

**RESISTANCE GROUNDING AND NGR MONITORING**

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**SE-325 (PGM-8325) Neutral-Grounding-Resistor Monitor**



**Description**

The SE-325 Neutral-Grounding-Resistor Monitor is used on resistance-grounded systems up to 25 kVac to monitor the integrity of the neutral-to-ground path for loose connection, corrosion, and ground faults.

**Features/Benefits**

- Adjustable ground-fault detection
- Adjustable time-delay settings
- Selectable fail-safe mode
- Conformally coated circuit boards

**Specifications**

**IEEE Device Numbers** 50G/N, 51G/N, 59N, 86, 3  
**Dimensions** **H** 150 mm (5.9")  
**W** 109 mm (4.3")  
**D** 100 mm (4.0")  
**Warranty** 5 Year

**Web Resources**

[littelfuse.com/se-325](http://littelfuse.com/se-325)

ORDERING NUMBER	SPECIFICATIONS	ACCESSORIES
SE-325	120 Vac	CT200 Series Current Transformers ER Series Sensing Resistors
SE-325D	120 Vdc	
SE-325E	240 Vac	

**SE-330AU Neutral-Grounding-Resistor Monitor**



**Description**

An advanced ground-fault and ground-resistor monitoring relay for low and medium-voltage transformers and generators. The SE-330AU complies with AS/NZS 2081.3:2002.

**Features/Benefits**

- Continuous NGR monitoring
- Detect ground-fault anywhere on monitored system
- Adjustable pickup settings
- Adjustable time delay settings

**Specifications**

**Dimensions** **H** 213 mm (8.4")  
**W** 98 mm (3.9")  
**D** 132 mm (5.2")  
**Communications** RS-232; DeviceNet™, Profibus®, Ethernet  
**Warranty** 5 Year

**Web Resources**

[littelfuse.com/se-330au](http://littelfuse.com/se-330au)

ORDERING NUMBER	POWER SUPPLY	COMM			K4 UNIT HEALTHY CONTACT	
SE-330AU	-	X	X	-	0	X
SE-330AU for all apps. 35 kV or less	0=120/240 Vac/Vdc	0=USB Only 1=DeviceNet 3=EtherNet (Dual RJ45) 4=EtherNet (SC Fiber & RJ45) 5=EtherNet (Dual SC Fiber) 6=IEC61850 (Dual RJ45) 7=IEC61850 (SC Fiber & RJ45) 8=IEC61850 (Dual SC Fiber)				0=Normally Open 1=Normally Closed
SE-330HV for 72 kV apps.	2=48 Vdc					

**SE-330 (PGR-5330), SE-330HV Neutral-Grounding-Resistor Monitor**



**Description**

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

**Features/Benefits**

- Continuous NGR monitoring
- Detect ground-fault on monitored system
- Adjustable pickup (2-100%)
- Adjustable time delay (0.1 - 10s)

**Specifications**

**IEEE Device Numbers** 50G/N, 51G/N, 59N, 3, 86  
**Dimensions** **H** 213 mm (8.4")  
**W** 98 mm (3.9")  
**D** 132 mm (5.2")  
**Warranty** 5 Year

**Warranty**

**Web Resources**

[littelfuse.com/se-330](http://littelfuse.com/se-330)

ORDERING NUMBER	POWER SUPPLY	COMM	CERTIFICATION	K4 UNIT HEALTHY CONTACT
SE-330	-	X	X	X
SE-330 for all apps. 35 kV or less	0=120/240 Vac/Vdc	0=RS-232 1=RS-232 & DeviceNet™ 2=RS-232 & Profibus®(1) 3=RS-232 & EtherNet/IP™ & Modbus®TCP	0=CSA, UL 1=CSA, UL, CE, C-Tick	0=Normally Open 1=Normally Closed
SE-330HV for 72 kV apps.	2=48 Vdc			

# RESISTANCE GROUNDING AND NGR MONITORING

## NGR Series Neutral-Grounding-Resistor System



Neutral-Grounding Resistors (NGRs) are used to ground power systems by inserting a resistor between the system neutral and ground. This lowers the prospective ground-fault current to a predetermined value.

A properly designed resistance-grounded system provides benefits over both ungrounded and solidly grounded systems. Because the system is grounded, transient overvoltages do not occur and ground-fault current can flow, allowing it to be detected and measured. Also, because a resistor is used to ground the system, the very large and destructive ground-fault currents of solidly grounded systems are absent. Ground-fault relays (such as the SE-701) can be used on feeders to provide selective coordination and the ability to quickly locate or isolate the fault.

### Web Resources

For more information on Resistance Grounding Systems, visit [littelfuse.com/NGR](http://littelfuse.com/NGR)

	SYSTEM LINE-NEUTRAL VOLTAGE		NGR CURRENT		DUTY CYCLE		DRAWING NUMBER		MONITORING COMPONENTS IN LOSURE			OTHER OPTIONS		ENCLOSURE STYLE
NGR	X	-	X	-	X	-	XXXX-RX	-	X	X	-	X	-	X
	277, 347,...44000		AMPERES		C = continuous		Assigned by factory		ER/ = Includes Sensing Resistor	CT = CT200		ZZ = Zigzag transformer (Note: may be in separate N3R enclosure)		N3R = Galvanized NEMA 3R
				10 = 10 seconds		Blank = No Sensing Resistor		E1 = EFCT-1		N3RSS = Stainless Steel NEMA 3R				
				30 = 30 seconds				E26 = EFCT-26						
				60 = 60 seconds				C26 = SE-CS30-26						
									C70 = SE-CS30-70					
									Contact factory for other choices.					
													Blank = None	
													OPEN = None	

Note: Order SE-325, SE-330, and SE-701 separately.

## PGN-Series Pulsing High-Resistance Grounding System



The PGN Pulsing High-Resistance-Grounding Systems are used to ground power systems by inserting a resistor between system neutral and ground to lower the ground-fault current to a predetermined value.

Properly sized Resistance Grounding Systems solve two problems of ungrounded systems—transient overvoltages and the difficulty of locating ground faults. They also significantly reduce damage caused by ground faults on solidly grounded systems. The current limitation eliminates the Arc-Flash Hazards associated with the first ground fault. The hazards associated with phase-to-phase electrical faults must still be mitigated by using current-limiting fuses and other methods. High-Resistance Grounding Systems include all necessary components to convert to a resistance grounded system.

Options include a pulsing circuit and SE-701 Ground-Fault Monitors to provide a method for locating ground faults.

### Web Resources

For more information on Resistance Grounding Systems, visit [littelfuse.com/pgn-3000](http://littelfuse.com/pgn-3000)