Yale® HOISTS

LODEKING™

ELECTRIC WIRE ROPE HOISTS

LODEKING LT™
10 TO 25 TON
LOW-HEADROOM MODELS
15 THROUGH 25 HP

LODEKING™
15 TO 60 TON
HIGH-CAPACITY MODELS
30 THROUGH 60 HP

COLUMBUS McKINNON CORPORATION

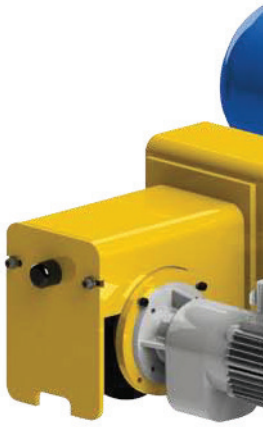
LODEKING LT™

ELECTRIC WIRE ROPE HOISTS

The Yale LodeKing LT™ wire rope hoist provides the same high-quality performance and durability of the original LodeKing™ in an ultra-low-headroom design, making it the ideal choice when purchasing a new or replacement hoist for applications with space limitations.

The LodeKing LT features plastic-infused wire rope that prevents metal-to-metal contact between strands, helping to reduce abrasion and wear within the wire rope.

LodeKing LT low-headroom models, manufactured in Wadesboro, North Carolina, are available in capacities from 10 to 25 tons and, depending on your application, are available in economical low-horsepower models to meet your needs.



CAPACITIES 10 to 25 TONS

KEY SPECIFICATIONS

Feature	LODEKING LT
Service Class	CMAA Class D, ASME / HMI – Class "H4"
Design Safety Factor	5:1 (min.)
Bottom-Block-Sheave-to-Rope Ratio	~22:1 (min.)
Operating Environment	Indoor
Hook Assembly	360° rotation with safety latch
Rope Guide	No
Drum	Steel drum w/nominal 50% groove depth ~21:1 (min.) drum-to-rope ratio
Safety Wraps	3
Hoist Control	Closed-Loop (Flux Vector) VFD

Feature	LODEKING LT
Hoist Limit Switches	Two-position rotary cam upper/lower type plus upper block type limit switch
Trolley Control	Open-Loop VFD
Trolley Brake	Included
Control Enclosure	Nema 4/12
Voltages	Line: 460-3-60 • Optional 208-3-60, 230-3-60 & 575-3-60 • Control: 115-1-60
Pendant	Not included as standard
Bearings	Sealed and/or shielded, lifetime lubricated
CSA Approval	Pending
UL Approval	No

STANDARD FEATURES:

1 TRUE VERTICAL LIFT
Better load control. Easy movement and placement of product.

2 HEAVY-DUTY STEEL DRUM
50% groove depth to guard against rope jumping out of groove.

3 INDUSTRY-PROVEN GEAR DRIVE
Easy-to-maintain gear drive features a sight glass for quick inspection of the oil level. Standard availability improves product lead time.

4 STANDARD FLUX VECTOR HOIST DRIVE PACKAGE
Improves load control and allows for precise movements. Reduces brake wear.

5 PLASTIC-INFUSED WIRE ROPE
Plastic-coated core prevents metal-to-metal contact between the core and outer strands, helping to reduce abrasion and wear while increasing the rope strength.

