# **Protection Relays & Controls**

Neutral-Earthing-Resistor Monitoring



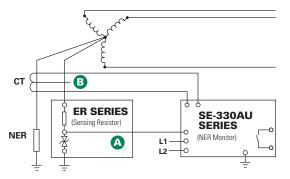
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# SE-330AU SERIES

### Neutral-Earthing-Resistor Monitor - New Revision



## **Simplified Circuit Diagram**



# **Ordering Information**

	ORDERING NUMBER		POWER SUPPLY	СОММ			K4 UNIT HEALTHY CONTACT
	SE-330AU	-	Х	Х	-	0	Х
	SE-330AU for all apps. 35 kV or less SE-330HV for 72 kV apps.		0=120/240 Vac/Vdc 2=48 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

ACCESSORIES	REQUIREMENT		
ER Series Sensing Resistor	Required		
Current Transformer	Required		
SE-IP65CVR-G	Optional		
SE-MRE-600	Optional		
RK-332	Optional		

#### Description

The SE-330AU is an advanced earth-fault and earthing-resistor monitoring relay for low- and medium-voltage transformers and generators. It monitors neutral current, neutral-to-earth voltage, and neutral-to-earth resistance. It provides continuous monitoring of the neutral-to-earth path to verify that the neutralearthing resistor (NER) is intact. This is of utmost importance an open NER renders current-sensing earth-fault protection inoperative and could result in a false belief that the system is functioning properly. The SE-330AU earth-fault function complies with AS/NZS 2081.3:2002. Outputs include four relay outputs, and an analog output. A mini USB port is included to view measured values, configure settings, and check event records. An on-board micro SD card can be used for long-term data logging. Network communications options are available. For non-AS/NZS 2081 applications, see the SE-330 or SE-330HV.

### **Resistor Monitoring**

The SE-330AU combines the measured values of resistance, current, and voltage to continuously determine that the NER is intact. It is able to detect a resistor failure with or without an earth fault present. Sensing resistors are matched to the system voltage and are used to monitor NGRs on systems up to 35 kV.

# **Earth-Fault Monitoring**

The SE-330AU uses a 5- or 30-A-primary current transformer to provide a pickup-setting range of 0.125 to 5 A or 0.75 to 30 A to comply with AS/NZS 2081.3:2002. DFT filtering ensures that false trips due to harmonic noise from adjustable-speed drives do not occur. Open-CT detection is provided.

### Accessories



#### **ER Series Sensing Resistor**

Required interface between the power system and the SE-330AU. Eliminates hazardous voltage levels at the relay.



EFCT Series Earth-Fault Current Transformer

Sensitive earth-fault current detection (5 A primary).

**SE-CS30 Series Earth-Fault Current Transformer** Sensitive earth-fault current detection (30 A primary).

### Specifications

Input Voltage Dimensions GF Trip-Level Settings GF Trip-Time Settings Vn Trip-Level Settings

Output Contacts Operating Mode Harmonic Filtering Reset Approvals Communications

Analog Output Conformal Coating Warranty Mounting

See ordering information H 213 mm (8.4"), W 98 mm (3.9"), D 132 mm (5.2") 0.125 to 30 A 0.1 to 0.5 s 20-2,000 Vac (≤5 kV systems) 100-10,000 Vac (>5 kV systems) Two Form A, Two Form C Fail-Safe Standard feature Front panel push button and remote input C-Tick (Australian), CE Mini USB (standard); DeviceNet (optional), IEC 61850 (optional), Modbus TCP and EtherNet/IP (optional) 4-20 mA, self or loop powered Standard feature 5 years Panel, Surface (optional)

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