

LEGEND:

--- AC CABLE -- PROVIDED BY OTHERS
 — AC PATH -- INSIDE UPS
 — DC PATH -- INSIDE UPS/BATTERY CABINET

DEVICE RATING (UPS)						
DEVICE	CURRENT RATING	RATED OPERATIONAL VOLTAGE	TYPE	MAKE	MODEL	ACCESSORIES
UIB	400A	690V AC	3P LOAD SWITCH	Schneider Electric	INS400MG	1-Aux. Switch
SSIB/UOB	400A	690V AC	4P LOAD SWITCH	Schneider Electric	INS400MG	1-Aux. Switch
DEVICE RATING (SBC)						
SIB/MBB	1250A	690V AC	4P SWITCH DISCONNECTOR	Schneider Electric	INS1250	1-Aux. Switch
DEVICE RATING (MODULAR BATTERY CABINET)						
BB	250A	500V DC	3P MCCB	SCHNEIDER ELECTRIC	JDF36250	1-Aux. Switch, 24V DC Shunt trip

- NOTES:**
- INSTALLATION SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE AND LOCAL CODES.
 - REFER TO PRODUCT DOCUMENTATION FOR ADDITIONAL DETAILS PRIOR TO INSTALLATION AND SITE PREPARATION WORK.
 - DRAWING DEPICTS POWER SYSTEM CONNECTIONS AND IS NOT REPRESENTATIVE OF PHYSICAL LAYOUT, PLEASE REFER TO MECHANICAL DRAWINGS FOR PHYSICAL LAYOUT.
 - REFER TO SHEET 3 FOR ELECTRICAL SPECIFICATIONS.
 - RECTIFIER AC SOURCE TO BE 3 WIRE + PE. TN-S, TN-C, TT & IT SUPPORTED.
 - BYPASS SOURCE TO BE IDENTICAL TO OUTPUT CONFIGURATION, 3 WIRE+PE OR 4 WIRE + PE. TN-S, TN-C, TT & IT SUPPORTED.
 - AC CABLING TO BE MINIMUM 600V RATED(NOT COMMON IN ALL COUNTRIES), 3 WIRE + PE, PROVIDED BY OTHERS.
 - AC CABLING TO BE MINIMUM 600V RATED(NOT COMMON IN ALL COUNTRIES), 3 WIRE + PE OR 4 WIRE + PE, PROVIDED BY OTHERS. SEE NOTE-6.
 - BATTERY RUNTIME IS THEORETICAL AND CALCULATED BASED ON DATA PROVIDED BY BATTERY MANUFACTURER ASSUMING OPTIMUM ENVIRONMENT AND LOAD CONDITIONS.
 - BUSBAR LINKS ARE APPLICABLE TO SINGLE MAINS ONLY AND SHALL BE REMOVED FOR DUAL MAINS INSTALLATIONS.
 - CABLE LUGS ARE NOT PROVIDED FOR EXTERNAL CABLES, PROVIDED BY OTHERS.
 - INPUT AND BYPASS MUST REFER TO THE SAME GROUNDING SYSTEM.
 - THE CABLE LENGTH FOR BYPASS AND OUTPUT MUST BE THE SAME FOR ALL PARALLEL UPS UNITS.
 - FOR EARTHING PRINCIPLES REFER TO INSTALLATION MANUAL.