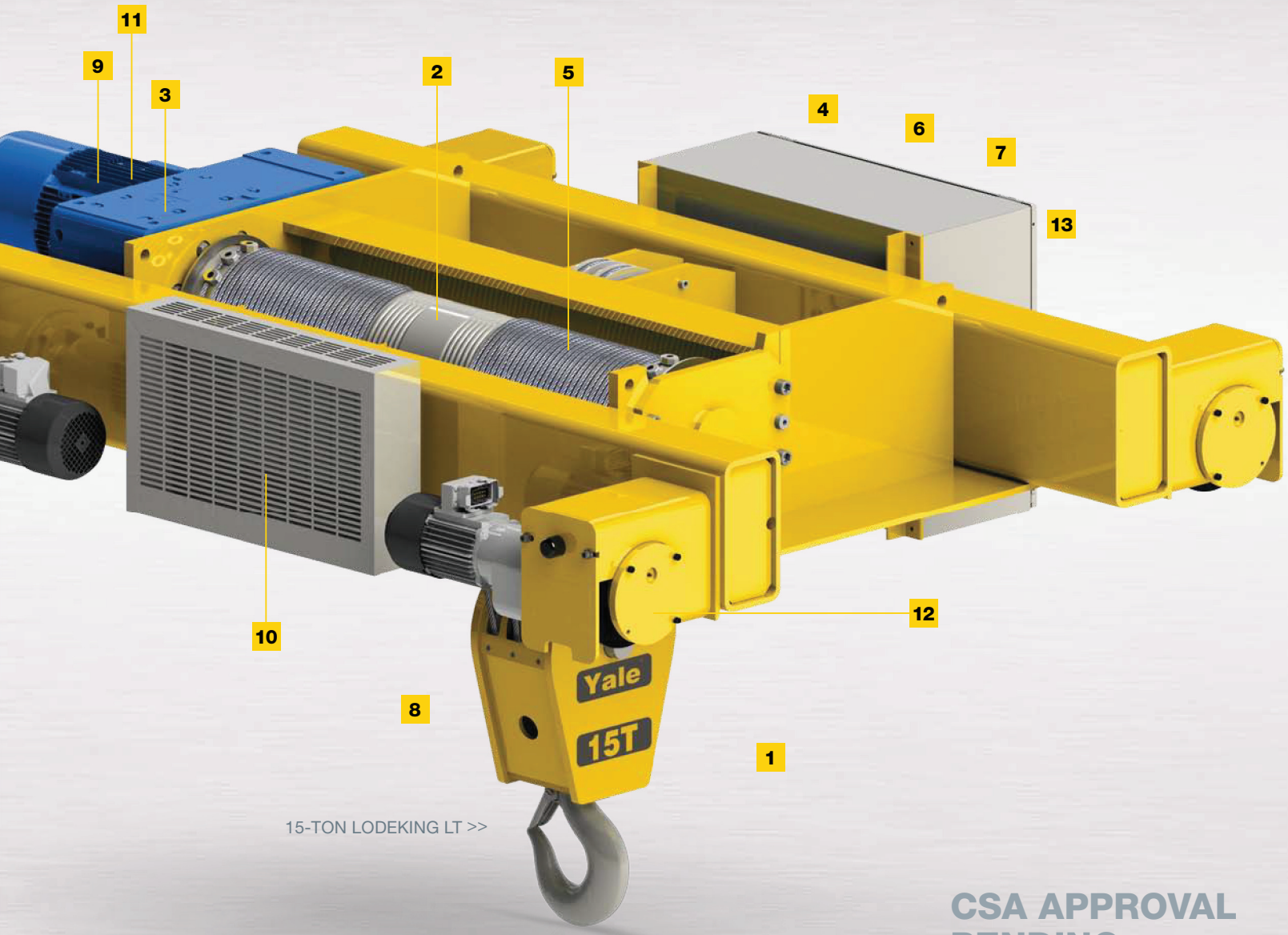
6 TROLLEY VFD CONTROL STANDARD ON ALL UNITS
Allows for smooth acceleration and deceleration.

7 SUPPLEMENTAL UPPER & LOWER LIMIT SWITCH
Safely stops load from being lifted or lowered beyond set limits, reducing damage to equipment and hoist.

8 EXCEEDS CMAA CLASS D ROPE TO SHEAVE & DRUM DIAMETER
Reduces rope maintenance.

9 200% MOTOR BRAKE TORQUE RATING
Secondary brake exceeds CMAA Standards. Stops and holds a rated load quickly and securely.

