

WRL SERIES

PHASE CONTROL RELAY

UL listed CSA recognized

- **Monitors**
 - Phase Sequence**
 - Loss of Any Phase even if Induced Voltage reaches 95% of Nominal Voltage**
- **Under Voltage Detection**
- **Trip Delay Timer Built-in**
- **LED Relay Status Indicator**



2

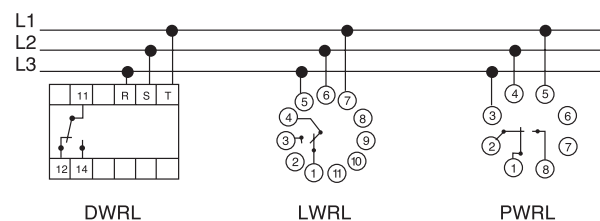
MODE OF OPERATION:

The WRL Phase Control Relay monitors the sequence loss or reversal of three phase power supplies. The output relay is energized when the phase sequence is correct and the phase voltage is above the voltage threshold set by the front knob. The output relay will de-energize after 2 seconds (built-in timer) when the phase voltage drops under the voltage threshold or when phase sequence is lost. The WRL Series is available in three voltage ranges: 230 VAC, 380 VAC and 480 VAC.

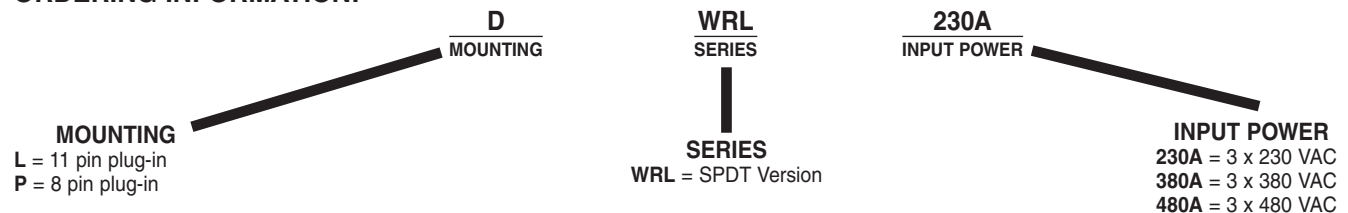
SPECIFICATIONS:

Input Power	3 x 230 (50/60 Hz)
	3 x 380 (50/60 Hz)
	3 x 480 (50/60 Hz)
Maximum voltage	3 x 280 VAC
	3 x 420 VAC
	3 x 530 VAC
Minimum voltage	3 x 160 VAC
	3 x 260 VAC
	3 x 340 VAC
Threshold adjustment range	160 to 230 VAC
	260 to 380 VAC
	340 to 480 VAC
Max power consumption	2 VA
Dial accuracy	±10%
Temperature De-rating	±0.04%/°C
Dead Band	4% of 480 VAC
Response Time	300 ms on Make
	2 sec on Break
Output	
SPDT Version (WRL) Series)	10 Amp 250 VAC
Max. power consumption	2000 VA
Max. voltage	250 VAC
Electrical life	2 x 10 ⁷ operations
Mechanical life	1 x 10 ⁶ operations
Operating temperature	-10°C to +60°C
Weight	3.5 oz. (100g)

WIRING DIAGRAM:



ORDERING INFORMATION:



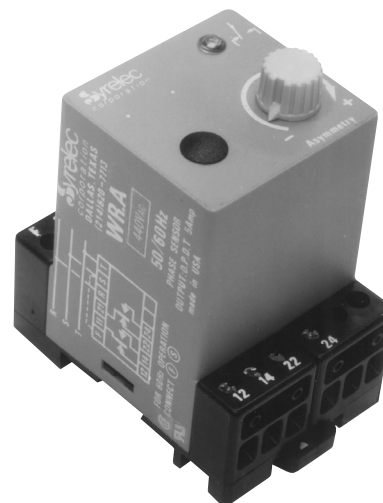
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WRA SERIES

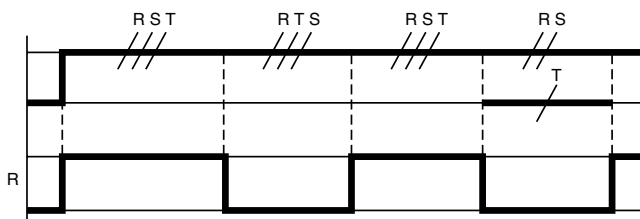
PHASE CONTROL RELAY

UL listed CSA recognized (220 VAC Version Only)



- **Monitors**
 - Phase Sequence**
 - Loss of Any Phase even if Induced Voltage reaches 95% of Nominal Voltage**
- **LED Relay Status Indicator**
- **SPDT 10 Amp Relay Output**

MODE OF OPERATION:



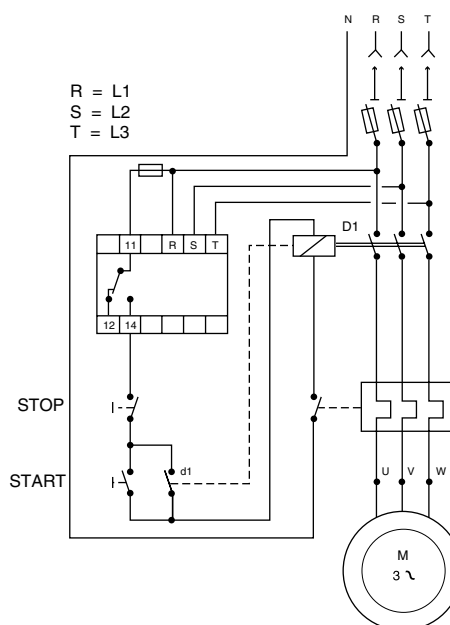
The WRL Phase Control Relay monitors the sequence loss or reversal of three phase power supplies. The output relay is energized when the phase sequence is correct and is de-energized when the phase sequence is wrong or one phase is lost. It monitors the symmetry of 3 voltages and a loss of phase even when the voltage is reinjected through a machine. The rate of asymmetry is controlled between 5% and 15% by a top mounted potentiometer.

SPECIFICATIONS:

Input Power Directly	3 x 220 60 Hz	
from controlled voltage $\pm 15\%$	3 x 380 60 Hz	
	3 x 440 60 Hz	
Power consumption	3 VA at 220 V	
Output	SPDT relay	
Contact material	AgCdO	
Maximum Loading	10 AC resistive	8A DC inductive
Maximum switching voltage	250 VAC	250 VDC
Relay max. power rating	220 VA	80 W
Mechanical life of relay	30 x 10 ⁶ operations	
Electrical life of relay	2 x 10 ⁵ operations at 2200VA resistive load	
Operating temperature	+14°F to +140°F	-10°C to +60°C
Weight	7 oz. (200g)	

Note: The alarm threshold adjustment is 5% to 15% of asymmetry between the phases. The initial response time is .1 seconds at 5% asymmetry and 1 second at 15% after input power is applied. When a phase loss or failure occurs, the "off delay" response time is 100 ms.

WIRING DIAGRAM:



DWRA	11	12	14	R	S	T
LWRA	1	4	3	5	6	7
PWRA	1	2	8	3	4	5

ORDERING INFORMATION:



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WRA 2 SERIES

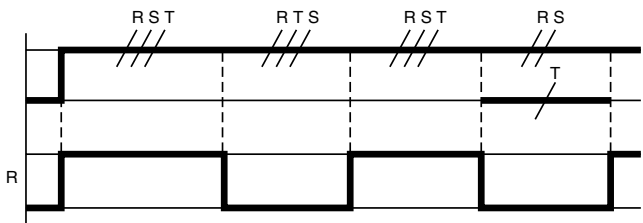
PHASE CONTROL RELAY

UL listed CSA recognized (220 VAC Version Only)

- **Monitors**
 - Phase Sequence**
 - Loss of Any Phase even if Induced Voltage reaches 95% of Nominal Voltage**
- **LED Relay Status Indicator**
- **DPDT 5 Amp Relay Output**



MODE OF OPERATION:



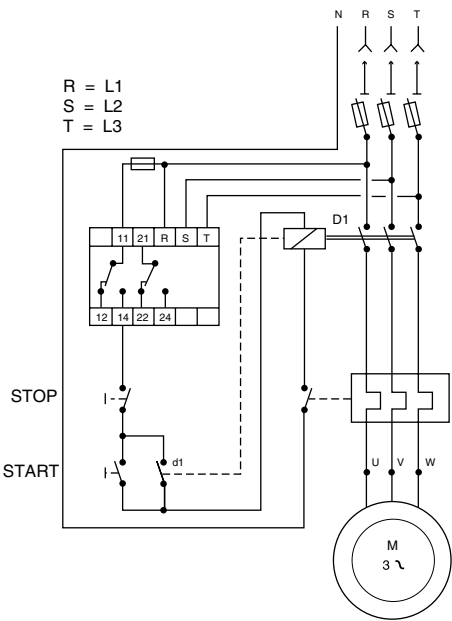
The WRA 2 Phase Control Relay monitors the sequence loss or reversal of three phase power supplies. The output relay is energized when the phase sequence is correct and is de-energize when the phase sequence is wrong or one phase is lost. It monitors the symmetry of 3 voltages and a loss of phase even when the voltage is reinjected through a machine. The rate of asymmetry is controlled between 5% and 15% by a top mounted potentiometer.

