

The Reliability Files

Written by Administrator
Thursday, 15 September 2011 13:05



This month's edition of The Reliability Files includes products from Agilent and Petro-Canada.





trig as a function to hold the meter,

Harnessing The Power Of Smarter Meters To Do Lots More With Less

Problem

As noted last month, just because your workload is continuing to increase, doesn't mean you need to be carrying around more tools to do it. You just need tools with more capabilities.

Solution

Agilent Technologies—the world's premier measurement company—has you covered with its recently introduced U1233A Handheld Digital Multimeter.

Your meter should help you manage your most valuable asset: your time. The old paradigm has the meter taking readings while you watch. You have to be present when things happen. Under this arrangement, it can be difficult to multi-task. With the U1233A, you now have choices.

Starting with a simple freeze function, you can stop the meter from updating by pushing the blue button (Fig. 1). This allows you to view data when it's convenient. Push and hold for one second to exit. Or, push momentarily to let the meter take another reading—*again, when it's convenient for YOU*. With this "Trig Hold" capability, you control the trigger and the meter holds your reading.

Maybe you're anticipating a step-change in your reading. You can automate the "trigger and hold" routine through the Auto Hold function of the blue button. Unlike other simple meters, the U1233A gives you a wide choice of steps, from 1 to 999 digits. You can choose to ignore those below the threshold and view only the significant ones. This is perfect for sorting similar electrical signals—*like resistors, for example*.

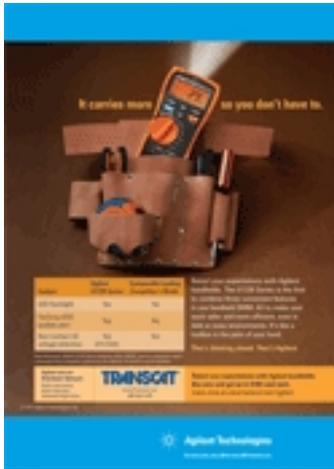
Perhaps you're expecting or experiencing random changes in your measurements. This can be particularly confusing, as the digits rattle up and down. The bar graph provides some indication,

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but the U1233A has something better: Smoothing. This function displays the running average of past readings (your choice from 2 to 999 readings). Since you control how much smoothing is necessary to deal with the fluctuations at hand, you can make better sense of the measurements as the meter filters and “slows down” the rattling.



*Click the image above
for Agilent's full-size
advertisement.*

You may also want to assign the task of watching the meter to your PC—*while you do something else*

Download the free GUI Data Logger software
[from Agilent here](#)

. Then, connect the U1233A to your PC using the U1273A IR/USB cable. From your PC, you control the rate of entries of readings, from once a second (or ASAP) to once a day. Entries are time-stamped and you determine the number needed. This process can be scheduled via a real-time calendar and clock. Results can be reviewed at your convenience and exported to where the data are needed.

The PC connection also can be achieved remotely using a Bluetooth adapter U1177A. A 10-meter range gives you flexibility in situating your PC. The hopping frequency mode of the Bluetooth protocol helps make a robust connection and assures reliable results. For slowly changing signals, the PC combination provides easy choices for your time management and multi-tasking.

Return On Investment

Agilent's new generation of meters overcomes many of the inconveniences inherent to maintenance activities. With these meters, maintenance can be far more efficient and productive.

To learn how, [click here](#) . MT

Agilent Technologies, Inc.
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For more info, enter 260 at www.MT-freeinfo.com



Get More From Hydraulic Systems In Wide-Operating-Temperature Applications

Problem

As you probably have noticed, today's hydraulic systems are much smaller, run at more extreme temperatures and work harder than ever before. On top of those challenges, many hydraulic systems have to operate through a wide temperature range.

Finding the right hydraulic fluid can make a big difference in ensuring peak performance throughout extreme temperatures and conditions as well as helping to reduce downtime and extend drain intervals. Fortunately, just like our hydraulic systems, the hydraulic fluids we use in them have come a long way in terms of performance. Knowing what to look for is key to getting the right fluid for your system needs.

A number of important factors come into play when choosing the right hydraulic fluid. Of course, you want to make sure the fluid you choose meets OEM specifications and adheres to best practices. You also want to ensure you have a strict maintenance and service protocol to keep

your equipment running at its best.



*Click the image above
to view Petro-Canada's
full-size advertisement*

Solution

The importance of a high viscosity index...

One important characteristic to look for in a hydraulic fluid is the Viscosity Index (VI)—*an important indicator of the oil's ability to resist changes in viscosity due to temperature variations*. The higher the VI, the less the oil's viscosity will be affected by temperature changes.

For hydraulic equipment that is subject to a wide range of operating temperatures, high-VI fluids are essential to reduce internal pump leakage, eliminate sluggish operation and increase overall operating efficiency.

- At low temperatures

At extreme cold temperatures, you want your hydraulic fluid to have excellent fluidity, which relates to the right viscosity based on temperature. This allows the oil to flow more readily. If the oil is too thick at cold temperatures, it simply won't flow properly and startup may take longer.

- At high temperatures

High-VI fluids maintain viscosity at high temperature better than monograde fluids of the same KV40C. A premium-performance, high-VI hydraulic fluid can provide extra protection during periods of extreme high temperatures, which can help minimize wear on equipment and bring greater peace of mind when equipment is running under heavy loads and high pressures.

A typical hydraulic pump can convert up to 20% of its horsepower into heat, so most fluids may run at elevated temperatures which also present challenges to hydraulic fluids. At extreme high temperatures, you don't want your hydraulic fluid to become too thin. You need the optimal

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viscosity— *meaning the ideal viscosity for the operating temperature*—to optimize efficiency of the hydraulic pump.

Return on Investment

HYDREX keeps your operation running smoothly. It lasts up to three times (3X) longer and offers up to two times (2X) better wear protection than the leading hydraulic oil brand. HYDREX also resists oxidative breakdown—*which prevents harmful sludge buildup*. So, when you use the right fluids in conjunction with your preventive maintenance program, protecting your investment isn't as daunting as you may think.

Petro-Canada Lubricants Inc.
Mississauga, ON, Canada

For more info, enter 261 at www.MT-freeinfo.com