10 EXTERNAL HOIST BRAKE RESISTOR
Allows for dynamic braking and uninterrupted drive service at high duty cycles. Hoists are not equipped with load brakes, reducing heat generation in high-duty-cycle applications.



15-TON LODEKING LT >>

CSA APPROVAL PENDING

OPTIONAL FEATURES:

11 15 TO 25 HP MOTORS AVAILABLE
Offers wide range of hoist lifting speeds.

12 WHEEL BLOCKS USING INTEGRAL AXLE TROLLEY WHEEL COMPONENTS
Ideal for Class D service requirements. Ball bearings used on 10-ton capacity and roller bearings used for 15 through 25-ton capacities.

13 THERMAL OVERLOAD PROTECTION
Provided within the drive.

LOAD SENSING
Standard field programmable.

AUXILIARY HOLDING BRAKE

WIDE RANGE OF LIFTS & TROLLEY GAGES

OVERLAY PROTECTION WITH SPOOLING BAR

GEAR MOTOR COLOR
Optional black or yellow painted gear motor.


Optional black gear motor.


Optional yellow gear motor.

LODEKING LT

ELECTRIC WIRE ROPE HOISTS

MODEL COMPARISON

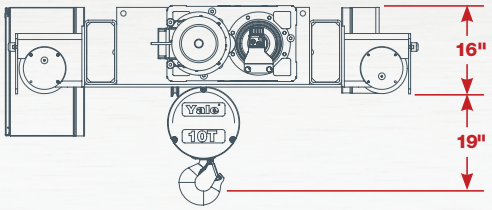
Feature	Capacity (US Tons)			
	10	15	20	25
Hoist Lifting Speed (FPM)	21	14	10	9
Standard Hoist Motor Hp	15	15	15	15
Optional Lifting Speeds Available (FPM)	29, 35	19, 23	14, 17	11, 15
Standard Hoist Motor Frame Size (IEC Designations)	132MC	132MC	132MC	132MC
Hoist Full Load Amps @ 460V Power	21.9	21.9	21.9	21.9
Hoist Inverter Amps @ 460V Power	24	24	24	24
Hoist Motor Rpm	1,740	1,740	1,740	1,740
Hoist Bearing Life (hrs.)	10,000	10,000	10,000	10,000
Trolley Traverse (FPM)	100	100	100	100
Trolley Motor Hp	1.5 (x2)	1.5 (x2)	2 (x2)	2 (x2)
Trolley Motor Frame Size	D71	D80	D90L	D90L
Trolley Full Load Amps @ 460V Power	2.3A (x2)	2.3A (x2)	3.2A (x2)	3.2A (x2)
Trolley Inverter Amps @ 460V Power	4.8A	4.8A	9.2A	9.2A
Trolley Motor Rpm	3,960/72.8	3,960/72.8	1,670/37.4	1,670/37.4
Trolley Bearing Life (hrs.)	10,000	10,000	10,000	10,000
Standard Gage (in.)	60	60	60	60
Standard Lift (ft.)	41	27	20	18
Maximum One Wheel Load (lbs.)	6,800	9,900	12,000	14,600
Trolley Wheel Diameter (mm)	200	200	260	260
Trolley Wheel Hardness (BHN)	300-350	300-350	300-350	300-350
Axle Bearings	Roller	Roller	Roller	Roller
Operate On Both ASCE Rail & Square Bar	Yes	Yes	Yes	Yes
Hoist Motor Brake Type	DC	DC	DC	DC
Manual Release Type	Yes (Spring Return To On)	Yes (Spring Return To On)	Yes (Spring Return To On)	Yes (Spring Return To On)
Hoist Motor Torque Rating (Brake Rating 200% Min.)	150Nm (247%)	150Nm (247%)	150Nm (247%)	150Nm (247%)
Hoist Motor Duty	S3-60% Duty	S3-60% Duty	S3-60% Duty	S3-60% Duty
Motor Insulation Class	F	F	F	F
Hoist Thermal Overload Protection	TAS In Motor & Thermal Overload Provided By VFD			
Trolley Drive Type	VFD	VFD	VFD	VFD
Trolley Motor Brake Type	DC	DC	DC	DC
Manual Release Type	N/A	N/A	N/A	N/A
Trolley Motor Torque Rating (Brake Rating 50% Min.)	2.5Nm (86.5%)	2.5Nm (86.5%)	10Nm (116.6%)	10Nm (116.6%)
Trolley Motor Duty	S3-40%	S3-40%	S3-40%	S3-40%
Motor Insulation Class	F	F	F	F
Trolley Thermal Overload Protection	TAS In Motor & Thermal Overload Provided By VFD			
Number Of Reductions On Gear Drive	3	3	3	3
Helical Gear Or Combination Helical & Spur	Helical	Helical	Helical	Helical
AGMA Standard	AGMA Class 13	AGMA Class 13	AGMA Class 13	AGMA Class 13
Gear Case Material	Gray Iron	Gray Iron	Gray Iron	Gray Iron
Overhung Gearing	No	No	No	No
Parts Of Rope	4	6	8	8
Rope Diameter (mm)	12	12	12	13
Wire Rope Type	8 X 25 Construction Compact 8P Plastic Infused			
Wire Rope Drum Material	Steel	Steel	Steel	Steel
Wire Rope Drum Diameter (in.)	10	10	10	10.5
Wire Rope Drum Groove Depth (%)	50	50	50	50
Upper Block Sheave Material	Steel	Steel	Steel	Steel
Upper Block Sheave Diameter (in.)	10.63	10.63	10.63	10.63
Removable From Upper Sheave Nest	Yes	Yes	Yes	Yes
Lower Block Sheave Material	Steel	Steel	Steel	Steel
Lower Block Sheave Diameter (in.)	10.63	10.63	10.63	10.63
Roller Thrust Bearing	Yes	Yes	Yes	Yes
Hook Material	Alloy	Alloy	Alloy	Alloy

