

Redundant Architecture

Standard redundant components

The concept of redundancy is a central feature built in to the electrical sub-systems of Truninger magnet systems. A first level of redundancy covers failure of mains power and/or failure of the main processor module. This is fitted as standard to the majority of systems and is handled by the following components:

- SafePick module: automatically switches to backup battery in the event of a mains failure and also allows emergency power off of magnets if the main SmartPick controller fails.
- Backup batteries: guarantee safety of a suspended load for at least 20 minutes in the event of mains failure

Optional total redundancy

If required, total redundancy can be achieved by having several redundant sub-systems. Below is a typical gantry crane installation with an integrated coil magnet system:

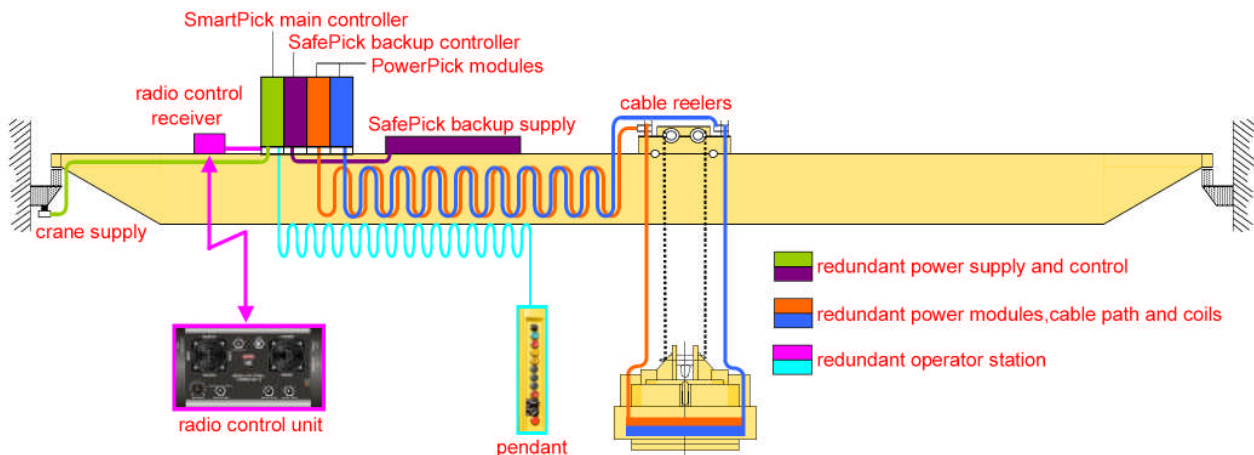


Figure 1: Magnet system with total redundancy

The main additional redundant sub-system covers power routing from the SmartPick controller to the magnet. The redundant components are:

- Two PowerPick modules.
- Two sets of flat cables.
- Two cable reelers.
- Two independent coils inside the magnet.

This arrangement forms two completely independent end-to-end power circuits which guarantees safety of the load even in the event of partial or complete failure of one circuit.

Also a redundant operator control sub-system ensures that the magnets may be operated from a backup pendant if the radio control unit or radio receiver are faulty.