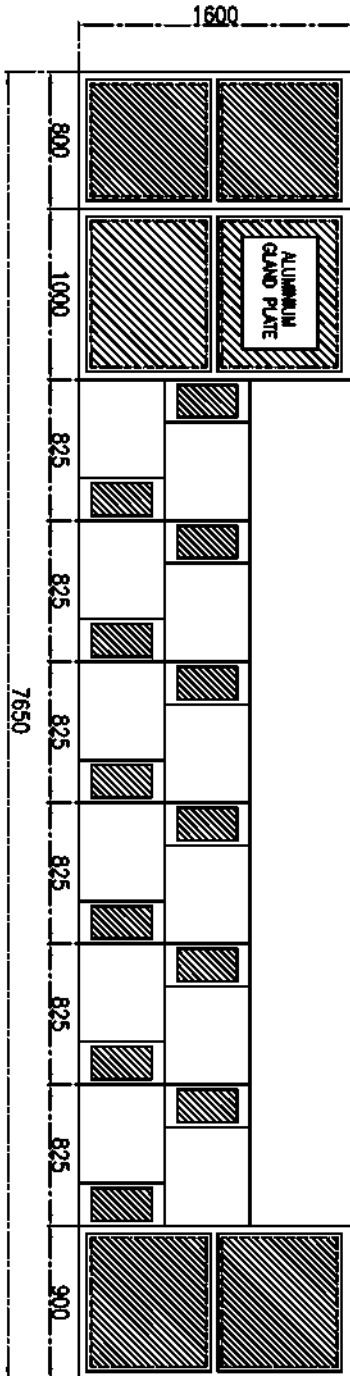
INVENTORY NO.

FIRST ANGLE PROJECTION				ALL DIMENSIONS ARE IN MM.			
2	3	4	5	6	7	8	

Sp4



FRONT VIEW



FOUNDATION PLAN

DIMENSION IN MM:1440(W)X1600(D)X2415(H), WEIGHT:12750KG

[illegible]

1

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3

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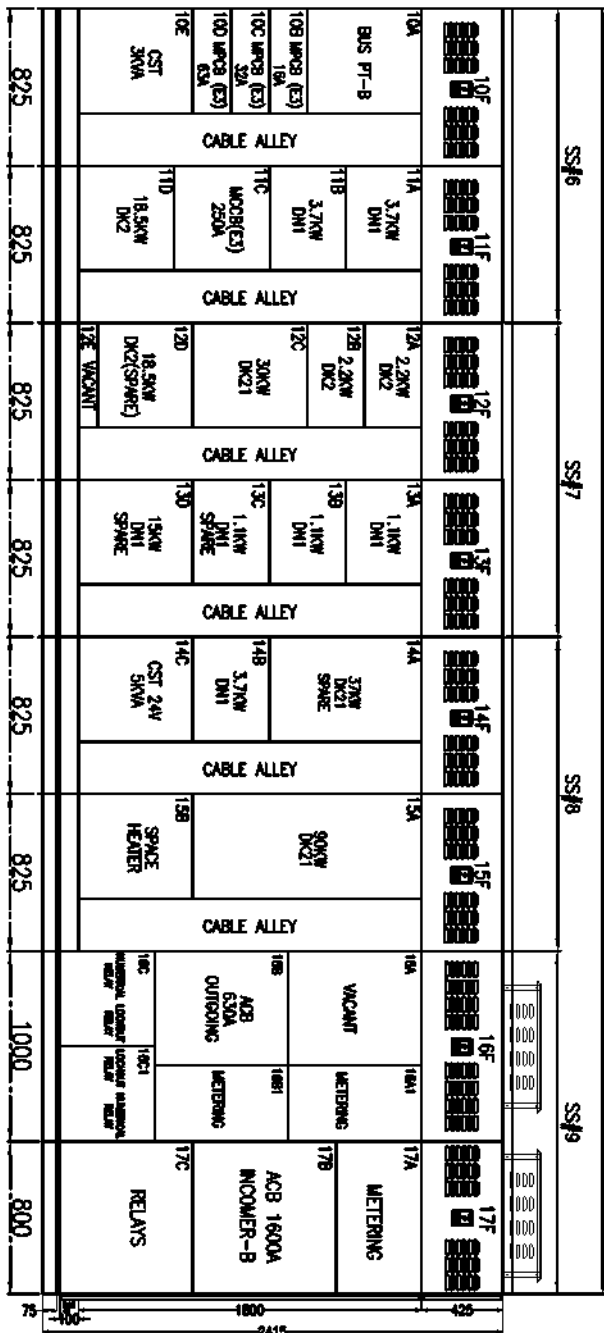
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SECTION-B



FRONT VIEW

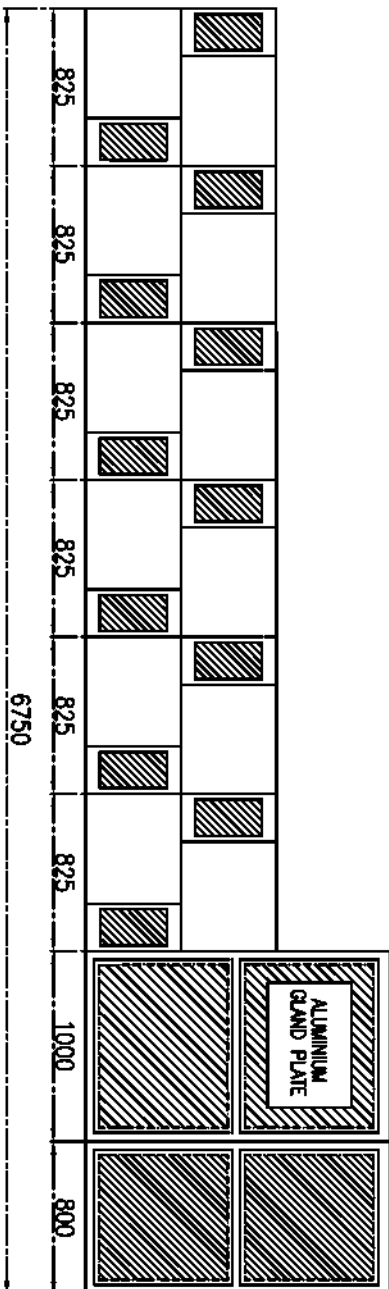
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DRG. NO. EP-3-GA-047-871

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPROVED	DATE	FILE NO.	SCALE	JOB NO.	DRG. NO.	REV.
01	04.08.17	REMOVED AS PER UPDATED LOAD LIST	SS#6	SS#7	22.05.17	3	1:1	CP14047	EP-3-GA-047-871	03
02										
03										
04										
05										
06										
07										

FOUNDATION PLAN



BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE

TITLE:

SILO MCC LOAD LIST (AHS MCC-2) (NEAR FLY ASH SILO)

GENERAL ARRANGEMENT

NO. OF SHEETS 07

SHEET NO. 03

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

1 2 3 4 5 6 7 8

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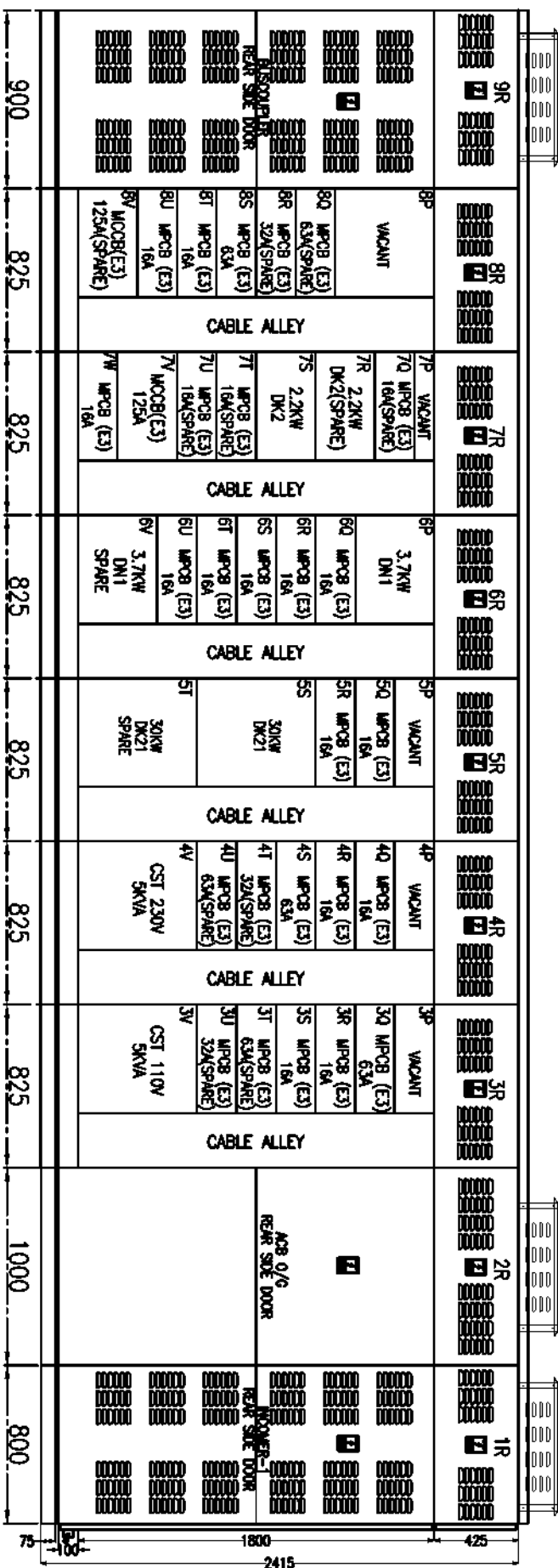
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DRG. NO. EP-3-GA-047-871

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPROVED	NAME	SKN.	DATE	FILE NO.	SCALE	JOB NO.	DRG. NO.	REV.
01	04.09.17	REVISED AS PER UPDATED LOAD LIST	3.3.1.1	3.3.1.1	DESIGNED	3.3.1.1	22.05.17	3	1:1	CP14047	EP-3-GA-047-871	01
02					CHECKED							
03					DRAWN		22.05.17					
04					TRINATH							
05												
06												
07												

REAR VIEW

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPORCELAIN DIVISION BANGALORE

GENERAL ARRANGMENT

SILLO MCC LOAD LIST (AHS MCC-2) (NEAR FLY ASH SILO)



TITLE :

SILLO MCC LOAD LIST (AHS MCC-2) (NEAR FLY ASH SILO)

NO. OF SHEETS 07

SHEET NO. 04

REV. 01

1 2 3 4 5 6 7 8

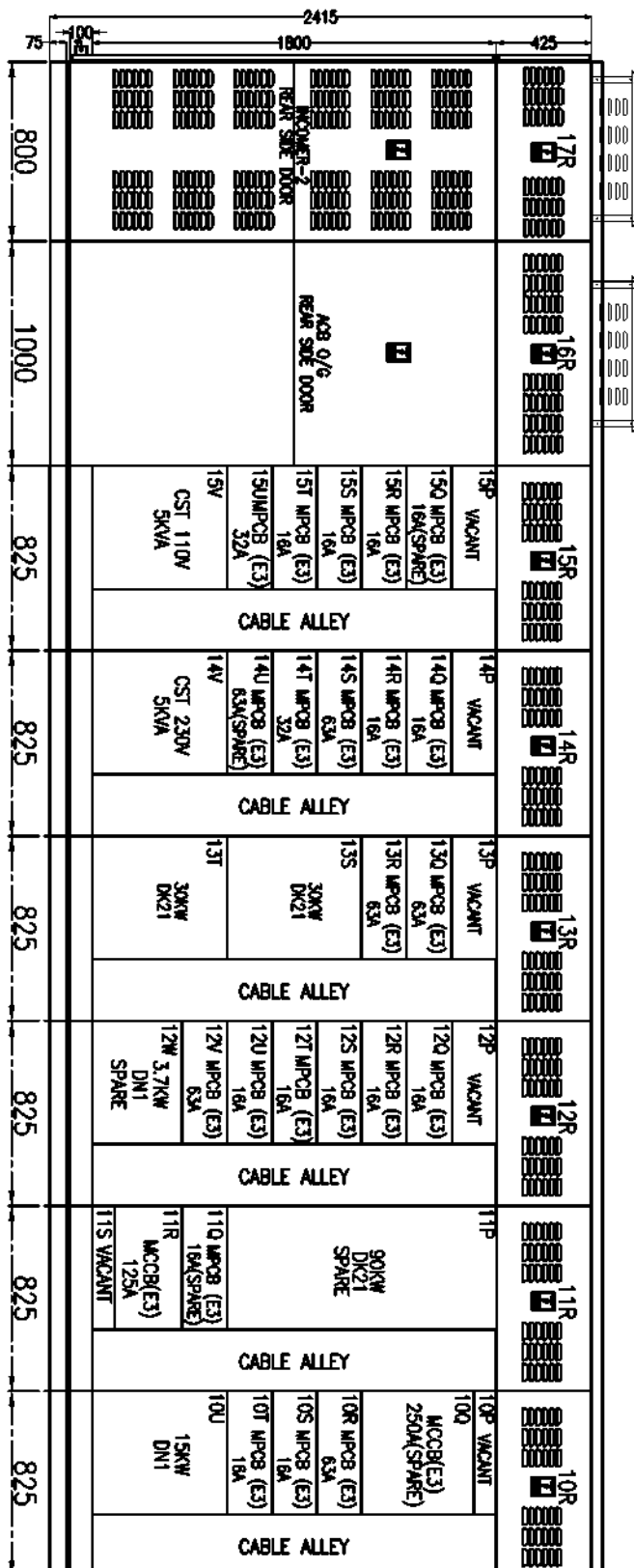
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DRG. NO. EP-3-GA-047-871

INVENTORY NO.

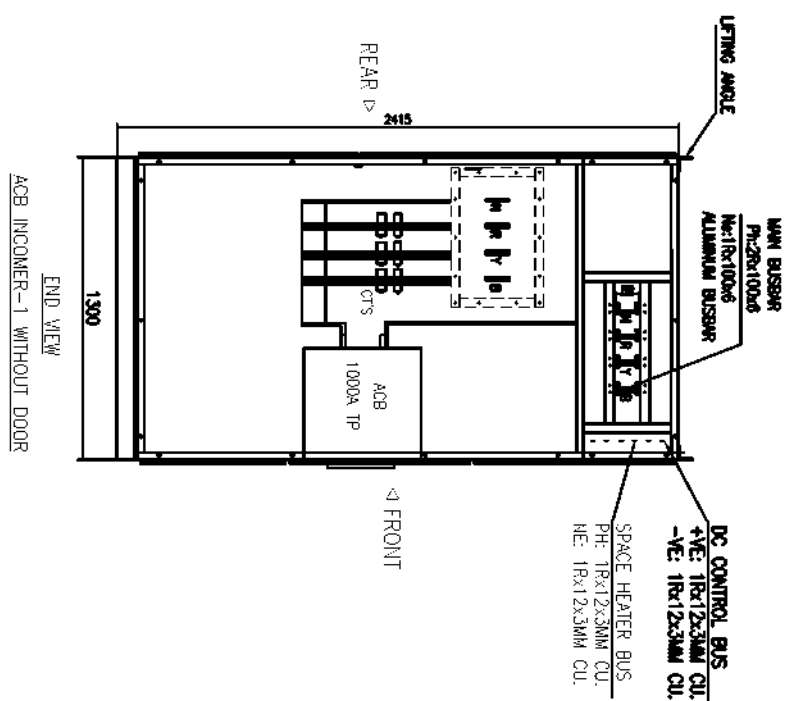
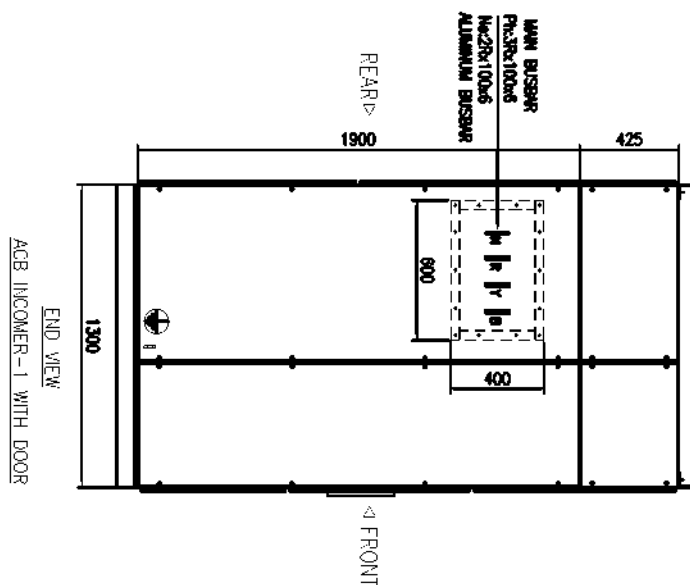
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07															
06															
05						DESIGNED		22.05.17							
04						DRAWN		22.05.17							
03															
02						CHECKED									
01	04.09.17	REVISED AS PER UPDATED LOAD LIST													



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DRG. NO. EP-3-GA-047-871

INVENTORY NO.

[illegible]

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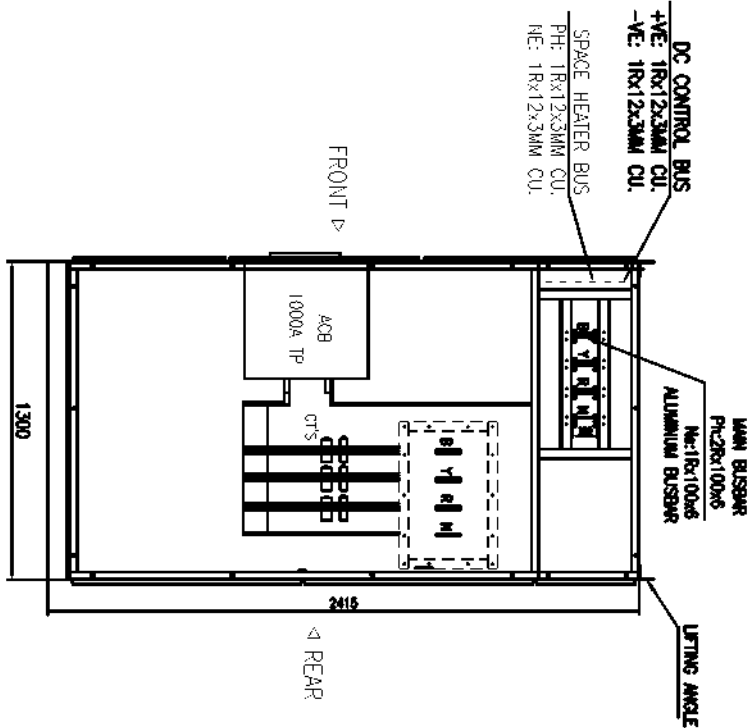
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DRG. NO. EP-3-GA-047-871

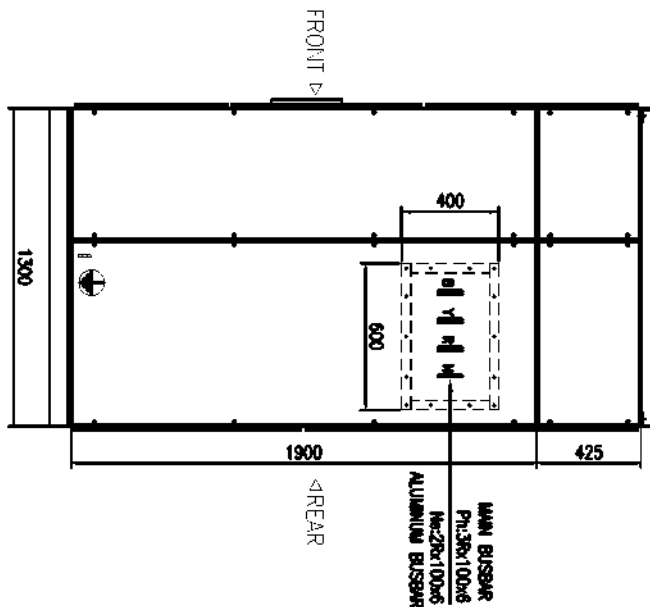
INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPRO.	APPROVED	KSB	W	22.05.17	3	FILE NO.:	SCALE	JOB NO.	DRG. NO.	REV.
01	04.09.17	REVISED AS PER UPDATED LOAD LIST	3.3.18	3.3.18	CHECKED				3	DR :				01
02														
03														
04					DESIGNED	TRINATH	3.3.18	22.05.17						
05														
06														
07														

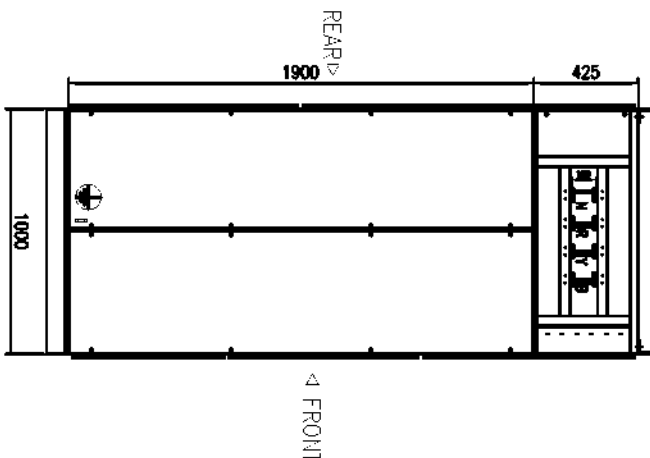
END VIEW
ACB INCOMER-1 WITHOUT DOOR



END VIEW
ACB INCOMER-2 WITH DOOR



END VIEW
OUTGOING FEEDERS



BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPORCELAIN DIVISION BANGALORE

TITLE :

SILO MCC LOAD LIST (AHS MCC-2) (NEAR FLY ASH SILO)

NO. OF

SHEETS

07

SHEET

07

REV.

01

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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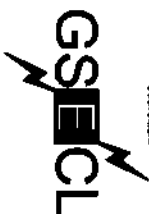
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CUSTOMER:



GUJARAT ELECTRICITY CORPORATION LIMITED
VADODARA, GUJARAT

PROJECT:

1x800 MW WANAKBORI THERMAL POWER STATION
EXTENSION UNIT-8

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DRG. NO. EP-3-SL-047-866

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPRO.	APPROVED	KSB	DATE
4							
3					DESIGNED	TRINATH	26.05.17
2					DRAWN		
1	05.09.17	REVISED AS PER UPDATED LOAD LIST	P.S.K.	P.S.K.	CHECKED	TRINATH	26.05.17



DEVELOPMENT CONSULTANT PVT LTD
KOLKATA



BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPROCESSING DIVISION BANGALORE

TITLE :

SINGLE LINE DIAGRAM

WT MCC (CHP MCC-1) NEAR WAGON TIPPLER

JOB NO. CP-14-047

DRG. NO. EP-3-SL-047-866



NO. OF SHEETS

28

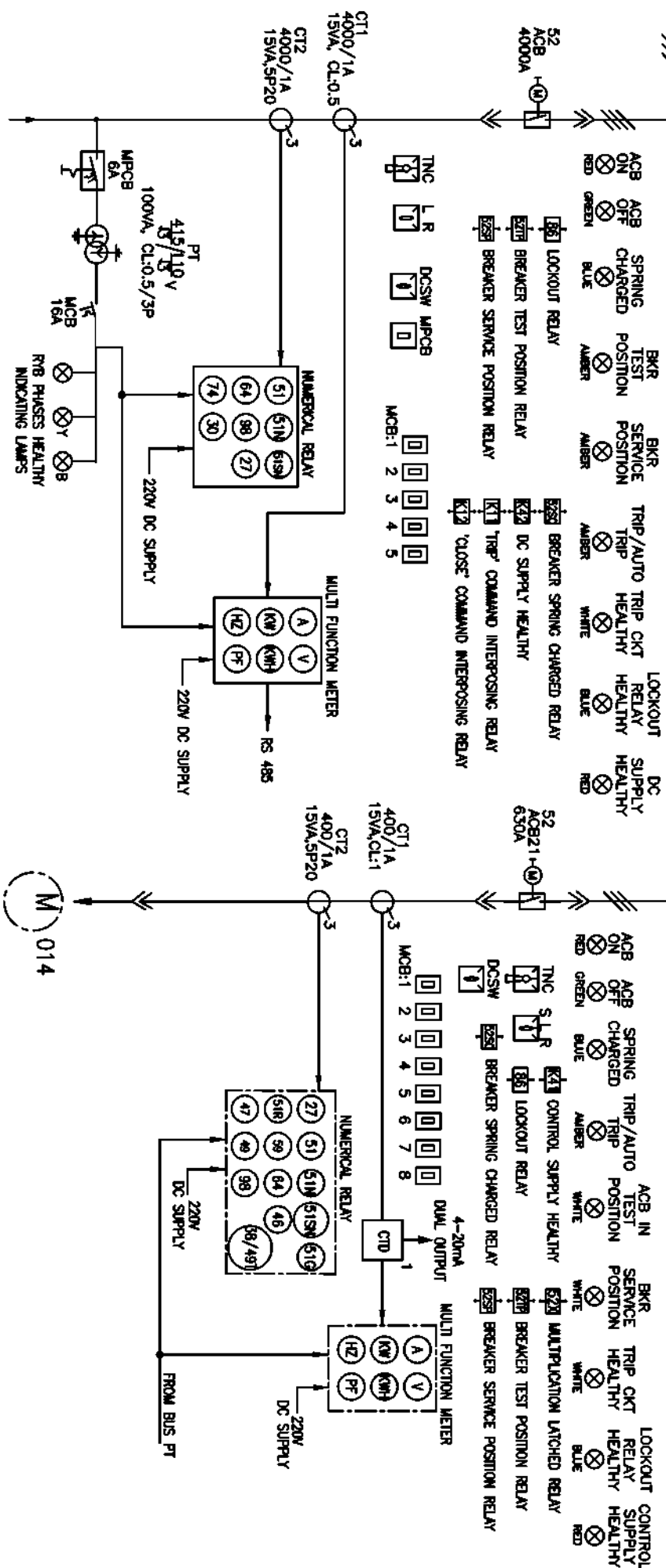
SHEET NO.

01

REV.

01

SECTION-A



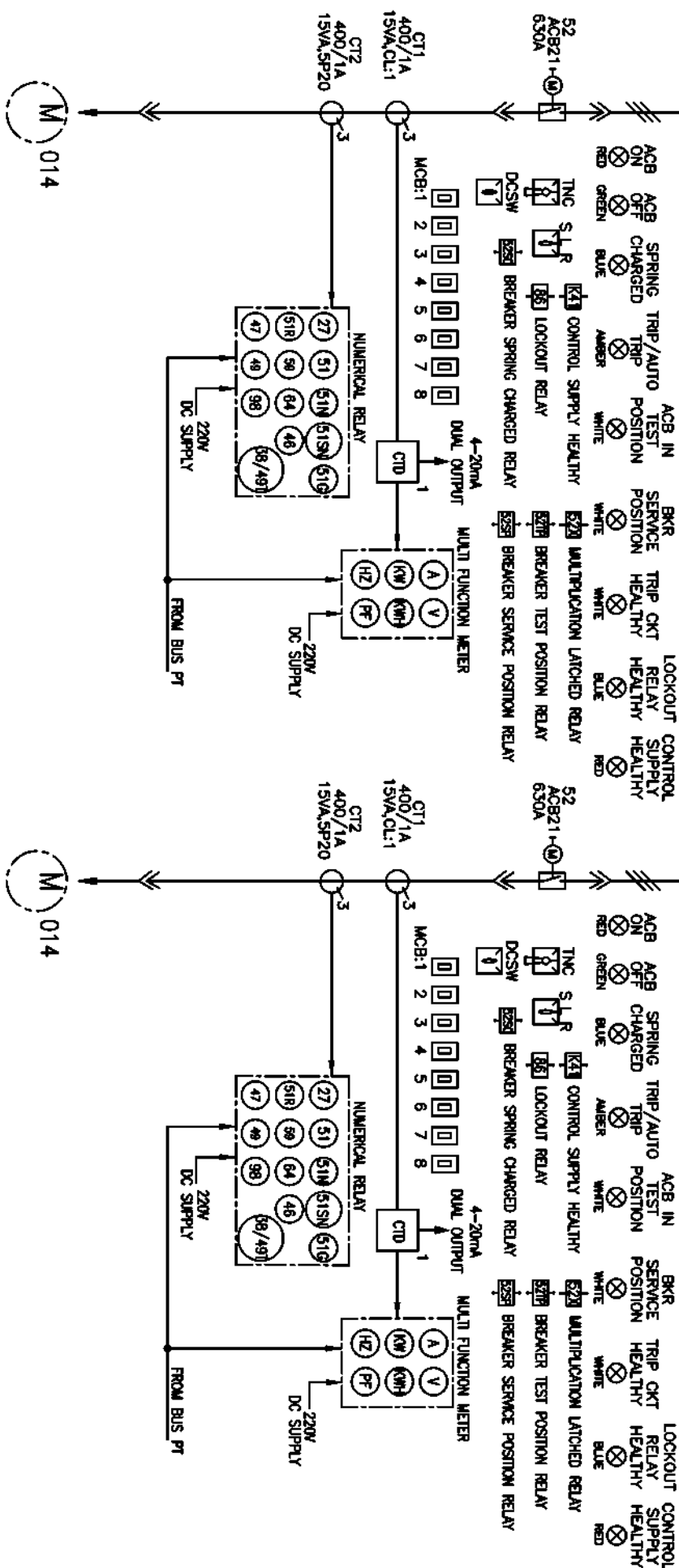
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DRG. NO. EP-3-SL-047-866

INVENTORY NO.																			
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06																			
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01	05.08.17	REVISED AS PER UPDATED LOAD LIST																	
REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	SIGN.	DATE											

SECTION-A



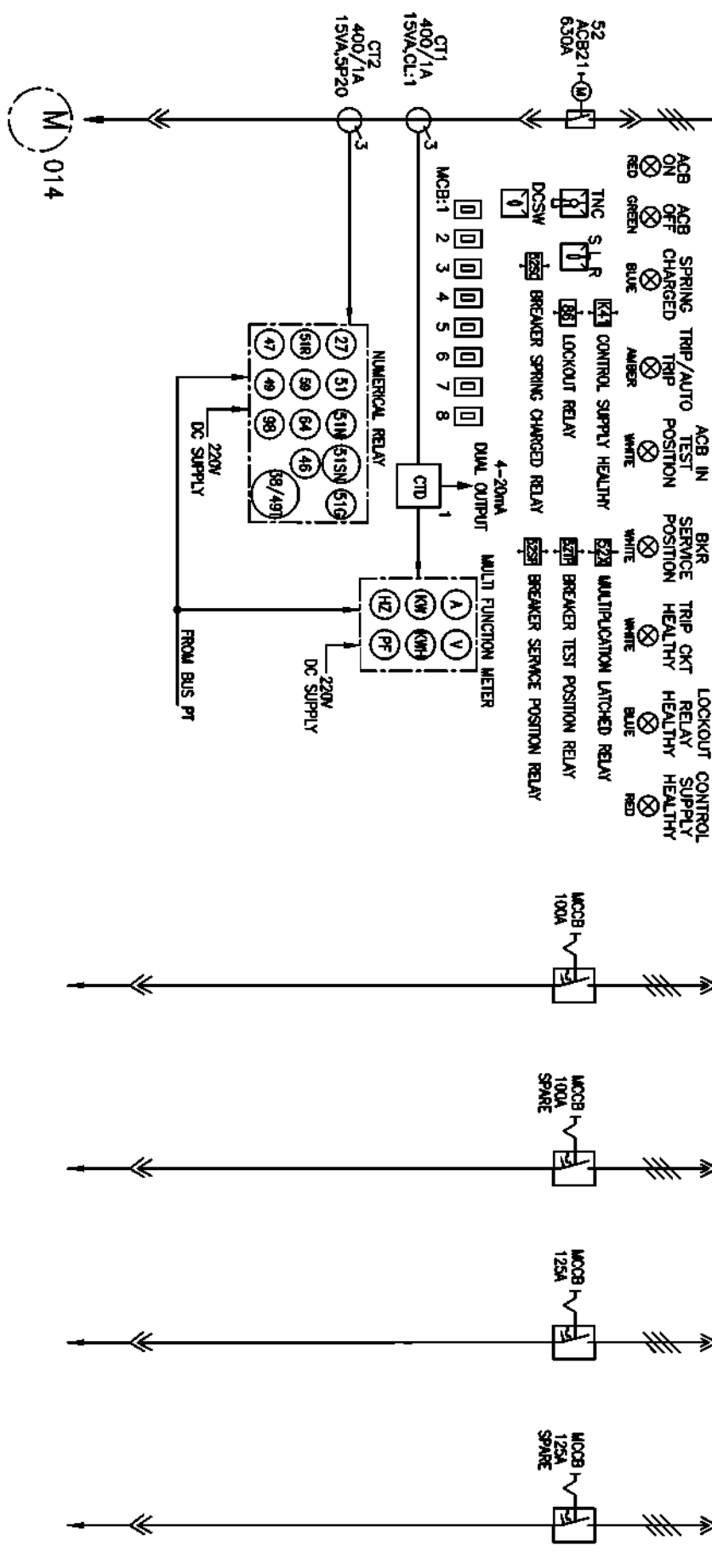
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DRG. NO. EP-3-SL-047-866

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SECTION-A



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INVENTORY NO.

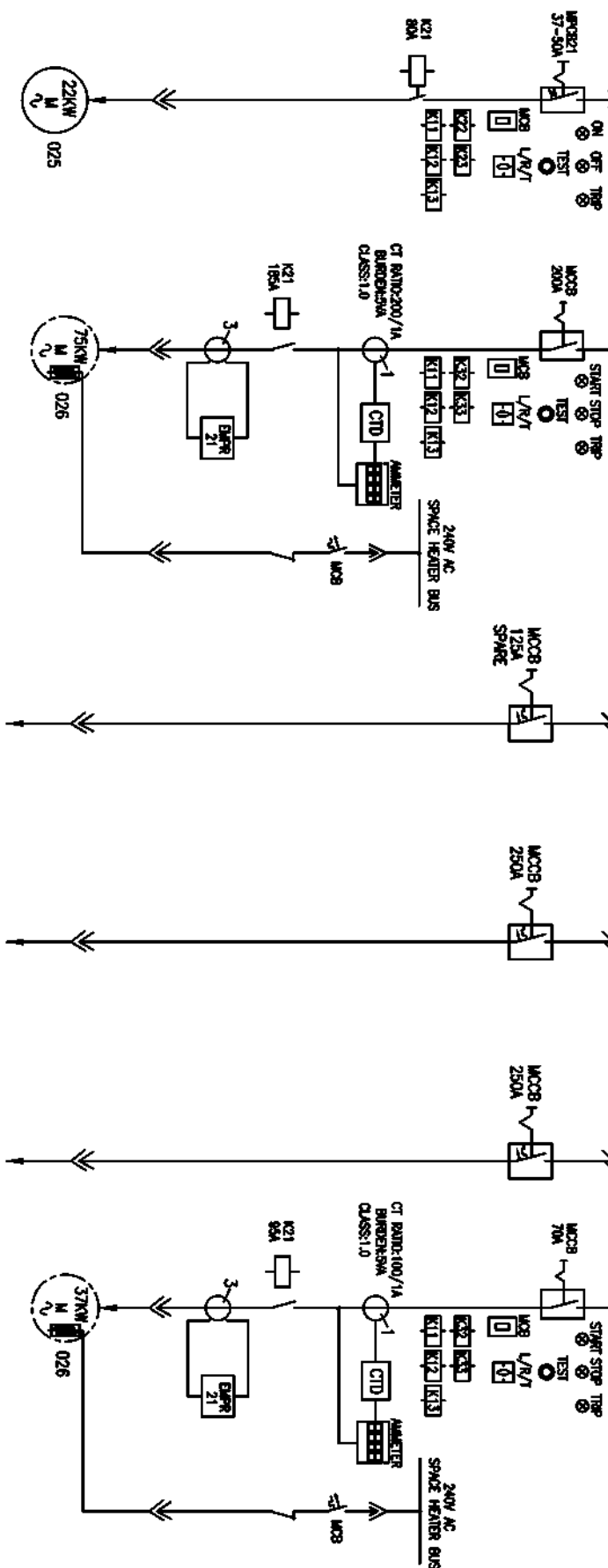
KKS TAG NO.				
FEEDER DESCRIPTION	SPARE	MISC USE	SPARE	SPARE
FEEDER RATING	160KW	100A	100A	125A
FEEDER NO.	3B	4B	4C	4E
SCHEME REF	EP-3-CS-047-014	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-022
CABLE SIZE	-	1-3.5C X 70 SQMM(4L)	-	-

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1 2 3 4 5 6 7 8

415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



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DRG. NO. EP-3-SL-047-866

KKS TAG NO.	FEEDER DESCRIPTION	FEEDER RATING	FEEDER NO.	SCHEME REF	CABLE SIZE
	SPARE	22KW	4F	EP-3-CS-047-025	-
	WT6 TOP CLAMPING + SIDE CLAMPING + WHEEL GRIPPER HPP	75KW	5B	EP-3-CS-047-026	-
	SPARE	125A	5C	EP-3-CS-047-022	-
	MADB-1 AT WT MCC	250A	5D	EP-3-CS-047-022	1-3.5C X 95 SQMM(AU)
	APRON FEEDER DRIVE-1	250A(90KW)	6B	EP-3-CS-047-022	-
	SPARE	37KW	6C	EP-3-CS-047-026	-

INVENTORY NO.

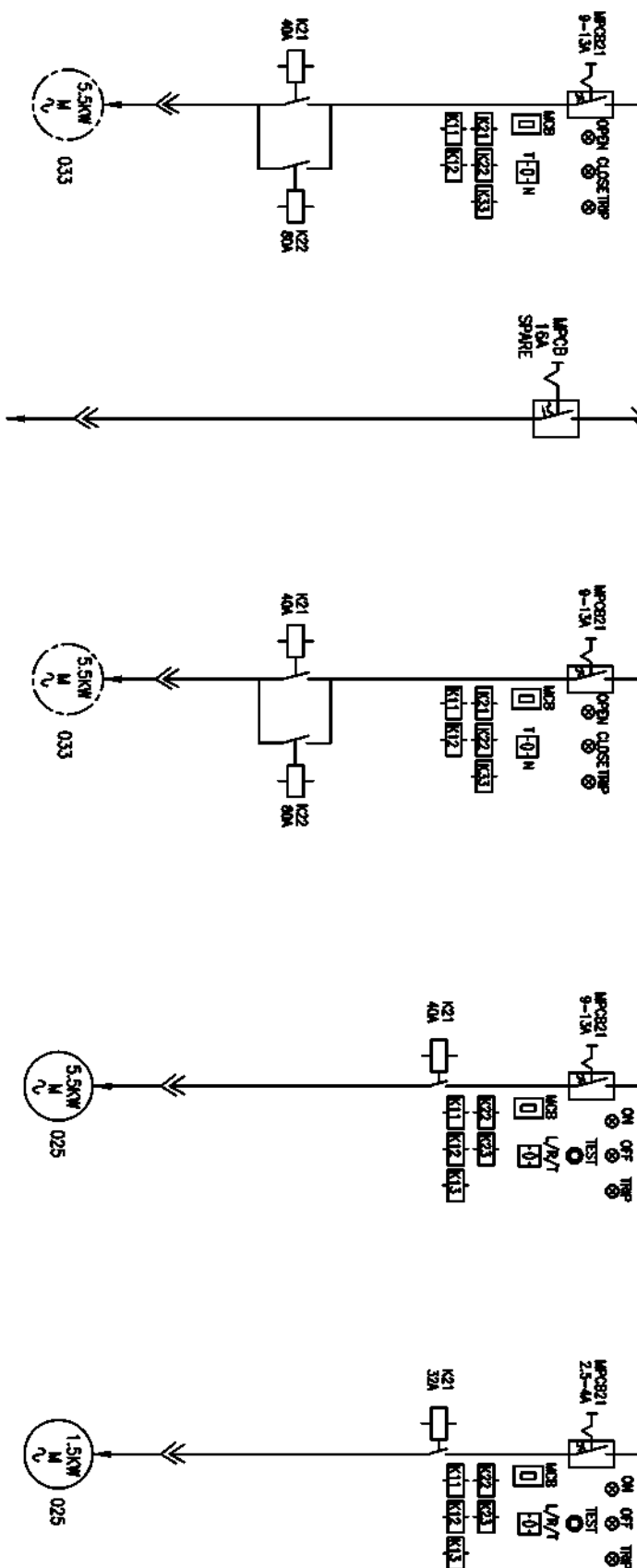
REV. NO.	DATE	REVISION	BY	APPD.	APPROVED	KSB	FILE NO.
01	05.09.17	REVISED AS PER UPDATED LOAD LIST	YAS	YAS	CHECKED		3
02							
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BHARAT HEAVY ELECTRICALS LIMITED		ELECTROPORCELAIN DIVISION BANGALORE	
TITLE :		WT MCC (GHP MCC-1) NEAR WAGON TIPPLER	
SCALE :		1:08 NO. CP-14-047	
NO. OF SHEETS :		28	
SHEET NO. :		05	
REV. NO. :		01	

1 2 3 4 5 6 7 8

415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



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DRG. NO. EP-3-SL-047-866

KGS TAG NO.			
FEEDER DESCRIPTION	FLAP GATE FG-1	SPARE	SPARE
FEEDER RATING	5.5KW	16A	5.5KW
FEEDER NO.	60	7C	7D
SCHEME REF	EP-3-CS-047-033	EP-3-CS-047-022	EP-3-CS-047-033
CABLE SIZE	1-3C X 16 SQMM(AL)	-	-

INVENTORY NO.									
REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE
01	05.09.17	REVISD AS PER UPDATED LOAD LIST	13.11.17	13.11.17	CHECKED		TRINATH		26.05.17
02							TRINATH		26.05.17
03									
04									
05									
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	DR : 3	FILE NO.:	SCALE	JOB NO. CP-14-047	DRG. NO. EP-3-SL-047-866	BHARAT HEAVY ELECTRICALS LIMITED	
						ELECTROPORCELAIN DIVISION BANGALORE	
TITLE : SINGLE LINE DIAGRAM WT MCC (GHP MCC-1) NEAR WAGON TIPPLER						NO. OF SHEETS 28	
						SHEET NO. 06	
						REV. 01	

BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE



TITLE :

SINGLE LINE DIAGRAM
WT MCC (GHP MCC-1) NEAR WAGON TIPPLERNO. OF
SHEETS

28

SHEET

06

REV.

01

1

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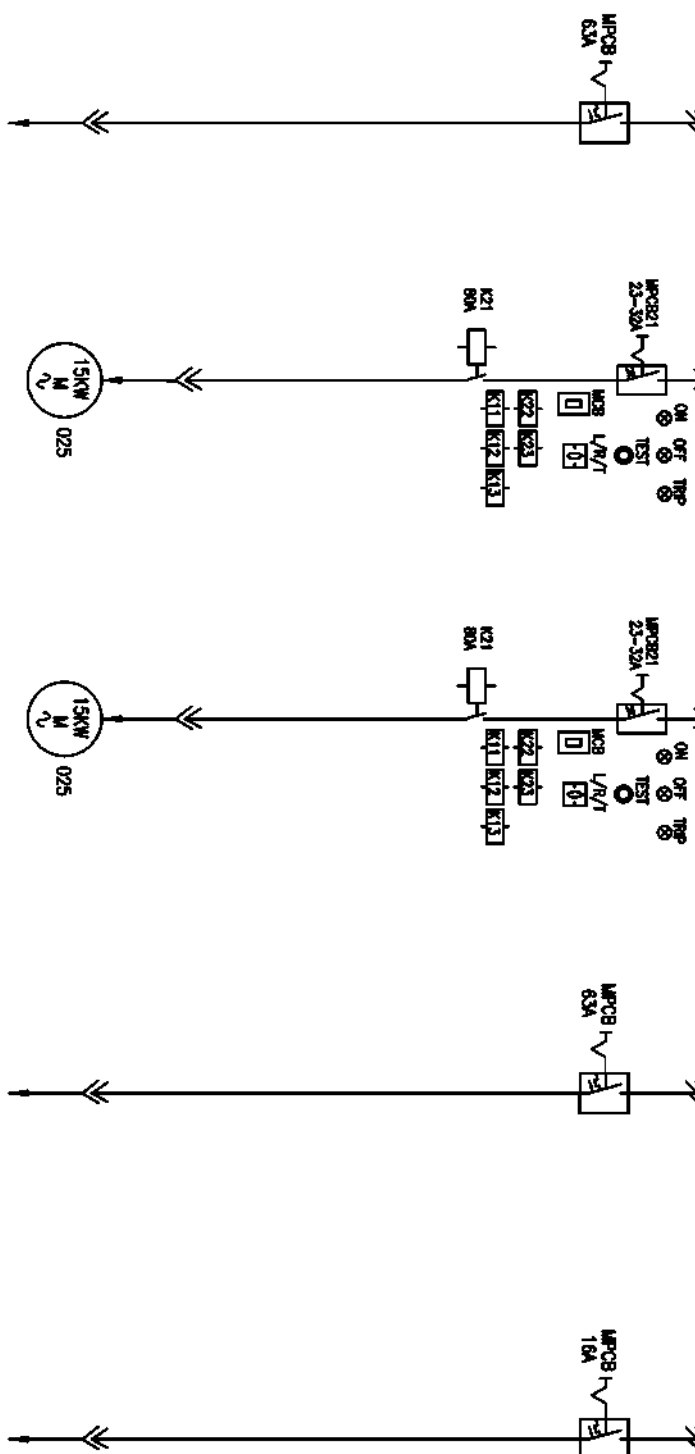
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415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



KKS TAG NO.	FEEDER DESCRIPTION	FEEDER RATING	FEEDER NO.	SCHEME REF	CABLE SIZE
	AIR CONDITION UNIT FOR CONTROL ROOM	63A	8B	EP-3-CS-047-022	1-3.5C X 50 SQMM(AL)
	BCN 1A/1B AND WT EXHAUST FAN VENTILATION SYSTEM	15kW	8C	EP-3-CS-047-025	1-3C X 50 SQMM(AL)
	SPARE	15kW	8D	EP-3-CS-047-025	-
	SUSPENDED MAGNET-1	63A	8E	EP-3-CS-047-022	1-3.5C X 50 SQMM(AL)
	UPS SUPPLY FOR PLC PANEL	16A	8F	EP-3-CS-047-022	1-4C X 16 SQMM(AL)

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DRG. NO. EP-3-SL-047-866

INVENTORY NO.

REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-866
01	05.09.17	REVISED AS PER UPDATED LOAD LIST	JAA-JS	JAA-JS	CHECKED		3					
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BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE

SINGLE LINE DIAGRAM

WT MCC (GHP MCC-1) NEAR WAGON TIPPLER



NO. OF SHEETS

28

SHEET NO.

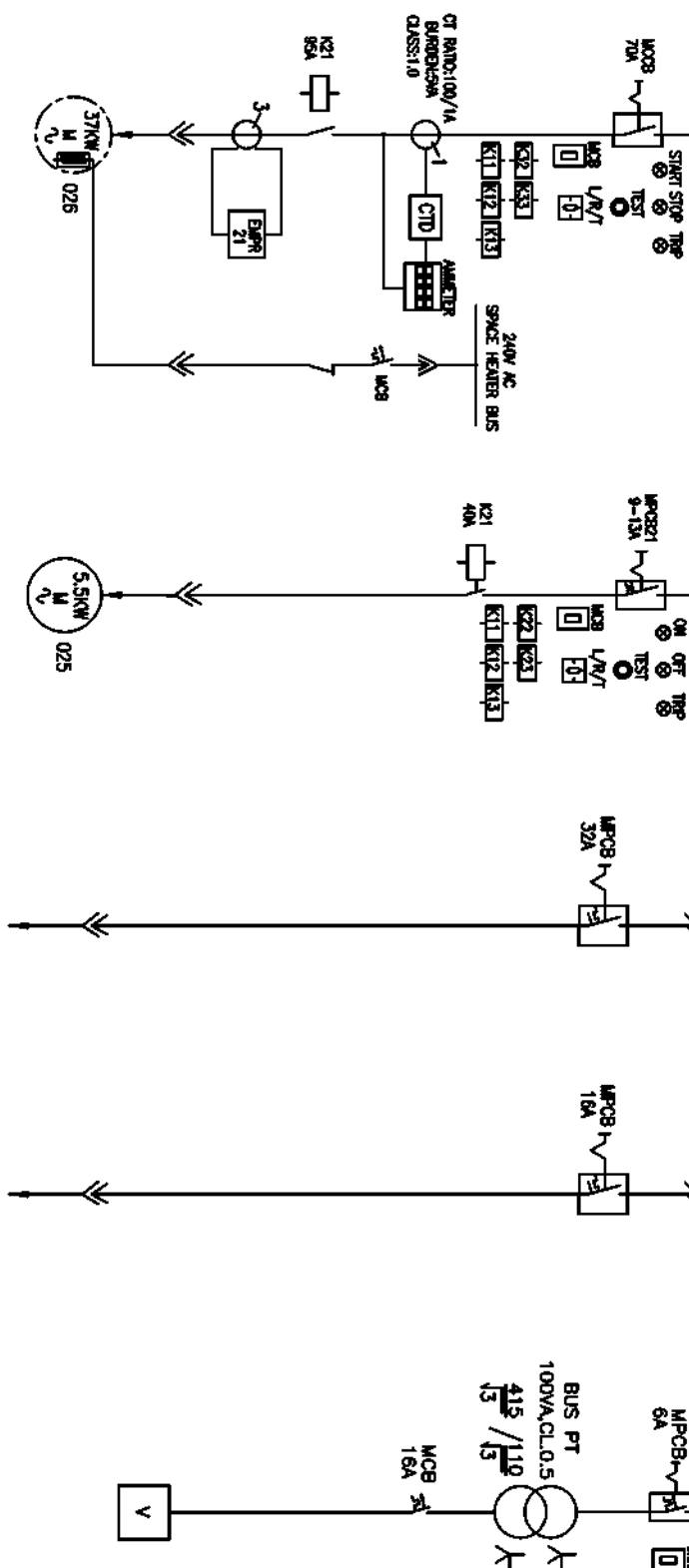
07

REV.

