

# OIL Pump Controllers

## Simplex - Duplex

Oil pump controllers are installed to automatically start and stop pump motor(s) in order to fill fuel day tanks for generators. Automatic level control is provided by start and stop float switch. A lead pump failure pilot light and a manual or automatic alternation selector switch is standard on the duplex units.

The completely assembled and wired controllers are factory tested before shipping. All components used in Tornatech oil pump controllers are UL approved.

Tornatech favors fuseless motor protection for easy field maintenance.

### Standard Features included in **Simplex** and **Duplex** Oil Pump Controllers:

Standard Features	Simplex	Duplex
NEMA 1 enclosure ASA 61 grey	1	1
Single pole circuit breaker(s) c/w through the door operation *	1	2
Overload relay(s)*	1	2
Across-the-line contactor(s) (HP rated)	1	2
Controller fuse (1 phase)*	1	1
"Power On" white pilot light	1	1
"Run" green pilot light(s)	1	2
"Hand-Off-Auto" selector switch(es)	1	2
Provision to connect float switches (float switches not included)	2	3
Lead pump failure pilot light, manual reset and lag pump start	N/A	1
P1-Auto-P2 alternation selector switch	N/A	1



\*Replaced by individual disconnect switch(es) thermomagnetic motor protector(s) and control transformers c/w secondary fuse (3 phase)

## Optional features available (Contact factory for details):

- Low and High level indications
- Various types of enclosure: NEMA/CSA 3R, NEMA/CSA 4...
- Pilot lights, buzzer and alarm contacts for different conditions such as overload, low level, high level...
- Momentary test button
- Heat sensor cut-out
- Provision for pump start by generator

## Start-up instructions

- Check name plate rating of oil pump controller and compare with incoming voltage and motor(s) rating(s).
- Adjust overload relay setting to full motor current rating.
- Check that motor protector push actuator(s) is(are) in start position.
- Check that float switches are adjusted to the desired levels.
- Check that controller is properly connected to pump motor(s)
- Turn Hand-Off-Auto selector switch(es) to Off position. Switch main disconnect switch to On position.
- Turn Hand-Off-Auto selector switch(es) to Hand position. Pump motor(s) should start. Check motor(s) for proper rotation.
- If all above checks out correctly, turn Hand-Off-Auto selector switch(es) to Auto position. Activate float switches manually and test if pump(s) start and stop are the desired level.

**HOW TO ORDER:** AB- V/ C x HP/ Ph/ Hz  
Ex: ADA3- 480/ 2 x 7.5/ 3/ 60

A = ASA simplex	B = 1 single phase (120V)	V = 120	C = 1 one pump	HP = anything	Ph = 1 single phase (120V)	Hz = 50
ADA duplex	2 single phase (240V)	208	2 two pumps	between	2 single phase (240V)	60
	3 three phase	240		.25 and 30	3 three phase	
		380				
		415				
		416				
		480				
		600				

## Sequence of Operation SIMPLEX Oil pump controller

- Once the level falls below the start pump level float switch, the pump motor is energized and the pump starts pumping fuel into the tank.
- Once the level reaches the high level float switch, the pump motor is de-energized and the pump stops.

## DUPLEX Oil pump controller

- Once the level falls below the start lead pump level float switch, the pump motor is energized and lead pump starts pumping fuel into the tank.
- If the lead pump has failed and the level falls below the start lag pump level float switch, the "Lead pump failure" pilot light is turned on and the lag pump motor is energized so that the lag pump keeps pumping fuel into the fuel tank. In order to turn off the pilot light, the manual reset pushbutton must be pressed.
- Once the level reaches the stop all pumps level float switch, the pump motor(s) is(are) de-energized and the pump(s) stop(s).
- If the alternation selector switch is in the automatic position, the stop all pump level switch triggers the alternator and reverse the order of the lead and lag pumps.

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