ULTRA-LOW HEADROOM

The LodeKing LT features an ultra-low-headroom design and is the ideal choice when purchasing a new or replacement hoist for applications with space limitations.

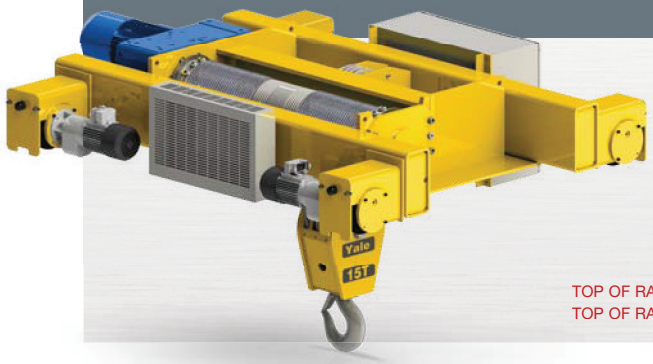
10 TON MODELS

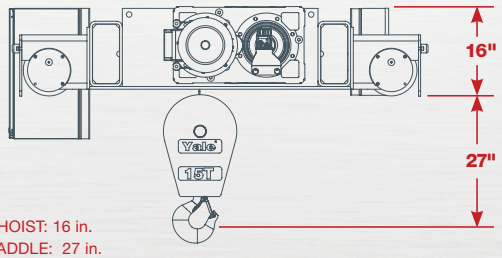
*Shown with optional Spooling Bar



TOP OF RAIL TO TOP OF HOIST: 16 in.
TOP OF RAIL TO HOOK SADDLE: 19 in.

