

# SERVICE BY-PASS PANEL SPECIFICATION

## 1. SYSTEM MAINS SUPPLY RATING

- 1.1 Mains voltage (Un): 3Ph(400VAC), 1Ph(240VAC) at 50Hz
- 1.2 Control/Auxiliary voltage : 1Ph, 240VAC 50Hz
- 1.3 Rated conditional short-circuit current (Icc) : 30kA

## 2. STANDARDS

- 2.1 Panel must be built to IEC Publication 60439-1 and APC by Schneider Electric supplied specifications.
- 2.2 Panel must be built in accordance with framework manufacturers guidelines and standards.
- 2.3 The System earthing is TN-S with 5 wires inlets and outlets.

## 3. PANEL TRACIBILITY

- 3.1 Panel must be CE marked and approved.
- 3.2 Panel must be supplied with signed Test Certificate.
- 3.3 Panel must be provided with a nameplate according to IEC60439-01 standards sub section 5.1 and 5.2.
- 3.4 The Nameplate will ref APC by Schneider Electric = (See page 9).
- 3.5 Panel must be supplied with 2 x Documentation packs containing, Specification sheet/Main mechanical (showing front/side layout and plan view.) Single line power wiring diagram/control wiring diagram/spare parts list/external label set.
- 3.6 Documentation packs to be approved by APC by Schneider Electric before shipment.
- 3.7 Panel must be supplied with Unit Identification, Serial Number and signed Test Certificate.

## 4. ENVIRONMENTS

- 4.1 The assembly is made for an ambient temperature for operation of max +40°C and min -5°C.
- 4.2 The assembly is made for an ambient temperature for storage of Max +55°C and min -25°C.

## 5. ENCLOSURE

- 5.1 The enclosure of the assembly must be a modular system of Form 2 IP31 according to IEC60439-01 standards.
- 5.2 The assembly material is steel with surface coating – Symmetra PX UPS Raven Black colour.
- 5.3 When door or cable access areas are open an IP rating of IP2XC must apply.
- 5.4 Q1 and Q2 must have padlockable handles.
- 5.5 Internal marking of the unit complies with;
  - IEC60439-1 standard, sub-section 5.2.
  - Supplied Single Line Power diagram.
  - Supplied Control wiring diagram.
  - Q010 4Amp MCB (Type B), will be labeled, This breaker is supplied from the Input side of Q1 and Q3.
- 5.5 A power flow single line label set shall be attached on the front of the panel so as to indicate the electrical power flow of the circuit. Correct symbols and text should be used so as to match the supplied documentation pack.
- 5.6 Internal marking of unit is to comply with IEC60439-1 standards sub section 5.2 and supplied system and controlwiring diagrams.
- 5.7 The assembly is made for Internal wall mounted installation.
- 5.8 Panel must allow for Universal Entry and Exit in cable chambers & comply with form 2 according to IEC60439-01 standards.

## 6. ELECTRICAL CONDUCTORS

- 6.1 All AC cabling are (3Ph) L1, L2, L3, N, PE and (1Ph) L, N, PE.
- 6.2 All cables must be halogen free.
- 6.3 Busbar phases must be clearly marked (3Ph) L1, L2, L3, N, PE and (1Ph) L, N, PE.
- 6.4 Busbar divisions must be clearly indicated.
- 6.5 Busbar and cabling to have greater or equal current carrying capacity than the highest functional unit. i.e. Switch Fuse Disconnecter.
- 6.6 Power wiring and control wiring must be segregated.
- 6.7 Input and output earth must be connected via Cu busbar and not through the panel frame.
- 6.8 Phases must be identified at all connections.

## 7. POWER CIRCUIT

- 7.1 Q1 is a 400A 3P MCCB with magnetic/instantaneous release, breaker should have current limiting capabilities.  
 $I_o=160A/I_r=1/I_{sd}=10$  (96kW)  
 $I_o=320A/I_r=1/I_{sd}=10$  (160kW)
- 7.2 Q2 is a 250A 4P switch disconnectors.
- 7.3 Q3 is a 250A 4P MCCB with magnetic/instantaneous release, breaker should have current limiting capabilities. See 8.7.
- 7.4 Q10 is a 1P 4A Type B with thermal magnetic protection.
- 7.5 The characteristics and settings of devices for overcurrent protection shall be such that any intended discrimination (Selectively) in their operation is achieved.

## 8. CONTROL CIRCUIT

- 8.1 Control Cabling must be labelled at all connection points.
- 8.2 Cables should be terminated with insulated ferrules or crimps.
- 8.3 Lamps H2 and H3 must be located on respective panel doors.
- 8.4 H2 and H3 must be terminated with insulated spade crimps.
- 8.5 H2 and H3 must be 240V green lamps or LED's.
- 8.6 Auxiliary N0 contacts on Q1 and Q2 are late make with respect to the main poles of Q1 and Q2.
- 8.7 Auxiliary NC contacts on Q3 is a early break with respect to th main poles of Q3.

