



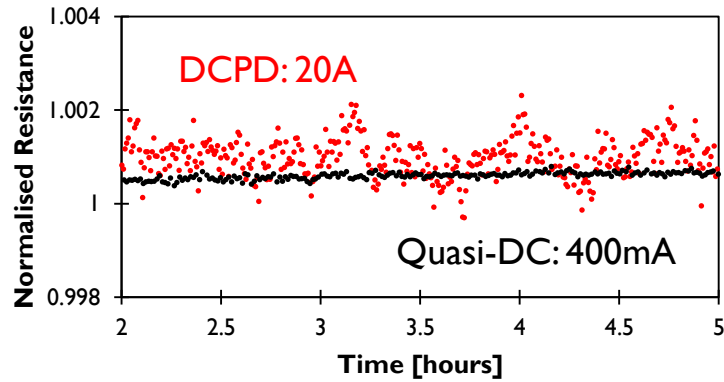
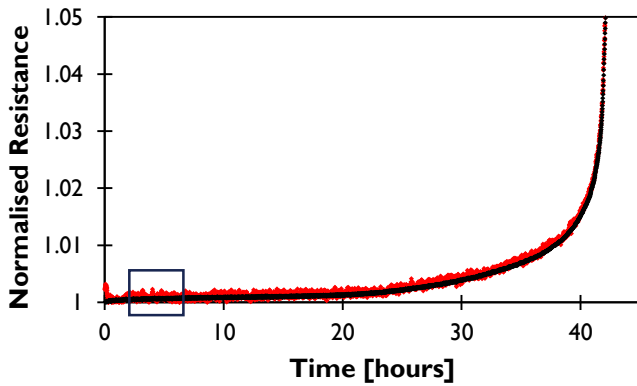
# Quasi-DC Potential Drop Monitoring System



The Quasi-DC Potential Drop Monitoring System utilises very low frequency (0.3-30Hz) measurements, combining the benefits of both DC and AC Potential Drop measurements (DCPD and ACPD respectively).

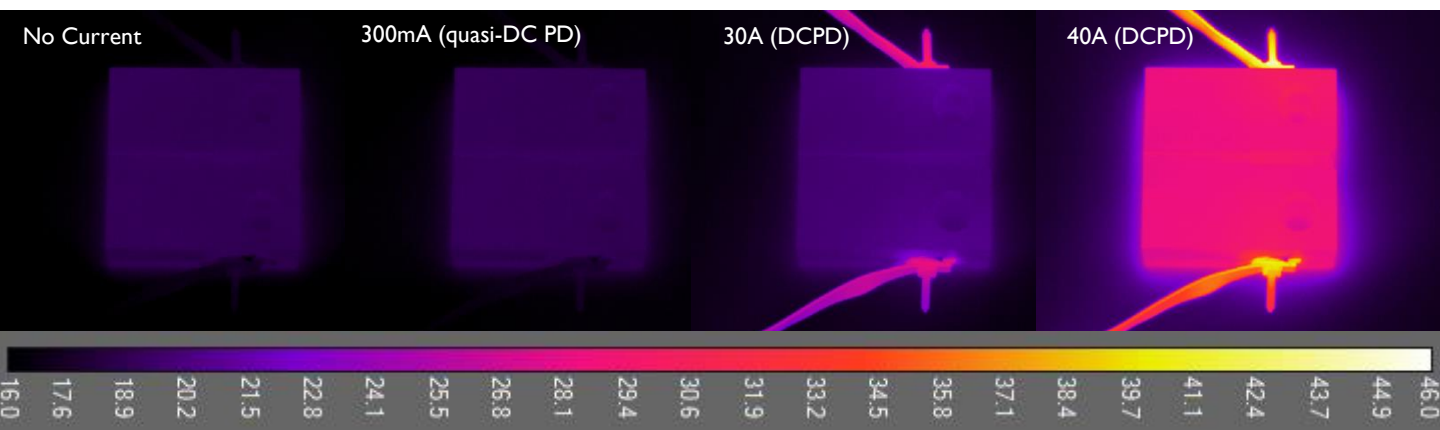
## Extremely low noise

The use of AC (albeit very low frequency) and specially designed electronics results in extremely low noise measurements. Low noise measurements are critical for studying defect initiation and calculating growth rates. The following is an example creep crack growth experiment, comparing the quasi-DC system using 400mA against a conventional DCPD measurement using 20A.



## ...and therefore extremely low power

The extremely low noise performance enables the use of current amplitude orders of magnitude lower than typically used for DCPD, effectively eliminating resistive heating. The following infra-red thermography illustrates the issue using large inspection current; electrical resistivity is strongly dependent on temperature. The low power operation makes electrical connections much simpler as small diameter, temperature resistant wires can be used.



## A comprehensive experimentation system

4x Thermocouple Inputs, 2x Analogue Inputs, 1x Digital Input, 1x Digital Output, built in multiplexers  
USB Plug and Play, LabVIEW example software  
Highly configurable options: high current, extra low-noise, up to 16 measurement channels