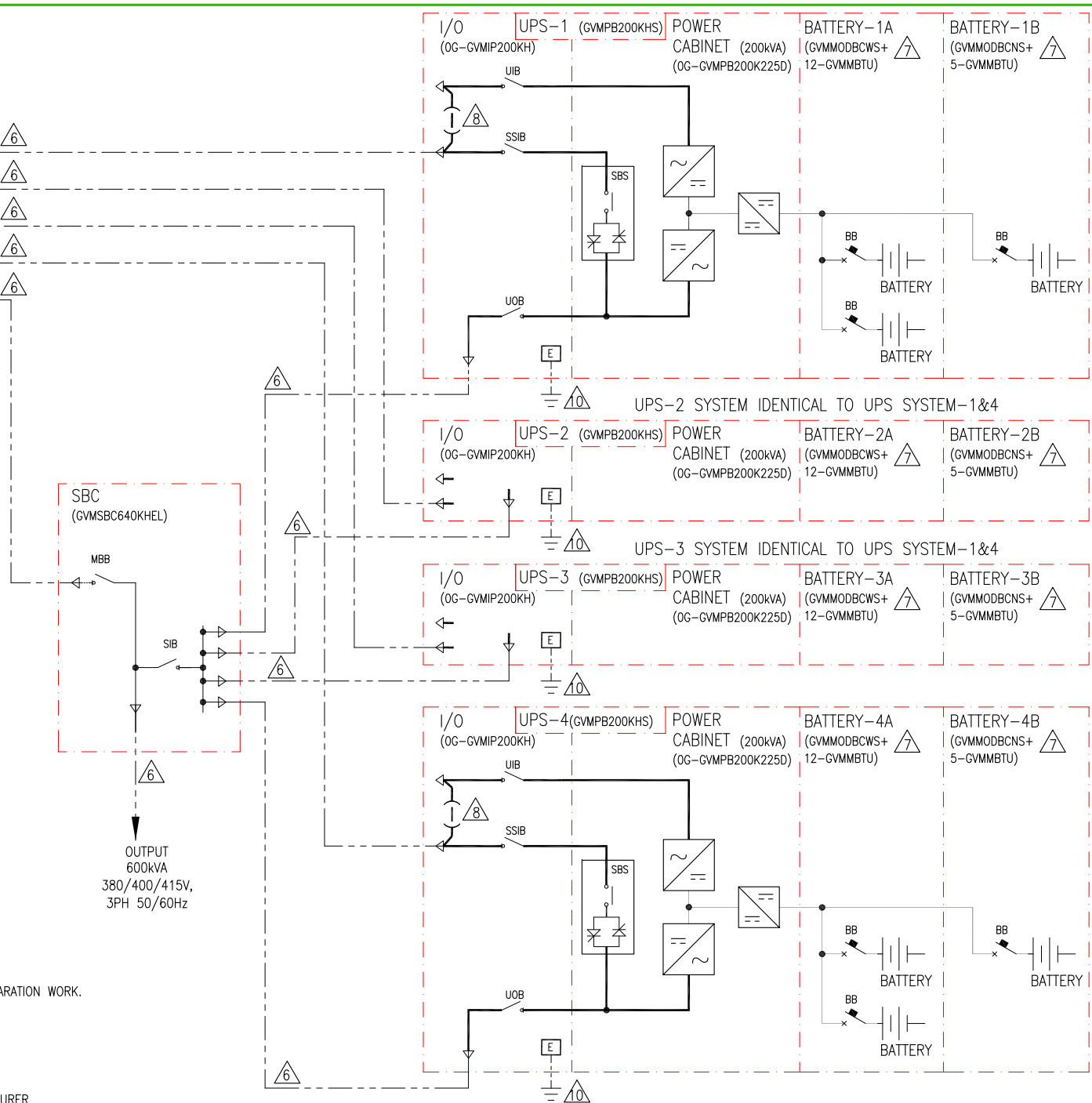
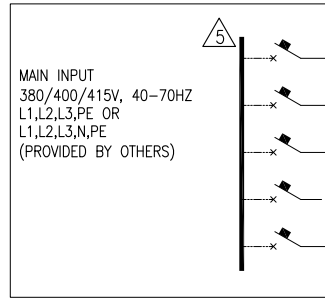
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TITLE: GALAXY VM
 Input: 380/400/415V AC 40-70HZ 3PH DUAL MAINS
 Output: 380/400/415V AC 50/60HZ 3PH 600kVA
 200kVA 3N+1 UPS WITH MODULAR BATT CAB & SBC SYSTEM ONE LINE DIAGRAM

