



DR1920

Duplex Lift Station Back-Up Pump Controller

FEATURES

- Runs one or two pumps for fixed time interval set by user
- Isolated digital input in addition to a NO or NC switch contact input
- 10 Amp NO relay contact for each pump
- Open collector control output for each pump
- DIN Rail Case
- 5 Year Warranty
- UL/cUL Recognized



DESCRIPTION

The DR1920 Back-Up Pump Control is a compact DIN rail mounted unit used to monitor a backup level alarm in a tank or wet well and start up to two pumps when a high alarm switch closes. The unit is used as a backup to normal tank / well level controls and is wired to the High-High Alarm switch to prevent overflows in situations where the primary level control system fails.

When the level switch in the tank or well closes, the DR1920 closes a relay that starts Pump 1 and starts an internal Timer 1. When Timer 1 reaches its set time, and the level alarm switch is still closed, Pump 2 is started. Pump 1 and Pump 2 will run until the level alarm switch opens. When the level switch contact opens, Timer 2 is started and both pumps continue to run until Timer 2 reaches its set time.

If the alarm switch opens during the Timer 1 interval, Timer 2 is started when the switch opens. Pump 2 is not started and Pump 1 will run until Timer 2 reaches its set time.

The DR1920 also has provisions to alarm on a switch opening.

ALARM SWITCH MONITOR

The DR1920 monitors the open or closed status of a switch contact that is already wired into a control system. This switch may have any of several voltages that are used to control the pump system. In addition, if the primary control system fails, the normal voltages may not be present.

The DR1920 is wired across the alarm switch contacts and uses a unique circuit that measures the impedance present between the switch contacts. When the DR1920 senses a low impedance, it begins its control

function, regardless of any absence or presence of voltage across the switch contacts. This feature allows the DR1920 to be wired in parallel across the switch contacts without regard to the existing control system, permitting simple installation in existing systems. For situations where the existing wiring prevents this circuit from being used, an isolated contact must be provided. A second input, which requires an isolated contact or open collector transistor is also provided.

A Reset input is provided to stop the pumps and reset the timers. It requires a contact closure or open collector transistor.

Since the Back Up Pump Control is used only when there is a problem with the primary control, the digital alarm inputs, as well as the reset inputs, are provided to allow the periodic exercising of the system to verify functionality.

SPECIFICATIONS

POWER

85/250 VAC $\pm 10\%$ 50/60 Hz,
2 VA

ALARM INPUTS

NO or NC switch contact
Isolated switch or Open collector transistor
Internal jumper to set "open" or "close" to alarm

PUMP CONTROL

Two NO 10A (Form A) relay contacts

OUTPUT

Closes for Pump 1 and Pump 2 run
Two optically isolated NPN transistor Sink or source - 30 mA

TIMERS

Timer 1 - Pump 2 delay
Adjustable 2 to 126 seconds (2.1 minutes) in 2 second increments
Timer 2 - Pump Run Time
Adjustable 5 to 1,275 seconds (21.25 minutes) in 5 second increments
Timers are set with binary coded DIP switches inside the enclosure

RESET INPUT

Stop pumps and reset timers
Requires contact closure or open collector transistor

INDICATORS

LED Indicators for -
Pump 1,
Green OFF, Red RUN
Pump 2
Green OFF, Red RUN

ENCLOSURE

DIN Rail Mount
3.9H X 4.48D X 0.87W
Plug-in screw terminals

ORDERING INFORMATION

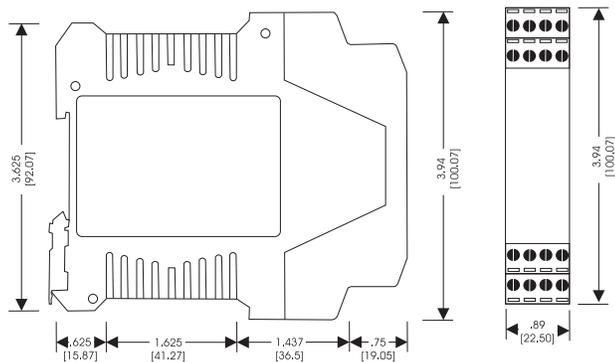
ACCESSORIES

DR1 DIN-Rail, 35 mm Symmetrical, 39 inches (1meter)

Qty _____

DIMENSIONS

Inches [mm]



CONNECTIONS

Alarm Inputs	TERMINAL	CONNECTION
AUX Switch Contact	1	+ AUX Alarm Input - Isolated Input
	2	- AUX Alarm Input - Isolated Input
	3	Alarm Switch Contact Input
	4	Alarm Switch Contact Input
C Pump1	5	Pump 1 O.C. Control - Collector
E Pump2	6	Pump 1 O.C. Control - Emitter
O.C. Control	7	Pump 2 O.C. Control - Collector
	8	Pump 2 O.C. Control - Emitter
	9	Pump 1 Relay - SPST - Close on Alarm
	10	Pump 1 Relay - SPST - Close on Alarm
	11	Pump 2 Relay - SPST - Close on Alarm
	12	Pump 2 Relay - SPST - Close on Alarm
Relay Control	13	Reset Input +
NO Pump1	14	Reset Input -
NO Pump2	15	AC Power - L1
	16	AC Power - L2
Reset L1 L2		



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