Manual for

LoadMate Electric Chain Hoist Wiring Diagrams for Crane Applications
| CHAIN HOIST FOR QL MODULAR CRANE – PBR STYLE PUSH BUTTON PENDANT | 4 |
|---------------------------------------------------------------|
| LM Electric Chain Hoist Wiring Instruction - Chain Hoist for QL Modular Crane | 4 |
| LM05 Single Speed Hoist 208v or 230v | 5 |
| LM05 Single Speed Hoist 460v | 6 |
| LM05 Two-Speed Hoist 208v or 230v or 460v | 7 |
| LM05 Two-Speed Hoist 575v | 8 |
| LM10 Single Speed Hoist 208v or 230v | 9 |
| LM10 Single Speed Hoist 460v | 10 |
| LM10/LM16/LM20/LM25 Two-Speed Hoist 208v or 230v or 460v | 11 |
| LM10/LM16/LM20/LM25 Two-Speed Hoist 575v | 12 |
| QL MODULAR CRANE PENDANT | 13 |
| CHAIN HOIST FOR CRANE – HOIST MOUNTED PUSH BUTTON PENDANT | 14 |
| LM Electric Chain Hoist Wiring Instruction - Chain Hoist for Crane | 14 |
| LM05 Single Speed Hoist 208v or 230v – Telemecanique Style Push Button | 15 |
| LM05 Single Speed Hoist 460v - Telemecanique Style Push Button | 16 |
| LM05 Two-Speed Hoist 208v or 230v or 460v - Telemecanique Style Push Button | 17 |
| LM05 Two-Speed Hoist 575v - Telemecanique Style Push Button | 18 |
| LM10 Single Speed Hoist 208v or 230v - Telemecanique Style Push Button | 19 |
| LM10 Single Speed Hoist 460v - Telemecanique Style Push Button | 20 |
| LM10-16-20-25 Two-Speed Hoist 208v or 230v or 460v - Telemecanique Style Push Button | 21 |
| LM10-16-20-25 Two-Speed Hoist 575v - Telemecanique Style Push Button | 22 |
| LM05 Single Speed Hoist 208v or 230v – PBR Style Push Button Pendant | 23 |
| LM05 Single Speed Hoist 460v – PBR Style Push Button Pendant | 24 |
| LM05 Two-Speed Hoist 208v or 230v or 460v – PBR Style Push Button Pendant | 25 |
| LM05 Two-Speed Hoist 575v – PBR Style Push Button Pendant | 26 |
| LM10 Single Speed Hoist 208v or 230v – PBR Style Push Button Pendant | 27 |
| LM10 Single Speed Hoist 460v – PBR Style Push Button Pendant | 28 |
| LM10-16-20-25 Two-Speed Hoist 208v or 230v or 460v – PBR Style Push Button Pendant | 29 |
| LM10-16-20-25 Two-Speed Hoist 575v – PBR Style Push Button Pendant | 30 |
Wiring Diagram Selection Chart

Is the pushbutton mounted on the hoist?

- **Yes**
  - Wiring Diagram
    - Chain Hoist for Crane – Hoist

- **No**
  - Wiring Diagram
    - Chain Hoist for QL Crane

* Bridge Transformer Must Be Used For All Motions.*
Chain Hoist for QL Modular Crane – PBR Style Push Button Pendant

LM Electric Chain Hoist Wiring Instruction - Chain Hoist for QL Modular Crane

For the QL modular crane packages, the push button pendant is mounted on the bridge crane, utilizing a sliding festoon trolley. All leads from the pendant are terminated to the bridge control panel. The hoist receives the hoist and trolley control leads from the bridge panel via a festoon cable.

QL modular crane packages will utilize the crane mounted push button pendant arrangement.

Use Bridge Control Transformer for All Motions

1. On the LM05 add the mainline power feed to the load side of the K10 contactor. On the LM10, 16, 20, 25 add the mainline power feed into the normal position.

2. On the LM05 remove the F100 transformer use.

3. On the LM10, 16, 20, and 25, disable the transformer by removing wires as shown on wiring diagram.


5. Must purchase proper pendant plug adapter.
   2309717006 - adapter from X23 to Molex plug
   2309717051 - PB pigtail from X23 to no plug

*Factory not responsible for wiring completed in field. This is just a note to assist in the wiring change.

PBR Style Push Button Pendant
LM05 Single Speed Hoist 208v or 230v

Transformer is disabled. Bridge transformer supplies control voltage for hoist.