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415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



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DRG. NO. EP-3-SL-047-866

KKS TAG NO.	FEEDER DESCRIPTION	FEEDER RATING	FEEDER NO.	SCHEME REF	CABLE SIZE
	CENTRIFUGAL FAN FOR SUPPLY WT MCC FOR VS	37kW	9B	EP-3-CS-047-026	1-3C X 50 SQMM(AL)
	WTB MOTOR FOR AIR OIL COOLER FOR	5.5kW	9C	EP-3-CS-047-025	1-3C X 35 SQMM(AL)
	SUMP PUMP-1 AT WT	32A	9D	EP-3-CS-047-022	1-3C X 25 SQMM(AL)
	HOST ST AT APRRON FEEDER	16A	9E	EP-3-CS-047-022	1-4C X 16 SQMM(AL)
	BUS PT	100VA	10B	EP-3-CS-047-036	-

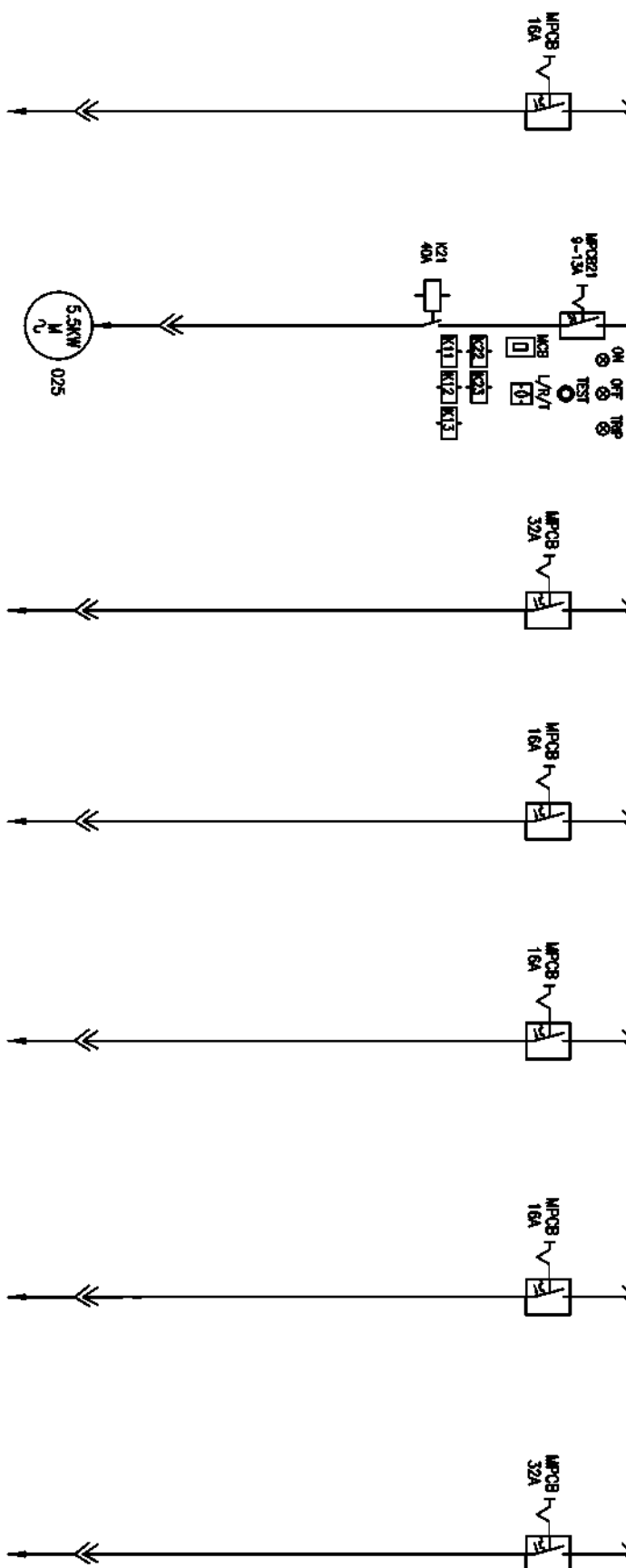
INVENTORY NO.	REV.	DATE	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-866	NO. OF SHEETS	28	NO. OF SHEETS	08	REV.	01
	01	05.09.17	REMOVED AS PER UPDATED LOAD LIST	14.11.18	14.11.18		DESIGNED	TRINATH	28.05.17												
	02						DRAWN	TRINATH	28.05.17												
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FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



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DRG. NO. EP-3-SL-047-866

KKS TAG NO.	FEEDER DESCRIPTION	FEEDER RATING	FEEDER NO.	SCHEME REF	CABLE SIZE
	MISC USE	16A	10C	EP-3-CS-047-022	1-4C X 16 SQMM(AL)
	DRIbble CONNECTOR DRIVE-1	5.5kW	10D	EP-3-CS-047-025	1-3C X 35 SQMM(AL)
	AUXILIARY LOAD FOR HPP BCU-1A	32A	10E	EP-3-CS-047-022	1-3.5C X 75 SQMM(AL)
	3T HOIST FOR TP-1 HST-8	16A	10F	EP-3-CS-047-022	1-4C X 16 SQMM(AL)
	AIR CONDITIONING WT MCC	16A	4Q	EP-3-CS-047-022	1-4C X 16 SQMM(AL)
	POCAB AT WT	16A	4R	EP-3-CS-047-022	1-4C X 16 SQMM(AL)
	UPS AT WT MCC	32A	4S	EP-3-CS-047-022	1-4C X 16 SQMM(AL)

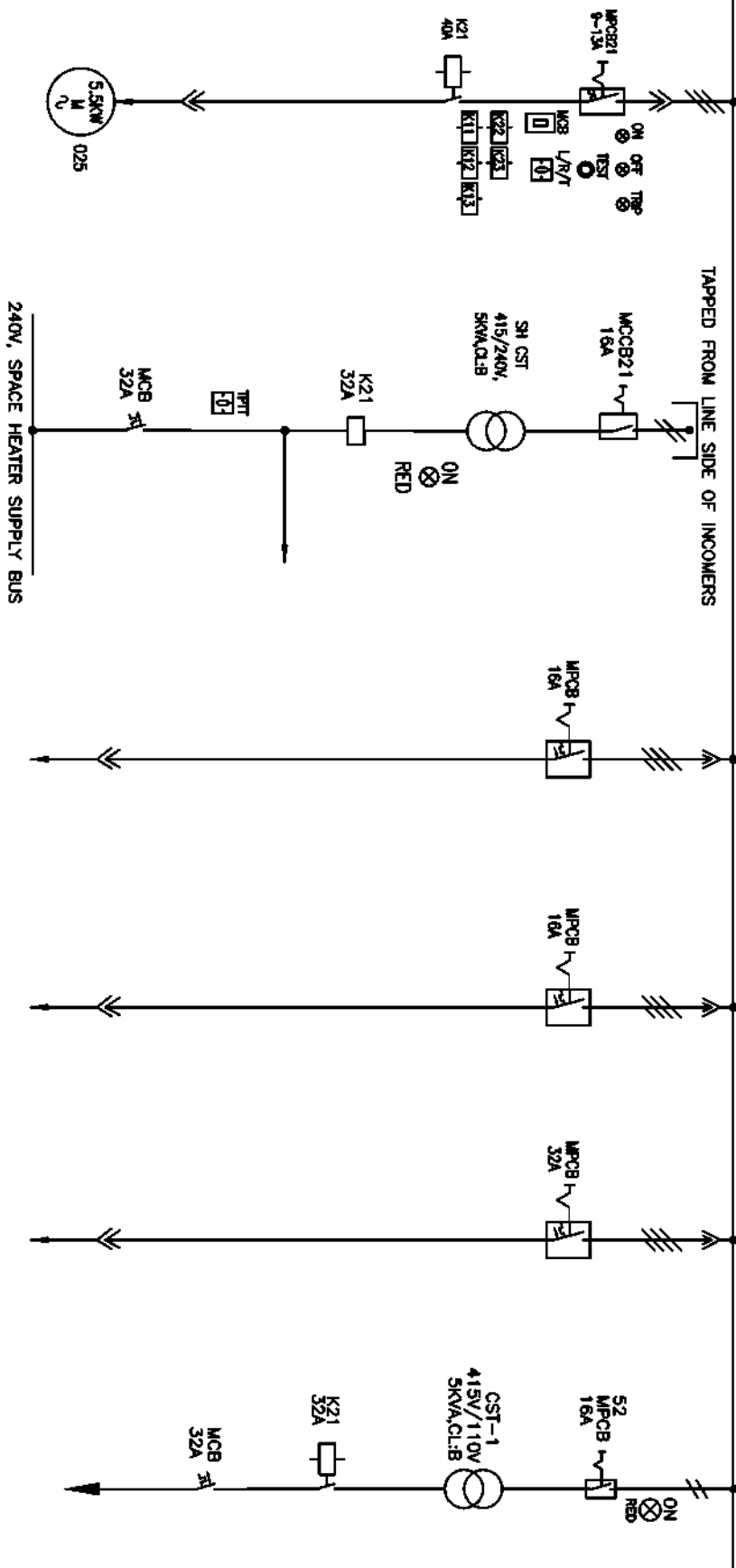
INVENTORY NO.

REV.	DATE	REVISION	BY	APPROVED	NAME	SIGN.	DATE
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BHARAT HEAVY ELECTRICALS LIMITED	
ELECTROPORCELAIN DIVISION BANGALORE	
TITLE :	
WT MCC (GHP MCC-1) NEAR WAGON TIPPLER	
SCALE	108 NO. CP-14-047
DRG. NO. EP-3-SL-047-866	
NO. OF SHEETS	28
SHEET NO.	09
REV.	01

415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



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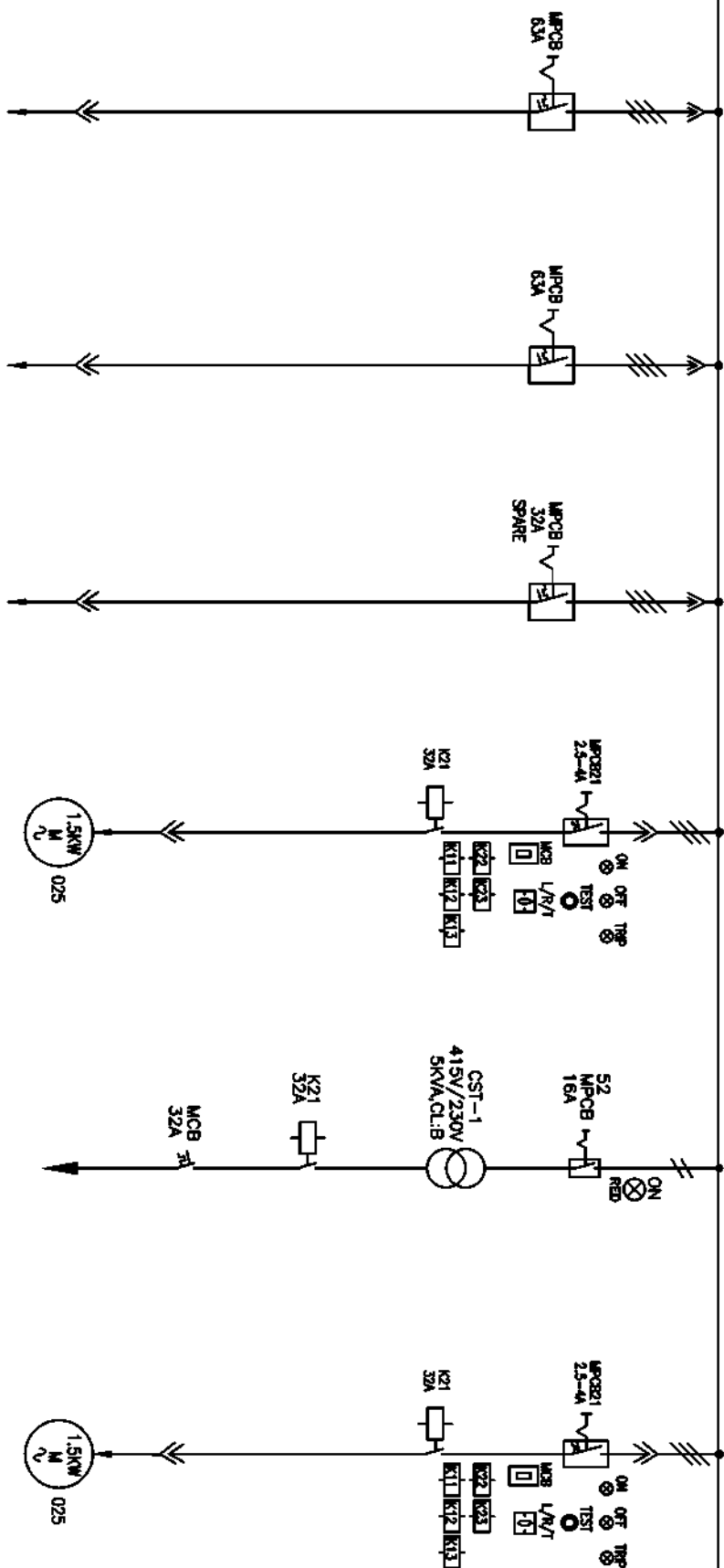
DRG. NO. EP-3-SL-047-866

INVENTORY NO.

REV.	DATE	REVISION	BY	APPROVED	NAME	SIGN.	DATE	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-866	NO. OF SHEETS	28	REV.	01
01	05.09.17	REVISED AS PER UPDATED LOAD LIST	JAA-JS	JAA-JS	TRINATH	JAA-JS	28.05.17	3	1:1	108	NO.	EP-3-SL-047-866	10	10	01		
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415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



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INVENTORY NO.

REV.	NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-866	NO. OF SHEETS	28	NO. OF SHEETS	11	REV.	01
01	05.09.17	REVISED AS PER UPDATED LOAD LIST		YAS	YAS	CHECKED		TRINATH		28.05.17	3		108	NO.	EP-3-SL-047-866		11					
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BHARAT HEAVY ELECTRICALS LIMITED

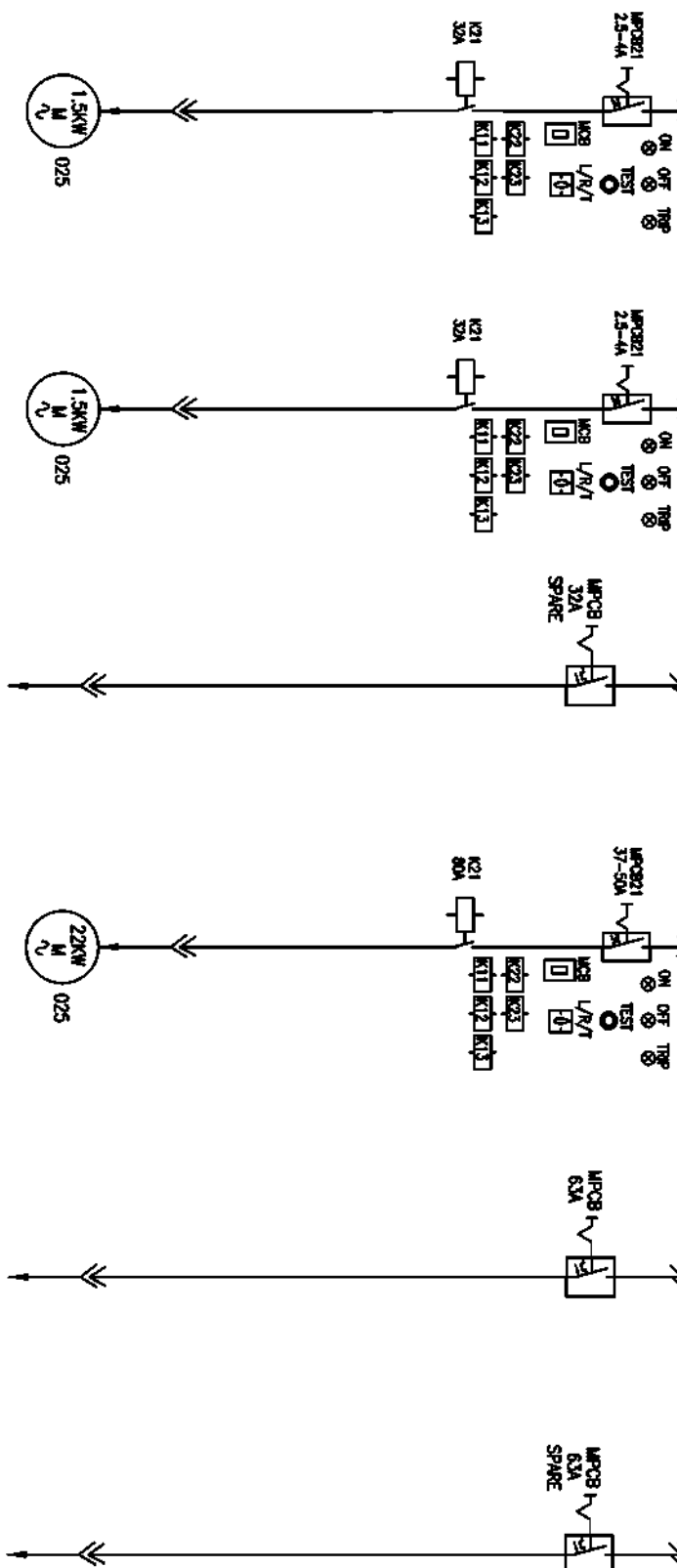
ELECTROPOWER DIVISION BANGALORE

TITLE :

SINGLE LINE DIAGRAM
WT MCC (CHP MCC-1) NEAR WAGON TIPPLER

415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



KKS TAG NO.	WT6 OIL TANK HEATER ELEMENT FOR CLAMPING OF TOP + SIDE + WHEEL GRIPPER HPP	WT6 HYD PUMP FOR OIL FILTRATION FOR WT HPP	SPARE	WT SUPPLY FAN VENTILATION SYSTEM	BATTERY CHARGER AT WT MCC	SPARE
FEEDER RATING	1.5KW	1.5KW	32A	22KW	63A	63A
FEEDER NO.	7R	7S	7T	8Q	8R	8S
SCHEME REF	EP-3-CS-047-025	EP-3-CS-047-025	EP-3-CS-047-022	EP-3-CS-047-025	EP-3-CS-047-025	EP-3-CS-047-022
CABLE SIZE	1-3C X 16 SQMM(AL)	1-3C X 16 SQMM(AL)	-	1-3C X 35 SQMM(AL)	1-4C X 16 SQMM(AL)	-

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DRG. NO. EP-3-SL-047-866

INVENTORY NO.

REV.	DATE	REVISION	BY	APPD.	APPROVED	KSB	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-866
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BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE

SINGLE LINE DIAGRAM

WT MCC (GHP MCC-1) NEAR WAGON TIPPLER



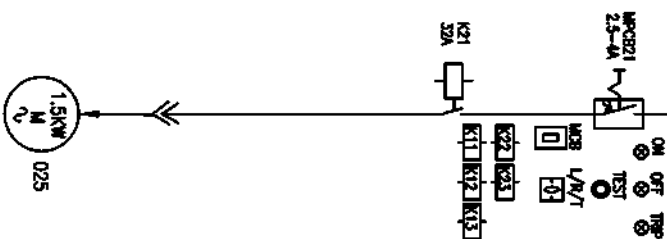
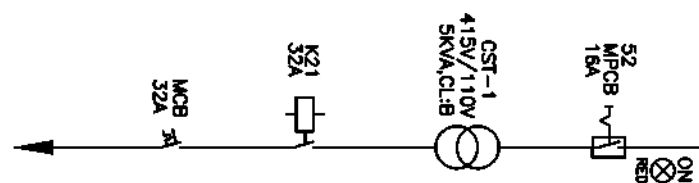
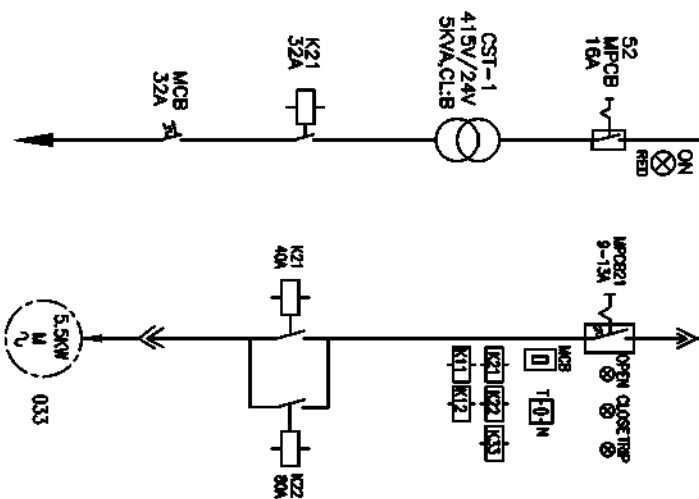
NO. OF SHEETS

SHEET NO.

REV. NO.

415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



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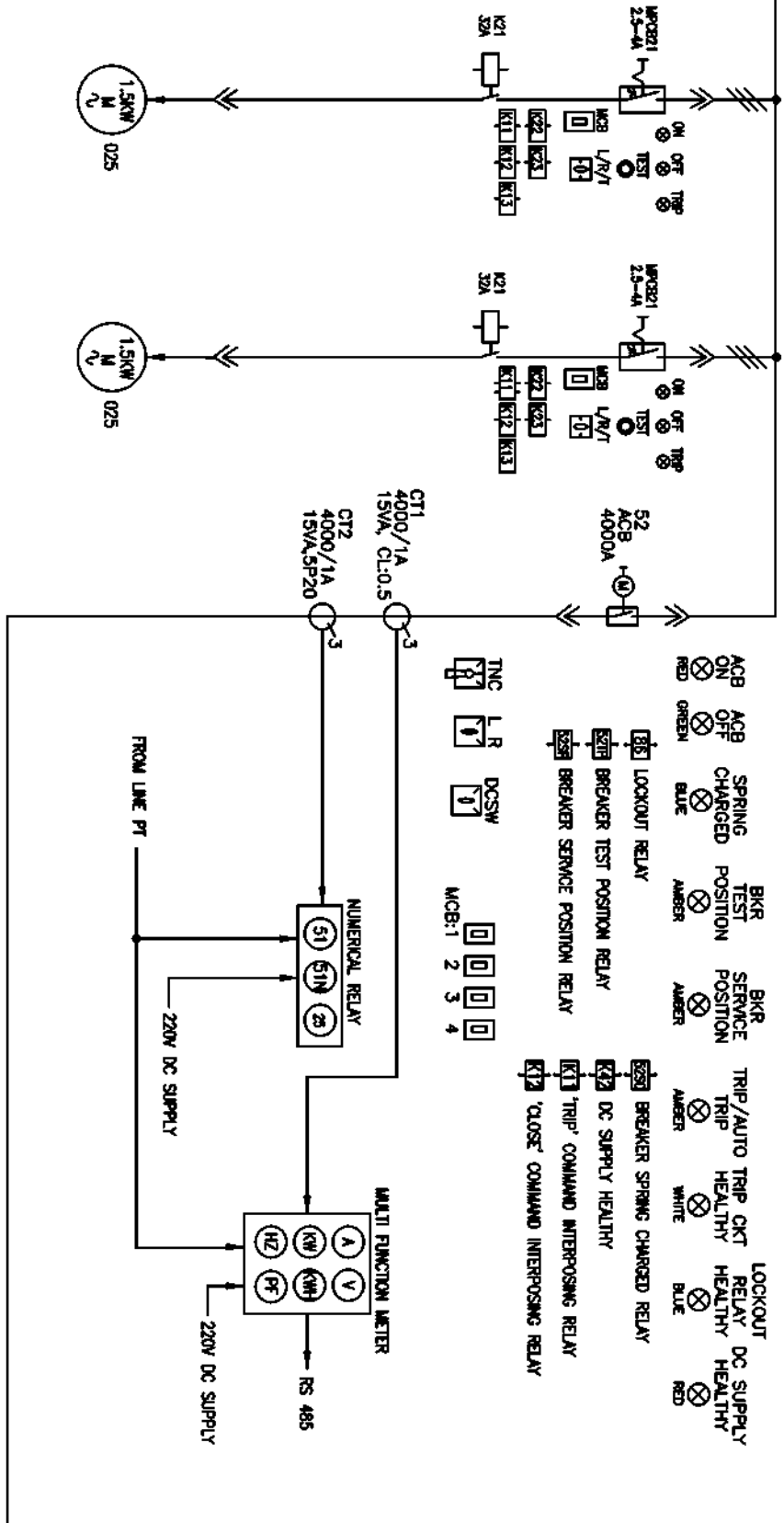
DRG. NO. EP-3-SL-047-866

KKS TAG NO.	FEEDER DESCRIPTION	FEEDER RATING	FEEDER NO.	SCHEME REF	CABLE SIZE
	24V CONTROL TRANSFORMER	5KVA	8T	EP-3-CS-047-039	-
	FLAP GATE FG-3	5.5KW	9Q	EP-3-CS-047-033	1-3C X 35 SQMM(AL)
	WT6 MOTOR FOR AIR OIL COOLER FOR SIDE ARM CHARGER	1.1*2KW	9R		-
	110V CONTROL TRANSFORMER	5KVA	9S	EP-3-CS-047-039	-
	WT6 MOTOR FOR AIR OIL COOLER FOR SIDE ARM CHARGER	1.1*2KW	10Q		-
	WT6 HYD PUMP FOR OIL FILTRATION FOR SMC HPP	1.5KW	10R	EP-3-CS-047-025	1-3C X 16 SQMM(AL)

INVENTORY NO.

REV.	DATE	REVISION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-866	NO. OF SHEETS	28	NO. OF SHEETS	13	REV.	01
01	05.09.17	REVISED AS PER UPDATED LOAD LIST	YAA-05	YAA-05	CHECKED		TRINATH	28.05.17		3		108									
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415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC



KCS TAG NO.			
FEEDER DESCRIPTION	WT6 HYD PUMP FOR OIL FILTRATION FOR CLAMP HPP	SPARE	BUSCOUPLER
FEEDER RATING	1.5KW	1.5KW	4000A
FEEDER NO.	10S	10T	11B
SCHEME REF	EP-3-CS-047-025	EP-3-CS-047-025	EP-3-CS-047-003
CABLE SIZE	1-3C X 16 SQMM(AL)	-	-

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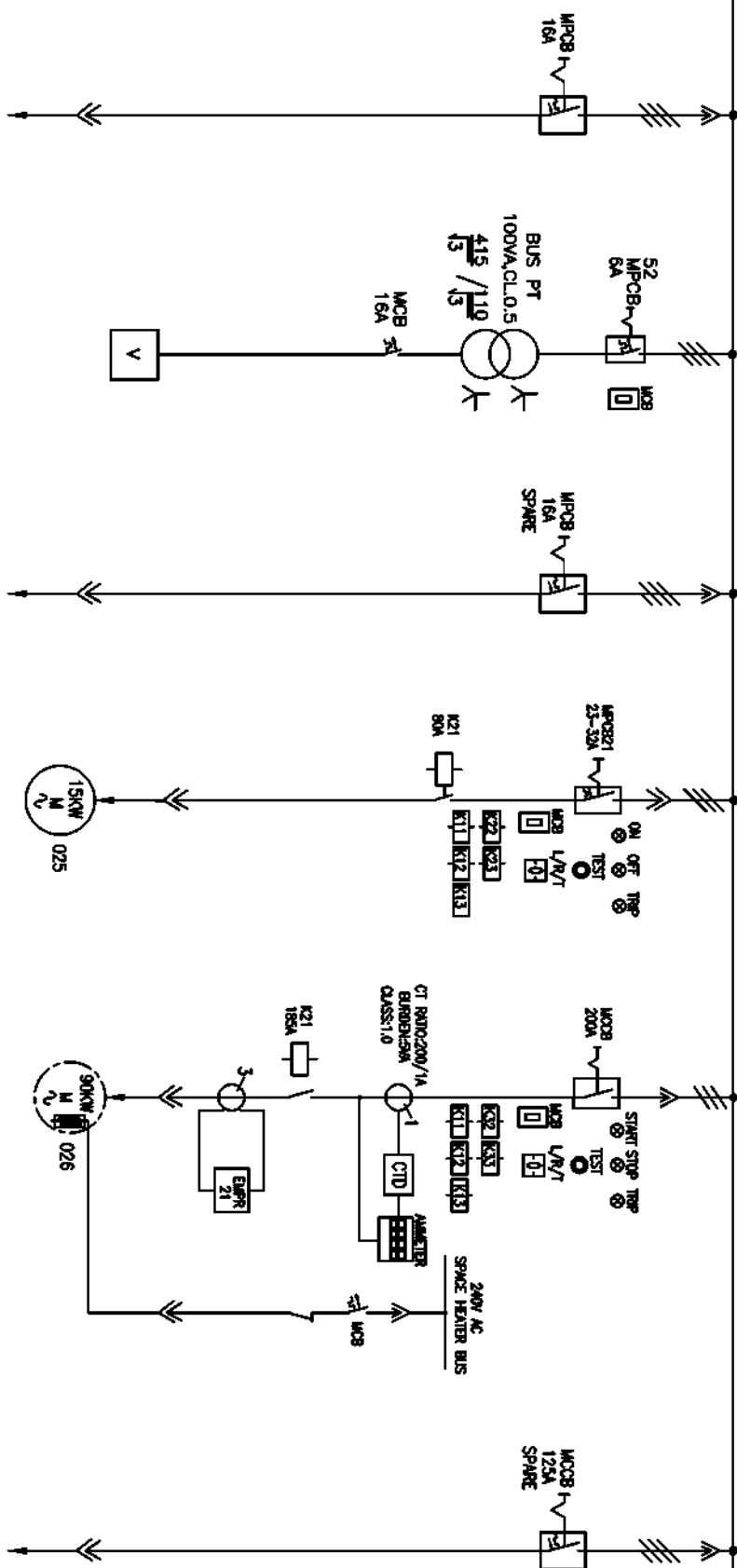
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415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-B



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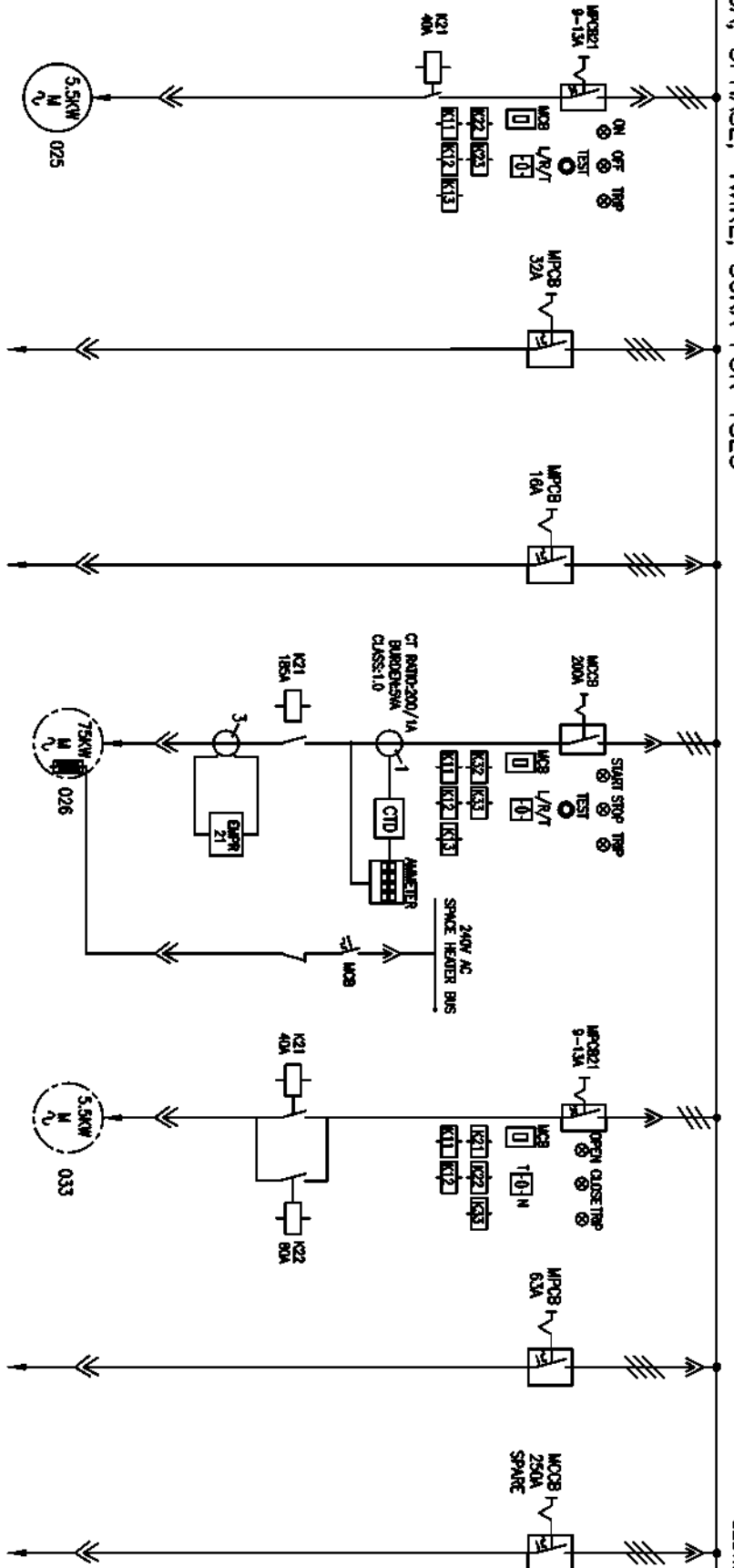
DRG. NO. EP-3-SL-047-866

KGS TAG NO.	FEEDER DESCRIPTION	FEEDER RATING	FEEDER NO.	SCHEME REF	CABLE SIZE
	AXIAL FAN FOR BATTERY ROOM WT MCC	16A	12B	EP-3-CS-047-022	1-3C X 2.5 SQMM(CU)
	BUS PT	100VA	12C	EP-3-CS-047-036	-
	SPARE	16A	12D	EP-3-CS-047-022	-
	SPARE	15KW	12E	EP-3-CS-047-025	-
	APRON FEEDER DRIVE-2	90KW	13B	EP-3-CS-047-026	-
	SPARE	125A	13C	EP-3-CS-047-022	-

INVENTORY NO.

REV.	DATE	REVISION	BY	APPROVED	NAME	SIGN.	DATE
01	05.09.17	DESIGNED	TRINATH	28.05.17			
02		DRAWN	TRINATH	28.05.17			
03		CHECKED					
04		APPROVED					
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07							

BHARAT HEAVY ELECTRICALS LIMITED		ELECTROPORCELAIN DIVISION BANGALORE	
TITLE :		SINGLE LINE DIAGRAM	
WT MCC (GHP MCC-1) NEAR WAGON TIPPLER		NO. OF SHEETS : 28	
SCALE :		SHEET : 15	
JOB NO. CP-14-047		REV. : 01	
DRG. NO. EP-3-SL-047-866			



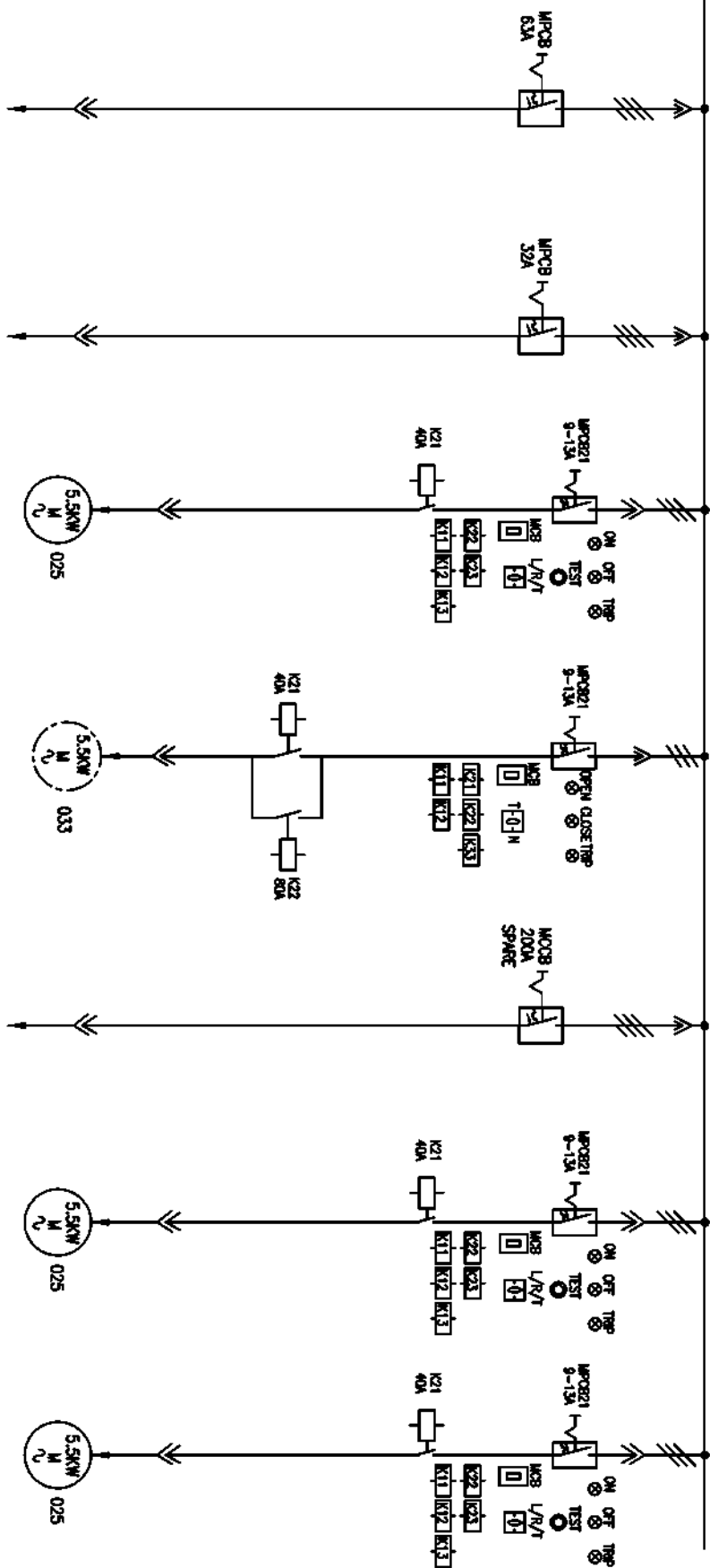
KKS TAG NO.						
FEEDE DESCRIPTION	MISC USE	SUMP PUMP-2 AT WT	POCUB AT TP-1	SPARE	FLAP GATE FO-4	BATTERY CHARGER AT WT MCC
FEEDE RATING	5.5KW	32A	16A	75KW	5.5KW	63A
FEEDE NO.	13D	13E	13F	14B	14C	14D
SCHEME REF	EP-3-CS-047-025	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-026	EP-3-CS-047-033	EP-3-CS-047-022
CABLE SIZE	1-3C X 35 SQMM(A)	1-3C X 25 SQMM(A)	1-4C X 16 SQMM(A)	-	1-3C X 35 SQMM(A)	1-4C X 16 SQMM(A) 1-3.5C X 95 SQMM(A)

INVENTORY NO.									
REV. NO.	DATE	DESCRIPTION	BY	APPD.	CHECKED	APPROVED	KCSB	DATE	FILE NO.
01	05.08.17	REVISED AS PER UPDATED LOAD LIST	22.08.17	22.08.17					3
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		BHARAT HEAVY ELECTRICALS LIMITED ELECTROF-ORCLAM DIVISION BANGALORE			
TITLE : WT MCC (CHP MCC-1) NEAR WAGON TIPPLER		SINGLE LINE DIAGRAM		NO. OF SHEETS : 28 SHEET : 16	
SCALE : 108 NO. CP-14-047		DRG. NO. EP-3-SL-047-866		REV. 01	

415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-B



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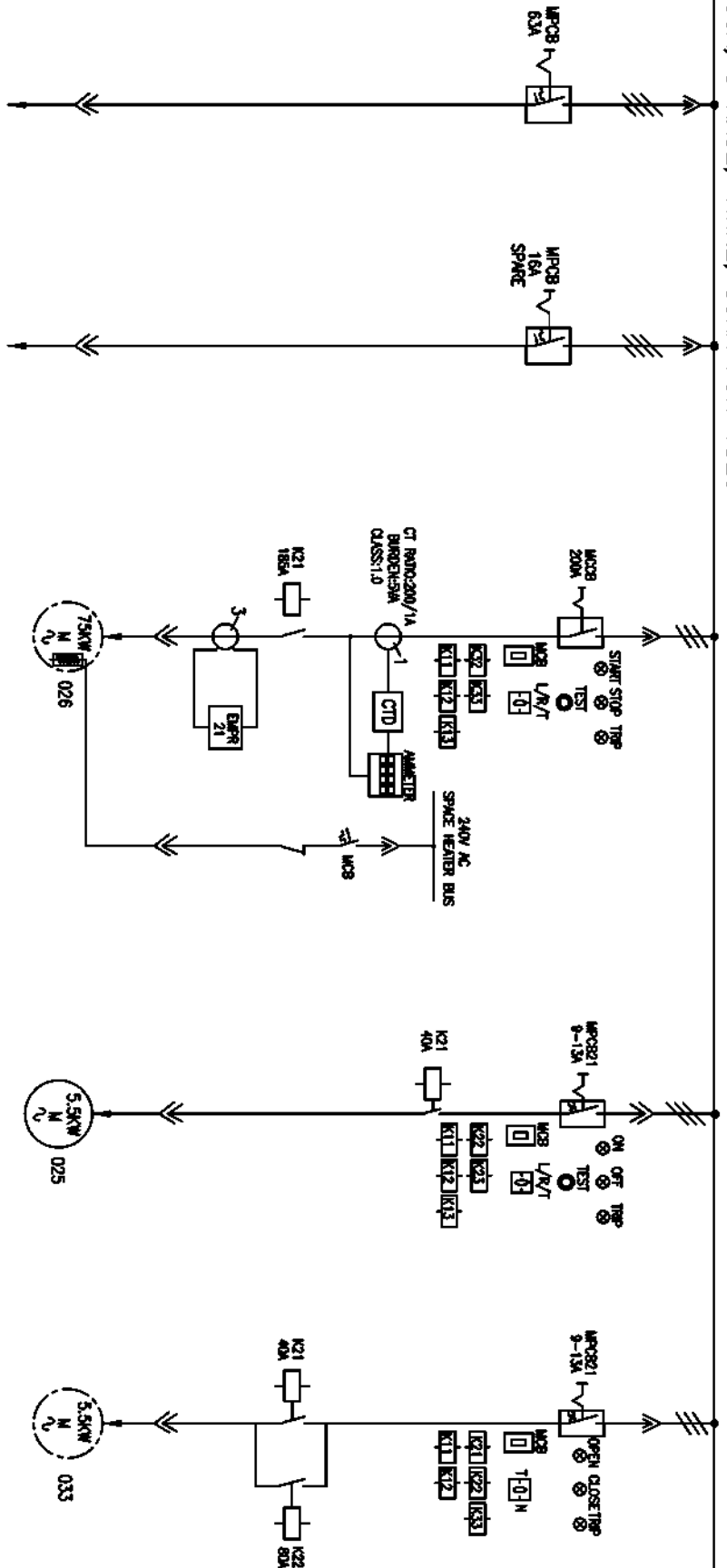
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DRG. NO. EP-3-SL-047-866

INVENTORY NO.

REV.	NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	FILE NO.
01	05.09.17	REVISED AS PER UPDATED LOAD LIST		YAS	YAS	CHECKED		3
02								
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BHARAT HEAVY ELECTRICALS LIMITED		ELECTROPORCELAIN DIVISION BANGALORE	
TITLE :		SINGLE LINE DIAGRAM	
WT MCC (CHP MCC-1) NEAR WAGON TIPPLER		NO. OF SHEETS : 28	
SCALE :		SHEET : 17	
JOB NO. CP-14-047		DRG. NO. EP-3-SL-047-866	
REV. :		REV. :	



KKS TAG NO.				
FEEDER DESCRIPTION	SUSPENDED MAGNET-2	SPARE	WIT TOP CLAMPING + SIDE CLAMPING + WHEEL GRIPPER HPP	WIT MOTOR FOR AIR OIL COOLER FOR SIDE ARM CHARGER
FEEDER RATING	63A	16A	75KW	5.5KW
FEEDER NO.	16D	16E	17B	17C
SCHEME REF	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-026	EP-3-CS-047-025
CABLE SIZE	1-3.5C X 50 SQMM(A)	-	-	1-3C X 35 SQMM(A)
				1-3C X 35 SQMM(A)
				EP-3-CS-047-033
				1-3C X 35 SQMM(A)

INVENTORY NO.									
REV.	DATE	DESCRIPTION	BY	APPRO.	APPROVED	NAME	SIGN.	DATE	
07									
06					DESIGNED	TRINATH	<i>P. Jai</i>	26.05.17	
05									
04					DRAWN	TRINATH	<i>P. Jai</i>	26.05.17	
03									
02					CHECKED				
01	05.09.17	ISSUED AS PER UPDATED LOAD LIST	<i>P. Jai</i>	<i>P. Jai</i>					

		BHARAT HEAVY ELECTRICALS LIMITED ELECTRO-ORCLAM DIVISION BANGALORE			
TITLE : SINGLE LINE DIAGRAM WT MCC (CHP MCC-1) NEAR WAGON TIPPLER		SCALE : 1/8" NO. CP-14-047		DRG. NO. EP-3-SL-047-866	
NO. OF SHEETS : 28 SHEET : 18 NO. :		REV. : 01			

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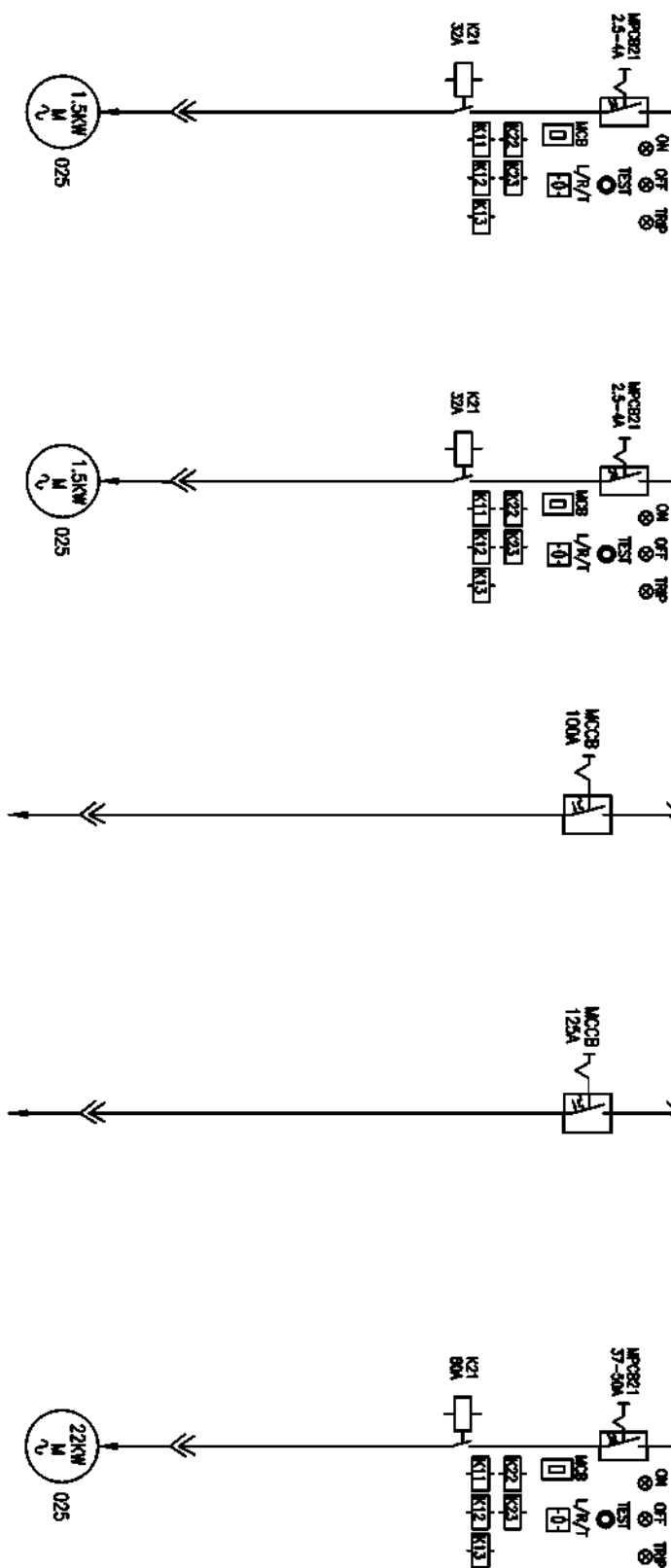
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SECTION-B



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DRG. NO. EP-3-SL-047-866

KKS TAG NO.	WT7 OIL TANK HEATER ELEMENT FOR SAC HPP	WT7 OIL TANK HEATER ELEMENT FOR WT HPP	EOT CRANE 20/5T	ACDB FOR WELDING AT WT MCC	BCN 1A/1B SUPPLY FAN VENTILATION SYSTEM
FEDDER DESCRIPTION	WT7 OIL TANK HEATER ELEMENT FOR SAC HPP	WT7 OIL TANK HEATER ELEMENT FOR WT HPP	EOT CRANE 20/5T	ACDB FOR WELDING AT WT MCC	BCN 1A/1B SUPPLY FAN VENTILATION SYSTEM
FEDDER RATING	1.5KW	1.5KW	100A	125A	22KW
FEDDER NO.	18B	18C	18D	18E	18F
SCHEME REF	EP-3-CS-047-025	EP-3-CS-047-025	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-025
CABLE SIZE	1-3C X 16 SQMM(AL)	1-3C X 16 SQMM(AL)	1-3.5C X 70 SQMM(AL)	1-3.5C X 70 SQMM(AL)	1-3C X 35 SQMM(AL)

INVENTORY NO.

REV.	DATE	REVISION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-866	NO. OF SHEETS	28	NO. OF SHEETS	19	REV.	01
01	05.09.17	REVISED AS PER UPDATED LOAD LIST	JAA-JS	JAA-JS	CHECKED		TRINATH	JAA-JS	28.05.17	3											
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BHARAT HEAVY ELECTRICALS LIMITED

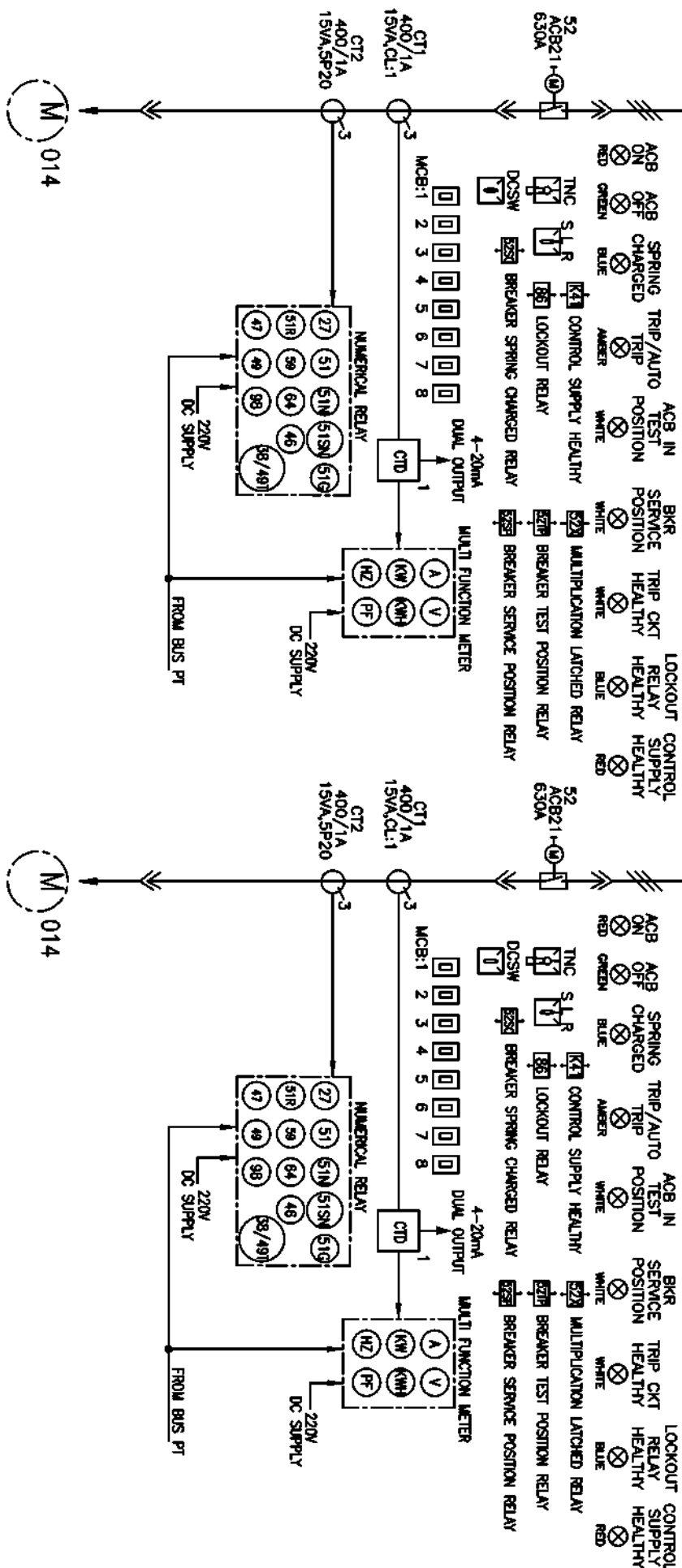
ELECTROPORCELAIN DIVISION BANGALORE

TITLE :

WT MCC (GHP MCC-1) NEAR WAGON TIPPLER

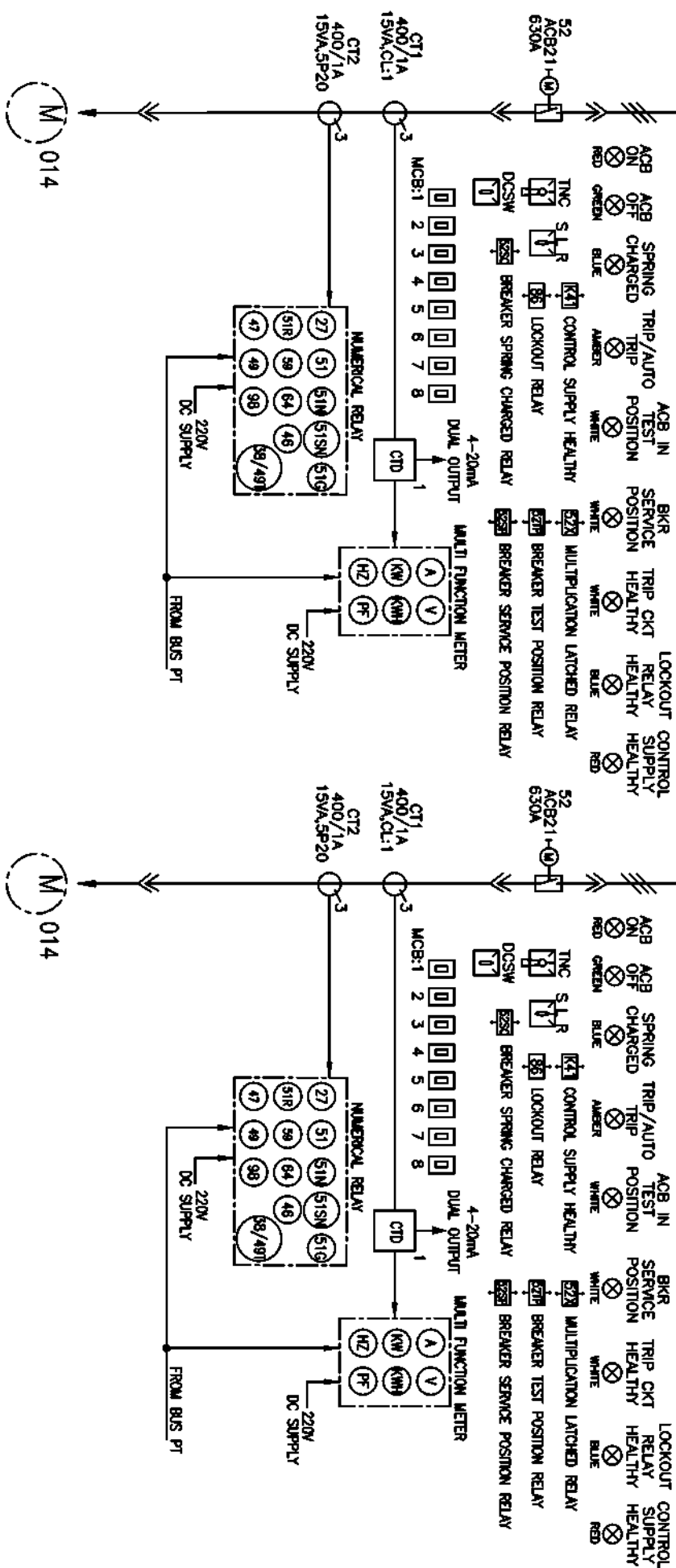
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INVENTORY NO.

