

CABLE LIMITERS - NETWORK

1. Application

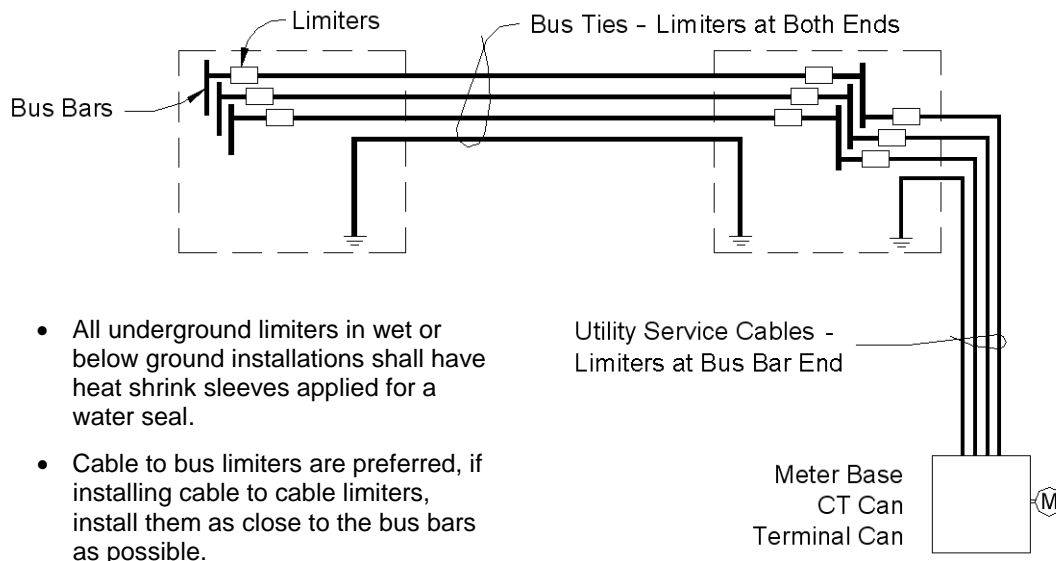
Cable limiters are installed when there is high fault current. They protect electrical equipment from damage caused by high short circuit currents by quickly cutting off fault currents.

Cable limiters are used to protect secondary service conductors. For secondary network voltages, cable limiters are installed at both ends of bus ties and at the bus bar end of the service cables.

For spot networks and primary services using customer supplied cables, cable limiters are applied at the collector bus end of the service cables located within the SCL vault.

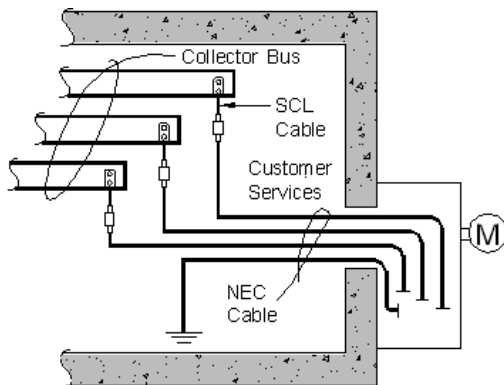
If there are three or more sets of secondary service cables and space and conditions allow, cable limiters shall also be installed at the load end. Cable limiters are not used on fire pump cables.

2. Secondary Grid and Secondary Services



- All underground limiters in wet or below ground installations shall have heat shrink sleeves applied for a water seal.
- Cable to bus limiters are preferred, if installing cable to cable limiters, install them as close to the bus bars as possible.

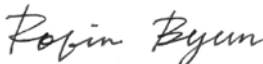


3. In-Building Vaults — Spot Networks and Primary Services



Customer Services consists of code-related cables and conduit (excluding fire pump services limiters on collector bus end).

Underground limiters in **dry** locations shall have heat shrink sleeves or tape applied for electro-mechanical protection. Terminations do not need to be insulated.

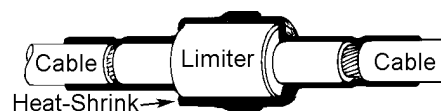
Note: Cable-to-bus limiters are preferred. If installing cable to cable limiters, install them as close to the bus bars as possible.

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CONSTRUCTION GUIDELINE

Cable Limiters - Distribution

standard number: **NTP-90**
 superseding date: June 19, 2009
 effective date: November 3, 2014
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4. Limiters, Cable to Cable, Al to Al or Cu to Cu

Wire Size, Al or Cu	Limiter		Heat-Shrink Tubing				
	Stock No., Al to Al	Stock No., Cu to Cu	Stock No.	Quantity	ID (in)		Length (in)
					Min. Expanded	Max. Recovered	
#4	–	683641	737450	1	1.10	0.37	9
#2	–	683643	737450	1	1.10	0.37	9
#1	–	–	737452	1	1.50	0.50	12
1/0	–	–	–	–	–	–	–
2/0	–	683646	737452	1	1.50	0.50	12
3/0	–	683647	737452	1	1.50	0.50	12
4/0	683615	683648	737452	2	1.50	0.50	12
250	–	683649	737455	2	2.00	0.75	12
350	683616	683650	737455	2	2.00	0.75	12
500	683617	683651	737455	2	2.00	0.75	12
600	–	011159	737456	2	3.00	1.25	12
750	683618	683652	737456	2	3.00	1.25	12

5. Limiters, Cable to Bus, Al and Cu

Wire Size, Al or Cu	Limiter		Heat-Shrink Tubing				
	Stock No., Al to Flat	Stock No., Cu to Flat	Stock No.	Quantity	ID (in)		Length (in)
					Min. Expanded	Max. Recovered	
#4	–	683621	737450	1	1.10	0.37	9
#2	–	683622	737450	1	1.10	0.37	9
#1	–	–	737452	2	1.50	0.50	12
1/0	–	–	737452	2	1.50	0.50	12
2/0	–	683623	737452	2	1.50	0.50	12
3/0	–	683624	737452	2	1.50	0.50	12
4/0	683637	683625	737452	2	1.50	0.50	12
250	–	683626	737455	2	2.00	0.75	12
350	683638	683627	737455	2	2.00	0.75	12
500	683639	683629	737455	2	2.00	0.75	12
600	–	011158	737456	2	3.00	1.25	12
750	683659	683630	737456	2	3.00	1.25	12