DWG NO: GVM200KHSBCMBC10R4-SD
DRAWN: BALAMURUGAN 20-SEP-16
ENGINEER: S ANDERSEN/W ZHU 20-SEP-16
APPROVED: M PAULSEN 20-SEP-16

REV: 1
ANGLE PROJECTION: N/A



LEGEND:

- AC CABLE - PROVIDED BY OTHERS
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 4. REFER TO SHEET 3 FOR ELECTRICAL SPECIFICATIONS.
 5. INPUT AC SOURCE TO BE 3PH 3 WIRE + PE OR 4 WIRE + PE. TN-S, TN-C, TT & IT SUPPORTED.
 6. AC CABLING TO BE MINIMUM 600V RATED (NOT COMMON IN ALL COUNTRIES), 3-WIRE + PE OR 4 WIRE + PE, PROVIDED BY OTHERS.
 7. BATTERY RUNTIME IS THEORETICAL AND CALCULATED BASED ON DATA PROVIDED BY BATTERY MANUFACTURER ASSUMING OPTIMUM ENVIRONMENT AND LOAD CONDITIONS.
 8. BUSBAR LINKS ARE APPLICABLE TO SINGLE MAINS ONLY AND SHALL BE REMOVED FOR DUAL MAINS INSTALLATIONS.
 9. CABLE LUGS ARE NOT PROVIDED FOR EXTERNAL CABLES, PROVIDED BY OTHERS.
 10. FOR EARTHING PRINCIPLES REFER TO INSTALLATION MANUAL.
 11. THE CABLE LENGTH FOR INPUT AND OUTPUT MUST BE THE SAME FOR ALL PARALLEL UPS UNITS.

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



TITLE: GALAXY VM
Input: 380/400/415V AC 40-70HZ 3PH SINGLE MAINS
Output: 380/400/415V AC 50/60HZ 3PH 600kVA
200kVA 3N+1 UPS WITH MODULAR BATT CAB & SBC
SYSTEM ONE LINE DIAGRAM