SPECIFICATIONS:

Power consumption	3 VA at 220 V	
Output	DPDT relay	
Contact material	AgCdO	
Maximum Loading	5 A AC resistive	1 A DC inductive
Maximum switching voltage	250 VAC	250 VDC
Relay max. power rating	1250 VA	30 W
Mechanical life of relay	30 x 10 ⁶ operations	
Electrical life of relay	2 x 10 ⁶ operations at 2200 VA resistive load	
Operating temperature	+14°F to +140°F	-10°C to +60°C
Weight	7 oz. (200g)	

Note: The alarm threshold adjustment is 5% to 15% of asymmetry between the phases. The initial response time is .1 seconds at 5% asymmetry and 1 second at 15% after input power is applied. When a phase loss or failure occurs, the "off delay" response time is 100 ms.

WIRING DIAGRAM:



DWRA 2	11	12	14	R	S	T	21	22	24
LWRA 2	1	4	3	5	6	7	11	8	9

ORDERING INFORMATION:

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

WRA 2
SERIES
WRA 2

380 A
INPUT POWER
220A = 3 x 220 VAC
380A = 3 x 380 VAC
440A = 3 x 415/440 VAC

Products and specifications subject to change without notice.

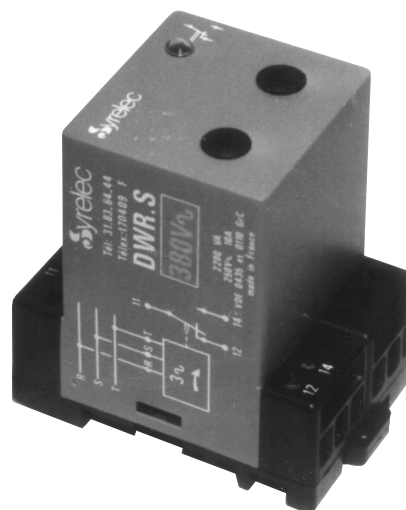
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WRS SERIES

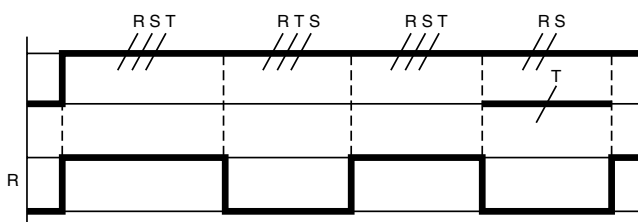
PHASE CONTROL RELAY

UL listed CSA recognized

- **Monitors**
 - Phase Sequence**
 - Loss of Any Phase**
- **LED Indicator**
- **10 Amp SPDT Output**
- **Low Cost**



MODE OF OPERATION:

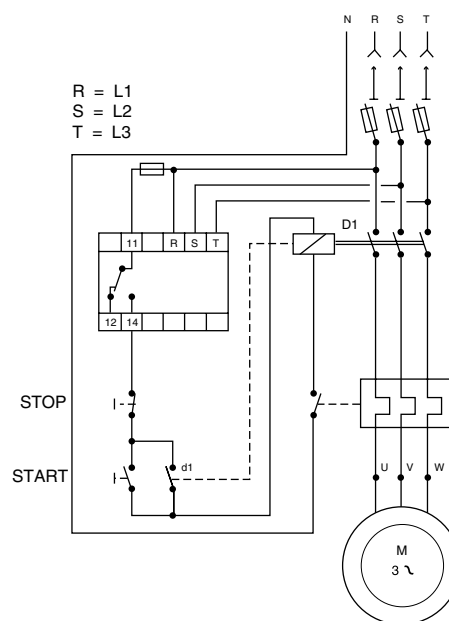


The WRS Phase Control Relay monitors the sequence loss or reversal of three phase power supplies. The output relay is energized when the phase sequence is correct and is de-energize when the phase sequence is wrong or one phase is lost.

SPECIFICATIONS:

Input Power Directly	3 x 220 60 Hz	
from controlled voltage $\pm 15\%$	3 x 380 60 Hz	
	3 x 440 60 Hz	
Power consumption	3 VA at 220 V	
Output	SPDT relay	
Contact material	AgCdO	
Maximum Loading	10 AC resistive	1 A SC inductive
Maximum switching voltage	250 VAC	250 VDC
Relay max. power rating	2200 VA	30 W
Mechanical life of relay	30 x 10 ⁶ operations	
Electrical life of relay	2 x 10 ⁵ operations at 2200 VA resistive load	
Operating temperature	+14°F to +140°F	-10°C to +60°C
Weight	7 oz. (200g)	

WIRING DIAGRAM:



DWRS	11	12	14	R	S	T
LWRS	1	4	3	5	6	7
PWRS	1	2	8	3	4	5

ORDERING INFORMATION:

L
MOUNTING

MOUNTING

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

WRS
SERIES

SERIES
WRS

380
INPUT POWER

INPUT POWER

220A = 3 x 220 VAC
380A = 3 x 380 VAC
440A = 3 x 415/440 VAC

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