

# Protection Relays & Controls

## NGR SERIES – US

### Neutral Grounding Resistor System



### Description

High-resistance grounding prevents many of the problems that are associated with ungrounded and solidly grounded electrical distribution and utilization systems. High-resistance grounding can limit point-of-fault damage, eliminate transient overvoltages, reduce the arc-flash hazards, limit voltage exposure to personnel, and provide adequate tripping levels for selective current-based ground-fault detection and coordination.

The Littelfuse Neutral Grounding Resistor System is a neutral grounding resistor (NGR), current transformer, and sensing resistor installed in a NEMA 3R enclosure used to high-resistance ground transformers and generators. The NGR system is designed for use with Littelfuse Neutral Grounding Resistor Monitors for complete system grounding and grounding protection.

The NGR series – US systems are designed for use in US applications and all other parts of the world, not including Canada. For applications in Canada, please use the NGR series – Canada.

### Applications

High-resistance grounding is applied on transformers and generators where safety and continuity of service are important. A faulted feeder may remain in operation until it is safe to repair the fault, where allowed by the local electrical code.

### Features



#### Enclosure

The NGR Series – US comes pre-installed in a ventilated NEMA 3R galvanized steel enclosure and components are pre-wired to terminals for ease of installation. Back view shown on left.

#### ER Series Sensing Resistor

Use with the SE-325 or the SE-330 to continuously monitor the continuity of a neutral-grounding resistor and eliminate hazardous voltage levels at the relay.



- ER-600VC is designed for use on systems up to 600 V for indoor applications. Available in optional moisture-proof enclosure (shown on left) for outdoor applications.



- ER-5KV for use on systems up to 4160 V for indoor applications.



- ER-5WP is designed for use on systems up to 4160 V and comes with weather-protected terminals for outdoor installations.

#### Earth-Fault Current Transformer

Used with the SE-325 or the SE-330 to measure ac current flowing through the NGR for use with the continuity monitoring circuit and to detect ground faults.



- ELCT5-31 used with SE-330 for 5 A and 10 A NGRs.



- SE-CS10-2.5 used with SE-330 for 10 A and 15 A NGRs.



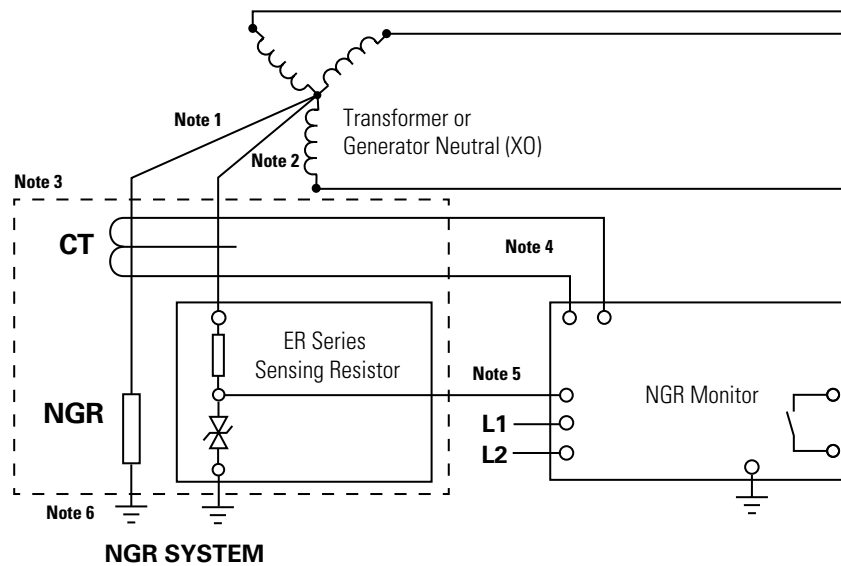
- CT200 used with the SE-325 for all applications.

- 5SHT-101-E (not shown) used with SE-330 for 25 A NGRs.

### Benefits

- Eliminate phase-to-ground arc-flash incidents
- Eliminate transient overvoltages
- Reduce point-of-fault damage
- Can provide continuity of service during a ground fault
- Includes current transformer and ER series sensing resistor for use with Littelfuse monitoring relay and for ease of installation.

### Simplified Circuit Diagram with Littelfuse Neutral-Grounding-Resistor Monitor



- Note 1:** Use minimum #8 AWG white or grey conductor insulated to system voltage to connect NGR to neutral.
- Note 2:** Use conductor insulated to system voltage (#14 AWG is typically used) and a separate lug at the X0 point to connect ER Series Sensing Resistor to neutral.
- Note 3:** Locate NGR system near transformer or generator.
- Note 4:** Two-conductor twisted cable required, shielded recommended.
- Note 5:** Voltage between ER Series Sensing Resistor terminals R and G is limited to 100 V by internal clamp.
- Note 6:** Use minimum #8 AWG green or bare conductor to connect NGR to ground.

