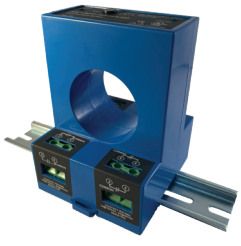
Ground Fault Relay Selection Guide

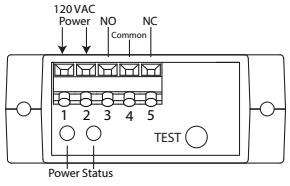
See Shunt Trip Breaker Options »»
See Additional Resources & Downloads »»

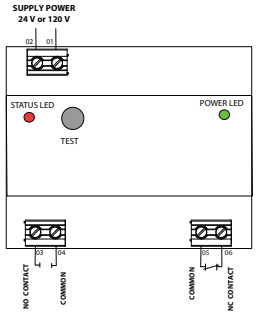
Branch Circuit Specifications & Details					Recommendation for all appliances	
Breaker Rating[1]	Wire Size[2] AWG	Corrected[3] Conductor Amperage Capacity (A)	Calculated Wire Bundle Diameter[4]	Branch Circuit Configuration[5]	AGU1-SDT-120-DEN-005-FL	AGL1-SDT1-120-DEN-005
30 A	10	36	0.353	3 Phase, Delta, up to 480 V (3+1)	X	
	10	29	0.396	3 Phase, Wye, up to 480 V (4+1)	X	
	10	36	0.328	1 Phase, up to 240 V (2+1)	X	
40A	8	50	0.474	3 Phase, Delta, up to 480 V (3+1)	X	
	8	40	0.531	3 Phase, Wye, up to 480 V (4+1)	X	
	8	50	0.440	1 Phase, up to 240 V (2+1)	X	
50A	8	50	0.474	3 Phase, Delta, up to 480 V (3+1)	X	
	6	55	0.618	3 Phase, Wye, up to 480 V (4+1)	X	
	8	50	0.440	1 Phase, up to 240 V (2+1)	X	
60A	6	68	0.552	3 Phase, Delta, up to 480 V (3+1)	X	
	4	69	0.785	3 Phase, Wye, up to 480 V (4+1)		X
	6	68	0.512	1 Phase, up to 240 V (2+1)	X	
80A	4	86	0.700	3 Phase, Delta, up to 480 V (3+1)		X
	3	84	0.852	3 Phase, Wye, up to 480 V (4+1)		X
	4	86	0.650	1 Phase, up to 240 V (2+1)	X	
90A	3	105	0.761	3 Phase, Delta, up to 480 V (3+1)		X
	2	95	0.932	3 Phase, Wye, up to 480 V (4+1)		X
	3	105	0.706	1 Phase, up to 240 V (2+1)	X	
100A	3	105	0.761	3 Phase, Delta, up to 480 V (3+1)		X
	1	106	1.168	3 Phase, Wye, up to 480 V (4+1)		X
	3	105	0.706	1 Phase, up to 240 V (2+1)	X	

Note(s)

1. Ground fault relay recommendations based on mating with a shunt trip breaker only
2. Wire type: CU | THHN
3. Corrected conductor amperage capacity @ +40°C ambient temperature and as required correction factor for more than 3 conductors in raceway, reference NEC Tables: 310.15(B)(1), 310.15(C)(1) & 310.16
4. Reference How to Calculate Wire Bundle Diameter Application Note
5. Configurations: Live Wire & Neutral plus Ground (2+1). 3-wire Delta plus Ground (3+1). 4-wire Wye plus Ground (4+1)







AC Ground Fault Relay Relevant Features and Options

A properly configured NK Technologies AC ground fault relay will trip in the range of 4 mA to 6 mA and trips within an established period-of-time, meeting the intent of the 2020 & 2023 National Electric Code.

Standard features:

- Manual ground fault push-to test.
- Two visual indicators: power status and ground fault trip status.
- Normally Open/Normally Closed mechanical relay outputs.

User selectable output options (available choices vary by model):

- Normally energized or normally de-energized contacts.