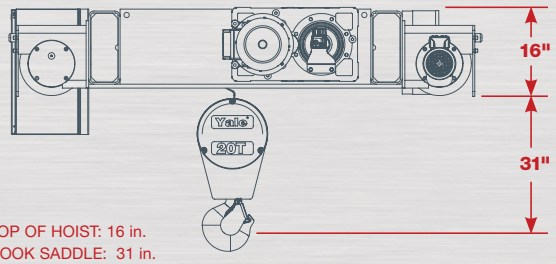
15 TON MODELS





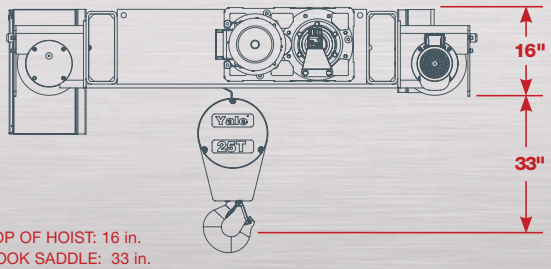
TOP OF RAIL TO TOP OF HOIST: 16 in.
TOP OF RAIL TO HOOK SADDLE: 27 in.

20 TON MODELS



TOP OF RAIL TO TOP OF HOIST: 16 in.
TOP OF RAIL TO HOOK SADDLE: 31 in.

25 TON MODELS



TOP OF RAIL TO TOP OF HOIST: 16 in.
TOP OF RAIL TO HOOK SADDLE: 33 in.

WHAT'S DRIVING YOUR HOIST?

Magnetek's IMPULSE®•VG+ Series 4 drive, used in the Yale LodeKing & Yale LodeKing LT, offers industry-leading safety and performance features.

FEATURES & BENEFITS

MAGNETEK IMPULSE•VG+ SERIES 4 DRIVE USED FOR HOIST CONTROL
Industry-leading safety and performance features.

MULTIPLE CONTROL OPTIONS
2-step infinitely variable control as standard. Available with additional control options including 3-step infinitely variable control, 2-speed multi-step control and 3-speed multi-step control.

MULTIPLE POWER SUPPLIES
Available for 208V-3PH-60HZ, 230V-3PH-60HZ, 460V-3PH-60HZ and 575V-3PH-60HZ power supplies.

FAULT HISTORY
Recorded history to aid in troubleshooting.

EQUIPPED WITH 115V INTERFACE CARD
Compatible with existing 115V crane control systems. Additional control voltages available upon request.

EXTERNAL HOIST BRAKE RESISTOR
Allows for dynamic braking and uninterrupted drive service at high duty cycles.

MOTOR THERMAL OVERLOAD PROTECTION
Drive offers built-in thermal overload and overcurrent protection.

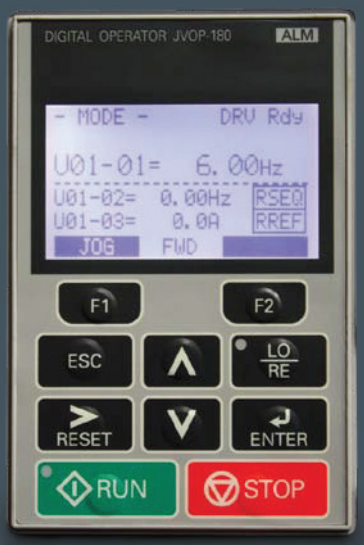
LOAD CHECK II™
Continuously monitors the hoist hook load during acceleration and constant speed, eliminating the need for load cells in most applications.
Note: Optional feature. Request upon order.

ANTI-SHOCK FEATURE
Automatically stabilizes loads by detecting and minimizing rapid increases in motor torque, reducing the potential for crane damage caused by operator-induced load shock.
Note: Optional feature. Request upon order.

