# BASE LOAD POWER HUB (BLPH)

# "DP-200N1" LV SWBD 400/230V

# GENERAL ARRANGEMENTS DWG AND FOUNDATION LOAD CALCULATION INCLUDING COG

ROSETTI MARINO

| | |
|---|---|
| 1 | NO COMMENTS - APPROVED - WORK MAY PROCEED |
| 2 | MINOR COMMENTS - REVISE AND RESUBMIT - WORK MAY PROCEED |
| 3 | MAJOR COMMENTS – REJECTED – DO NOT PROCEED |
| 4 | APPROVAL NOT REQUIRED |

*NOTE: Approval doesn't relieve the supplier from mandatory compliance with contractual documents and specifications. Comments made do not imply acceptance of any cost or delivery impact.*

| Sign | Date |
|---|---|
| Luca Macula | 27/11/2024 |

| REV. | DATE | DRN | CHKD | APPD | DESCRIPTION |
|---|---|---|---|---|---|
| = | | | | | |
| + | | | | | |
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IMESA ELECTRICAL ENGINEERING

DWG n° : 231298/SD/9

Item n° : PF1002888/101

CROSSWIND

ROSETTI MARINO

TITLE : "DP–200N1"

GENERAL ARRANGEMENTS
Cover

CONTRACT NO./TITLE CW–I–WP4–2023–05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1723002197–EL–DA–00009

SHEET 001

REV. 05

F.to UNI A3: 420mmx297mm

File Name : 1723002197–EL–DA–00009 Rev. 05

# INDEX SHEETS

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| 002 | Index / GENERAL ARRANGEMENTS | X | X | X | X | X | X | | | | |
| 003 | Switchgear Characteristics / GENERAL ARRANGEMENTS | X | X | X | X | X | X | | | | |
| 004 | Switchgear Characteristics / GENERAL ARRANGEMENTS | X | X | X | X | X | X | | | | |
| 005 | Switchgear Characteristics / GENERAL ARRANGEMENTS | X | X | X | X | X | X | | | | |
| 006 | Switchgear Nameplate Date and Switchgear Taglate / GENERAL ARRANGEMENTS | X | X | X | X | X | X | | | | |
| 007 | Switchgear Lay-Out - Front, Top, Bottom and Side View / GENERAL ARRANGEMENTS | X | X | X | X | X | X | | | | |
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| Sheet | Description | Revision 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | |

CROSSWIND

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TITLE : "DP-200N1"

GENERAL ARRANGEMENTS
Index

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SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DA-00009

SHEET 002

REV. 05

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DA-00009 Rev. 05

| A | ENVIRONMENTAL DATA | |
|---|---|---|
| 1 | AMBIENT | MARINE - OFFSHORE |
| 2 | INSTALLATION | INDOOR |
| 3 | AMBIENT AIR TEMPERATURE - DELAY AVERAGE MAXIMUM | 35 °C |
| 4 | AMBIENT AIR MINIMUM/MAXIMUM TEMPERATURE | -8,4 ÷ +40 °C |
| 5 | RELATIVE HUMIDITY AVERAGE | 95 % |
| 6 | RELATIVE HUMIDITY MAXIMUM | - |
| 7 | POLLUTION LEVEL DEGREE | VERY LIGHT |

