Equipment monitoring is a proven method for recording operating states and remaining service life, providing the operator with important data for asset management. Surge counters are a robustly constructed instrument suitable for installation in the earth connection of a surge arrester.

Siemens Energy offers the following product types of surge counters:

- The 3EX5 030 surge counter is a traditional monitor for surge arresters. It is integrated into the arrester ground connection and counts the surge arrester responses that have occurred. It's suitable for use with single arresters or three phase sets.
- The 3EX5 050 surge counter with leakage current meter also offers monitoring of arrester leakage current. It's suitable only for use with single line arresters.

In addition to the functions described here, the surge counter 3EX5 050-0A can also be equipped with a passive auxiliary contact for remote metering (3EX5 050-1A).

Technical data for 3EX5 030-0A:
- Response sensitivity:
  - 8/20 µs discharge current: 200 A
  - Resolution: 2 impulses per second
  - 4/10 µs high-current impulse: 100 kA

Technical data for 3EX5 050-0A, 3EX5 050-1A, 3EX5 050-2A and 3EX5 050-3A:
- Response sensitivity:
  - 8/20 µs discharge current: 200 A
  - Resolution: 2 impulses per second
  - 4/10 µs high-current impulse: 100 kA
- Leakage current measurement:
  - Indicated by mA meter as peak value / √2
  - Measuring range up to 10 mA (normal) or 50 mA
  - (special model: 3EX5 050-3A red marking scale)