

Terminal Pole with Primary Switch

1. Scope

This standard covers the information necessary to construct a terminal pole with a 600 A or 1200 A switch supporting #4 AWG copper, 397.5 ACSR or 954 ACSR primary conductors on the 26 kV primary distribution system. Requirements for vertical spacing and hardware, and installation instructions to connect the primary conductor and underground cable to the pole are included.

2. Application

This standard provides direction to Seattle City Light (SCL) engineers, crews and contractors for the installation of a terminal pole with a 600 A or 1200 A switch on 26 kV distribution poles with #4 AWG copper, 397.5 ACSR, or 954 ACSR conductors.

3. Requirements

Three-phase terminal poles with a manual 600 A gang-operated switch shall be constructed as shown in Figure 3b.

Three-phase terminal poles with a manual 1200 A gang operated switch shall be constructed as shown in Figure 3d.

3.1 Compatible Units

Terminal pole structures are composed of multiple compatible units (CUs). The CUs, installation details, and material lists are described in the standards listed in Table 3.1 and shown in figures 3b and 3d.

Table 3.1 CU-Based Standards

Standard	Description
0123.01	Three-Phase Tangent Pole Top Assemblies
0123.03	Three-Phase Angle Pole Top Assemblies
0123.05	Three-Phase Dead End Pole Top Assemblies
0100.23	Three-Phase Overhead Jumpers, Unfused
0125.05	Overhead Primary Switch Installation
0126.01	Primary Pole Terminations
0126.04	Riser Extensions
0451.01	Grounding Electrodes for Distribution Poles
0224.34	Steel Conduit Risers

3.2 Pole Lengths

The minimum pole length required for a terminal pole with primary switch is shown in Table 3.2.