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415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC

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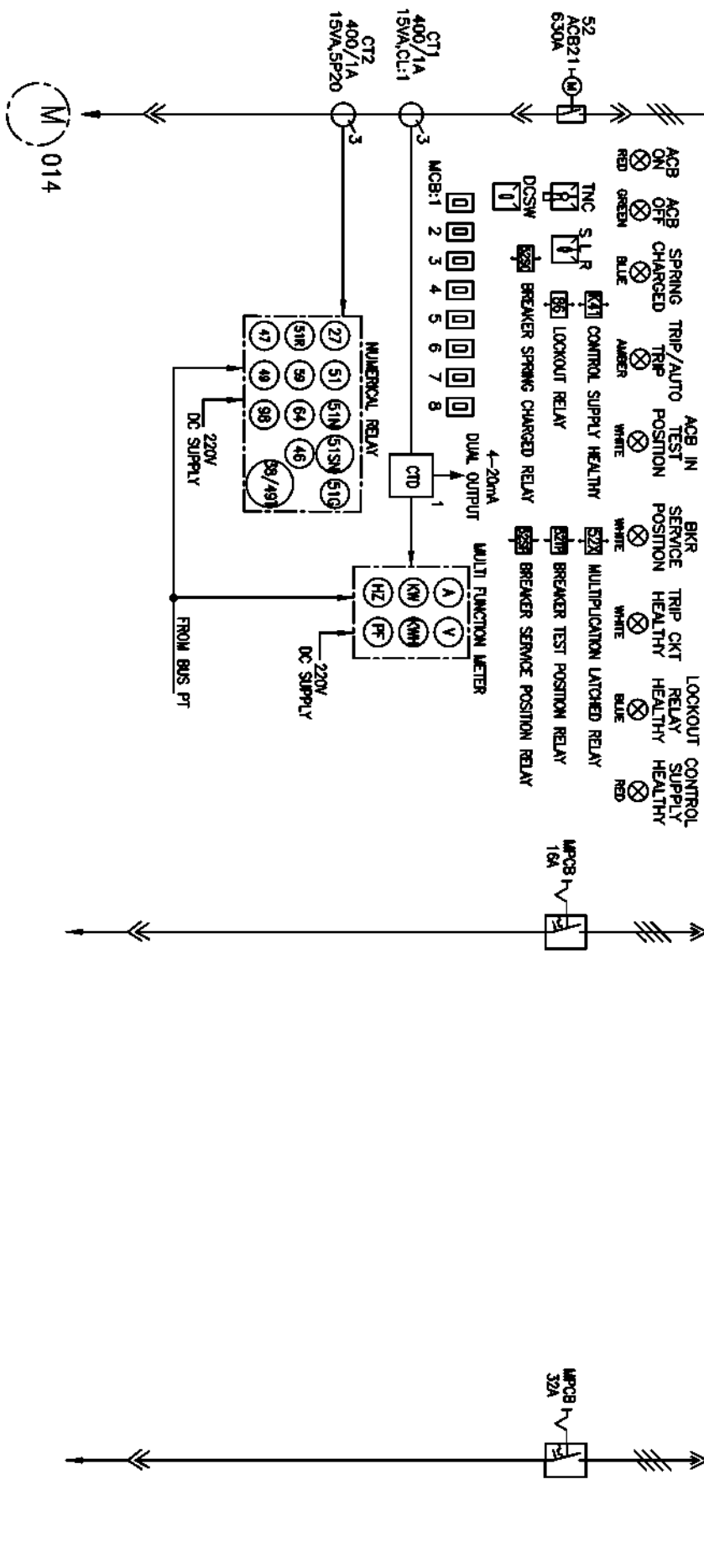
DRG. NO. EP-3-SL-047-866

INVENTORY NO.

REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-866	NO. OF SHEETS	28	NO. OF SHEETS	21	REV.	01
01	05.09.17	REVISED AS PER UPDATED LOAD LIST	YAS	YAS	CHECKED		3		108	NO.	CP-14-047	DRG. NO.	EP-3-SL-047-866	28	21	21		
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415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-B



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DRG. NO. EP-3-SL-047-866

INVENTORY NO.

REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-866	NO. OF SHEETS	28	REV.	01
01	05.09.17	REVISED AS PER UPDATED LOAD LIST	YAS	YAS	CHECKED		3									
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KKS TAG NO.	FEEDER DESCRIPTION	FEEDER RATING	FEEDER NO.	SCHEME REF	CABLE SIZE	WIT ACTUATOR, (TRACK STOP IN HAUL & OUT HAUL SIDE)	MISC USE
	SPARE	160KW	21B	EP-3-CS-047-014	-		
		16A	120	EP-3-CS-047-022	1-3C X 2.5 SQMM(CU)		
		1.1*2KW	12R	EP-3-CS-047-022	-		
				EP-3-CS-047-022	1-4C X 16 SQMM(AL)		

BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE



TITLE :

SINGLE LINE DIAGRAM
WT MCC (GHP MCC-1) NEAR WAGON TIPPLER

NO. OF SHEETS

28

SHEET

22

REV.

01

SECTION-B



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INVENTORY NO.

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FORM 66-271 A4

ELECTROPORCELAIN DIVISION BANGALORE

SINGLE LINE DIAGRAM

WT MCC (CHP MCC-1) NEAR WAGON TIPPLER

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1. *Introduction*
 2. *Methodology*
 3. *Results*
 4. *Discussion*
 5. *Conclusion*

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FINANZIERUNG	Dr. Lu	26.09.
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CLAIM	
CHALLENGE	

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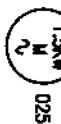
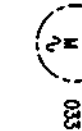
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SECTION-B



W/ HYD PUMP FOR OUT FILTRATION FOR SAC
HPP
1.5KW
ISS
EP-3-CS-047-025
1-3C X 16 SQMM(UL)

998-7

NO. OF SHEETS	28
SHEET. NO.	24

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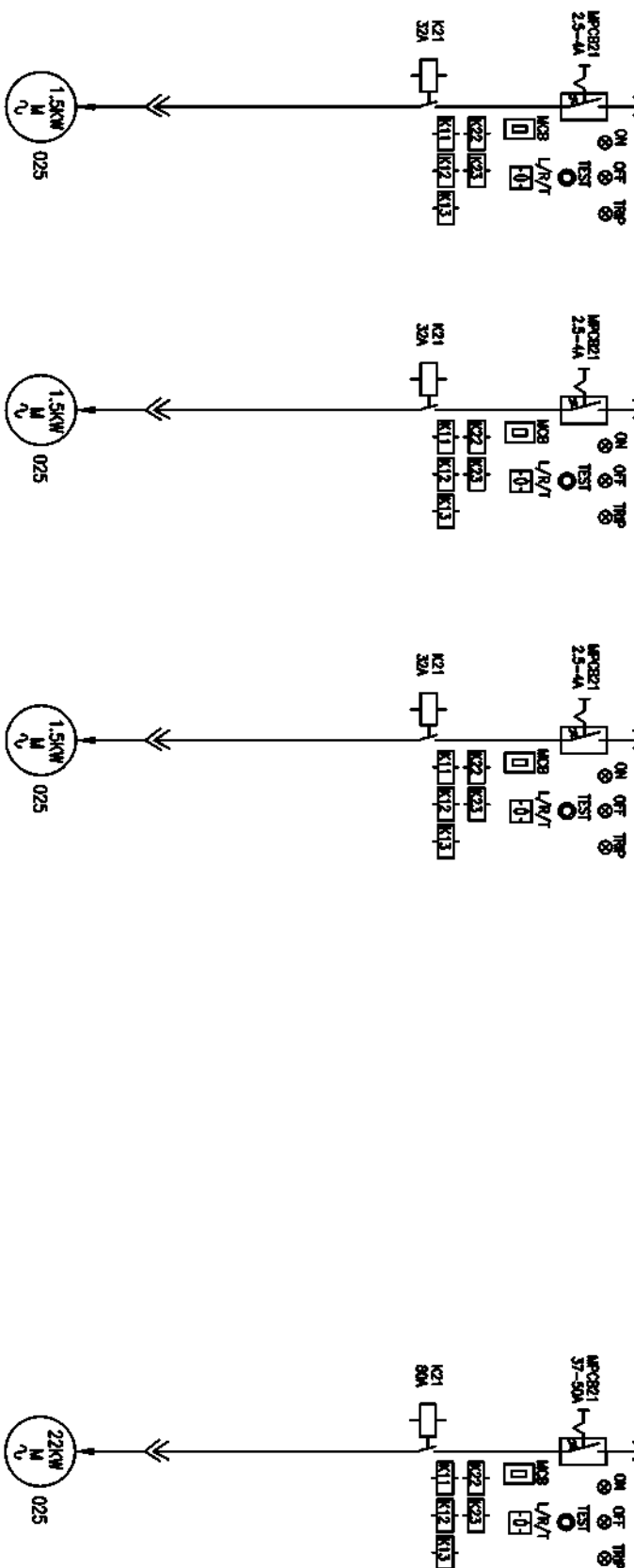
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SECTION-B



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DRG. NO. EP-3-SL-047-866

KGS TAG NO.	FEEDER DESCRIPTION	FEEDER RATING	FEEDER NO.	SCHEME REF	CABLE SIZE
	WT7 HYD PUMP FOR OIL FILTERATION FOR WT HPP	1.5KW	1ST	EP-3-CS-047-025	1-3C X 16 SQMM(AL)
	WT7 OIL TANK HEATER ELEMENT FOR CLAMPING OF TOP + SIDE + WHEEL GRIPPER HPP	1.5KW	1SU	EP-3-CS-047-025	1-3C X 16 SQMM(AL)
	WT7 ACTUATOR, (TRUCK STOP IN HAUL & OUT HAUL SIDE)	1.1*2KW	1BP	EP-3-CS-047-025	1-3C X 35 SQMM(AL)
	MISC USE	22KW	1BQ	EP-3-CS-047-025	1-3C X 35 SQMM(AL)

INVENTORY NO.

REV. NO.

DATE

DESCRIPTION

BY

APPD.

APPROVED

KSB

NAME

SIGNAL

DATE

FILE NO.

SCALE

JOB NO.

CP-14-047

DRG. NO.

EP-3-SL-047-866

REV.

01

NO. OF SHEETS

28

SHEET NO.

25

REV.

01

BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE

SINGLE LINE DIAGRAM

WT MCC (GHP MCC-1) NEAR WAGON TIPPLER

SECTION-B



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INVENTORY NO.

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FBI
LABORATORY

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WT MCC (CHP MCC-1) NEAR WAGON TIPPLER

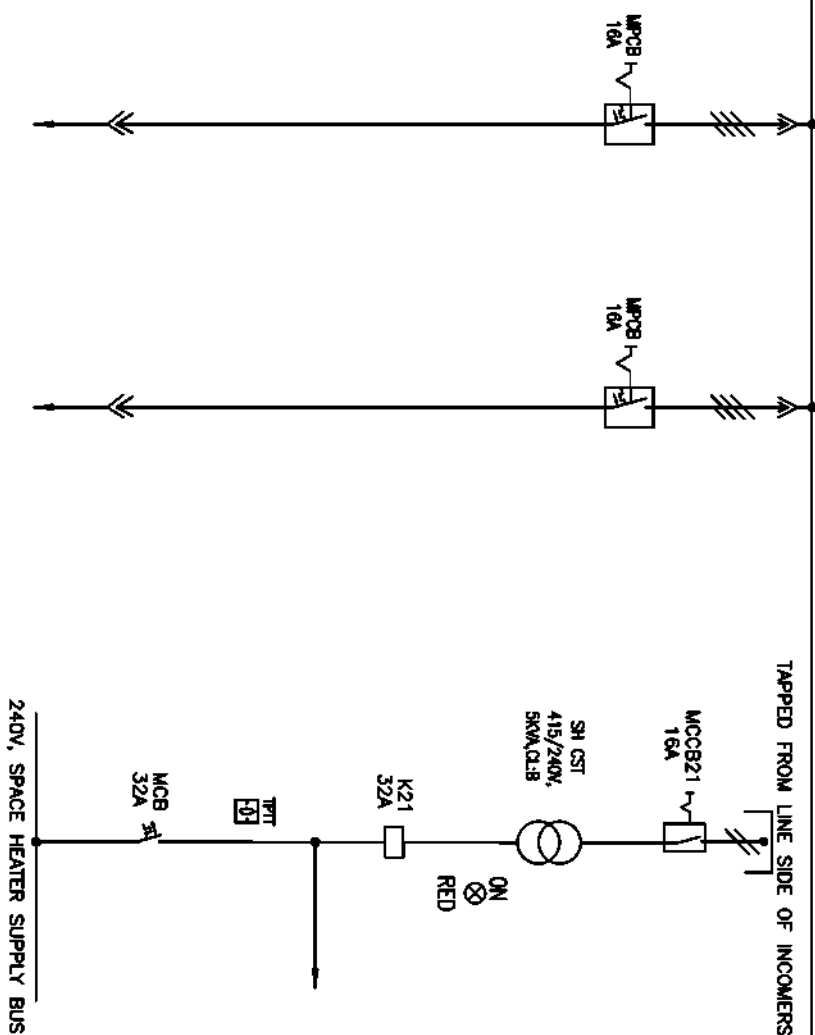
NO. OF SHEETS	28
SHEET.	26

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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SECTION-B



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DRG. NO. EP-3-SL-047-866

KOS TAG NO.			
FEDDER DESCRIPTION	SPARE	UPS SUPPLY FOR PLC PANEL.	UPS SUPPLY FOR PLC PANEL.
FEDDER RATING	1.1*2KW	16A	16A
FEDDER NO.	18Q	18R	18S
SCHEME REF		EP-3-CS-047-022	EP-3-CS-047-022
CABLE SIZE	-	1-4C X 16 SQMM(AL)	1-4C X 16 SQMM(AL)

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-866	NO. OF SHEETS	28	NO. OF SHEETS	27	REV.	01
01	05.09.17	REVISED AS PER UPDATED LOAD LIST	14.05.17	14.05.17	CHECKED		TRINATH	14.05.17	28.05.17	3											
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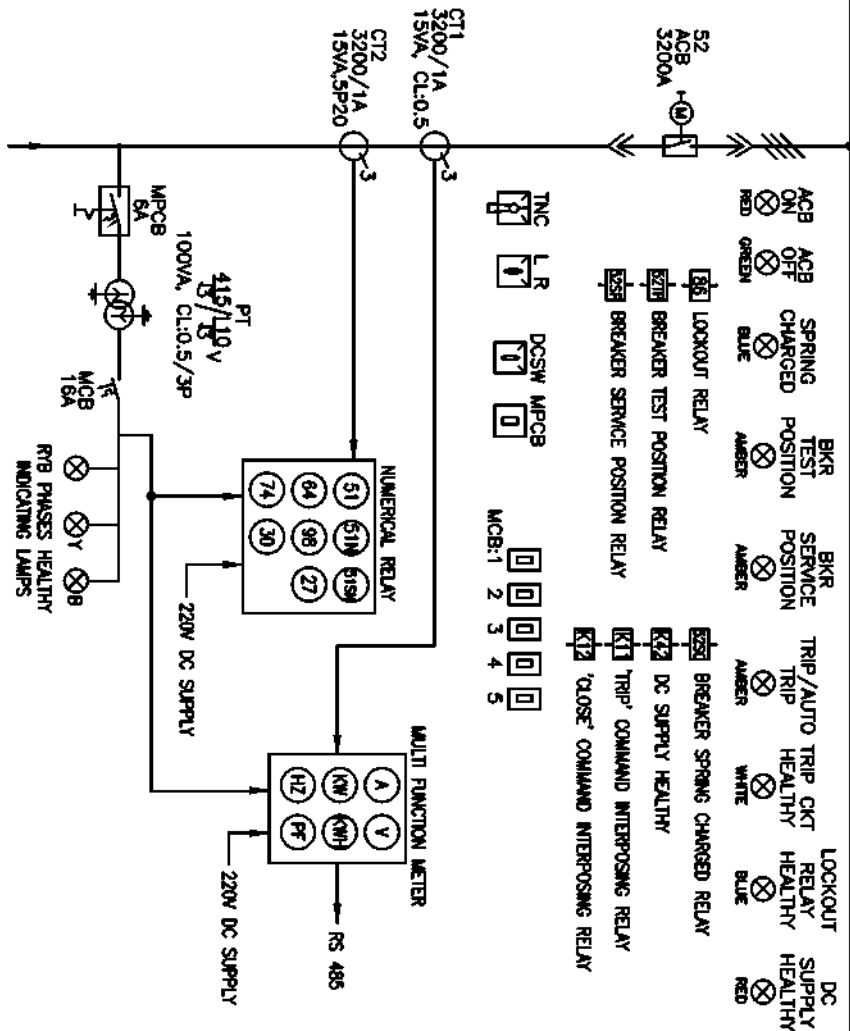
BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE

TITLE :

SINGLE LINE DIAGRAM
WT MCC (GHP MCC-1) NEAR WAGON TIPPLER

SECTION-B



KKS TAG NO.	
FEEDER DESCRIPTION	INCOMER-2
FEEDER RATING	4000A
FEEDER NO.	22B
SCHEME REF	EP-3-CS-047-002
CABLE SIZE	BUS DUCT

INVENTORY NO.									
REV.	DATE	DESCRIPTION	BY	APPRO.	APPROVED	NAME	SIGN.	DATE	
07									
06						DESIGNED		26.05.17	
04									
03						DRAWN		26.05.17	
02									
01	05.08.17	REvised AS PER UPDATED LOAD LIST				CHECKED			
									
						BHARAT HEAVY ELECTRICALS LIMITED ELECTROPORCELAIN DIVISION BANGALORE			
						SINGLE LINE DIAGRAM WT MCC (CHP MCC-1) NEAR WAGON TIPLER			
						TITLE :			
						SCALE			
						JOB NO. CP-14-047			
						DWG. NO. EP-3-SL-047-866			
									
						NO. OF SHEETS 28			
						SHEET 28			
						REV. 01			

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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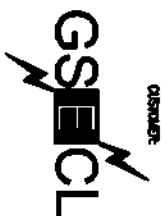
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GUJARAT ELECTRICITY CORPORATION LIMITED
VADODARA, GUJARAT

PROJECT:

1x800 MW WANAKBORI THERMAL POWER STATION
EXTENSION UNIT-8

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DRG. NO. EP-3-SL-047-867

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPROD.	APPROVED	KSB	SCALE: 1/11	JOB NO. CP-14-047	DRG. NO. EP-3-SL-047-867	NO. OF SHEETS	NO. OF SHEETS	REV.
1	04.09.17	REVISED AS PER UPDATED LOAD LIST	SA-SB, SA-SB		CHECKED	TRINATH	SA-SB, SA-SB	28.05.17			30	01
2					DRAWN							
3					DESIGNED	TRINATH	SA-SB, SA-SB	28.05.17				
4												

CUSTOMER CONSULTANT:

DEVELOPMENT CONSULTANT PVT LTD
KOLKATA

BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPROCESSING DIVISION BANGALORE

TITLE :
SINGLE LINE DIAGRAM
CHP MCC-2 (CH MCC) NEAR CRUSHER HOUSE



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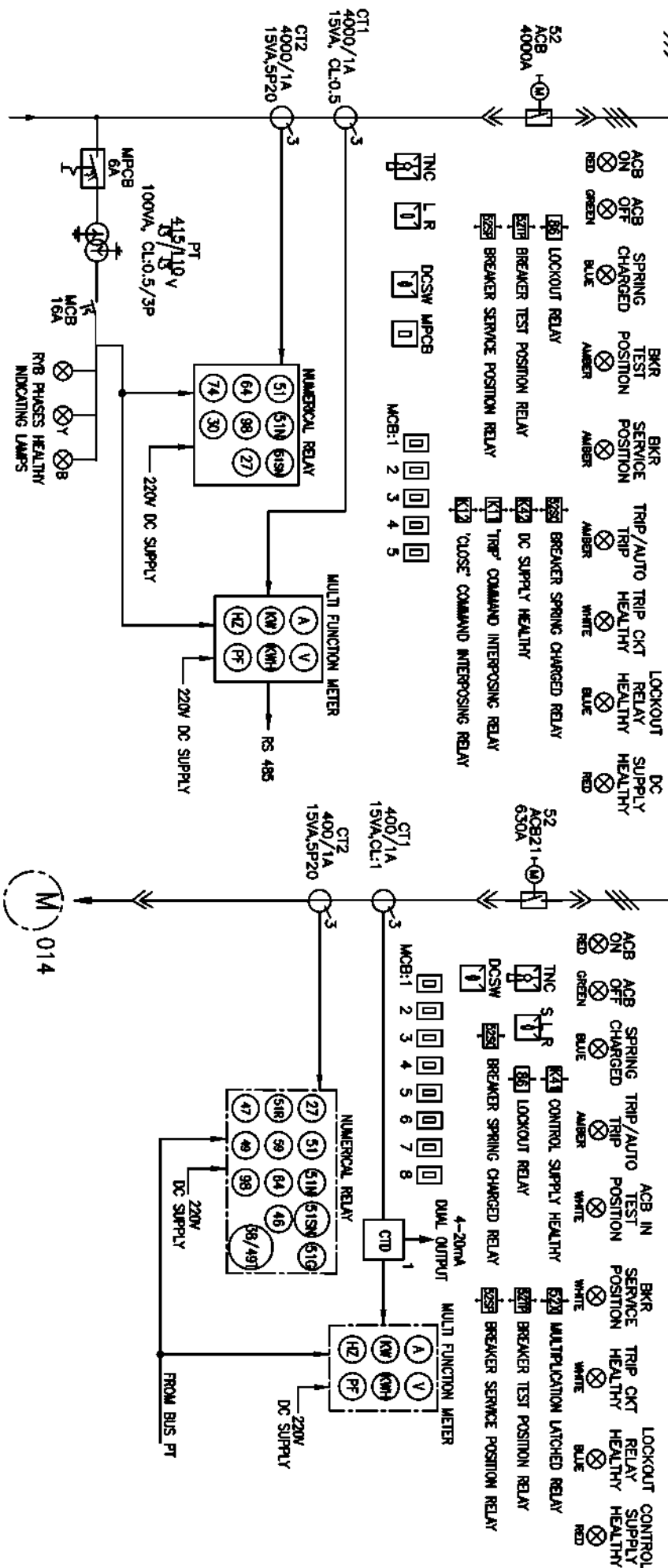
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SECTION-A



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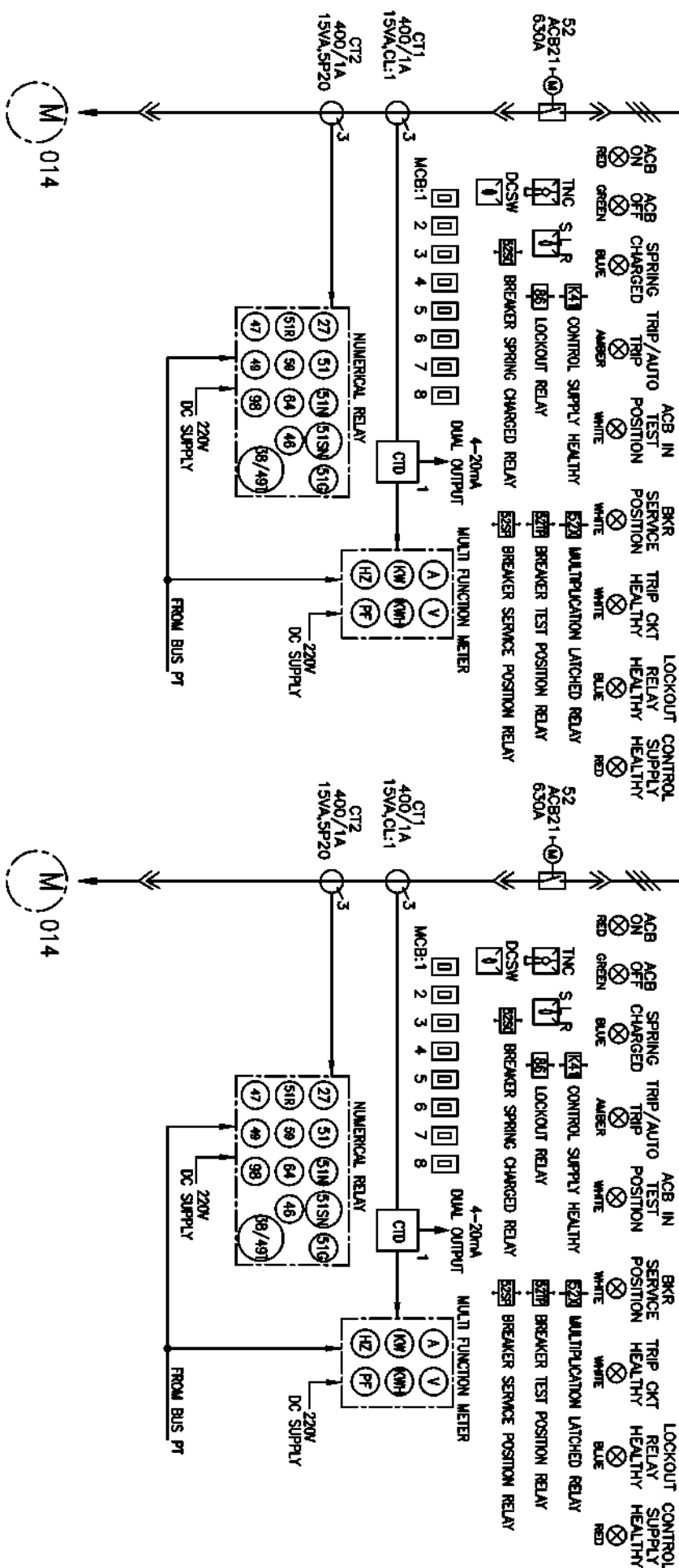
DRG. NO. EP-3-SL-047-867

KKS TAG NO.		
FEEDER DESCRIPTION	INCOMER-1	MOTOR FOR BELT CONVEYOR BC-2A
FEEDER RATING	4000A	132KW
FEEDER NO.	1B	2A
SCHIELE REF	EP-3-CS-047-001	EP-3-CS-047-014
CABLE SIZE	BUS DUCT	-

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SECTION-A



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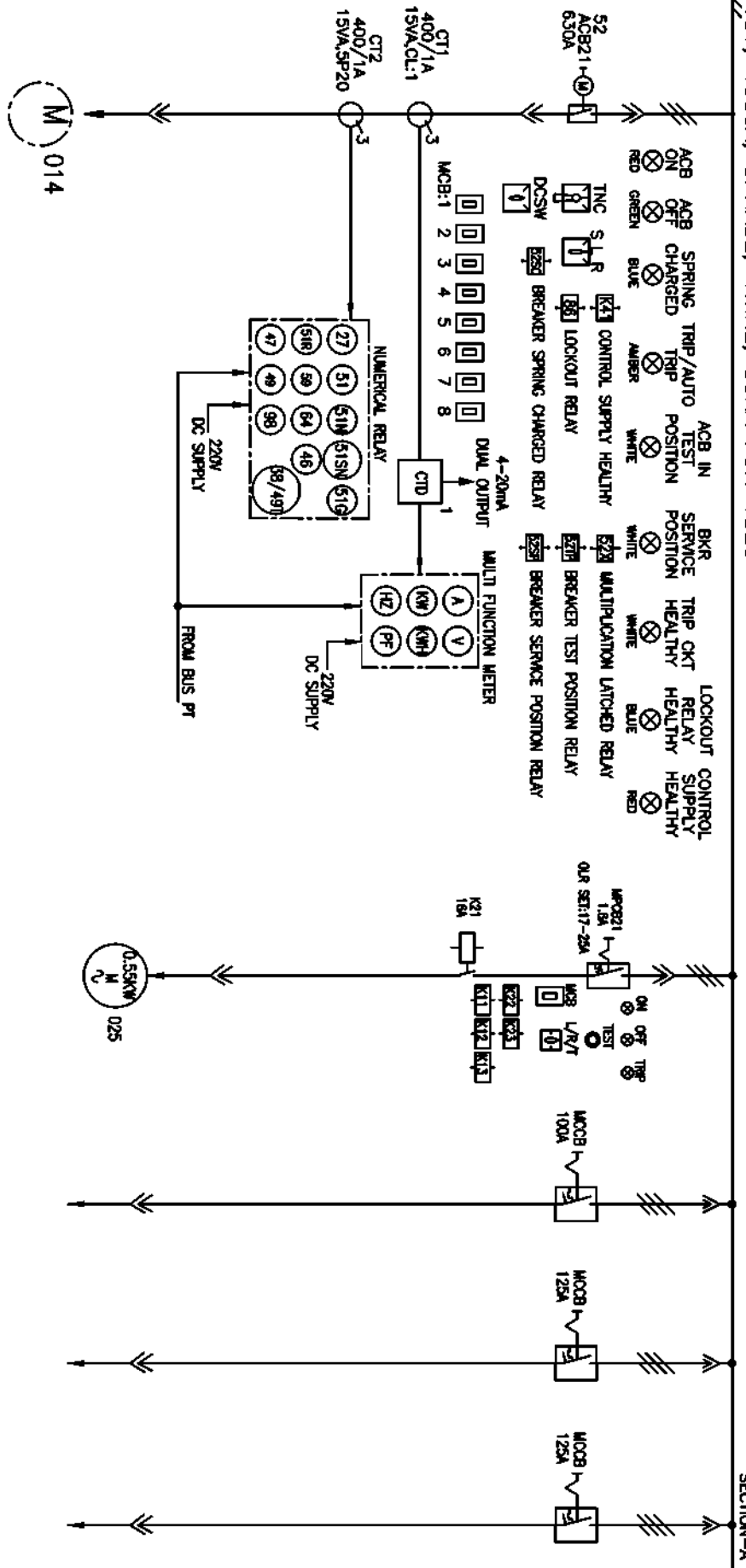
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DRG. NO. EP-3-SL-047-867

INVENTORY NO.

REV.	DATE	DESCRIPTION	BY	APPROVED	NAME	SIGN.	DATE	FILE NO.	SCALE	JOB NO.	DRG. NO.	NO. OF SHEETS	NO.	REV.
01	04.08.17	REVISED AS PER UPDATED LOAD LIST	3A	28.05.17	3									
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SECTION-A



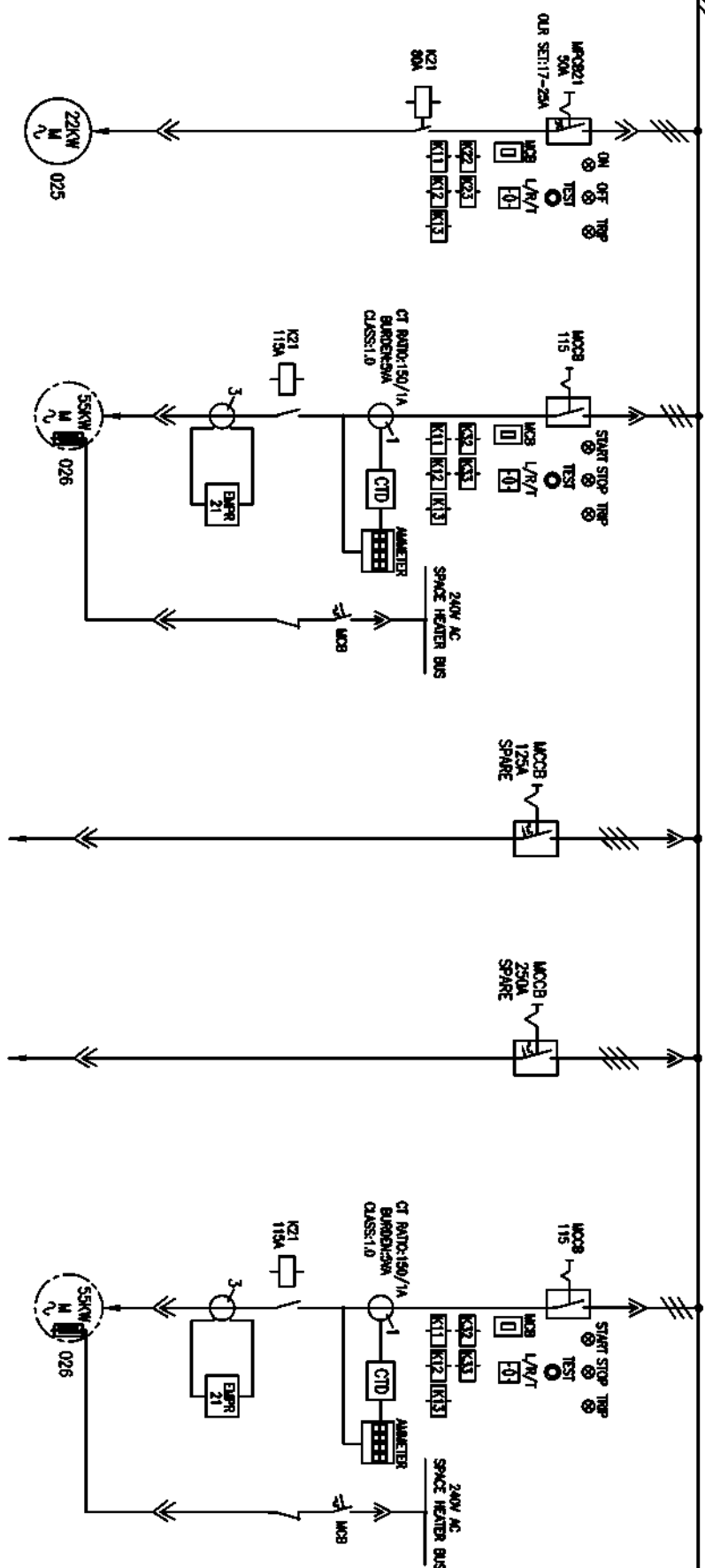
KKS TAG NO.					
FEEDER DESCRIPTION	SPARE	BRAKE FOR BF-1	AC W COOLED PAC FOR CHP MOC (A/C)	PUMP HOUSE-2	ACDB HOIST AT CRUSHER
FEEDER RATING	180KW	0.55KW	100A	125A	125A
FEEDER NO.	38	48	4C	4D	4E
SCHEME REF	EP-3-CS-047-014	EP-3-CS-047-025	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-022
CABLE SIZE	-	1-3C X 2.5 SQMM(CU)	1-3.5C X 25 SQMM(AL)	1-3.5C X 95 SQMM(AL)	1-3.5C X 95 SQMM(AL)

INVENTORY NO.									
REV.	DATE	DESCRIPTION	BY	APPRO.	APPROVED	NAME	SIGN.	DATE	
07									
06					DESIGNED	TRINATH	<i>P. Trinath</i>	29.05.17	
05									
04					DRAWN	TRINATH	<i>P. Trinath</i>	29.05.17	
03									
02					CHECKED				
01	04.08.17	ISSUED AS PER UPDATED LOAD LIST	<i>P. Trinath</i>	<i>P. Trinath</i>					

		BHARAT HEAVY ELECTRICALS LIMITED ELECTRO-ORCELAM DIVISION BANGALORE			
TITLE : SINGLE LINE DIAGRAM CHP MCC-2 (CH MCC) NEAR CRUSHER HOUSE		NO. OF SHEETS : 30 SHEET : 04 NO. :		SCALE : 1/8" NO. CP-14-047 ORG. NO. EP-3-SL-047-867	

415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



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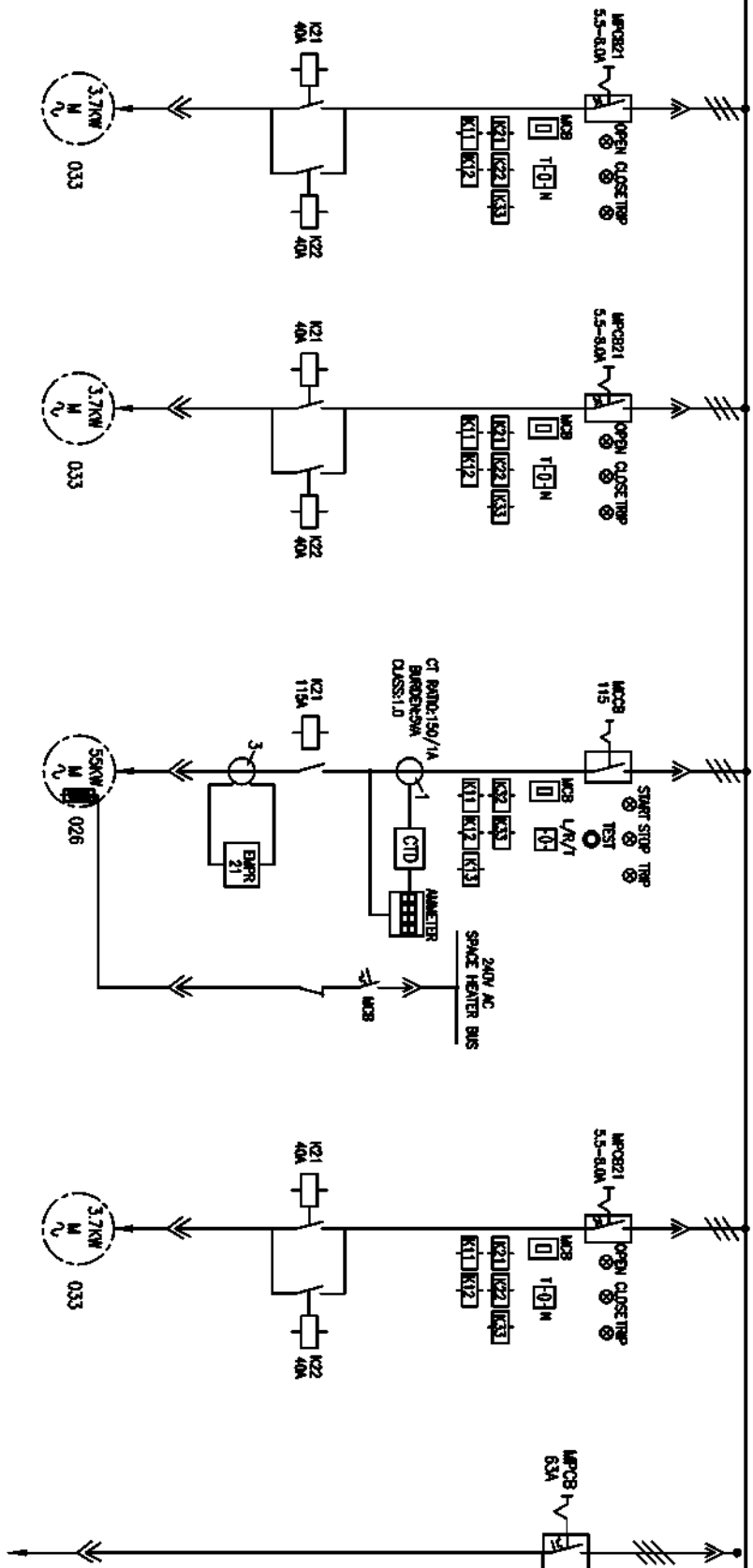
DRG. NO. EP-3-SL-047-867

KKS TAG NO.	FEEDER DESCRIPTION	FEEDER RATING	FEEDER NO.	SCHEME REF	CABLE SIZE
	SPARE	22KW	4F	EP-3-CS-047-025	-
	VIBRATING SCREEN VS-1	56KW	5B	EP-3-CS-047-026	1-3C X 95 SQMM(AL)
	SPARE	125A	5C	EP-3-CS-047-022	-
	SPARE	250A	5D	EP-3-CS-047-022	-
	VIBRATING SCREEN VS-2	56KW	6B	EP-3-CS-047-026	1-3C X 95 SQMM(AL)

REV.	NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-867	NO. OF SHEETS	REV.
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07															

415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



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DRG. NO. EP-3-SL-047-867

INVENTORY NO.

REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	FILE NO.
01	04.08.17	REVISED AS PER UPDATED LOAD LIST	KSB	KSB	KSB	KSB	3
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REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	FILE NO.
01	04.08.17	REVISED AS PER UPDATED LOAD LIST	KSB	KSB	KSB	KSB	3
02							
03							
04							
05							
06							

BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE

SINGLE LINE DIAGRAM

CHP MCC-2 (CH MCC) NEAR CRUSHER HOUSE

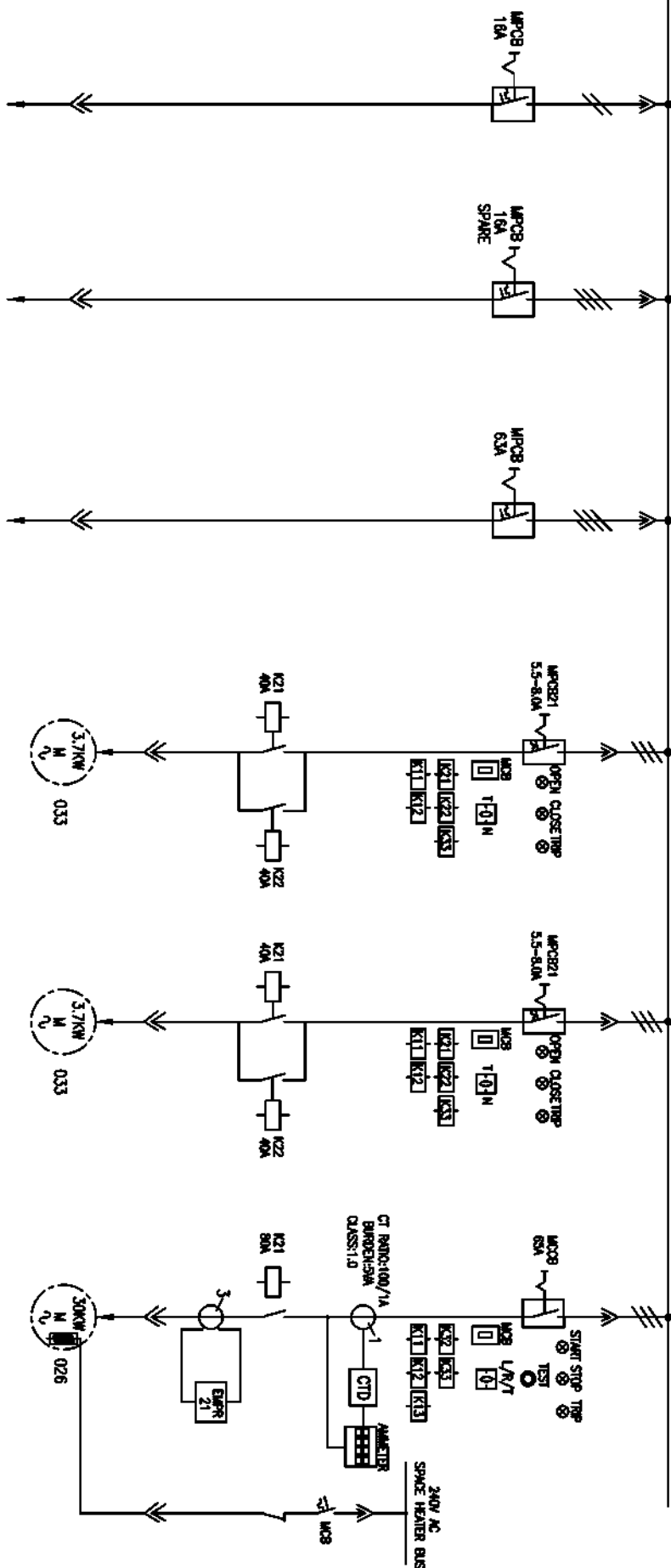
NO. OF SHEETS 30

SHEET NO. 06

REV. NO. 01

415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



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DRG. NO. EP-3-SL-047-867

KGS TAG NO.	MISC USE	SPARE	ELECTRIC HOST FOR MCC 10T	RACK AND PINION GATE RRG-2	SPARE	SPARE
FEEDER DESCRIPTION	16A	16A	63A	3.7KW	3.7KW	30KW
FEEDER RATING	16A	16A	63A	3.7KW	3.7KW	30KW
FEEDER NO.	88	8C	8D	8E	8F	9B
SCHMEE REF	EP-3-CS-047-021	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-033	EP-3-CS-047-033	EP-3-CS-047-026
CABLE SIZE	-	-	1-4C X 16 SQMM(AL)	1-3C X 16 SQMM(AL)	-	-

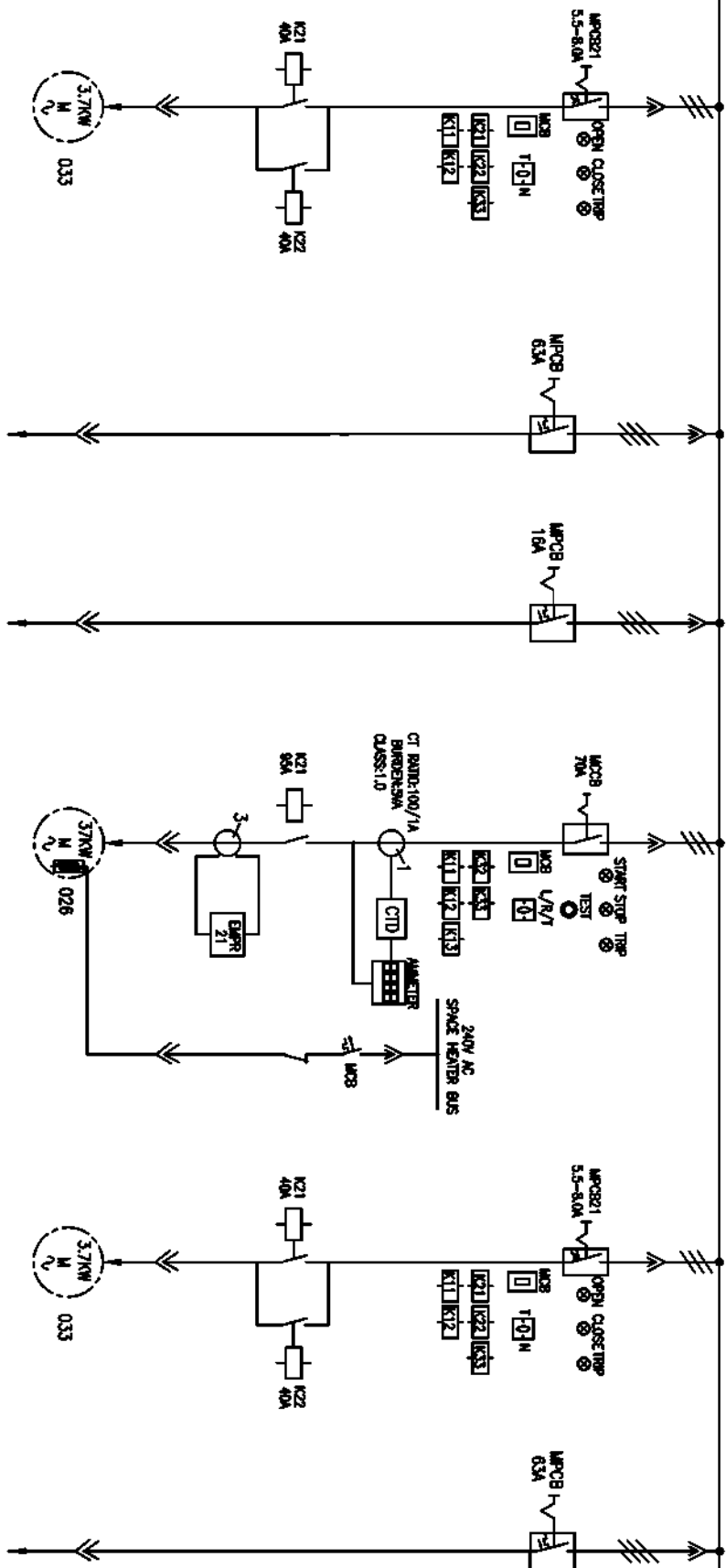
INVENTORY NO.

REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE
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02							TRINATH	3.3.3.3	28.05.17
03							TRINATH	3.3.3.3	28.05.17
04							TRINATH	3.3.3.3	28.05.17
05							TRINATH	3.3.3.3	28.05.17
06							TRINATH	3.3.3.3	28.05.17
07							TRINATH	3.3.3.3	28.05.17

BHARAT HEAVY ELECTRICALS LIMITED		ELECTROPORCELAIN DIVISION BANGALORE	
SINGLE LINE DIAGRAM		NO. OF SHEETS 30	
CHP MCC-2 (CH MCC) NEAR CRUSHER HOUSE		SHEET NO. 07	
SCALE	108 NO. CP-14-047	DRG. NO.	EP-3-SL-047-867
		REV.	01

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DRG. NO. EP-3-SL-047-867

INVENTORY NO.

