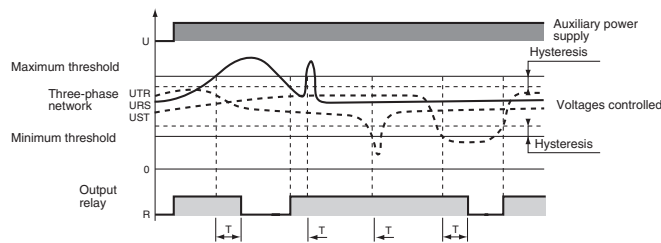
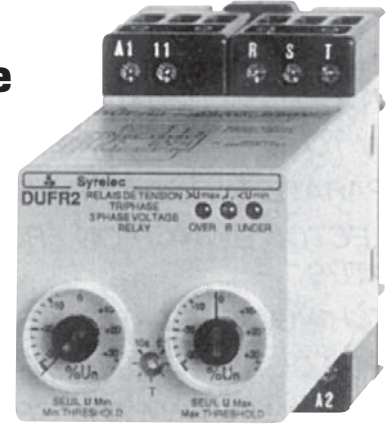


UFR2 SERIES

VOLTAGE CONTROL RELAY - 3 Phase

UL listed CSA recognized

- **Over/Under Voltage Control**
- **Min. & Max. Threshold Adjustment**
- **Three LED Indicators**
- **SPDT IOA Relay**
- **Adjustable Time Inhibit .1 to 10 seconds**



SPECIFICATIONS:

Input Power 24, 110, 230, 400, 440 VAC, $\pm 15\%$ 50/60 Hz
Max. Power Consumption 3 VA

Voltage Inputs

Three-phase networks measured:

AC voltage (rms) between phases	Measurement range of min. and max. thresholds. Rms voltage between phases	Input resistance	Peak overload, less than 10 ms
3 x 230 V	161 V to 299 VAC	400 k Ω	600 V
3 x 400 V	280 V to 520 VAC	400 k Ω	700 V
3 x 440 V	308 V to 572 VAC	400 k Ω	800 V

Input Voltage Frequency 50/60 Hz
Hysteresis set to 3% of displayed threshold
Display Accuracy $\pm 10\%$
Repeat Accuracy $\pm 0.5\%$
Output Relay SPDT 10 Amp Resistive
Operating Temperature +14°F to 140°F (-10°C to +60°C)
Storage Temperature -4°F to 158°F (-20°C to +70°C)
Weight 200g

GENERAL FEATURES:

The output relay is activated when the values of the three voltages between phases lie within the minimum and maximum thresholds (adjusted separately using two potentiometers on the front panel). If one or more voltages between phases lies outside the window constituted by the minimum and maximum thresholds, the output relay de-energizes at the end of time T (adjustable between 0.1 and 10 seconds via front panel).

A set 3% hysteresis ensures clean switching of the output relay at each threshold.

Auxiliary power supply.

The unit is not affected by the sequence of the phases or harmonic distortion.

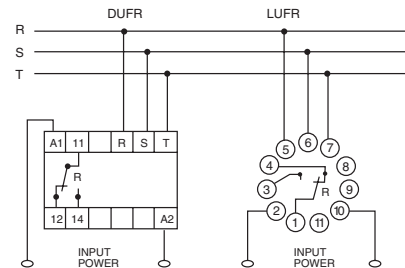
Application: Protecting electrical installations against variations in mains supply.

NOTE: One red LED displays undervoltage.

A green LED displays the status of the relay LED "ON"= relay "ON". A second red LED displays overvoltage.

Since the operating principle of this relay is based on measuring two voltages between phases in relation to a third, it is preferable, where a neutral is present, to use DUFNR2 and LUFNR2 for very unequal three-phase networks.

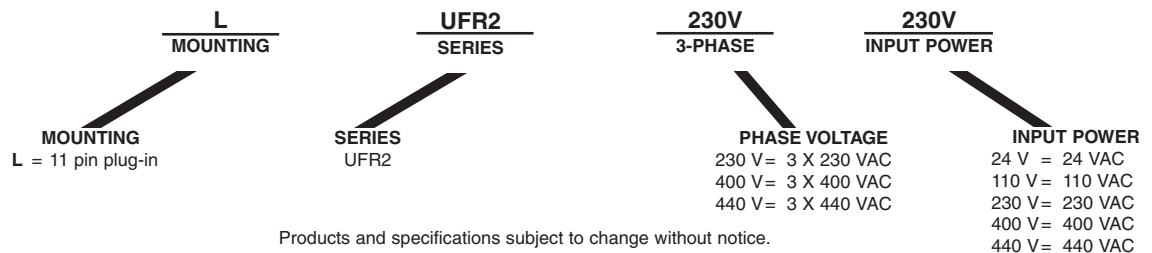
WIRING DIAGRAM:



NOTE: The input power can be connected between two phases of the three phase network being monitored. Tolerance is $\pm 15\%$ of the selected voltage.

The maximum threshold must be greater than the minimum threshold for proper operation.

