

Ranking Electricity Meters for Risk

The table shows the risk rankings of electricity meters, based on a detailed analysis provided elsewhere.¹ “5” is the highest risk. Blank is the lowest risk. Capital letters separate groups of meters with similar, but not necessarily identical, risk rankings. The priorities among the different types of risk are these:

- First, the meters are arranged in descending order by Risk to Health, which the author believes to be the single most important risk factor.
- Second, the meters with the same Risk to Health are arranged in descending order by Risk to Privacy.
- Third, the meters with the same Risk to Health and the same Risk to Privacy are arranged in descending order by Risk to Cyber Security.

| Meter Category | Type of Communication | | | Overall Risk 5 is highest. Blank is lowest. | | |
|----------------|--------------------------------------------------|----------------------|---|------------------------------------------------|-----------------|------------------------|
| | | | | Risk to Health | Risk to Privacy | Risk to Cyber Security |
| G | SMART METER | <i>wireless</i> | | 5 | 5 | 5 |
| | | WAN/HAN | ✓ | | | |
| F | AMR Meter | <i>wired</i> | | 4 | 4 | |
| | | Bubble Up | ✓ | | | |
| E | Analog Meter (plus wireless digital electronics) | <i>wired</i> | | 4 | 4 | |
| | | Bubble Up | ✓ | | | |
| D | AMR Meter | <i>wired</i> | | 3 | 2 | |
| | | Wake Up | ✓ | | | |
| C | Analog Meter (plus wireless digital electronics) | <i>wired</i> | | 3 | 2 | |
| | | Wake Up | ✓ | | | |
| B | SMART METER | <i>wireless</i> | | 2 | 4 | 4 |
| | | Internet cable/fiber | ✓ | | | |
| A | AMR Meter | <i>wired</i> | | 2 | 4 | |
| | | Internet cable/fiber | ✓ | | | |
| B | SMART METER | <i>wireless</i> | | 2 | 3 | 3 |
| | | Telephone landline | ✓ | | | |
| A | AMR Meter | <i>wired</i> | | 2 | 1 | |
| | | Telephone landline | ✓ | | | |
| A | Basic Digital Electronic Meter | <i>wired</i> | | 2 | | |
| | | None | | | | |
| A | Traditional Analog Meter | <i>wired</i> | | | | |
| | | <i>wired</i> | | | | |

The Wireless Smart Meter poses the highest risk in all three categories of risk. In contrast, the Traditional Analog Meter poses the lowest risk in all three categories of risk. This meter is also called the Traditional Analog Mechanical Meter with No Wireless Communications Capability.

¹ Ronald M. Powell, Ph.D., “Ranking Electricity Meters for Risk to Health, Privacy, and Cyber Security”, February 12, 2015.