# Protection Relays & Controls

## NGR SERIES – US

### Ordering Information

| PART NUMBER | LINE-LINE VOLTAGE (V) | LET-THROUGH CURRENT (A) | IMPEDANCE (OHMS) | TIME RATING | CURRENT TRANSFORMER | CT PRIMARY RATING (A) | CT SECONDARY RATING (A) | SENSING RESISTOR | ENCLOSURE                                   |
|-------------|-----------------------|-------------------------|------------------|-------------|---------------------|-----------------------|-------------------------|------------------|---------------------------------------------|
| NGRUS138    | 480                   | 2                       | 138              | Continuous  | CT200               | 200***                | 5.0                     | ER-600VC         | NEMA 3R                                     |
| NGRUS278    | 480                   | 2                       | 138              | Continuous  | CT200               | 200***                | 5.0                     | ER-600VC         | NEMA 3R; Weather Protected Sensing Resistor |
| NGRUS314    | 480                   | 2                       | 138              | Continuous  | ELCT5-31            | 5*                    | 0.05                    | ER-600VC         | NEMA 3R                                     |
| NGRUS315    | 480                   | 2                       | 138              | Continuous  | ELCT5-31            | 5*                    | 0.05                    | ER-600VC         | NEMA 3R; Weather Protected Sensing Resistor |
| NGRUS003    | 480                   | 5                       | 55.4             | Continuous  | CT200               | 200***                | 5.0                     | ER-600VC         | NEMA 3R                                     |
| NGRUS194    | 480                   | 5                       | 55.4             | Continuous  | CT200               | 200***                | 5.0                     | ER-600VC         | NEMA 3R; Weather Protected Sensing Resistor |
| NGRUS316    | 480                   | 5                       | 55.4             | Continuous  | ELCT5-31            | 5*                    | 0.05                    | ER-600VC         | NEMA 3R                                     |
| NGRUS317    | 480                   | 5                       | 55.4             | Continuous  | ELCT5-31            | 5*                    | 0.05                    | ER-600VC         | NEMA 3R; Weather Protected Sensing Resistor |
| NGRUS318    | 600                   | 2                       | 173.5            | Continuous  | ELCT5-31            | 5*                    | 0.05                    | ER-600VC         | NEMA 3R                                     |
| NGRUS319    | 600                   | 2                       | 173.5            | Continuous  | ELCT5-31            | 5*                    | 0.05                    | ER-600VC         | NEMA 3R; Weather Protected Sensing Resistor |
| NGRUS354    | 600                   | 2                       | 173.5            | Continuous  | CT200               | 200***                | 5.0                     | ER-600VC         | NEMA 3R                                     |
| NGRUS355    | 600                   | 2                       | 173.5            | Continuous  | CT200               | 200***                | 5.0                     | ER-600VC         | NEMA 3R; Weather Protected Sensing Resistor |
| NGRUS169    | 600                   | 5                       | 69.4             | Continuous  | CT200               | 200***                | 5.0                     | ER-600VC         | NEMA 3R                                     |
| NGRUS170    | 600                   | 5                       | 69.4             | Continuous  | CT200               | 200***                | 5.0                     | ER-600VC         | NEMA 3R; Weather Protected Sensing Resistor |
| NGRUS320    | 600                   | 5                       | 69.4             | Continuous  | ELCT5-31            | 5*                    | 0.05                    | ER-600VC         | NEMA 3R                                     |
| NGRUS321    | 600                   | 5                       | 69.4             | Continuous  | ELCT5-31            | 5*                    | 0.05                    | ER-600VC         | NEMA 3R; Weather Protected Sensing Resistor |
| NGRUS114    | 4160                  | 5                       | 480.9            | Continuous  | CT200               | 200***                | 5.0                     | ER-5KV           | NEMA 3R                                     |
| NGRUS115    | 4160                  | 5                       | 480.9            | Continuous  | CT200               | 200***                | 5.0                     | ER-5WP           | NEMA 3R; Weather Protected Sensing Resistor |
| NGRUS322    | 4160                  | 5                       | 480.9            | 10 s        | ELCT5-31            | 5*                    | 0.05                    | ER-5KV           | NEMA 3R                                     |
| NGRUS323    | 4160                  | 5                       | 480.9            | 10 s        | ELCT5-31            | 5*                    | 0.05                    | ER-5WP           | NEMA 3R; Weather Protected Sensing Resistor |
| NGRUS324    | 4160                  | 5                       | 480.9            | Continuous  | ELCT5-31            | 5*                    | 0.05                    | ER-5KV           | NEMA 3R                                     |
| NGRUS325    | 4160                  | 5                       | 480.9            | Continuous  | ELCT5-31            | 5*                    | 0.05                    | ER-5WP           | NEMA 3R; Weather Protected Sensing Resistor |
| NGRUS356    | 4160                  | 5                       | 480.9            | 10s         | CT200               | 200***                | 5.0                     | ER-5KV           | NEMA 3R                                     |
| NGRUS357    | 4160                  | 5                       | 480.9            | 10s         | CT200               | 200***                | 5.0                     | ER-5WP           | NEMA 3R; Weather Protected Sensing Resistor |
| NGRUS326    | 4160                  | 10                      | 240.5            | 10 s        | SE-CS10-2.5         | 10*                   | 0.05                    | ER-5KV           | NEMA 3R                                     |
| NGRUS327    | 4160                  | 10                      | 240.5            | 10 s        | SE-CS10-2.5         | 10*                   | 0.05                    | ER-5WP           | NEMA 3R; Weather Protected Sensing Resistor |