Table 3.2 Minimum Pole Lengths

Gains	Switch	Length Required (ft)
1	600 A	60
1	1200 A	65
2	600 A	65
2	1200 A	70

Figure 3a. Terminal Pole with 600 A Switch, Top View

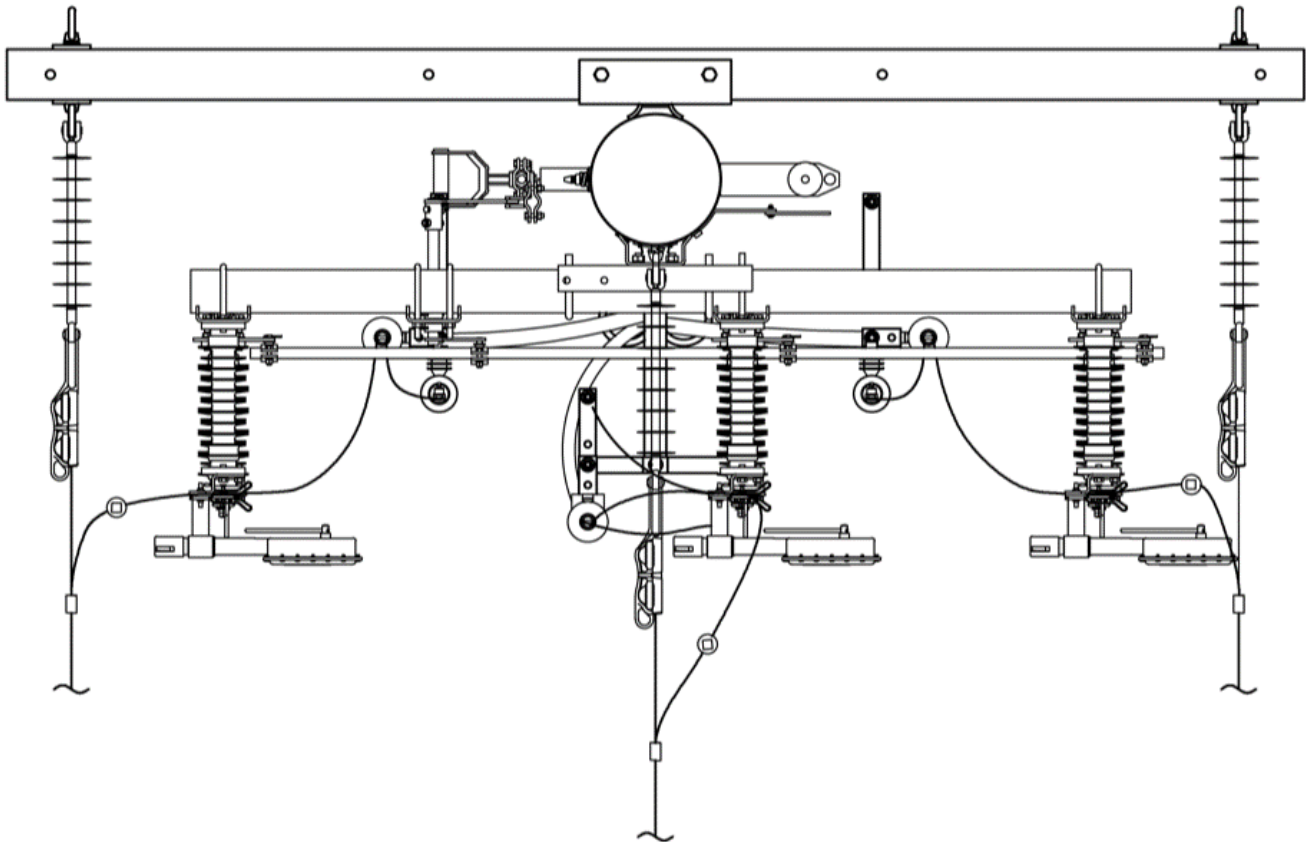


