

## Power-Zone® Model III Package Unit Substations Class 6010

Retain for future use.

### Introduction



Model III Package Unit Substation  
with HVL/cc Load Interrupter Switch (on left)

Power-Zone® Model III package unit substations combine a medium voltage primary switch, a dry-type transformer, and an I-Line® distribution section into a single compact unit. When a Square D® brand HVL/cc™ load interrupter switch is used as the primary switch, Model III package unit substations offer the smallest footprint in the industry. The substation is available with an Underwriters Laboratories (UL) Listing upon customer request.

The Model III package unit substation is only 48 in. (1219 mm) deep and 90 in. (2286 mm) high, allowing the entire substation to pass through large doorways and narrow hallways.

Model III package unit substations are constructed for installation against a wall or in a corner without altering or derating. They are ideal for the increased electrical demands of renovations and high-rise applications, as well as for new construction requiring multiple zones and a small footprint.

### Ratings

- Primary voltages of 2,400–13,800 V
- Ratings of 75–1,000 kVA at 480 V and 75–500 kVA at 240 V
  - Forced air cooling (AA/FA) increases rating capacity by 33%
- 220 °C insulation
- 150 °C temperature rise (115 °C or 80 °C available through 750 kVA)

### Options

- Secondary circuit breaker distribution section may be equipped with an:
  - Individually mounted secondary main breaker
  - or
  - I-Line distribution panelboard
- Seismically qualified units available upon customer request
- Branch circuit breakers from 15 A FY to PowerPact® RLC 1200 A
- PowerPact with Micrologic® circuit breakers are available with solid-state trip units
- PowerLogic® CM4000 series circuit monitors
- PowerLogic PM800 series power meters
- ION power and energy meters
- Surge arresters
- I-Line plug-in unit with a Surgelocic® surge protective device (SPD)

**NOTE:** For pricing assistance, please contact your local Schneider Electric representative.

## Primary Switch

Model III package unit substations are supplied with either a Square D® brand HVL or HVL/cc load interrupter switch. The HVL/cc switch offers the smallest footprint in the industry and is an exclusive sealed, interruption type, compartmentalized switch. If switching and overcurrent protection are provided elsewhere, a full-height, air-filled terminal chamber can be provided in place of the switch.

**Table 1: HVL/cc Equipment Ratings without Fusing**

Rating	Switch Voltage <sup>1</sup>	
	4.76 kV	17.5 kV
BIL (kV)	60	95
Frequency (Hz)	50/60	50/60
Withstand (kV)	19	36
Continuous current (A)	600/1200	600/1200
Interrupting current (A)	600/1200	600/1200
Fault close (kA asymmetrical)	40	40
Momentary current (kA asymmetrical)	40	40
Short time current (kA symmetrical)	25	25
Electrical endurance (number of operations at 80% power factor lagging)	100 (600 A) 26 (1200 A)	100 (600 A) 26 (1200 A)
Mechanical endurance (number of operations)	1000	1000

<sup>1</sup> All switches have a four-time, fault-close, duty cycle.

## Dry-Type Transformer

Special disc-wound, dry-type transformers employing resin encapsulated Vacuum Pressure Impregnation (VPI) techniques are used to achieve the low-loss, compact design necessary for the space-saving package substation concept. Class H, 220 °C insulation is used throughout. The standard temperature rise is 150 °C, with 80 °C or 115 °C low temperature rise, premium transformers available through 750 kVA. Aluminum windings are standard, with copper as an option. Four full capacity 2.5% taps are provided—two taps above nominal voltage and two below.

Fan cooling is optional. When selected, it increases the capacity rating of the transformer by an additional 33%.

The Model 98 series digital controller from Schneider Electric provides precision control through the use of three high-accuracy, thermocouple-type sensors—one in each phase of the windings. The controller has a membrane front panel for displaying the temperature of all three phases with individual readings. The hottest phase is automatically displayed. The Model 98 series controller features simple three-button operation with fan, alarm, and trip function settings. It is PowerLogic compatible.

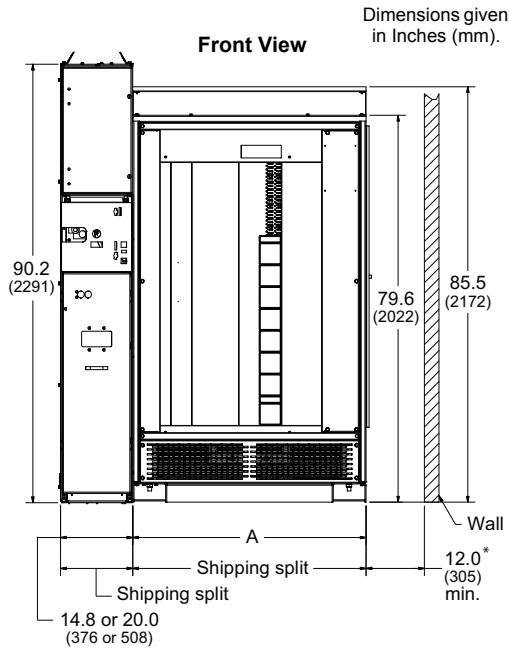
**Table 2: Transformer Basic Insulation Levels**

