Multi-Tank Remote Fill

A single Multi-Tank Remote Fill System can serve from 2 to 21 tanks. The Multi-Tank Remote Fill system allows the system operator to monitor the level of the selected tank in gallons prior to a fill operation for safety and ease of use.

The multi-tank remote fill system consists of a NEMA 4 locking remote fill enclosure and a matching NEMA 4 remote fill control panel. The remote fill enclosure may be flush or surface mounted or free standing with an optional rack. The unit is furnished complete with integral alarm light, horn and silence switch. The multi-tank remote fill differs in that it is furnished with a tank selector switch (up to 7 tanks) and a level indicator in gallons that will let the fill operator know how much fuel is in each tank. When the operator selects a tank to fill, the system indicates the selected tank level in gallons. Thus, the fill operator can check the available ullage prior to fill.

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REMOTE FILL SYSTEMS

Multi-Tank Remote Fill

Specifications

DIMENSIONS	24 X 24 X 24 Flush mount unit has 2 inch flange on all sides.
WEIGHT	85 lbs.
CONSTRUCTION	Welded steel construction of enclosure. The unit includes a kamvalock fitting and dust cover. The unit does not include any piping. Piping may enter on the top, bottom, back or sides.
CONTROLS	Ships with matching remote fill control panel.
UL **LISTING**	UL 508
CAPACITY	Secondary containment is 5.3 gallons.
POWER REQUIRED	120 volts, dedicated circuit at control panel. Remote fill enclosure light and horn are powered from matching control panel.

Ordering Information

PART #: MTRF-X where X is the number of tanks.

MULTI-TANK REMOTE FILL INCLUDES:

- Dry disconnect and dust cover.
- Remote fill panel with silence switch, tank selector switch, light and horn, and common alarm light.
- Remote fill control panel for multi-tank application, shipped loose.
- Level probe for each tank, shipped loose.
- Motorized ball valve, per tank, shipped loose. Please specify size.

OPTIONAL PART #: RFSTAND
Welded stand for free standing application

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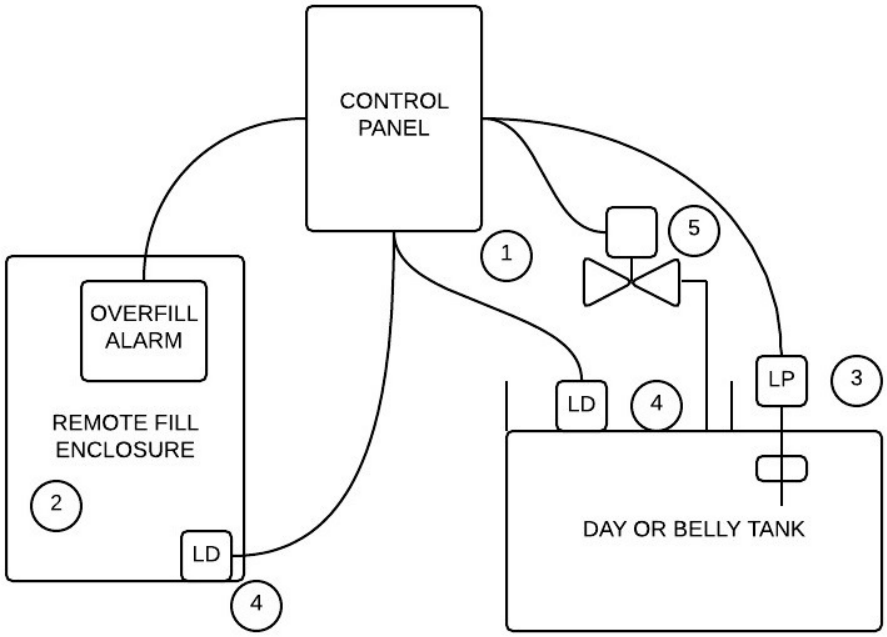
Schematic Diagram

ITEM	QUANTITY	DESCRIPTION
1	1	Remote Fill control panel
2	1	Remote Fill Enclosure with integral light and horn, silence and tank selector switches
3	1, per tank	Analog tank level sensor
4	1, per tank	Leak detector
5	1, per tank	Motorized ball valve



Sequence of Operation

MULTI-TANK REMOTE FILL SYSTEM

A remote fill panel is located at the street level for filling the bulk storage tanks. Within the lockable enclosure there resides a multiple position switch (a switch position for each bulk storage tank and one switch position for OFF), an LCD display to indicate the selected tank level in gallons, an overfill light, a horn, and a silence switch. There is also a permanent sign with detailed fill instructions and tank fill volumes.