Figure 3b. Terminal Pole with 600 A Switch, Front View

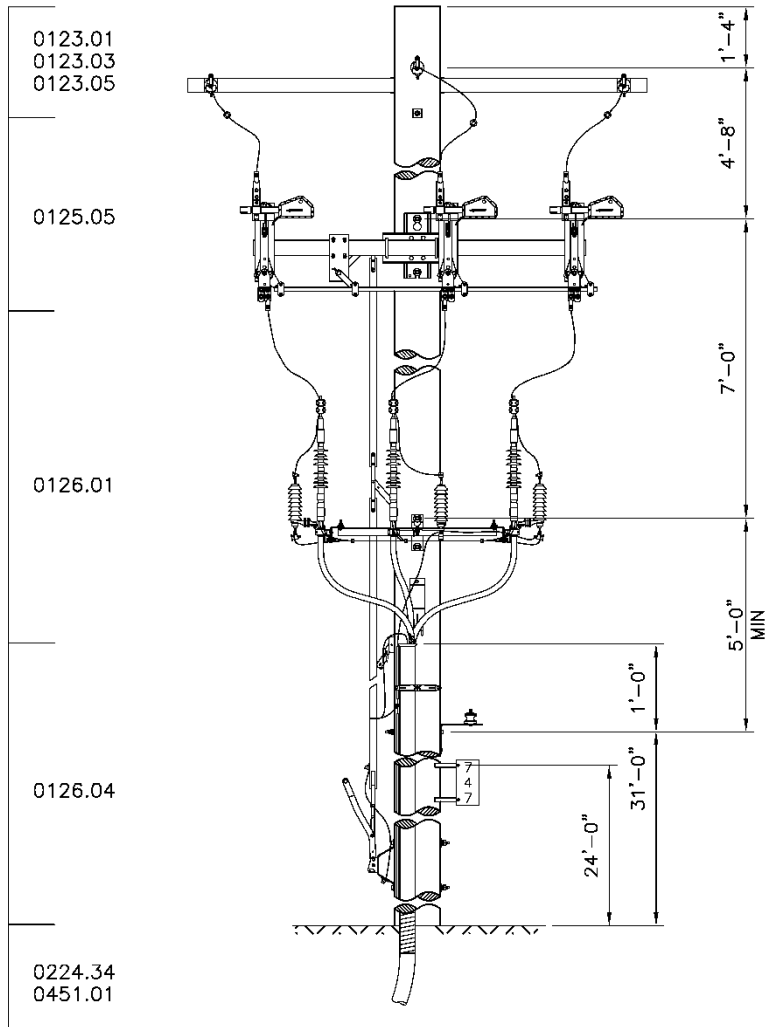


Figure 3c. Terminal Pole with 1200 A Switch, Top View

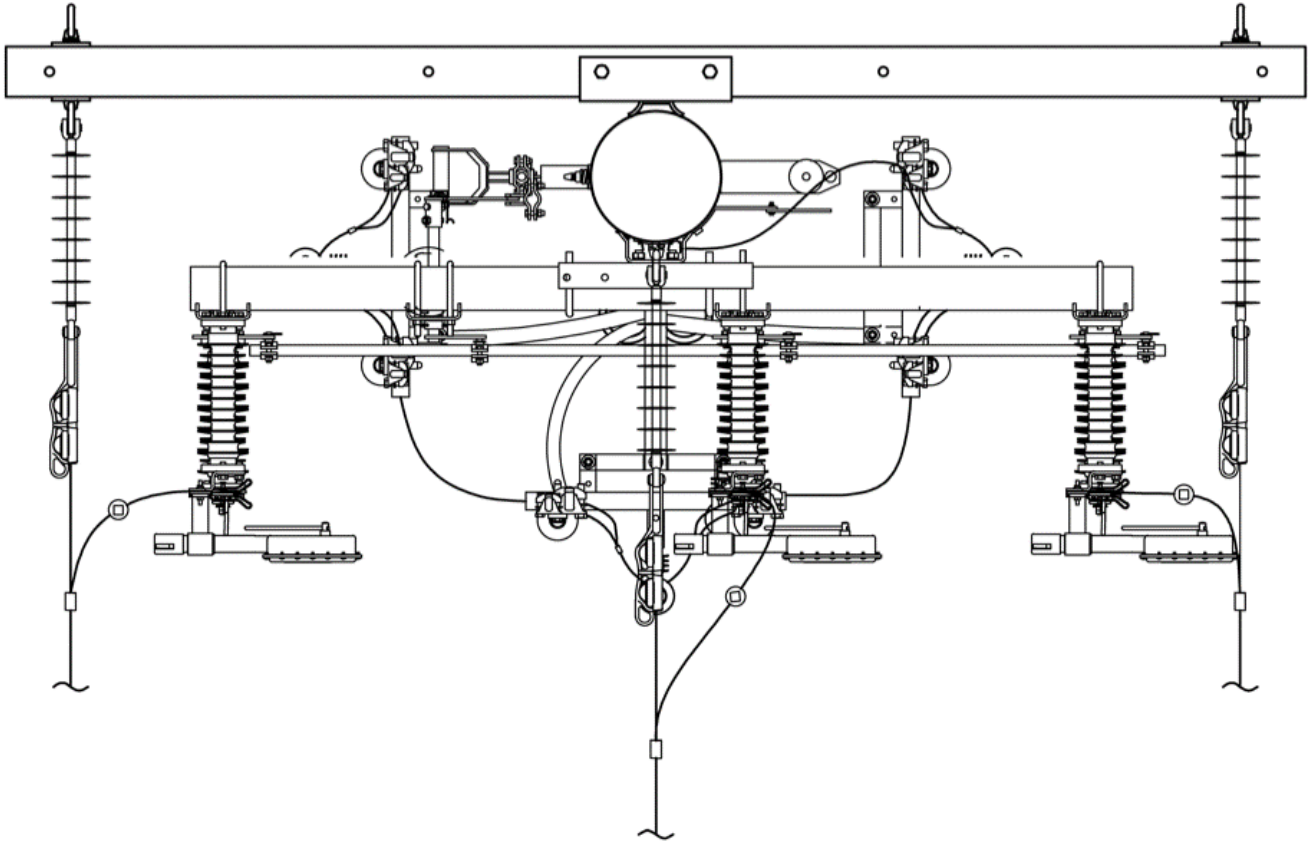
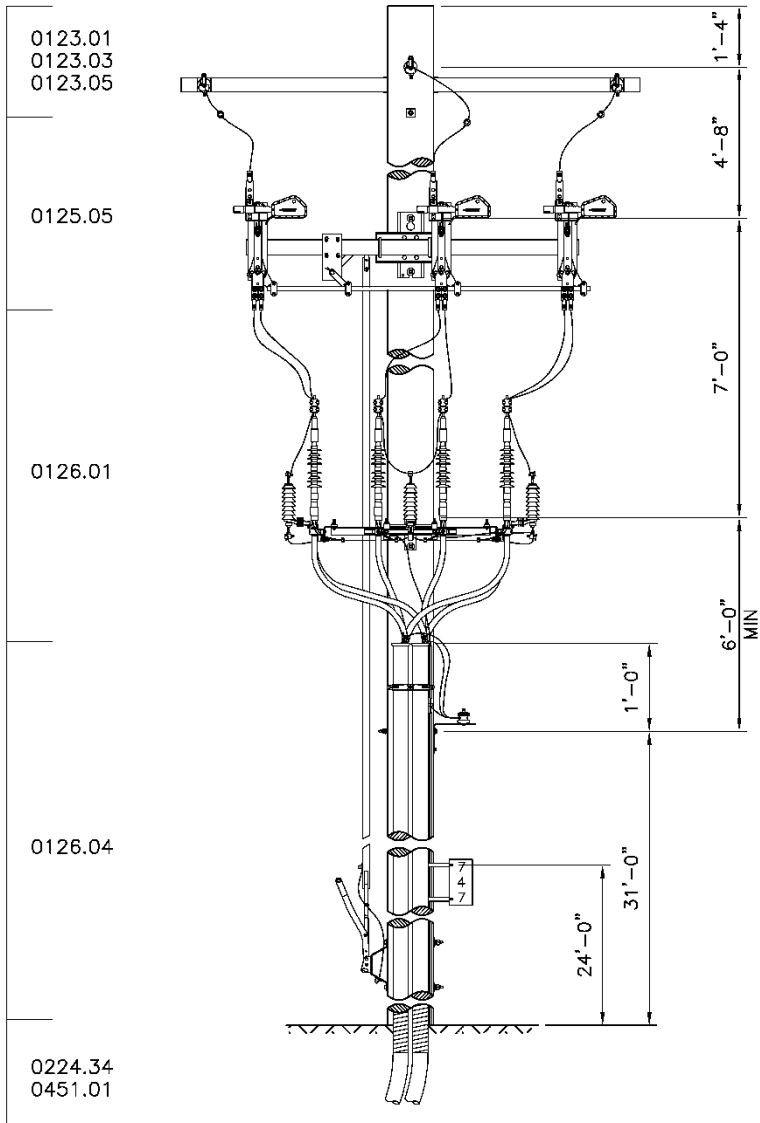


