

64-01 Motion Monitor Control Box

Set-up, Operation & Maintenance Manual



WARNING



- The safety alert symbol, black triangle with white exclamation, is used to alert you to potential personal injury hazards.
- Control Box is equipped with a 3-prong grounded plug. It must be plugged into a grounded receptacle. Failure to properly ground control box may cause injury to personnel.
- If fuses need to be replaced, they must always conform to the values and ratings specified.
- NEVER operate equipment without guards or other protective devices properly secured in place. To prevent injury, make sure all electrical power sources have been disconnected and locked-out before you perform any maintenance, make any adjustments or replace any components, unless instructed otherwise.

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Introduction

NOTE: All technical data in this publication is based on the product information available at time of printing. Dorner reserves the right to make changes at any time without notice or obligation to install those changes on units previously delivered.

Some illustrations in this manual may show guards or other protective devices open or removed. Under no circumstances should the equipment be operated without these devices securely in place.

Product Description

The Dorner motion monitor (Figure 1) is designed to sense conveyor belt movement on Dorner 2100, 4100 or 6100 Series conveyors. If no movement is detected, the monitor will stop

the conveyor gearmotor by opening the motor contactor. The monitor will also open the "machine enable contact" which, through a dry

contact, can be used to signal a machine power interrupter relay, alarm signal relay, PLC controller or another control device.

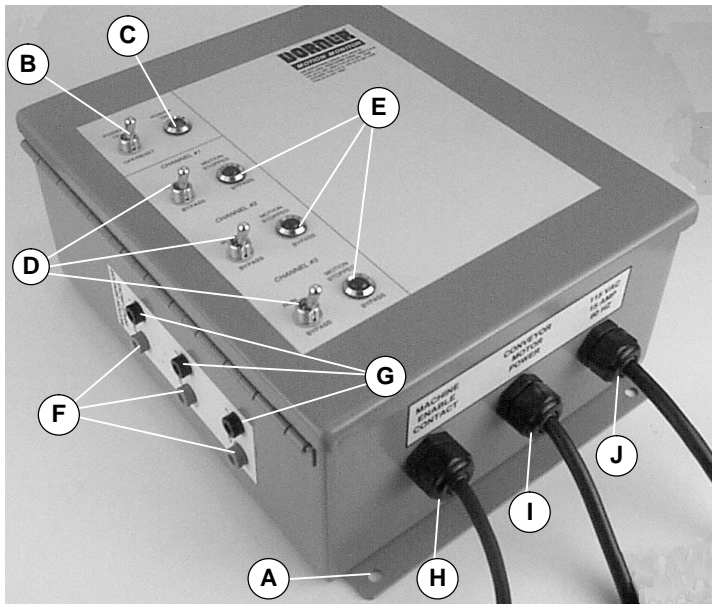


Figure 1

Illustration References

- A 0.31" (8 mm) Diameter Mounting Holes (4x)
- B Toggle Switch, Main Power ON-OFF/RESET
- C Indicator, Main Power, green-colored (lit when ON)
- D Toggle Switches, Channel #1, #2 & #3 RUN/BYPASS
- E Indicators, Channel #1, #2 & #3 MOTION STOPPED/BYPASS, red-colored and lit when STOPPED or in BYPASS
- F Input Jacks, Positive "Red" Channel #1, #2 & #3 Motion Sensor Input (Banana Plug Style)
- G Input Jacks, Negative "Black" Channel #1, #2 & #3 Motion Sensor Input (Banana Plug Style)
- H Cord, "Machine Enable Contact"
- I Cord & Plug, "Conveyor Motor Power"
- J Cord & Plug, Monitor Input Power
- K Timer Module Dial
- L Sensor Switch (order separately)

Specifications

Description	3-Channel Motion Monitor
Enclosure	NEMA Type 12 / IP54 Continuous Hinge, Weight: 21 lb (9.5 kg) Dimensions: 12" (305 mm) High x 10" (254 mm) Wide x 5" (127 mm) Deep
Input Voltage & Current	115 volts A.C., Single Phase 60 Hz @ 15 Amperes
Machine Enable & Conveyor Motor Control Contact Ratings	9 Amperes for up to 3/4 hp (0.57 kw) Single Phase 60 Hz
Compatible Sensor Switches (ordered separately)	Dorner 64-02-01 & 74-02-01 Motion Sensor Switch Kits

Installation

Dorner Mfg. Corp. makes every effort to properly package and ship its products. Upon receipt, inspect all packages for any shipping damage. Notify the carrier immediately, when

problems are first discovered. Compare the shipment with the packing slip and contact the factory about any discrepancies (see back page for phone number).

Select the desired location and attach the motion monitor enclosure using the four (4) 0.31" (8 mm) diameter mounting holes (A of Figure 1) and your own attaching hardware.

Monitor Setup

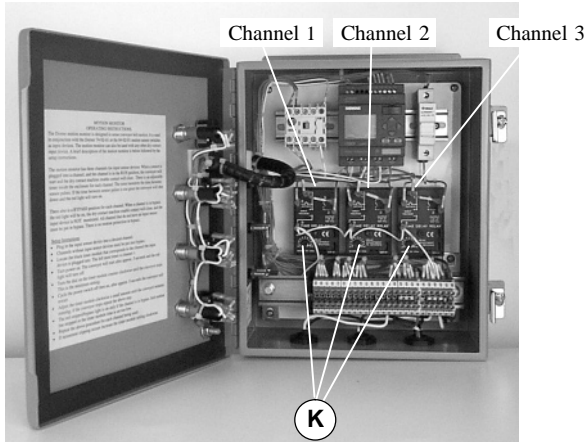


Figure 2



Figure 3

WARNING
To prevent injury, make sure all electrical power sources have been disconnected and locked-out before you perform any maintenance, make any adjustments or replace any components.