## 9. CONNECTIONS

- 9.1 Panel must allow for top entry and exit in cable chambers & comply with form 2 according to IEC60439-01 standards.

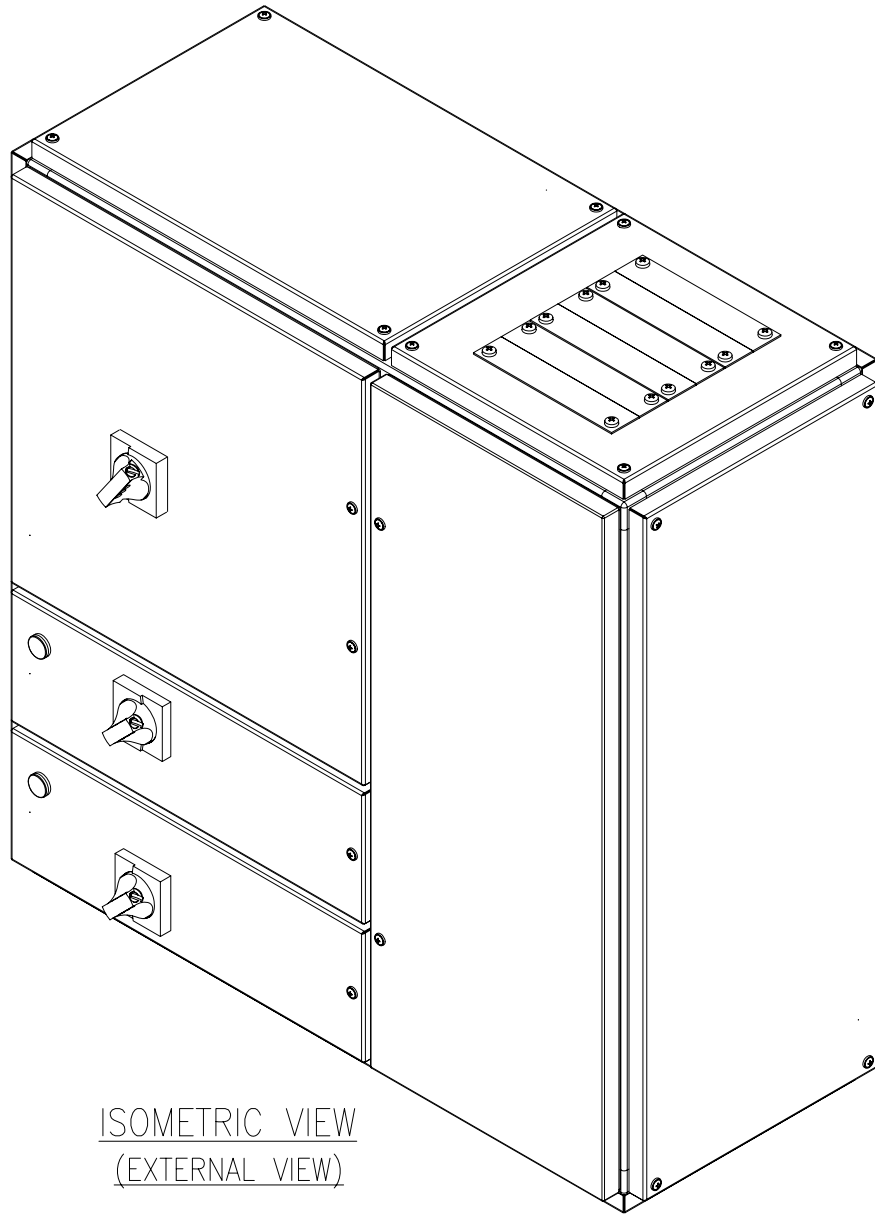
## 10. PACKAGING

- 10.1 Panel must be completely covered, secured to pallet and have external identification, with Serial number, APC by Schneider Electric Quote ID number, vendor reference number, dimensions and weight as per APC by Schneider Electric Packaging Specifications.
- 10.2 Panel must be packaged to allow for safe shipment by road or rail anywhere in Europe, Middle East or Africa Region.

