

Technical Sheet

Over-Pressure Latching Relay

(Replacement for TS30/TS33 Pressure Indicator Option "E" - T3010431Y)

What is a Pressure Indicator

TS30/TS33 pump stations were factory-equipped with a pressure indicator. The indicator would be plumbed into the outlet line of the pump station. There were a few options available. Some options utilized a rupture disc that would break under a specific pressure. Discs that would break at ~1450 psi were factory installed. This break in the disc would provide a visual only or a visual and electrical signal to alert personnel when pressure greater than 1450 psi had been reached. This usually indicated some sort of issue (fault) in the lubrication system.

How the Pressure Indicator Worked – Older Versions (Pre-2020)

When the disc ruptured, a free-floating piston in the same housing would extend outwards due to lubricant pressure. This outward-extending motion would actuate the plunger of the electrical switch. This electrical switch would be wired by the customer to turn on a light or alarm etc to alert personnel of the over-pressure condition so they could address the fault. After the fault was corrected, the user would need to remove the ruptured disc and install a new rupture disc. They also would need to reset the extended piston by pushing it down with a tool or finger (minimal force required). This piston was designed to hold its position and keep the electrical switch activated until the fault condition was reset. This is often referred to as "latching." Once the disc was replaced and the piston pushed back into its reset position, the lubrication system could now continue to operate as normal.

T3010431Y Example (Pre-2020)



Product Affected: TS30 & TS33 Pump Stations

Part Numbers Affected:

TS30 - __ D __
TS30 - __ E __
TS30 - __ F __
TS30 - __ G __
TS30 - __ H __
TS33 - __ D __
TS33 - __ E __
TS33 - __ F __
TS33 - __ G __
TS33 - __ H __

Notes:

Replacement Rupture Disc Kit P.N. **FT1557** will continue to be available for purchase.

BIJUR DELIMON INTERNATIONAL

(919) 465 4448 LOCAL
(800) 631 0168 TOLL-FREE
(919) 465 0516 FAX

WWW.BIJURDELIMON.COM

1 Copley Parkway, Suite 104
Morrisville, NC 27560

Technical Sheet

Over-Pressure Latching Relay

(Replacement for TS30/TS33 Pressure Indicator Option "E" - T3010431Y)

How the Pressure Indicator Works – New Versions (Post-2020)

The new version of the pressure indicator provides a similar function as the older versions. However, a pressure switch is now utilized. The pressure switch is factory-set at 1200 psi. When pressure greater than 1200 psi is seen in the lubrication outlet lines of the system, the pressure switch will change states. This switch can be wired to send a signal, turn on a light, etc. This is left up to the customer's specific application/needs.

NOTE: Pressure switches by design do NOT incorporate a latching circuit. Because a pressure switch is being utilized, once the system pressure lowers below 1200 psi, the pressure switch will then switch back to its original state. Example: If the Common and Normally Open terminals are being used, when the system pressure is below 1200 psi, an electrical connection between Common and Normally Open does not exist. When the switch sees above 1200 psi, the switch will change states and an electrical connection between Common and Normally open will now exist. The electrical connection will cease once the pressure drops below 1200 psi.

If fault latching (with a reset button to clear the fault) is desired in the system, a latching relay circuit must be added. This circuit is discussed further in the next section. If a "latching" feature is NOT desired by the customer in their application, the addition of a latching relay circuit is not required. Customer may wire to the pressure switch using the Common and Normally Open or Common and Normally Closed contacts as suits their needs.

85287 New Assembly (Post-2020)



BIJUR DELIMON INTERNATIONAL

(919) 465 4448 LOCAL
(800) 631 0168 TOLL-FREE
(919) 465 0516 FAX

WWW.BIJURDELIMON.COM

1 Copley Parkway, Suite 104
Morrisville, NC 27560

Technical Sheet

Over-Pressure Latching Relay Wiring

Purpose

To replace the discontinued rupture disc indication for stations with an electrical one.

