

PRODUCT OVERVIEW

# VariLink DC Radio Systems

Custom radio systems for DC motors





## A Smarter Way to Manage Heavy-Duty Equipment

Experience unparalleled crane control, precision, and reliability with VariLink™ DC radio control systems. Built for demanding industries like steel mills, pulp and paper, mining, and various outdoor applications, these systems keep your DC crane operations running smoothly.

Each VariLink radio system's modular design supports up to 64 relay connections, ensuring functionality that adapts effortlessly to any DC-powered application. Our state-of-the-art receivers can also be integrated with Uppercut or Haymaker belly boxes for seamless control with up to 6 motion switches and 8 auxiliary switches.

VariLink DC radio control systems provide a smarter, more efficient way to manage your heavy-duty equipment.



### Belly Box Crane Controls

VariLink Uppercut and Haymaker crane remote controls are belly box units for larger cranes where precision control is required. Featuring multiple Aux functions including toggles, switches, push buttons, selector switches, and potentiometers. A 900 MHz frequency hopping spread spectrum reduces interference with other systems in the area.



### Digital Receiver

The digital receiver serves as the central intelligence of the DC receiver cabinet. It is equipped with relays for the horn, start, and run signals, and houses the radio program for the CAN bus system. This ensures seamless integration of additional components, creating a fully customized system tailored to your specific needs.



### Intermediate Relay Card

The intermediate relay card is a key accessory that enhances the functionality of the digital receiver through a CAN bus connection. Optimized for DC isolated control, each card features four Form C robust relays. Our system supports up to 16 cards and 64 connections, making it a versatile, scalable solution for comprehensive control from a single system.



### Latching Relay Module

Built for controlling crane magnet operations, our latching relay module is an advanced system that integrates with your existing setup through CAN bus technology. It features a 2-function circuit for precise, safe drops and efficient power system shutdowns, significantly enhancing safety and efficiency.



### Batteries and Battery Charger

Our 3-slot (bank) battery charger system is designed specifically for charging the battery packs of the Haymaker and Uppercut Belly Boxes. This state-of-the-art charger features a backlit OLED status display for clear, real-time charging updates and an AC power card for enhanced efficiency.

# Technical Information

## System Ordering Prerequisite Checklist

The following information is required to place an order.



**Number of motions**



**Number & type of auxiliaries**



**Drawings of system**



**Man-Mag information**



**Magnet information**

### Power

**Voltage** 24 VDC +/-10%

**Idle** 1.5 W

**Maximum** 7 W

### Outputs

**External Sounder Output Contacts** AC 0.3 A / 125 V ac  
DC 1.0 A / 30 V dc

**MLC/START Contacts** AC 5.0 A / 250 V ac  
DC 1.0 A / 30 V dc

**Panel Sounder** 90 dBA SPL@ 1 m

### CAN Communications

**Protocol** CAN

**Data Rate** 100/250 kbps

**Length** 200 m(Max.)

**Devices** 64 (Max.)

### MODBUS Communications

**Protocol** MODBUS

**Data Rate** 19.2 kbps

**Length** 200 m(Max.)

**Devices** 64 (Max.)

### Radio Transceiver

**Operating Frequency** 902.971 to 926.653 MHz

**Power** -9dBm to +25dBm

**Modulation** FHSS

**Range** 1000 ft line of sight

**Encryption** AES-128

*Under FCC regulations, the ER064 Digital Receiver may only operate using the antennas and cable assemblies listed below:*

**Approved Antennas / Cables**

<b>ANT-916-CW-HW</b>	Antennas RPSMA 1/2 Wave Dipole Whip 916MHz
<b>ANT-915-NUB-RPS</b>	Antennas 915MHz Ultracompact, RP-SMA Plug
<b>ANT-916-ID-1000-RPS</b>	Antennas 916MHz, 1m, RP-SMA
<b>ANT-916-ID-2000-RPS</b>	Antennas 916MHz, 2m, RP-SMA
<b>CSI-RSFB-100-UFFR</b>	RF Cable Assemblies CABLE RPS BLKHD PLUG 100mm
<b>CO-058SMAMFRP-025</b>	RF Cable Assemblies RG58 REV POLARITY SMA M/F 25ft

**Environmental**

<b>Temperature range (operation and storage)</b>	13 °F to 158 °F (-25 °C to 70 °C)	<b>Humidity</b>	95% non-condensing
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**740TXSB Battery**

<b>Physical</b>	TBD	<b>Humidity</b>	TBD
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**740TXMB Battery**

<b>Physical</b>	TBD	<b>Humidity</b>	TBD
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**Environmental**

