

## Sales Bulletin



### Medical/Healthcare Market: Talking Points Guide

**Objective:**

Use talking points to favorably position Chloride products in the Medical/Healthcare Market

Facts	Talking Points
<p>Electronic medical systems accounted for approximately 70% of total capital expenses in a hospital in 2006, cites Marketing Research Firm, Frost &amp; Sullivan.</p> <p>Healthcare focus is on early diagnosis and prevention (i.e. positron emission tomography (PET) is used to detect many kinds of cancer with improved accuracy), and digitized patient information.</p> <p>Digitization and integration of hospital and patient information is due to the following:</p> <ul style="list-style-type: none"> <li>▪ HIPAA (Health Insurance Portability and Accountability Act) to standardize and protect the privacy and security of individually identifiable health information.</li> <li>▪ EMR (Electronic Medical Records) to reduce paperwork and errors.</li> <li>▪ CPOE (Computerized Physician Order Entry) to reduce medication errors.</li> </ul>	<p>Chloride’s Single Phase and Three Phase Power Conditioners and Uninterruptible Power Supplies (UPSs) protect sensitive electronic medical systems by providing power protection solutions for healthcare applications such as clinical laboratory instrumentation, diagnostic imaging, patient monitoring, electronic medical records, picture archiving and communications systems, and data storage servers.</p> <p>Chloride solutions successfully:</p> <ul style="list-style-type: none"> <li>▪ Reduce field service costs.</li> <li>▪ Reduce service call rates and “no trouble found” (NTF) calls.</li> <li>▪ Improve equipment life.</li> <li>▪ Improve system reliability.</li> <li>▪ Increase system uptime.</li> <li>▪ Improve patient satisfaction.</li> <li>▪ Improve physician and trained technician retention.</li> </ul>

Facts	Talking Points
<p>Modern electronic medical systems, while outperforming their predecessors are more sensitive to power disturbances.</p> <p>Utility companies cannot guarantee continual or clean power needed to operate sensitive medical equipment and hospital IT systems.</p> <ul style="list-style-type: none"> <li>▪ Hospital Information System (HIS) downtime costs more than \$15,840 per hour for an average 500-bed hospital.<sup>1</sup></li> <li>▪ Loss of revenue for free standing imaging centers is estimated at \$2,000 per hour or more.<sup>2</sup></li> </ul> <p>Although most hospitals use generators to supply backup power within 10 seconds to all critical functions in the event of a power outage, a 10 second gap means downtime for all computer based systems unless a UPS is used to bridge the gap. Power disturbances which last typically a fraction of a second to a few seconds can have damaging effects on sensitive medical equipment and systems.</p> <p>Power disturbances such as transients, electrical line noise, sags, surges, and frequency variations can result in the following:</p> <ul style="list-style-type: none"> <li>▪ System lock-up, data loss, and data corruption.</li> <li>▪ Artifacts in digital images resulting in misdiagnoses.</li> <li>▪ Equipment damage and downtime.</li> <li>▪ Lack of 24/7 IT system availability for collecting, storing, and sharing patient information.</li> <li>▪ Increased service calls.</li> <li>▪ Lost revenue and patient dissatisfaction due to rescheduling and re-testing.</li> <li>▪ Loss of patient confidence in hospital/clinic/doctor capabilities.</li> </ul>	<p>In addition to its standard line of UPSs which mitigate typical power disturbances such as outages, sags, surges, and frequency variations, Chloride's ONEAC brand of power conditioner and power conditioned UPS solutions utilize low-impedance isolation transformer and filter technology to protect sensitive medical equipment from transients and electrical line noise.</p> <ul style="list-style-type: none"> <li>▪ Surpassing surge suppressors, ONEAC's power conditioning technology limits not only the peak voltage (amplitude) but also the edge-speed (frequency) of transients.</li> <li>▪ ONEAC's power conditioning products can be used as an alternative to Dedicated Isolated Ground Circuits, providing superior normal (L-N) and common mode (N-G) noise reduction [i.e. 10 V (normal mode) and 0.5 V (common mode)].</li> <li>▪ ONEAC's ONEGROUND technology (available in select models) filters out harmful noise currents in the ground path that occur when two connected devices within a network see voltage differences between the ground points to which they are connected, improving the performance of interconnected systems.</li> </ul>

