

Case Study: Retrofitting radio control to an overhead crane.

Problem 1

Unless a crane is equipped with a magnet, a cab operated crane requires a helper employee on the floor to hook and unhook loads from the crane. This costs the company the salary of one additional man that could be put to use operating a machine or loading trucks. Further, the operator in the cab must communicate with the helper, which is tough in a crowded factory.

Problem 2

A crane operator is using a wired pendant, and must stay near the crane due to wire length limitations. The load is heavy and prone to swaying, putting the operator in danger of fouling the load and injuring himself.

Problem 3

The operator of a crane must unhook material in a lathe at ground level, load trucks from a flat-bed trailer five feet off the ground, and unhook loads in a pit. The pendant is on an inertia reel that works poorly, like most do, and the operator's productivity and in the toilet!

Problem 4

The wired pendant is constantly being pulled out of the junction box where it is wired into the crane. Things like forklift traffic, truck traffic, careless operators, and sharp machinery keep severing the wire, shutting the crane down for a minimum of two hours.

Solution

Depending on the application, a radio control can be installed on the crane to give the operator freedom to operate the crane from most ranges within the building. Typically the range is over three hundred feet. Because the radios can be set to different frequencies at the factory, every crane in a building can have a radio. Dearborn Crane currently has one industrial park with over thirty Dearborn Cranes installed, all operated by remote radio control. Radios are available for light duty and heavy duty overhead cranes. Radios are easily retrofitted to most overhead cranes with a modern control system. The radio is brought to your overhead crane in three pieces – a pre-wired receiver, a transmitter, and a

backup transmitter. The receiver is installed on the bridge girder of the overhead crane, and is fitted with a plug. The pendant is then cut from the control system, and at the cut a plug is installed on both the remaining cord and the severed pendant cord. The receiver is plugged in and the crane can be operated. In the unlikely event of radio failure, the pendant can be plugged back in.



fig 101



fig 102

Fig. 101: light and moderate duty transmitters.

Fig. 102: heavy duty "belly box" transmitter.