Required Items

- 1 relay DPST voltage specific to the control scheme of the customers system. (Customer Supplied)
- 1 pressure switch specific to pressure range of customers system type. (Included in kit 85287, 27445-4 is pre-set @ 1200 psi, adjustable range 500-4700 psi)
- 1 normally closed push button to reset fault. (Customer Supplied)
- Miscellaneous wiring and connectors to assemble it all together. (Customer Supplied)

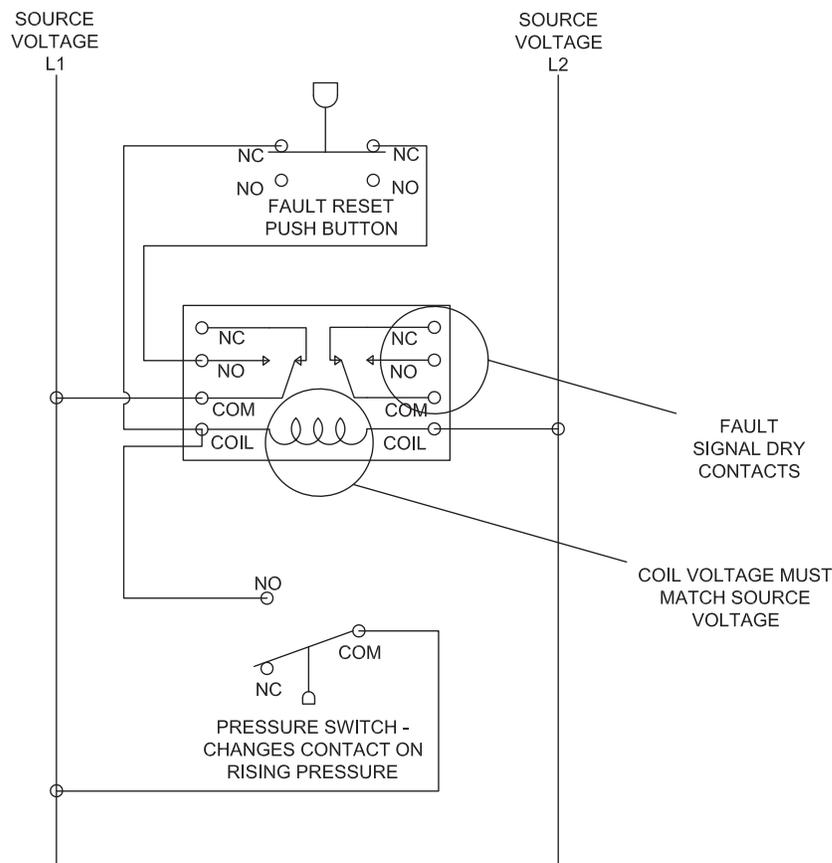
Kit 85287 Includes the following parts:

- + U101A4 Nipple 1/8NPT
- + U1105A Elbow 1/8NPTM X 1/4NPTF
- + U137A Run Tee 1/8NPT
- + 202-2 Adapter 1/8NPT X 1/4NPT
- + MCC2510A DIN Conn 43650A
- + U902DB Pressure Gauge 3000psi
- + 27445-4 Pressure Switch 1200psi

Theory of Operation

- See below schematic for reference.
- Constant voltage is applied to common of relay.
- When the pressure switch closes voltage from the output of the switch closes the relay which is wired with a latching circuit.
- This is held closed with the use of the normally closed switch. The other side of the relay provides a dry contact for the customer fault. Once pressure has been relieved the reset button can be pushed releasing the latch and resetting the fault signal.

Wiring Schematic



Refer to the following datasheets:

- + Catalog #SL2800: Singline Components

BIJUR DELIMON INTERNATIONAL

(919) 465 4448 LOCAL
(800) 631 0168 TOLL-FREE
(919) 465 0516 FAX

WWW.BIJURDELIMON.COM

1 Copley Parkway, Suite 104
Morrisville, NC 27560