REV.	NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-867	NO. OF SHEETS	30	NO.	06	REV.	01
01	04.08.17		REVISED AS PER UPDATED LOAD LIST																			
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BHARAT HEAVY ELECTRICALS LIMITED

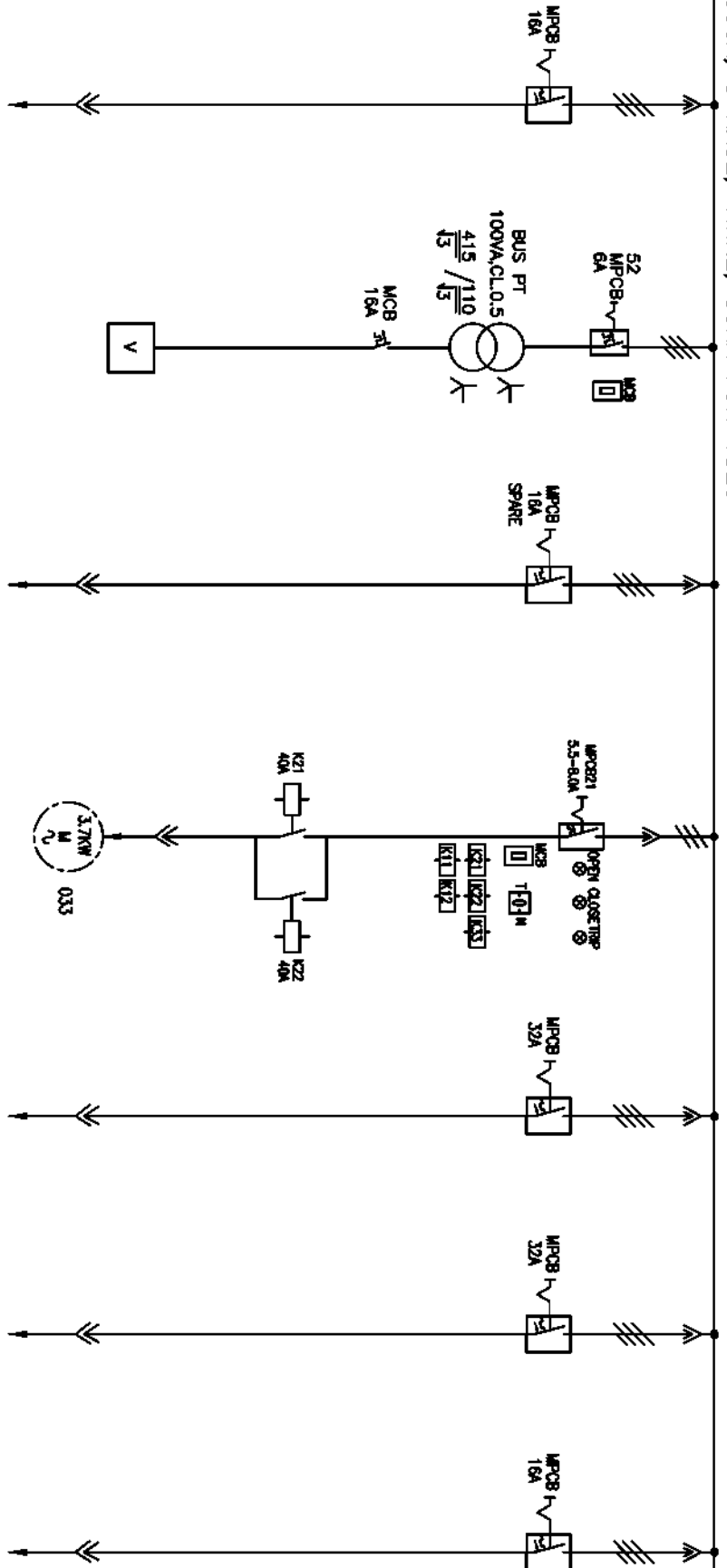
ELECTROPORCELAIN DIVISION BANGALORE

SINGLE LINE DIAGRAM

CHP MCC-2 (CH MCC) NEAR CRUSHER HOUSE



SECTION-A

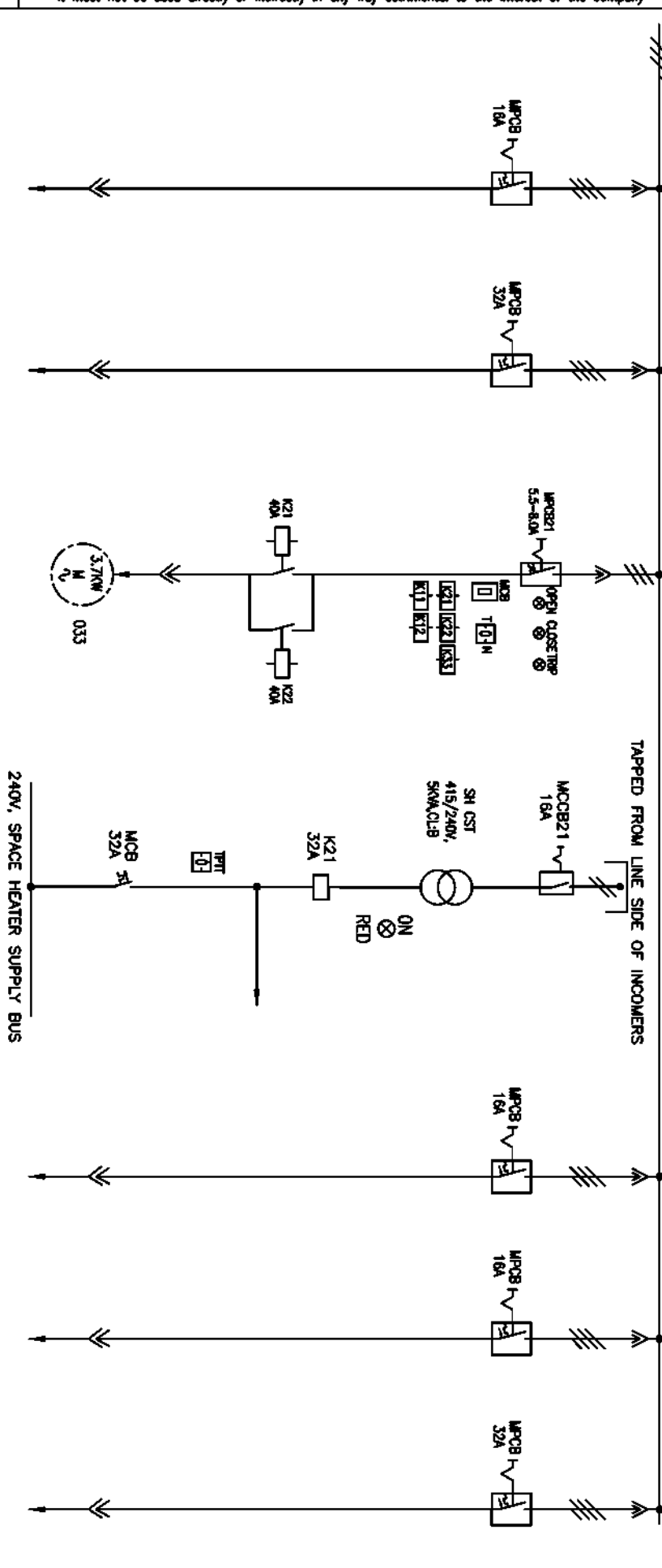


KKS TAG NO.							
FEEDER DESCRIPTION	3T HOIST FOR TP-2 HST-9	BUS PT	SPARE	FLAP GATE FG-12	AUXILIARY LOAD FOR HPP BCN-3A	AUXILIARY LOAD FOR HPP BCN-2A	ZT HOIST FOR RH HST-7
FEEDER RATING	16A	100VA	16A	3.7KW	32A	32A	16A
FEEDER NO.	10E	11B	11C	11D	11E	11F	4Q
SCHEME REF	EP-3-CS-047-022	EP-3-CS-047-036	EP-3-CS-047-022	EP-3-CS-047-033	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-022
CABLE SIZE	1-4C X 16 SQMM(AU)	-	-	1-3C X 16 SQMM(AU)	1-4C X 16 SQMM(AU)	1-3.5C X 95 SQMM(AU)	1-4C X 16 SQMM(AU)

INVENTORY NO.									
REV.	DATE	DESCRIPTION	BY	APPRO.	APPROVED	NAME	SIGN.	DATE	
07									
06									
05					DESIGNED	TRINATH	<i>[Signature]</i>	28.05.17	
04									
03					DRAWN	TRINATH	<i>[Signature]</i>	28.05.17	
02					CHECKED				
01	04.08.17	REVISED AS PER UPDATED LOAD LIST	<i>[Signature]</i>	<i>[Signature]</i>					
DR : <i>[Signature]</i> FILE NO.: 3 									
BHARAT HEAVY ELECTRICALS LIMITED ELECTRO-PORCELAIN DIVISION BANGALORE CHP MCC-2 (CH MCC) NEAR CRUSHER HOUSE 									
TITLE : SINGLE LINE DIAGRAM NO. OF SHEETS 30									
SCALE 108 NO. CP-14-047 DRG. NO. EP-3-SL-047-867 SHEET. 09									
NO. REV. 01									

415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



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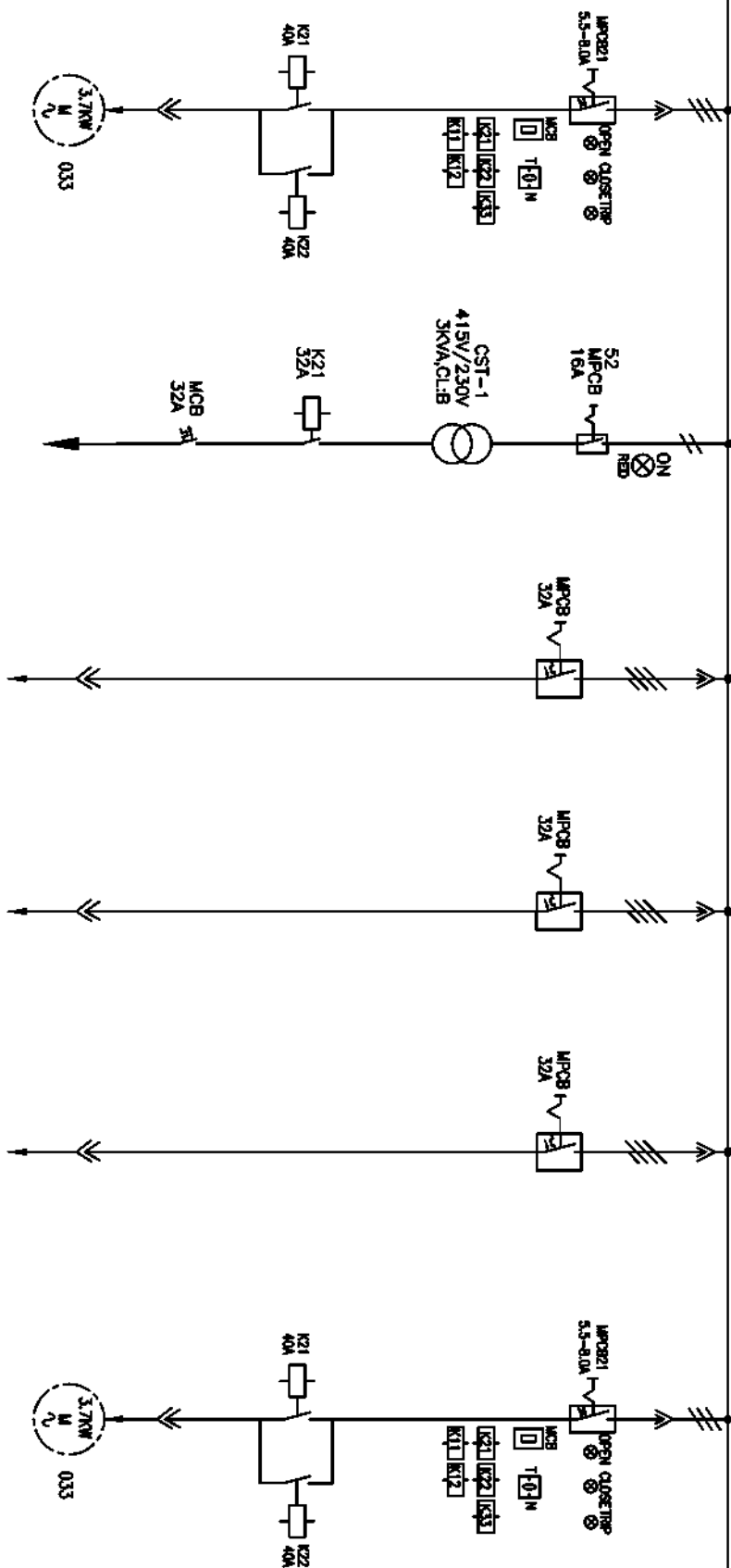
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DRG. NO. EP-3-SL-047-867

KOS TAG NO.	FEEDER DESCRIPTION	FEEDER RATING	FEEDER NO.	SCHEDULE REF	CABLE SIZE	AUXILIARY LOAD FOR HPP	FLAP GATE FG-13	SPACE HEATER TRAFQ.	MISC USE	POCUB-TP-ETH	AUXILIARY LOAD FOR HPP BCU-9(R)
	3.5T HOIST FOR BCU	16A	4R	EP-3-CS-047-022	1-4C X 16 SQMM(AL)						
	4A/4B HST-10	32A	4S	EP-3-CS-047-022	1-3SC X 35 SQMM(AL)						
				EP-3-CS-047-033	1-3C X 16 SQMM(AL)						
				EP-3-CS-047-041	-						
				EP-3-CS-047-022	1-4C X 16 SQMM(AL)						
				EP-3-CS-047-022	1-4C X 16 SQMM(AL)						
				EP-3-CS-047-022	1-4C X 16 SQMM(AL)						

INVENTORY NO.		REV.		DATE		BY		APPD.		APPROVED		KSB		28.05.17		3		FILE NO.:		SCALE		JOB NO. CP-14-047		DRG. NO. EP-3-SL-047-867		REV.	
01	04.08.17	REVISED AS PER UPDATED LOAD LIST	3.3.17	3.3.17	3.3.17	3.3.17	3.3.17	3.3.17	3.3.17	3.3.17	3.3.17	3.3.17	3.3.17	3.3.17	3.3.17	3.3.17	3.3.17	3.3.17	3.3.17	3.3.17	3.3.17	3.3.17	3.3.17	3.3.17	3.3.17	3.3.17	3.3.17
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SECTION-A



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DRG. NO. EP-3-SL-047-867

KKS TAG NO.					
FEEDER DESCRIPTION	FLAP GATE FG-14	CONTROL TRANSFORMER	AUXILIARY LOAD FOR HPP BCM-9(S)	VIBRO FEEDER VF-2	VIBRO FEEDER VF-1
FEEDER RATING	3.7KW	3KVA	32A	32A	3.7KW
FEEDER NO.	5T	5U	6Q	6R	6S
SCHEME REF	EP-3-CS-047-033	EP-3-CS-047-039	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-033
CABLE SIZE	1-3C X 16 SQMM(AL)	-	1-3.5C X 70 SQMM(AL)	1-3.5C X 150 SQMM(AL)	1-3.5C X 150 SQMM(AL)
					1-3C X 25 SQMM(AL)

INVENTORY NO.									
REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	NAME	SIGN.	DATE	
01	04.08.17	REVISED AS PER UPDATED LOAD LIST	P. S. S.	P. S. S.	CHECKED				
02									
03					DRAWN	TEENATH		28.05.17	
04					DESIGNED	TEENATH		28.05.17	
05									
06									
07									

		BHARAT HEAVY ELECTRICALS LIMITED ELECTRO-PORCELAIN DIVISION BANGALORE			
TITLE : SINGLE LINE DIAGRAM CHP MCC-2 (CH MCC) NEAR CRUSHER HOUSE		SCALE : 1/800 NO. CP-14-047		DRG. NO. EP-3-SL-047-867	
				NO. OF SHEETS : 30 SHEET : 11 NO. :	

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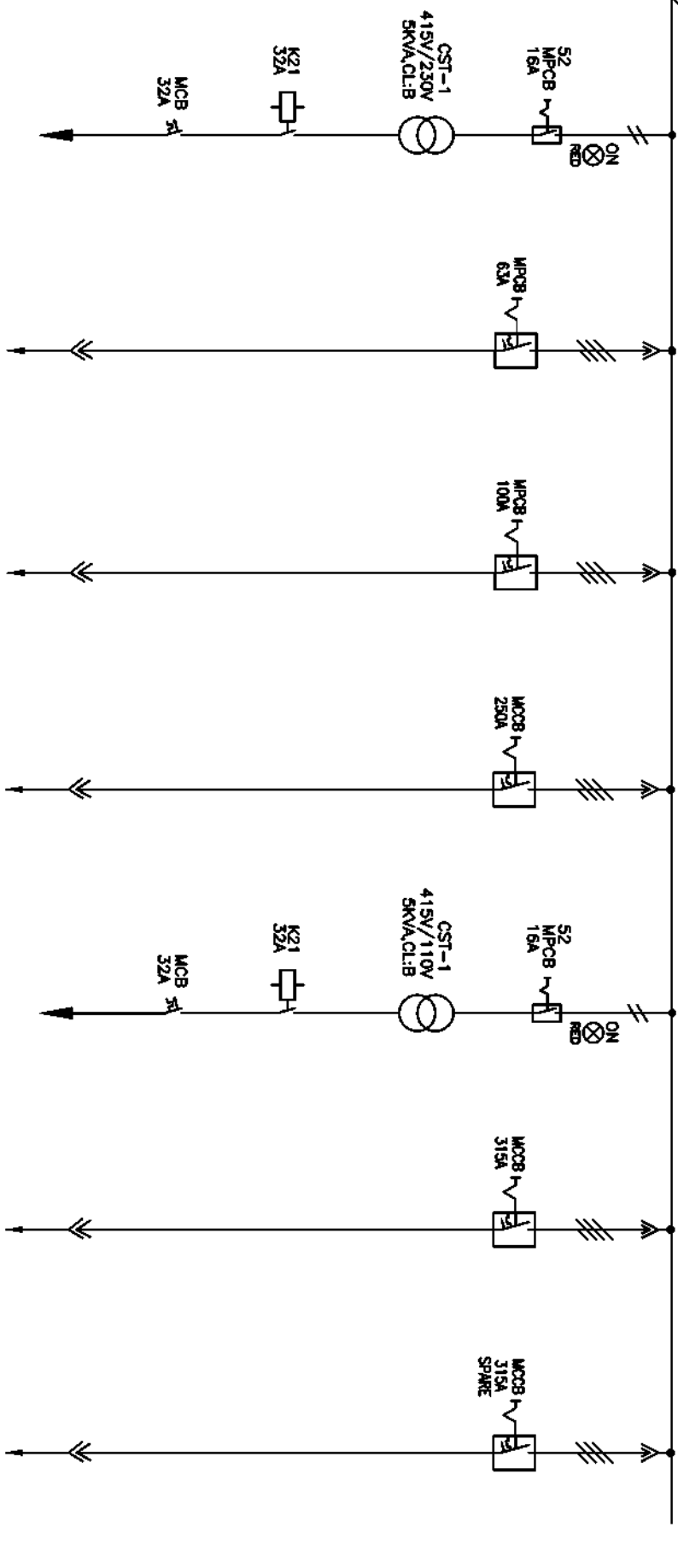
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415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



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DRG. NO. EP-3-SL-047-867

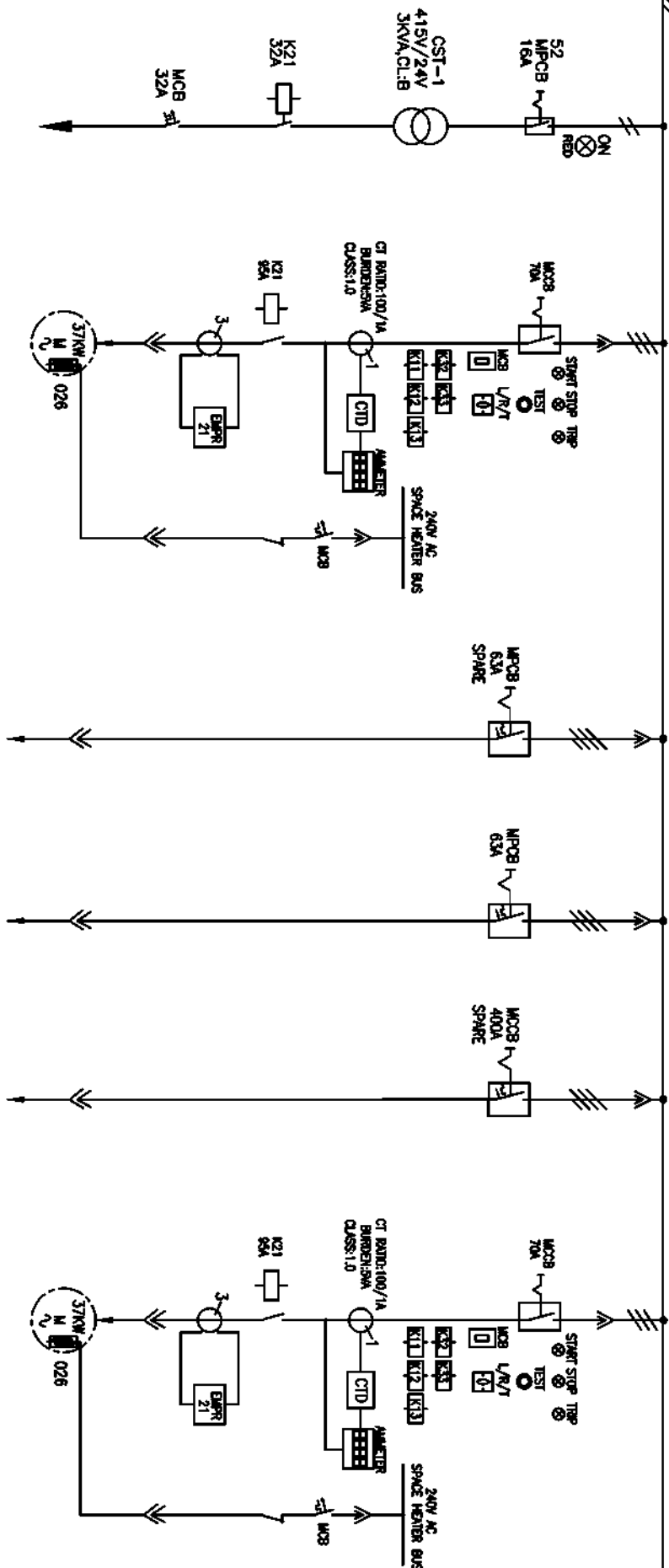
KKS TAG NO.	FEEDER DESCRIPTION	FEEDER RATING	FEEDER NO.	SCHEME REF	CABLE SIZE
	230V CONTROL TRANSFORMER	5KVA	6U	EP-3-CS-047-039	-
	MISC USE	63A	7Q	EP-3-CS-047-022	1-4C X 16 SQMM(AL)
	ELEVATOR EL-1	100A	7R	EP-3-CS-047-022	1-3.5C X 35 SQMM(AL)
	MILDB AT CHP MCC	250A	7S	EP-3-CS-047-022	1-3.5C X 95 SQMM(AL)
	110V CONTROL TRANSFORMER	5KVA	7T	EP-3-CS-047-039	-
	MISC USE	315A	8Q	EP-3-CS-047-022	-
	SPARE	315A	8R	EP-3-CS-047-022	-

INVENTORY NO.

REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE
01	04.08.17	REVISED AS PER UPDATED LOAD LIST	3.3.3.3	3.3.3.3	CHECKED		TRINATH	3.3.3.3	28.05.17
02									
03							TRINATH	3.3.3.3	28.05.17
04									
05									
06									
07									

BHARAT HEAVY ELECTRICALS LIMITED		ELECTROPORCELAIN DIVISION BANGALORE	
TITLE :		SINGLE LINE DIAGRAM	
CHP MCC-2 (CH MCC) NEAR CRUSHER HOUSE		NO. OF SHEETS : 30	
SCALE :		SHEET : 12	
JOB NO. CP-14-047		DRG. NO. EP-3-SL-047-867	
REV. :		REV. :	

SECTION-A



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DRG. NO. EP-3-SL-047-867

KKS TAG NO.					
FEEDER DESCRIPTION	24V CONTROL TRANSFORMER	SPARE	SPARE	INCOMER TO PH-2	SPARE
FEEDER RATING	3KVA	37KW	63A	63A	400A
FEEDER NO.	9U	10P	10Q	10R	10S
SCHEDULE REF	EP-3-CS-047-039	EP-3-CS-047-026	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-022
CABLE SIZE	-	-	-	1-3.5C X 400 SQMM(AL)	-

INVENTORY NO.									
REV.	NO.	DATE	DESCRIPTION	BY	APPRO.	APPROVED	NAME	SIGN.	DATE
01		04.08.17	DESIGNED AS PER UPDATED LOAD LIST	23.05.17	23.05.17	CHECKED			
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04							DESIGNED		
05							TRINATH	29.05.17	
06									
07									

DR : _____

FILE NO.: 8



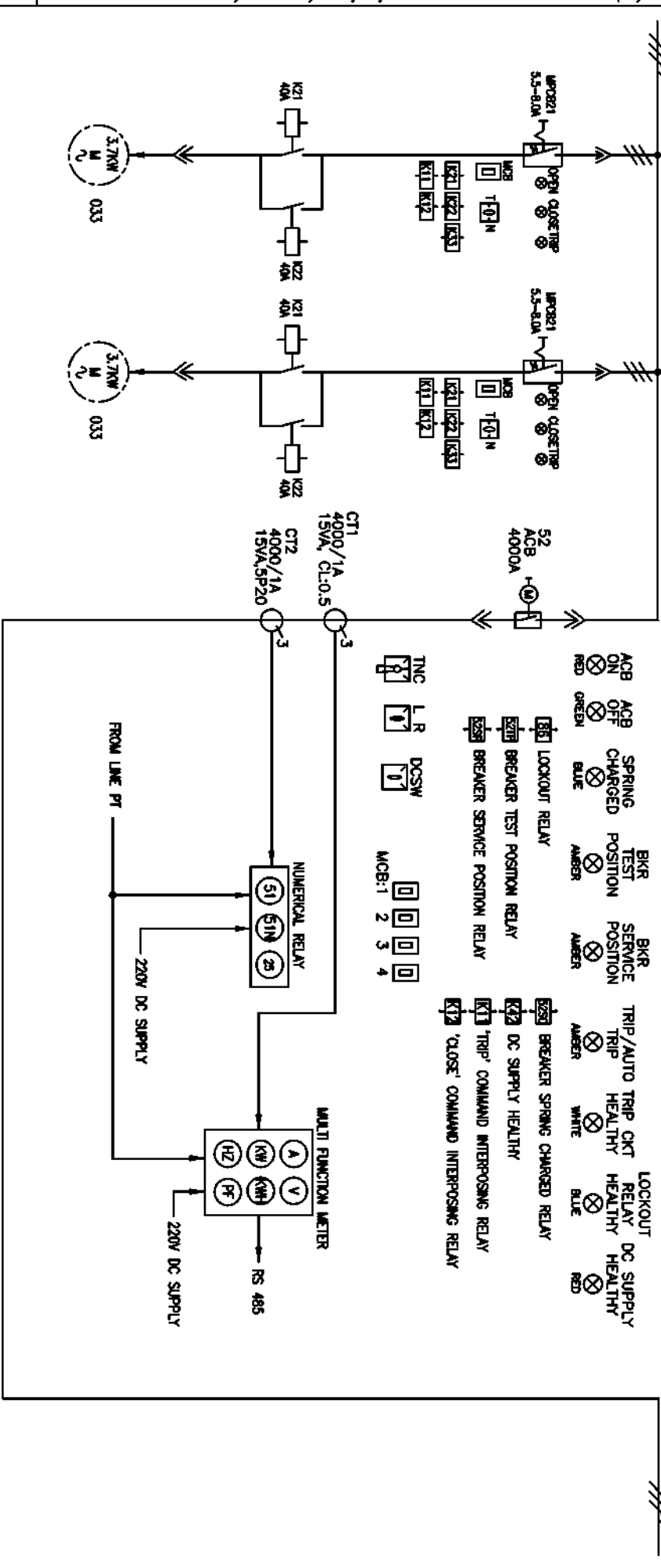
BHARAT HEAVY ELECTRICALS LIMITED ELECTRO-PORCELAIN DIVISION BANGALORE			
TITLE : SINGLE LINE DIAGRAM CHP MCC-2 (CH MCC) NEAR CRUSHER HOUSE		NO. OF SHEETS : 30 SHEET NO. : 14	REV. NO. : 01
SCALE	J08 NO. CP-14-047	DNG. NO. EP-3-SL-047-867	

415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SECC

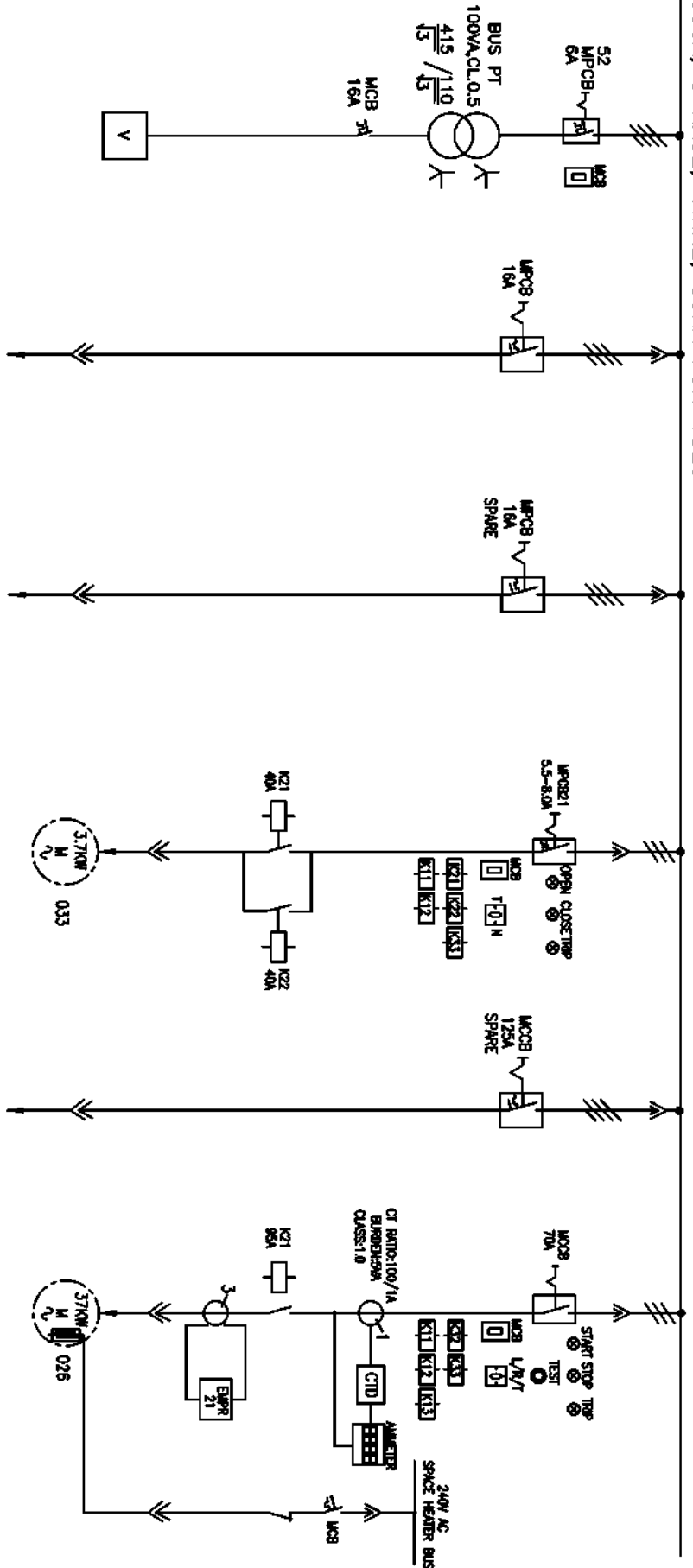
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DRG. NO. EP-3-SL-047-867

INVENTORY NO.

[illegible]

SECTION-B



KCS TAG NO.					
FEEDE DESCRIPTION	BUS PT	2T HOIST FOR TP-2 FOR BCN-2 CW HST-24	SPARE	MISC USE	SPARE
FEEDE RATING	100VA	16A	16A	5.5KW	125A
FEEDE R NO.	13B	13C	13D	13E	13F
SCHME REF	EP-3-CS-047-036	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-033	EP-3-CS-047-022
CABLE SIZE	-	1-4C X 16 SQMM(AL)	-	-	-
					1-3C X 95 SQMM(AL)

DRG. NO.

INVENTORY NO.									
REV.	DATE	DESCRIPTION	BY	APPRO.	APPROVED	MSB	FILE NO.	TITLE :	
01	04.08.17	REMOVED AS PER UPDATED LOAD LIST	28.05.17	28.05.17	28.05.17	28.05.17	28.05.17	BHP MCC-2 (CH MCC) NEAR CRUSHER HOUSE	
02								SINGLE LINE DIAGRAM	
03								ELECTRO-PORCELAIN DIVISION BANGALORE	
04								BHP MCC-2 (CH MCC) NEAR CRUSHER HOUSE	
05								SINGLE LINE DIAGRAM	
06								ELECTRO-PORCELAIN DIVISION BANGALORE	
07								BHP MCC-2 (CH MCC) NEAR CRUSHER HOUSE	

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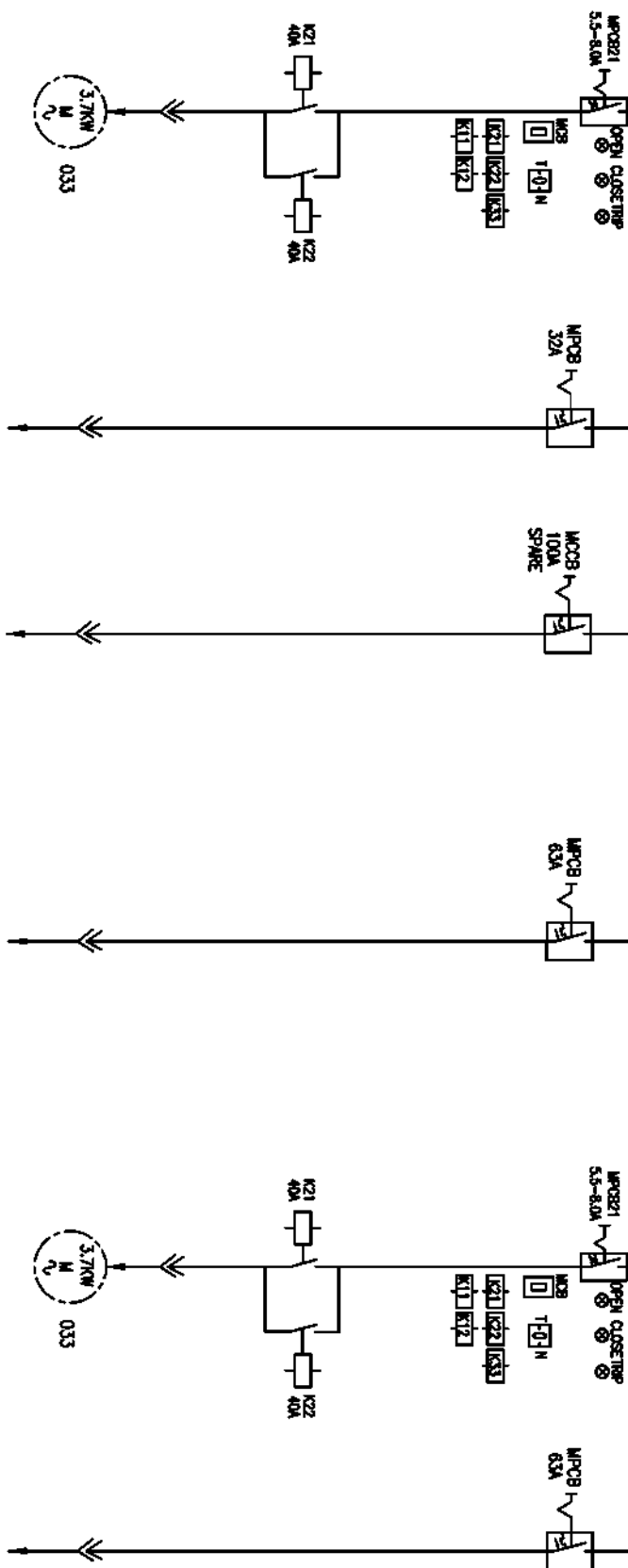
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SECTION-B



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DRG. NO. EP-3-SL-047-867

KOS TAG NO.	FEEDER DESCRIPTION	FEEDER RATING	FEEDER NO.	SCHEME REF	CABLE SIZE
	FLAP GATE FG-6	3.7KW	14C	EP-3-CS-047-033	1-3C X 50 SQMM(AL)
	VIBRO FEEDER VF-3	32A	14D	EP-3-CS-047-022	1-3.5C X 150 SQMM(AL)
	SPARE	100A	14E	EP-3-CS-047-022	-
	CHIP MCC-2 PRESURISE VENTILATION SYSTEM	63A	15B	EP-3-CS-047-022	1-4C X 16 SQMM(AL)
	RACK AND PINION GATE PRG-3	3.7KW	15C	EP-3-CS-047-033	1-3C X 16 SQMM(AL)
	MISC USE	63A	15D	EP-3-CS-047-022	1-4C X 16 SQMM(AL)

REV.	NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-867	REV.
01	04.08.17	REVISED AS PER UPDATED LOAD LIST		3.3.17	3.3.17	CHECKED		3		108	NO.	CP-14-047	DRG. NO.	EP-3-SL-047-867
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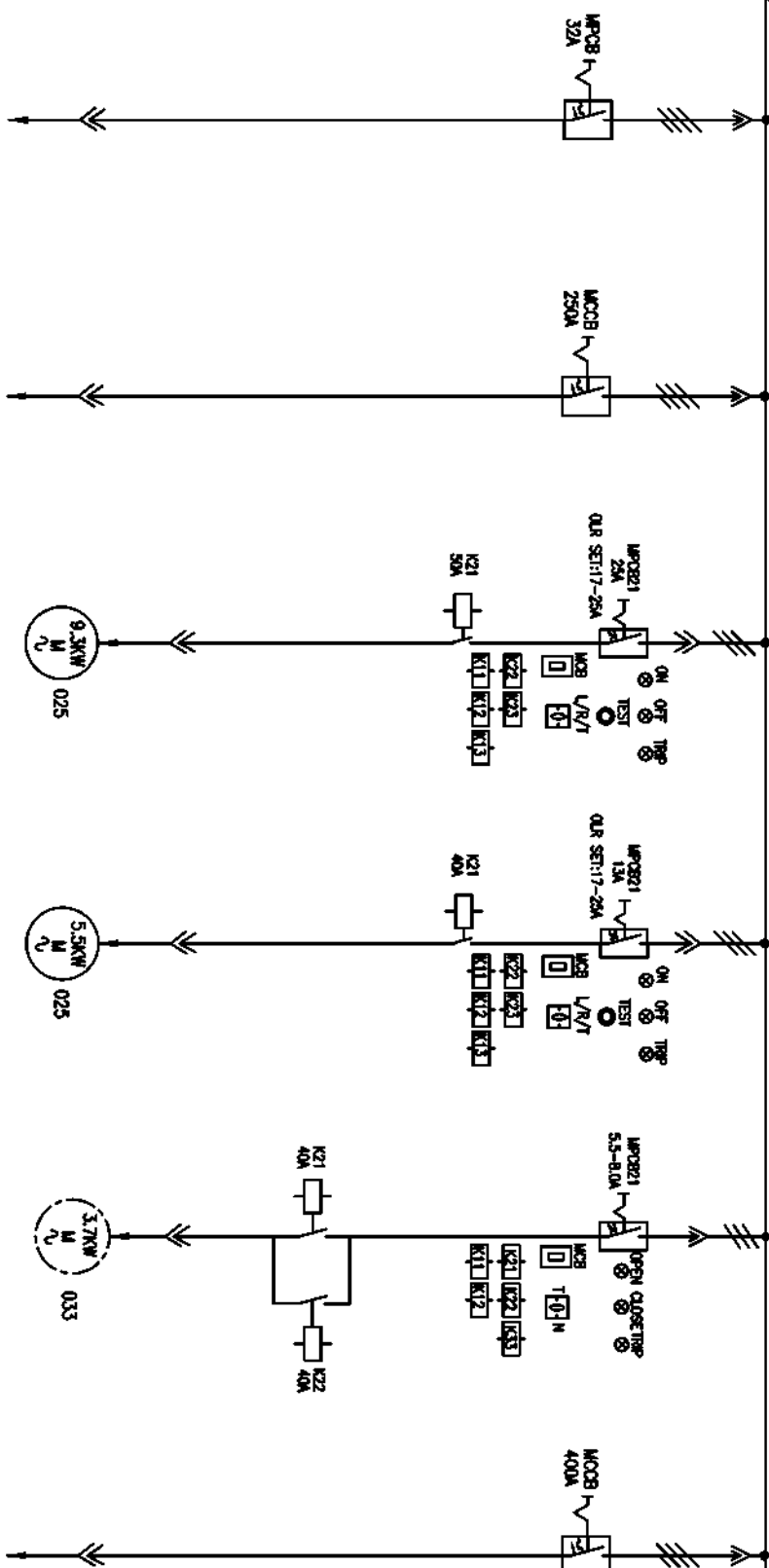
INVENTORY NO.	01
REV.	01

NO. OF SHEETS	30
SHEET NO.	17

BHARAT HEAVY ELECTRICALS LIMITED	NO. OF SHEETS	30
ELECTROPORCELAIN DIVISION BANGALORE	SHEET NO.	17
SINGLE LINE DIAGRAM		
CHIP MCC-2 (CH MCC) NEAR CRUSHER HOUSE		

415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-B



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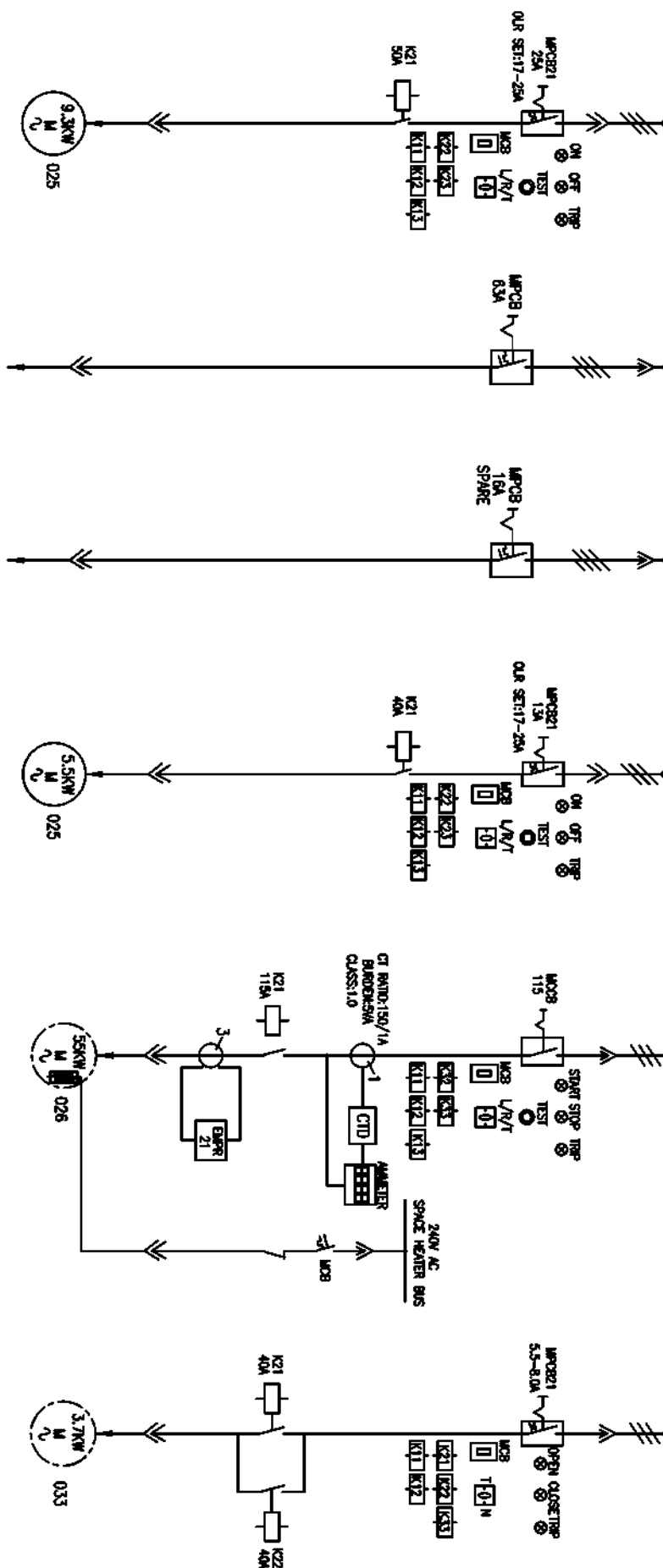
DRG. NO. EP-3-SL-047-867

KKS TAG NO.	FEEDER DESCRIPTION	FEEDER RATING	FEEDER NO.	SCHEME REF	CABLE SIZE
	AUXILIARY LOAD FOR HPP BCU-2B	32A	15E	EP-3-CS-047-022	1-3.5C X 95 SQMM(AL)
	MISC USE	250A	16B	EP-3-CS-047-022	1-3.5C X 70 SQMM(AL)
	SPARE	9.3KW	16C	EP-3-CS-047-025	-
	RH EXHAUST FAN VS	5.3KW	16D	EP-3-CS-047-025	1-3C X 25 SQMM(AL)
	SPARE	3.7KW	16E	EP-3-CS-047-033	-
	DE SYSTEM FOR CRUSHER	400A	17B	EP-3-CS-047-022	1-3.5C X 300 SQMM(AL)

REV.	NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-867	NO. OF SHEETS	30	REV.	01
01	04.08.17		REVISED AS PER UPDATED LOAD LIST	3.3.3.3	3.3.3.3	CHECKED		3		108							
02																	
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415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-B



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DRG. NO. EP-3-SL-047-867

KGS TAG NO.	FEEDER DESCRIPTION	FEEDER RATING	FEEDER NO.	SCHEME REF	CABLE SIZE
	MISC USE	9.3kW	17C	EP-3-CS-047-025	-
	INLINE MAGNETIC SEPARATOR LMS-2	63A	17D	EP-3-CS-047-022	1-4C X 16 SQMM(AL)
	SPARE	16A	17E	EP-3-CS-047-022	-
	SPARE	5.5kW	17F	EP-3-CS-047-025	-
	VIBRATING SCREEN VS-3	55kW	18B	EP-3-CS-047-026	1-3.5C X 95 SQMM(AL)
	RACK AND PINION GATE RRG-4	3.7kW	18C	EP-3-CS-047-033	1-3C X 16 SQMM(AL)

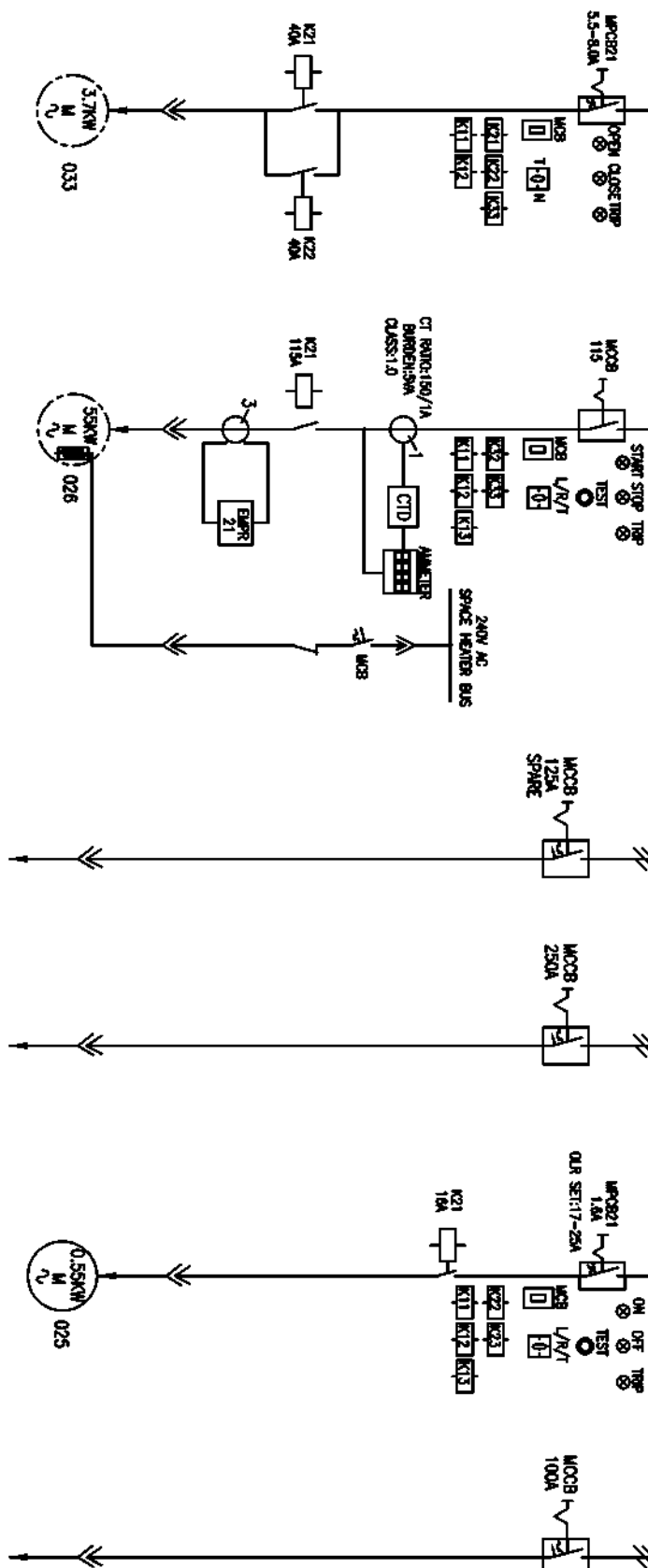
INVENTORY NO.

REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	DATE	FILE NO.
01	04.08.17	REVISED AS PER UPDATED LOAD LIST	3.3.3.3	3.3.3.3	CHECKED		28.05.17	3
02								
03								
04								
05								
06								
07								

BHARAT HEAVY ELECTRICALS LIMITED		ELECTROPORCELAIN DIVISION BANGALORE	
TITLE : SINGLE LINE DIAGRAM CHP MCC-2 (CH MCC) NEAR CRUSHER HOUSE			
NO. OF SHEETS	30	NO. OF SHEETS	19
SCALE	108 NO. CP-14-047	DRG. NO.	EP-3-SL-047-867
REV.	01	REV.	01

415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-B



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DRG. NO. EP-3-SL-047-867

KGS TAG NO.	FEEDER DESCRIPTION	FEEDER RATING	FEEDER NO.	SCHEME REF	CABLE SIZE
	SPARE	3.7KW	180	EP-3-CS-047-033	-
	VIBRATING SCREEN VS-4	55KW	198	EP-3-CS-047-026	1-3C X 95 SQMM(AL)
	SPARE	125A	19C	EP-3-CS-047-022	-
	ACDB FOR WELDING AT CHP MCC	250A	19D	EP-3-CS-047-022	1-3.5C X 70 SQMM(AL)
	BRAKE FOR BF-2	0.55KW	208	EP-3-CS-047-025	1-3C X 2.5 SQMM(CU)
	MISC USE	100A	20C	EP-3-CS-047-022	1-3.5C X 25 SQMM(AL)

INVENTORY NO.

REV.	NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	FILE NO.
01	04.08.17	REVISED AS PER UPDATED LOAD LIST						
02								
03								
04								
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BHARAT HEAVY ELECTRICALS LIMITED		ELECTROPORCELAIN DIVISION BANGALORE	
TITLE :		SINGLE LINE DIAGRAM	
CHP MCC-2 (CH MCC) NEAR CRUSHER HOUSE		NO. OF SHEETS	
SCALE		NO. 30	
JOB NO. CP-14-047		SHEET 20	
DRG. NO. EP-3-SL-047-867		REV. 01	

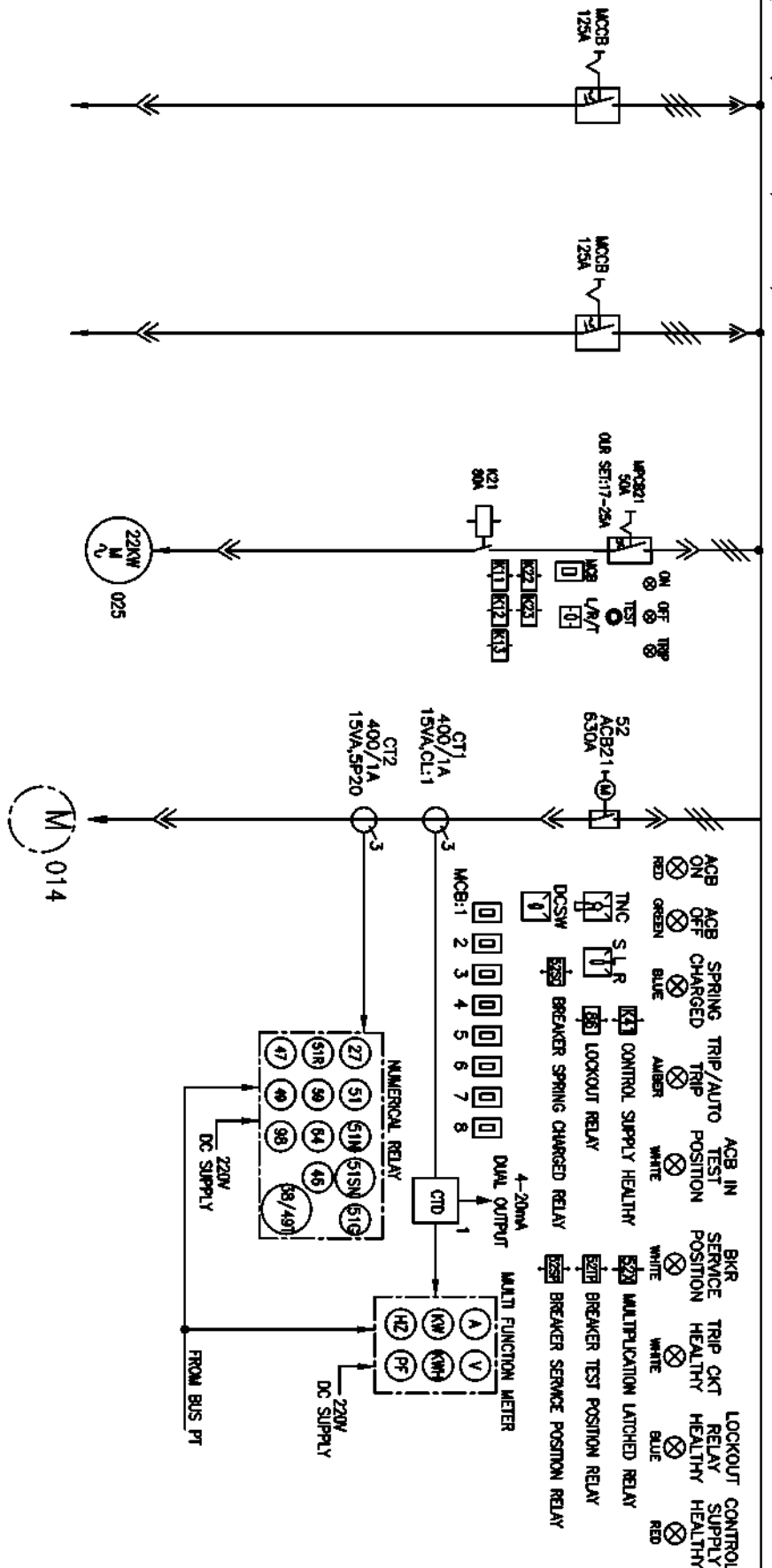
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EXPECTED ANGLE OF REFLECTION

ALL DIMENSIONS ARE IN MM

SECTION-B

415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC



KCS TAG NO.				
FEDDER DESCRIPTION	PUMP HOUSE-2	MISC USE	RH SUPPLY FAN VS	SFARE
FEDDER RATING	12SA	12SA	22KW	132KW
FEDDER NO.	20D	20E	20F	21B
SCHEM REF	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-025	EP-3-CS-047-014
CABLE SIZE	1-3.5C X 95 SQMM(A)	1-3.5C X 95 SQMM(A)	1-3C X 120 SQMM(A)	-

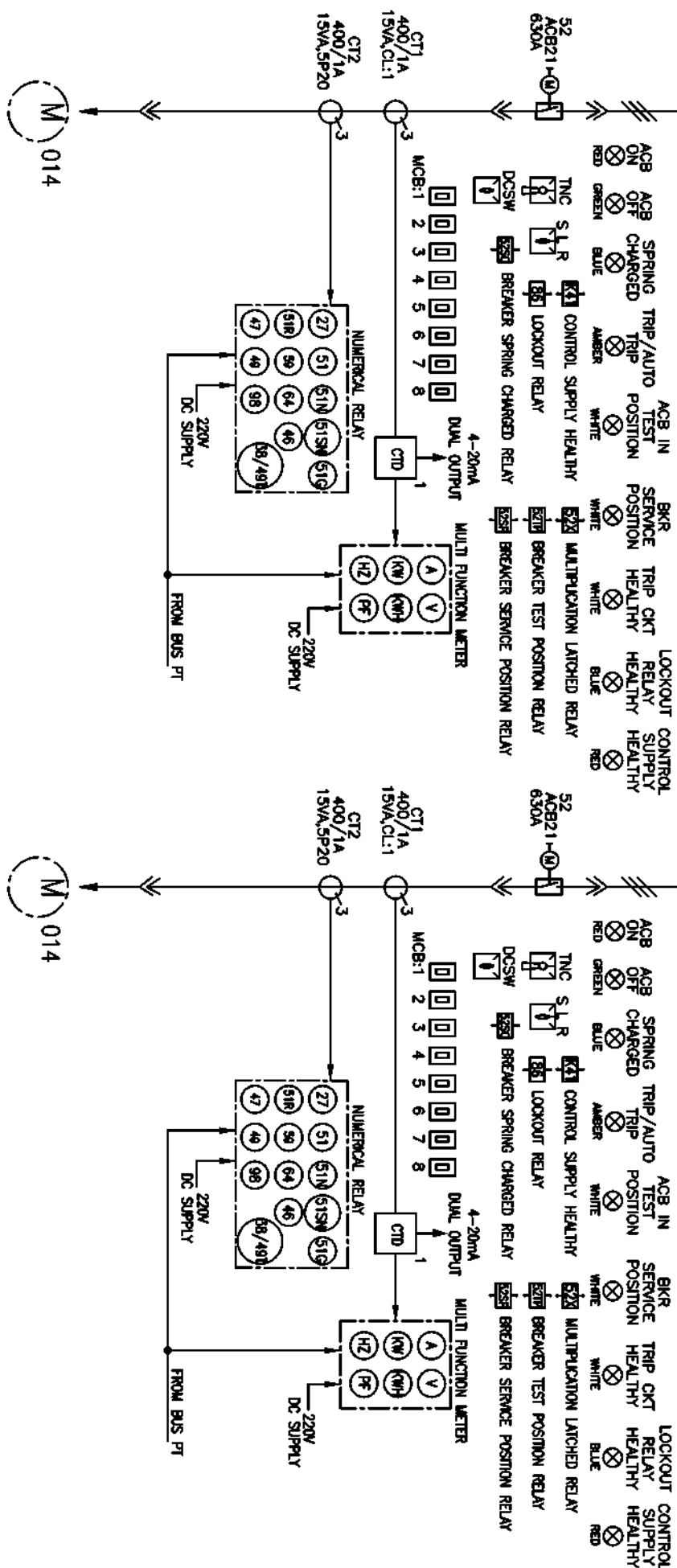
INVENTORY NO.									
REV.	DATE	DESCRIPTION	BY	APPROVED	NAME	SIGN.	DATE		
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06									
05					DESIGNED	TRINATH	29.05.17		
04									
03					DRAWN	TRINATH	29.05.17		
02									
01	04.08.17	ISSUED AS PER UPDATED LOAD LIST		CHECKED					
									
					BHARAT HEAVY ELECTRICALS LIMITED ELECTROPORCELAIN DIVISION BANGALORE				
					SINGLE LINE DIAGRAM CHP MCC-2 (CH MCC) NEAR CRUSHER HOUSE				
					TITLE :				
					SCALE :				
					J08 NO. CP-14-047				
					DRG. NO. EP-3-SL-047-867				
									
					NO. OF SHEETS : 30				
					SHEET : 21				
					REV. : 01				

SECTION-B

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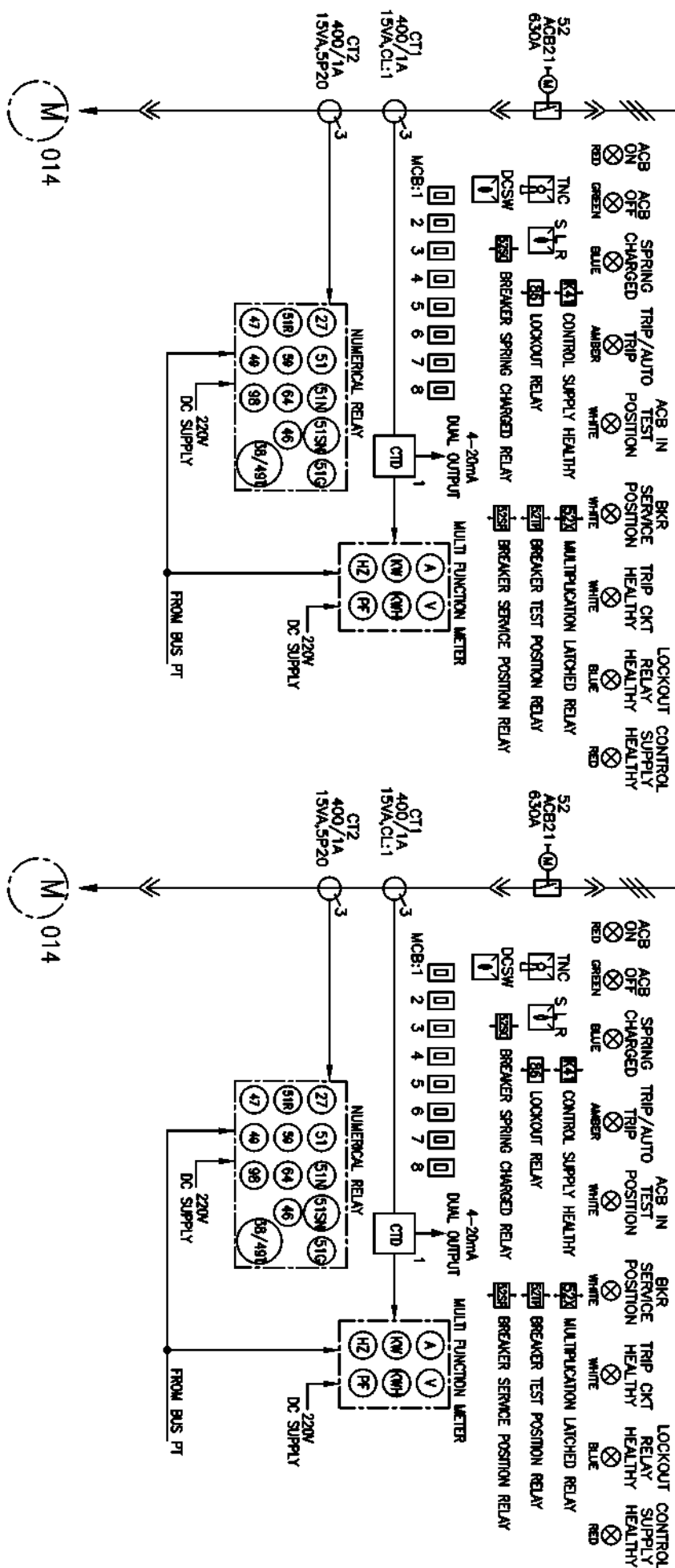
DRG. NO. EP-3-SL-047-867

INVENTORY NO.



