

APPLICATION NOTE-High-Performance Computing

DATA CENTER IMPLEMENTS INFRARED INSPECTION OF CRITICAL SWITCHGEAR

OVERVIEW

One of the most common metrics for measuring efficiency in facilities that host data centers for financial, insurance, and telecommunications facilities is a power usage effectiveness (PUE). Electrical distribution system losses account for 12% of the total energy consumed by the data center. In addition, unscheduled downtime in a data center is now estimated to cost over \$8,000 per minute — not to mention damage to the reputation of the data center company.

One method for increasing reliability is to implement Electrical Maintenance Safety Devices (EMSDs) such as infrared windows, ultrasound ports, voltage detection ports and on-line monitoring to allow energized electrical maintenance tasks to be completed safely and efficiently.

A consulting agency recently completed the supply of IR windows to the main data center for a national discount clothing and home goods retailer. With some initial advice and assistance from the agency, the data center personnel were able to select, site, and install several IR windows. These windows allow the data center team to see the critical wire terminations in multiple sections from the rear of their 2000 A, 480 V main switchgear. The agency and the data center team chose 12-inch rectangular IR windows for this application due to their large viewing area and installation flexibility.

Installation of IR windows is simple, using provided cut-out templates and cutting tools. The agency completed the installation in less than three hours.

With the IR windows now installed, the data center team has increased its IR inspection frequency. The team can perform inspections without the need for any special PPE while keeping the equipment in a closed and guarded condition at all times. As part of a broader condition-based maintenance program, this data center is on track to drive their electrical reliability to industry leading levels.

For more information about FLIR IR windows or to schedule a product demonstration visit: www.flir.com/ir-windows

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Figure 1: Field Installation of IR windows using provided templates and a jigsaw

Figure 2: First panel fitted with an IR window



Figure 3: Finished installation of IR windows