| B | SWITCHGEAR ELECTRICAL FEATURES | |
|---|---|---|
| 1 | RATED VOLTAGE (Ue) | 0,4/0,23 kV |
| 2 | NOMINAL VOLTAGE (Un) | 0,4/0,23 kV |
| 3 | RATED INSULATION VOLTAGE (Ui) | 0,69 kV |
| 4 | RATED FREQUENCY (Fn) | 50 Hz |
| 5 | RATED IMPULSE WITHSTAND (Uimp) | 4 kV |
| 6 | RATED NORMAL CURRENT (In) | 63 A |
| 7 | POWER SUPPLY SHORT CIRCUIT CURRENT (Ik) | 25 kA |
| 8 | RATED DURATION OF SHORT CIRCUIT (tk) | NA |
| 9 | CONDITIONATED PEAK WITHSTAND CURRENT (Ipk) | 17 kA |
| 10 | INTERNAL ARC CLASSIFICATION IAC | not applicable |
| 11 | ARCING CLASS | not applicable |
| 12 | NUMBER OF PHASES | 3+N |
| 13 | PHASES IDENTIFICATION | L1-L2-L3-N |
| 14 | EARTHING CIRCUITS MAIN BUSBAR SECTION | > 150mmq |
| 15 | REFERENCE STANDARDS | IEC 61439-2 |
| 16 | EARTHING SYSTEM | TN-S |
| 17 | NEUTRAL BUSBARS SIZING | 50% PHASE SECTION |

| C | SWITCHGEAR MECHANICAL FEATURES | |
|---|---|---|
| 1 | EXTERNAL DEGREE OF PROTECTION | IP30 |
| 2 | INTERNAL DEGREE OF PROTECTION | IP20 |
| 3 | EXTERNAL MECHANICAL IMPACT PROTECTION | IK10 |
| 4 | ACCESSIBILITY | FRONT |
| 5 | TYPE DESIGNATION | FORM : 2B (OUTGOING) |
| 6 | POWER CABLES (INCOMING) | FROM THE TOP (by MCT) |
| 7 | POWER CABLES (OUTGOING) | FROM THE TOP (by MCT) |
| 8 | AUXILIARY CABLES | FROM THE TOP (by MCT) |
| 9 | BASE FRAMES | PROVIDED |
| 10 | MIMIC DIAGRAM (BLACK) | not applicable |
| 11 | BOTTOM CLOSING | UNDRILLED ALUMINIUM REMOVABLE PLATES |
| 12 | PAINTING COLOUR | RAL 7035 |
| 13 | PAINTING SPECIFICATION CYCLE | C3-MEDIUM, > 60µ (IMESA CYCLE "A") |
| 14 | SURFACE NOT PAINTED | ZINC PLATED OR TROPICALIZED |
| 15 | FRONT DOORS (AUXILIARY COMPARTMENT) | HINGED WITH KEY LOCKS |
| 16 | FRONT DOOR (C.B./CONTACTOR COMPARTMENT) | HINGED WITH KEY LOCKS |
| 17 | REAR PANELS | BOLTED |
| 18 | MINIMUM CLEARANCE | TO THE FRONT 800 mm |
| 19 | | TO THE REAR 50 mm |
| 20 | | TO THE TOP 200 mm |
| 21 | | TO THE SIDE 100 mm |
| 22 | WEIGHTS | 360 kg ± 10% |

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CROSSWIND

ROSETTI MARINO

IMESA ELECTRICAL ENGINEERING

DWG n° : 231298/SD/9

Item n° : PF1002888/101

TITLE : "DP-200N1"

GENERAL ARRANGEMENTS
Switchgear Characteristics

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

DRAWING NO. 1723002197-EL-DA-00009

SHEET 003

REV. 05

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DA-00009 Rev. 05

| D | BUSBAR SYSTEM | |
|---|---|---|
| 1 | MATERIALS | ELECTROLYTIC COPPER |
| 2 | BUSBAR SURFACE TREATMENT | BARE |
| 3 | INSULATION BUSBARS (if applicable) | AIR INSULATION |
| 4 | JOINT AND CONNECTIONS TREATMENT | NONE |
| 5 | INSULATION JOINTS (if applicable) | NOT APPLICABLE |
| 6 | BULKHEADS FOR POWER BARS (if applicable) | NOT APPLICABLE |
| 7 | PHASES IDENTIFICATION | L1 (BROWN) |
| 8 | | L2 (BLACK) |
| 9 | | L3 (GREY) |
| 10 | | N (BLUE) |
| 11 | | PE (EARTH SYMBOL) |
| 12 | MARKING OF PHASES | ADHESIVE LABELS PLACED ON BARS |