NOTE: Be sure that sensor switches are properly installed into conveyors. For a 2100 or 4100 Series conveyor see Instruction 851-168 For a 6100 Series conveyor see Instruction 851-314.

1. Plug the sensor switch (L of Figure 3) into the desired channel. Place the RUN/BYPASS toggle switch (D) to the "RUN" position for that channel.

NOTE: A channel which does not have a sensor connection must be "BYPASSED". When a channel is "BYPASSED" there is no motion protection.

2. Place the toggle switch (D of Figure 1) into the "BYPASS" position for any channel which does not have an input sensor connected to it.

3. Locate the channel timer module (K of Figure 2) for the channel which has the input device connected to it.

NOTE: The dials (K) of all three channel timer modules are shipped set fully clockwise.

IMPORTANT: This device does not provide motor overload protection.

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4. Plug in the monitor input power cord (J of Figure 1)

5. Plug in the conveyor to motor power cord (I).

6. Turn on the main power switch and observe that the green-colored indicator is ON. In approximately 5 seconds, the conveyor will start and the first pulse will shut off the red channel indicator light (E).

WARNING
Power is on while adjustments are being made in steps 7 through 9. All other maintenance must be done with power removed. Do not touch wires or other devices; only touch timer dials.

To set timer sensitivity:

7. Slowly rotate timer module dial (K of Figure 2) counter-clockwise until the conveyor stops and the MOTION STOPPED/BYPASS, red-colored indicator (E of Figure 1) turns ON. At this point, the timer is adjusted for its "minimum" setting.

8. Rotate the timer module dial (K of Figure 2) slightly clockwise so that the conveyor stays running.

9. Switch the Main Power ON-OFF/RESET toggle switch (B of Figure 1) to OFF/RESET and then to ON. After approximately 5 seconds, the conveyor will re-start.

NOTE: The MOTION STOPPED/BYPASS, red-colored indicator will light only if the channel is bypassed or if conveyor belt motion has stopped.

NOTE: Repeat steps 1 through 9 for each channel being used.

IMPORTANT: If nuisance tripping occurs, decrease sensitivity by rotating the related timer module dial (K of Figure 2) slightly clockwise.

Machine Enable Contact

The motion monitor is equipped with a 15-ft (4.6 mm) cord (H of Figure 1) which is pre-wired to the "machine enable contact". Wire the cord to your dry contact input:

- Machine power interrupter relay
- Alarm signal relay
- PLC controller
- Other control devices

IMPORTANT: The "Machine Enable Contact" is normally opened (N.O.). This contact closes whenever the conveyor is running. Refer to the specifications table for the dry contact ratings.

Troubleshooting

PROBLEM	CAUSE	CORRECTION
Power switch is ON but "POWER ON" indicator is not illuminated.	The power cord is not plugged-in. Line fuse is blown. Indicator is burned-out.	Plug-in power cord. Replace fuse. Replace indicator.
Conveyor motor will not run.	Motor power cord is not plugged-in. Motor is defective. Motor switch is not turned on. Variable speed control is set to zero Motor overload is tripped.	Plug in conveyor motor cord. Replace motor. Turn on motor switch. Increase controller speed. Reset motor overload.
Conveyor runs for a short time and then turns-off.	Channel timer module (K of Figure 2) is set too sensitive. Motion sensor input jack connection is faulty. Motion sensor is defective. A channel without a motion sensor is not "BYPASSED".	See "Monitor Setup steps 1 through 9 on page 3." Re-connect input jack to sensor wire. Replace sensor. Switch channel to "BYPASS".
Customer's machine does not start when conveyor is running.	The "machine enable contact" is improperly wired.	Dry contact is normally open (N.O.) - wire it accordingly.

Replacement Parts

Dorner Part Number	Description
805-812	Contactor
805-978	Under-speed Relay
805-879	"ON-OFF/RESET" Toggle Switch
805-980	"RUN/BYPASS" Toggle Switches
819-042	Fuse
830-182	RED Pilot Light
830-183	GREEN Pilot Light
840-305	PLC

For replacement parts, contact an authorized Dorner Service Center or the factory.

Return Policy

No returns will be accepted without prior written factory authorization. When calling for authorization, please have the following information ready for the Dorner Factory representative or your local distributor:

1. Name and address of customer.
2. Item(s) being returned.
3. Reason for return.
4. Customer's original order number used when ordering the item(s).
5. Dorner or distributor invoice number.

A representative will discuss action to be taken on the Returned items and provide a Returned Goods Authorization Number to reference.

There will be a 15% restocking charge on all new items returned for credit where Dorner was not at fault. These will not be accepted after 60 days from original invoice date. The restocking charge covers inspection, cleaning, disassembly, and reissuing to inventory.

If a replacement is needed prior to evaluation of returned item, a purchase order must be issued. Credit (if any) is issued only after return and evaluation is complete.

- Dorner has representatives throughout the world. Feel free to contact Dorner for the name of your local representative. Our technical sales and service staff will gladly help with your questions on Dorner products.

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