ORDERING INFORMATION:



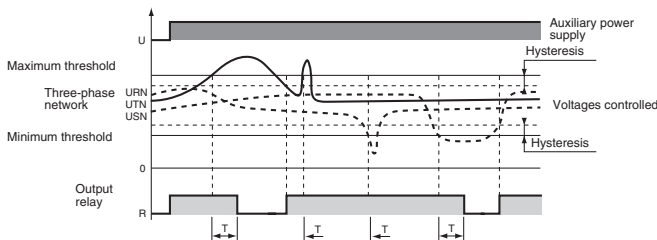
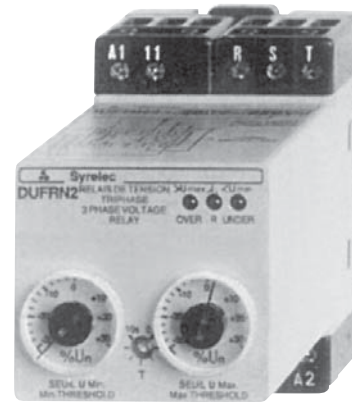
Products and specifications subject to change without notice.

UFRN2 SERIES

VOLTAGE CONTROL RELAY

Three Phase with Neutral

- Over/Under Voltage Control
- Min. & Max. Threshold Adjustment
- Three LED Indicators
- Detects Absence of Neutral
- Adjustable Time Inhibit .1 to 10 seconds



SPECIFICATIONS:

Input Power 24, 110, 230, 400, 440 VAC, $\pm 15\%$ 50/60 Hz
 Max. Power Consumption 3 VA

Voltage Inputs

Three-phase networks measured:

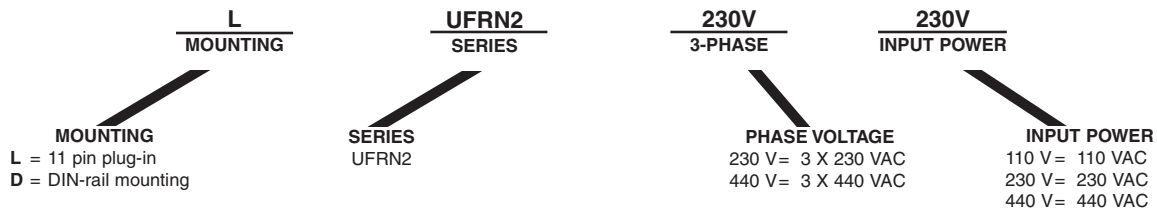
AC voltage (rms) between phases	Measurement range of min. and max. thresholds. Rms voltage between phases-Neutral	Input resistance	Peak overload, less than 10 ms
3 x 230 V + N	92 V to 172 VAC	220 k Ω	600 V
3 x 400 V + N	161 V to 300 VAC	400 k Ω	700 V
3 x 440 V + N	177 V to 330 VAC	400 k Ω	800 V

Input Voltage Frequency 50/60 Hz
 Hysteresis set to 3% of displayed threshold
 Display Accuracy $\pm 10\%$
 Repeat Accuracy $\pm 0.5\%$
 Output Relay SPDT 10 Amp Resistive
 Operating Temperature +14°F to 140°F (-10°C to +60°C)
 Storage Temperature -4°F to 158°F (-20°C to +70°C)
 Weight 200g

AVAILABLE PART NUMBERS

- DUFRNZ230A110A
- DUFRNZ440A440A
- LUFRNZ230A110A
- LUFRNZ230A230A

ORDERING INFORMATION:



GENERAL FEATURES:

The output relay is activated when the values of the three voltages between phases and neutral lie within the minimum and maximum thresholds (adjusted separately using two potentiometers on the front panel). If one or more voltages between phases lies outside the window constituted by the minimum and maximum thresholds, the output relay de-energizes at the end of time T (adjustable between 0.1 and 10 seconds via front panel). A set 3% hysteresis ensures clean switching of the output relay at each threshold.

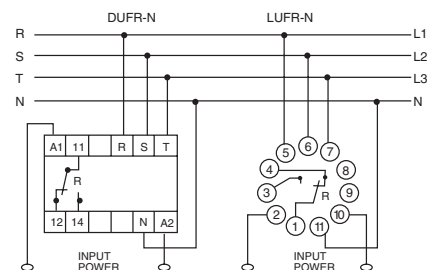
Auxiliary power supply.
 The unit is not affected by the sequence of the phases or harmonic distortion.

Application: Protecting electrical installations against variations in mains supply.

NOTE: One red LED displays undervoltage. A green LED displays the status of the relay LED "ON"= relay "ON". A second red LED displays overvoltage.

SPECIAL CASE: Relays DUFRN2 and LUFRN2 can control a **SINGLE PHASE** voltage. For this application, the single phase voltage is connected between terminals R, S, T (5, 6, 7) wired together, and terminal N (11).

WIRING DIAGRAM:



NOTE: The input power can be connected between a phase and neutral or between phases of the three phase network being monitored. Tolerance is $\pm 15\%$ of the selected voltage.

The maximum threshold must be greater than the minimum threshold for proper operation.