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### Ordering Information

| PART NUMBER | LINE-LINE VOLTAGE (V) | LET-THROUGH CURRENT (A) | IMPEDANCE (OHMS) | TIME RATING | CURRENT TRANSFORMER | CT PRIMARY RATING (A) | CT SECONDARY RATING (A) | SENSING RESISTOR | ENCLOSURE                                   |
|-------------|-----------------------|-------------------------|------------------|-------------|---------------------|-----------------------|-------------------------|------------------|---------------------------------------------|
| NGRUS328    | 4160                  | 10                      | 240.5            | Continuous  | SE-CS10-2.5         | 10*                   | 0.05                    | ER-5KV           | NEMA 3R                                     |
| NGRUS329    | 4160                  | 10                      | 240.5            | Continuous  | SE-CS10-2.5         | 10*                   | 0.05                    | ER-5WP           | NEMA 3R; Weather Protected Sensing Resistor |
| NGRUS358    | 4160                  | 10                      | 240.5            | 10s         | CT200               | 200***                | 5.0                     | ER-5KV           | NEMA 3R                                     |
| NGRUS359    | 4160                  | 10                      | 240.5            | 10s         | CT200               | 200***                | 5.0                     | ER-5WP           | NEMA 3R; Weather Protected Sensing Resistor |
| NGRUS360    | 4160                  | 10                      | 240.5            | Continuous  | CT200               | 200***                | 5.0                     | ER-5KV           | NEMA 3R                                     |
| NGRUS361    | 4160                  | 10                      | 240.5            | Continuous  | CT200               | 200***                | 5.0                     | ER-5WP           | NEMA 3R; Weather Protected Sensing Resistor |
| NGRUS330    | 4160                  | 15                      | 160.3            | 10 s        | SE-CS10-2.5         | 10*                   | 0.05                    | ER-5KV           | NEMA 3R                                     |
| NGRUS331    | 4160                  | 15                      | 160.3            | 10 s        | SE-CS10-2.5         | 10*                   | 0.05                    | ER-5WP           | NEMA 3R; Weather Protected Sensing Resistor |
| NGRUS332    | 4160                  | 15                      | 160.3            | Continuous  | SE-CS10-2.5         | 10*                   | 0.05                    | ER-5KV           | NEMA 3R                                     |
| NGRUS333    | 4160                  | 15                      | 160.3            | Continuous  | SE-CS10-2.5         | 10*                   | 0.05                    | ER-5WP           | NEMA 3R; Weather Protected Sensing Resistor |
| NGRUS362    | 4160                  | 15                      | 160.3            | 10s         | CT200               | 200***                | 5.0                     | ER-5KV           | NEMA 3R                                     |
| NGRUS363    | 4160                  | 15                      | 160.3            | 10s         | CT200               | 200***                | 5.0                     | ER-5WP           | NEMA 3R; Weather Protected Sensing Resistor |
| NGRUS364    | 4160                  | 15                      | 160.3            | Continuous  | CT200               | 200***                | 5.0                     | ER-5KV           | NEMA 3R                                     |
| NGRUS365    | 4160                  | 15                      | 160.3            | Continuous  | CT200               | 200***                | 5.0                     | ER-5WP           | NEMA 3R; Weather Protected Sensing Resistor |
| NGRUS244    | 4160                  | 25                      | 96.2             | 10s         | CT200               | 200***                | 5.0                     | ER-5KV           | NEMA 3R                                     |
| NGRUS334    | 4160                  | 25                      | 96.2             | 10 s        | 5SHT-101-E          | 20**                  | 1                       | ER-5KV           | NEMA 3R                                     |
| NGRUS335    | 4160                  | 25                      | 96.2             | 10 s        | 5SHT-101-E          | 20**                  | 1                       | ER-5WP           | NEMA 3R; Weather Protected Sensing Resistor |
| NGRUS336    | 4160                  | 25                      | 96.2             | Continuous  | 5SHT-101-E          | 20**                  | 1                       | ER-5KV           | NEMA 3R                                     |
| NGRUS337    | 4160                  | 25                      | 96.2             | Continuous  | 5SHT-101-E          | 20**                  | 1                       | ER-5WP           | NEMA 3R; Weather Protected Sensing Resistor |
| NGRUS366    | 4160                  | 25                      | 96.2             | 10s         | CT200               | 200***                | 5.0                     | ER-5WP           | NEMA 3R; Weather Protected Sensing Resistor |
| NGRUS367    | 4160                  | 25                      | 96.2             | Continuous  | CT200               | 200***                | 5.0                     | ER-5KV           | NEMA 3R                                     |
| NGRUS368    | 4160                  | 25                      | 96.2             | Continuous  | CT200               | 200***                | 5.0                     | ER-5WP           | NEMA 3R; Weather Protected Sensing Resistor |

