

Fig. 1

**350262
Lube Line
Monitor**

**350261
Connection
Wiring
Parts Group**

**350268 Power Board Assembly
(Part of 350262 Monitor)**

DESCRIPTION

The 350260 Lube Line Monitor is designed to monitor lubrication flow at the inlet of a bearing.

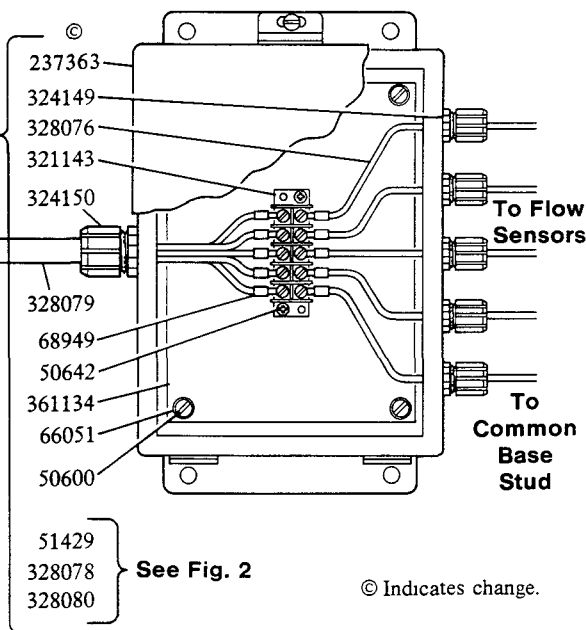
OPERATION

The monitor operates using an internal scan timer or an external device to control scan period. Using the internal scan timer a scan period time is selected. Using an external device, such as a lube delivery control, monitor will scan for lube flow during actual lube cycle.

When the scan period is internally controlled, with power "turn on" the four Amber L.E.D.s will flash on then off and the four Green L.E.D.s will light and remain lit until the first scan period begins. First scan period will begin approximately 1 minute 30 seconds after time set on scan timer switch has elapsed. Green L.E.D.s will go out and Amber L.E.D.s will light during time intervals set by the scan timer switch.

When the scan period is externally controlled, with power "turn on" the four Red L.E.D.s will light and remain lit. After the first successful lube event is detected, Red L.E.D.s go out and Green L.E.D.s light. Green L.E.D.s will go out and Amber L.E.D.s will light during next lube cycle.

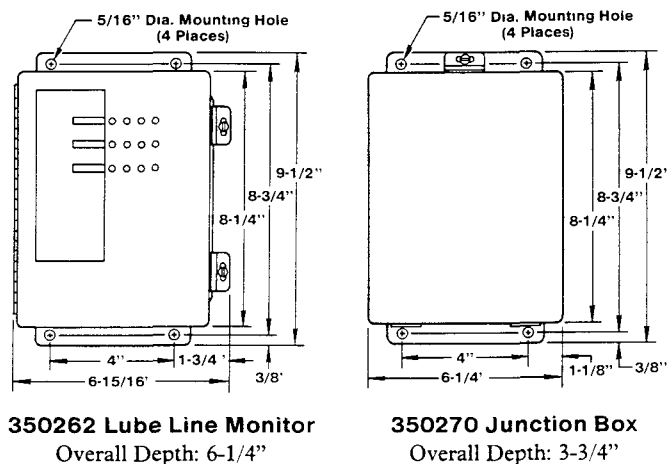
If during the scan period the sensor detects flow, the Amber L.E.D. will turn off and the Green L.E.D. will turn on. At the end of the scan period, if the sensor has not detected flow, the Amber L.E.D. will turn off and the Red L.E.D. will turn on. Red L.E.D. will remain lit until flow is detected during a subsequent scan period (unless lockout alarm is used, see Monitor Setting instructions) or until power to the monitor is momentarily turned off. With lighting of one or more of the Red L.E.D.s external alarm signaling contacts are activated.



See Fig. 2

© Indicates change.

