


Schneider Electric - Utility Metering Competition Analysis			
Date	1-Oct-2014	Updated by	Ernesto A
<b>Schneider Electric's suggested Product:</b>		ION 8650 C	
<b>Competitor's Brand:</b>		SEL	
<b>Competitor's Product:</b>		734	
Competition background		Competition Channels	
<p>Schweitzer Engineering Laboratories (SEL) is a 25 years company of products and services for the protection, monitoring, control, automation, and metering of electric power systems. SEL is very strong with their protection product line and have a very good knowledge of the market. They use this proximity with customers to also sell metering products inside their solutions. They also have a very good support chain around the world.</p>		<p>SEL access the market directly in larger countries and have business partners in smaller countries. They are known for having good technical support. With a large experience in substation automation, especially with protection devices, SEL has good access in this market and take advantage of this as part of the strategy to grow metering business.</p> <p>SEL 734 comes available in two models, standard SEL734, and advanced SEL734P and both provide several part numbers for the different options (front panel labelling, meter form, panel mount type, power supply, different current class and metering voltage, communication options, IO expansions). The only option not covered by the ION8650C is a low voltage power supply (12-48 Vac/Vdc), otherwise the ION8650C can outperform the SEL734 on every aspect.</p>	
Product Strengths		Product Weaknesses	
<ul style="list-style-type: none"> <li>_ Power Quality and revenue meter. It includes instrument transformer compensation and transformer, line-loss compensation and demand control functions.</li> <li>_ Synchrophasor data</li> <li>_ Synergy with the protection and substation automation product line and service team;</li> <li>_ Worldwide 10 year warranty;</li> </ul>		<ul style="list-style-type: none"> <li>_ Small display;</li> <li>_ No IEC 61000-4-30 class A/S compliance;</li> <li>_ No flicker measurement;</li> <li>_ Harmonic measurement just until 15th order;</li> <li>_ Poor sampling rate for WFC (1 kHz);</li> <li>_ 32 Mb memory, but only 16 channels for data recording;</li> <li>_ Only supports 6 rates/day</li> <li>_ Form Factor</li> </ul>	
What they promote		Our argumentation	
<ul style="list-style-type: none"> <li>_ 32 MB internal memory;</li> <li>_ Power Quality and Revenue meter;</li> <li>_ Synchrophasor data</li> <li>_ Worldwide 10 year warranty;</li> <li>_ demand control, automation&amp;control functions additional to the meter;</li> </ul>		<ul style="list-style-type: none"> <li>_ ION meters have the same revenue metering features, such as transformer and line loss calculations, better TOU profiles with up to 8 rates/day and billing reports with Power Monitoring Expert Solutions;</li> <li>_ The memory for the SEL 734 is limited to 16 channels. ION meters can have much more channels, memory and additionally ION Architecture allows to customize the logging to any application.</li> <li>_ The ION 8650 provides higher measurement accuracy, twice as accurate as current IEC and ANSI Class 0.2 standards over all conditions and including single wide range current measurement.</li> <li>_ The display of SEL 734 meter is very poor compared to ION meters. When measuring Power Quality is always a good idea to have a graphic display to show harmonics, phasor diagrams, trend graphs and other parameters;</li> </ul>	
Additional argumentation			
<ul style="list-style-type: none"> <li>_ SEL has a very strong protection product line and is growing in their metering line. Probably we will face competition against SEL meters only where they also sell protection relays. When specifying against SEL is key to understand if the end user is a power consumer or power producer to provide a complete solution including PQ, billing, energy management, cost management;</li> <li>_ SEL promotes programmable logic on their meters, but ION technology is much more flexible and permits the creation of much more complex functions. ION technology must be a strong point of our argumentation, always emphasizing how easy is to create customized functions on ION meters;</li> <li>_ Lack of IEC 61000-4-30 class A/S compliance is another good point against SEL 734 series meters;</li> <li>_ Lack of IEC 61850 is another good point against SEL 734 series meters;</li> <li>_ Synchrophasor data available on SEL meters helps to provide synchronized measurement data to detect changes in voltage magnitude, voltage angle, frequency, or power flows as soon as they occur. This also requires additional equipment for time synchronization and to collect and analyze the data, otherwise this feature provides little value to the application. Keep in mind Schneider Electric has a more comprehensive Power Monitoring product line including solutions and gateways that can easily integrate and adapt to meet the customer requirements. The customer can have Power Quality and Advance Revenue metering on a single system</li> <li>_ AcSElerator is the software solution to configure, retrieve and analyze data from SEL meters. This software was developed with automation purposes, and the billing features can be a little confusing. Basically, it's not a metering software, but an adaptation to support metering devices. Power Monitoring Expert is more robust and was designed to meet "metering" needs, such as billing and PQ analysis.</li> </ul>			