\* Connect to SE-330 terminals 8 and 11

\*\* Connect to SE-330 terminals 9 and 11

\*\*\* Connect to SE-325 terminals CT1 and CT2

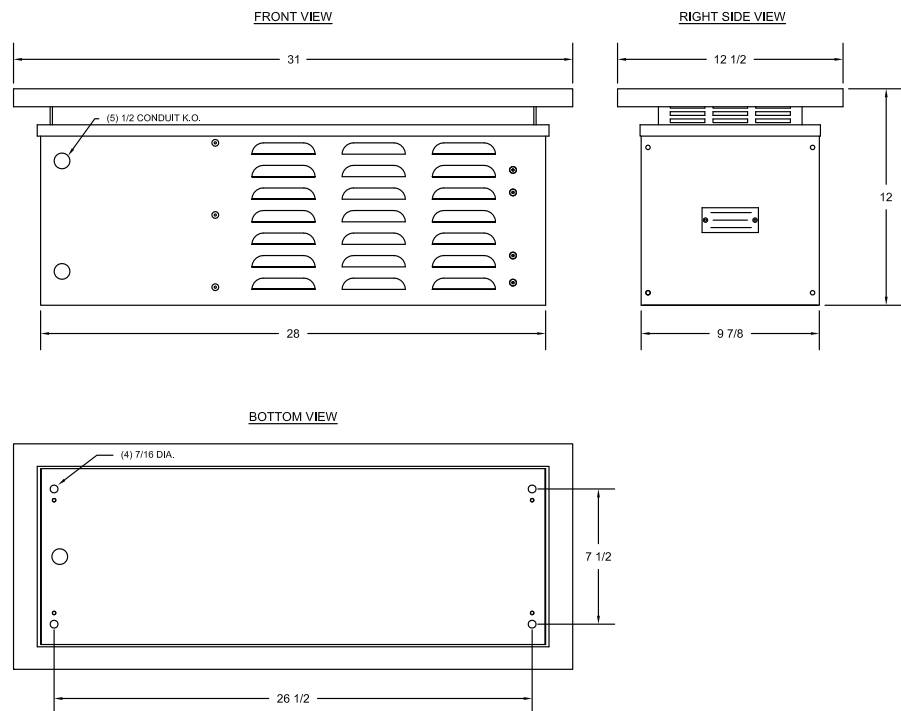
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## NGR SERIES – US

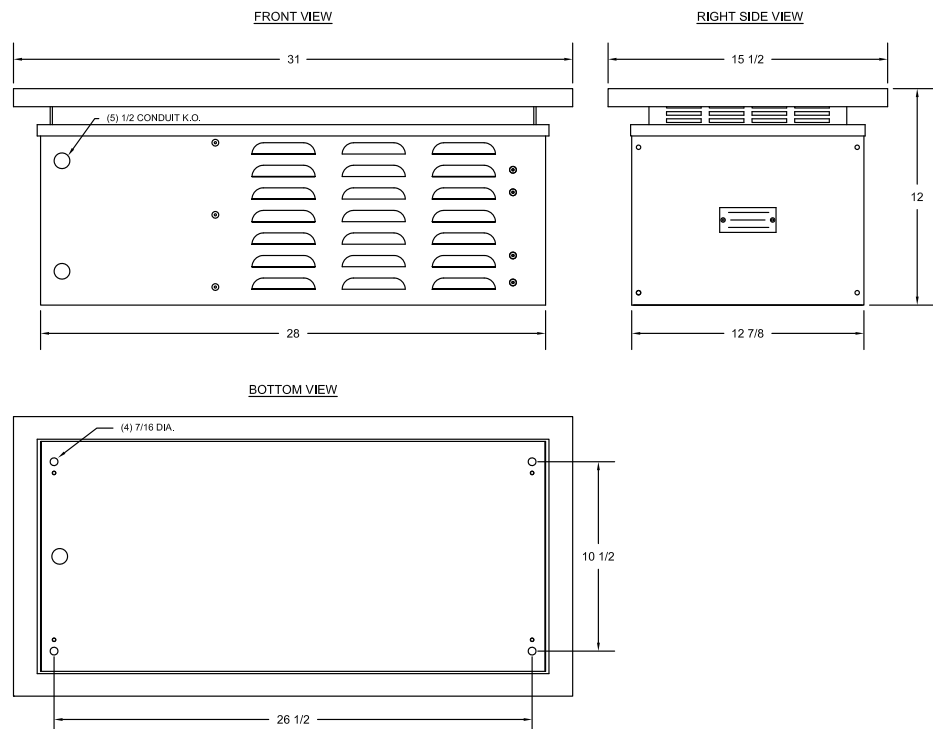
### Dimensions (in inches) and Mounting Diagrams