DIMENSIONS



350262 Lube Line Monitor
Overall Depth: 6-1/4"

350270 Junction Box
Overall Depth: 3-3/4"

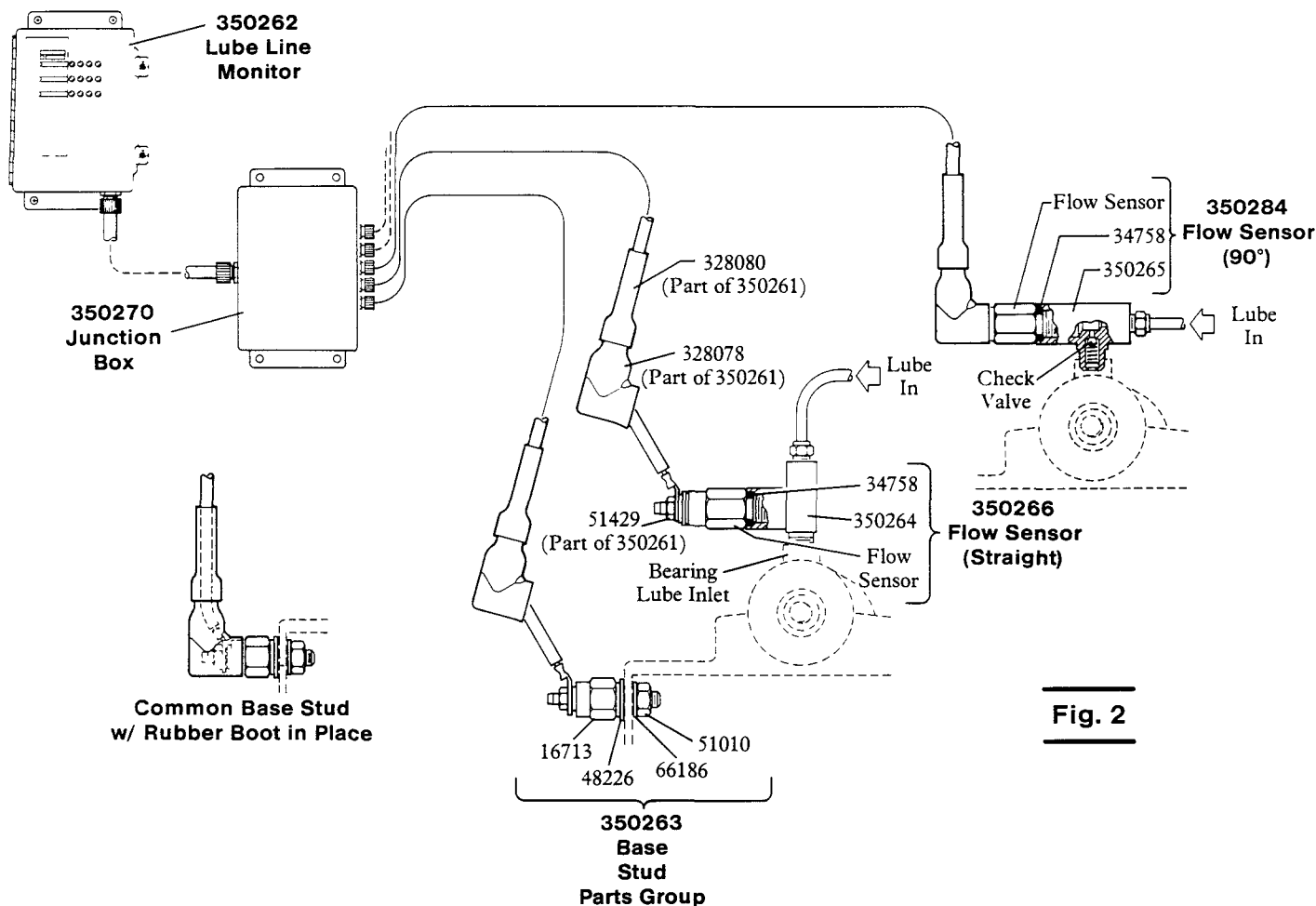


Fig. 2

INSTALLATION (See Fig. 1 & Fig. 2)