PROJECT: DRAWINGS **SHEET 2 OF 3**







DWG NO: GVM200KHSBCMBC10R4-SD

DRAWN: BALAMURUGAN 20-SEP-16
ENGINEER: S ANDERSEN/W ZHU 20-SEP-16
APPROVED: M PAULSEN 20-SEP-16

REV: 1
ANGLE PROJECTION: N/A

ELECTRICAL DATA SHEET (PER UPS)-DUAL MAINS			
UPS RATING / POWER FACTOR	200kVA / 0.9		
INPUT VOLTAGE / BYPASS VOLTAGE	380V	400V	415V
OUTPUT VOLTAGE	380V	400V	415V
INPUT FREQUENCY / WIRING	40-70HZ / WIRING : 3 PH, 3 WIRE -3PH+PE		
BY PASS FREQUENCY / WIRING	50/60HZ / WIRING : 3 PH, 3 WIRE -3PH+PE, 4WIRE- 3PH+N+PE		
UPS INPUT NOMINAL INPUT CURRENT (A)	288	273	263
MAXIMUM INPUT CURRENT (A)	345	328	316
INPUT CURRENT LIMITATION(A)	347		
UPS BYPASS NOMINAL CURRENT (A)	304	289	278
OUTPUT FREQUENCY / WIRING	50/60HZ / WIRING : 3 PH, 3 WIRE -3PH+PE, 4WIRE- 3PH+N+PE		
NOMINAL OUTPUT CURRENT (FULL LOAD) (A)	304	289	278
NOMINAL BATTERY VOLTAGE (VDC)	480		
END OF DISCHARGE VOLTAGE (FULL LOAD) (VDC)	384		
BATTERY CURRENT AT FULL LOAD AND NOMINAL BATTERY VOLTAGE (A)	393		
BATTERY CURRENT AT FULL LOAD AND MINIMUM BATTERY VOLTAGE (A)	491		
THDI	< 3% @ 100% LOAD, <4% @ 50% LOAD, <6% @ 25% LOAD		
THDV	< 2% @ 100% LINEAR LOAD, < 3% @ 100% NON-LINEAR LOAD		
MAXIMUM SHORT CIRCUIT WITHSTAND	65kA @ REQUIRED BREAKER SIZE		
REQUIRED UPSTREAM INPUT BREAKER/RATING/SETTING	NSX400H Mic2.3 / 400A / I _b -360A, I _r (X I _b)-1, I _{sd} (X I _r)-1.5-10		
REQUIRED UPSTREAM BY PASS BREAKERS/RATING/SETTING	NSX400H Mic2.3 / 400A / I _b -320A, I _r (X I _b)-1, I _{sd} (X I _r)-8		
RECOMMENDED INPUT CABLE SIZE (Sqmm) FOR INSTALLATION METHODS B1 / B2 / C	(2) 95 / (2) 120 / (2) 70  		
RECOMMENDED BYPASS CABLE SIZE (Sqmm) FOR INSTALLATION METHODS B1 / B2 / C	(2) 70 / (2) 95 / (1) 120  		
RECOMMENDED OUTPUT CABLE SIZE (Sqmm) FOR INSTALLATION METHODS B1 / B2 / C	(2) 70 / (2) 95 / (1) 120  		
HEAT DISSIPATION (@100% LOAD) NORMAL OPERATION	8.088kW [27595 BTU]		
HEAT DISSIPATION (@100% LOAD) ECO MODE	1.269kW [4329 BTU]		
HEAT DISSIPATION (@100% LOAD) ECO conversion MODE	1.818kW [6204 BTU]		
HEAT DISSIPATION (@100% LOAD) Battery operation	7.5kW [25590 BTU]		


ELECTRICAL DATA SHEET (PER UPS)-SINGLE MAINS			
UPS RATING / POWER FACTOR	200kVA / 0.9		
INPUT VOLTAGE	380V	400V	415V
OUTPUT VOLTAGE	380V	400V	415V
INPUT FREQUENCY / WIRING	40-70HZ / WIRING : 3 PH, 3 WIRE -3PH+PE 4WIRE- 3PH+N+PE		
UPS INPUT NOMINAL INPUT CURRENT (A)	288	273	263
MAXIMUM INPUT CURRENT (A)	345	328	316
INPUT CURRENT LIMITATION (A)	347		
OUTPUT FREQUENCY / WIRING	50/60HZ / WIRING : 3PH, 3 WIRE -3PH+PE, 4WIRE- 3PH+N+PE		
NOMINAL OUTPUT CURRENT (FULL LOAD) (A)	304	289	278
NOMINAL BATTERY VOLTAGE (VDC)	480		
END OF DISCHARGE VOLTAGE (FULL LOAD) (VDC)	384		
BATTERY CURRENT AT FULL LOAD AND NOMINAL BATTERY VOLTAGE (A)	393		
BATTERY CURRENT AT FULL LOAD AND MINIMUM BATTERY VOLTAGE (A)	491		
THDI	< 3% @ 100% LOAD, <4% @ 50% LOAD, <6% @ 25% LOAD		
THDV	< 2% @ 100% LINEAR LOAD, < 3% @ 100% NON-LINEAR LOAD		
MAXIMUM SHORT CIRCUIT WITHSTAND	65kA @ REQUIRED BREAKER SIZE		
REQUIRED UPSTREAM INPUT BREAKER/RATING/SETTING	NSX400H Mic2.3 / 400A / I _b -360A, I _r (X I _b)-1, I _{sd} (X I _r)-7		
RECOMMENDED INPUT CABLE SIZE (Sqmm) FOR INSTALLATION METHODS B1 / B2 / C	(2) 95 / (2) 120 / (2) 70  		
RECOMMENDED OUTPUT CABLE SIZE (Sqmm) FOR INSTALLATION METHODS B1 / B2 / C	(2) 70 / (2) 95 / (1) 120  		
HEAT DISSIPATION (@100% LOAD) NORMAL OPERATION	8.088kW [27595 BTU]		
HEAT DISSIPATION (@100% LOAD) ECC MODE	1.269kW [4329 BTU]		
HEAT DISSIPATION (@100% LOAD) ECO conversion MODE	1.818kW [6204 BTU]		
HEAT DISSIPATION (@100% LOAD) Battery Operation	7.5kW [25590 BTU]		