#### 480 V & 600 V NGR Systems:

- NGRUS314
- NGRUS316
- NGRUS318
- NGRUS320



- NGRUS315
- NGRUS317
- NGRUS319
- NGRUS321



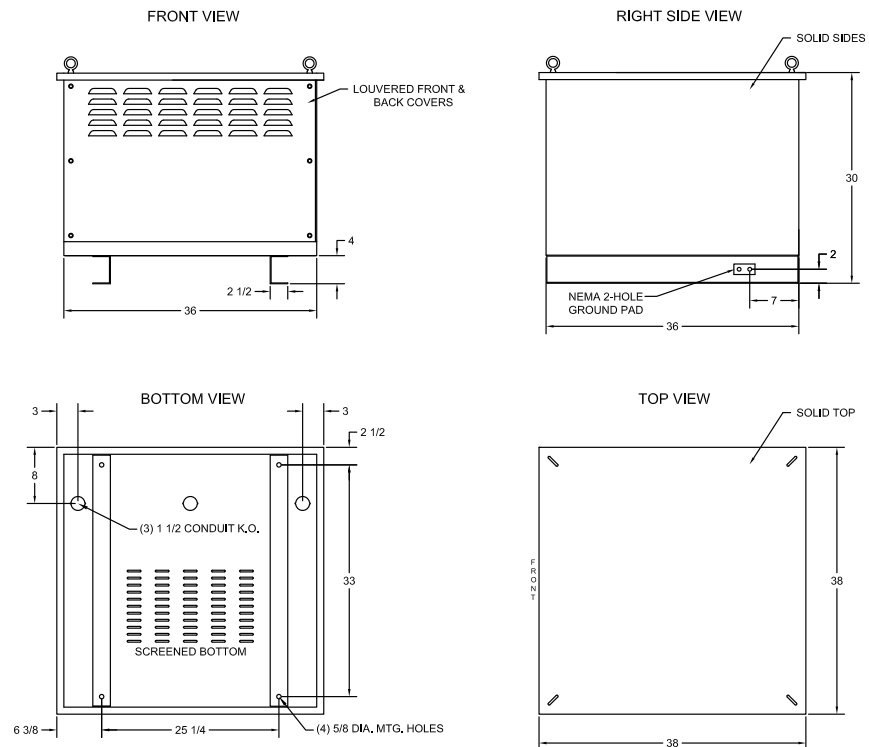
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## NGR SERIES – US

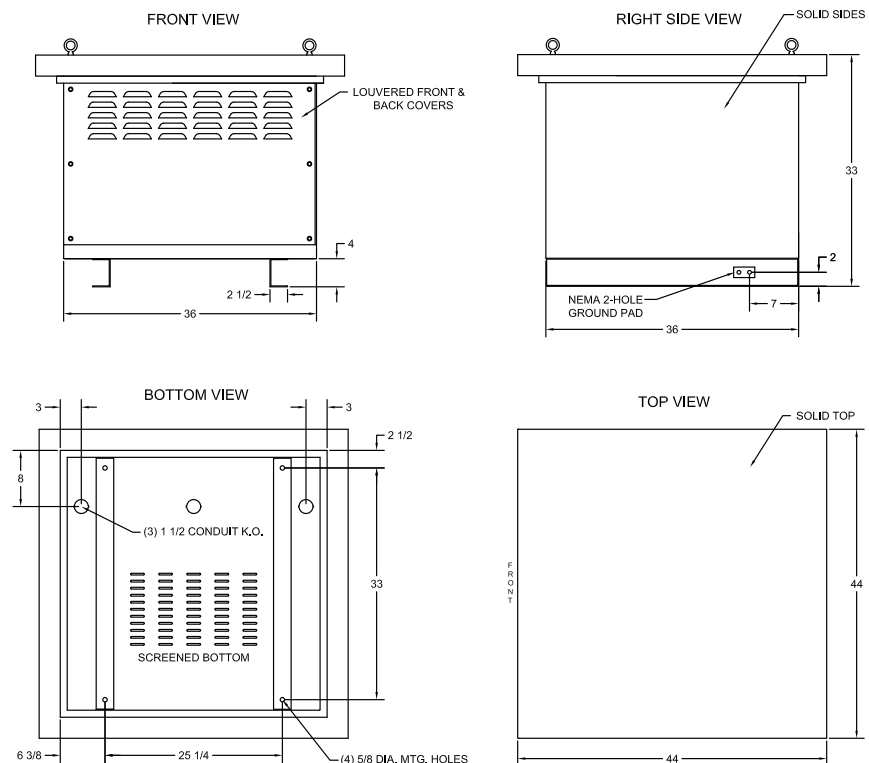
### Dimensions (in inches) and Mounting Diagrams