To control festoon see wiring diagram 2309624201

- - Existing circuit
X1102 Power Plug
X127 Pendant Plug
X147 Trolley Plug
X11 Terminal strip (terminal number)

F291 Motor Thermal Protection
S221 Upper Limit Switch
S222 Lower Limit Switch

DWG NO: 2309624202
LM05 Single Speed Hoist 460v

**Diagram Details:**

- **Transformer:** Disabled, bridge transformer supplies control voltage for hoist.
- **X1-9:** Fuse removed
- **K10 Contactors:** Disabled

**Controls:**
- **E-Stop**
- **Host Up**
- **Host Down**
- **Host Fast**
- **Forward Trolley**
- **Reverse Trolley**
- **Fast Trolley**

**Existing Circuit Diagram:**

- X1A2: Power Plug
- X2: Pendant Plug
- X3: Trolley Plug
- X11: Terminal Strip (Terminal Number)
- F291: Motor Thermal Protection
- S221: Upper Limit Switch
- S222: Lower Limit Switch

**Diagram Reference:**

- DWG NO: 2309624203

**Contact Information:**

- R&M Materials Handling, Inc
- Springfield, Ohio USA
- Phone: 800 955-9967
- Web: www.rmhoist.com

**Document Information:**

- September 2002
- 09/23/02
- RM-LM-WD-2002-0-ENG.doc
LM05 Two-Speed Hoist 208v or 230v or 460v

---

EXISTING CIRCUIT

X1A2 POWER PLUG
X23 PENDANT PLUG
X24 TROLLEY PLUG
X1:1 TERMINAL STRIP (TERMINAL NUMBER)

---

MTD CONTACOR IS DISABLED.

---

X1A2

---

HOST

UP

DOWN

FAST

---

FORWARD

REVOLVE

FAST

---

IO CONTROL, FEEDER
SEE WIRING DIAGRAM 2309624201

---

TRANSFORMER IS DISABLED.
BRIDGE TRANSFORMER SUPPLIES CONTROL VOLTAGE FOR HOST.

---

X20 24 VOLT CONNECTION ON 208/230V
CONNECT K1 TO 2 & 3 TO 4
FOR 460V (REPLACING)
CONNECT 2 TO 4

---

K21 MOTOR THERMAL PROTECTION
S221 UPPER LIMIT SWITCH
S222 LOWER LIMIT SWITCH

---

DWC No: 2309624204

---
LM05 Two-Speed Hoist 575v

To control festoon
See wiring diagram 2309624201

---

- Existing circuit
  X31A2 Power plug
  X23 Pendant plug
  X24 Trolley plug
  X1:1 Terminal strip (terminal number)
LM10 Single Speed Hoist 208v or 230v

**Diagram:**

- **X11A2:** Power Plug
- **X23:** Pendant Plug
- **X24:** Trolley Plug
- **X7:** Terminal Strip/External Number

**Legend:**

- **Motor Thermal Protection:** F291
- **Upper Limit Switch:** S221
- **Lower Limit Switch:** S222

---

**Note:**

- Internal Use Only
- **DWG NO:** 2309624206

---

**Contact Information:**

- **R&M Materials Handling, Inc.**
- **Springfield, Ohio USA**
- **Web:** www.rmhoist.com
LM10/LM16/LM20/LM25 Two-Speed Hoist 208v or 230v or 460v
LM10/LM16/LM20/LM25 Two-Speed Hoist 575v

Add & Connect X10 to X1:0

X1:0: STOP
X1:1: UP
X1:2: DOWN
X1:3: FAST

X2:0: TROLLEY
X2:1: FORWARD
X2:2: REVERSE
X2:3: FAST

Transformer is disabled. Primary leads are removed from X1:0 and X1:4. Bridge transformer supplies control voltage for host/trolley.

R&M Materials Handling, Inc
Springfield, Ohio USA

800 955-9967
web: www.rmhoist.com

September 2002

DWC NO: 2309624209

X3142 POWER PLUG
X321 PLUGGAGE PLUG
X341 TROLLEY PLUG
X1:1 TERMINAL STRIP (TERMINAL NUMBER)

F291: MOTOR THERMAL PROTECTION
S221: UPPER LIMIT SWITCH
S222: LOWER LIMIT SWITCH

web:  www.rmhoist.com
QL Modular Crane Pendant

This wiring diagram of the bridge controls (shown below) is for general reference only. A wiring diagram for the bridge controls is generated to the order to reflect the components supplied. It is furnished under a separate cover.
Chain Hoist for Crane – Hoist Mounted Push Button Pendant

LM Electric Chain Hoist Wiring Instruction - Chain Hoist for Crane

If the push button pendant is mounted to the chain hoist, all leads from the pendant (including the bridge button leads) are brought in to the hoist control panel.