| E | POWER / AUXILIARY CIRCUITS CABLES | | |
|---|---|---|---|
| 1 | LOW VOLTAGE CABLE TYPE | | SH-W (MARINE APPROVAL) |
| 2 | VOLTAGE INSULATION CABLE | | HLPE (600/1000 V) |
| 3 | COLOUR INSULATION CABLE | | BLACK (L1-L2-L3-N),<br>RED (+), WHITE (-);<br>YELLOW / GREEN (GROUND) |
| | SIZE / COLOUR CODE | | |
| 4 | POWER CIRCUIT | | ≥ 2,5 sqmm / BLACK |
| 5 | POWER CIRCUIT PHASES IDENTIFICATION WITH COLOURED SHRINKABLE TERMINATION SHEATH | | L1 (BROWN) |
| 6 | | | L2 (BLACK) |
| 7 | | | L3 (GREY) |
| 8 | | | N (BLUE) |
| 9 | | | PE (YELLOW / GREEN) |
| 10 | MEASURE & CONTROL & SIGNAL CIRCUITS | AC/DC CIRCUIT<br>(Internal Heating / Motor Spring Charger / Internal Distribution) | ≥ 2,5 mmq / BLACK |
| 11 | | VT SECONDARY CIRCUIT | 1,5 mmq / BLACK |
| 12 | | CT SECONDARY CIRCUIT | 2,5 mmq / BLACK |
| 13 | | AC CIRCUIT | ≥ 1,5 mmq / BLACK |
| 14 | | DC CIRCUIT | ≥ 1,5 mmq / RED (+) WHITE (-) |
| 15 | | GROUND CIRCUIT | YELLOW / GREEN |

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GENERAL ARRANGEMENTS
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SHEET 004

REV. 05

File Name : 1723002197-EL-DA-00009 Rev. 05

F.to UNI A3: 420mmx297mm

| F | TERMINAL BLOCKS | |
|---|---|---|
| 1 | POWER TERMINAL BLOCK TYPE | SCREW CLAMP (CABUR CBD beige) |
| 2 | AUXILIARY TERMINAL BLOCK TYPE | SPRING CLAMP (CABUR HMM grey) |
| 3 | DISCONNECT/TEST TERMINAL BLOCK TYPE (if applicable) | SPRING CLAMP (CABUR HMM grey) |
| 4 | MATERIAL | POLYAMIDE |
| 5 | POWER / AUXILIARY SIZE | ≥ 4mmq |

| G | AUXILIARY CIRCUIT VOLTAGE | |
|---|---|---|
| 1 | AUXILIARY COMMAND CIRCUITS | 230 Vac (External Supply) |
| 2 | INTERNAL LIGHTINGS | 230 Vac (External Supply) |
| 3 | ANTICONDENSATION HEATER | 230 Vac (External Supply) |

| H | LABELS | |
|---|---|---|
| 1 | MATERIAL | TRAFFOLYTE |
| 2 | BACKGROUND | WHITE |
| 3 | LETTERS | BLACK |
| 4 | LANGUAGE | ENGLISH |
| 5 | WARNING LABEL LANGUAGE | ENGLISH |
| 6 | FIXING | SCREWED |
| 7 | MARKING DEVICES / WIRES | INDIPENDENT |
| 8 | AC CIRCUIT | SEQUENTIAL |
| 9 | DC CIRCUIT | SEQUENTIAL WITH PREFIX "+" OR "-" |