<b>Temperature Range</b>	-25° C to +50° C
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<b>Shipping Weight</b>	IP65
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<b>Humidity</b>	95% non-condensing
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**Radio**

<b>Operating Frequency</b>	FHSS 902.971 - 926.653MHz
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<b>Modulation</b>	2FSK
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<b>Antenna Impedance</b>	50 ohms
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<b>TX Power</b>	-15 to +13 dBm
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<b>Range - Line of Sight</b>	1,000 Ft
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**Battery Module**

<b>Type</b>	Li Polymer
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<b>Battery Life 740TXSB</b>	<ul style="list-style-type: none"> <li>- Battery Installed 7 hours</li> <li>- Batteries Installed 14 hours</li> <li>- Batteries Installed 21 hours</li> </ul>
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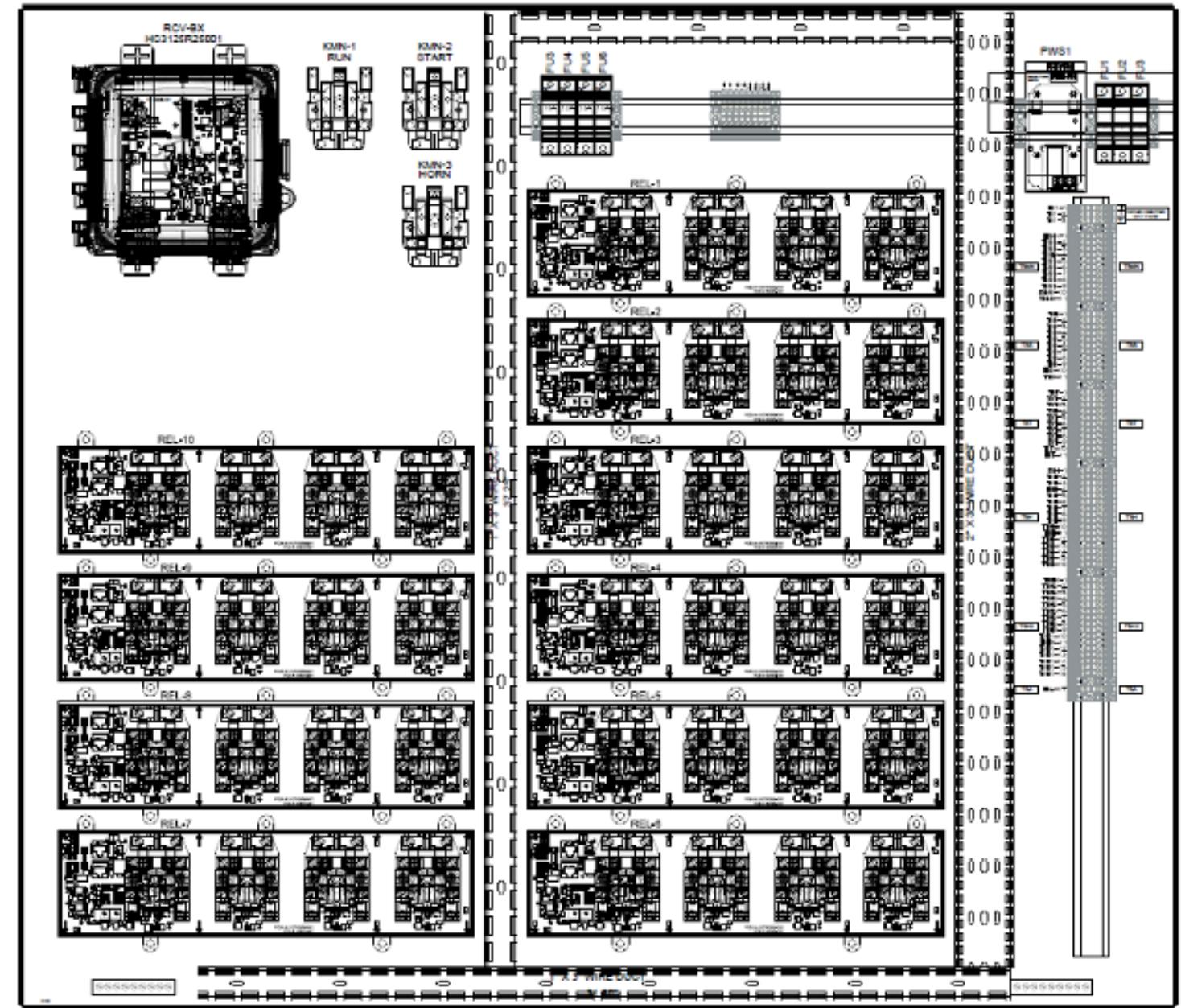
<b>Voltage</b>	8.4V
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<b>Battery Life 740TXMB</b>	<ul style="list-style-type: none"> <li>- Battery Installed 6.5 hours</li> <li>- Batteries Installed 13 hours</li> <li>- Batteries Installed 19.5 hours</li> </ul>
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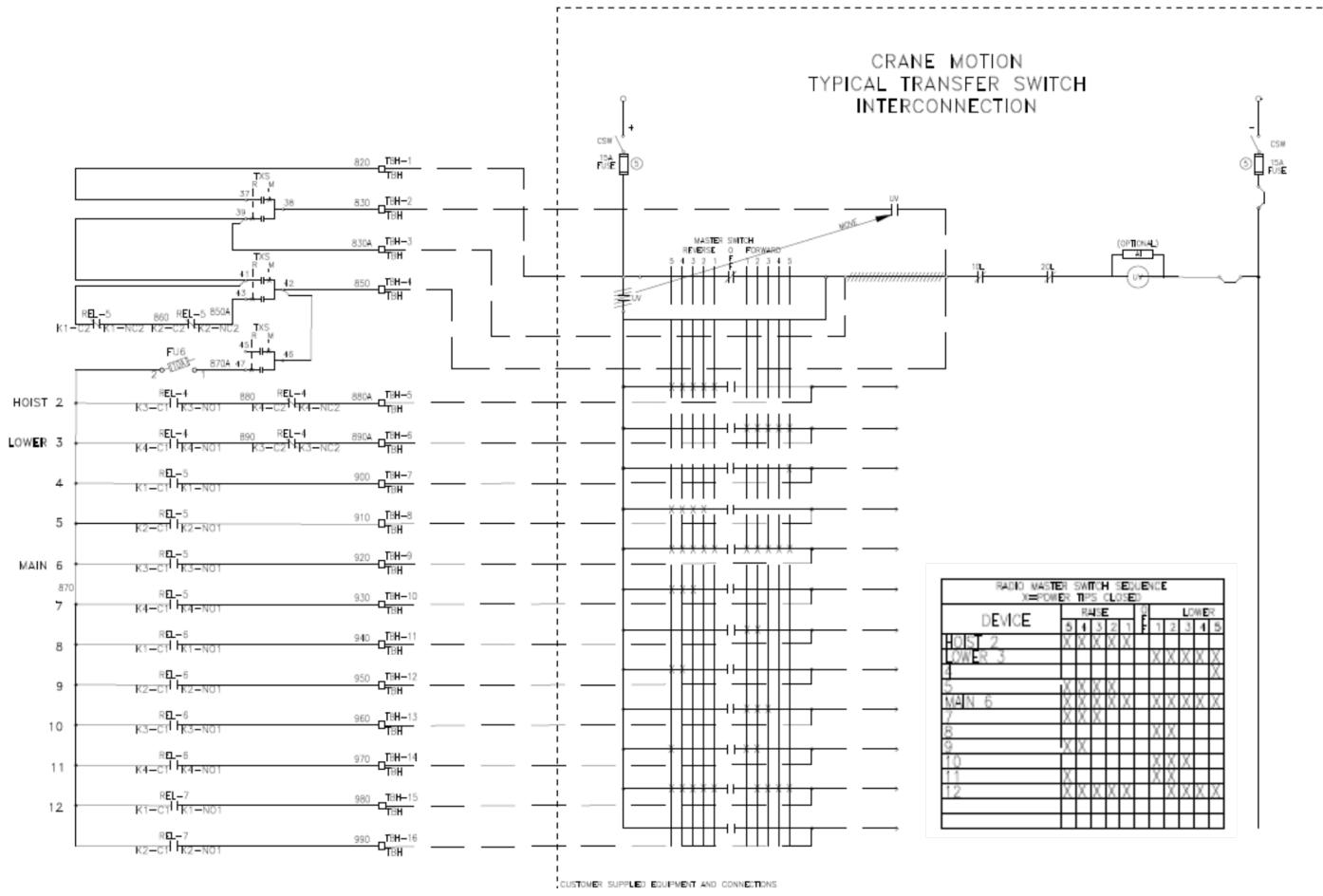
<b>Capacity</b>	2.3A*Hr
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## Typical Enclosure Layout

This layout illustrates a standard enclosure configuration.



## Typical Wiring Diagram Layout



## **HUBBELL** Industrial Controls

Hubbell Industrial Controls is a worldwide leader in DC contactor technology and products for use in the control of overhead cranes, locomotives, transit vehicles, oil and gas drilling rigs, mining vehicles, and alternative energy conversion systems.

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