- 1) Determine location of sensors and install 350266 and 350284 Flow Sensors in lube inlets of bearings served.
- NOTE:** Flow sensor body contains check valve, **Do Not Install Backwards.** Lube flow is from 1/8" NPTF female port to 1/8" NPTF male port.
- 2) Connect lube line to 1/8" NPTF (F) port of flow sensor body.
- 3) Secure 16713 Common Base Stud to base or side of machine to be lubricated (electrical continuity must be maintained between flow sensor body and common base stud).
- 4) Assemble 321143 Terminal Strip to 361134 Panel using two 50642 Screws and panel to 350270 Junction Box using four 50600 Screws and four 66051 Lockwashers.
- 5) Mount junction box at a central location to flow sensors.
- 6) Cut five lengths from single conductor cable sufficient to reach from junction box to each flow sensor and common base stud.
- 7) Route wires from junction box to flow sensors and common base stud.
- 8) Slide length of 328080 Heat Shrink Tubing and 328078 Rubber Boot onto each wire.
- 9) Strip ends of wires and crimp on 68949 Wire Terminals.
- 10) Fasten wire terminals to flow sensors and common base stud using 51429 Self-threading Nuts.
- 11) Slide rubber boots into place and seal with heat shrink tubing.
- 12) Install five 324149 Cord Connectors to junction box. (Small split piece may be removed from inside cord connector.)
- 13) Insert wires from flow sensors through first four cord connectors and wire from common base stud through fifth cord connector.
- 14) Tighten cord connectors to form seal at junction box.
- 15) Strip ends of wires and crimp on 68949 Wire Terminals.
- 16) Connect wire from first sensor to terminal 1, from second sensor to terminal 2, etc. in junction box.
- 17) Connect wire from common base stud to terminal 5 in junction box.
- 18) Mount 350262 Lube Line Monitor in a convenient location with system status indicator lamps in full view.
- 19) Install one 324150 Cord Connector to the lube line monitor and one to the junction box. (Small split piece can be removed from inside cord connector.)
- 20) Route a length of 328079 Multiple Conductor Cable (5 wire) from lube line monitor to junction box. Cable should be routed carefully in order to prevent damage.
- 21) Insert cable through cord connectors in junction box and monitor, then tighten to form seal.
- 22) At junction box, strip ends of wires and crimp on 68949 Wire Terminals.
- 23) Connect wires to terminal in junction box.
- 24) Strip ends of wires in monitor and connect to corresponding terminals on small terminal block. Wire from terminal 5 in junction box **Must** be connected to terminal 5 in monitor.
- 25) To complete installation, refer to instructions under Wire Connections and Monitor Settings.

NOTE: Lubricant temperature **must** be between 32° F (0° C) and 160° F (71° C) for effective operation of flow sensors.

SCAN TIMER SWITCH



NOTE:

Numbers in circles represent corresponding numbers on terminal strips inside the monitor enclosure.

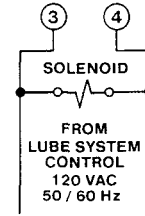
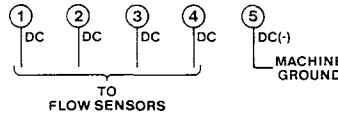
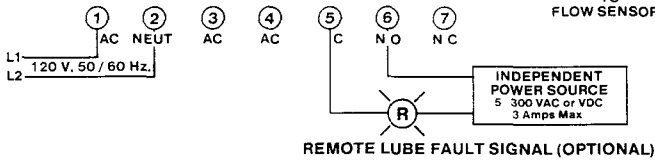
CONTROL SWITCH



CONTROL SWITCH LEVER NO. 5 SETTING DETERMINES SCAN CONTROL. "UP" FOR INTERNAL TIMER. "DOWN" FOR EXTERNAL DEVICE.

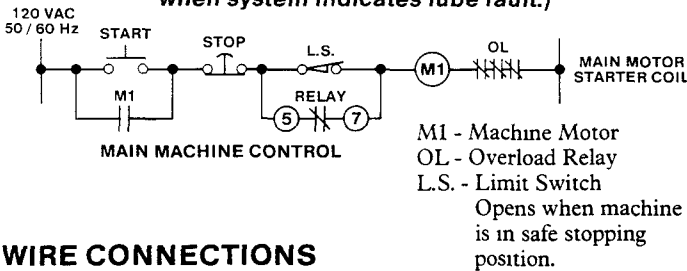
CONTROL SWITCH LEVERS 1 THRU 4 CORRESPOND WITH RESPECTIVE FLOW SENSORS.

BASIC WIRING DIAGRAM



CONNECTIONS TO EXTERNAL DEVICE

OPTIONAL INTERLOCK INTO MAIN CONTROL (Stops machine at safe operating position when system indicates lube fault.)



WIRE CONNECTIONS

Power Source

Terminals 1 & 2 (105 VAC - 128 VAC, 50 or 60 Hz.).

External Device to Control Scan Period

Terminals 3 & 4 (120 VAC). Using an external device, such as a lube delivery control, monitor will scan for lube flow during actual lube cycle. (External device replaces internal scan timer.)

External Alarm Signaling Contacts

Non-committed lube fault circuits for machine interlock or alarm signal. Alarm load 5 - 300 VAC or VDC at 3 amps max.

Normally Open circuit closes on lube fault - Terminals 5 & 6. When power is turned on, alarm signaling device will remain de-energized unless monitor goes into alarm. Alarm device will then turn on and remain on until flow is detected during a subsequent scan period (unless lockout alarm is used, see Monitor Setting instructions) or until power to the monitor is momentarily turned off. One or more red L.E.D.s will turn on when monitor goes into alarm.