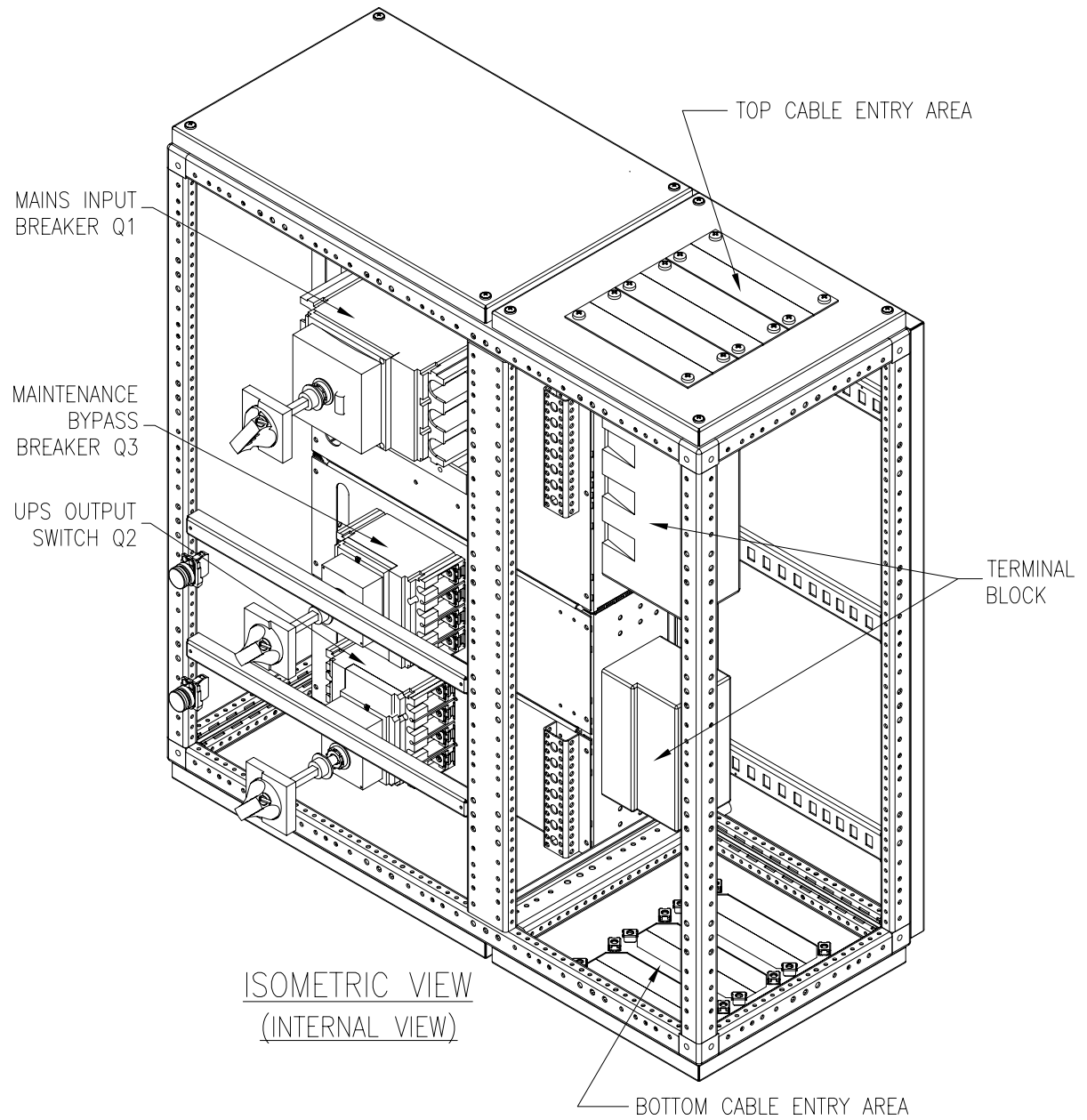
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**Schneider**  
Electric

TITLE: SYMMETRA PX ACCESSORIES SYMMETRA PX 96/160 kW WALL-MOUNTED MAINTENANCE BYPASS PANEL,400V SPECIFICATIONS	DWG NO: SYWMBP96K160H	REV: 0
	DRAWN: JAYAPRAKASH	14-SEP-12
	ENGINEER: PETER BLACK	18-SEP-12
PROJECT: SUBMITTAL DRAWINGS SHEET 1 OF 6	APPROVED: CHRIS LARSEN	18-SEP-12
		ANGLE PROJECTION: N/A



ISOMETRIC VIEW  
(EXTERNAL VIEW)



ISOMETRIC VIEW  
(INTERNAL VIEW)

- NOTES:
1. INSTALLATION SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE AND LOCAL ELECTRICAL REGULATIONS.
  2. PLEASE REFER TO PRODUCT MANUALS FOR ADDITIONAL DETAILS PRIOR TO INSTALLATION AND SITE PREPARATION WORK.