KV Class	Primary Voltages	BIL	600 Hz Test
1.2	< 600 V Secondary	10	4 kV
2.5	2400	20	10 kV
5.0	4160, 4800	30	12 kV
7.2	6900, 7200	30	12 kV
8.7	8320	45	19 kV
15.0	12, 12.47, 13.2, 13.8	60	31 kV

I-Line Distribution Section

Molded case circuit breakers are group mounted in an I-Line panelboard section, offering the inherent ease of installation for which the plug-on I-Line circuit breaker has become known. All circuit breakers are quick-make, quick-break, thermal magnetic, permanent trip type. They are factory-calibrated and sealed for accurate overcurrent response and maximum short-circuit strength.

Figure 1: Front and Side Views



PowerPact with Micrologic circuit breakers are available with solid-state trip units. Current-limiting, high-interrupting-capacity Powerpact H and J circuit breakers, as well as FI, KI, and LI circuit breakers, are available. Circuit breakers may be safely back-fed for use as main circuit breakers. All circuit breakers are UL Listed and carry integrated equipment ratings when used exclusively with other Square D brand circuit breakers in intended assemblies.

I-Line panelboards are available up to 1200 A. The maximum mounting space is 108 in. (2743 mm). Tin-plated copper bus is standard.

HCR-U, 1200 A, I-Line panelboards can be used up to 600 Vac. They are UL Listed under File E33139.

Table 3: Substation Dimensions and Approximate Weights

kVA	Temperature Rise (° C)	Dimensions <sup>1</sup> in. (mm)			Estimated Weight (lbs)	
		A	B	C	5 kV	15 kV
75	80, 115, 150	48 (1219)	11 (279)	23 (584)	2200	2500
112.5	80, 115, 150				2400	3000
150	80, 115, 150				2550	3200
225	80, 115, 150				2900	3400
300	80, 115, 150				3200	3900
500	150	60 (1524)	18.5 (470)	27 (686)	4300	—
	80, 115				—	5000
750	80, 115, 150				5100	6000
1000	150				6100	6900

<sup>1</sup> Dimension A references the Front View in Figure 1; dimensions B and C reference Figure 2.

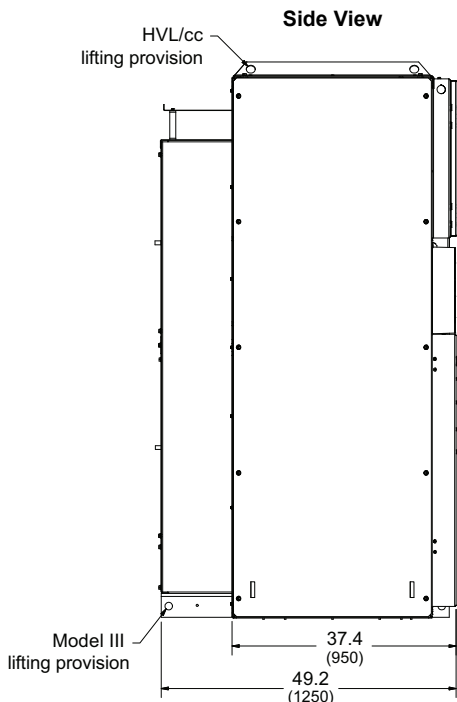
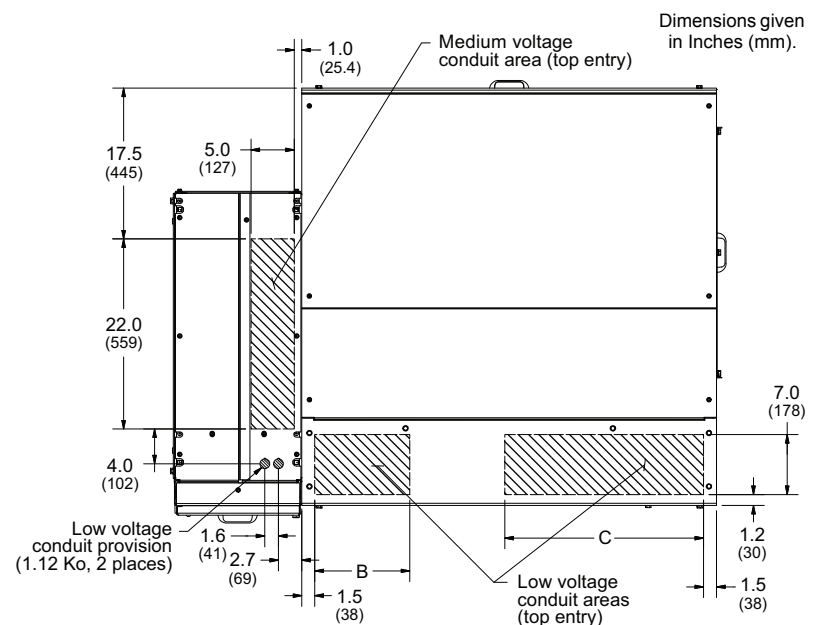


Figure 2: Top View Showing Conduit Areas



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