

3RCI

Rated capacity Indicator for Rail

Leading the way in load control, the 3RCI system is the world's most popular retrofit rated capacity indicator for road rail applications.

Road rail vehicles (RRV's) are enabled to work to their maximum capacity with the number one electronic safety system for the rail market.

How 3RCI Works

3RCI monitors the machine's load status and compares it to the machine's true lift capacity in its state of gradient, rail cant and axle lock configuration. Slew, cant and gradient duties are continuously calculated to make full use of the machine's lift capacity in every position.



SpaceGuard

Advanced Envelope Control and Rated Capacity Indicator for Rail

Road rail vehicles fitted with the 3RCI load control system outperformed conventional machines with sector-based slew, but GKD wanted more utilisation from 3RCI RRV's. With pressures on maintenance and renewals operations to complete works in shorter timescales or without line closure, SpaceGuard provides the solution.

SpaceGuard increases productivity by enabling the machine to be able to operate at all times even under live overhead wires (OLE) or next to open traffic lines (ALO).

SpaceGuard is currently the only electronic safety system in use on the rail complying with UK requirements for live overhead wires and open traffic lines.

How SpaceGuard Works

SpaceGuard provides extra benefits for road rail applications:

- Full software control over the limits
- Approved for use under live overhead wires and next to live rails
- SpaceGuard allows overnight working without line closure
- This results in reduced costs for the rail operator and maximum utilization for the owner

3RCI Specification

Full intelligent motion cut of all booms and slew on overload always allows recovery to a safer state but prevents movement further into overload. Slew limits, virtual walls and height limits are all included, featuring selective intelligent hydraulic motion cut of any boom or slew function at limit to prevent movement further into danger but allows recovery into the "safe" zone.

Full data logging of all functions and operational state is included. An optional telemetry unit includes GPS, GRPS and WiFi modules and allows local communication between machines and controllers, and remote data transmission and fault diagnosis.

Application

The 3RCI and SpaceGuard rated capacity indicator systems are designed for the rail maintenance and renewal market for use on road rail vehicles (RRV's) also known as 'Hy-Rail' vehicles.

SpaceGuard meets the latest rail industry standards in ALO and OLE applications.

SpaceGuard Specification

To attain approval for working in close proximity to live overhead wires or adjacent open rails the 3RCI has been extensively enhanced to protect against system sensor malfunction, software inconsistency and electronic failures. To do this the system has the features listed below:

- Direct drive angle sensors
- Dual equipment angle sensors
- Slew encoder
- SpaceGuard main control unit
- Dual processing verification
- Pre-emptive stopping algorithms
- Slow Down Zones