415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-B



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DRG. NO. EP-3-SL-047-867

INVENTORY NO.

REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-867	NO. OF SHEETS	30	NO. OF SHEETS	23	REV.	01
01	04.08.17	REVISED AS PER UPDATED LOAD LIST	3.3.3.3	3.3.3.3	CHECKED		3											
02																		
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07																		

KGS TAG NO.	
FEDDER DESCRIPTION	MOTOR FOR BELT CONVEYOR BC-4B
FEDDER RATING	180KW
FEDDER NO.	23A
SCHEME REF	EP-3-CS-047-014
CABLE SIZE	-

BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE

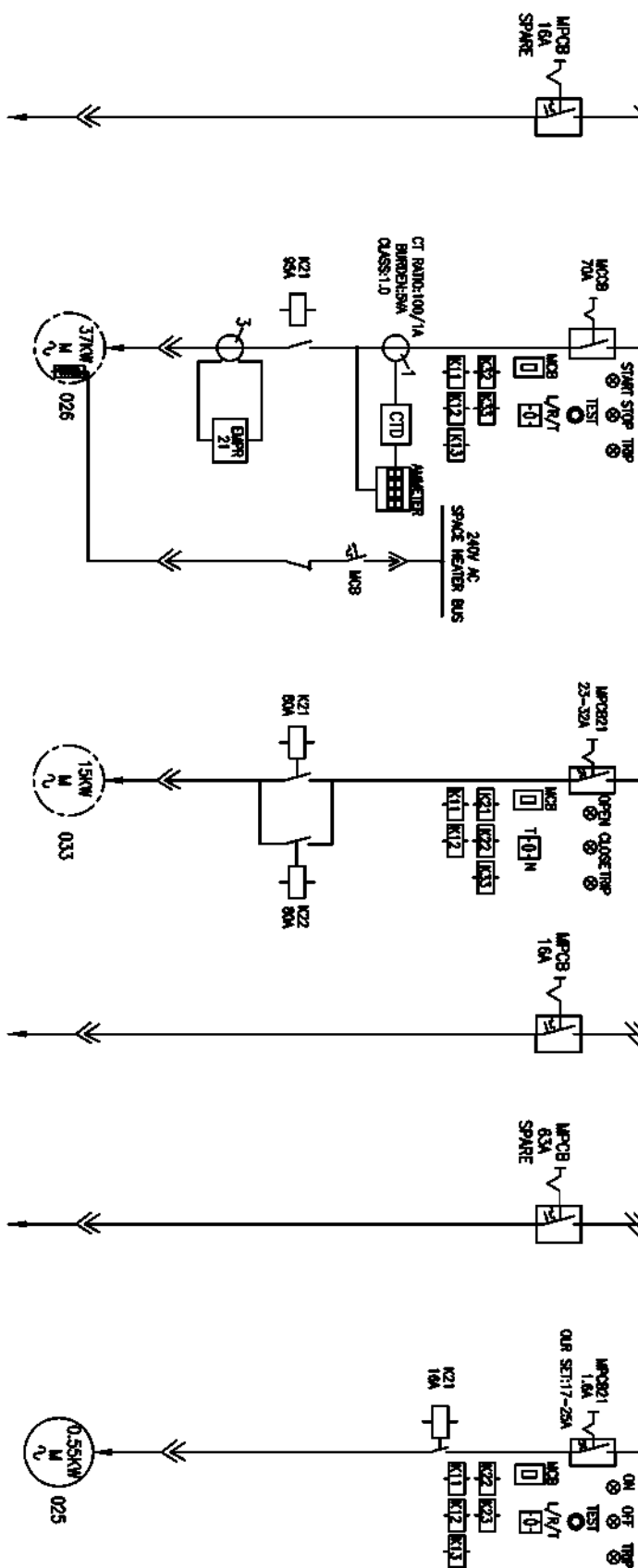
SINGLE LINE DIAGRAM

CHP MCC-2 (CH MCC) NEAR CRUSHER HOUSE



415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-B



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DRG. NO. EP-3-SL-047-867

KOS TAG NO.	FEEDER DESCRIPTION	FEEDER RATING	FEEDER NO.	SCHEME REF	CABLE SIZE
SPARE	SPARE	16A	13Q	EP-3-CS-047-021	-
SPARE	SPARE	37kW	13R	EP-3-CS-047-026	-
SPARE	SPARE	15kW	13S	EP-3-CS-047-033	-
3.5T HOIST FOR BCN 9/10 HST-11	SPARE	16A	14Q	EP-3-CS-047-022	1-4C X 16 SQMM(AL)
SPARE	SPARE	63A	14R	EP-3-CS-047-022	-
SPARE	SPARE	0.55kW	14S	EP-3-CS-047-025	-

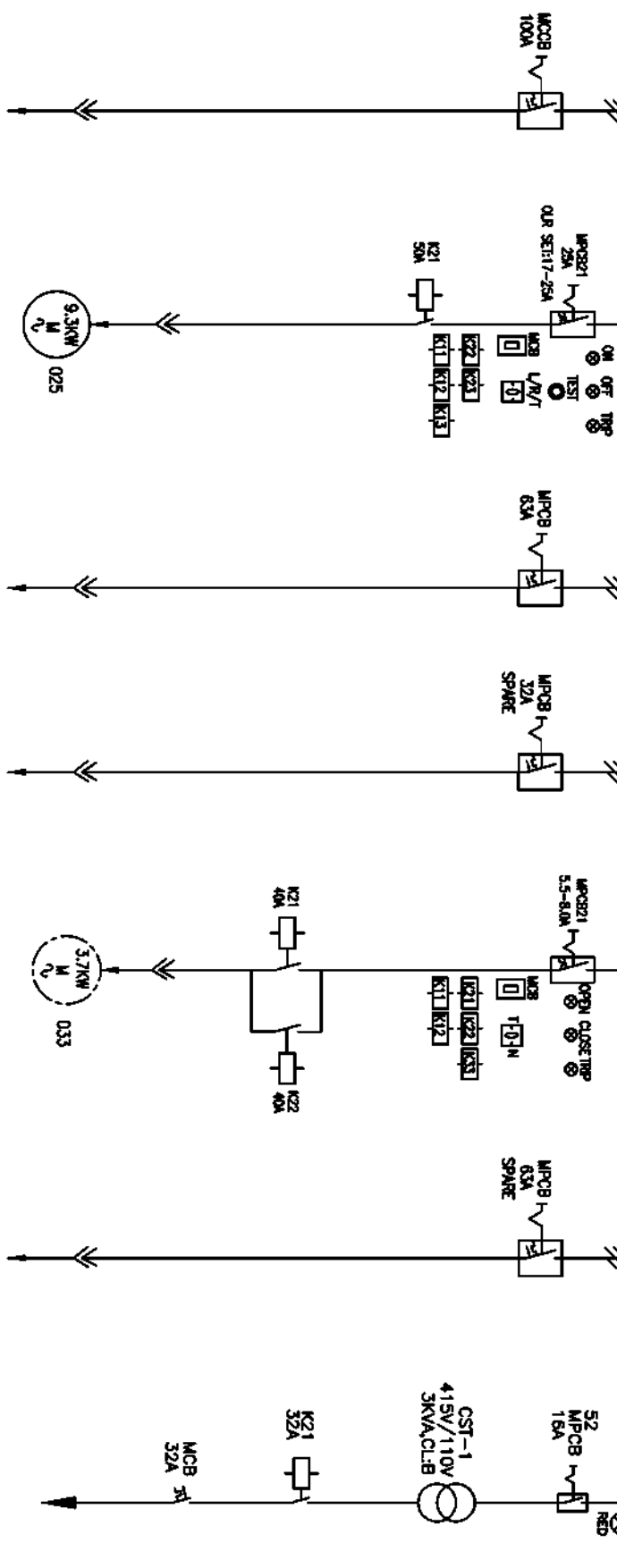
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01	04.08.17	REVISED AS PER UPDATED LOAD LIST	02	04.08.17	03	04.08.17	04	04.08.17	05	04.08.17	06	04.08.17	07	04.08.17	08	04.08.17	09	04.08.17	10	04.08.17	11	04.08.17	12	04.08.17	13	04.08.17	14	04.08.17	15	04.08.17	16	04.08.17	17	04.08.17	18	04.08.17	19	04.08.17	20	04.08.17

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-B



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DRG. NO. EP-3-SL-047-867

KKS TAG NO.	FEEDER DESCRIPTION	FEEDER RATING	FEEDER NO.	SCHEME REF	CABLE SIZE
	CHP LDB - 4 AT CH	100A	14T	EP-3-CS-047-022	1-4C X 16 SQMM(AL)
	VS PUMP MOTOR FOR VS CHP	9.3KW	14U	EP-3-CS-047-025	1-3C X 16 SQMM(AL)
	AC HEATER FOR CHP	63A	15Q	EP-3-CS-047-022	1-4C X 16 SQMM(AL)
	SPARE	32A	15R	EP-3-CS-047-022	-
	FLAP GATE FG-8	3.7KW	15S	EP-3-CS-047-033	1-3C X 16 SQMM(AL)
	SPARE	63A	15T	EP-3-CS-047-022	-
	24V CONTROL TRANSFORMER	3KVA	15U	EP-3-CS-047-039	-

INVENTORY NO.		REV. NO.		DATE		DESCRIPTION		BY		APPROVED		KSB		28.05.17		3		FILE NO.:		SCALE		JOB NO. CP-14-047		DRG. NO. EP-3-SL-047-867		REV. NO.	
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
BHARAT HEAVY ELECTRICALS LIMITED ELECTROPORCELAIN DIVISION BANGALORE																											
SINGLE LINE DIAGRAM CHP MCC-2 (CH MCC) NEAR CRUSHER HOUSE																											
NO. OF SHEETS: 30 SHEET: 25 REV: 01																											

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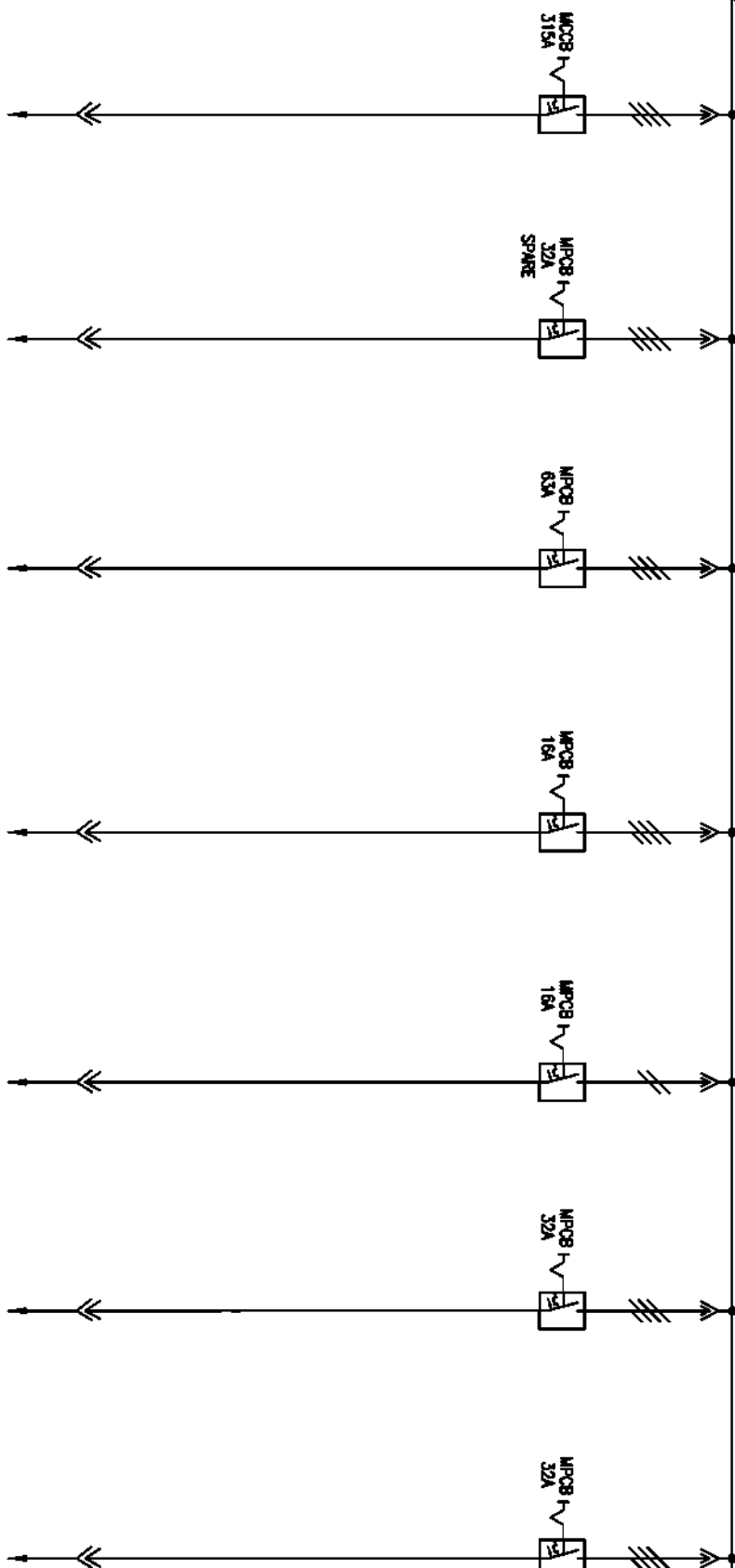
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415V, 4000A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-B



KKS TAG NO.	FEEDER DESCRIPTION	FEEDER RATING	FEEDER NO.	SCHEME REF	CABLE SIZE
	DE-1 CENTRIFUGAL FAN MOTOR	315A	16Q	EP-3-CS-047-022	-
	SPARE	32A	16R	EP-3-CS-047-022	-
	BATTERY CHARGER AT CHP MCC	63A	16S	EP-3-CS-047-022	1-4C X 16 SQMM(AL)
	POCAB-TP-3	16A	16T	EP-3-CS-047-022	1-4C X 16 SQMM(AL)
	HTR FOR BELT FEEDER BF-1/2 MOTOR	16A	16U	EP-3-CS-047-021	1-2C X 2.5 SQMM(CU)
	SUMP PUMP RH	32A (7.5KW)	16V	EP-3-CS-047-022	1-3C X 50 SQMM(AL)
	AUXILIARY LOAD FOR HPP BCN-10	32A	17Q	EP-3-CS-047-022	1-4C X 16 SQMM(CU)

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DRG. NO. EP-3-SL-047-867

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-867
01	04.08.17	REVISED AS PER UPDATED LOAD LIST	K.S.B.	K.S.B.	CHECKED		3					
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04												
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07												

BHARAT HEAVY ELECTRICALS LIMITED

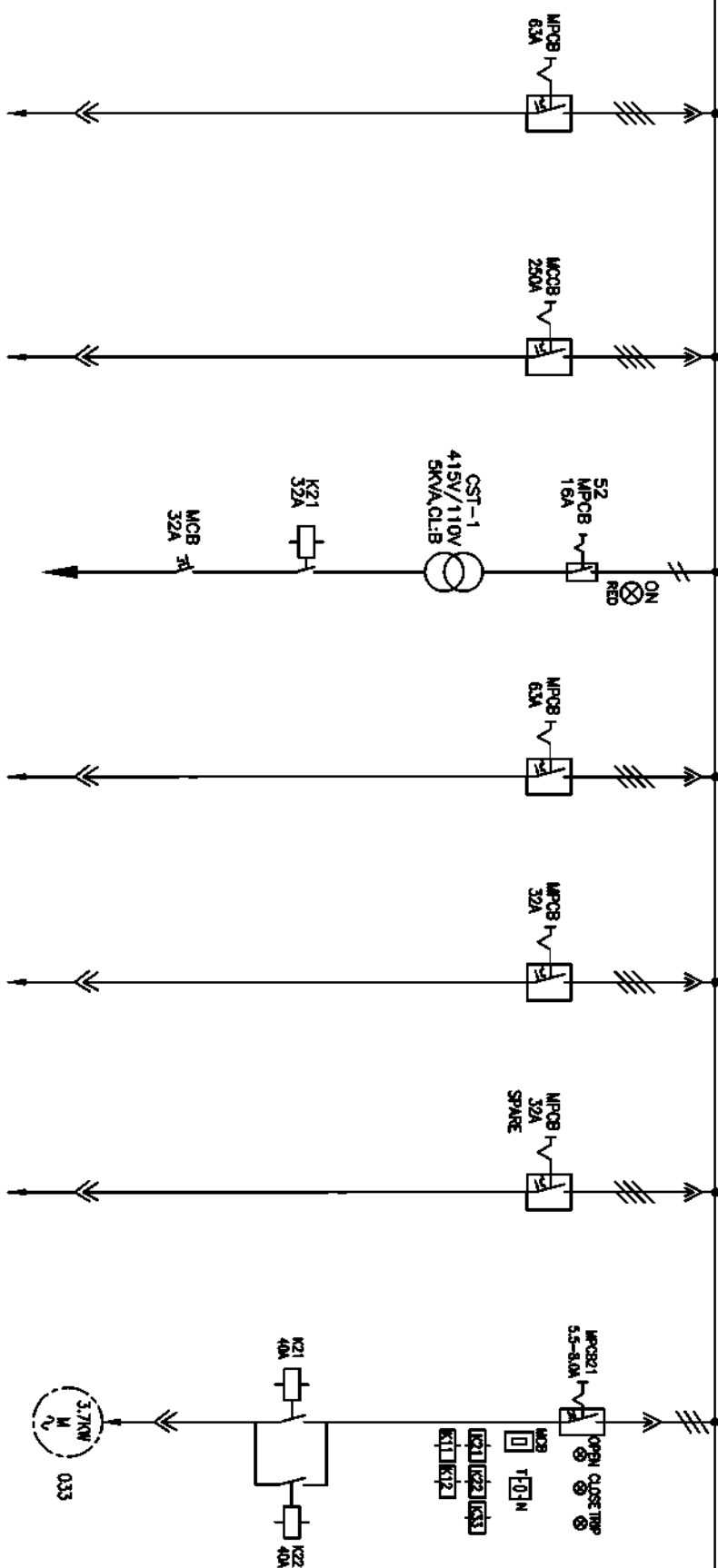
ELECTROPORCELAIN DIVISION BANGALORE



TITLE :

SINGLE LINE DIAGRAM
CHP MCC-2 (CH MCC) NEAR CRUSHER HOUSENO. OF
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NO.REV.
NO.

SECTION-B



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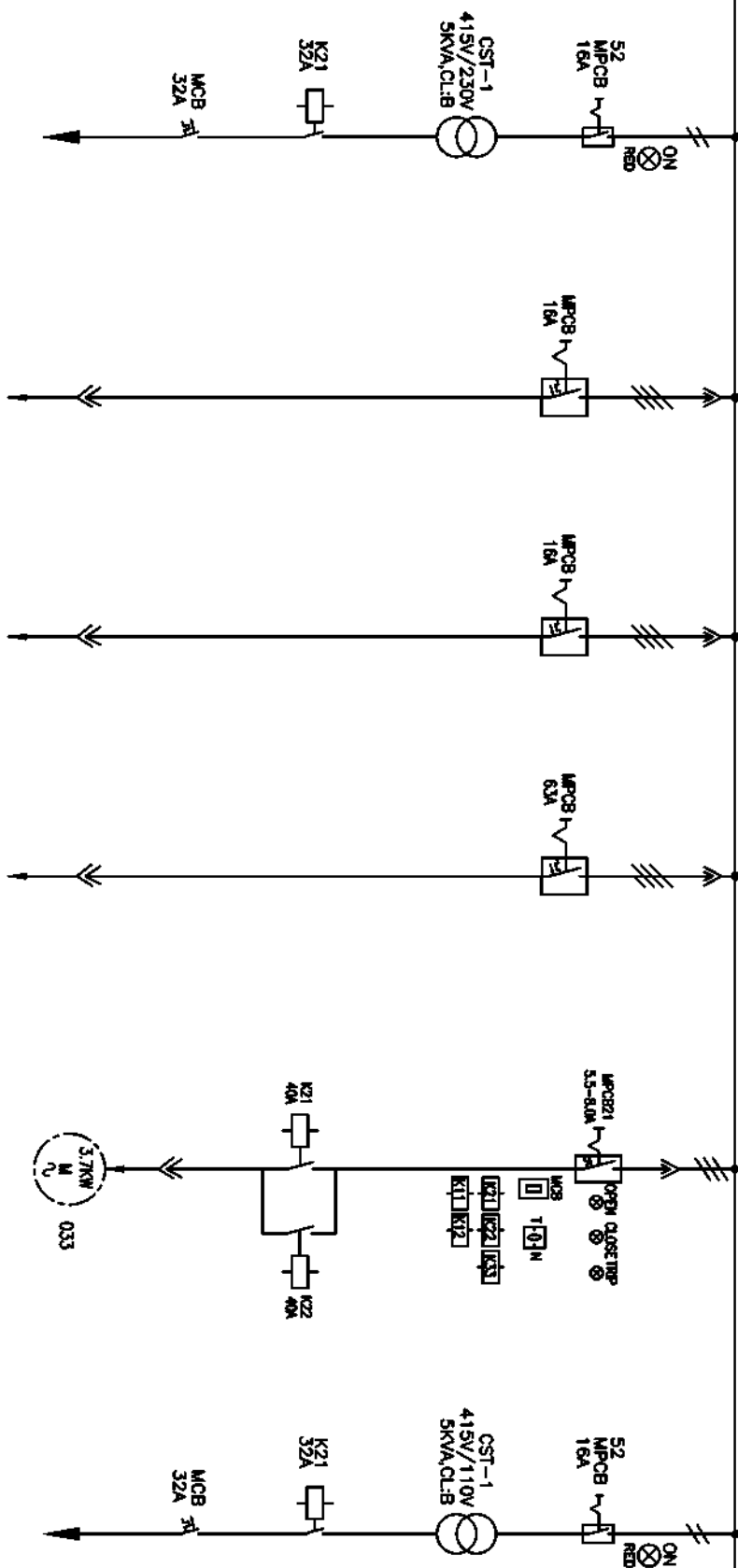
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DRG. NO. EP-3-SL-047-867

KKS TAG NO.						
FEEDER DESCRIPTION	UPS AT CHP MCC	COAL SAMPLING UNIT CSU-1	110V CONTROL TRANSFORMER	CRUSHER-4 SCOOP COUPLING PANEL	AUXILIARY LOAD FOR HPP BCN-4B	SPARE
FEEDER RATING	63A	250A	5KVA	63A	32A	3.7KW
FEEDER NO.	17R	17S	17T	18Q	18R	18S
SCHEDULE REF	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-039	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-033
CABLE SIZE	1-4C X 16 SQMM(AL)	1-3.5C X 185 SQMM(AL)	-	1-4C X 16 SQMM(AL)	1-3.5C X 35 SQMM(AL)	1-3C X 16 SQMM(AL)

INVENTORY NO.									
REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSR	SIGN.	DATE	
07									
06									
05					DESIGNED		TRINATH	28.05.17	
04									
03					DRAWN		TRINATH	28.05.17	
02					CHECKED				
01	04.08.17	REVISED AS PER UPDATED LOAD LIST							
DR : _____ FILE NO.: 8 									
SCALE : 1/80 NO. OF SHEETS : 30 NO. OF SHEETS : 27									
BHARAT HEAVY ELECTRICALS LIMITED ELECTROPORCELAIN DIVISION BANGALORE TITLE : SINGLE LINE DIAGRAM CHP MCC-2 (CH MCC) NEAR CRUSHER HOUSE									
J08 NO. CP-14-047			008 NO. EP-3-SL-047-867						

SECTION-B



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DRG. NO. EP-3-SL-047-867

KKS TAG NO.					
FEEDER DESCRIPTION	230V CONTROL TRANSFORMER	VS AXIAL FAN FOR BATTERY ROOM CHP MCC	VS PROPELLER FAN FOR TOILET CHP MCC	CRUSHER-3 SCOOP COUPLING PANEL	FLAP GATE FG-11
FEEDER RATING	3MVA	16A	16A	63A	3.7MW
FEEDER NO.	18U	19Q	19R	19S	19T
SCHEDULE REF	EP-3-CS-047-039	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-033
CABLE SIZE	-	1-3C X 2.5 SQMM(CU)	1-3C X 2.5 SQMM(CU)	1-4C X 16 SQMM(AL)	1-3C X 16 SQMM(AL)
					CONTROL TRANSFORMER
					EP-3-CS-047-039
					-

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SECTION-B



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KKS TAG NO.					
FEEDER DESIGNATION	AC PAN HUMIDIFIER CHP MCC (A/C)	BELT WATCH PANEL	AUXILIARY LOAD FOR HPP BCN-38	RACK AND PINION GATE RRG-7	SPACE HEATER TRAF0.
FEEDER RATING	16A	16A	32A	3.7KW	5KVA
FEEDER NO.	20Q	20R	20S	20T	20U
SCHEME REF	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-033	EP-3-CS-047-041
CABLE SIZE	1-4C X 16 SQMM(AL)	1-4C X 16 SQMM(AL)	1-4C X 16 SQMM(AL)	1-3C X 25 SQMM(AL)	-

INVENTORY NO.									
REV.	NO.	DATE	DESCRIPTION	BY	APPRO.	APPROVED	NAME	SIGN.	DATE
01		04.08.17	DESIGNED AS PER UPDATED LOAD LIST	23.05.17	23.05.17	CHECKED			
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03									
04							DESIGNED		
05							TRINATH	23.05.17	
06									
07									

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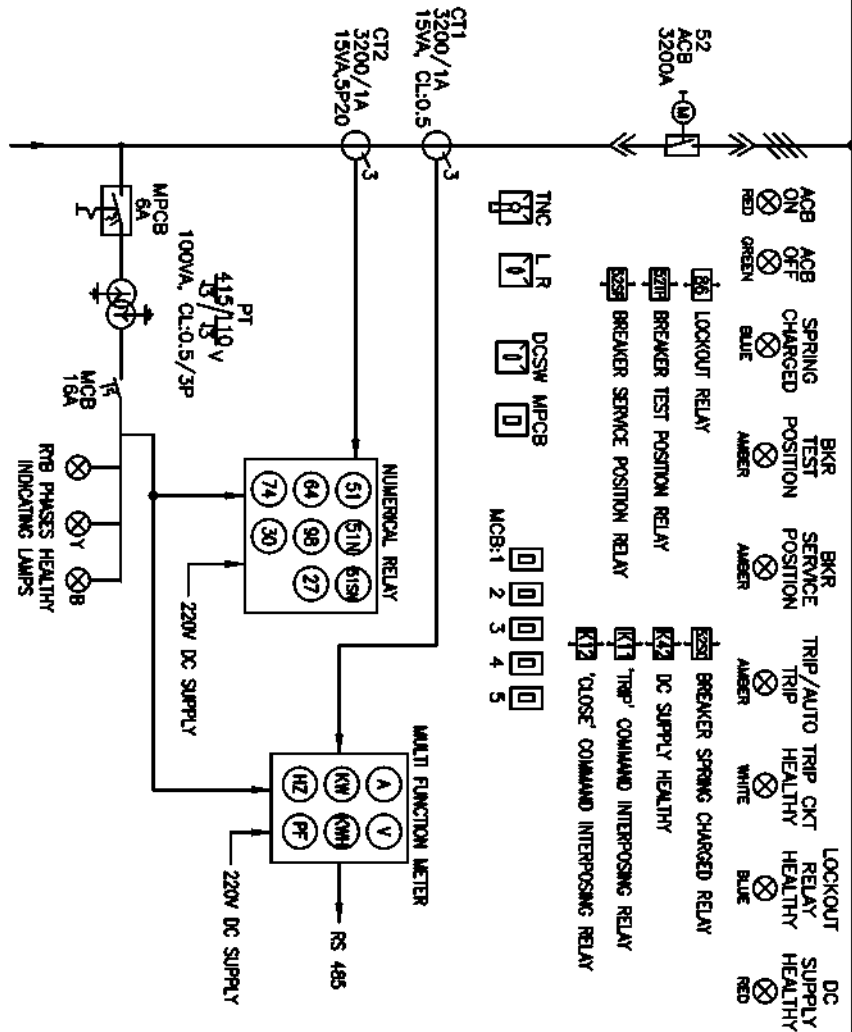
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BHARAT HEAVY ELECTRICALS LIMITED ELECTRO-PORCELAIN DIVISION BANGALORE				
SINGLE LINE DIAGRAM CHP MCC-2 (CH MCC) NEAR CRUSHER HOUSE				TITLE :
SCALE	J08 NO. CP-14-047	Dwg. NO. EP-3-SL-047-867		NO. OF SHEETS
				30
				SHEET: 29
				NO.
				REV. 01

1

WKS TAG NO.	
FEEDER DESCRIPTION	INCOMMER-2
FEEDER RATING	4000A
FEEDER NO.	24B
SCHEME REF	EP-3-CS-047-002
CABLE SIZE	BUS DUCT



INVENTORY NO.									
REV.	DATE	DESCRIPTION	BY	APPRO.	APPROVED	NAME	SIGN.	DATE	
07									
06									
05					DESIGNED	TRINATH	<i>[Signature]</i>	29.05.17	
04									
03					DRAWN	TRINATH	<i>[Signature]</i>	29.05.17	
02									
01	04.08.17	ISSUED AS PER UPDATED LOAD LIST	<i>[Signature]</i>	<i>[Signature]</i>	CHECKED				

		BHARAT HEAVY ELECTRICALS LIMITED ELECTROPORCELAIN DIVISION BANGALORE			
TITLE : SINGLE LINE DIAGRAM CHP MCC-2 (CH MCC) NEAR CRUSHER HOUSE		SCALE : 1/8" = 1'-0"		DRG. NO. EP-3-SL-047-867	
NO. OF SHEETS : 30 SHEET NO. : 30		REV. : 01			

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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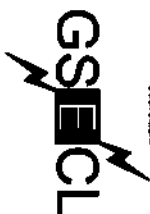
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CUSTOMER:



GUJARAT ELECTRICITY CORPORATION LIMITED
VADODARA, GUJARAT

PROJECT:

1x800 MW WANAKBORI THERMAL POWER STATION
EXTENSION UNIT-8

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DRG. NO. EP-3-SL-047-868

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPRO.	APPROVED	KSB	SCALE: 1/11	JOB NO. CP-14-047	DRG. NO. EP-3-SL-047-868	NO. OF SHEETS	NO. OF SHEETS	REV.
4												
3					DESIGNED	TRINATH	27.05.17				27	
2					DRAWN							
1	04.08.17	REVISED AS PER UPDATED LOAD LIST			CHECKED	TRINATH	27.05.17				01	



DEVELOPMENT CONSULTANT PVT LTD
KOLKATA



BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPROCESSING DIVISION BANGALORE

TITLE :
SINGLE LINE DIAGRAM
TP-4 MCC (CHP MCC-3) NEAR TP-4



NO. OF

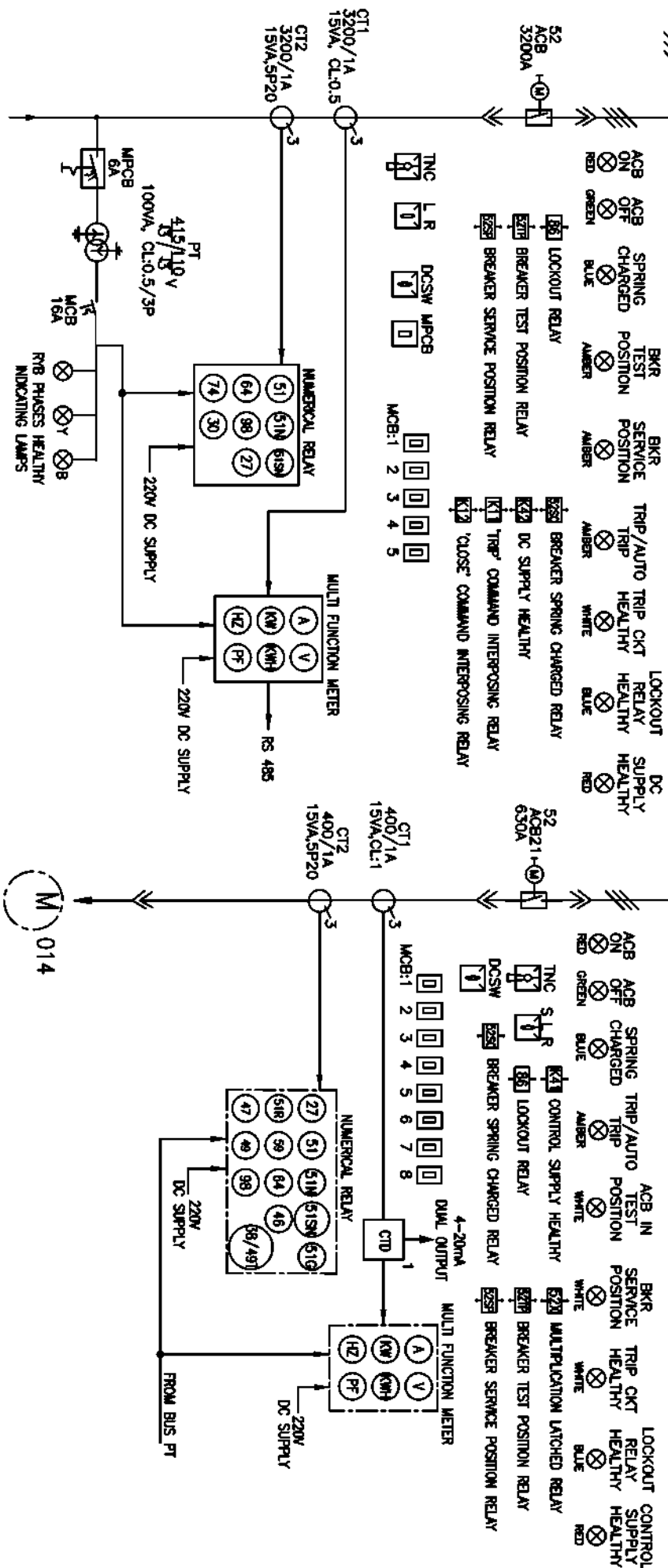
SHEETS

SHEET

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REV.

SECTION-A



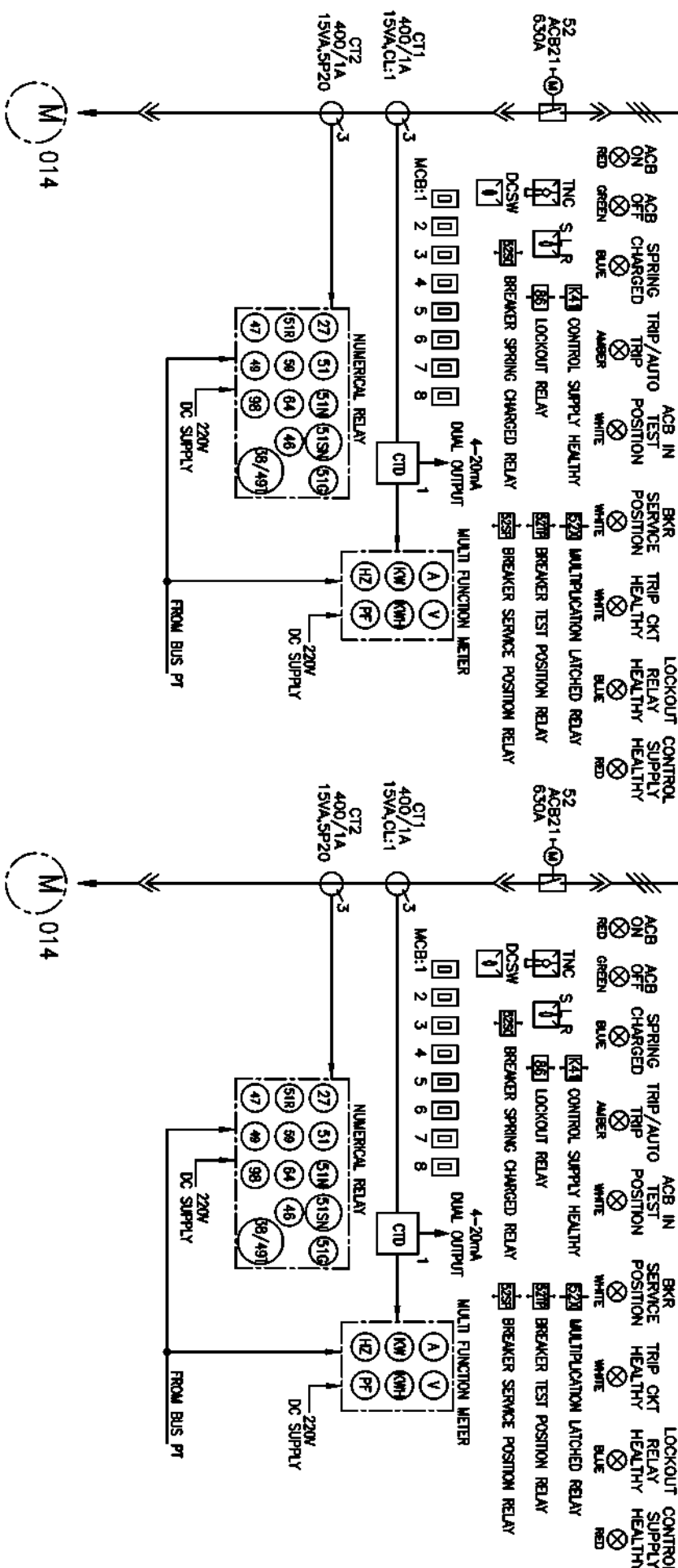
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SECTION-A



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DRG. NO. EP-3-SL-047-868

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FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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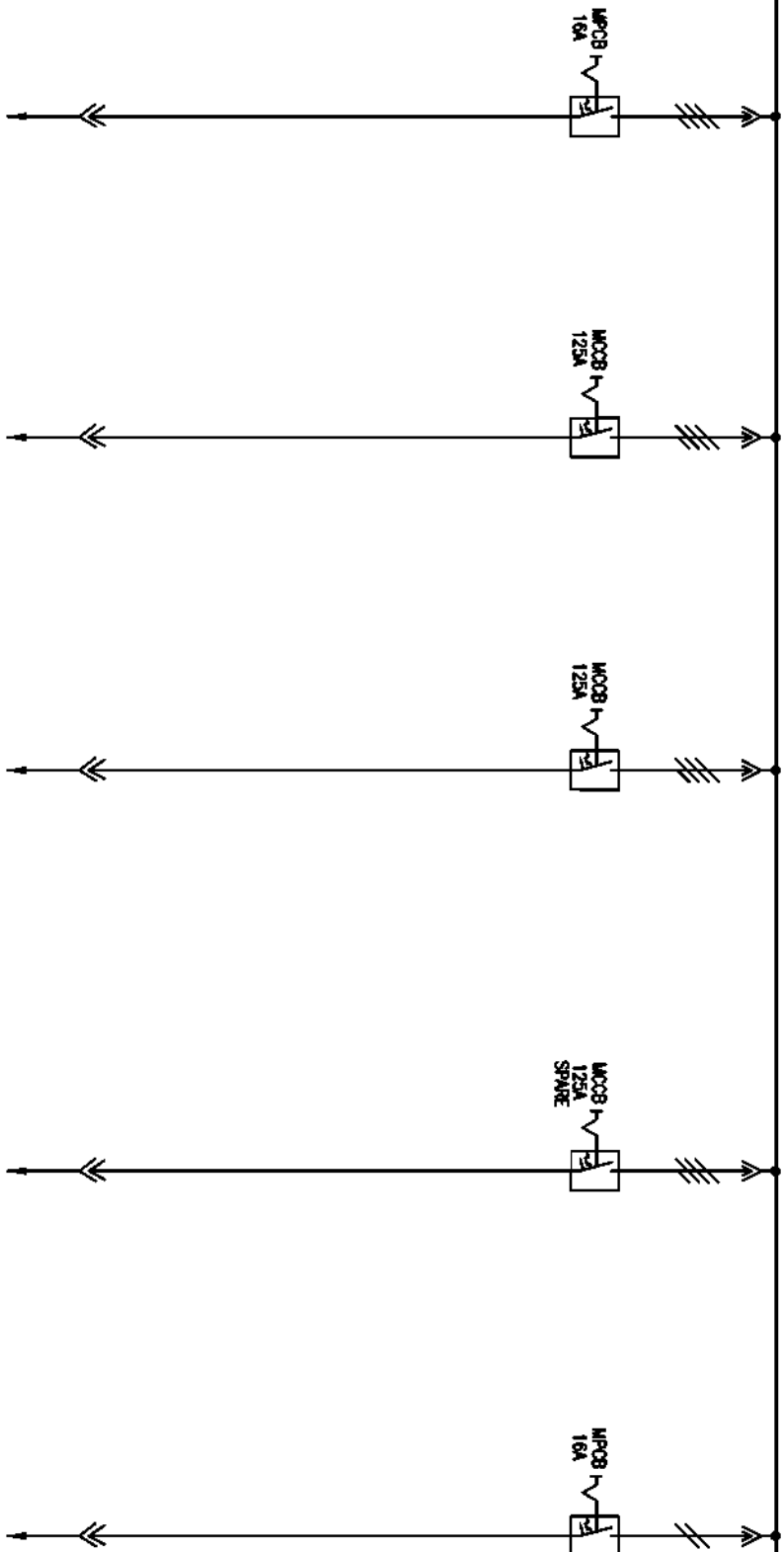
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415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



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DRG. NO. EP-3-SL-047-868

INVENTORY NO.

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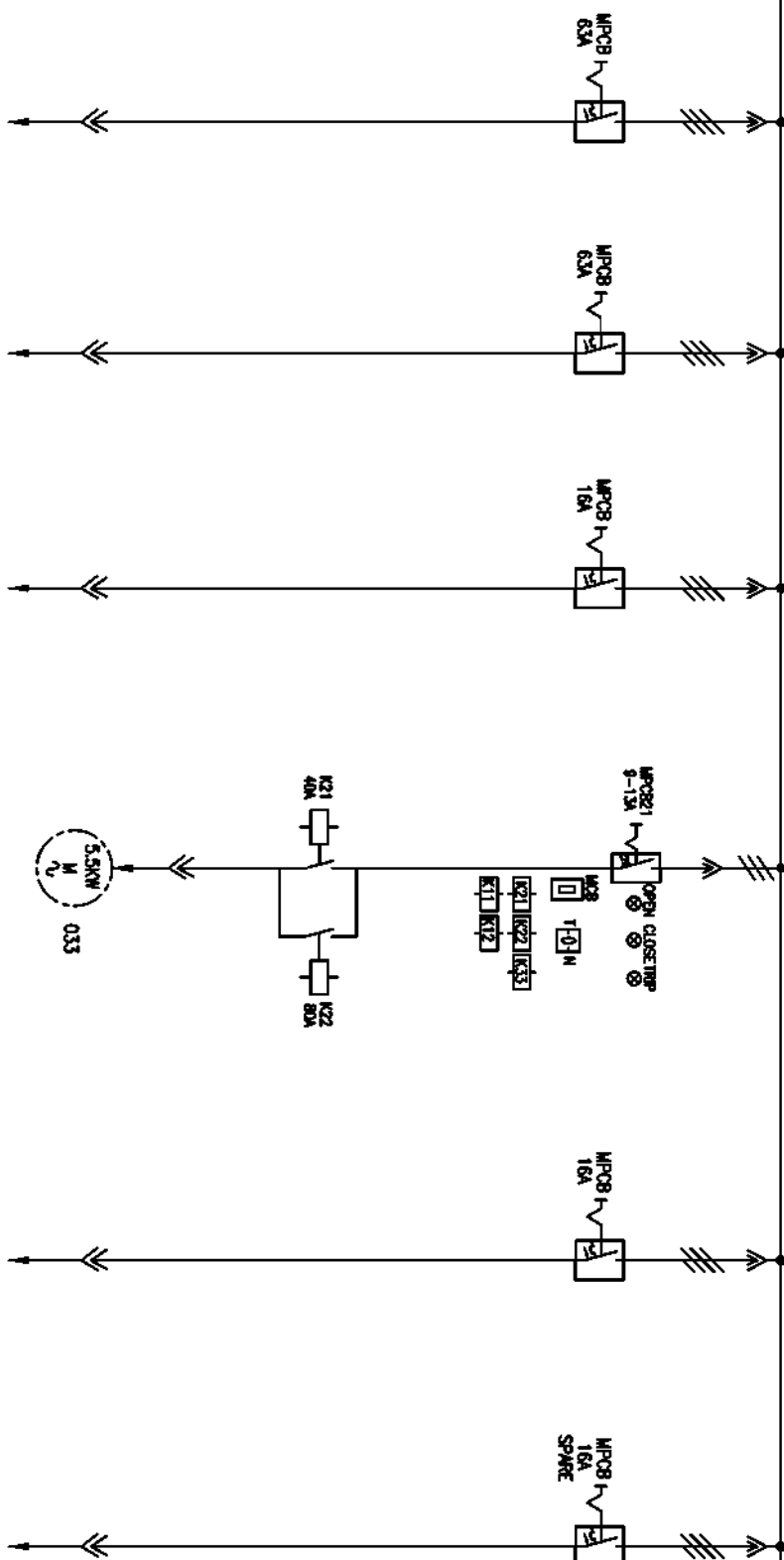
BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE

TITLE :

SINGLE LINE DIAGRAM
TP-4 MCC (CHP MCC-3) NEAR TP-4

SECTION-A



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DRG. NO. EP-3-SL-047-868

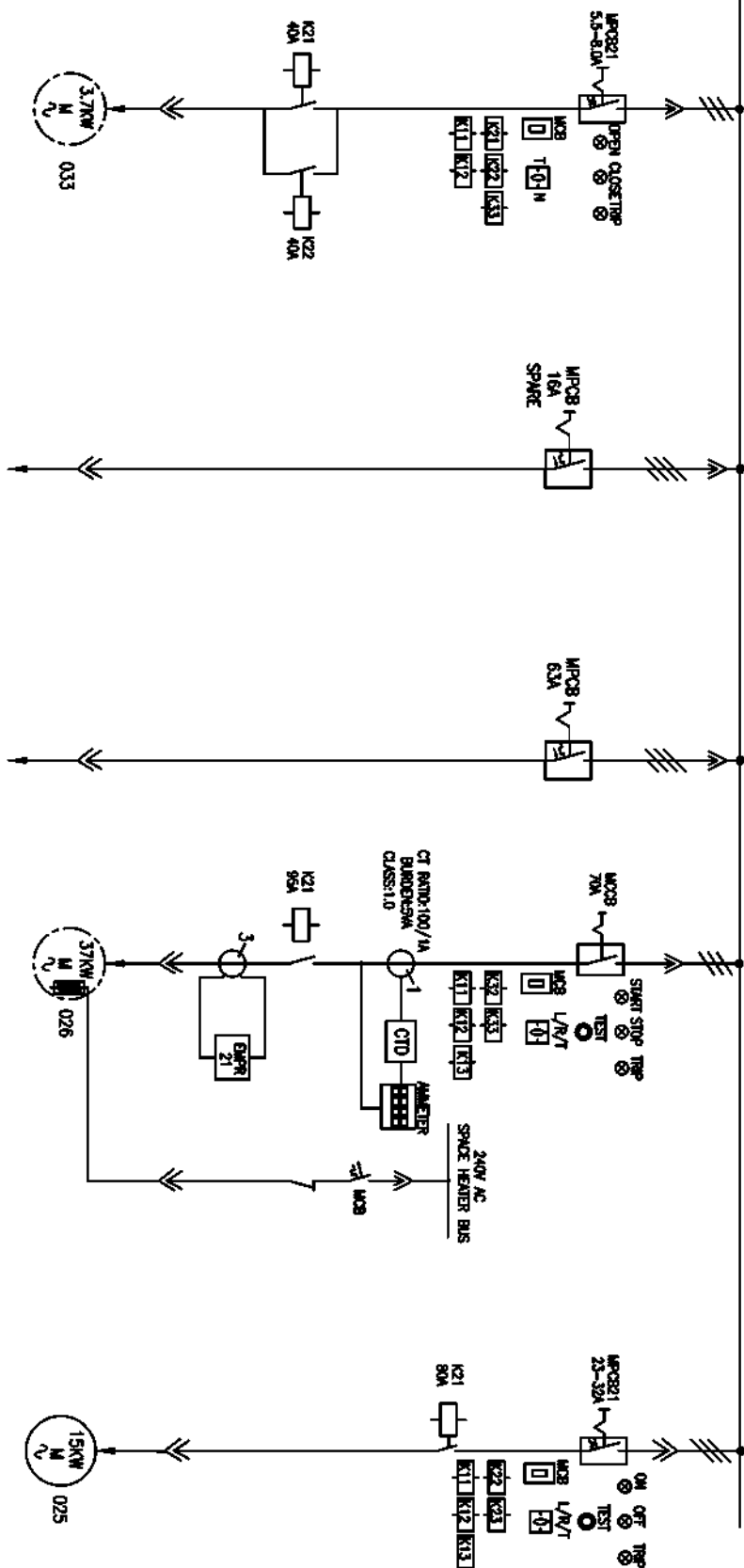
INVENTORY NO.

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



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DRG. NO. EP-3-SL-047-868

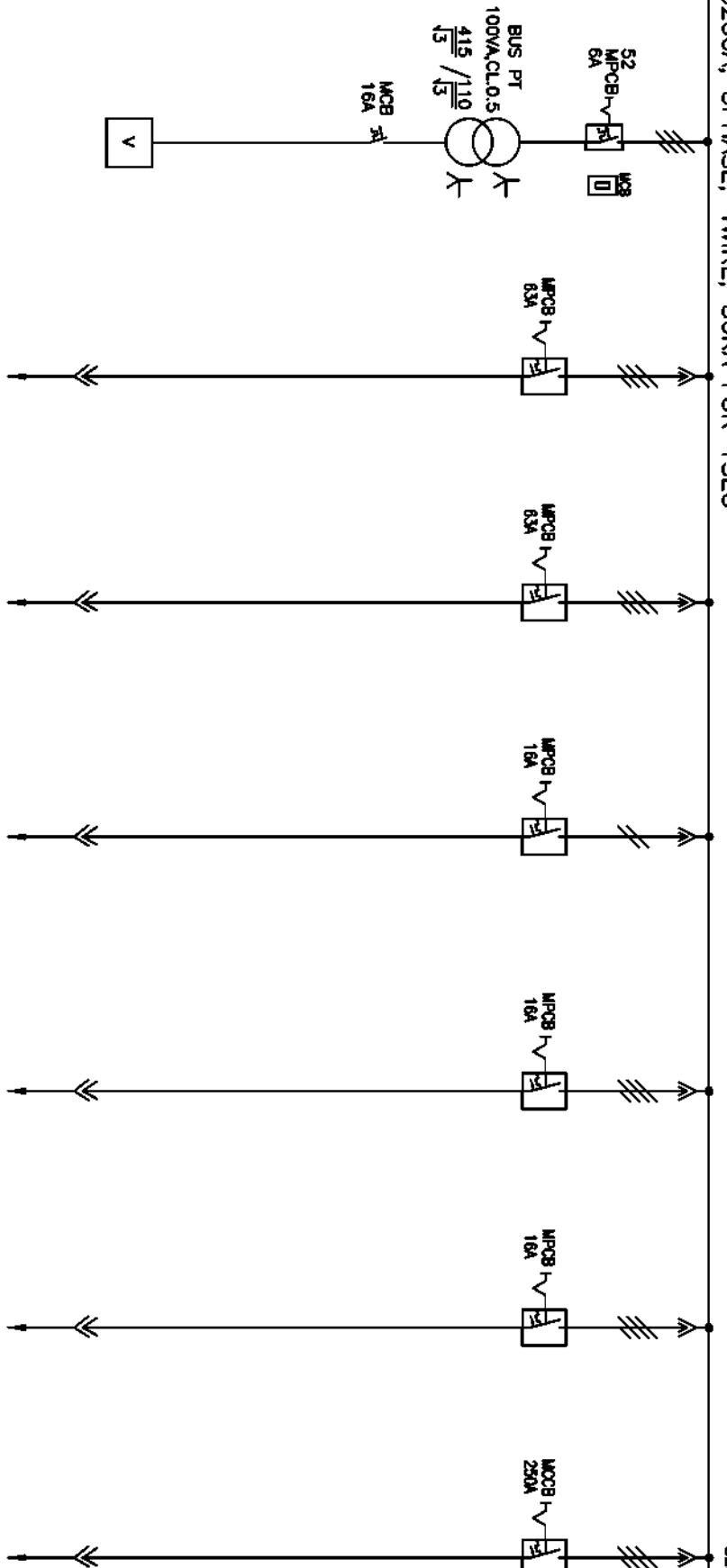
KKS TAG NO.	FEEDER DESCRIPTION	FEEDER RATING	FEEDER NO.	SCHEME REF	CABLE SIZE
	FLAP GATE FG-17-A	3.7KW	9E	EP-3-CS-047-033	1-3C X 16 SQMM(AL)
	SPARE	16A	9F	EP-3-CS-047-022	-
	UPS AT TP-4 MCC	63A	10B	EP-3-CS-047-022	1-4C X 16 SQMM(AL)
	SPARE	37KW	10C	EP-3-CS-047-026	-
	SPARE	15KW	10D	EP-3-CS-047-025	-

INVENTORY NO.

REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE
01	04.09.17	REVISED AS PER UPDATED LOAD LIST	3.3.3.3	3.3.3.3	CHECKED		TRINATH	3.3.3.3	27.05.17
02							TRINATH	3.3.3.3	27.05.17
03							TRINATH	3.3.3.3	27.05.17
04							TRINATH	3.3.3.3	27.05.17
05							TRINATH	3.3.3.3	27.05.17
06							TRINATH	3.3.3.3	27.05.17
07							TRINATH	3.3.3.3	27.05.17

BHARAT HEAVY ELECTRICALS LIMITED		ELECTROPORCELAIN DIVISION BANGALORE	
SINGLE LINE DIAGRAM		TP-4 MCC (CHP MCC-3) NEAR TP-4	
TITLE :		SCALE	
NO. OF SHEETS		NO. OF SHEETS	
SHEET NO.		SHEET NO.	
REV.		REV.	

SECTION-A



KKS TAG NO.							
FEDDER DESCRIPTION	BUS PT	BATTERY CHARGER AT TP-4	UPS AT TP-4 MCC	MISC USE	POCUB -TP-6	MISC USE	DE TP-RHS BUNKER
FEDDER RATING	1000VA	63A	63A	16A	16A	16A	250A
FEDDER NO.	11B	11C	11D	11E	11F	11G	8Q
SCHEME REF	EP-3-CS-047-036	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-021	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-022
CABLE SIZE	-	1-4C X 16 SQMM(AL)	1-4C X 16 SQMM(AL)	1-4C X 16 SQMM(AL)	1-4C X 16 SQMM(AL)	1-4C X 16 SQMM(AL)	1-3.5C X 240 SQMM(AL)

INVENTORY NO.									
07									
06									
05				DESIGNED	TRINATH	27.05.17			
04									
03				DRAWN	TRINATH	27.05.17			
02									
01	DA08.17	REVISED AS PER UPDATED LOAD LIST		CHECKED					
REV. NO.		DESCRIPTION	BY	APPRO.	APPROVED	KSB	27.05.17		
									
							DR : FILE NO.: 3		
							SCALE		
							JOB NO. CP-14-047		
							DRG. NO. EP-3-SL-047-868		
							BHARAT HEAVY ELECTRICALS LIMITED ELECTROPORCELAIN DIVISION BANGLORE		
									
							TITLE : SINGLE LINE DIAGRAM TP-4 MCC (CHP MCC-3) NEAR TP-4		
							NO. OF SHEETS 27 SHEET 10 NO.		
							REV. 01		

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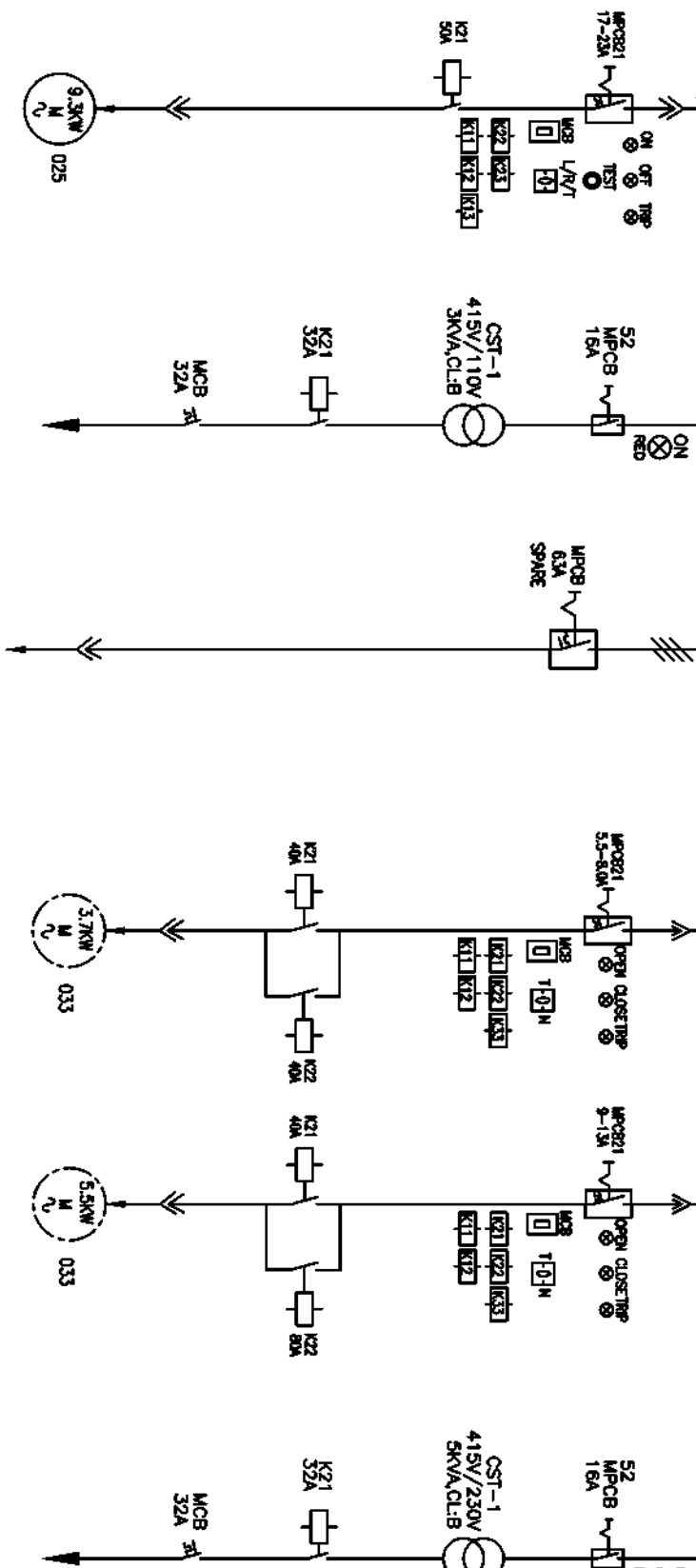
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415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



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DRG. NO. EP-3-SL-047-868

INVENTORY NO.

07									TESTED 	BHARAT HEAVY ELECTRICALS LIMITED				
06								ELECTROPORCELAIN DIVISION BANGALORE						
05								SINGLE LINE DIAGRAM						
04								TP-4 MCC (CHP MCC-3) NEAR TP-4						
03								TITLE :						
02								SCALE						
01	04.08.17	REVISED AS PER UPDATED LOAD LIST	3.3.2017	3.3.2017	CHECKED		3	FILE NO.:	108	NO. CP-14-047	DRG. NO. EP-3-SL-047-868	REV. 01		
		DESCRIPTION	BY	APPD.	APPROVED	KSB		27.05.17						

BHARAT HEAVY ELECTRICALS LIMITED

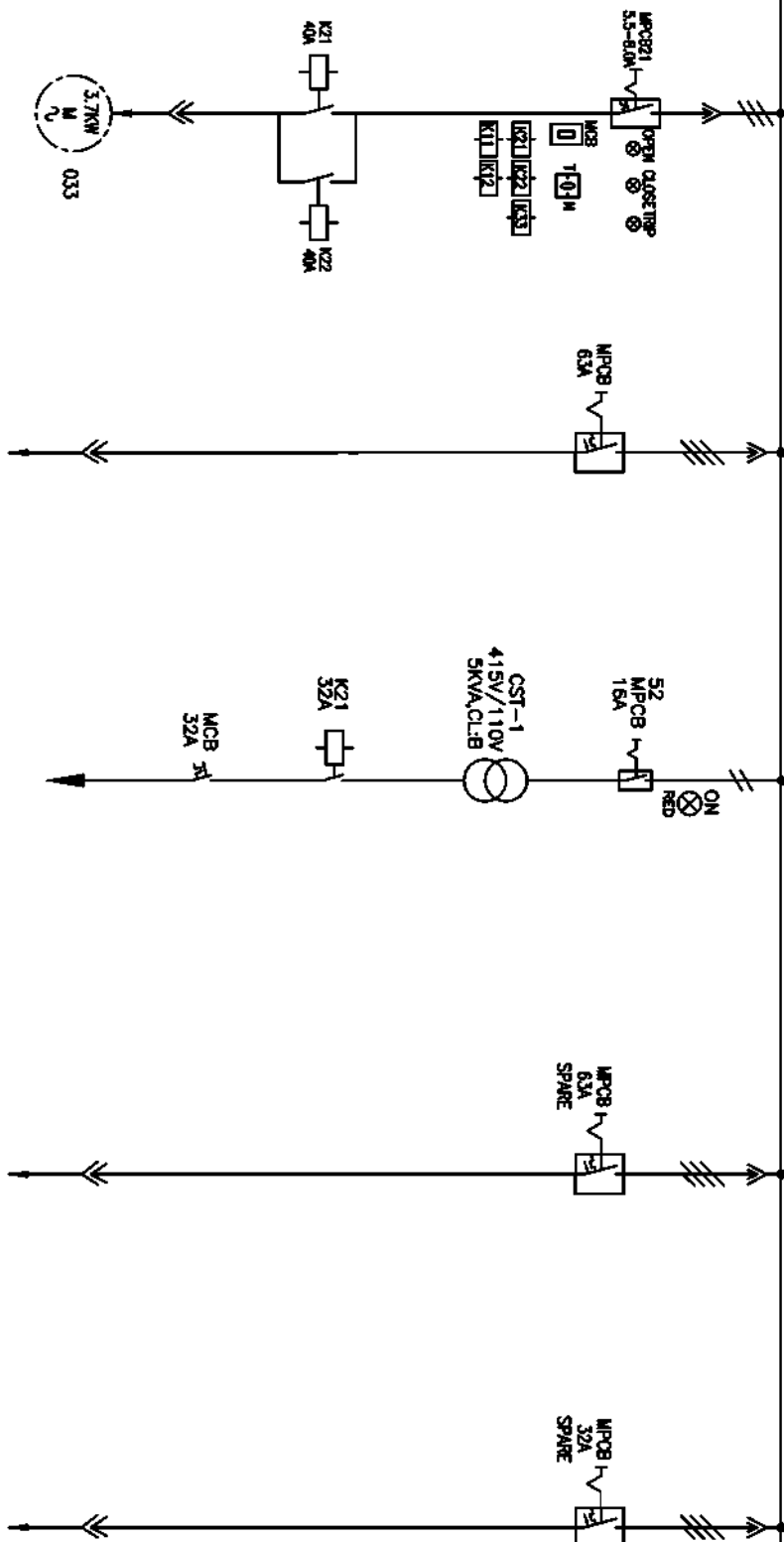
ELECTROPORCELAIN DIVISION BANGALORE

SINGLE LINE DIAGRAM

TP-4 MCC (CHP MCC-3) NEAR TP-4

415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



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DRG. NO. EP-3-SL-047-868

KGS TAG NO.	FEEDER DESCRIPTION	FEEDER RATING	FEEDER NO.	SCHEME REF	CABLE SIZE
	FLAP GATE FG-18-A	3.7KW	8R	EP-3-CS-047-033	1-3C X 16 SQMM(AL)
	DE TP-6	63A	8S	EP-3-CS-047-022	1-3.5C X 25 SQMM(AL)
	110V CONTROL TRANSFORMER	5KVA	8T	EP-3-CS-047-039	-
	SPARE	63A	9R	EP-3-CS-047-022	-
	SPARE	32A	9S	EP-3-CS-047-022	-

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	FILE NO.
01	04.09.17	REVISED AS PER UPDATED LOAD LIST	3.3.3.3	3.3.3.3	CHECKED		TRINATH	3.3.3.3	27.05.17	3
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03										
04										
05										
06										
07										

BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE

SINGLE LINE DIAGRAM

TP-4 MCC (CHP MCC-3) NEAR TP-4

SCALE

JOB NO. CP-14-047

DRG. NO. EP-3-SL-047-868



NO. OF SHEETS

SHEET NO.

REV. NO.

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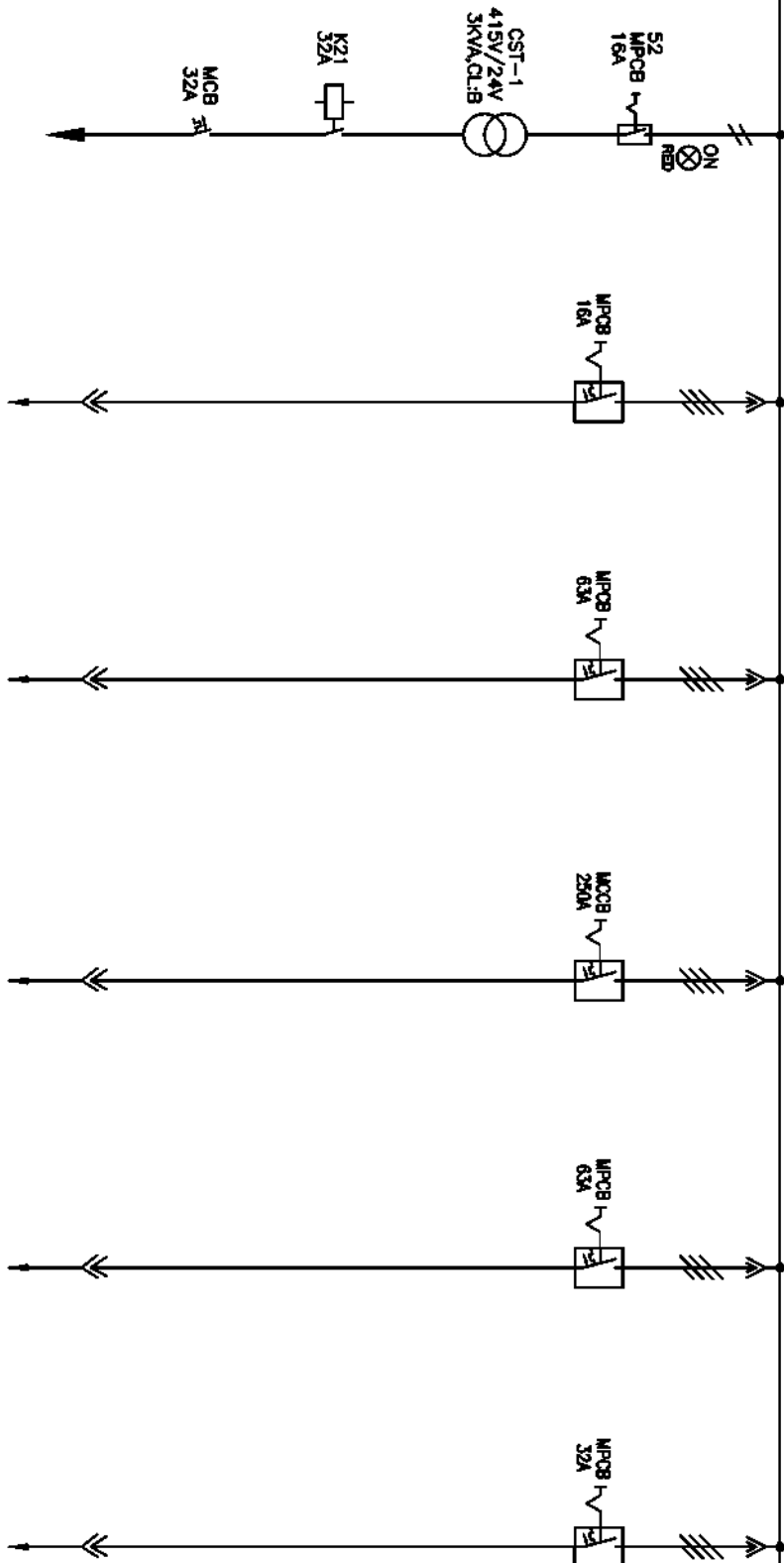
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415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



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DRG. NO. EP-3-SL-047-868

KKS TAG NO.	FEEDER DESCRIPTION	FEEDER RATING	FEEDER NO.	SCHEME REF	CABLE SIZE
	24V CONTROL TRANSFORMER	3KVA	9U	EP-3-CS-047-039	-
	AUXILIARY LOAD FOR HPP BCN-7A	16A	10Q	EP-3-CS-047-022	1-3.5C X 35 SQMM(AL)
	LDB-9 AT TP-6	63A	10R	EP-3-CS-047-022	-
	INCOMER TO PH-1	250A	10S	EP-3-CS-047-022	-
	AUXILIARY LOAD FOR HPP BCN-5A	63A	11Q	EP-3-CS-047-022	1-4C X 16 SQMM(AL)
	MISC USE	32A	11R	EP-3-CS-047-022	1-4C X 16 SQMM(AL)

INVENTORY NO.

REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB
01	04.09.17	REVISION AS PER UPDATED LOAD LIST	K.S.B.	K.S.B.	CHECKED	
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NAME	SIGN.	DATE
TRINATH		27.05.17
TRINATH		27.05.17

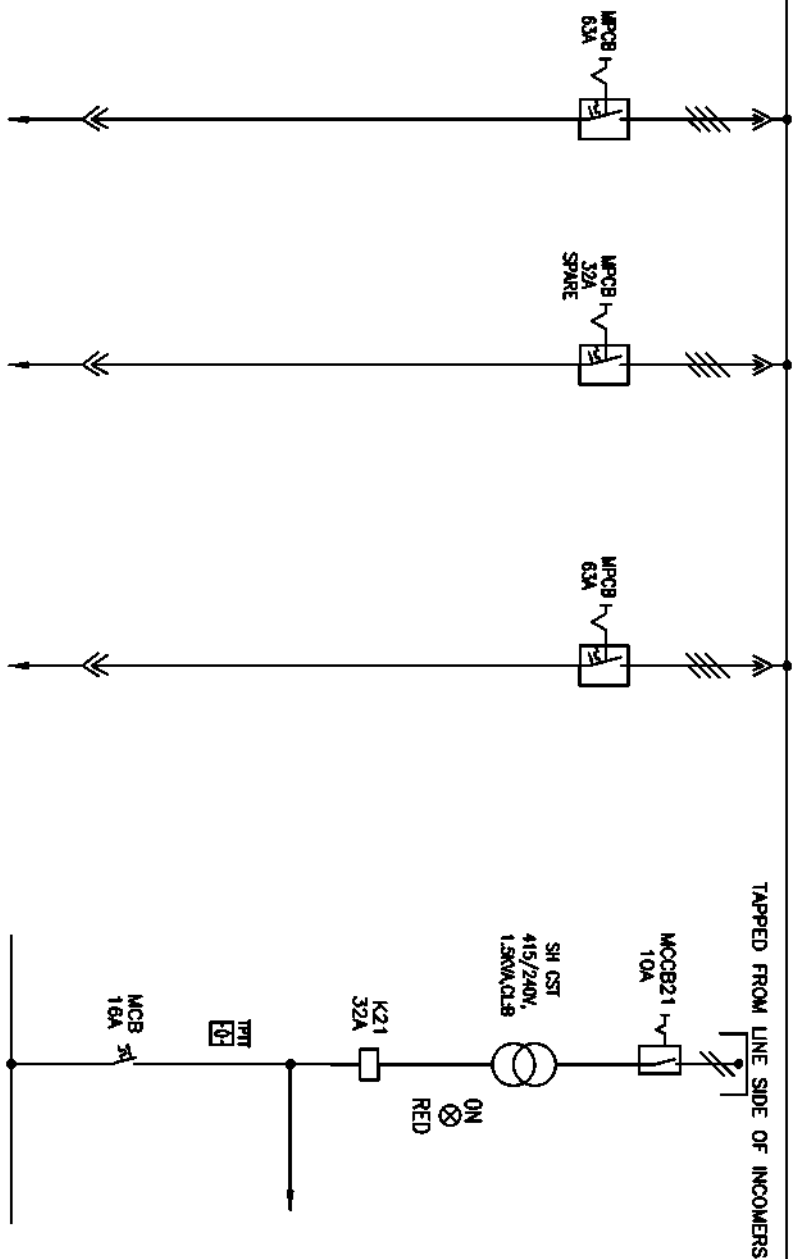
BHARAT HEAVY ELECTRICALS LIMITED	
ELECTROPORCELAIN DIVISION BANGALORE	
TITLE : TP-4 MCC (CHP MCC-3) NEAR TP-4	
SCALE : 108 NO. CP-14-047	
DRG. NO. EP-3-SL-047-868	
NO. OF SHEETS : 27	
SHEET : 13	
REV. : 01	

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



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DRG. NO. EP-3-SL-047-868

KGS TAG NO.			
FEEDER DESCRIPTION	INLINE MAGNETIC SEPARATOR LIMS-3	SPARE	LDB-7 AT TP-4
FEEDER RATING	63A	32A	63A
FEEDER NO.	11S	11T	11U
SCHEME REF	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-022
CABLE SIZE	1-4C X 16 SQMM(AL)	-	-

INVENTORY NO.

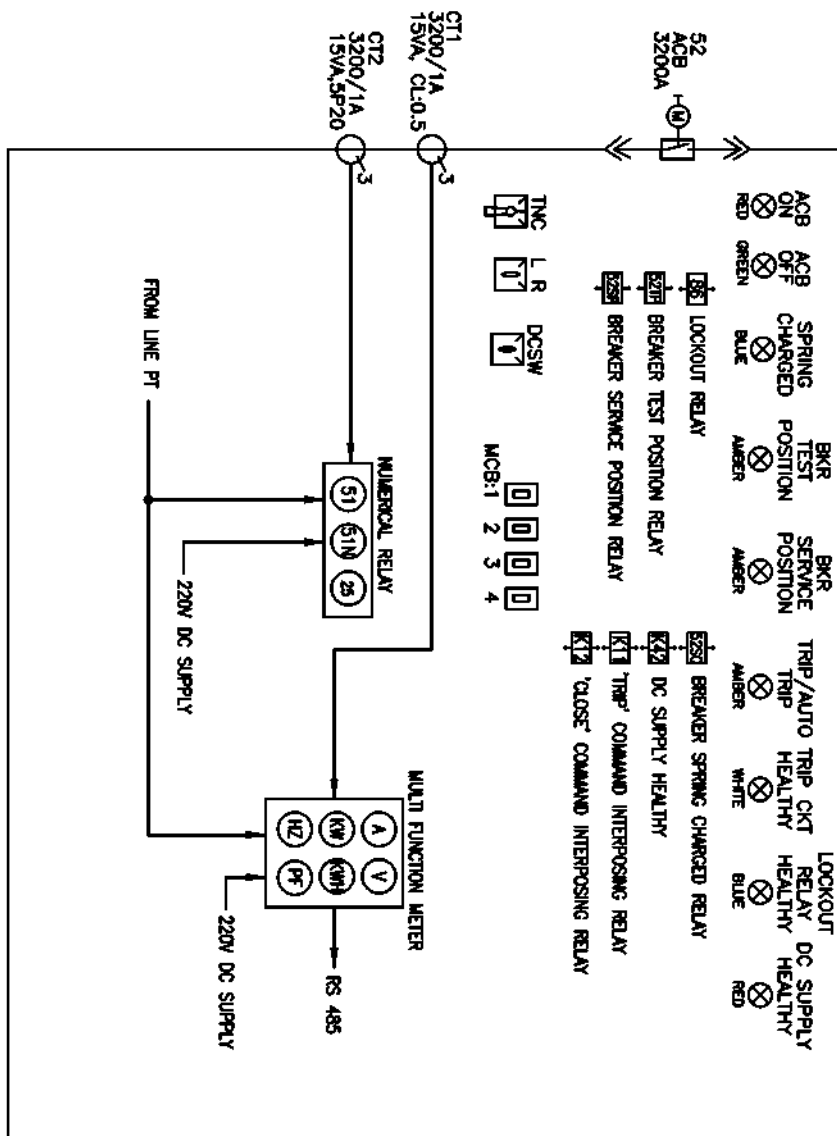
01	02	03	04	05	06	07
REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB
01	04.09.17	REVISED AS PER UPDATED LOAD LIST	3.3.2017	3.3.2017	CHECKED	
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NAME	SIGN.	DATE
TRINATH	3.3.2017	27.05.17
TRINATH	3.3.2017	27.05.17

BHARAT HEAVY ELECTRICALS LIMITED		ELECTROPORCELAIN DIVISION BANGALORE	
TITLE :		SINGLE LINE DIAGRAM	
TP-4 MCC (CHP MCC-3) NEAR TP-4		NO. OF SHEETS	
SCALE		14	
JOB NO. CP-14-047		DRG. NO. EP-3-SL-047-868	
		REV. 01	

415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC



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DRG. NO. EP-3-SL-047-868

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-868	NO. OF SHEETS	27	REV.	01
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KGS TAG NO.	
FEEDER DESCRIPTION	BUSCOUPLER
FEEDER RATING	3200A
FEEDER NO.	128
SCHEME REF	EP-3-CS-047-003
CABLE SIZE	BUS DUCT

BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE

TITLE :

SINGLE LINE DIAGRAM
TP-4 MCC (CHP MCC-3) NEAR TP-4

NO. OF SHEETS

27

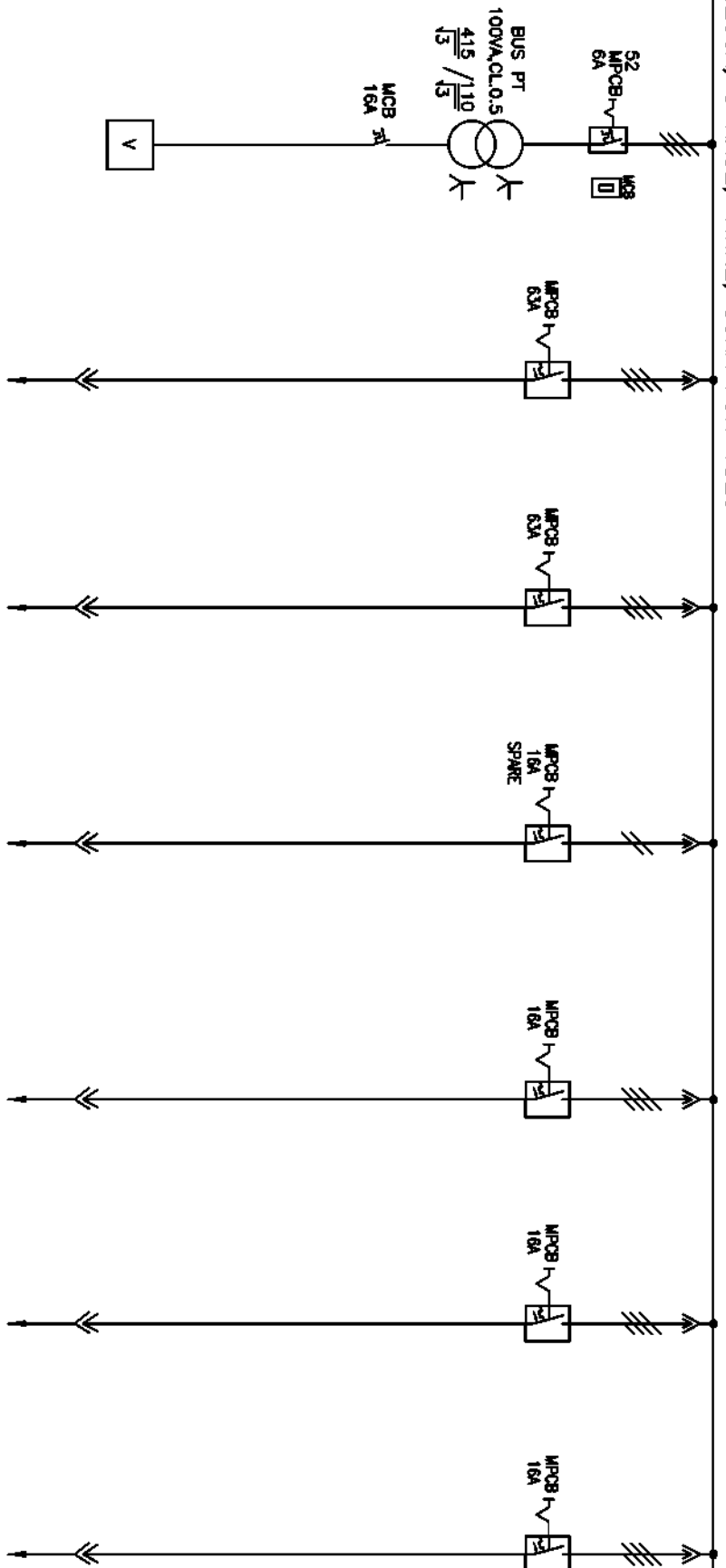
SHEET

15

REV.

01

SECTION-B



PCS TAG NO.						
FEEDER DESCRIPTION	BUS PT	BATTERY CHARGER AT TP-4 MCC	UPS AT TP-4 MCC	SPARE	AUXILIARY LOAD FOR HPP BCN-7B	AUXILIARY LOAD FOR HPP BCN-8B
FEEDER RATING	1000VA	63A	63A	16A	16A	16A
FEEDER NO.	13B	13C	13D	13E	13F	13G
SCHEME REF	EP-3-CS-047-036	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-021	EP-3-CS-047-022	EP-3-CS-047-022
CABLE SIZE	-	1-4C X 16 SQMM(AU)	1-4C X 16 SQMM(AU)	-	1-3.5C X 35 SQMM(AU)	1-3.5C X 50 SQMM(AU)
						1-4C X 16 SQMM(AU)

INVENTORY NO.					
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02					
01	DA.08.17	RENISED AS PER UPDATED LOAD LIST			
REV. NO.		DESCRIPTION	BY 	APPRO. 	CHECKED
			KSB	27.05.17	
 BHARAT HEAVY ELECTRICALS LIMITED ELECTRO-PORCELAIN DIVISION BANGALORE					
TITLE : SINGLE LINE DIAGRAM TP-4 MCC (CHP MCC-3) NEAR TP-4 NO. OF SHEETS : 27 SHEET : 16					
SCALE			JOB NO. CP-14-047	DWG. NO. EP-3-SL-047-868	REV. 01

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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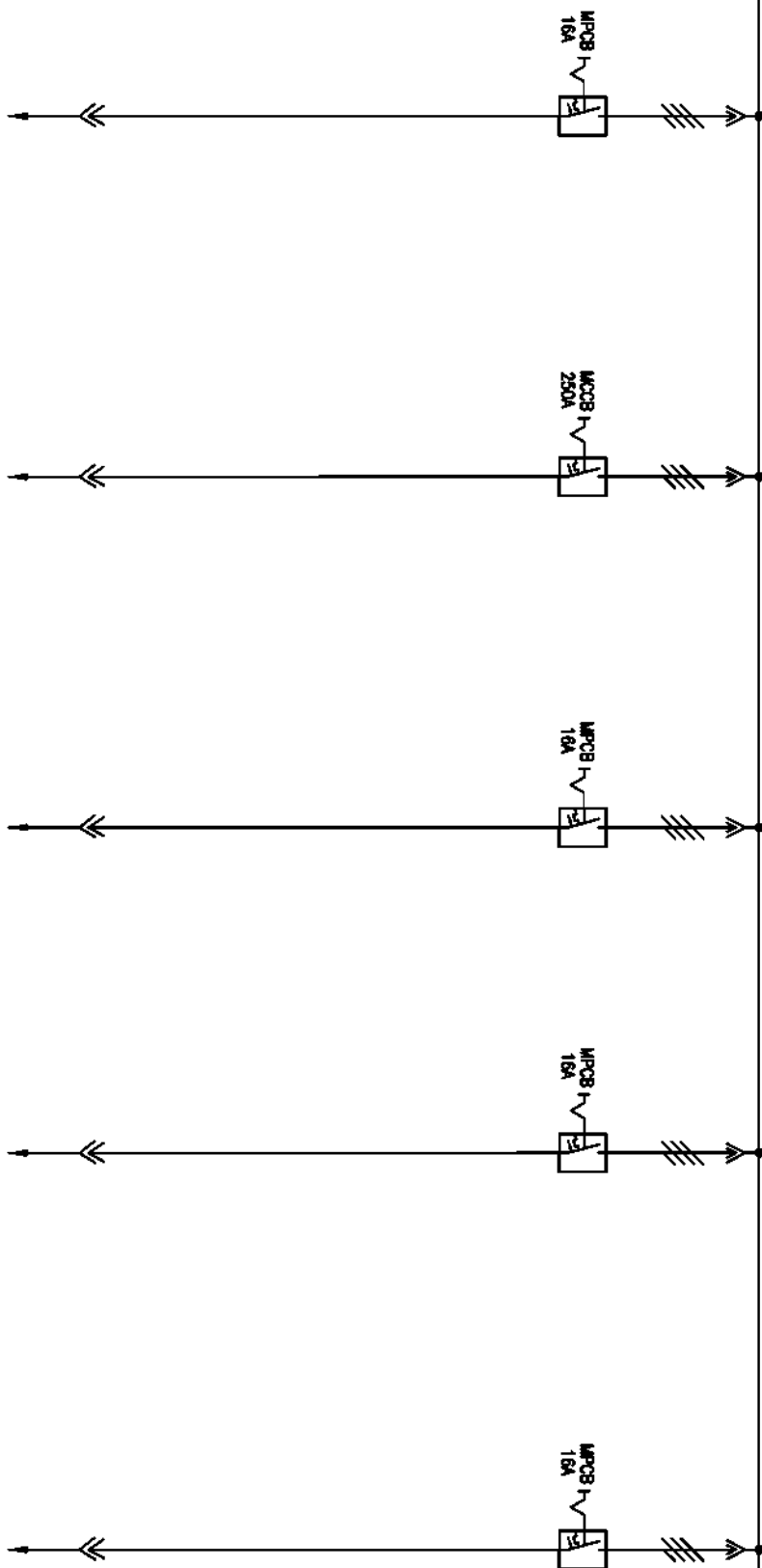
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SECTION-B



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DRG. NO. EP-3-SL-047-868

INVENTORY NO.

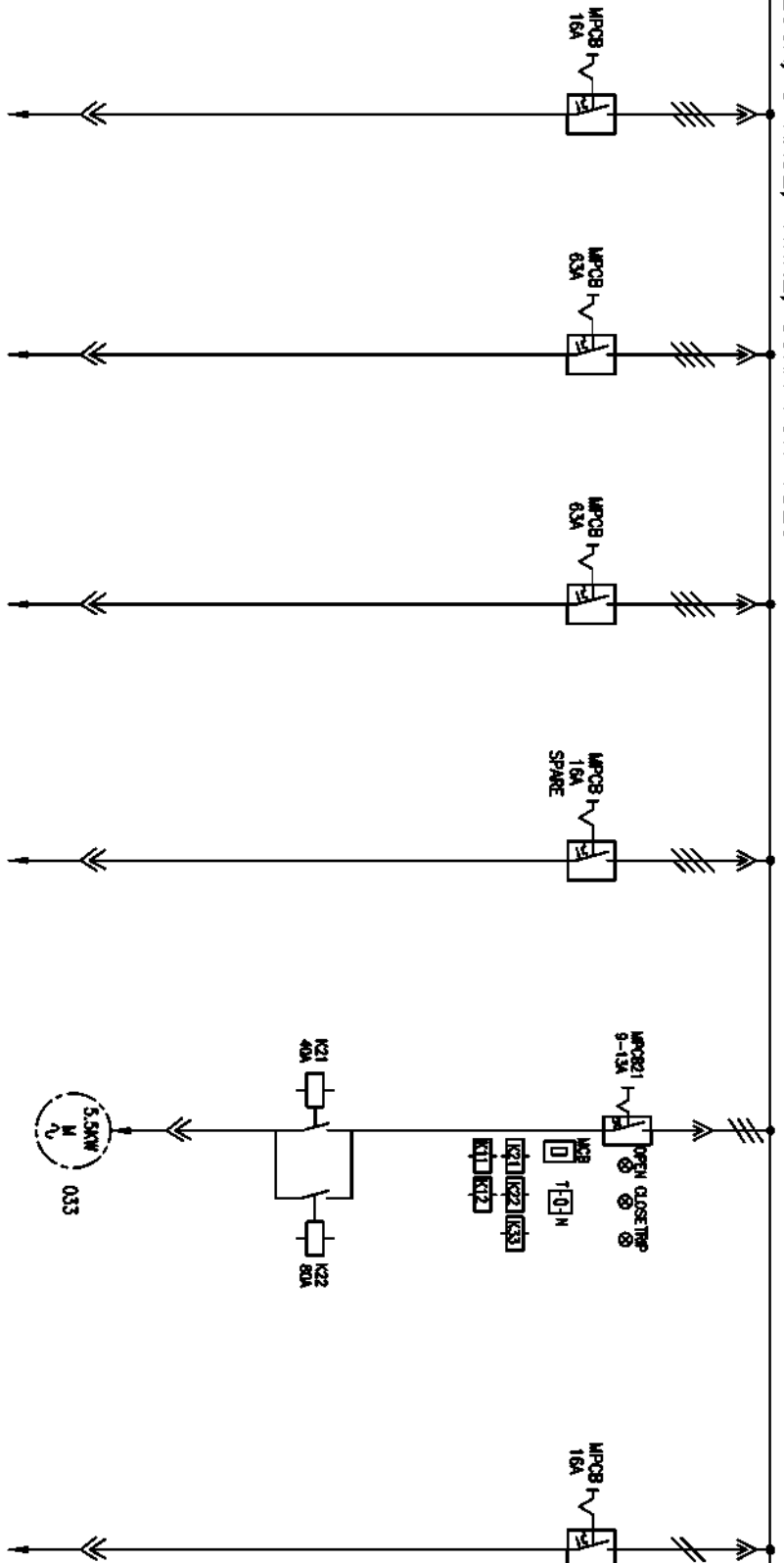
REV.	NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	SIGN.	DATE	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-868	NO. OF SHEETS	27	NO.	17	REV.	01
01	01	04.09.17	REVISED AS PER UPDATED LOAD LIST	23.05.17	23.05.17	CHECKED			27.05.17	3											
02	02																				
03	03																				
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BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPORCELAIN DIVISION BANGALORE

TITLE :

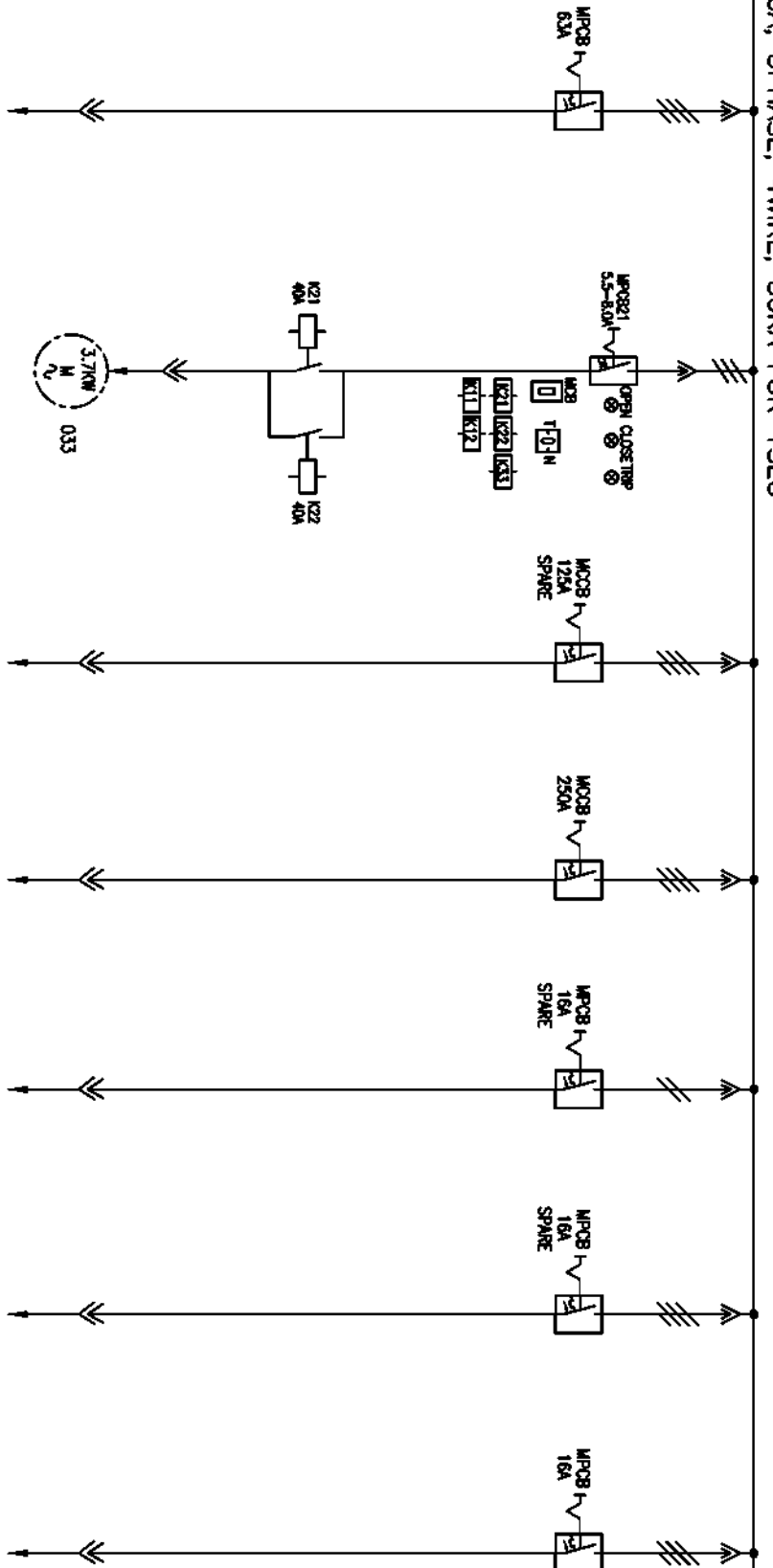
SINGLE LINE DIAGRAM
TP-4 MCC (CHP MCC-3) NEAR TP-4

SECTION-B



KKS TAG NO.						
FEEDER DESCRIPTION	POCJB -TP-4	TRAVELLING TRAPPER TTR-4 INCLUDING FG-24	DE TP-5	SPARE	SPARE	METAL DETECTOR-2
FEEDER RATING	16A	63A	63A	16A	5.5KW	16A
FEEDER NO.	15D	15E	15F	15G	15H	16B
SCHEME REF	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-033	EP-3-CS-047-021
CABLE SIZE	1-4C X 16 SQMM(AL)	1-3.5C X 120 SQMM(AL)	1-3.5C X 50 SQMM(AL)	-	-	1-4C X 16 SQMM(AL)

SECTION-B



FEEDER NO.						
FEEDER DESCRIPTION	TRAVELLING TRAPPER TTR-2 INCLUDING FG-22	FLAP GATE FG-16	SPARE	MILDB-4 AT TP-4 MCC	SPARE	3T HOIST FOR RHHS BUNKER HST-20
FEEDER RATING	63A	3.7KW	125A	250A	16A	16A
FEEDER NO.	16C	16D	16E	16F	17B	17D
SCHEME REF	EP-3-CS-047-022	EP-3-CS-047-033	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-021	EP-3-CS-047-022
CABLE SIZE	1-3.5C X 95 SQMM(A)	1-3C X 16 SQMM(A)	-	1-3.5C X 95 SQMM(A)	-	-

INVENTORY NO.									
REV.	NO.	DATE	DESCRIPTION	BY	APPRO.	APPROVED	KS8	DATE	REV.
01		24.08.17	RENISED AS PER UPDATED LOAD LIST	P. Sai	P. Sai	CHECKED			01
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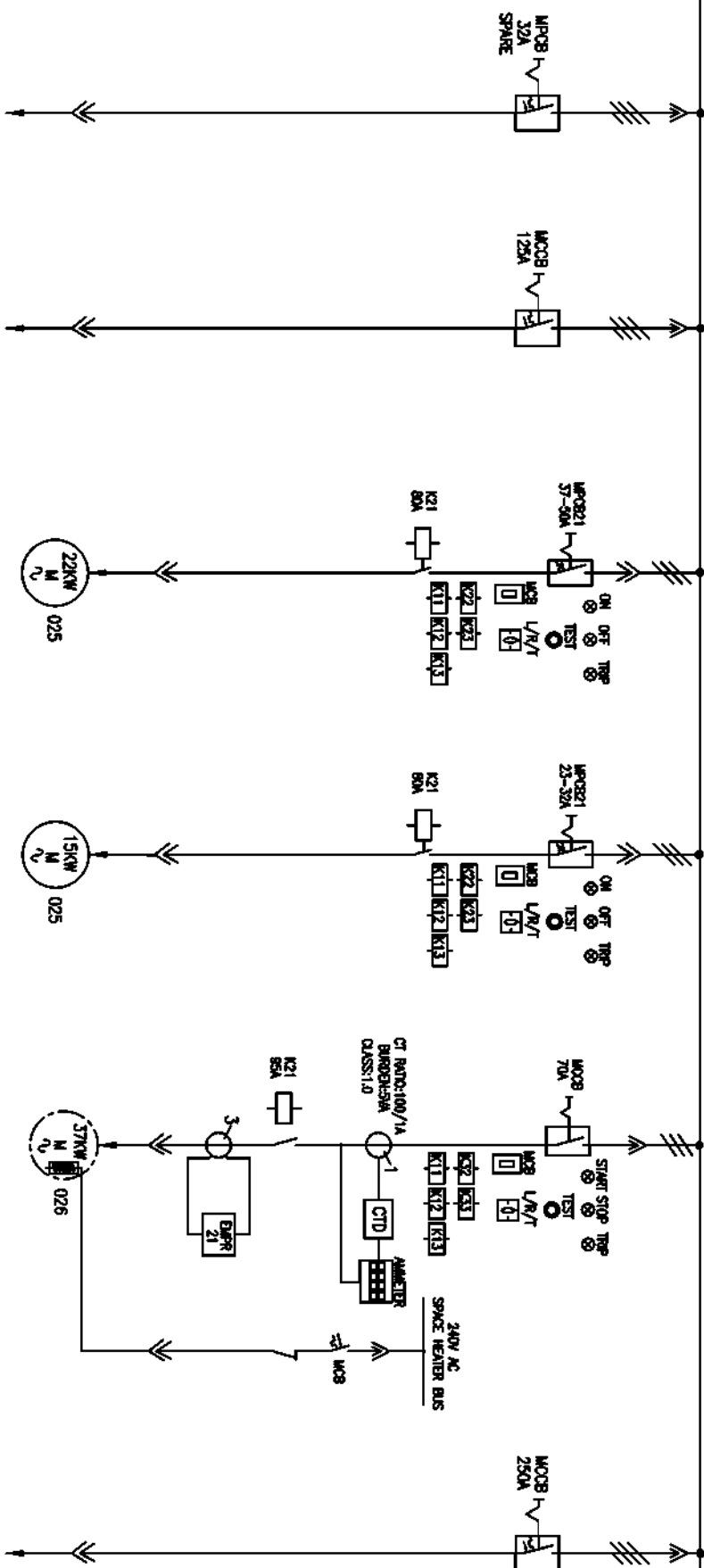
		BHARAT HEAVY ELECTRICALS LIMITED ELECTROPOWER PLANT DIVISION BANGALORE	
TITLE : TP-4 MCC (CHP MCC-3) NEAR TP-4		NO. OF SHEETS : 27 SHEET : 19	
SCALE	108 NO. CP-14-047	DRG. NO.	EP-3-SL-047-868

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-B



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DRG. NO. EP-3-SL-047-868

KKS TAG NO.	FEEDER DESCRIPTION	FEEDER RATING	FEEDER NO.	SCHEME REF	CABLE SIZE
	SPARE	32A	17E	EP-3-CS-047-022	-
	ACDB FOR WELDING AT TP-4 MCC	125A	17F	EP-3-CS-047-022	1-3.5C X 70 SQMM(AL)
	MISC USE	22KW	17G	EP-3-CS-047-025	1-3C X 25 SQMM(AL)
	SPARE	15KW	18A	EP-3-CS-047-025	-
	SPARE	37KW	18B	EP-3-CS-047-026	-
	DE TP-LHS BUNKER	250A	18C	EP-3-CS-047-022	1-3.5C X 300 SQMM(AL)

INVENTORY NO.

REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB
01	04.09.17	REVISED AS PER UPDATED LOAD LIST	K.S.B.	K.S.B.	CHECKED	
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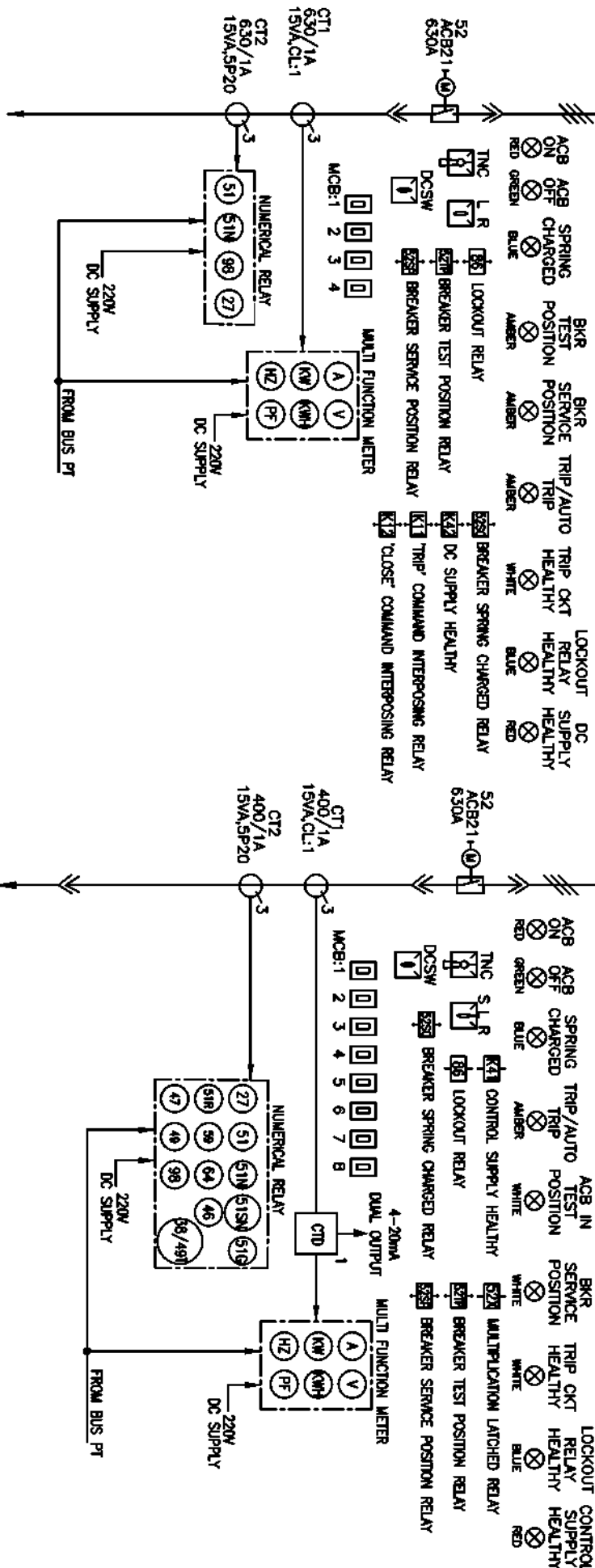
NAME	SIGN.	DATE
TRINATH		27.05.17
TRINATH		27.05.17

BHARAT HEAVY ELECTRICALS LIMITED	
ELECTROPORCELAIN DIVISION BANGALORE	
TITLE :	TP-4 MCC (CHP MCC-3) NEAR TP-4
SCALE	108 NO. CP-14-047
DRG. NO.	EP-3-SL-047-868
NO. OF SHEETS	27
SHEET NO.	20
REV.	01

SECTION-B

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INVENTORY NO.