Figure 3d. Terminal Pole with 1200 A Switch, Front View



4. Construction Notes

If two neutrals are required, mount the second neutral on the street side 1 ft below the top bolt hole of the original neutral (typically at 30 ft).

If poor soil is found in the field, contact the SCL Design Engineer.

If there are avian and wildlife concerns, refer to SCL 0072.01 and contact the SCL Design Engineer.

If there are salt spray concerns, contact the SCL Design Engineer.

When connecting to an arrester with a ground lead disconnect, make sure the connection is as short and as direct as possible. The ground lead must be flexible enough to allow the disconnect to operate properly.

4.1 Overhead Fault Indicator

When installing an overhead fault indicator, record the following on the work order drawing/redlines:

- Date of manufacture
- Manufacturer's name
- Part/catalog number.

Once recorded, call in to system control center and send the work order drawing to GIS for mapping.

5. Material List

Table 5a. Materials for 600 A Terminal Pole with Primary Switch

Fig	Structure	Quantity				
3b	1000 kcmil, 600 A Terminal Pole					
3b	750 kcmil, 600 A Terminal Pole					
3b	500 kcmil, 600 A Terminal Pole					
3b	350 kcmil, 600 A Terminal Pole					
3b	1/0 AWG, 600 A Terminal Pole					
Std. #	Compatible Unit	ID				
0123.01	3P #4 AWG Single Tangent Assy	PLT#4-TANHP	1*	-	-	-
0123.01	3P 397.5 kcmil Single Tangent Pole Top Assy	PLT397-TANHP	1*	1*	1*	1*
0123.01	3P 954 kcmil Single Tangent Pole Top Assy	PLT954-TANHP	1*	1*	1*	1*
0123.05	3P #4 AWG Single Deadend Pole Top Assy	PLT#4-3DE	1*	-	-	-
0123.05	3P 397.5 kcmil Single Deadend Pole Top Assy	PLT397-DE	1*	1*	1*	1*
0123.05	3P 954 kcmil Single Deadend Pole Top Assy	PLT954-DE	1*	1*	1*	1*
0125.05	600 A Switch, 1/0 AWG	SWOH-V600-1/0	1	-	-	-
0125.05	600 A Switch, 350 kcmil	SWOH-V600-350	-	1	-	-
0125.05	600 A Switch, 500kcmil	SWOH-V600-500	-	-	1	-
0125.05	600 A Switch, 750 kcmil	SWOH-V600-750	-	-	-	1
0125.05	600 A Switch, 1000 kcmil	SWOH-V600-1000	-	-	-	1
0126.01	600 A Termination, 1/0 AWG	JTERM-600-1/0	1	-	-	-
0126.01	600 A Termination, 350 kcmil	JTERM-600-350	-	1	-	-
0126.01	600 A Termination, 500 kcmil	JTERM-600-500	-	-	1	-
0126.01	600 A Termination, 750 kcmil	JTERM-600-750	-	-	-	1
0126.01	600 A Termination, 1000 kcmil	JTERM-600-1000	-	-	-	1
0126.04	Riser Extension, 5"	DPVC-RISEREXT5	1	1	1	1
0224.34	5" Steel Conduit Riser	DRGS-RISER5	2	2	2	2
0224.34	5" Steel Riser Ground	GRND-RISER5	2	2	2	2
N/A	Overhead Fault Indicator	765872	3	3	3	3