**Use Bridge Control Transformer for All Motions**

1. **Rewire X23 plug in hoist body.** ([X23 – the female side of the pendant plug in the hoist control panel](#))
   a) Cut two (2) wires approximately 6” long and crimp female plug onto one end. Label one wire #10, the other wire #11 and insert the wires into the X23 plug in the corresponding plug location.
   b) **LM05 Hoist Body:**
      - Remove wire #5 from the X1:5 terminal strip*.
      - Remove wire #9 from the X1:9 terminal strip*.
   **LM10, LM16, LM20; LM25 Hoist Body:**
      - Remove wire #5 from A2 on the K10 contactor*.
      - Remove wire #9 from the X1:9 terminal strip*.
   *These wires should all be connected to the X23 plug.

2. On the LM05 remove the F100 transformer fuse.

3. On the LM05 add the mainline power feed to the load side of the K10 contactor. On the LM10, 16, 20; 25 add the mainline power feed into the normal position.

4. **Wire connections between the bridge and hoist.**
   - **Wire #5** E-stop from pushbutton to A2 coil on bridge mainline contactor.
   - **Wire #9** Bridge forward
   - **Wire #10** Bridge reverse
   - **Wire #11** Bridge fast
   - Control neutral wire to X1:9 terminal strip
   **LM05 Hoist:** Control hot wire to X1:1 terminal strip.
   **LM10, LM16, LM20; LM25 Hoist:** Control hot wire to X1:10 terminal strip.

*Factory not responsible for wiring completed in field. This is just a note to assist in the wiring change.*
LM05 Single Speed Hoist 208v or 230v – Telemecanique Style Push Button
LM05 Single Speed Hoist 460v - Telemecanique Style Push Button

[Hoist Wiring Diagram Image]

- Transformer is disabled. Bridge transformer supplies control voltage for hoist/trolley.
- Motor control panel.
- Horn button (optional).
- Maintenance start/stop.
- E-stop.
- Push removed.
- Transformer control.
- Optional component connect as shown if furnished.
- Existing circuit.

X1: PENDANT PLUG
X2: TROLLEY PLUG
X15: TERMINAL STRIP (INTERNAL) NUMBER
F291: MOTOR THERMAL PROTECTOR
S21: UPPER LIMIT SWITCH
S22: LOWER LIMIT SWITCH

DWC NO: 2309624303
LM05 Two-Speed Hoist 208v or 230v or 460v - Telemecanique Style Push Button
LM05 Two-Speed Hoist 575v - Telemecanique Style Push Button
LM10 Single Speed Hoist 208v or 230v - Telemecanique Style Push Button
LM10 Single Speed Hoist 460v - Telemecanique Style Push Button
LM10-16-20-25 Two-Speed Hoist 208v or 230v or 460v - Telemecanique Style Push Button

[Diagram of hoist wiring]
LM10-16-20-25 Two-Speed Hoist 575v - Telemecanique Style Push Button
LM05 Single Speed Hoist 208v or 230v – PBR Style Push Button Pendant

Diagram showing the electrical wiring for the LM05 single speed hoist. The diagram includes various components such as the motor, brake, push button pendant, and control circuit. The diagram is labeled with various terminals and connections for the different parts of the hoist. The diagram also includes notes and labels for components and connections, such as terminals, contacts, and switches.

*Optional components connect as shown in furnished.

- EXISTING CIRCUIT
- PENDANT PLUG AT PUSH Button STATION
- PENDANT PLUG
- TROLLEY PLUG
- TERMINAL STRIP (TERMINAL NUMBER)

- K10 CONTACTOR IS DISABLED
- K10 CONDUCTORS
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
- K10 CONDUCTORS (RESERVED FOR FAST)
LM05 Single Speed Hoist 460v – PBR Style Push Button Pendant
LM05 Two-Speed Hoist 208v or 230v or 460v – PBR Style Push Button Pendant
LM05 Two-Speed Hoist 575v – PBR Style Push Button Pendant
LM10 Single Speed Hoist 208v or 230v – PBR Style Push Button Pendant

R&M Materials Handling, Inc
Springfield, Ohio USA

Hoist Wiring Diagrams for Cranes
September 2002

09/23/02
27
LM10 Single Speed Hoist 460v – PBR Style Push Button Pendant


DWC NO: 2309624407

X511: Pendant plug at pushbutton station
X523: Pendant plug
X524: Trolley plug
X11: Terminal stop (reserve for fast)

X291: Motor thermal protection
S221: Upper limit switch
S222: Lower limit switch
LM10-16-20-25 Two-Speed Hoist 575v – PBR Style Push Button Pendant