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**Schneider Electric**

TITLE: SYMMETRA PX ACCESSORIES  
SYMMETRA PX 96/160 kW  
WALL-MOUNTED MAINTENANCE BYPASS PANEL, 400V  
ISOMETRIC VIEW

DWG NO: SYWMBP96K160H

REV: 0

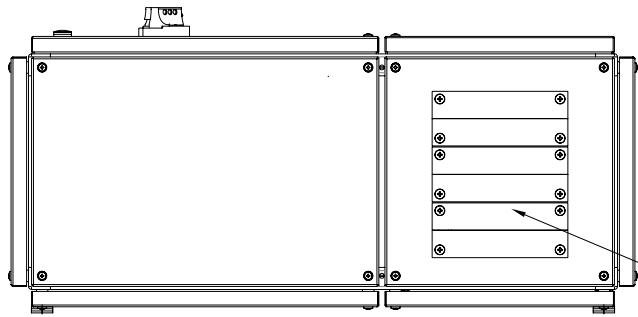
DRAWN: JAYAPRAKASH 14-SEP-12

ENGINEER: PETER BLACK 18-SEP-12

APPROVED: CHRIS LARSEN 18-SEP-12

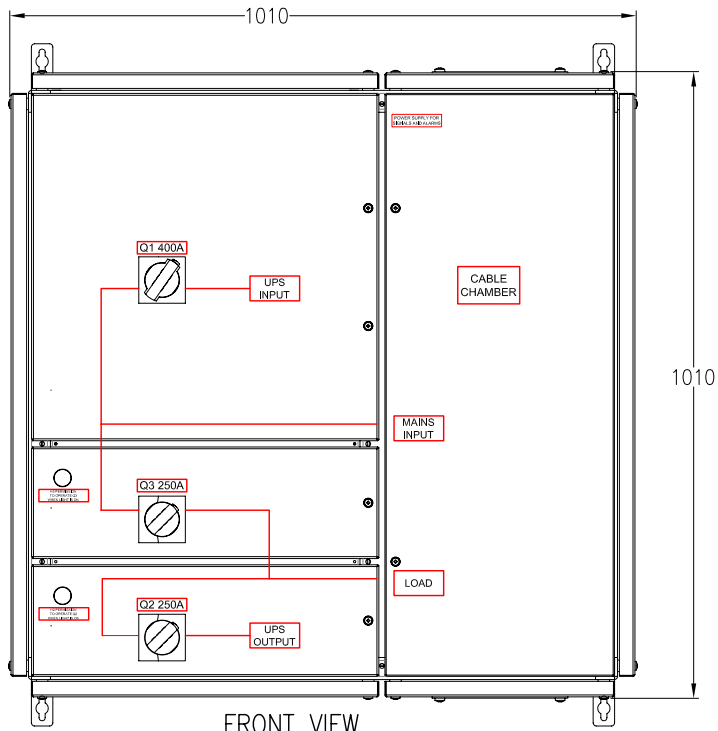
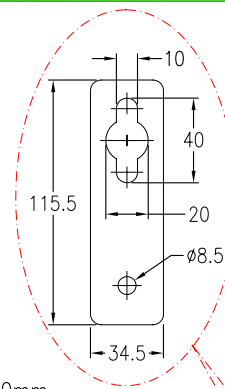
FIRST  
ANGLE  
PROJECTION