#### 4160 V NGR Systems:

- NGRUS322
- NGRUS323
- NGRUS326
- NGRUS327
- NGRUS330
- NGRUS331
- NGRUS344
- NGRUS345



- NGRUS324
- NGRUS325



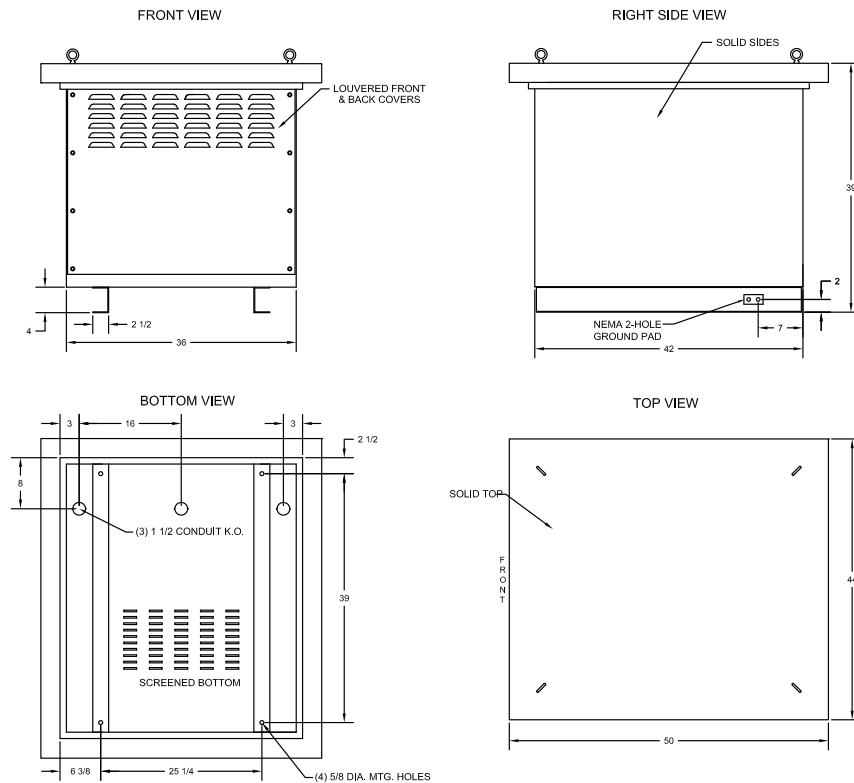
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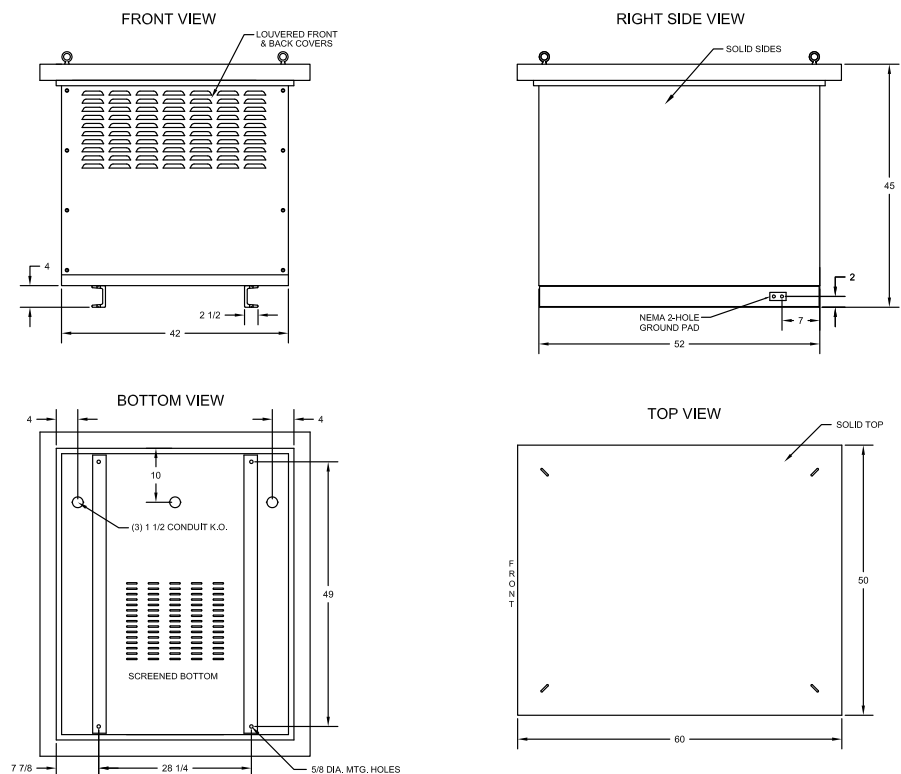
### Dimensions (in inches) and Mounting Diagrams

