Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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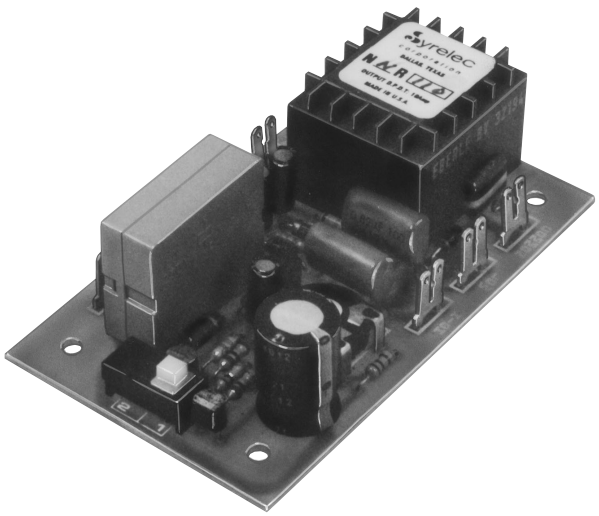
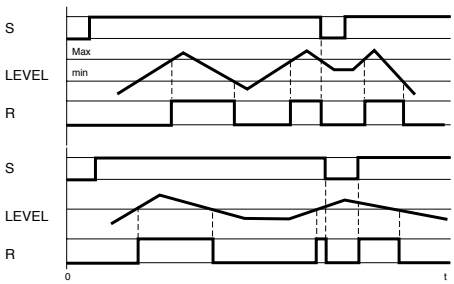
NNR SERIES
LIQUID LEVEL CONTROL PUMP UP OR DOWN SWITCH SELECTABLE

UL listed CSA recognized



- **10 Amp SPDT Rated**
- **Sensitivity Adjustment 4.7 kΩ to 47 kΩ**
- **One, Two or Three Probe Operation**
- **24 VAC to 220 VAC Voltages**



SPECIFICATIONS:

Input	24, 48, 110, 220 VAC ±15% (50/60 Hz)	
Maximum power consumption	24 VAC: 1.5 VA 48 VAC: 1.7 VA 110 VAC: 2 VA 220 VAC: 2 VA	
Output	SPDT relay	
Contact material	AgCdO (90/10)	
Maximum loading	10 A AC resistive	1A DC inductive
Maximum switching voltage	250 VAC	30 VDC
Relay maximum power rating	2500 VA	30 VDC
Mechanical life of relay	3 x 10^7 operations	
Electrical life of relay	2 x 10^5 at 2200 VA resistive load	
Probe isolation	Switching contact: 2000 VA Electrodes: 2000 VAC	
Probe sensitivity	4.7 K ohm to 47 K ohm	
Probe voltage	24 VAC, 60 Hz	
Probe current	2 mA max.	
Operating temperature	+14°F to 140°F	-10°C to +60°C
Weight	4.6 oz. (130g)	

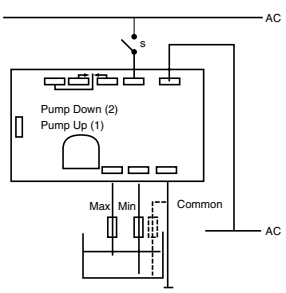
Note: For best results use shielded cable with the probes and do not run probe cables with other wires.

A - Pump down function: the output relay energizes when the liquid level reaches the high or max. probe. It remains energized until the level is below the low or min probe. The relay will remain de-energized until the high level is again reached. This control may also be used with only two probes by connecting the maximum and common terminals together. The output is energized when the low probe is in contact with the liquid.

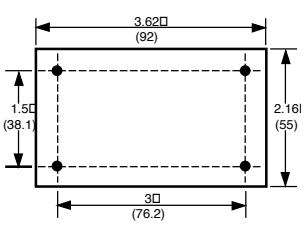
B - Pump up function: when power is supplied to the unit, the output relay is energized. When the level reaches the high probe the relay is de-energized. The relay is energized again when the level falls below the lob probe. The control may also be used with only two probes by connecting the maximum and common terminals together. The output is de-energized when the level reaches the low probe.