*Optional

Table 5b. Materials for 1200 A Terminal Pole with Primary Switch

Fig	Structure	Quantity		
3d	1000 kcmil - 1200 A Terminal Pole			
3d	750 kcmil - 1200 A Terminal Pole			
Std.#	Compatible Unit	ID		
0123.01	3P 397.5 kcmil Single Tangent Pole Top Assy.	PLT397-3TANHP	1*	1*
0123.01	3P 954 kcmil Single Tangent Pole Top Assy..	PLT954-3TANHP	1*	1*
0123.05	3P 397.5 kcmil Single Tangent Pole Top Assy.	PLT397-3DE	1*	1*
0123.05	3P 954 kcmil Single Tangent Pole Top Assy.	PLT954-3DE	1*	1*
0125.05	1200 A Switch, 750 or 1000 kcmil	SWOH-V1200-1000	1	1
0126.01	1200 A Termination, 750 kcmil	JTERM-1200-750	1	–
0126.01	1200 A Termination, 1000 kcmil	JTERM-1200-1000	–	1
0126.04	Riser Extension, 5"	DPVC-RISEREXT5	2	2
0224.34	5" Steel Conduit Riser	DRGS-RISER5	2	2
0224.34	5" Steel Riser Ground	GRND-RISER5	2	2
N/A	Overhead Fault Indicator	765872	3	3

*Optional

6. References

- SCL Construction Standard 0123.01**; “Three-Phase Tangent Pole Top Assemblies”
- SCL Construction Standard 0123.03**; “Three-Phase Angle Pole Top Assemblies”
- SCL Construction Standard 0123.05**; “Three-Phase Dead End Pole Top Assemblies”
- SCL Construction Standard 0125.05**; “Overhead Primary Switch Installation”
- SCL Construction Standard 0126.01**; “Primary Pole Terminations”
- SCL Construction Standard 0126.04**; “Riser Extensions”
- SCL Construction Standard 0451.01**; “Grounding Electrodes for Distribution Poles”
- SCL Construction Standard 0224.34**; “Steel Conduit Risers”
- SCL Construction Standard 0072.01**; “Wildlife Protection, Small Birds and Animals”

7. Sources

- Hall, Alan**; SCL Engineer and subject matter expert for 0127.01 (alan.hall@seattle.gov)
- Lu, Curtis**; SCL Standards Engineer and originator of 0127.01 (curtis.lu@seattle.gov)
- SCL Construction Guideline DU5-15.3** (canceled); “Pole Termination, 3 Phase, 26 kV Distribution - Metal Oxide Arrester, #1/0 28 k V, XLP, 2/C & #8 Kerite”
- SCL Construction Guideline DU5-15.6** (canceled); “Pole Termination, 3 Phase, 15/26 kV Distribution – 350, 500, 750 and 1000 kcmil, 27 kV Shielded Cable”

SCL Construction Standard DU5-15.8 (canceled); "Single Phase Primary Underground, 15kV Metal Oxide Arrester, #1 2/C, 27KV XLP Cable"

SCL Construction Guideline DU5-15.61 (canceled); "Pole Termination, 3 Phase, 15/26 kV Distribution, 350, 500, 750 and 1000 kcmil, 27 kV Shielded Cable, High Fault Current Areas"

SCL Construction Standard DU5-15.62 (canceled); "Pole Termination, 3Ø, 1200 A, 2-750 kcmil, 1/C, or 2-1000 kcmil, 1/C Cables Per Phase"

SCL Construction Standard 0173.20 (canceled); "Terminal Pole with Primary Switch, 600 Amp"