ELECTRICAL DATA SHEET (SYSTEM) -SINGLE/DUAL MAINS	
RECOMMENDED UPSTREAM SYSTEM BY PASS / SYSTEM OUTPUT BREAKERS ¹	1000A, NS1000N Mic2.0, I _r (X I _b)-1, I _{sd} (X I _r) ² -1.5-10, Tr ² -0.5-24
RECOMMENDED SYSTEM BY PASS / LOAD CABLE SIZE (Sqmm)- COPPER CONDUCTORS (INSTALLATION METHOD - B1/B2/C)	(4)95 / (4)120 / (3)150   
RECOMMENDED SYSTEM BY PASS / LOAD CABLE SIZE (Sqmm) - ALUMINIUM CONDUCTORS (INSTALLATION METHOD -B1/B2/C)	(4)120 / (5)120 / (3)240   
MAXIMUM SYSTEM SHORT CIRCUIT WITHSTAND	35kA


- OR OTHER BREAKER WITH EQUIVALENT ELECTRONIC TRIP UNIT FOR RATING.
- I_{sd} AND Tr MUST BE SET BY THE INSTALLER BASED ON THE INSTALLATION COORDINATION.

NOTES:

- INSTALLATION SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE AND LOCAL CODES.
- REFER TO PRODUCT DOCUMENTATION FOR ADDITIONAL DETAILS PRIOR TO INSTALLATION AND SITE PREPARATION WORK.

-  3. CABLE SIZES ARE BASED ON TABLE 52-C2/52-C4 OF IEC STANDARD 60364-5-52 WITH THE FOLLOWING ASSERTIONS:
- 90°C CONDUCTORS.
 - AN AMBIENT TEMPERATURE OF 30°C.
 - USE OF COPPER CONDUCTORS.

-  4. IF THE AMBIENT ROOM TEMPERATURE IS GREATER THAN 30°C, LARGER CONDUCTORS ARE TO BE SELECTED IN ACCORDANCE WITH THE CORRECTION FACTORS OF THE IEC.

-  5. CABLE SIZES ARE BASED ON TABLE 52-C2/52-C4 OF IEC STANDARD 60364-5-52 WITH THE FOLLOWING ASSERTIONS:
- 90°C CONDUCTORS.
 - AN AMBIENT TEMPERATURE OF 30°C.
 - USE OF COPPER OR ALUMINIUM CONDUCTORS.

THE INSTALLER OR DESIGNER SHOULD ADJUST THE CABLE SIZE WITH GROUP REDUCTION FACTOR WHILE THE CABLES ARE TIED TOGETHER WITHOUT THE FOLLOWING EXEMPTION OF NOTE-2 (WHERE HORIZONTAL CLEARANCES BETWEEN ADJACENT CABLES EXCEEDS TWICE THEIR OVERALL DIAMETER) IN TABLE A 52-17 (52-E1).

-  6. BYPASS CABLES MUST BE RATED AT MINIMUM 90°C.

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Input: 380/400/415V AC 40-70HZ 3PH SINGLE/DUAL MAINS
Output: 380/400/415V AC 50/60HZ 3PH 600kVA
200kVA 3N+1 UPS WITH MODULAR BATT CAB & SBC
ELECTRICAL SPECIFICATIONS

DWG NO: GVM200KHSBCMBC10R4-SD

DRAWN: BALAMURUGAN 20-APR-16

ENGINEER: S ANDERSEN/W ZHU 20-APR-16

APPROVED: M PAULSEN 20-APR-16

REV: 0

ANGLE PROJECTION N/A

PROJECT: DRAWINGS SHEET 3 OF 3