KEYPAD WITH DIGITAL DISPLAY

Magnetek's user-friendly keypad with digital display gives you five lines of 16 characters each and includes soft keys and upgraded parameter selection. The display makes navigation and reading diagnostics even easier and allows for:

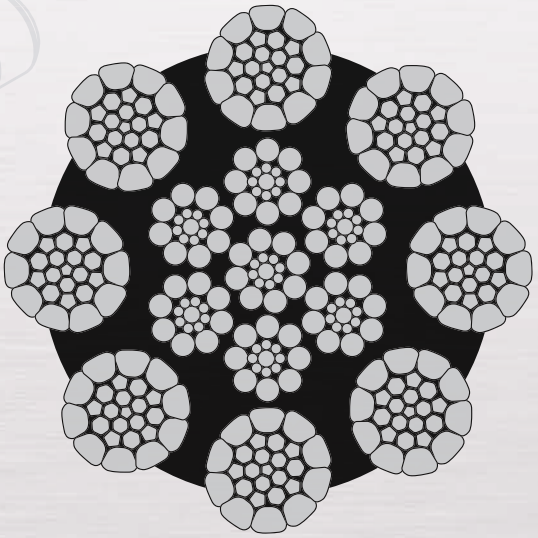
- **PROGRAMMING VARIOUS DRIVE PARAMETERS**
- **PARAMETER BACK-UP (STORE AND COPY)**
- **MONITORING FUNCTIONS OF THE DRIVE**
- **READING OF ALPHA-NUMERIC FAULT DIAGNOSTIC INSTRUCTIONS**
- **REMOTE MONITORING**



MAGNETEK

LODEKING LT™

GET MORE LIFE OUT OF YOUR WIRE ROPE



Yale LodeKing LT hoists use a plastic-infused wire rope, specifically developed for maximum performance on overhead cranes.

FEATURES & BENEFITS

REDUCED WEAR
Plastic-coated core prevents metal-to-metal contact between the core and outer strands, helping to reduce abrasion and wear within the wire rope.

INCREASED STRENGTH & LONGER LIFE
Plastic-infused construction increases rope strength by 15-20%, providing structural stability and increasing rope fatigue life.

Plastic-infused wire rope available on Yale LodeKing LT models only.

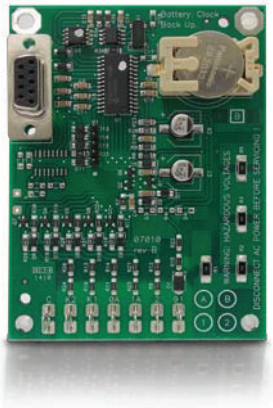
PULSE™ MONITOR

ELECTRONIC HOIST DATA INTERFACE

The proper use and maintenance of your Columbus McKinnon powered hoists can help ensure a long service life as well as operator safety.

Pulse Monitor is an electronic monitoring system that records key performance data for your hoist during normal operation. The captured data can be read with the Pulse computer interface kit* to assist you in troubleshooting and determining preventative maintenance solutions. A more accurate diagnosis can help reduce maintenance costs and minimize downtime.

Pulse Monitor card and interface kits are available for the Yale LodeKing & LodeKing LT electric wire rope hoists.



WHAT INFORMATION DOES THE PULSE MONITOR RECORD?

MOTOR STARTS
A motor start is recognized by energization of either the slow or fast motor winding for 300ms or more.

CUMULATIVE RUN TIME
Every time the motor is energized, the Pulse Monitor records how long it runs and adds to the cumulative total run time.

PLUG EVENT (EXCESSIVE PLUGGING)
A plug event is recorded when the directional contactor (node 0A or 1A) is energized four times within any two second period of operation.

OVERCAPACITY EVENT
An overcapacity trip will be recorded when the monitor card terminals K1 and K2 measure 115 volts** and terminal 0A is at 0 volts. The overcapacity event is recorded based on absence of a voltage at the normally closed contact from the overload limit switch relay. It is not measuring load on the motor, but rather the state of the overload limit switch.

MOTOR TRIP EVENT
A motor trip event will be recorded when the monitor card terminal K1 measures 115 volts** and terminal K2 is at 0 volts.

VOLTAGE MEASUREMENT
For every motor event, the voltage will be measured.