Summary of Features				
				
<b>SEL 734</b>				
Feature / Meter	734	ION8650A	ION8650B	ION8650C
<b>PQ Measurement</b>				
Samples per cycle	1kHz	1024	1024	1024
Harmonics	15 th	63th	63th	31th
Interharmonics		✓	✓	
Sag / Swell	✓	✓	✓	✓
Voltage Unbalances	✓	✓	✓	✓
Flicker		✓	✓	
CBEMA		✓	✓	
Transient		✓		
Disturbance Direct. Detection		✓	✓	✓
<b>PQ Standards Compliance</b>				
IEC 61000-4-30 class A/S		<b>A</b>	<b>S</b>	
EN 50160		✓	✓	
COMTRADE		✓	✓	✓
PQDIFF ** with Software		✓	✓	
IEEE 519 ** with Software		✓	✓	
<b>Revenue &amp; Measurement logging</b>				
Accuracy Class (Wh)	0.15%	0.1%	0.1%	0.1%
Accuracy Class (V,A)	0.20%	0.1%	0.1%	0.1%
Memory	32Mb	128 Mb	64 Mb	32 Mb
Time Of Use	✓	✓	✓	✓
Security	✓	✓	✓	✓
Xfmr & Line comp.	✓	✓	✓	✓
Inst. Xfrm corrections	✓	✓	✓	✓
Time Synchronization	✓	✓	✓	✓
Timestamp resol. (s)	<b>0.001</b>	<b>0.001</b>	<b>0.001</b>	<b>0.001</b>
<b>Communication and Protocols</b>				
Serial	✓	✓	✓	✓
Optical	✓	✓	✓	✓
Modem	✓	✓	✓	✓
Cellular Modem				
Ethernet 10BaseT	✓	✓	✓	✓
Ethernet 100BaseT	✓	✓	✓	✓
Ethernet FL	✓	✓	✓	✓
Wireless				
DLMS		✓	✓	✓
Modbus TCP	✓	✓	✓	✓
Modbus RTU	✓	✓	✓	✓
Modbus Mastering		✓	✓	✓
DNP 3.0	✓	✓	✓	✓
IEC 61850		✓	✓	✓
SMTP (email)		✓	✓	✓
XML		✓	✓	✓
Gateway		✓	✓	✓



Price Information				
	Brand	Product	Price	Currency
<b>Selected Competitor</b>	SEL	734	1594	USD
<b>Competitor 1</b>	SEL	734P	2094	USD
<b>Competitor 2</b>	Electroindustries	Nexus 1272	2500	USD
<b>Comments on competitors price</b>				
<b>734</b>	list price for 1 unit (website)			
<b>734P</b>	bid for over 800 units, South America 2010			
<b>Nexus 1272</b>	bid for 300 units, South America 2011			
<b>0</b>	Consult the Category Manager assigned to your area for the local pricing strategy.			
<b>Competitor's presence around the world</b>				
	Strong presence	Some presence	No presence	
North America	✓			
Asia	✓			
Oceania				
N. Europe		✓		
W. Europe		✓		
E. Europe			✓	
S. Europe			✓	
S. America		✓		
Africa/M. East			✓	
<b>Key strengths of Schneider Electric offer</b>				
<p>_ High-accuracy measurements; the ION8650 provides high-accuracy (1-second), high-speed (½-cycle) true RMS 3-phase values, and total measurements with twice the accuracy specified by current IEC and ANSI Class 0.2 standards for key power and energy parameters.</p> <p>_ Advance Power quality analysis; Isolate, identify and analyse the source of power quality problems with simultaneous waveform captures of sub-cycle disturbance on all voltage and current channels (16 to 1024 samples per cycle). For power producers allows to monitor compliance with international quality-of-supply standards (IEC 61000-4-30 Class A/S, EN50160, IEC 61000-4-7, IEC 61000-4-15, IEEE 1159, IEEE 519). Additionally, for power consumers provides features as disturbance direction detection and the learning feature for the Sag/Swell module that are some unique and help customers to understand their power system.</p> <p>_ Complete communications support: Ethernet – serial – modem – infrared; simple, flexible communications reduce connection costs. Concurrent Ethernet, serial, and modem ports with a variety of protocols such as ION, IEC 61850, DNP 3.0, Modbus RTU, Modbus TCP, Modbus Master (serial, TCP), Ethergate, Modemgate, DLMS, PQdiff, COMTRADE, and XML ensure comprehensive interoperability.</p> <p>_ Meter Security; Control and customize access to sensitive data for up to 50 users. Password protection, hardware revenue locking, session-based event logging of user account access, TCP ports hardening, and anti-tamper seal protection enhance meter security.</p> <p>_ Meter functions; Multiple tariffs and time-of-use allow to apply tariffs, seasonal rate schedules to measure energy and demand values for time periods with specific billing requirements. Multiple setpoints for alarm and control functions can be customized for 1-second or ½ - cycle operation. Easy integrated with software or other energy management systems; MV90, DNP, Modbus, IEC 61850, Power Monitoring Expert.</p> <p>Transformer/line loss compensation help to determine technical system losses in real time. Instrument transformer correction save money and improve accuracy by correcting for less accurate transformers. Alarm notification via email, High-priority alarms, data logs sent directly to the user. Additionally ION Technology is a unique feature in our products that allows to customize the meter for any application and could be explored.</p>				