Top Ten Reasons to Replace a Socket Meter With an SEL Meter

In the 1920s, Westinghouse Electric Company introduced a watt-hour meter that eventually set the standard for fit and form. Fast-forward to today. The industry's solution has changed little, but challenges in routing, placement, and connections for communications and I/O have grown. A fully loaded socket meter can have as many as 6 pigtails and 32 nonterminated wires coming out of the back, making meter removal with terminated pigtails very challenging. SEL meters address these challenges and offer even more advantages over socket meters.

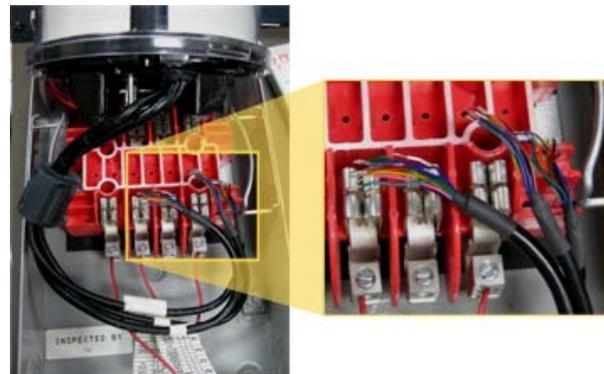Figure 1   Example socket meter with pigtails

Figure 2   Complicated and dense packaging in socket

This document provides a list of the top ten reasons to use an SEL meter in place of a socket meter. The SEL-734 Advanced Monitoring and Control System and the SEL-735 Power Quality and Revenue Meter are not just for panel-mount applications. With low-cost mounting accessories from SEL, they are outdoor, wall, panel, and rack-mount meters.

1. Reliability

For optimum heat dissipation and reliability, SEL meters maximize printed circuit board (PCB) usage, limit interconnections, and are housed in aluminum enclosures. Socket meters were designed to house electromechanical components in a round housing, but the optimal PCB layout is square or rectangular. Round PCBs use space less efficiently; therefore, a socket meter requires more PCBs, more interconnections, and denser packaging and produces more heat than an SEL meter. As a result, the accuracy and reliability of socket meters are reduced.

2. Easy Retrofits

Yes, you have to rewire voltage and current connections to SEL meters, but consider how many I/O, communications, alarm, and auxiliary power supply connections you have to make to any meter. Because the compression terminals' connector blocks come standard with an SEL meter, interconnection is a breeze. With low-cost mounting accessories from SEL, the SEL Meter has the added benefit of versatility—it's an outdoor, wall, panel, and rack-mount meter.

3. Safety

SEL meters include a fused auxiliary power supply and high-impedance voltage inputs. These inputs limit fault current and include a ground path to significantly improve safety. This safety is backed by Underwriters Laboratories (UL) certifications that are unavailable in existing socket meters.

4. Cost

Starting at $1,500, the SEL-735 offers high-end metering at a low cost and with an industry-leading warranty.

5. Outdoor Installation

Select the low-cost outdoor enclosure kit or the standard outdoor enclosure ordering option for an outdoor-rated power quality and revenue meter. Prewired solutions reduce shop and field time and provide a secure housing with plenty of room for accessories.

6. Product Support

SEL leads the electric power industry in product and customer support. SEL meters are backed by a ten-year, no-questions-asked, worldwide warranty. SEL offers support for free, so there's no need to purchase a service agreement to ensure that you will receive help when needed.

7. Upgrades

Add a telephone modem, KYZ outputs, analog outputs, Ethernet, or an EIA-485 port, or change to a 24/48 Vdc power supply without removing the meter. Simply follow our easy-to-understand instructions to remove the rear panel and slide in an upgrade or replacement card. Then place the meter back in service.

8. One-Stop Shopping

With an SEL meter and available accessories, you already have terminals, connections, hardware, and mounting provisions. There is no need to buy a meter can, A-base, or external terminal blocks. These "adders" can add significant cost in new socket meter installations.

9. Easy Configuration

Installation is more than just physical. User-friendly ACSELERATOR QuickSet® SEL-5030 Software, excellent product support, and an intuitive design reduce the overall installation time. You do not need enterprise-level software to create a load profile map or adjust waveform capture settings.

10. Versatile Mounting

Mount an SEL meter on a wall; in an indoor enclosure; outdoors; or on a swing bracket, panel, cabinet, or rack. Low-cost mounting solutions allow a choice of any location to install a meter. For a novel draw-out solution, look at the Easily Extractable Meter option from SEL.