PROJECT: SUBMITTAL DRAWINGS SHEET 2 OF 6

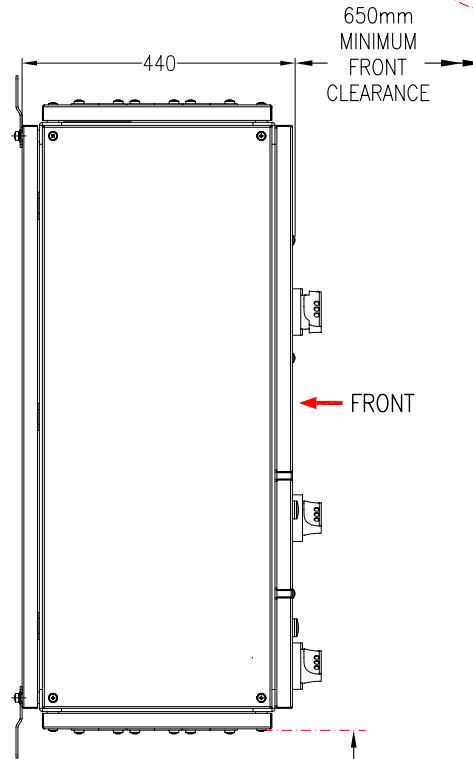


BOTTOM VIEW

BOTTOM CABLE ENTRY AREA



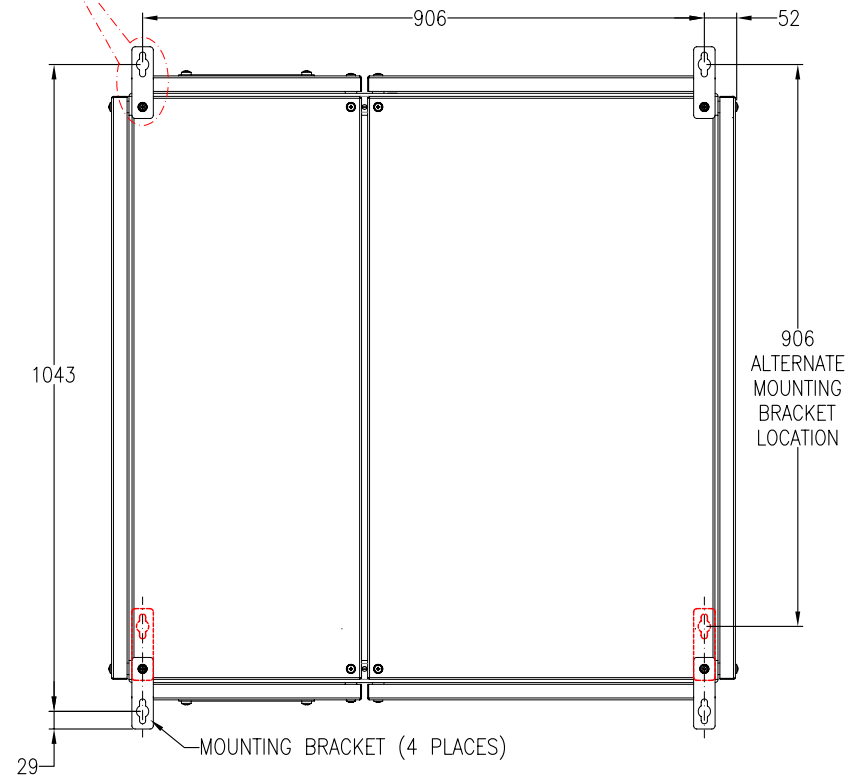
FRONT VIEW



LEFT SIDE VIEW

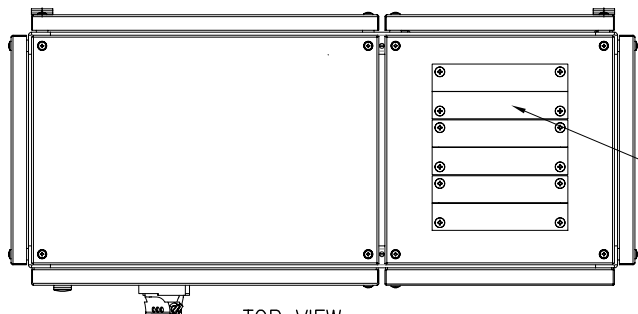
650mm  
MINIMUM  
FRONT  
CLEARANCE

600mm  
MINIMUM  
FLOOR  
CLEARANCE



REAR VIEW

906  
ALTERNATE  
MOUNTING  
BRACKET  
LOCATION



TOP VIEW

TOP CABLE ENTRY AREA

NOTES:

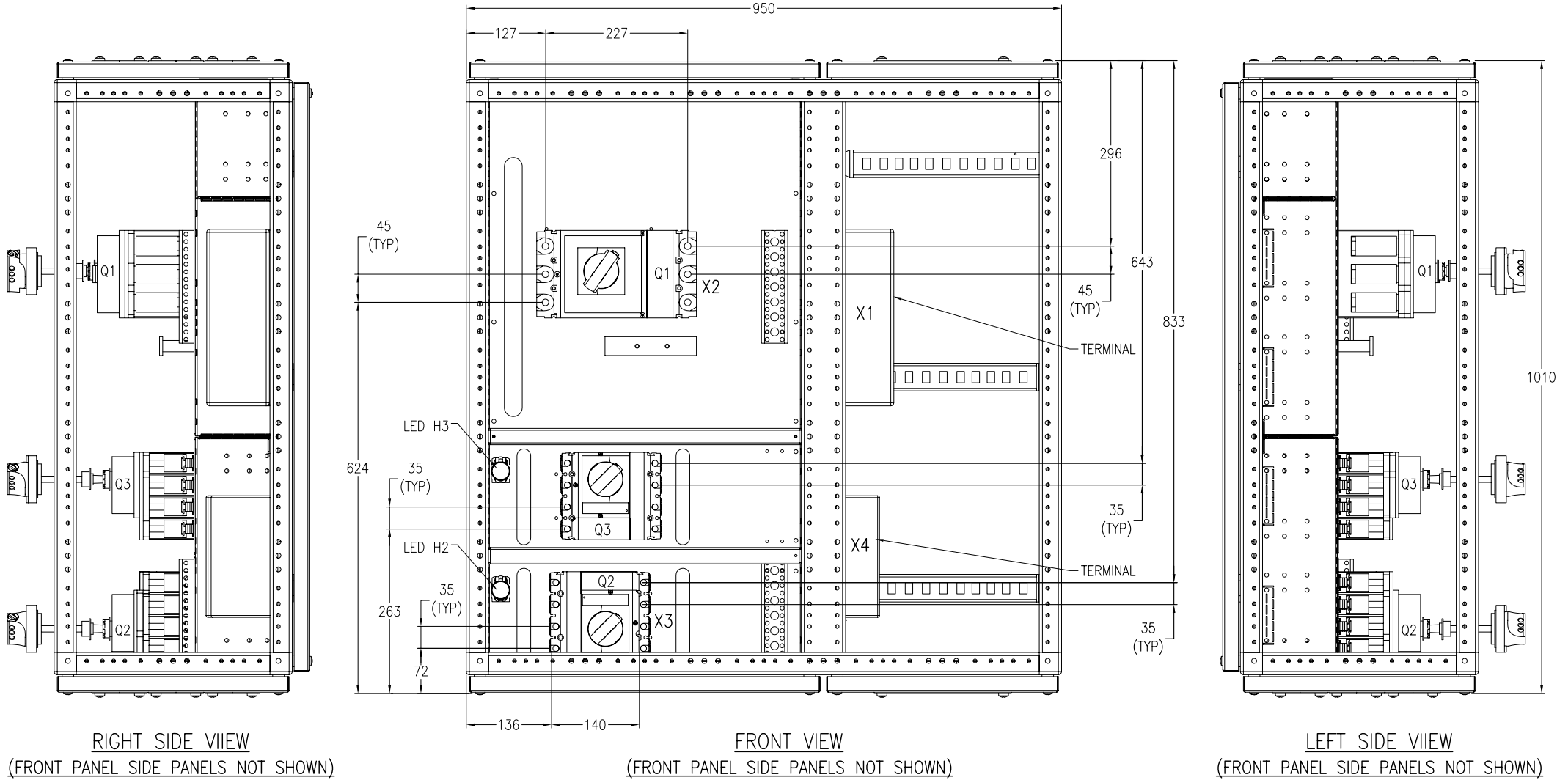
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2. PLEASE REFER TO PRODUCT MANUALS FOR ADDITIONAL DETAILS PRIOR TO INSTALLATION AND SITE PREPARATION WORK.
3. ALL DIMENSIONS ARE IN MILLIMETERS.
4. CABLE ENTRY IS THROUGH THE TOP OR BOTTOM OF UNIT.
5. FRONT SERVICE ACCESS IS REQUIRED.
6. NET WEIGHT OF THE UNIT IS 115kg.

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TITLE:	SYMMETRA PX ACCESSORIES SYMMETRA PX 96/160 kW WALL-MOUNTED MAINTENANCE BYPASS PANEL, 400V GENERAL ARRANGEMENT
DWG NO:	SYWMBP96K160H
PROJECT:	SUBMITTAL DRAWINGS
SHEET	3 OF 6

REV:	0
DRAWN:	JAYAPRAKASH 14-SEP-12
ENGINEER:	PETER BLACK 18-SEP-12
APPROVED:	CHRIS LARSEN 18-SEP-12
FIRST ANGLE PROJECTION:	



- NOTES:
1. INSTALLATION SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE AND LOCAL ELECTRICAL REGULATIONS.
  2. PLEASE REFER TO PRODUCT MANUALS FOR ADDITIONAL DETAILS PRIOR TO INSTALLATION AND SITE PREPARATION WORK.
  3. ALL DIMENSIONS ARE IN MILLIMETERS.