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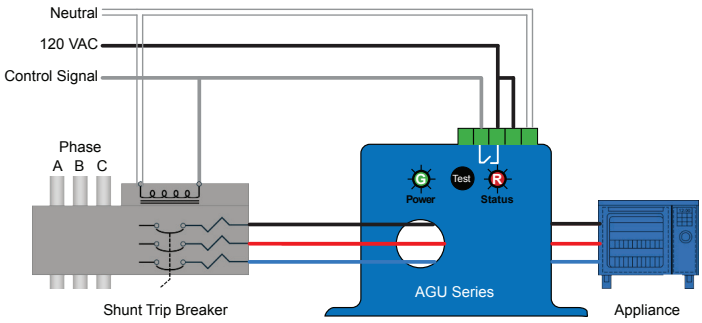
Shunt Trip Breaker Options

See Ground Fault Relay Selection Guide »»
See Additional Resources & Downloads »»

A Shunt Trip Breaker is required along with a NK Technologies AGU or AGL Ground Fault Relay to complete a 5mA Ground Fault Interrupter Solution. NK Technologies does not sell Shunt Trip Breakers. To make it easier for you to complete your solution, see the table below showing the correct part number for many of the leading Shunt Trip Breaker manufacturers.

If you need technical assistance contact our Engineers by Phone or Email.



MFR	# Poles	Voltage	Amperage	MPN (10K AIC)
ABB (GE)	3	120/240	20	THQL32020ST1
			30	THQL32030ST1
			40	THQL32040ST1
			50	THQL32050ST1
			60	THQL32060ST1
			100	THQL32100ST1
	2		20	THQL2120ST1
			30	THQL2130ST1
			35	THQL2135ST1
			40	THQL2140ST1
			50	THQL2150ST1
			60	THQL2160ST1
			100	THQL21100ST1
Eaton (Cutler-Hammer)	3	120/240	10	CHP310ST*
			15	CHP315ST*
			20	CHP320ST*
			25	CHP325ST*
			30	CHP330ST*
			35	CHP335ST*
			40	CHP340ST*
			45	CHP345ST*
			50	CHP350ST*
			60	CHP360ST*
	2		10	CHP210ST*
			15	CHP215ST*
			20	CHP220ST*
			25	CHP225ST*
			30	CHP230ST*
			35	CHP235ST*
			40	CHP240ST*
			45	CHP245ST*
			50	CHP250ST*
			60	CHP260ST*

MFR	# Poles	Voltage	Amperage	MPN (10K AIC)
Siemens	3	120/240	15	Q31500S01
			25	Q32500S01
			30	Q33000S01
			35	Q33500S01
			45	Q34500S01
			50	Q35000S01
			60	Q36000S01
			70	Q37000S01
			80	Q38000S01
			90	Q39000S01
	2		20	Q22000S01
			25	Q22500S01
			30	Q23500S01
			35	Q23500S01
			40	Q24000S01
			45	Q24500S01
			50	Q25000S01
			60	Q26000S01
Square D	3	120/240	15	QOU3151021
			20	QOU3201021
			30	QOU3301021
			40	QOU3401021
			50	QOU3501021
			60	QOU3601021
			70	QOU3701042
			80	QOU3801042
			100	QOU31001042
	2		20	QOU2201021
			25	QOU2251042
			30	QOU2301021
			40	QOU2401021
			50	QOU2501021
			60	QOU2601021

* If you prefer a CH, simply replace the CHP in the model number.

APPLICATION NOTE

5 mA Ground Fault Circuit Interrupter Solutions for Single or Three Phase Circuits up to 100 Amps

See Ground Fault Relay Selection Guide »»
See Shunt Trip Breaker Options »»

Cost Effective, Readily Available, Designed and Assembled in the USA

NK Technologies 5 mA Ground Fault Circuit Interrupter Solution Benefits

- Meets intent of 2020 & 2023 NEC 210.8 defined term ground fault circuit interrupter.
- Compact relay size allows for multiple mounting opportunities anywhere from the breaker to the appliance.
- Inventory and unrivaled in-house expertise within the USA.
- When you call, chat or email our application support team will answer promptly.
- Industry leading 5-year warranty.

For Resources & Downloads:

Go To Commercial Facilities Overview »»

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