KKS TAG NO.		
FEEDER DESCRIPTION	PUMP HOUSE-1 INCOMMER	SPARE
FEEDER RATING	350KVA (630A)	132KV
FEEDER NO.	19A	19B
SCHEME REF	EP-3-CS-047-013	EP-3-CS-047-014
CABLE SIZE	-	-

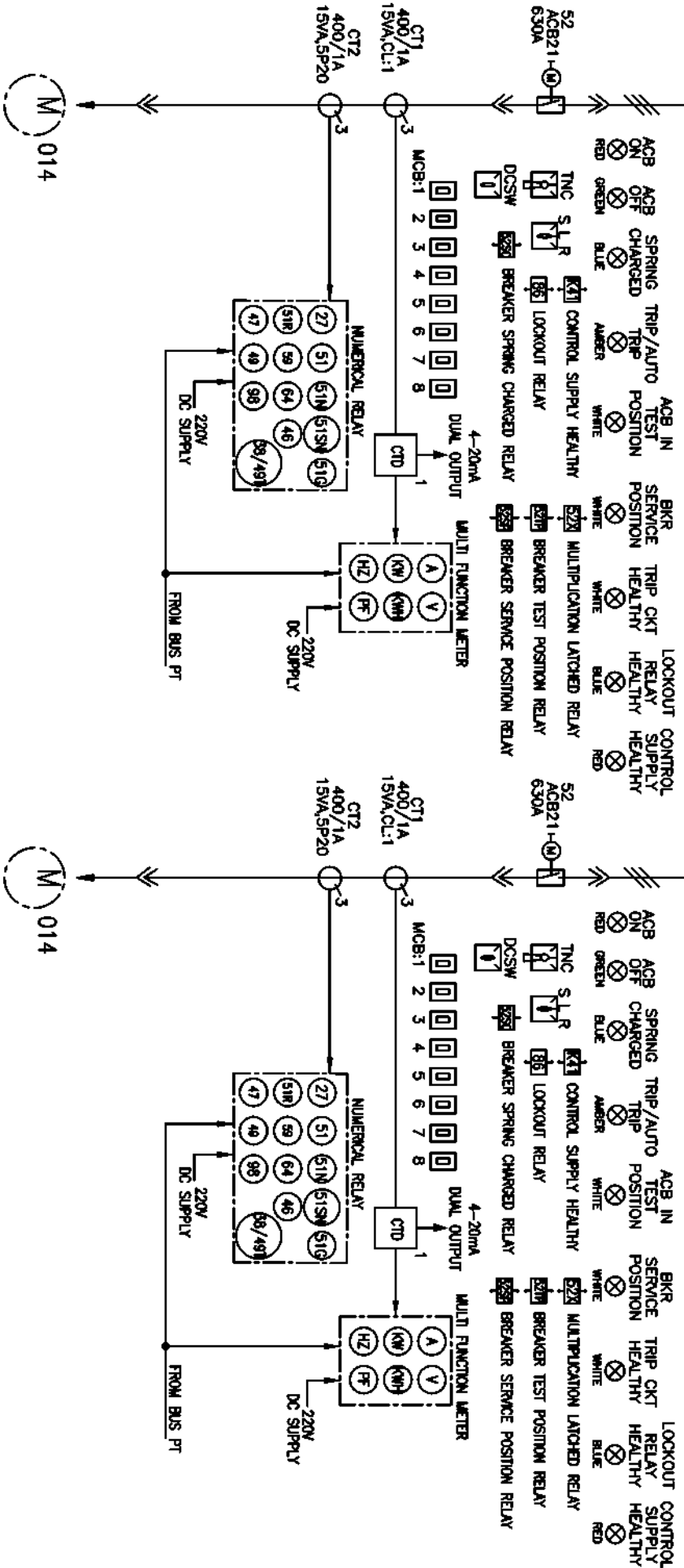
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SECTION-B

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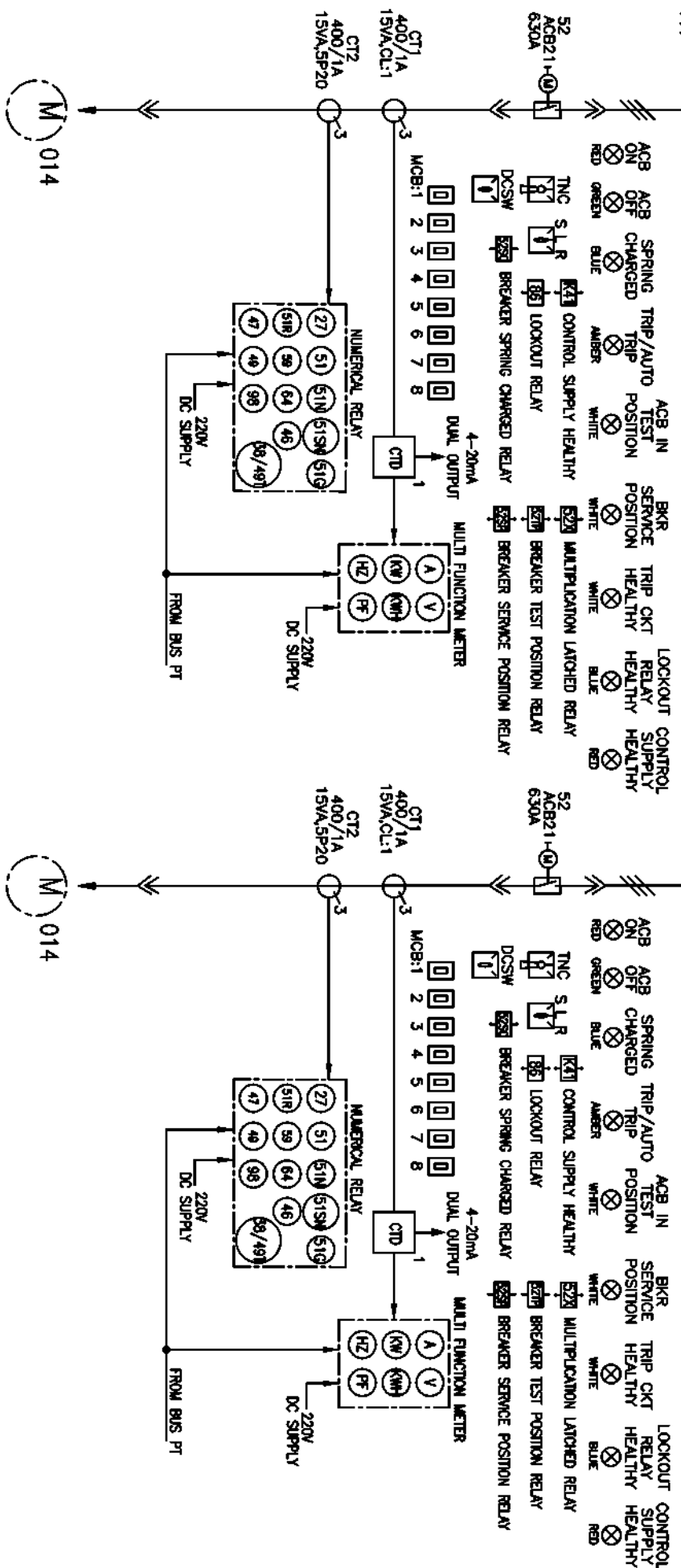
DRG. NO. EP-3-SL-047-868

INVENTORY NO.

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415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-B



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DRG. NO. EP-3-SL-047-868

INVENTORY NO.

REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-868	NO. OF SHEETS	27	REV.	01
01	04.09.17	REVISED AS PER UPDATED LOAD LIST	3.3.2017	3.3.2017	CHECKED		3		108	NO.	CP-14-047	DRG. NO.	EP-3-SL-047-868	27		
02																
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KGS TAG NO.	
FEDDER DESCRIPTION	MOTOR FOR BELT CONVEYOR BC-6B
FEDDER RATING	160KW
FEDDER NO.	21A
SCHEME REF	EP-3-CS-047-014
CABLE SIZE	-

BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE

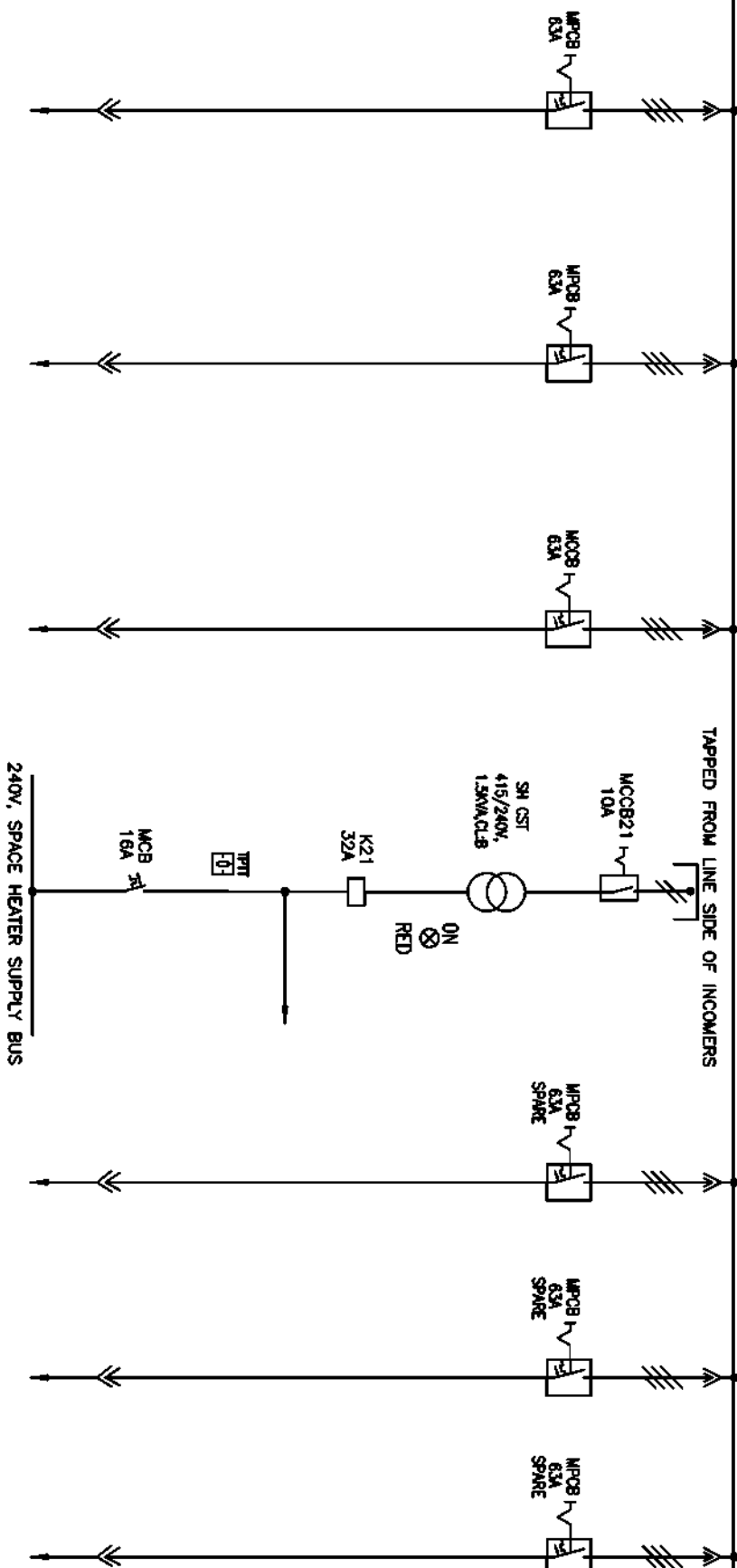
SINGLE LINE DIAGRAM

TP-4 MCC (CHP MCC-3) NEAR TP-4



415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-B



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DRG. NO. EP-3-SL-047-868

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPRD.	APPROVED	KSB	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-868	NO. OF SHEETS	27	REV.	01
01	04.09.17	REVISED AS PER UPDATED LOAD LIST	S.A.	S.A.	CHECKED		3									
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BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE

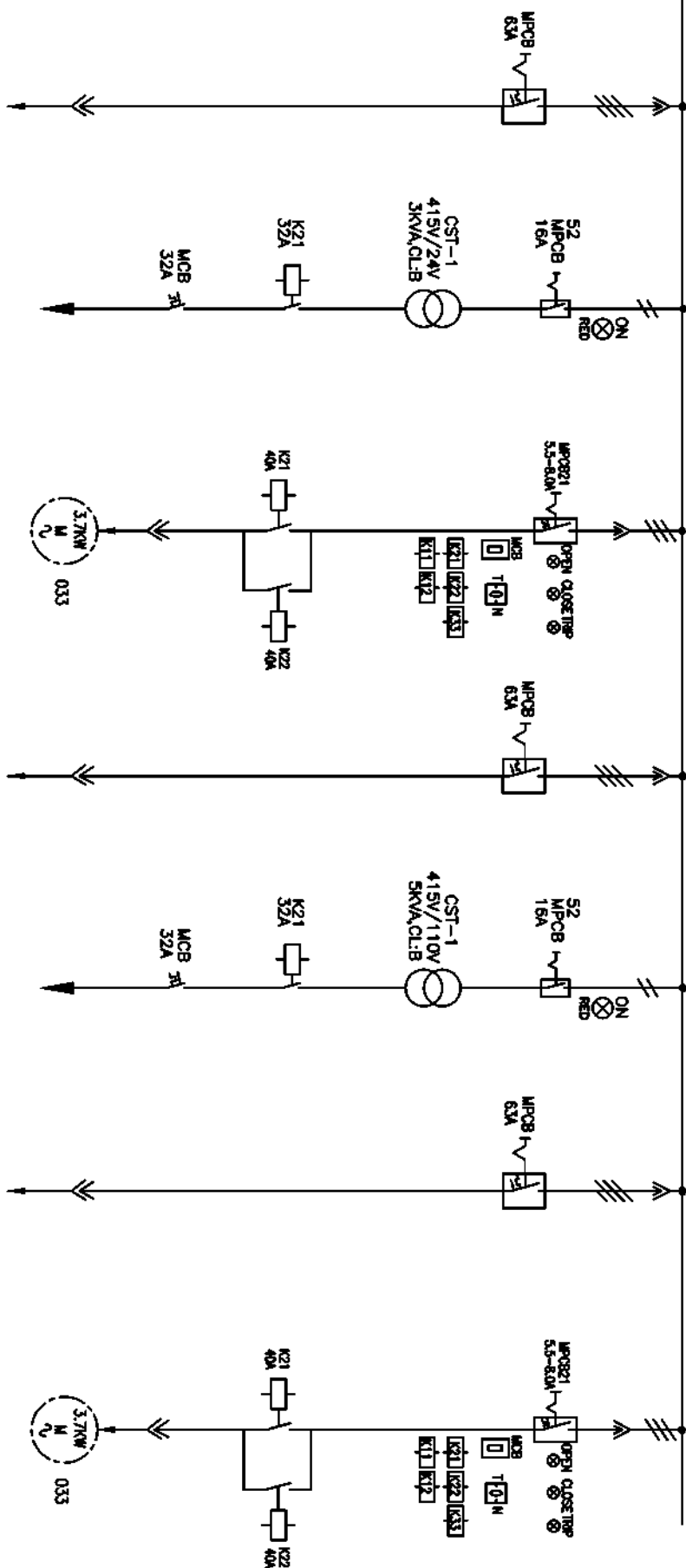
SINGLE LINE DIAGRAM

TP-4 MCC (CHP MCC-3) NEAR TP-4



415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-B



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DRG. NO. EP-3-SL-047-868

KKS TAG NO.	FEEDER DESCRIPTION	FEEDER RATING	FEEDER NO.	SCHEME REF	CABLE SIZE
	ELEVATOR EL-2	125A	14T	EP-3-CS-047-022	1-3.5C X 70 SQMM(AL)
	24V CONTROL TRANSFORMER	3KVA	14U	EP-3-CS-047-039	-
	FLAP GATE FG-17-B	3.7KW	15R	EP-3-CS-047-033	1-3C X 16 SQMM(AL)
	COAL SAMPLING UNIT CSU-2	63A	15S	EP-3-CS-047-022	1-4C X 16 SQMM(AL)
	110V CONTROL TRANSFORMER	5KVA	15T	EP-3-CS-047-039	-
	MISC USE	63A	16Q	EP-3-CS-047-022	1-3.5C X 95 SQMM(AL)
	FLAP GATE FG-18-B	3.7KW	16R	EP-3-CS-047-033	1-3C X 16 SQMM(AL)

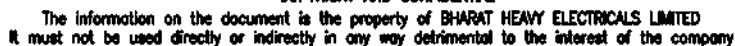
INVENTORY NO.

REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB
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02						
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NAME	SIGN.	DATE
TRINATH	3.3.3.3	27.05.17
TRINATH	3.3.3.3	27.05.17

BHARAT HEAVY ELECTRICALS LIMITED	
ELECTROPORCELAIN DIVISION BANGALORE	
TITLE :	SINGLE LINE DIAGRAM
TP-4 MCC (CHP MCC-3) NEAR TP-4	
NO. OF SHEETS	27
SHEET NO.	25
REV.	01

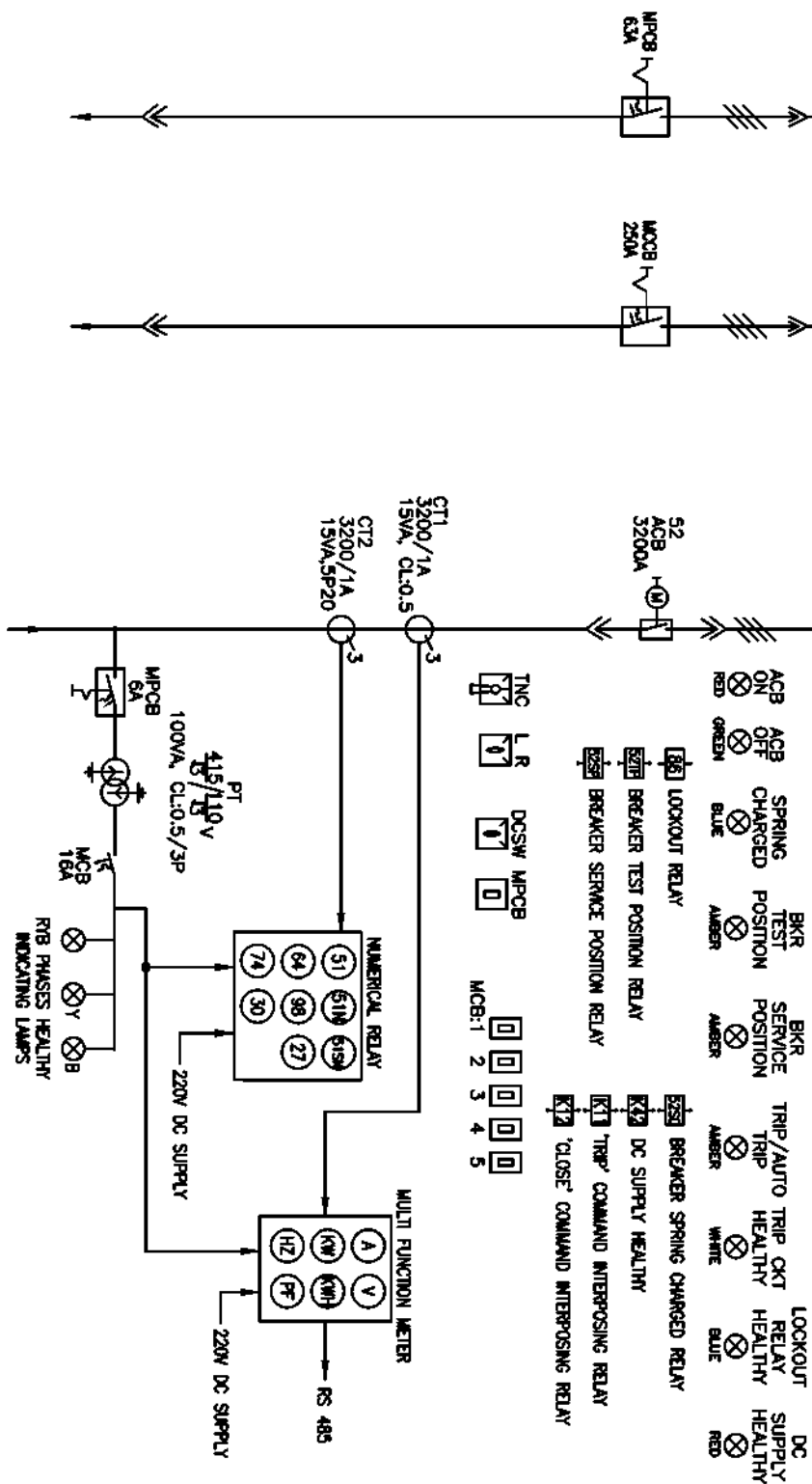
SECTION-B



INVENTORY NO.

415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-B



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DRG. NO. EP-3-SL-047-868

KKS TAG NO.		
FEEDER DESCRIPTION	LDB-8 AT TP-5	INCOMER TO PH-1
FEEDER RATING	63A	250A
FEEDER NO.	18R	18S
SCHEME REF	EP-3-CS-047-022	EP-3-CS-047-022
CABLE SIZE	-	-

INVENTORY NO.		DRG. NO. EP-3-SL-047-868	
07			
08			
09			
04		DESIGNED	TRINATH
03		DRAWN	TRINATH
02		CHECKED	
01	04.08.17	REVISION AS PER UPDATED LOAD LIST	
REV.	DATE	DESCRIPTION	BY
			APPD.
			APPROVED
			KSB
			27.05.17
			3
			FILE NO.:
			SCALE
			JOB NO. CP-14-047
			DRG. NO. EP-3-SL-047-868
			NO. OF SHEETS
			27
			NO.
			27
			REV.
			01

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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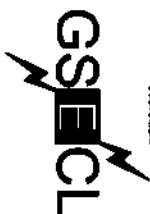
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CUSTOMER:



GUJARAT ELECTRICITY CORPORATION LIMITED
VADODARA, GUJARAT

PROJECT:

1x800 MW WANAKBORI THERMAL POWER STATION
EXTENSION UNIT-8

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DRG. NO. EP-3-SL-047-869

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPRO.	APPROVED	KSB	SCALE: NA	JOB NO. CP-14-047	DRG. NO. EP-3-SL-047-869	NO. OF SHEETS	NO. OF SHEETS	REV.
4												
3					DESIGNED	TRINATH	25.05.17				32	
2					DRAWN							
1	05.05.17	REVISED AS PER UPDATED LOAD LIST			CHECKED	TRINATH	25.05.17				01	



DEVELOPMENT CONSULTANT PVT LTD
KOLKATA



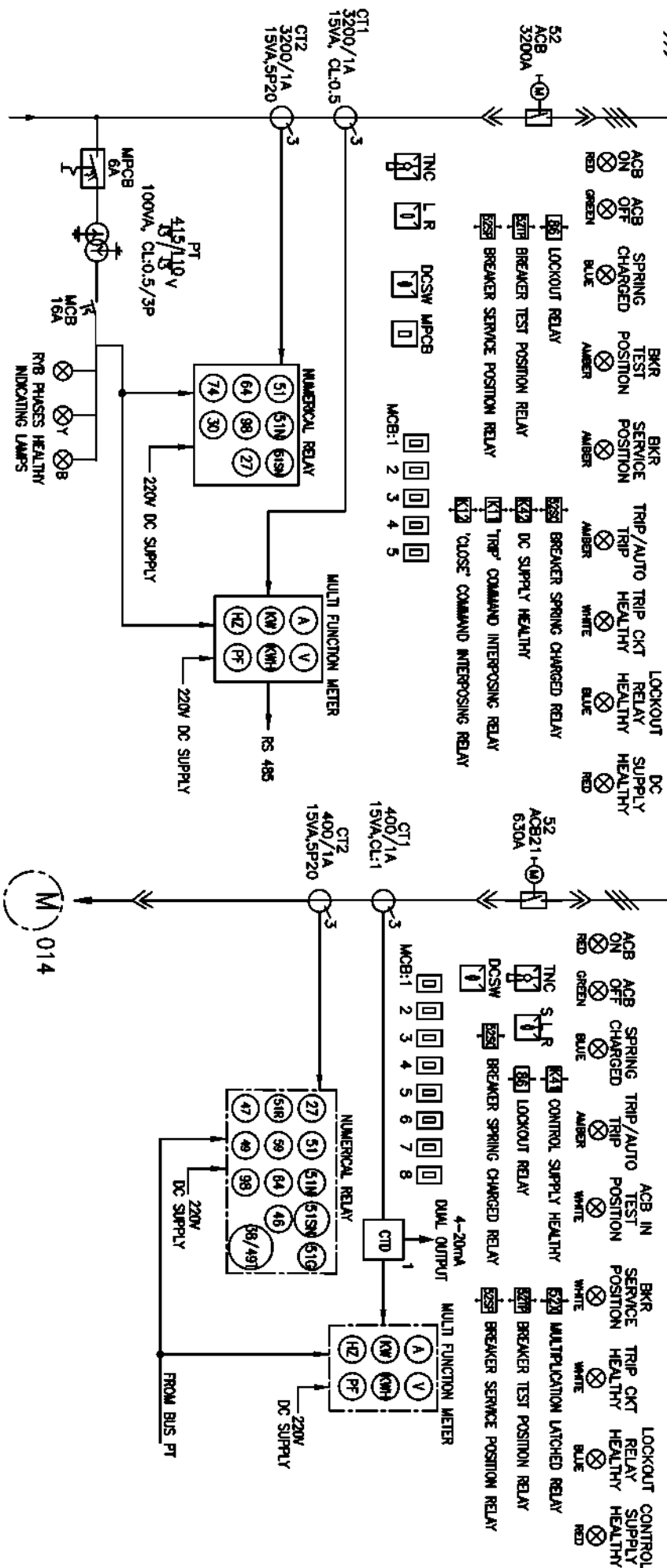
BHARAT HEAVY ELECTRICALS LIMITED
ELECTROPROCESSING DIVISION BANGALORE

TITLE :
SINGLE LINE DIAGRAM
AHS MCC (AHS MCC-1) NEAR TP-6



NO. OF SHEETS
32
NO. OF SHEETS
01
REV.
01

SECTION-A



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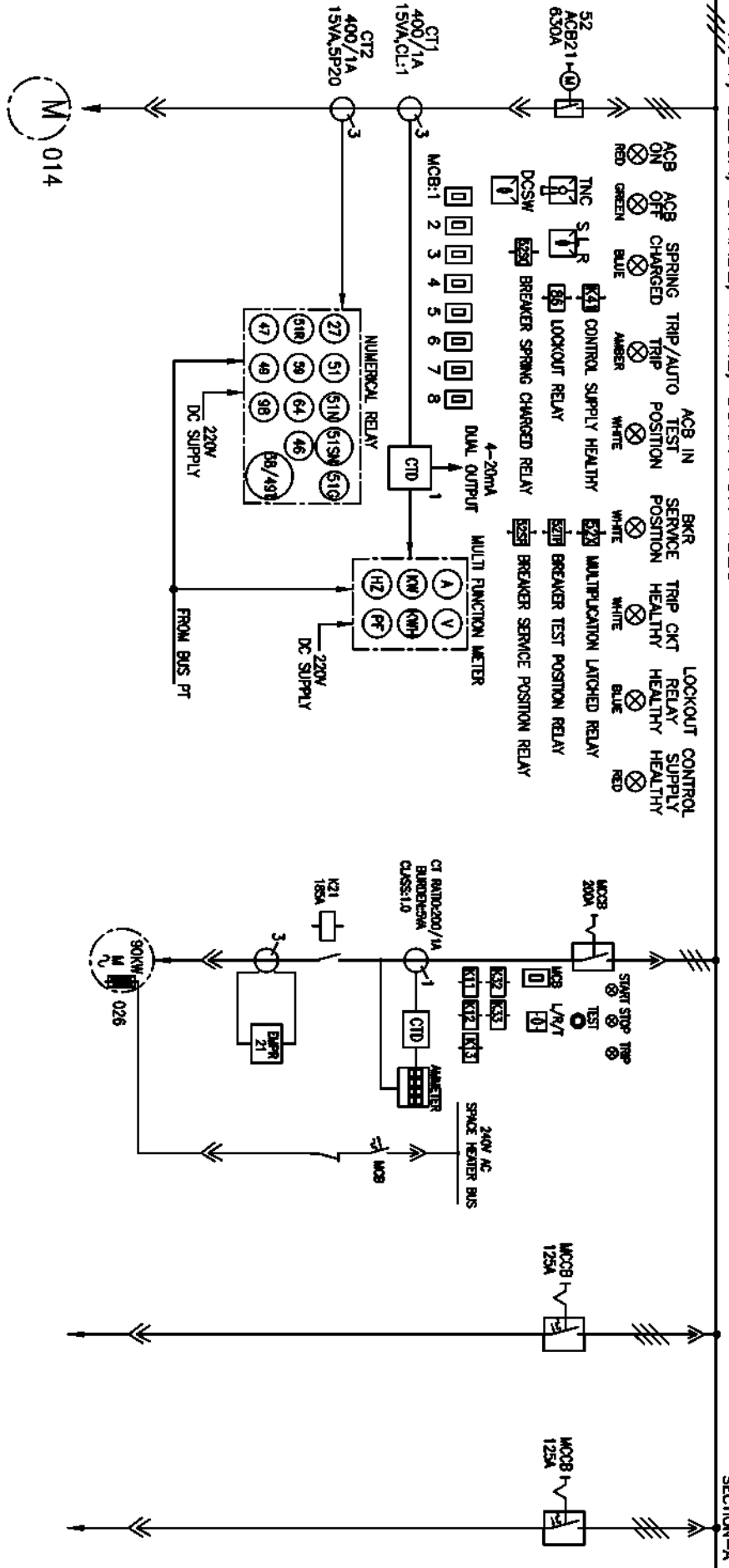
DRG. NO. EP-3-SL-047-869

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415V. 3200A. 3PHASE. 4WIRE. 50KA FOR 1SEC

SECTION-A



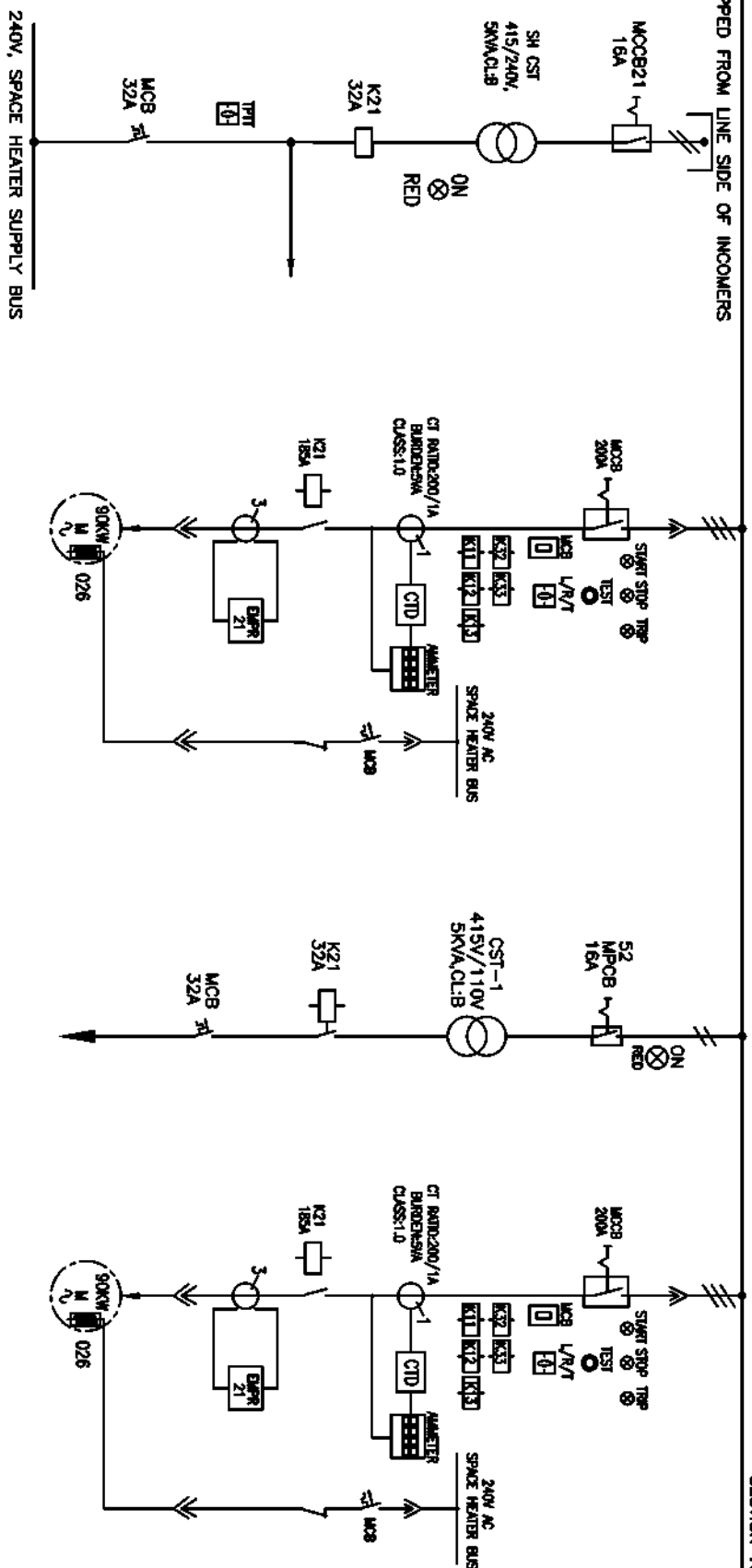
KCS TAG NO.				
FEEDER DESCRIPTION	HP WATER PUMP	VACUUM PUMP	AIR DRIER FOR (TAC)	AIR DRIER FOR (TAC)
FEEDER RATING	132KW	90KW	125A	125A
FEEDER NO.	2B	3A	3B	3C
SCHEM REF	EP-3-CS-047-014	EP-3-CS-047-026	EP-3-CS-047-022	EP-3-CS-047-022
CABLE SIZE	2-3C X 300 SQMM(AL)	1-3C X 300 SQMM(AL)	1-3.5C X 120 SQMM(AL)	1-3.5C X 120 SQMM(AL)

DRG. NO. EP-3-SL-047-869

INVENTORY NO.									
07									
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01	06.08.17	REVISED AS PER UPDATED LOAD LIST							
REV. NO.	DATE	DESCRIPTION	BY	APPRO. BY	APPROVED	KSB	26.05.17	3	FILE NO.:
BHARAT HEAVY ELECTRICALS LIMITED ELECTRO-CELAN DIVISION BANGALORE SINGLE LINE DIAGRAM AHS MCC (AHS MCC-1) NEAR TP-6 NO. OF SHEETS 32 SHEET: 03									
SCALE 108 NO. CP-14-047 086. NO. EP-3-SL-047-869 DR : FILE NO.:									

SECTION-A

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DRG. NO. EP-3-SL-047-869

KKS TAG NO.				
FEEDER DESCRIPTION	SPACE HEATER TRAFQ.	VACUUM PUMP	24V CONTROL TRANSFORMER	VACUUM PUMP
FEEDER RATING	5KVA	90KW	5KVA	90KW
FEEDER NO.	5B	6A	6B	7A
SCHEME REF	EP-3-CS-047-041	EP-3-CS-047-026	EP-3-CS-047-039	EP-3-CS-047-026
CABLE SIZE	-	1-3C X 300 SQMM(AL)	-	1-3C X 300 SQMM(AL)

INVENTORY NO.									
REV.	NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	DATE	FILE NO.:
01	05.08.17	REVISED AS PER UPDATED LOAD LIST				CHECKED			3
02									DR :
03						DRAWN	TRINATH	25.05.17	
04						DESIGNED	TRINATH	25.05.17	
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BHARAT HEAVY ELECTRICALS LIMITED ELECTROPORCELAIN DIVISION BANGALORE					
TITLE : SINGLE LINE DIAGRAM AHS MCC (AHS MCC-1) NEAR TP-6				NO. OF SHEETS : 32 SHEET : 05 NO. :	
SCALE	408 NO. CP-14-047	DRG. NO. EP-3-SL-047-869			

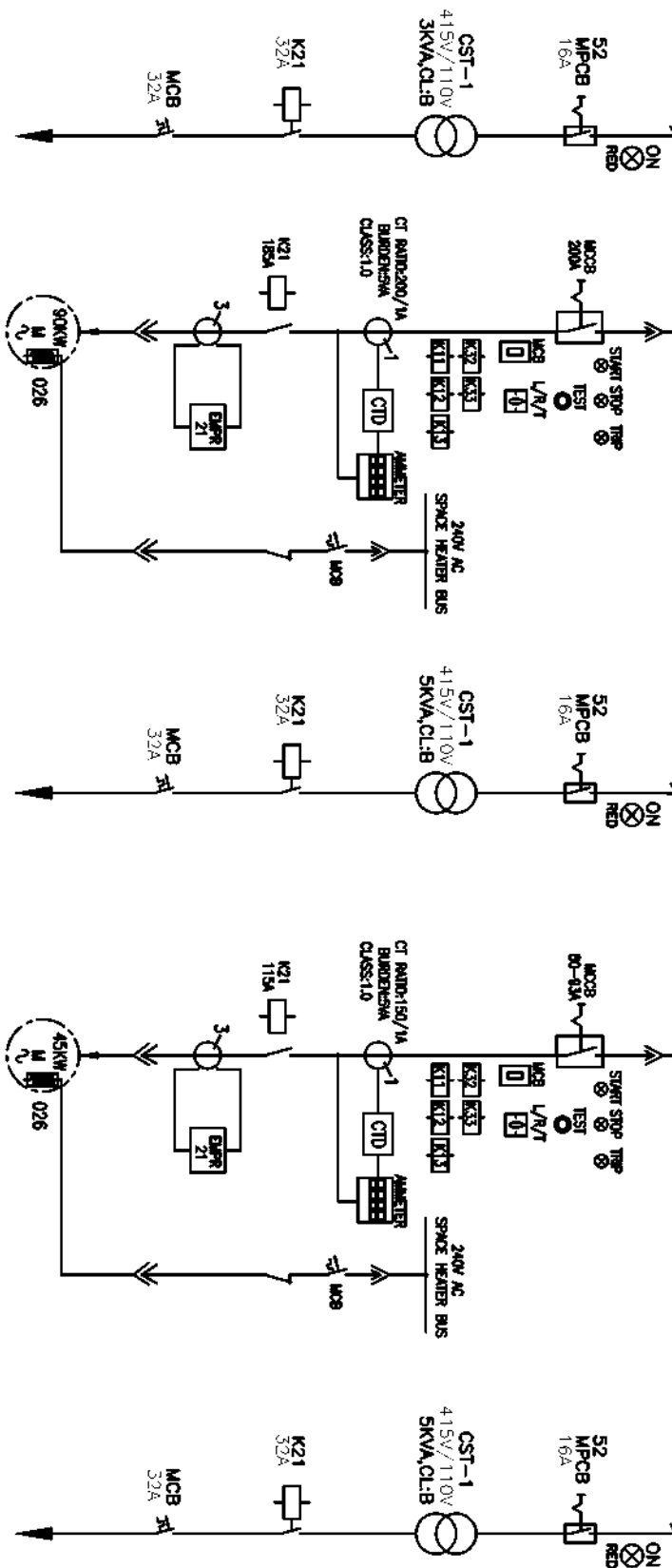
FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



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DRG. NO. EP-3-SL-047-869

KKS TAG NO.	CONTROL TRANSFORMER	SPACE	240V CONTROL TRANSFORMER	BA OVERFLOW PUMP	110V CONTROL TRANSFORMER
FEDDER DESCRIPTION	3kVA	90kW	5kVA	45kW	5kVA
FEDDER RATING	7B	8A	9B	9C	
FEDDER NO.	EP-3-CS-047-039	EP-3-CS-047-026	EP-3-CS-047-039	EP-3-CS-047-026	EP-3-CS-047-039
SCHEME REF	-	-	-	-	-
CABLE SIZE	-	-	-	1-3C X 185 SQMM(AL)	-

INVENTORY NO.

REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-869	NO. OF SHEETS	32	REV.	01
01	09.08.17	REVISED AS PER UPDATED LOAD LIST	AKH	AKH	CHECKED		DR :									
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BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE

SINGLE LINE DIAGRAM

AHS MCC (AHS MCC-1) NEAR TP-6

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FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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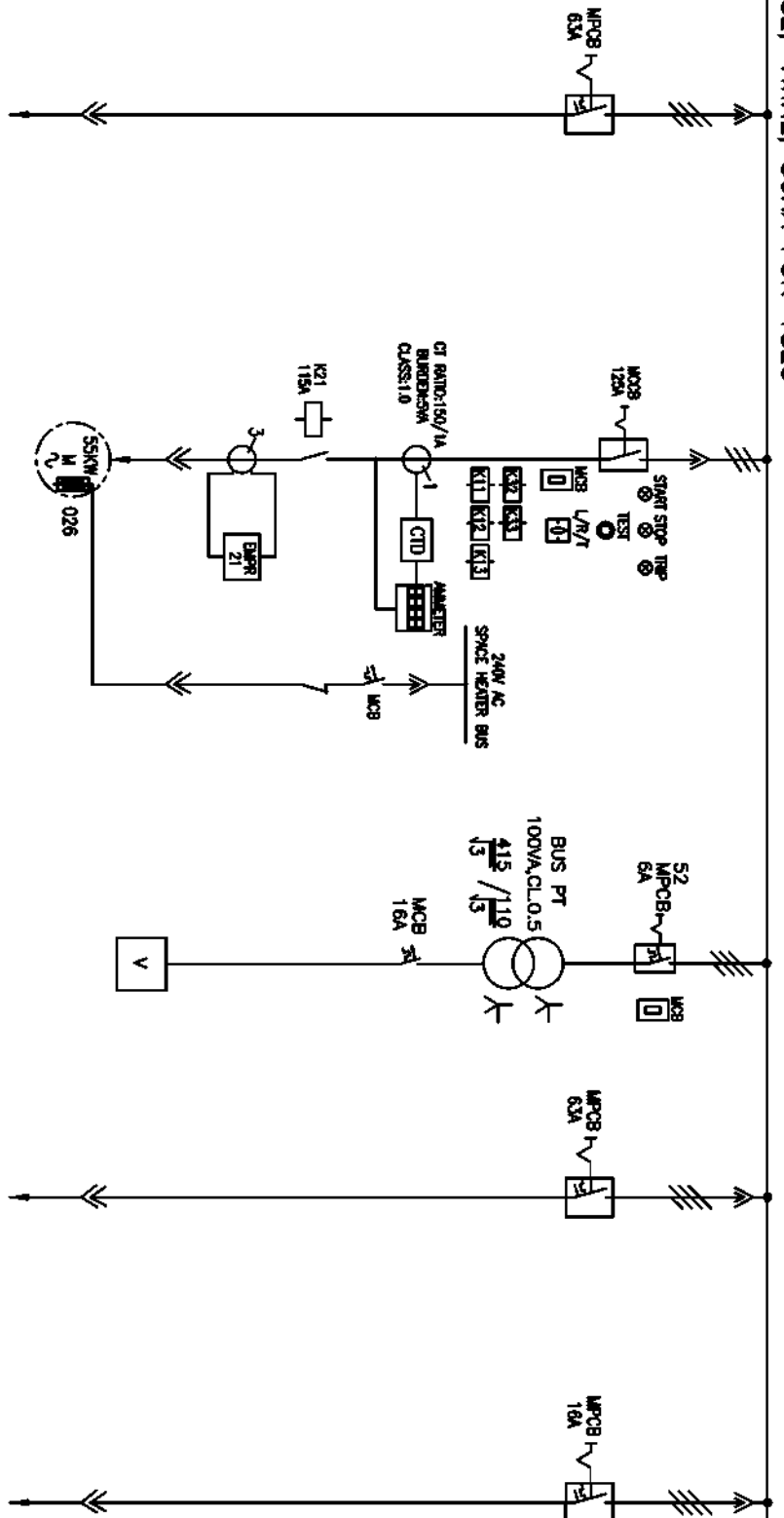
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415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



KKS TAG NO.				
FEEDER DESCRIPTION	ELECTRIC HOIST FOR MCC 10T	SPARE	BUS PT	EOT CRANE AMPH
FEEDER RATING	63A	55KW	1000VA	63A
FEEDER NO.	10B	10C	11A	11B
SCHWIE REF	EP-3-CS-047-022	EP-3-CS-047-026	EP-3-CS-047-036	EP-3-CS-047-022
CABLE SIZE	1-3.5C X 35 SQMM(AL)	-	-	1-3.5C X 35 SQMM(AL)
				1-4C X 16 SQMM(AL)

DRG. NO. EP-3-SL-047-869

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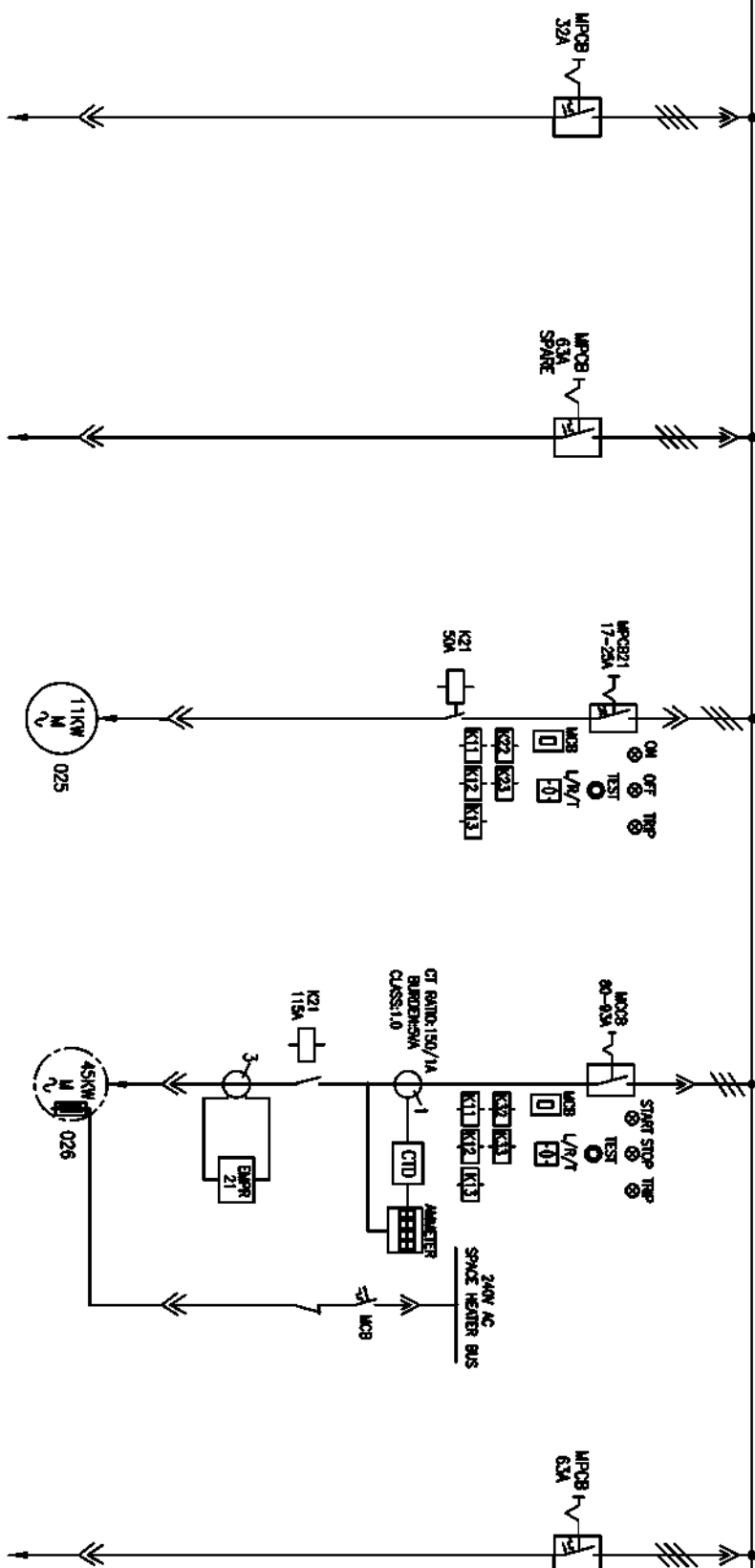
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415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



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DRG. NO. EP-3-SL-047-869

KGS TAG NO.	FLUID COUPLING PANEL	SPARE	ESP & ISH FLUIDIZING AIR BLOWER	HCSD LP WATER TRANSFER PUMP	MISC USE
FEDDER DESCRIPTION	FLUID COUPLING PANEL	SPARE	ESP & ISH FLUIDIZING AIR BLOWER	HCSD LP WATER TRANSFER PUMP	MISC USE
FEDDER RATING	32A	63A	11kW	45kW	63A
FEDDER NO.	110	11E	11F	3P	3Q
SCHEME REF	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-025	EP-3-CS-047-026	EP-3-CS-047-022
CABLE SIZE	1-4C X 16 SQMM(AL)	-	1-3C X 120 SQMM(AL)	1-3C X 150 SQMM(AL)	1-4C X 16 SQMM(AL)

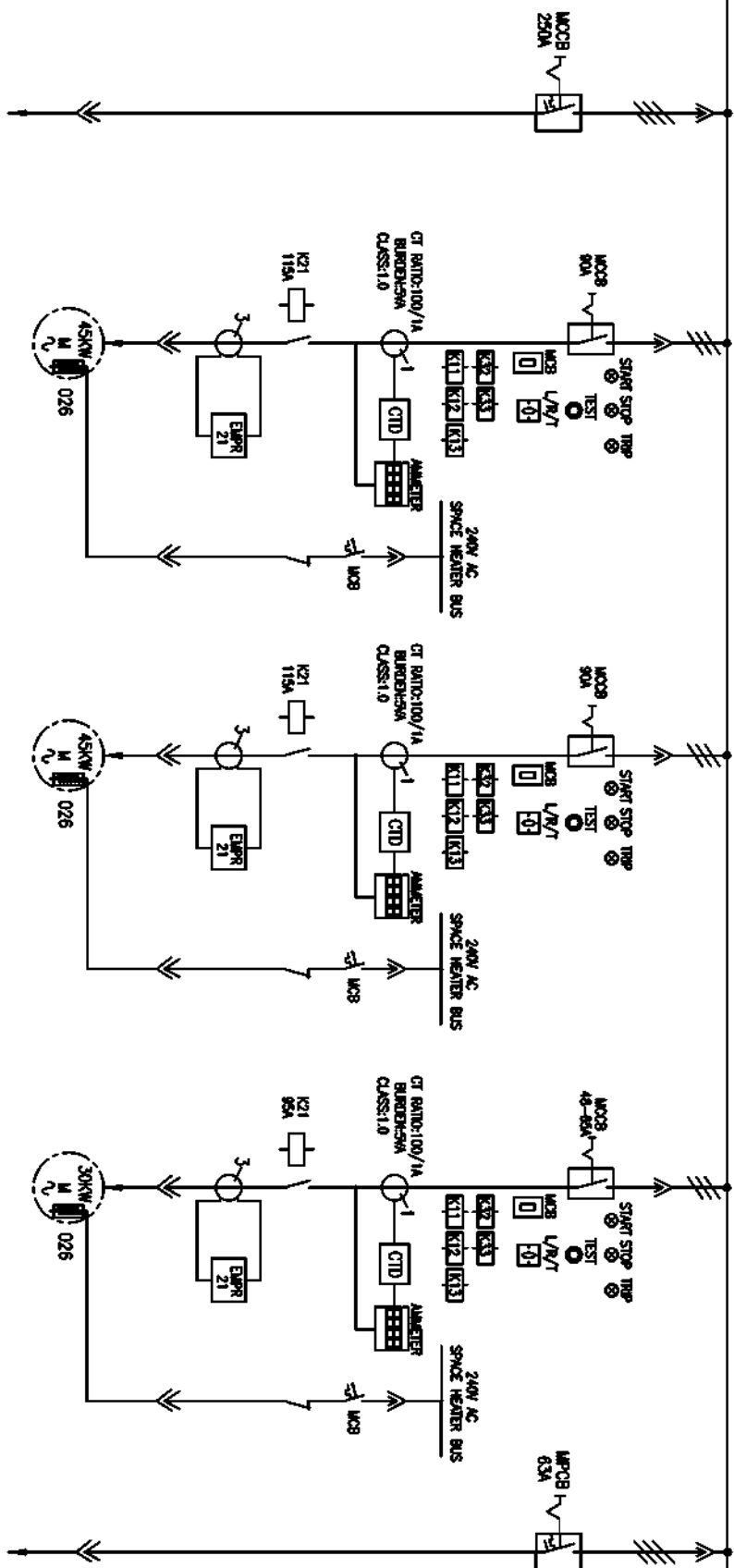
INVENTORY NO.

REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE
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02							TRINATH		25.05.17
03							TRINATH		25.05.17
04							TRINATH		25.05.17
05							TRINATH		25.05.17
06							TRINATH		25.05.17
07							TRINATH		25.05.17

BHARAT HEAVY ELECTRICALS LIMITED		ELECTROPORCELAIN DIVISION BANGALORE	
TITLE :		SINGLE LINE DIAGRAM	
SCALE :		AHS MCC (AHS MCC-1) NEAR TP-6	
JOB NO. CP-14-047		DRG. NO. EP-3-SL-047-869	
NO. OF SHEETS		NO. OF SHEETS	
SHEET. NO.		SHEET. NO.	
REV.		REV.	

415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



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DRG. NO. EP-3-SL-047-869

KGS TAG NO.	FEEDER DESCRIPTION	FEEDER RATING	FEEDER NO.	SCHEME REF	CABLE SIZE
	SPARE	250A	3S	EP-3-CS-047-022	-
	RECYCLE WATER PUMP	45KW	4Q	EP-3-CS-047-026	1-3C X 300 SQMM(AL)
	RECYCLE WATER PUMP	45KW	4R	EP-3-CS-047-026	1-3C X 300 SQMM(AL)
	SPARE	30KW	5Q	EP-3-CS-047-026	-
	DB/STARTER VENTILATION FAN IN VCCH	63A	5R	EP-3-CS-047-022	1-4C X 16 SQMM(AL)

INVENTORY NO.

REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-869	NO. OF SHEETS	SHEET NO.	REV.
01	09.08.17	REVISED AS PER UPDATED LOAD LIST	AS	AS	CHECKED		TRINATH	25.05.17	3	DR :		108	NO.	CP-14-047	008	NO.	09	01
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BHARAT HEAVY ELECTRICALS LIMITED

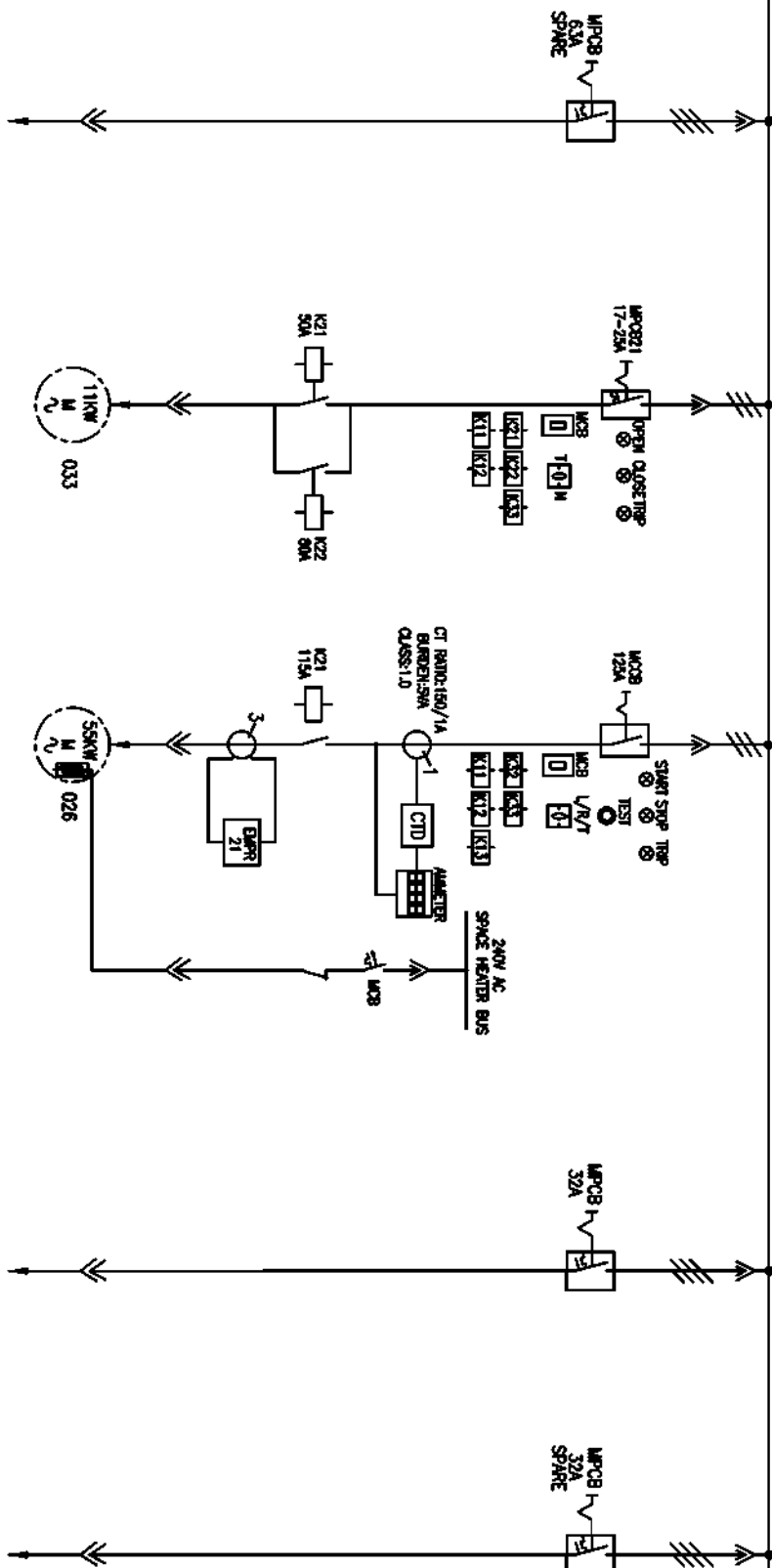
ELECTROPORCELAIN DIVISION BANGALORE

SINGLE LINE DIAGRAM

AHS MCC (AHS MCC-1) NEAR TP-6

415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1 SEC

SECTION-A



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DRG. NO. EP-3-SL-047-869

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-869	NO. OF SHEETS	REV.
01	09.08.17	REVISED AS PER UPDATED LOAD LIST	AKASH	AKASH	CHECKED		3						32	01
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BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE

SINGLE LINE DIAGRAM

AHS MCC (AHS MCC-1) NEAR TP-6

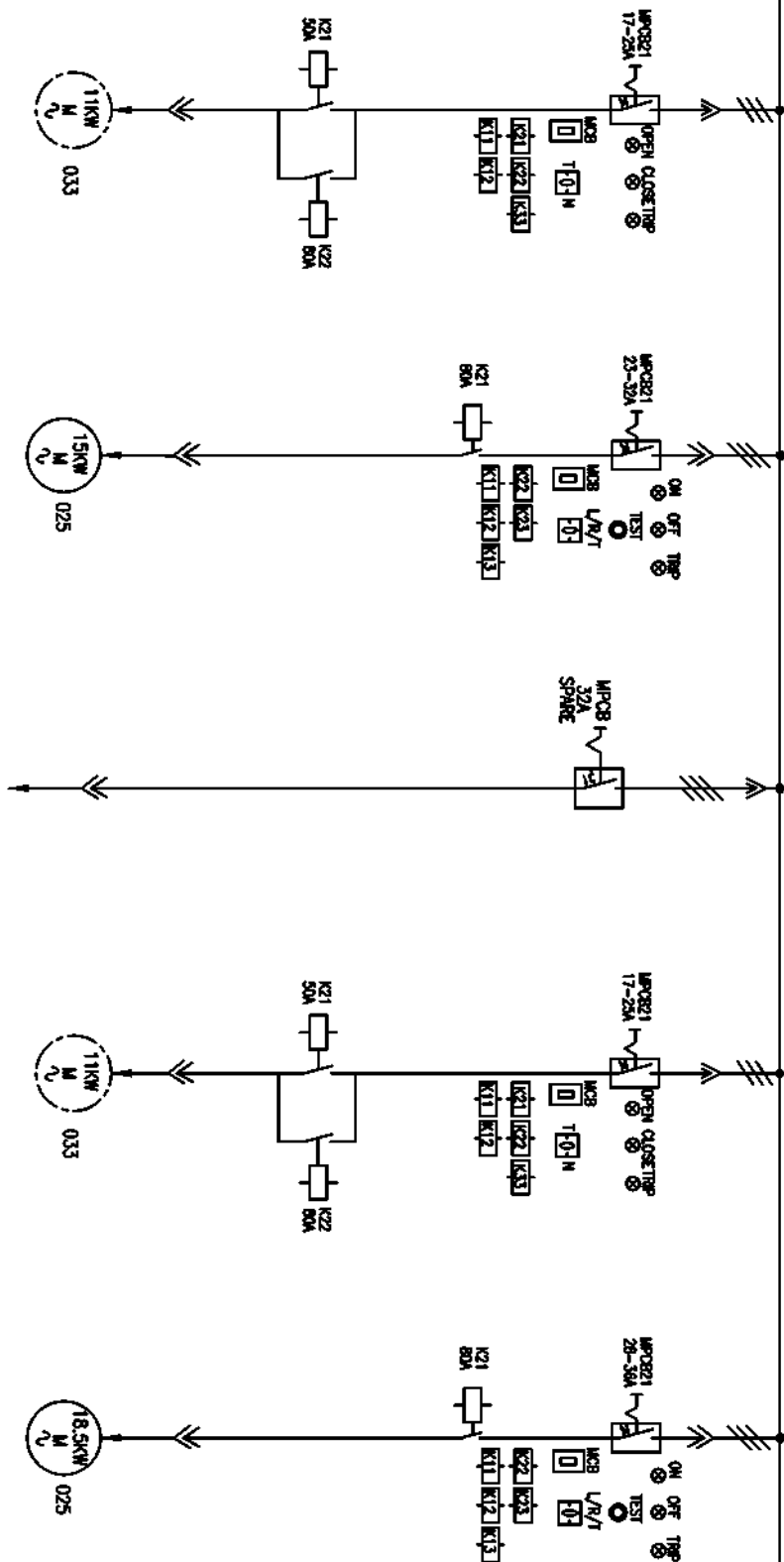


NO. OF SHEETS

SHEET NO.

415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



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DRG. NO. EP-3-SL-047-869

INVENTORY NO.

REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-869	NO. OF SHEETS	11	REV.	01
01	09.08.17	REVISED AS PER UPDATED LOAD LIST	AS	AS	CHECKED		TRINATH		25.05.17	3		108	NO.	CP-14-047	008	NO.	EP-3-SL-047-869		
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BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGLORE



TITLE :

SINGLE LINE DIAGRAM
AHS MCC (AHS MCC-1) NEAR TP-6

NO. OF SHEETS

SHEET NO.

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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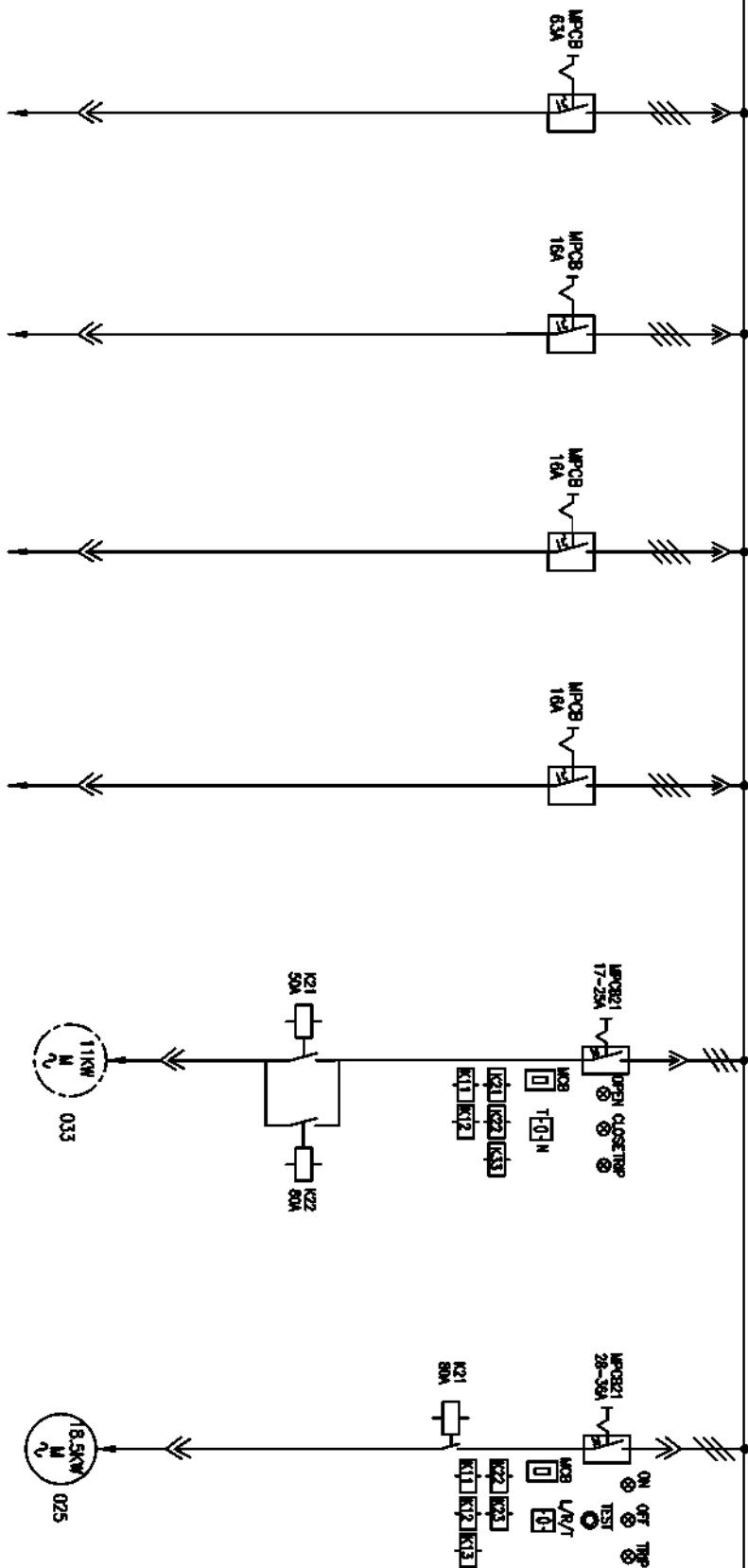
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415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



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DRG. NO. EP-3-SL-047-869

INVENTORY NO.

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BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE

TITLE :

SINGLE LINE DIAGRAM
AHS MCC (AHS MCC-1) NEAR TP-6

SECTION-A



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INVENTORY NO.

FORM 66-271 A4

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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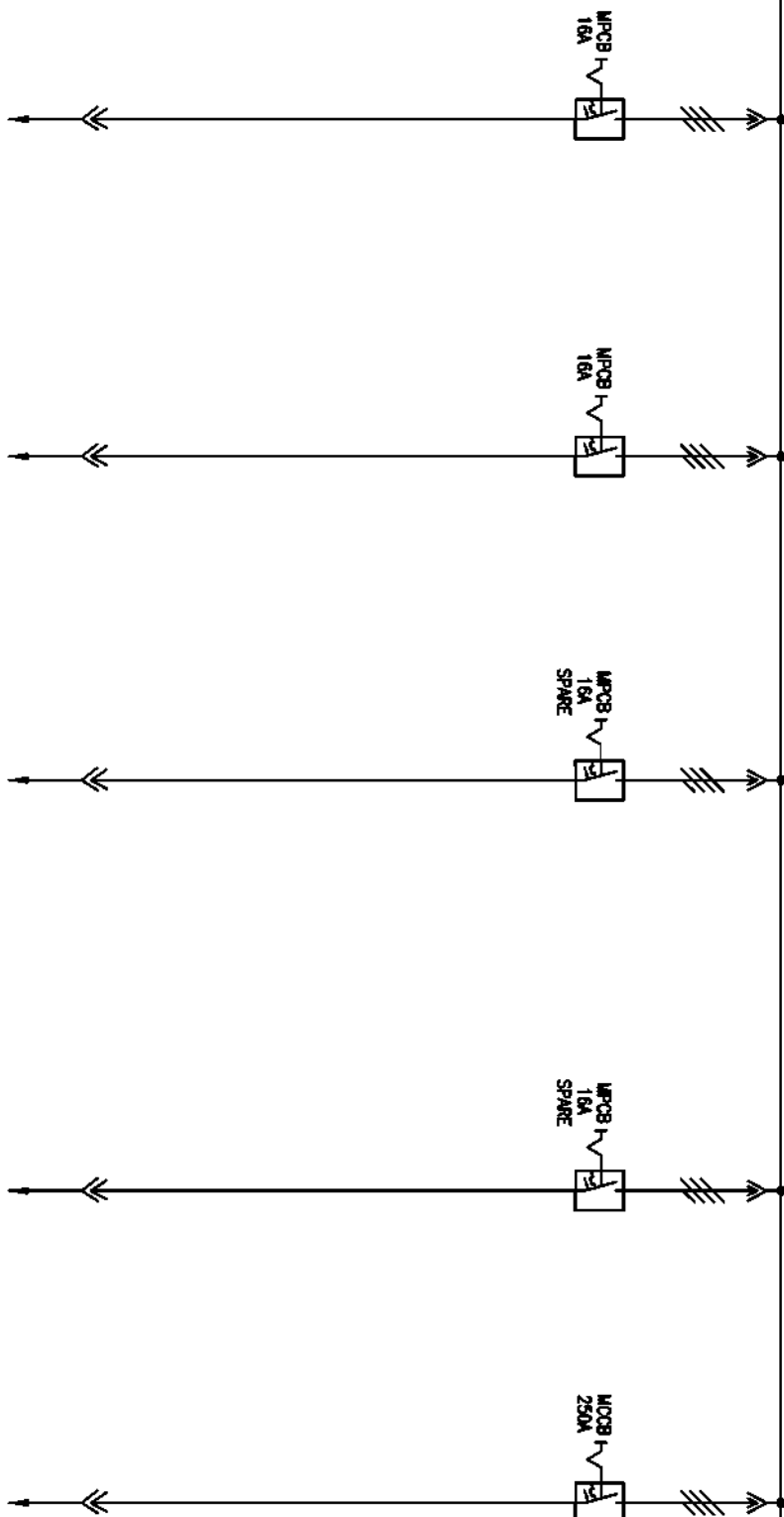
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415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



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DRG. NO. EP-3-SL-047-869

INVENTORY NO.

REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-869	NO. OF SHEETS	32	NO. OF SHEETS	14	REV.	01
01	09.08.17	REVISED AS PER UPDATED LOAD LIST	ASPH	ASPH	CHECKED		TRINATH	25.05.17		3											
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BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE

TITLE :

SINGLE LINE DIAGRAM
AHS MCC (AHS MCC-1) NEAR TP-6

FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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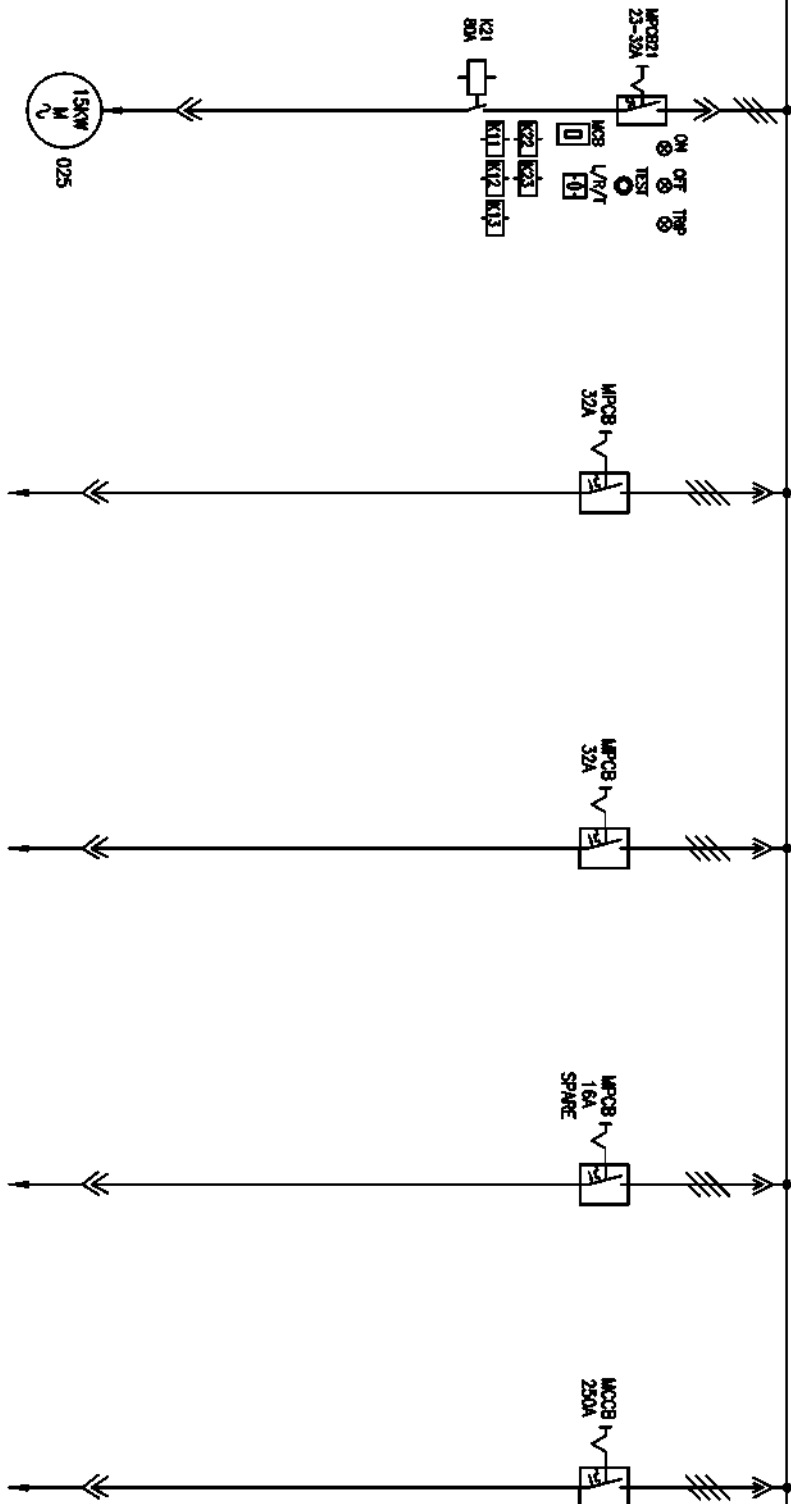
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415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-A



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DRG. NO. EP-3-SL-047-869

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-869	NO. OF SHEETS	REV.
01	09.09.17	REVISED AS PER UPDATED LOAD LIST	AKH	AKH	CHECKED		DR : FILE NO.:						32	15
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BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE

SINGLE LINE DIAGRAM

AHS MCC (AHS MCC-1) NEAR TP-6



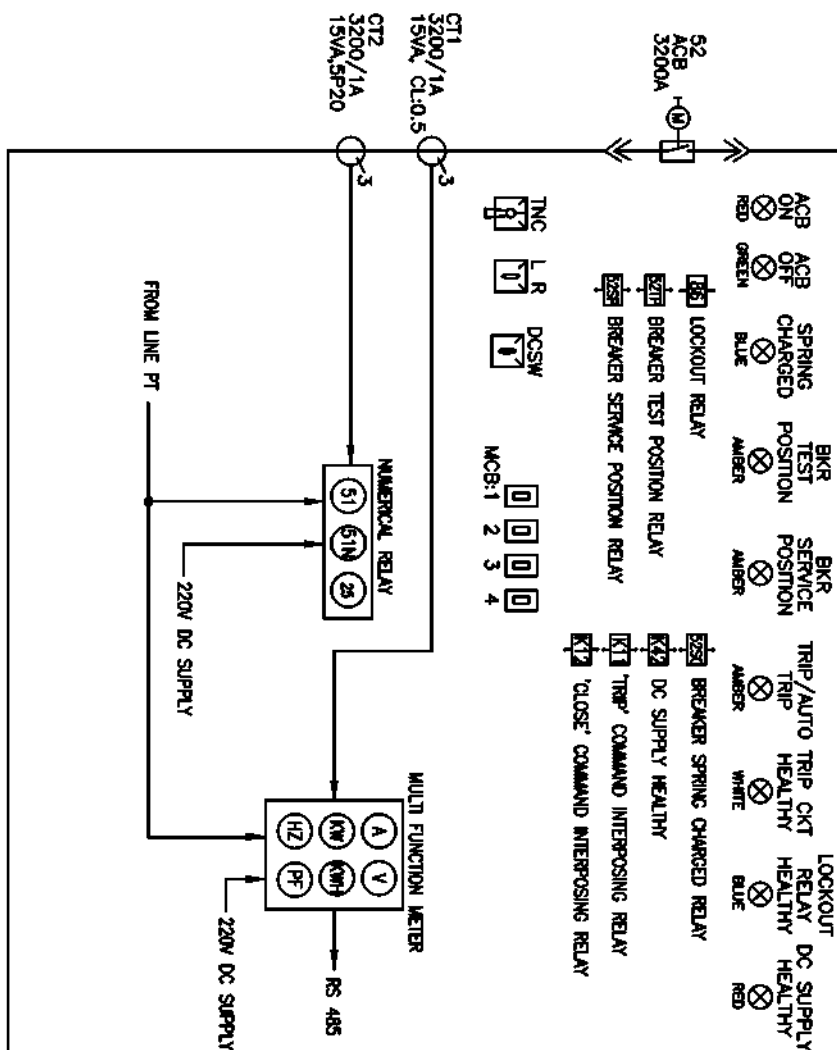
NO. OF SHEETS

SHEET

REV.

415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC



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DRG. NO. EP-3-SL-047-869

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	25.05.17	3	FILE NO.:	SCALE	JOB NO. CP-14-047	DRG. NO. EP-3-SL-047-869	NO. OF SHEETS	REV.
01	05.08.17	REVISED AS PER UPDATED LOAD LIST	AAH	AAH	CHECKED				DR :				32	01
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BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE

SINGLE LINE DIAGRAM

AHS MCC (AHS MCC-1) NEAR TP-6



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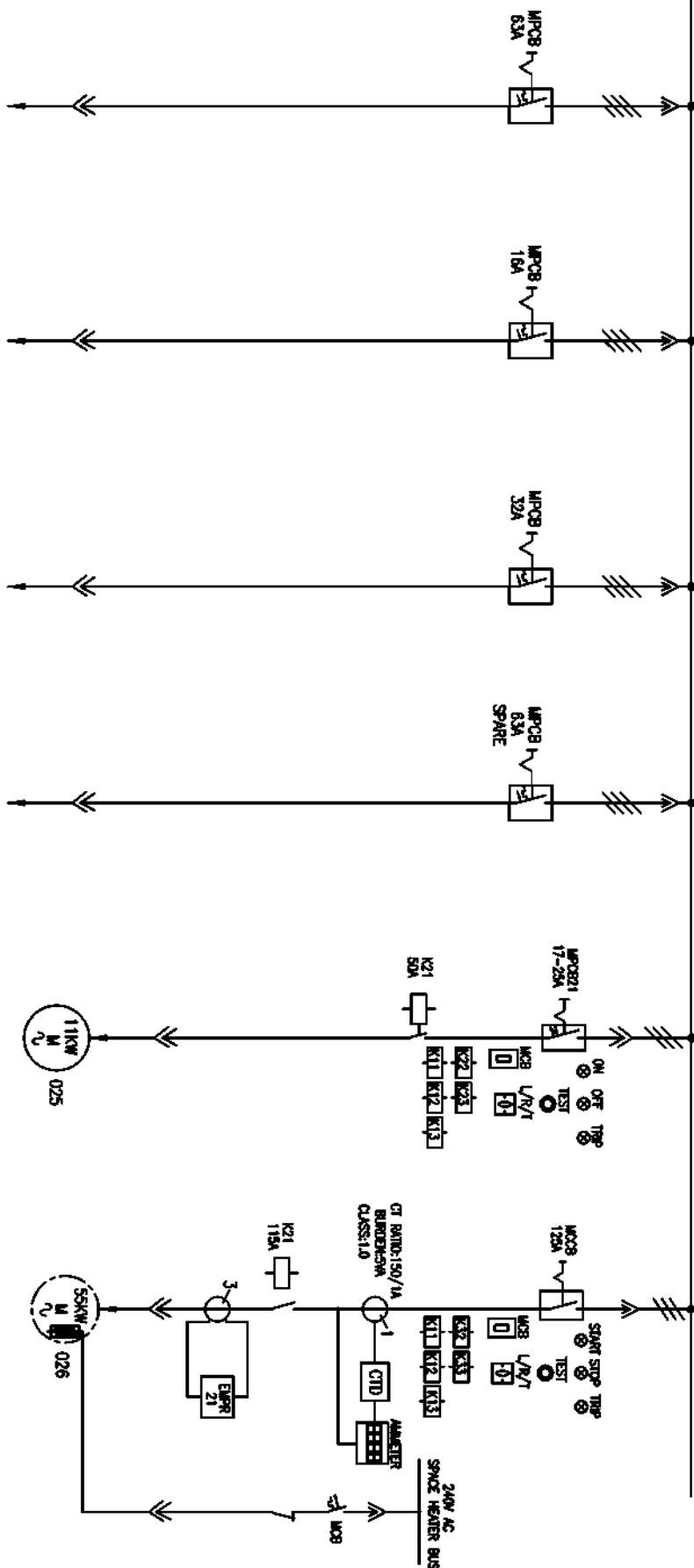
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415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-B



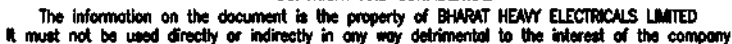
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DRG. NO. EP-3-SL-047-869

KGS TAG NO.	FEEDER DESCRIPTION	PCCB AT ASH WATER PUMP HOUSE	FLUID COUPLING PANEL	SPARE	ESP & ISH FLUIDIZING AIR BLOWER	LP WATER PUMP
FEEDER RATING	5T EOT CRANE AT VCOH	63A	32A	63A	11KW	55KW
FEEDER NO.	138	16A	130	13E	13F	14A
SCHEME REF	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-025	EP-3-CS-047-026
CABLE SIZE	1-4C X 16 SQMM(AL)	1-4C X 16 SQMM(AL)	1-4C X 16 SQMM(AL)	-	1-3C X 120 SQMM(AL)	1-3C X 150 SQMM(AL)

INVENTORY NO.		NAME		DATE		TITLE		BHARAT HEAVY ELECTRICALS LIMITED	
01	09.08.17	REMOVED AS PER UPDATED LOAD LIST	DESIGNED	25.05.17	DR :	SCALE	108 NO. CP-14-047	DRG. NO. EP-3-SL-047-869	NO. OF SHEETS 32
02	09.08.17	REMOVED AS PER UPDATED LOAD LIST	CHECKED	25.05.17	FILE NO.:				SHEET 17
03			DRAWN	25.05.17					REV. 01
04			TRNATH	25.05.17					
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SECTION-B

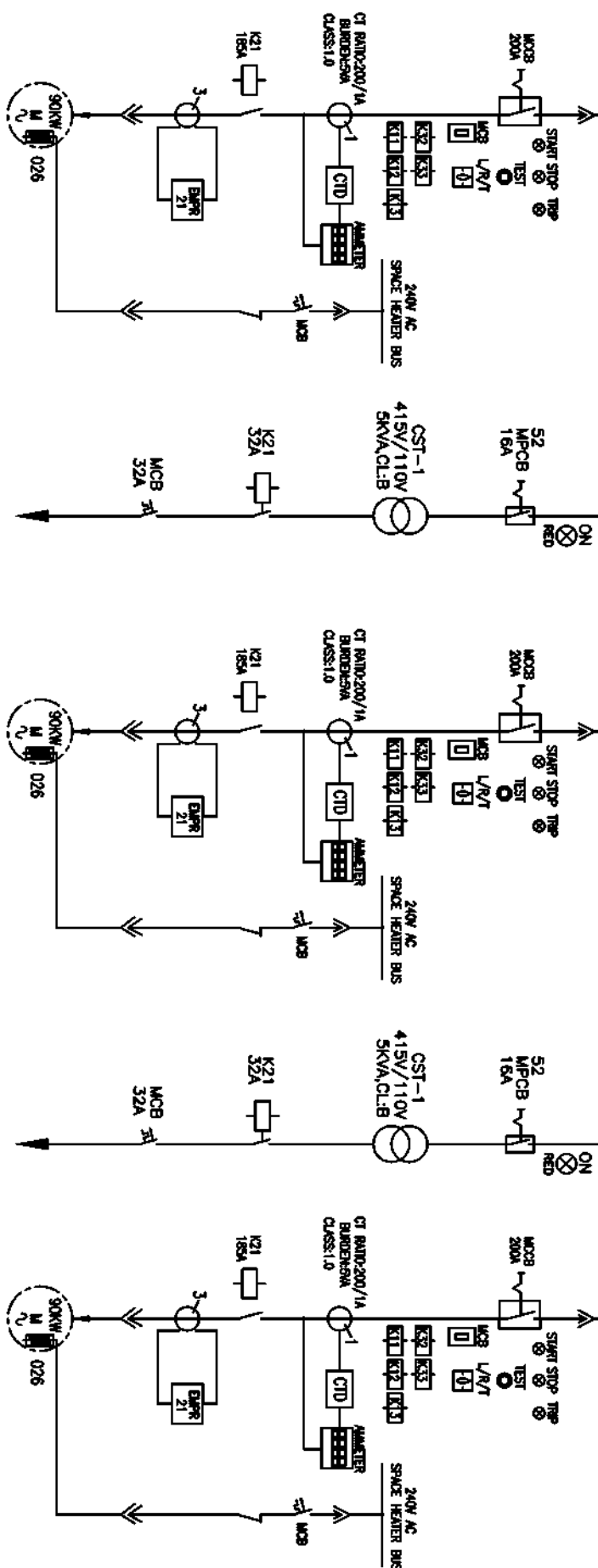


INVENTORY NO.

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415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-B



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DRG. NO. EP-3-SL-047-869

KKS TAG NO.	FEEDER DESCRIPTION	CONTROL TRANSFORMER	SPACE	24V CONTROL TRANSFORMER	VACUUM PUMP
	FEEDER RATING		90KW	5kVA	90KW
	FEEDER NO.		17A	18A	19A
	SCHEME REF		EP-3-CS-047-026	EP-3-CS-047-039	EP-3-CS-047-026
	CABLE SIZE		-	-	1-3C X 300 SQMM(AL)

INVENTORY NO.

REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	NAME	SIGN.	DATE	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-869	NO. OF SHEETS	32	NO. OF SHEETS	19	REV.	01
01	09.08.17	REVISED AS PER UPDATED LOAD LIST																			
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BHARAT HEAVY ELECTRICALS LIMITED

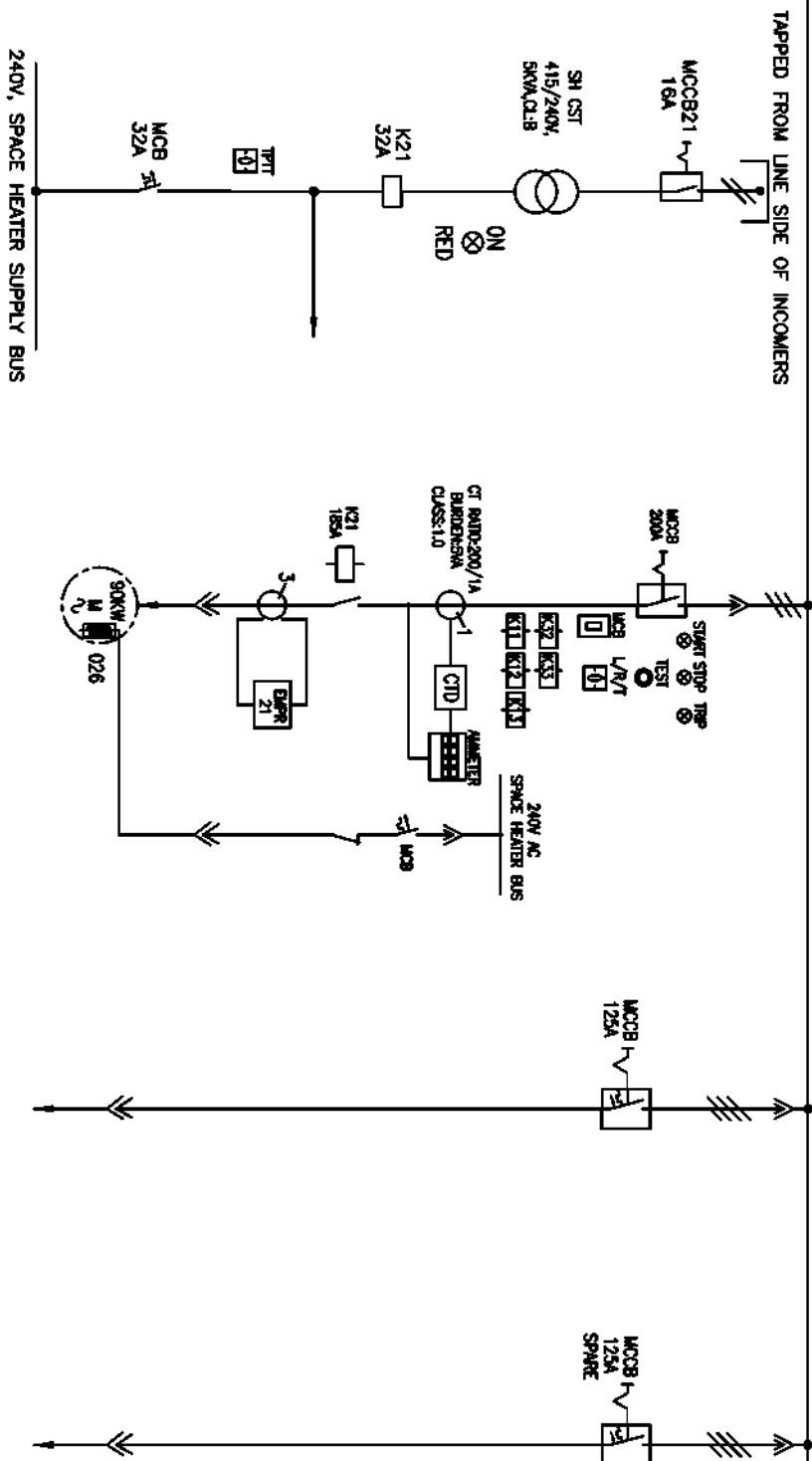
ELECTROPORCELAIN DIVISION BANGALORE

SINGLE LINE DIAGRAM

AHS MCC (AHS MCC-1) NEAR TP-6

415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-B



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DRG. NO. EP-3-SL-047-869

INVENTORY NO.

REV. NO.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	FILE NO.
01	09.08.17	REVISED AS PER UPDATED LOAD LIST	AKH	AKH	CHECKED		3
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NAME	SIGN.	DATE	DR :	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-869	NO. OF SHEETS	REV.
TRINATH		25.05.17							32	01
TRINATH		25.05.17							20	

BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE

SINGLE LINE DIAGRAM

AHS MCC (AHS MCC-1) NEAR TP-6



FIRST ANGLE PROJECTION

ALL DIMENSIONS ARE IN MM.

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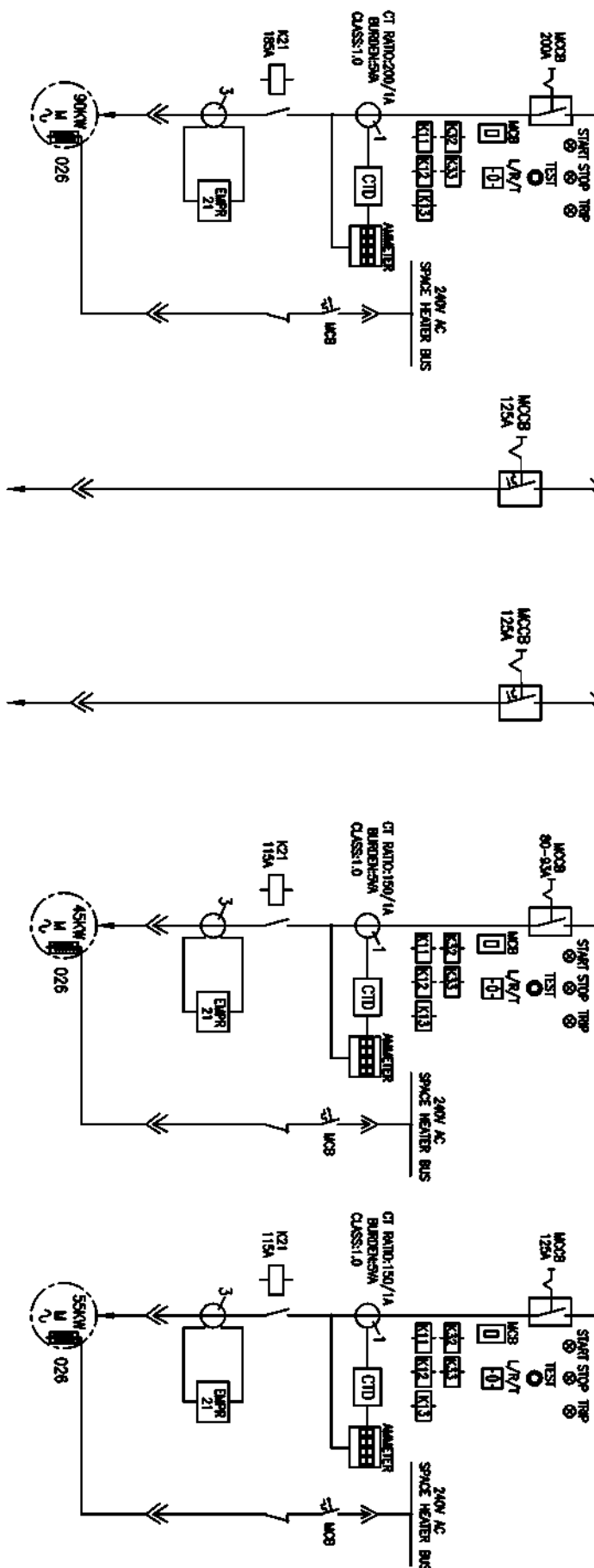
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415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-B



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DRG. NO. EP-3-SL-047-869

KKS TAG NO.	VACUUM PUMP	AIR DRIER FOR (TAC)	AIR DRIER FOR (TAC)	BA OVERFLOW PUMP	SPARE
FEDDER DESCRIPTION					
FEDDER RATING	90KW	125A	125A	45KW	55KW
FEDDER NO.	21A	21B	21C	22A	22B
SCHEME REF	EP-3-CS-047-026	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-026	EP-3-CS-047-026
CABLE SIZE	1-3C X 300 SQMM(AL)	1-3SC X 120 SQMM(AL)	1-3SC X 120 SQMM(AL)	1-3C X 185 SQMM(AL)	-

INVENTORY NO.

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BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE



TITLE :

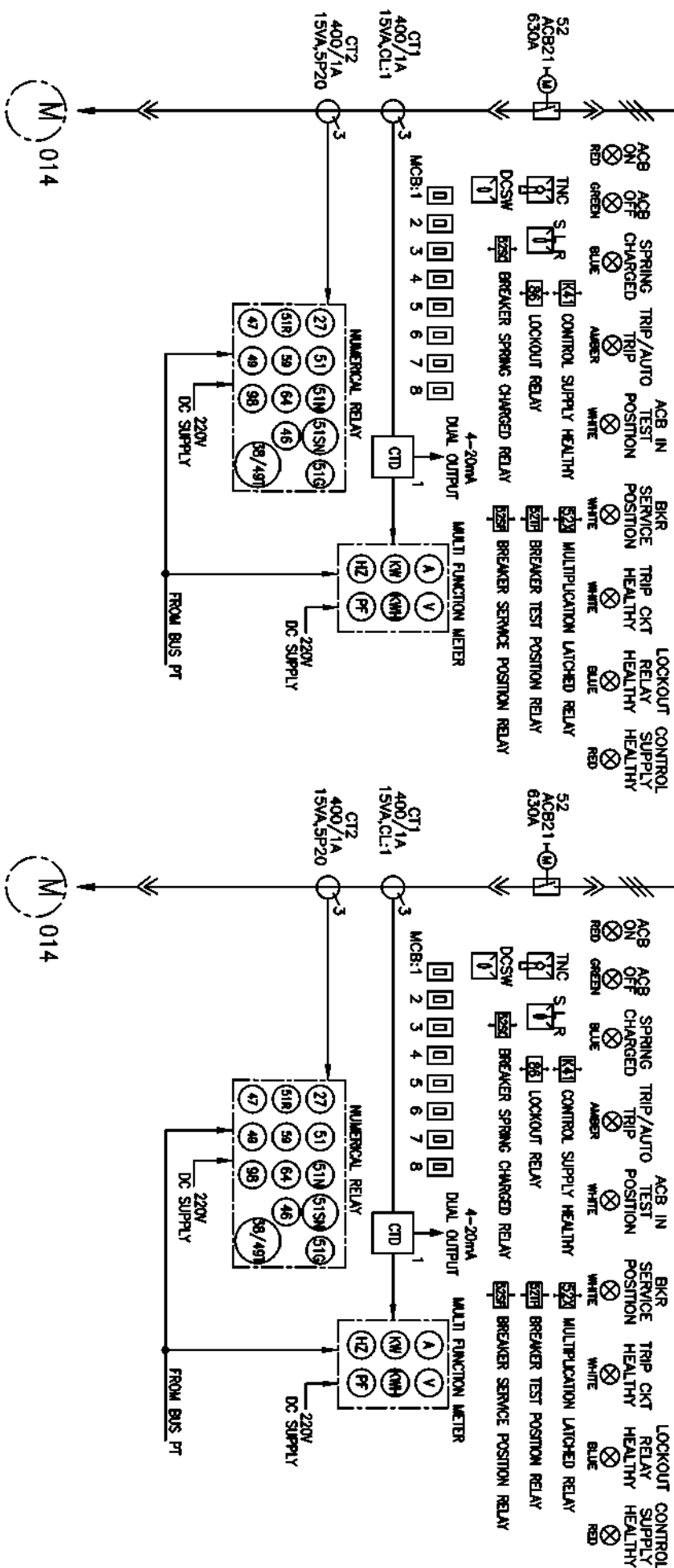
SINGLE LINE DIAGRAM
AHS MCC (AHS MCC-1) NEAR TP-6

NO. OF SHEETS

SHEET. 21

415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-B



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DRG. NO. EP-3-SL-047-869

INVENTORY NO.

REV.	DATE	DESCRIPTION	BY	APPD.	APPROVED	KSB	FILE NO.	SCALE	JOB NO.	CP-14-047	DRG. NO.	EP-3-SL-047-869	NO. OF SHEETS	23	REV.	01
01	09.08.17	REVISED AS PER UPDATED LOAD LIST	AKH	AKH	CHECKED		DR :									
02																
03																
04																
05																
06																
07																

KGS TAG NO.	FEDER DESCRIPTION	FEDER RATING	FEDER NO.	SCHEME REF	CABLE SIZE
	HP WATER PUMP	132KW			
		24A			
		EP-3-CS-047-014			
		2-3C X 300 SQMM(AL)			

BHARAT HEAVY ELECTRICALS LIMITED

ELECTROPORCELAIN DIVISION BANGALORE



TITLE :

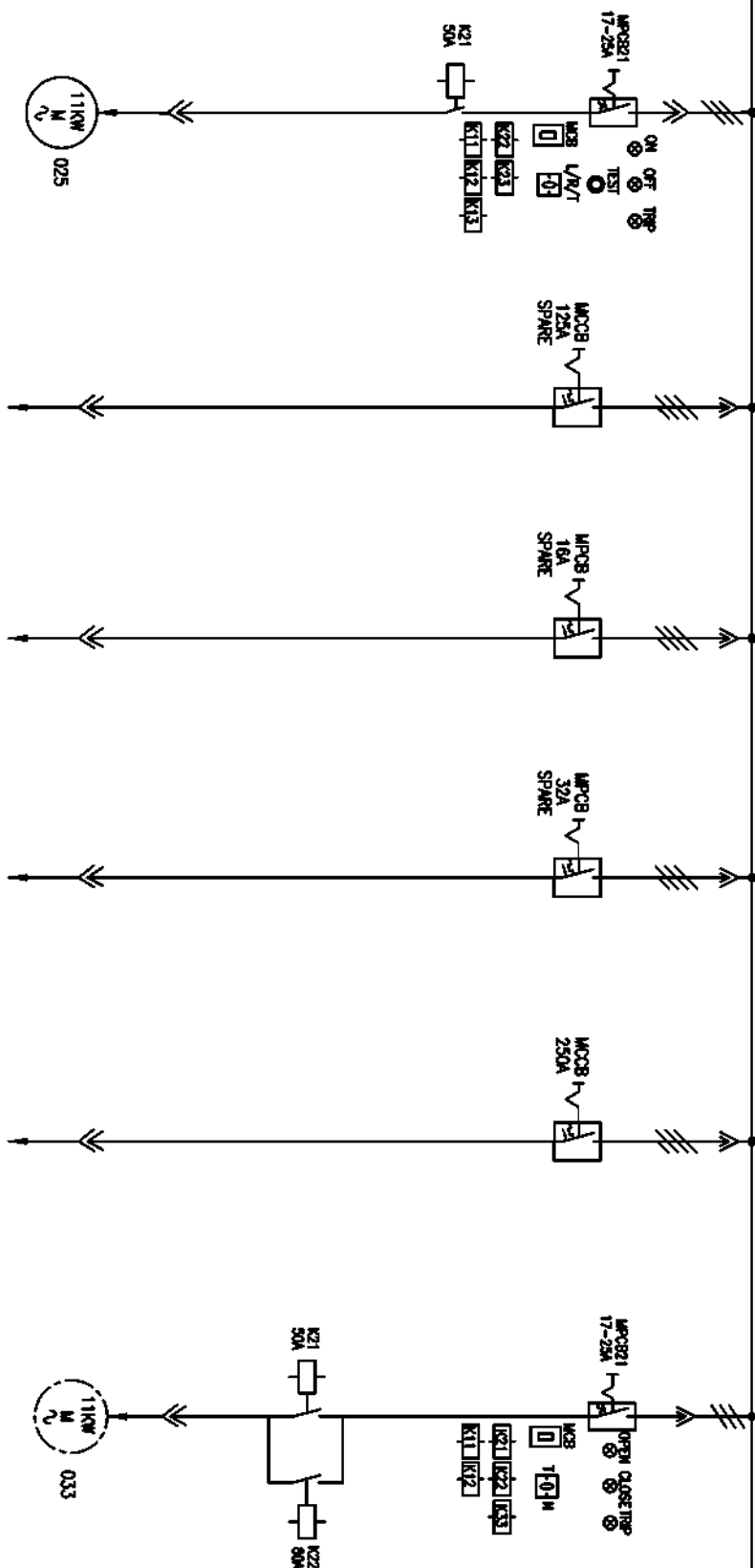
SINGLE LINE DIAGRAM
AHS MCC (AHS MCC-1) NEAR TP-6

NO. OF SHEETS

SHEET NO.

REV.

SECTION-B



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DRG. NO.

KKS TAG NO.					
FEEDER DESCRIPTION	MISC USE	SPARE	SPARE	SPARE	SPARE
FEEDER RATING	11KW	125A	16A	32A	11KW
FEEDER NO.	13Q	13R	13S	13T	13U
SCHEDULE REF	EP-3-CS-047-025	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-033
CABLE SIZE	1-3C X 120 SQMM(AL)	-	-	-	1-3.5C X 95 SQMM(AL)

INVENTORY NO.					
REV. NO.	DATE	DESCRIPTION	BY	APPD.	
07					
06					
05					
04		DESIGNED			
03		DRAWN			
02		CHECKED			
01	05.08.17	REVISED AS PER UPDATED LOAD LIST			

BHARAT HEAVY ELECTRICALS LIMITED					
ELECTRO-PORCELAIN DIVISION BANGALORE					
TITLE :		SINGLE LINE DIAGRAM			
AHS MCC (AHS MCC-1) NEAR TP-6		DR :			
SCALE		FILE NO.: 3			
J08 NO. CP-14-047		DWS. NO. EP-3-SL-047-869		NO. OF SHEETS 32	
				SHEET: 24	
				REV. 01	

1

2

3

4

5

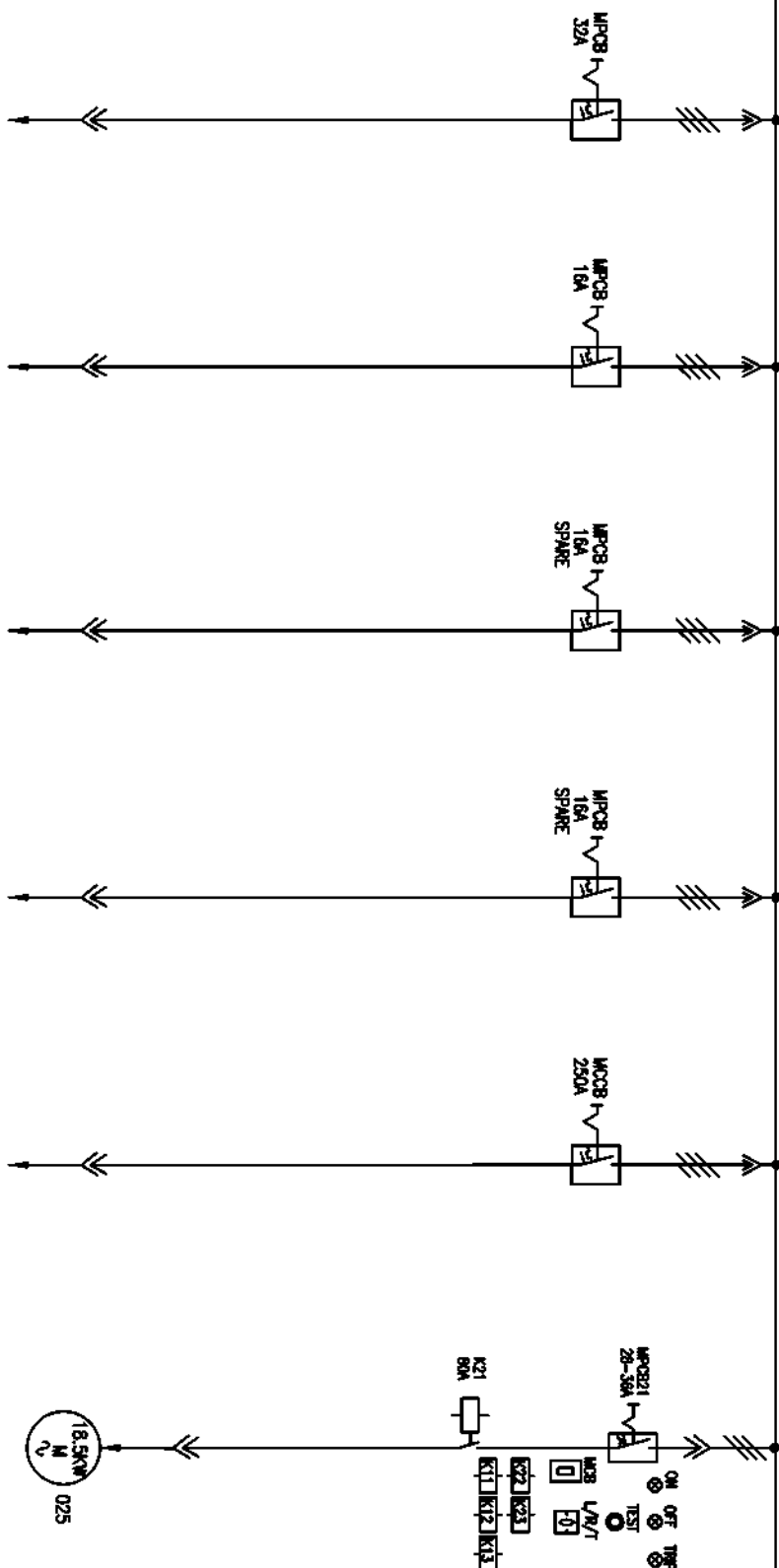
6

7

8

415V, 3200A, 3PHASE, 4WIRE, 50KA FOR 1SEC

SECTION-B



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DRG. NO. EP-3-SL-047-869

KGS TAG NO.	MISC USE	DB / STARTER VENTILATION FAN IN AMPH	SPARE	SPARE	MADB AT AHS MCC-1	SEAL WATER PUMP
FEDDER DESCRIPTION						
FEDDER RATING	32A	32A	16A	16A	250A	18.5KW
FEDDER NO.	14R	14S	14T	14U	14V	15P
SCHEME REF	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-022	EP-3-CS-047-025
CABLE SIZE	1-4C X 16 SQMM(AL)	1-4C X 16 SQMM(AL)	-	-	1-3.5C X 95 SQMM(AL)	1-3C X 120 SQMM(AL)

INVENTORY NO.		REV.		DATE		DESCRIPTION		BY		APPD.		APPROVED		KSB		25.05.17		3		FILE NO.:		SCALE		JOB NO. CP-14-047		DRG. NO. EP-3-SL-047-869		NO. OF SHEETS		32		SHEET		25		REV.		01																																																													
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100