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A3

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SHEET 005

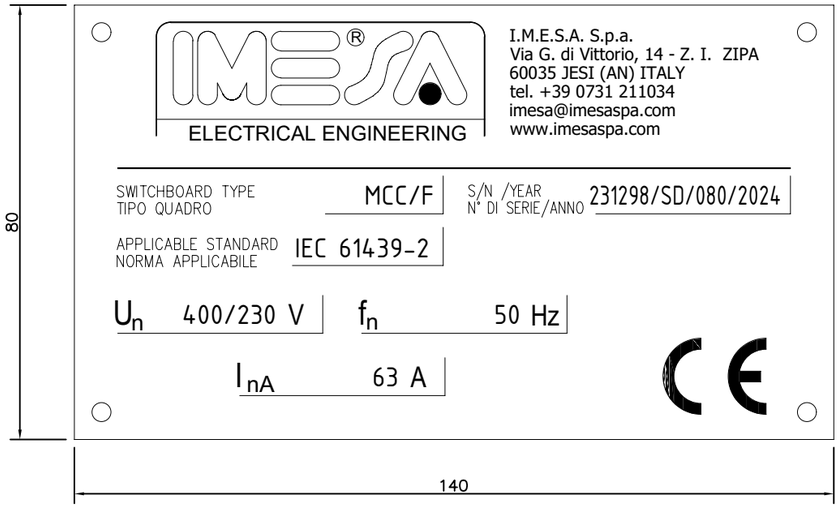
REV. 05

F.to UNI A3: 420mmx297mm

File Name : 1723002197-EL-DA-00009 Rev. 05

## SWITCHGEAR NAMEPLATE DATES

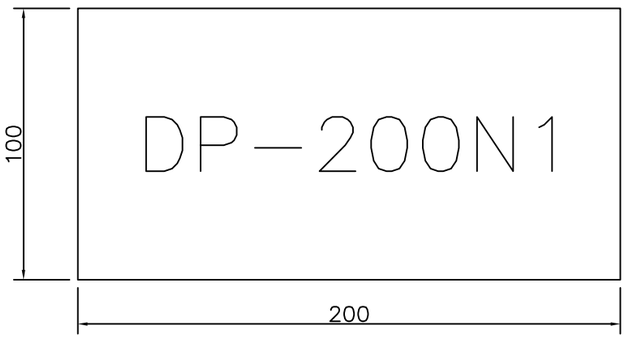
(1)




Material: Alloy

## SWITCHGEAR TAGPLATE

(2)




Material: Traffolyte

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TITLE : "DP–200N1"

GENERAL ARRANGEMENTS
Switchgear Nameplate Date and Switchgear Taglate

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SCALE : NTS

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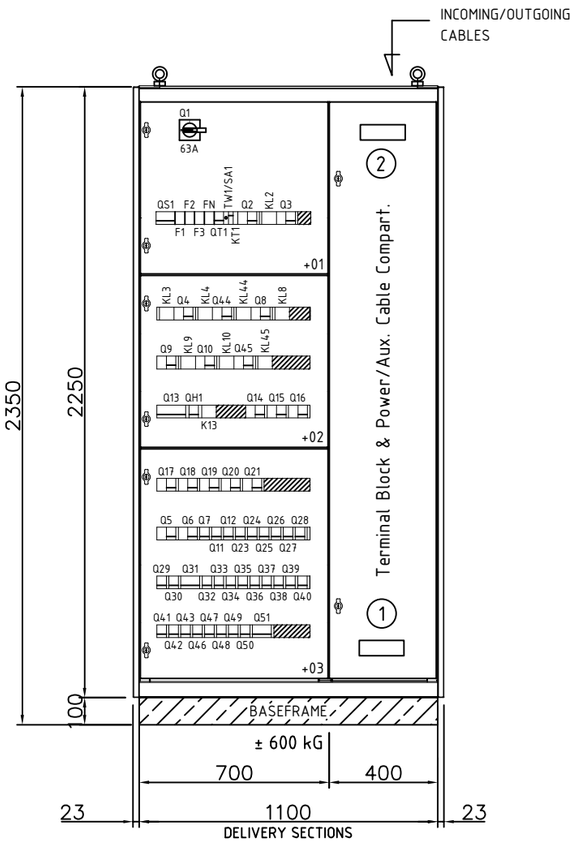
SHEET 006