In both functions, If the container is conductive, It may be used as the common probe in some applications

WIRING DIAGRAM:



DIMENSIONS:



ORDERING INFORMATION:

N — **MOUNTING**

NR — **SERIES**

220A — **INPUT POWER**

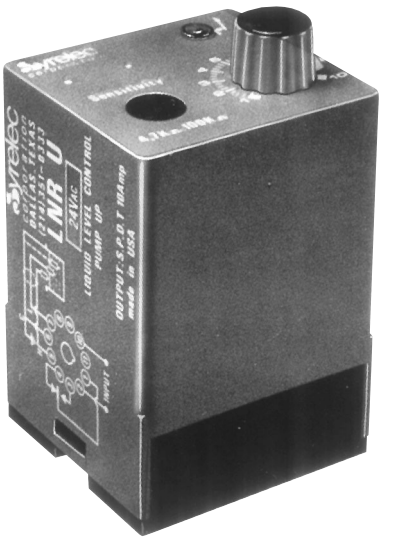
MOUNTING
N = Open PC Board

SERIES
NR

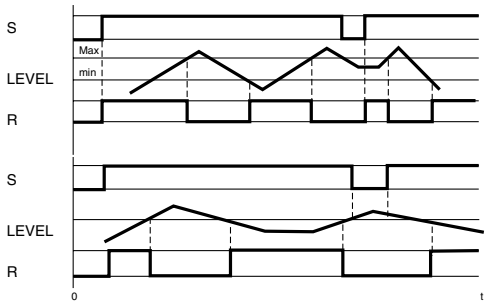
INPUT POWER
24A = 24 VAC
48A = 48 VAC
110A = 110 VAC
220A = 220 VAC

NRU SERIES
LIQUID LEVEL CONTROL
PUMP UP

UL listed CSA recognized



- **LED Relay Indicator**
- **Three Styles**
- **Pump Up Control**
- **4.7 kΩ to 100 kΩ Sensitivity**
- **10 Amp SPDT Relay**



Control of conductive liquids (tap water, sea water, sewage, chemical solutions, coffee, ice cream, etc.)

The relay is energized when the level falls below the low level probe. It de-energizes when the high level probe is reached. The NRU will also control a single level. In this case, a single probe is used and the relay operates when the probe is not immersed. The Max terminal is connected to common with a jumper.

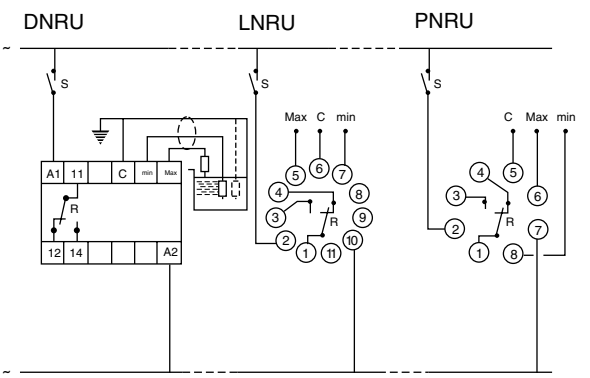
In either case, a common electrode is needed if the container is non-conductive.

SPECIFICATIONS:

Input Power	.24, 48, 110, 220 VAC, ±15% (50/60 Hz)	
Maximum voltage	.24 VAC: 1.5 VA 48 VAC: 1.7 VA 110 VAC: 2 VA 220 VAC: 2 VA	
Output	.SPDT Relay	
Contact material	.AgCdO	
Maximum loading	.10A AC resistive	8A DC resistive
Maximum switching voltage	.250 VAC	80 VDC
Maximum power rating	.2500 VA	80 W
Electrical life	.2 x 10^5 at 2200 VA resistive load	
Mechanical life	.3 x 10^7 operations	
Probe isolation	.Electrodes: 2000 VAC	
Probe sensitivity	.4.7 K to 100 K ohms	
Probe voltage	.24 VAC, 60 Hz	
Probe current	.2 mA max.	
Operating temperature	.+14°F to +140°F	-10°C to +60°C
Weight	.7 oz. (200g)	

Note: The cable for probes (max 300ft) should be run in separate conduit. A shielded cable is recommended.