#### 4160 V NGR Systems:

- NGRUS328
- NGRUS329
- NGRUS332
- NGRUS333



- NGRUS336
- NGRUS337



# Protection Relays & Controls

## NGR SERIES – US

### Specifications: 480 V NGR Systems

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Voltage</b>             | 480 V line-to-line, 277 V line-to-neutral                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Let-Through Current</b> | 2 A or 5 A                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Resistance</b>          | 138.5 $\Omega$ (2 A) or 55.4 $\Omega$ (5 A)                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Tolerance</b>           | +/- 10 % resistance                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Duty Cycle</b>          | Continuous rated                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Current Transformer</b> | <b>ELCT5-31:</b><br>For use with SE-330 NGR Monitor<br>Turns Ratio: 100:1<br>Current Rating: 5:0.05 A<br>Primary Rating with SE-330: 5 A when connected to terminals 8 and 11<br>GF Trip Range: 100 mA to 5 A<br>Window Diameter: 31 mm (1.22")<br><b>CT200:</b><br>For use with SE-325 NGR Monitor<br>Turns Ratio: 200:5<br>Current Rating: 200:5 A<br>GF Trip Range: 0.5, 2.0, 4.0 A<br>Window Diameter: 56 mm (2.2") |
| <b>Sensing Resistor</b>    | ER-600VC; Optional installation in NEMA 4 enclosure for outdoor applications                                                                                                                                                                                                                                                                                                                                            |
| <b>Insulation Level</b>    | 11 KV BIL                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Temperature Rise</b>    | 385 °C (725 °F)                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Resistor Type</b>       | Stainless steel wire wound                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Dimensions</b>          | Refer to dimensions drawings                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Weight</b>              | 23 kg (50 lbs)                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Altitude</b>            | 0–2000 masl                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Enclosure Style</b>     | NEMA 3R, galvanized steel                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Finish</b>              | Powder coated                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Color</b>               | ANSI 61 grey                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Mounting</b>            | Floor mount                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Siesmic Bracing</b>     | Included                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Approvals</b>           | cULus or CSA at customer request                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Warranty</b>            | 12 months in service or 18 months from the date of shipment whichever occurs first                                                                                                                                                                                                                                                                                                                                      |

### Specifications: 600 V NGR Systems

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Voltage</b>             | 600 V line-to-line, 347 V line-to-neutral                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Let-Through Current</b> | 2 A or 5 A                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Resistance</b>          | 174 $\Omega$ (2 A) or 69 $\Omega$ (5 A)                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Tolerance</b>           | +/- 10 % resistance                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Duty Cycle</b>          | Continuous rated                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Frequency</b>           | 50–60 Hz                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Current Transformer</b> | <b>ELCT5-31:</b><br>For use with SE-330 NGR Monitor<br>Turns Ratio: 100:1<br>Current Rating: 5:0.05 A<br>Primary Rating with SE-330: 5 A when connected to terminals 8 and 11<br>GF Trip Range: 100 mA to 5 A<br>Window Diameter: 31 mm (1.22")<br><b>CT200:</b><br>For use with SE-325 NGR Monitor<br>Turns Ratio: 200:5<br>Current Rating: 200:5 A<br>GF Trip Range: 0.5, 2.0, 4.0 A<br>Window Diameter: 56 mm (2.2") |
| <b>Sensing Resistor</b>    | ER-600VC; Optional installation in NEMA 4 enclosure for outdoor applications                                                                                                                                                                                                                                                                                                                                            |
| <b>Insulation Level</b>    | 11 KV BIL                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Temperature Rise</b>    | 385 °C (725 °F)                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Resistor Type</b>       | Stainless steel wire wound                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Dimensions</b>          | Refer to dimensions drawings                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Weight</b>              | 23 kg (50 lbs)                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Altitude</b>            | 0–2000 masl                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Enclosure Style</b>     | NEMA 3R, galvanized steel                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Finish</b>              | Powder coated                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Color</b>               | ANSI 61 grey                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Mounting</b>            | Floor mount                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Siesmic Bracing</b>     | Included                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Approvals</b>           | cULus or CSA at customer request                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Warranty</b>            | 12 months in service or 18 months from the date of shipment whichever occurs first                                                                                                                                                                                                                                                                                                                                      |