REV. 05

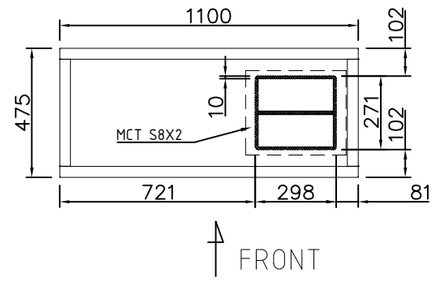
File Name : 1723002197–EL–DA–00009 Rev. 05

F.to UNI A3: 420mmx297mm

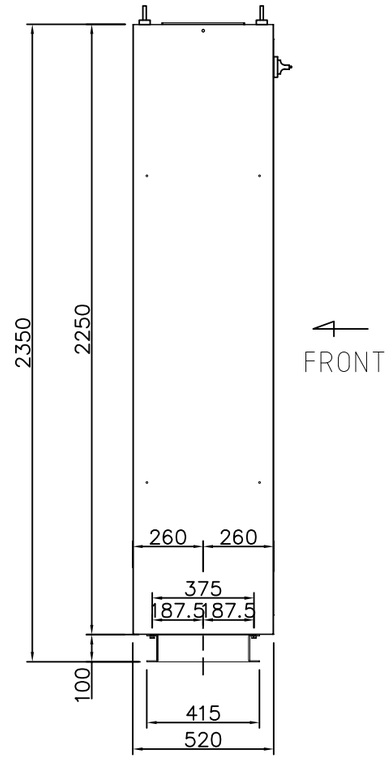
## FRONT VIEW



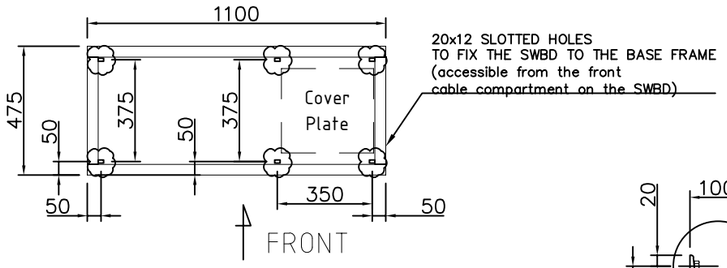

## TOP VIEW




## SIDE VIEW

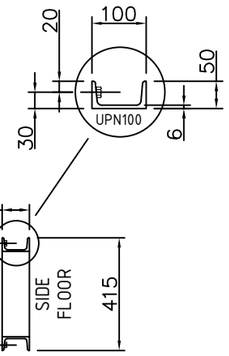



## BOTTOM VIEW

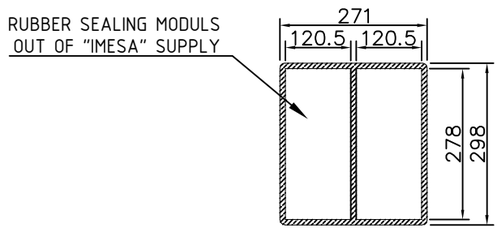



## BASE FRAME




## "S8X2" MCT DETTAILS




scale 1/20

NOTE :
1. Measurement Tollerance + 0,25%
2. Weight Tollerance ± 10%

| | | | | | | | |
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GENERAL ARRANGEMENTS
Switchgear Lay-Out - Front, Top, Bottom and Side View

CONTRACT NO./TITLE CW–I–WP4–2023–05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