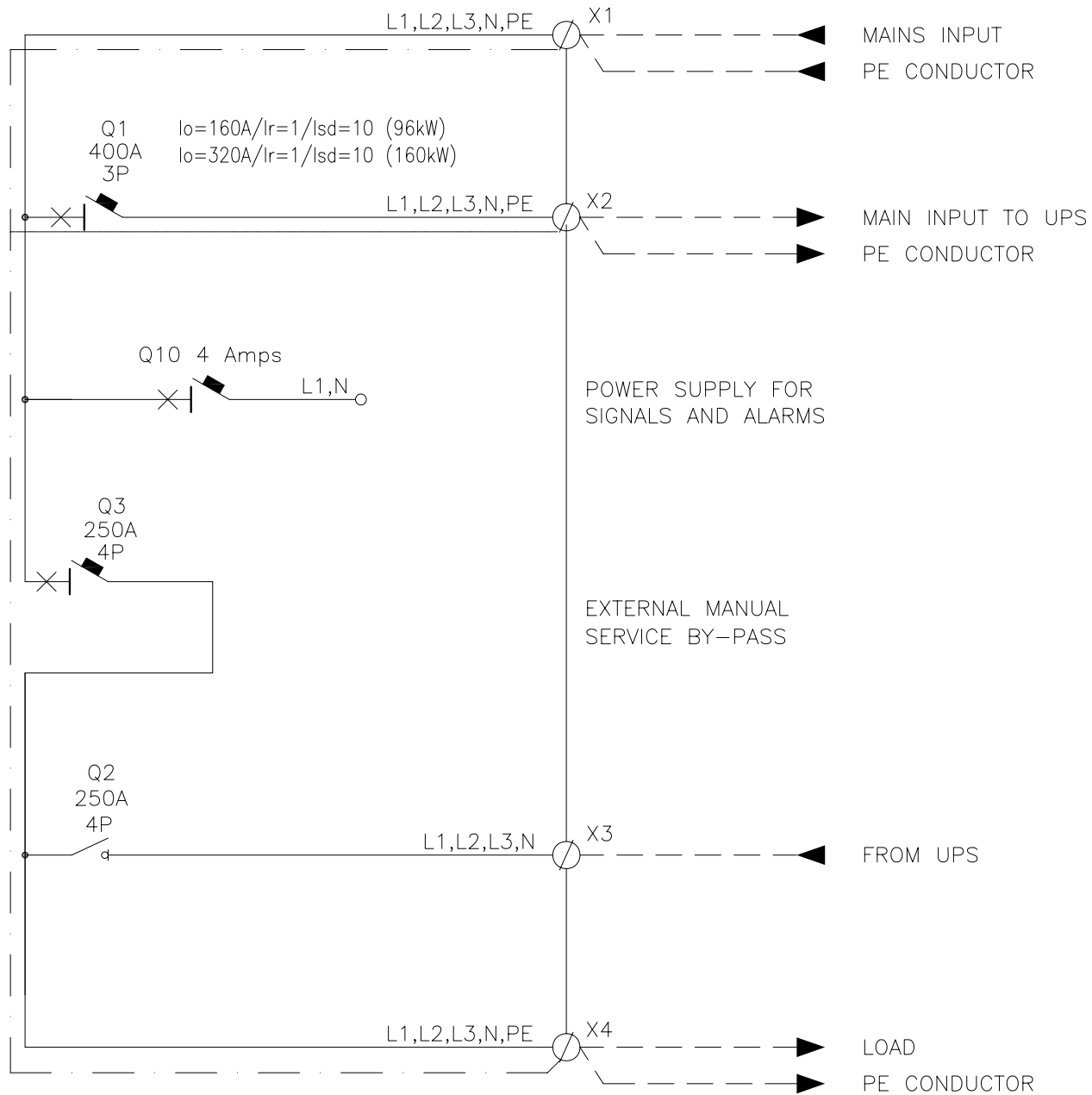
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TITLE: SYMMETRA PX ACCESSORIES  
SYMMETRA PX 96/160 kW  
WALL-MOUNTED MAINTENANCE BYPASS PANEL, 400V  
INTERNAL VIEW

PROJECT: SUBMITTAL DRAWINGS SHEET 4 OF 6

DWG NO:	SYWMBP96K160H	REV:	0
DRAWN:	JAYAPRAKASH	14-SEP-12	FIRST
ENGINEER:	PETER BLACK	18-SEP-12	ANGLE
APPROVED:	CHRIS LARSEN	18-SEP-12	PROJECTION:



**NOTES:**

1. DASH-DOT (— · — · — ·) LINES INSIDE OF SBP UNIT, REPRESENT PE-CONDUCTOR CONNECTION.
2. DASHED (— — —) LINES OUTSIDE OF SBP UNIT, REPRESENT CABLING PROVIDED BY OTHERS.