Normally Closed circuit opens on lube fault - Terminals 5 & 7. When power is turned on, alarm signaling device will remain energized unless monitor goes into alarm. Alarm device will then turn off and remain off until flow is detected during a subsequent scan period (unless lockout alarm is used, see Monitor Setting instructions) or until power to the monitor is momentarily turned off. One or more red L.E.D.s will turn on when monitor goes into alarm.

LIGHTS - L.E.D.

Green Light indicates lube flow has been detected.

Amber Light indicates system is being scanned for lube flow.

Red Light indicates a no-flow condition was detected.

One set of lights is provided for each lube point being monitored. One light from each set should be on at all times when power to monitor is on.

MONITOR SETTINGS

The following monitor settings must be made to fit customer's needs.

INTERNALLY CONTROLLED SCAN PERIOD

Scan Timer Switch - Select a scan time from the chart and set the switch to the number indicated. Scan time **Must** exceed the time between lube cycles. The time between scan periods is 75 seconds.

Control Switch - Levers #1 through #4 set in "Down" position. Lever #5 in "Up" position.

If monitor detects a no-flow condition, amber L.E.D. will turn off, red L.E.D. will turn on and alarm contacts will transfer. Red L.E.D. will remain lit until flow is detected during a subsequent scan period or power to the monitor is momentarily turned off.

Lockout Alarm - One or more of the Control Switch Levers #1 through #4 can be set in the up position to provide a lockout alarm. If monitor detects a no-flow condition at a lube point that has a lockout alarm, amber L.E.D. will turn off, red L.E.D. will turn on and alarm contacts will transfer. Red L.E.D. will remain lit and no further scanning will take place at that lube point. Monitor will continue to scan remaining three lube points. Alarm contacts will remain transferred until alarm is reset. Alarm can be reset by momentarily disconnecting power to monitor or by flow being detected during next scan if Control Switch Lever (of locked out alarm) is moved to "Down" position.

Setting	Scan Time
1	2 minutes, 30 seconds
2	5 minutes
3	10 minutes
4	20 minutes
5	40 minutes
6	1 hour, 20 minutes
7	2 hours, 40 minutes
8	2 hours, 40 minutes
9	2 hours, 40 minutes

EXTERNAL DEVICE TO CONTROL SCAN PERIOD

Scan Timer Switch - **Must** be set on 0.

Control Switch - Levers #1 through #5 **Must** be set in the "Down" position.

If monitor detects a no-flow condition, amber L.E.D. will turn off, red L.E.D. will turn on and alarm contacts will transfer. Red L.E.D. will remain lit until flow is detected during a subsequent scan period or power to the monitor is momentarily turned off.

SERVICE PARTS

Part	Qty.	Description	Part	Qty.	Description
16713	1	Common base stud	324100	1	Screw
34758	4	O-ring (Viton)	324136	3	Lockwasher
48226	1	Washer	324149	5	Cord connector
50600	4	Screw	324150	2	Cord connector
50607	3	Screw	326075	1	Relay
50642	2	Screw	328075	1	Ribbon cable
51010	1	Nut	328076	1	Single conductor cable (100 ft.)
51429	5	Self-threading nut	328078	5	Rubber boot
66051	4	Lockwasher	328079	1	Multiple conductor cable (100 ft.)
66186	2	Lockwasher	328080	1	Heat shrink tubing
68949	15	Wire terminal	350259	1	Upper board assembly
237363	1	Junction box	350261	1	Connection wiring parts group
321127	1	Hold down spring	350262	1	Lube line monitor
321143	1	Terminal strip	350263	1	Base stud parts group
*322032	1	Integrated circuit	350264	2	Flow sensor body - straight
*322033	1	Integrated circuit	350265	2	Flow sensor body - 90°
*322045	1	Integrated circuit	350266	2	Flow sensor - straight
*322048	2	Integrated circuit	350268	1	Power board assembly
*322050	5	Integrated circuit	350271	1	Indicator light board
*322060	3	Integrated circuit	350272	1	Monitor enclosure
*322063	2	Integrated circuit	350284	2	Flow sensor - 90°
*322064	1	Integrated circuit	361134	1	Panel
324055	1	Washer			

*Included in 236706 Repair Kit.

Repair kit includes 237001 IC Insertion Tool and 237067 Extractor Tool for replacing Integrated Circuits.

RETAIN THIS INFORMATION FOR FUTURE REFERENCE

When ordering replacement parts, list: Part Number, Description, Model Number, and Series Letter.

LINCOLN provides a Distributor Network that stocks equipment and replacement parts.