<sup>1</sup> Source: Healthcare Informatics

<sup>2</sup> Source: Bob Thomas, General Manager – Rx Monitoring Services

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<p>Patient Vicinity Applications (Patient Contact Environments)</p> <ul style="list-style-type: none"> <li>▪ Area six feet beyond the perimeter of the bed (incl. exam tables, dental chairs, treatment booths, etc.), extending 7.5 ft from the floor.</li> <li>▪ Requires hospital-grade power conditioners and UPS systems in compliance with IEC 60601 safety standard for medical equipment.               <ul style="list-style-type: none"> <li>○ Earth leakage current for equipment used within the vicinity of a patient (e.g. patient monitors, physiotherapy equipment, and patient imaging equipment) must be below 300 uA (microamps).</li> </ul> </li> </ul>	<p>ONEAC’s medical grade power conditioners and power conditioned UPSs incorporate a low-impedance isolation transformer to provide the electrical isolation required to aid connected medical equipment to meet the strict earth leakage requirements of IEC 60601-1 and its regional derivatives: UL 60601-1 (formerly UL 2601-1), EN 60601-1, and CAN/CSA-22.2 No. 601.1-M90.</p> <ul style="list-style-type: none"> <li>▪ Earth leakage current &lt; 100 uA (microamps).</li> <li>▪ May be used by medical equipment manufacturers as part of a system solution to achieve IEC 60601-1 compliance.</li> </ul> <p><b>*Disclaimer: Not for use in life support or other life-critical applications</b></p>
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<p>Scalability, Redundancy, and Remote Monitoring and Management are essential for maintaining equipment uptime in the Healthcare IT environment.</p>	<p>Chloride offers UPS solutions which provide modular scalability, redundancy, and extended runtimes.</p> <p>Chloride’s suite of Connectivity Solutions offer remote monitoring, management, and safe server shutdown capabilities.</p>

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Chloride ONEAC Solutions	Power Ranges	Typical Applications
ConditionOne Series Power Conditioners	75 VA to 1000 VA	Electronic Medical Records, Immunoassay Analyzers, Hematology Analyzers, Coagulation Analyzers, Blood Gas Analyzers.
PCm Series Power Conditioners	120 VA to 3000 VA	Patient Vicinity Applications, Electronic Medical Records, Nurses Stations, PACS, Patient Monitors, Ultrasound, Clinical Chemistry Analyzers, Immunoassay Analyzers, Hematology Analyzers, Coagulation Analyzers, Blood Gas Analyzers.
ON Series m UPS	300 VA to 600 VA	Patient Vicinity Applications, Immunoassay Analyzers.
ON Series UPS	400 VA to 2200 VA	Electronic Medical Records, Ultrasound, Clinical Chemistry Analyzers, Immunoassay Analyzers, Hematology Analyzers, Coagulation Analyzers, Blood Gas Analyzers.
ON Series 3000 VA UPS	3000 VA	Electronic Medical Records, Networks, Ultrasound, Clinical Chemistry Analyzers, Immunoassay Analyzers, Hematology Analyzers, Coagulation Analyzers, Blood Gas Analyzers.
Sinergy S II Series UPS	700 VA to 3000 VA	Electronic Medical Records, Networks, Ultrasound, Clinical Chemistry Analyzers, Immunoassay Analyzers, Hematology Analyzers, Coagulation Analyzers, Blood Gas Analyzers.
Sinergy SE II Series UPS	4 kVA to 20 kVA	Electronic Medical Records, Data Centers, Networks, Ultrasound, PET, X-Ray, Clinical Chemistry Analyzers, Immunoassay Analyzers, Hematology Analyzers, Coagulation Analyzers, Blood Gas Analyzers, Integrated System Analyzers.

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<b>Chloride ONEAC Solutions</b>	<b>Power Ranges</b>	<b>Typical Applications</b>
CP Series 3020 UPS	10 kVA to 20 kVA modules (Parallel up to 8 modules)	Data Centers, Networks, Electronic Medical Records, CT, X-Ray, MRI, PET, Ultrasound, Clinical Chemistry Analyzers, Integrated System Analyzers.
EDP70Plus UPS	12 kVA to 80 kVA	Data Centers, Networks, Electronic Medical Records, CT, X-Ray, MRI, PET, Ultrasound, Clinical Chemistry Analyzers, Integrated System Analyzers.
CP Series 3150 UPS	125 kVA to 150 kVA modules (Parallel up to 8 modules)	Data Centers, Networks, Electronic Medical Records, CT, X-Ray, MRI, PET, Ultrasound, Clinical Chemistry Analyzers, Integrated System Analyzers.
90-NET UPS	180 kVA to 750 kVA modules (Parallel up to 8 modules)	Data Centers, Networks, Electronic Medical Records, CT, X-Ray, MRI, PET, Ultrasound, Clinical Chemistry Analyzers, Integrated System Analyzers.