WIRING DIAGRAM:



ORDERING INFORMATION:

P — **MOUNTING**
NRU — **SERIES**
220D — **INPUT POWER**

MOUNTING
D = DIN-rail mounting
L = 11 pin plug-in
P = 8 pin plug-in

SERIES
NRU

INPUT POWER
24A = 24VAC
48A = 48VAC
110A = 110VAC
220A = 220VAC

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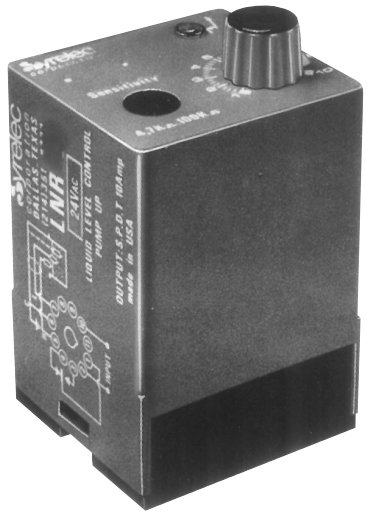
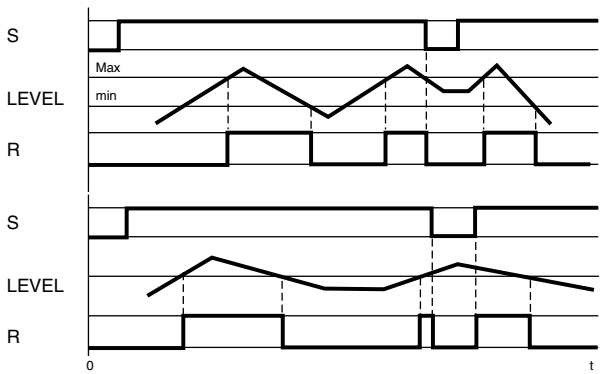
NR SERIES
LIQUID LEVEL CONTROL
PUMP DOWN

UL listed CSA recognized



- **24 VAC to 220 VAC Operating Voltages**
- **4.7 kΩ to 100 kΩ Sensitivity**
- **LED Relay Indicator**
- **10 Amp SPDT Relay**



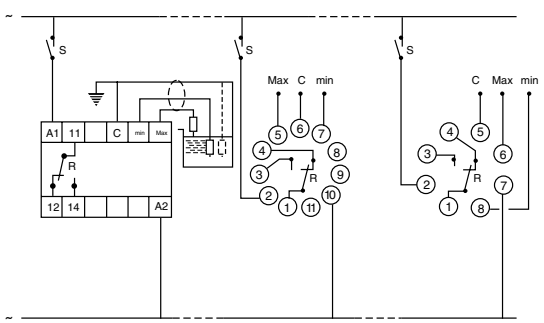
The output relay energizes when the liquid level reaches the high probe. The relay de-energizes when the liquid falls below the low probe. This control can also be used with only two probes by connecting the maximum and common terminals together. The output is energized when the level reaches the low probe. In both functions, if the container is conductive, it may be used as the common probe in some applications.

SPECIFICATIONS:

Input	24, 48, 110, 220 VAC ±15% (50/60 Hz)	
Maximum power consumption	24 VAC: 1.5 VA 48 VAC: 1.7 VA 110 VAC: 2 VA 220 VAC: 2 VA	
Output	SPDT relay	
Contact material	AgCdO	
Maximum loading	10A AC resistive	8A DC inductive
Maximum switching voltage	250 VAC	250 VDC
Relay maximum power rating	2500 VA	80 W
Mechanical life of relay	3 x 10^7 operations	
Electrical life of relay	2 x 10^5 at 2200 VA resistive load	
Probe isolation	Electrodes: 2000 VAC	
Probe sensitivity	4.7 K to 100 K ohms	
Probe voltage	24 VAC, 60 Hz	
Probe current	2 mA max.	
Operating temperature	+14°F to 140°F	-10°C to +60°C
Weight	4.6 oz. (130g)	

WIRING DIAGRAM:

DNR LNR PNR



ORDERING INFORMATION:

P — MOUNTING
NR — SERIES
110A — INPUT POWER

MOUNTING
D = DIN-rail or panel mounting
L = 11 pin plug-in
P = 8 pin plug-in

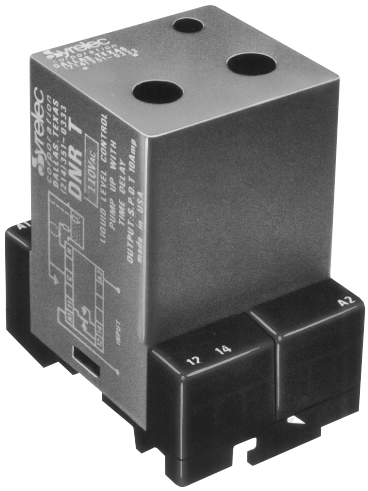
SERIES
NR

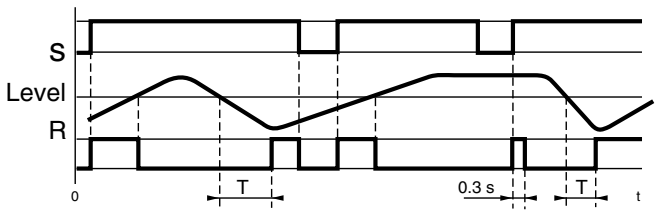
INPUT POWER
24A = 24 VAC
48A = 48 VAC
110A = 110 VAC
220A = 220 VAC

NRT SERIES
LIQUID LEVEL CONTROL CONSTANT LEVEL PUMP UP

UL listed CSA recognized

- **100 kΩ Sensitivity**
- **10 Amp SPDT Relay**
- **Maintain Constant Level**
- **Four Mounting Options**





The NRT series is applied for maintaining a constant level of conductive liquid. When the liquid decreases below the probe, the relay is energized after a 4 second time delay to avoid wave disturbances. The relay de-energizes when the liquid reaches the probe. A common electrode is needed if the container is non-conductive.

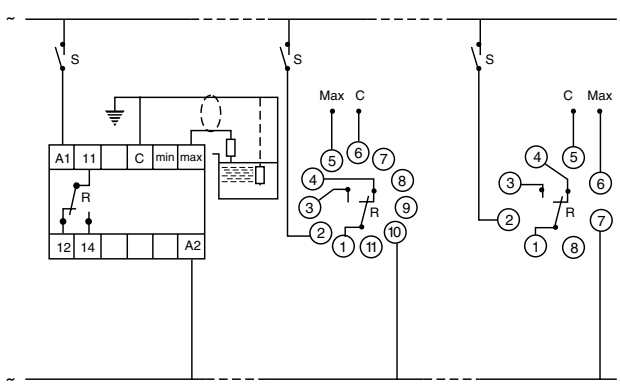
SPECIFICATIONS:

Input	24 VAC, 48 VAC, 110 VAC 220 VAC, ± 15%, 50/60 Hz	
Maximum power consumption	24 VAC: 1.5 VA 48 VAC: 1.7 VA 110 VAC: 2 VA 220 VAC: 2 VA	
Output	SPDT Relay	
Contact material	AgCdO	
Maximum loading	10 A AC resistive	8 A Dc resistive
Maximum switching voltage	250 VAC	250 VDC
Relay maximum power rating	2500 VA	80 W
Mechanical life of relay	3 x 10^7 operations	
Electrical life of relay	2 x 10^5 at 2200 VA resistive load	
Probe isolation	Switching contact 2000 VAC Electrodes: 2000 VAC	
Probe sensitivity	100 kΩ	
Probe voltage	24 VAC, 60 Hz	
Probe current	1 mA max.	
Operating temperature	+14°F to +140°F	-10°C to +60°C
Weight	7 oz. (200g)	

Note: The probe cables (max. 300ft) need not be shielded; however, it is not advisable to run the probe cables with power cables. If shielded cable is used, the shield and common should be connected.

WIRING DIAGRAM:

DNRT LNRT PNRT



ORDERING INFORMATION:

P — MOUNTING
NRT — SERIES
110A — INPUT POWER

MOUNTING
D = DIN-rail or panel mounting
L = 11 pin plug-in
P = 8 pin plug-in
N = open PC board

SERIES
NRT = Enclosed
NNRT = Open PC board version mounting dimensions same as NNR

INPUT POWER
24A = 24 VAC
48A = 48 VAC
110A = 110 VAC
220A = 220 VAC

Products and specifications subject to change without notice.