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## NGR SERIES – US

### Specifications: 4160 V NGR Systems

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Voltage</b>             | 4160 V line-to-line, 2400 V line-to-neutral                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Let-Through Current</b> | 5 A, 10 A, 15 A, or 25 A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Resistance</b>          | 480 $\Omega$ (5 A), 240 $\Omega$ (10 A), 160 $\Omega$ (15 A), or 96 $\Omega$ (25 A)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Tolerance</b>           | +/- 10 % resistance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Duty Cycle</b>          | Continuous-duty or 10-second-duty rating                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Frequency</b>           | 50-60 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Current Transformer</b> | <b>ELCT5-31:</b><br>For use with SE-330 NGR Monitor<br>Turns Ratio: 100:1<br>Current Rating: 5:0.05 A<br>Primary Rating with SE-330: 5 A when connected to terminals 8 and 11<br>GF Trip Range: 100 mA to 5 A<br>Window Diameter: 31 mm (1.22")<br><b>SE-CS10-2.5:</b><br>For use with SE-330 NGR Monitor<br>Turns Ratio: 200:1<br>Current Rating: 12.5:0.0625 A<br>Primary Rating with SE-330: 10 A when connected to terminals 8 and 11<br>GF Trip Range: 200 mA to 10 A<br>Window Diameter: 63.5 mm (2.5")<br>Turns Ratio: 100:5<br>Current Rating: 100:5 A<br>Primary Rating with SE-330: 20 A when connected to terminals 9 and 11<br>GF Trip Range: 400 mA to 20 A<br>Window Diameter: 40 mm (1.56")<br><b>CT200:</b><br>For use with SE-325 NGR Monitor<br>Turns Ratio: 200:5<br>Current Rating: 200:5 A<br>GF Trip Range: 0.5, 2.0, 4.0 A<br>Window Diameter: 56 mm (2.2")<br><b>Sensing Resistor</b><br>ER-5KV<br>Optional ER-5WP for outdoor applications<br><b>Insulation Level</b><br>75 KV BIL<br><b>Temperature Rise</b><br>Continuous-duty rated: 385 °C (725 °F)<br>10-second-duty rated: 760 °C (1400 °F)<br><b>Resistor Type</b><br>Stainless Steel Wire Wound<br><b>Dimensions</b><br>Refer to dimensions drawings |

|                                     |                  |
|-------------------------------------|------------------|
| <b>Weights</b>                      |                  |
| <b>5 A, continuous-duty rated:</b>  | 192 kg (424 lbs) |
| <b>10 A, continuous-duty rated:</b> | 235 kg (519 lbs) |
| <b>15 A, continuous-duty rated:</b> | 258 kg (568 lbs) |
| <b>25 A, continuous-duty rated:</b> | 320 kg (705 lbs) |

|                                    |                                                                                     |
|------------------------------------|-------------------------------------------------------------------------------------|
| <b>5 A, 10-second-duty rated:</b>  | 136 kg (300 lbs)                                                                    |
| <b>10 A, 10-second-duty rated:</b> | 136 kg (300 lbs)                                                                    |
| <b>15 A, 10-second-duty rated:</b> | 136 kg (300 lbs)                                                                    |
| <b>25 A, 10-second-duty rated:</b> | 136 kg (300 lbs)                                                                    |
| <b>Altitude</b>                    | 0-1000 masl                                                                         |
| <b>Enclosure Style</b>             | NEMA 3R, galvanized steel                                                           |
| <b>Finish</b>                      | Powder coated                                                                       |
| <b>Color</b>                       | ANSI 61 grey                                                                        |
| <b>Mounting</b>                    | Floor mount                                                                         |
| <b>Siesmic Bracing</b>             | Included                                                                            |
| <b>Approvals</b>                   | cULus or CSA at customer request                                                    |
| <b>Warranty</b>                    | 12 months in service or 18 months from the date of shipment, whichever occurs first |

### Accessories



#### SE-325 Neutral Grounding Resistor Monitor

Basic ground-fault and neutral-grounding resistor monitoring relay that measures neutral current, neutral-to-ground voltage, and neutral-to-ground continuity.



#### SE-330 Neutral Grounding Resistor Monitor

Advanced ground-fault and neutral-grounding resistor monitoring relay that measures neutral current, neutral-to-ground voltage, and neutral-to-ground resistance.



#### NGRM-ENC Enclosed Neutral Grounding Resistor (NGR) Monitor

Type 4X enclosure housing a Littelfuse Startco SE-325 or SE-330 Neutral Grounding Resistor Monitor and optional accessories that include a 480/600 V control power transformer (CPT), faulted-phase indication (FPI; implemented with an EL3100 Ground-Fault & Phase-Voltage Indicator), earth-leakage panel meter, pulse-enable control, and mounting options. Appropriate fusing is included and field wiring is to terminal blocks.

### Custom NGR Systems

Additional custom NGR systems are also available from Littelfuse. For NGR systems not listed on this sheet please contact Littelfuse by emailing [NGRquotes@Littelfuse.com](mailto:NGRquotes@Littelfuse.com)

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