



APPLICATIONS

**Switching with Loadbuster**

When used with appropriately designed “hook-equipped” disconnects, cutouts, power fuses, fuse limiters, and pad-mounted gear, Loadbuster is suitable for these live-switching duties of single- or three-phase overhead distribution circuits through 34.5 kV and underground distribution circuits through 25 kV:

- **Transformer switching**—transformer load currents up through 600 amperes nominal, 900 amperes maximum, as well as transformer magnetizing currents associated with the applicable loads.
- **Line switching**—load splitting (parallel or loop switching) and load dropping of currents up through 600 amperes nominal, 900 amperes maximum; also line dropping (charging currents typical for distribution systems of these voltage ratings).
- **Cable switching**—load splitting (parallel or loop switching) and load dropping of currents up through 600 amperes nominal, 900 amperes maximum; also cable dropping (charging currents typical for distribution systems of these voltage ratings).
- **Capacitor-bank switching**—switching of single capacitor banks as follows:

Loadbuster Catalog Number	Nominal System Voltage, kV, Three-Phase	Maximum Capacitor Bank Rating, kVAC, Three-Phase		
		Solidly or Effectively Grounded System		Ungrounded System
		Single <sup>①</sup> Banks, Grounded-Wye Connected	Single <sup>①</sup> Banks, Ungrounded-Wye Connected	Single <sup>①</sup> Banks, Grounded- or Ungrounded-Wye Connected
5300R3	12 thru 14.4	1800	1800	1800
	16	2400	2400	2400
	20.8 thru 23.9	3000	▲	▲
	24.9 and 26	3600	▲	▲
5400R3	20.8 thru 23.9	3000	3000	3000
	24.9 and 26	3600	3600	3600
	27.6	3600	3600	3600
	34.5	4800	▲	▲

① Loadbusters must not be used for switching parallel (“back-to-back”) capacitor banks.

▲ Loadbusters must not be used for switching ungrounded-wye connected banks—or grounded-wye connected banks on ungrounded systems—where maximum system operating voltage exceeds 18 kV for Loadbuster, Catalog Number 5300R3; or 29 kV for Loadbuster, Catalog Number 5400R3.

*A Note on Single-Pole Switching*

In single-pole switching of ungrounded-primary three-phase transformers or banks (or single-phase transformers connected line-to-line), circuit connections or parameters may, in some cases, produce excessive overvoltages. In particular, for the following applications above 22 kV, single-pole switching by any means—including Loadbuster—should be performed only under the conditions stated in italics:

- Switching unloaded or lightly loaded delta-connected or ungrounded-primary wye-wye connected three-phase transformers or banks (or line-to-line connected single-phase transformers), rated 150 kVA or less three-phase, or 50 kVA or less single-phase—or of any kVA rating when combined with unloaded cables or lines—where maximum system operating voltage exceeds 22 kV. *Single-pole switching should be performed only if each phase is carrying 5% load or more, or if the transformer or bank is temporarily grounded at the primary neutral during switching.*
- Switching loaded or unloaded ungrounded-primary wye-delta connected three-phase transformers or banks—alone or combined with unloaded cables or lines—where maximum system operating voltage exceeds 22 kV. *Single-pole switching should be performed only if each phase is carrying 5% load or more and if the lighting-load phase is always switched open first (or switched closed last); or if the transformer or bank is temporarily grounded at the primary neutral during switching.*



**RESTRICTIONS ON OVERHEAD AND UNDERGROUND USE**

Loadbusters must be used only with disconnects, cutouts, power fuses, fuse limiters, or pad-mounted gear which meets S&C's applicable minimum construction specifications to be found in the current revision of the following publication:

**DATA BULLETIN 811-60:**

Loadbuster®  
The S&C Loadbreak Tool  
Outdoor Distribution  
(14.4 kV through 34.5 kV)

Minimum Construction Specifications for Disconnects, Cutouts, and Power Fuses Qualifying for Use with Loadbuster

Loadbuster, Catalog Number 5400R3, rated 25/34.5 kV, must not be used with metal-enclosed switchgear, metal-enclosed switches or fuses, or pad-mounted gear, of any make.

Although the interrupting ratings of Loadbuster, Catalog Number 5400R3, rated 25/34.5 kV, are equally applica-

ble at lower voltages, it must not be used with the following devices, since the fuse tube or blade travel of such devices is too short to accommodate the Loadbuster's operating stroke:

- Cutouts, power fuses, or fuse limiters, of any make, rated 110 kV BIL or less.
- Disconnects, cutouts, power fuses, or fuse limiters, of any make, rated 7.2/14.4 kV, 7.8/13.8 kV, 8.25 kV, or less.
- Disconnects of any make rated 125 kV BIL or less.
- S&C Fuse Cutouts—Type XS, Station Style, Catalog Number 189131 (with or without catalog number supplements).

Loadbusters should not be used for any applications where maximum system operating voltage exceeds the Loadbuster's maximum voltage rating.

**CLEARANCE REQUIREMENTS FOR USE IN PAD-MOUNTED GEAR**

For applications of Loadbuster (Catalog Number 5300R3-E) in pad-mounted gear, the Loadbuster tool must be equipped with an extended insulating hood (Catalog Number NA-1034), and the pad-mounted gear must be equipped with rigid insulating barriers to prevent:

- Accidental contact of Loadbuster metal parts with adjacent phases during switching.
- Accidental grounding of Loadbuster metal parts to enclosure walls, door stiles, or switch mounting bases during switching.

Specifically, barriers must ensure the following minimum clearances between metal parts of the Loadbuster tool and ground during a switching operation:

Maximum System Operating Voltage, kV	Clearance, Inches (mm)
Up through 15.5	1 (26)
Above 15.5 through 27	2 (51)