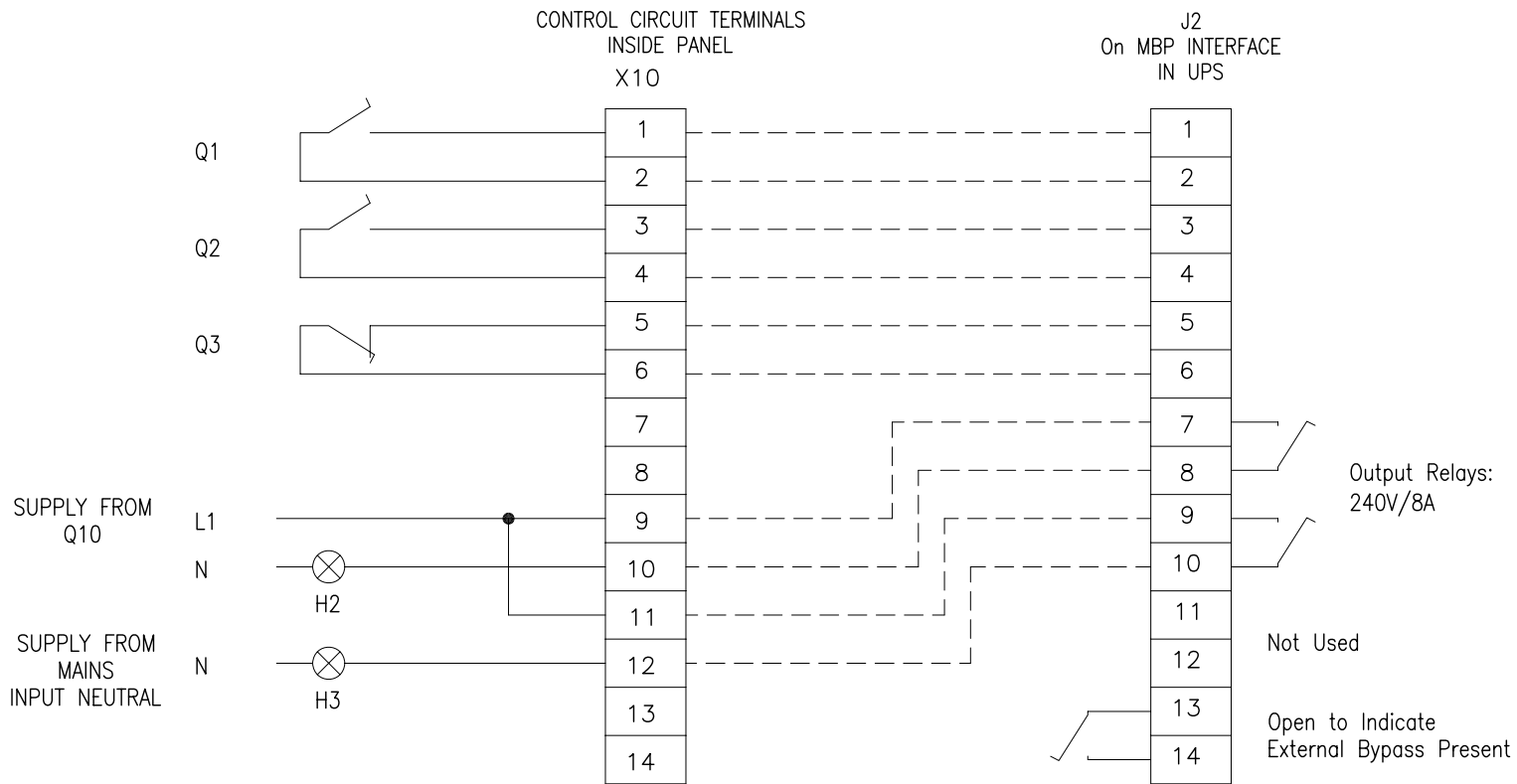
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TITLE: SYMMETRA PX ACCESSORIES  
 SYMMETRA PX 96/160 kW  
 WALL-MOUNTED MAINTENANCE BYPASS PANEL,400V  
 POWER CIRCUIT

DWG NO: SYWMBP96K160H  
 DRAWN: JAYAPRAKASH  
 ENGINEER: PETER BLACK  
 APPROVED: CHRIS LARSEN

REV: 0  
 14-SEP-12  
 18-SEP-12  
 18-SEP-12  
 ANGLE  
 PROJECTION  
 N/A



### LEGEND:



### NOTES:

- Control Cabling must be labelled at all connection points.
- Cables should be terminated with insulated ferrules or crimps.
- LEDs H2 and H3 must be located on respective panel doors.
- H2 and H3 must be terminated with insulated spade crimps.
- H2 and H3 must be 230/240 VAC green LEDs.
- Auxiliary NO contacts on Q1 and Q2 are late make with respect to the main poles of Q1 and Q2.
- Auxiliary NC contacts on Q3 is a early break with respect to the main poles of Q3.

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**Schneider**  
Electric

TITLE: SYMMETRA PX ACCESSORIES  
SYMMETRA PX 96/160 kW  
WALL-MOUNTED MAINTENANCE BYPASS PANEL, 400V  
CONTROL CONNECTION

DWG NO: SYWMBP96K160H

REV: 0

DRAWN: JAYAPRAKASH 14-SEP-12

ENGINEER: PETER BLACK 18-SEP-12

APPROVED: CHRIS LARSEN 18-SEP-12

ANGLE

PROJECTION

N/A

PROJECT: SUBMITTAL DRAWINGS SHEET 6 OF 6