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Sequence of Operation
cont.

When the fill operator selects a tank for fill, the remote fill control panel will monitor the switch position and will indicate "00000" until the tank specific fill motorized ball valve is verified open by its end switch. When the valve is in position, the LCD will display the actual tank volume. If the valve has a misalignment error, the LCD will continue to display "00000".

When the tank volume is displayed, fill operation may continue. At the 85% level, the light and horn will be energized indicating the selected bulk tank is nearly full. The fill operator may silence the horn but the overfill light will remain energized. At the 90% level, the alarm horn will sound again and the motorized fill control ball valve will close, thus disabling the fill operation. The operator may silence the horn but the overfill light will remain lit until the operator moves the selector switch to the "off" position. When the selector switch is placed in the "off" position, all fill valves are automatically commanded closed. If any one of the fill control valves fails to be verified closed, a "fill control valve misalignment" alarm will occur.

Alarms that will be displayed on the remote fill control panel touchscreen and communicated to the BMS system:

- Tank critical high level – 90%
- Tank high level – 85%
- Tank high level – 80%
- Fill control valve misalignment.

The 90 percent high level will force the fill control valves closed.

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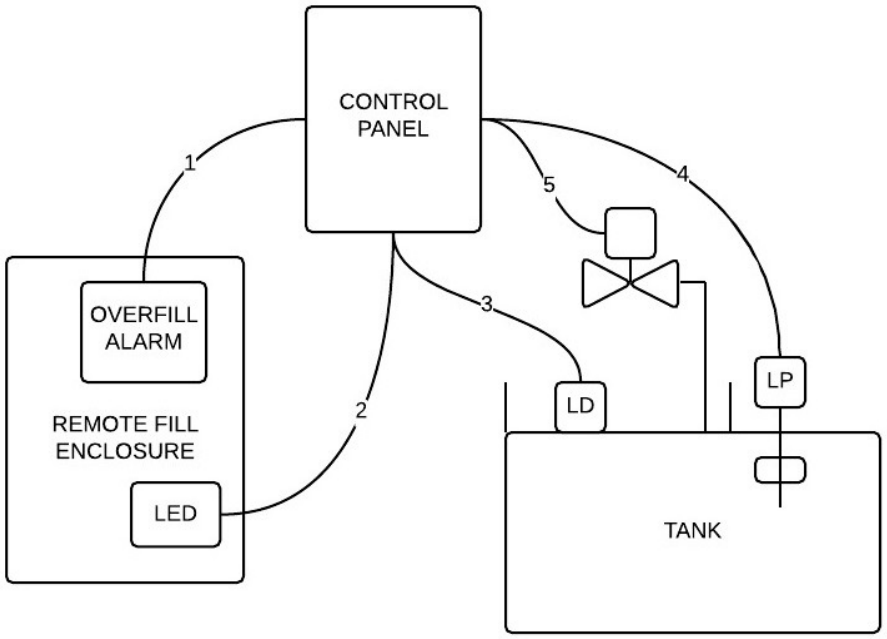
Multi-Tank Remote Fill

Wiring Diagram and Power Requirements

ITEM	QUANTITY OF CONDUCTORS	DESCRIPTION
1	6 #16 for control	Remote Fill System wired with integral remote fill plus one for each alarm. Control panel requires a dedicated 120 volt tank switch position circuit. Remote fill enclosure lights and horn receive power from the control panel.
2	Twisted pair #18	LED level indicator
3	2 #16	Leak Detector
4	Twisted pair #18*	Analog level sensor
5	5 #16	Motorized ball valve
		*Requires a separate conduit, twisted pairs may be run together in same conduit.



WIRING FOR REMOTE FILL

Use #16 stranded THHN minimum where indicated. For twisted pair, use low impedance similar to Belden 8760. Use #14 stranded THHN minimum for power wiring. Wiring to be continuous from end to end with no splices. Tag wires with industry standard wire numbers. All wiring to be installed in conduit. All wiring and conduit to be installed as per Local Code requirements.

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