169/269 to 369 Replacement

Replace the 169/269 Motor Management Relay with the 369 Motor Protection System

Similar Protection Features with Newer, More Advanced Hardware, and Feature Set

KEY BENEFITS

Take advantage of the following additional values you obtain by upgrading to the 369 Motor Management System:

- Same dimensions and cut-out as 169 and 269 Plus relays
- Unique and advanced protection features - Back-spin detection, advanced thermal model including multiple RTD inputs for stator thermal protection
- Complete asset monitoring - stator, bearing & ambient temperature, optional full metering including demand & energy
- Reduce troubleshooting time and maintenance costs -Event reports, waveform capture, data logger
- Multiple communication protocols - Modbus RTU, Profibus, Device Net
- Optional embedded Ethernet and Profibus Ports.
- Flash memory for product field upgrade
- New improved conformal coating for harsh (chemical) environments
- Suitable for hazardous locations - Underwriters Laboratory certification for Class 1 Division 2 applications

NEW APPLICATIONS

- "Down Hole" pump applications

FEATURES

- Incorporates protection, control and metering in one platform
- Local and remote user interfaces

Additional Protection and Control Functions

- Undervoltage, overvoltage
- Underfrequency

Inputs and Outputs

- 12 programmable RTD inputs
- Assignable digital inputs
- 4 programmable analog outputs

Note: *For more details on the 369 Motor Management System, visit GE Multilin's web site at www.GEMultilin.com where you can download the product brochure, installation and instruction manual, and more details about EnerVista suite of setup and monitoring software tools.*

- Diagnostic features - event recording, oscillography and data logging

Monitoring and Metering

- Full metering: A V W var VA PF Hz Wh varh demand
- Fault diagnosis
- Event record
- Voltage/frequency/power display (M)
- 4 analog outputs (M)
- Oscillography & Data Logger

User Interface

- Front Panel 10 LEDs, key pad, and backlit LCD display
- RS232, and RS485 ports - up to 19,200 bps
- Optional embedded Ethernet port - NEW Ethernet port
- Optional Profibus Protocol via dedicated port
- ModBus™ RTU over TCP/IP Protocol with Ethernet port
- Optional Device Net Protocol

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169/269 vs 369 Feature Comparison

	Description	DEVICE	169-Plus	269-Plus	369-Basic	369+RTD	369+Meter	369+RTD+Meter	369-Full
Protection	Differential	87	Digital Input	Digital Input	Digital Input	Digital Input	Digital Input	Digital Input	Digital Input
	Breaker Failure	50BF			•	•	•	•	•
	Thermal Model		•	•	•	•	•	•	•
	Custom programmable overload curves		•	•	•	•	•	•	•
	IOC, Phase	50P	•	•	•	•	•	•	•
	Multiple IOC Ground	50G-2	•	•	•	•	•	•	•
	IOC, Ground	50G	•	•	•	•	•	•	•
	IOC, Sensitive Ground	50SG	•	•	•	•	•	•	•
	Locked Rotor	48	•	•	•	•	•	•	•
	Jam Protection	51R	•	•	•	•	•	•	•
	Stall Protection		•	•	•	•	•	•	•
	Phase Overvoltage	59P					•	•	•
	Phase Undervoltage	27P		Optional			•	•	•
	Under/Overfrequency	81U/O					•	•	•
	Lockout Functionality	86	Optional	Optional	•	•	•	•	•
	Jogging	66	•	•	•	•	•	•	•
	Undercurrent/Underpower	37	•	•			•	•	•
	Current Unbalance	46	•	•	•	•	•	•	•
	Stator RTD	49	•	•		•		•	•
	Bearing RTD	38	•	•		•		•	•
	Phase Reversal	47	•	•			•	•	•
	Frequency	81		Optional			•	•	•
	Power Factor	55		Optional			•	•	•
	Reduced Voltage Start	19		•	•	•	•	•	•
	Incomplete Sequence	48	•	•	•	•	•	•	•
	Speed Switch	14	•	•	•	•	•	•	•
	Reverse Power	32					•	•	•
	Reactive Overpower						•	•	•
	Remote Start/Stop via Communications				•	•	•	•	•
	Back-spin Detection								•
	Back-spin Timer			•	•	•	•	•	•
	Start Inhibit		•	•	•	•	•	•	•
	Emergency Start		•	•	•	•	•	•	•
	Learned motor data		•	•	•	•	•	•	•
Control	Drawout Construction		Optional	Optional					
	Remote Display		Optional	Optional	•	•	•	•	•
	Power Supply,		AC/DC	AC/DC	AC/DC	AC/DC	AC/DC	AC/DC	AC/DC
	CT Inputs		5/1 A	5/1 A	5/1 A	5/1 A	5/1 A	5/1 A	5/1 A
	Self-Test Failure Contact		•	•	•	•	•	•	•
	Settings Groups		1	1	1	1	1	1	1
	Flash Memory				•	•	•	•	•
	Contact Inputs		5	5	5	5	5	5	5
	User-Programmable Digital Inputs			1	1	1	1	1	1
	Contact Outputs (Fixed)		4	2	2	2	2	2	2
	Contact Outputs (Programmable)			2	2	2	2	2	2
	VFD/LCD Display		•	•	•	•	•	•	•
	User-Definable Displays				•	•	•	•	•
	Keypad		•	•	•	•	•	•	•
	Breaker Control				•	•	•	•	•
	Digital Counters				•	•	•	•	•
	Analog Outputs		1	1			4	4	4
	Remote RTDs							•	•
	RTD Inputs		10	10		12		12	12
Monitoring/Metering	Power Factor			Optional			•	•	•
	Thermal Capacity Used		•	•	•	•	•	•	•
	Current - RMS		•	•	•	•	•	•	•
	Current - Phasor				•	•	•	•	•
	Current - Demand				•	•	•	•	•
	Current - Unbalance		•	•	•	•	•	•	•
	Current - Ground Leakage		•	•	•	•	•	•	•
	Voltage - RMS			Optional			•	•	•
	Voltage - Phasor						•	•	•
	Power - Apparent, Real, Reactive			Optional			•	•	•
	MW, MVA, Mvar Demand						•	•	•
	Energy			Optional			•	•	•
	Frequency			Optional			•	•	•
	Temperature		•	•		•		•	•
	Fault Report/Trip Data		•	•	•	•	•	•	•
	Event Recorder - Number of Events				250	250	250	250	250
	Event Recorder - Time resolution				1ms	1ms	1ms	1ms	1ms
	Oscillography - Cycles				64	64	64	64	64
	Sampling Rate		12	12	16	16	16	16	16
	Trip Counters		•	•	•	•	•	•	•
	Data Logger				•	•	•	•	•
E/M	Operating Temperature Range - Minimum °C		-10	-10	-40	-40	-40	-40	-40
	Operating Temperature Range - Maximum °C		60	60	60	60	60	60	60
Communications	Interface Program			•	•	•	•	•	•
	RS232 Port				•	•	•	•	•
	RS485 Port		•	•	•	•	•	•	•
	RS422 Port		Optional	Optional					
	Ethernet Communications								•
	Fiber Optic Port								•
	ModBus Protocol		•	•	•	•	•	•	•
	ModBus User Map				•	•	•	•	•
	Profibus Port								•
	Device Net								•
	TCP/IP								•

Note: See 369 Motor Protection System for complete information.