Pulse Monitor Interface Kit with USB Adaptor

TOTAL COST OF OWNERSHIP

The long-term expense of maintenance, service fees and replacement parts can add up over the full service life of a hoist. All of these after-sale costs contribute to the total cost of ownership – which is an important factor to consider when making a purchasing decision.

The Pulse Monitor can help provide an even lower total cost of ownership for your CMCO hoist, by allowing for:

BETTER MAINTENANCE TIMING
Consistently monitors motor starts, hoist run time and cumulative run time for preventative maintenance planning.

REDUCED DOWNTIME DUE TO IMPROPER HOIST USE
Monitors excessive hoist use, excessive plugging, motor trip events and overcapacity events.

VERIFICATION OF CLEAN LINE VOLTAGE
Measures voltages for every motor event to ensure hoist is running on adequate line voltage.

LONGER HOIST LIFE
Allows operator to schedule maintenance at regular intervals and monitor hoist abuse.

PULSE MONITOR KIT OFFERING

The Pulse Monitor is available in 2 different kit varieties to accommodate individual needs.

PULSE MONITOR INDIVIDUAL CARD KITS

Catalog #: **PCARDKIT1** (Use with 115V control)
Catalog #: **PCARDKIT2** (Use with 24V control)

Use kits to install Pulse Monitor Card on CMCO hoists that do not include card as standard equipment. To read data on the card, a computer interface kit, sold separately, is also required. Kit includes:

- (1) Pulse Monitor Card
- (1) Card Mounting Bracket
- (1) Pulse Monitor Software Disk
- (6) Pan Head Phillips Screw Self Tap #6-32 X 5/8" (includes 2 extra)
- (3) Pan Head Phillips Screw Self Tap #10-24 X 1/4" (includes 1 extra)
- (10) Terminal Wire Insulated Female Quick Connector Panduit Part no. DNR14-188F1B-C (tab size 0.187 X 0.020) (includes 3 extra)
- (1) 16# Insulated Wire (15 ft.)

PULSE MONITOR COMPLETE CARD & INTERFACE KITS

Catalog #: **PCOMPLETEKIT1** (Use with 115V control)
Catalog #: **PCOMPLETEKIT2** (Use with 24V control)

Use to install Pulse Monitor Card on CMCO hoists that do not include the Pulse Monitor Card as standard equipment. Kit also includes computer interface kits required to read card data. (Requires 3" X 5-1/4" X 2-1/2" envelope in control enclosure.) Kit includes:

- (1) Pulse Monitor Card
- (1) Card Mounting Bracket
- (1) Pulse Monitor Computer Interface (9V battery not included)
- (2) Serial Extension Cable (6 ft.)
- (1) Pulse Monitor Software Disk
- (1) StarTech.com USB Adaptor Software Disk
- (1) Serial Port to USB Adaptor Cable (3 ft.)
- (6) Pan Head Phillips Screw Self Tap #6-32 X 5/8" (includes 2 extra)
- (3) Pan Head Phillips Screw Self Tap #10-24 X 1/4" (includes 1 extra)
- (10) Terminal Wire Insulated Female Quick Connector Panduit Part no. DNR14-188F1B-C (tab size 0.187 X 0.020) (includes 3 extra)
- (1) 16# Insulated Wire (15 ft.)

Note: Kit also includes a DB9 to DB25 pin adapter for 25-pin RS232 serial communication, which will not be needed in most cases.

* Computer interface kit (sold separately) is required to read Pulse Monitor Card data.
** While the Pulse Monitor itself is capable of +/-5% voltage measurement accuracy, two additional factors may further decrease accuracy. Motor voltage is calculated using the control voltage powering the Pulse Monitor. This calculation is based on the ideal ratio of the control transformer (primary voltage to secondary voltage). Any variation in the control transformer ratio will consistently skew the motor voltage data. Additionally, this voltage measurement is made at the point where the Pulse Monitor is connected. If this point is significantly removed from the motor being monitored, a noticeable voltage drop may exist. The user is cautioned to consider both these contributing factors while interpreting the stored voltage data.