

# Thermal Image-Based Disc Pads Diagnosis System in Grab Crane

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**Abstract** — Grab cranes are used for multi-purpose when the sand and soil are deposited into harbor wharf or the undersea construction is performed. Among the components of crane grab, the wire drum and disc brake pad are key expendables and have disadvantages that lot of heat is generated and very expensive when replacing them. In this study, the thermal image analysis for the disc brake, which works with wire drum of the crane is suggested. The suggested system performs the pad thermal diagnosis through the thermal image using the characteristics that the disc and pad surface temperatures are distributed abnormally before the brake failure and the disc pad damage. Therefore, the damage by the failure can be prevented by discovering the abnormality of the machine parts before failure and the life cycle of the pad and the cost can be extended and saved by operating the crane performing constant checkup for the overload.

(Pt9) **Keyword**—Thermal image camera, Thermal Image Diagnosis, Disk Pad Diagnosis



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