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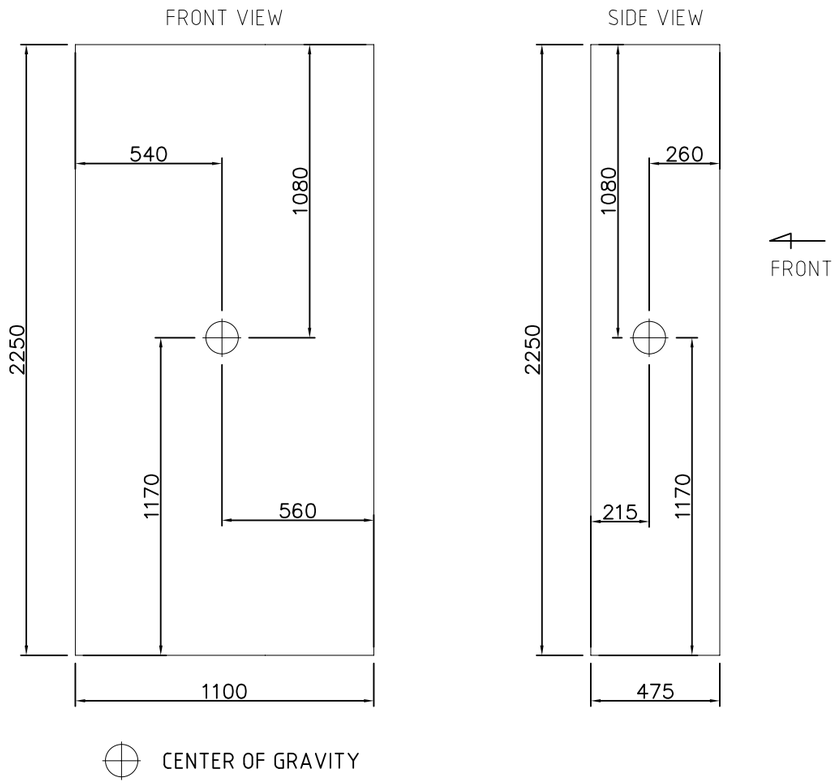
SHEET 007

REV. 05

F.to UNI A3: 420mmx297mm

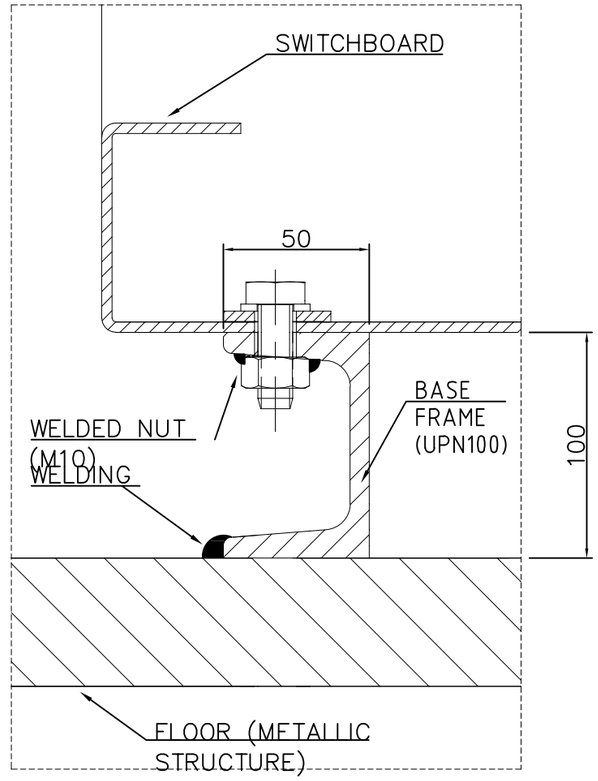
File Name : 1723002197–EL–DA–00009 Rev. 05

## CENTER OF GRAVITY POSITIONING




scale 1/20

## BASE FRAME FIXING SYSTEM




NOTE :

1. Measurement Tollerance + 0,25%

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TITLE : "DP-200N1"

GENERAL ARRANGEMENTS
Centre of Gravity Positioning / Base Frame Fixing System

CONTRACT NO./TITLE CW-I-WP4-2023-05/HOLLANDSE KUST NOORD WIND PARK

SCALE : NTS

A3

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SHEET 008

REV. 05

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