269/269Plus * * * * * *					
269/269Plus	Motor management relay				
SV	Standard version				
D/O	Drawout version				
	Phase CT [1]	**Ground CT**	(required for D/O only)		
1	:5	2000:1			
2	:5	:5			
3	:1	2000:1			
4	:1	:5			
	Relay Failsafe Code [2]	(required for D/O only)			
	Trip	Alarm	Aux1	Aux 2	
1	FS	NFS	NFS	FS	
2	NFS	FS	NFS	FS	
3	FS	FS	NFS	FS	
4	NFS	NFS	FS	FS	
5	FS	NFS	FS	FS	
6	NFS	FS	FS	FS	
7	FS	FS	FS	FS	
8	NFS	NFS	NFS	FS	
	Relay contact arrangement [3]	(required for D/O only)			
	Alarm	Aux1	Aux2		
1	N.O.	N.O.	N.O.		
2	N.O.	N.O.	N.C.		
3	N.O.	N.C.	N.O.		
4	N.O.	N.C.	N.C.		
5	N.C.	N.O.	N.O.		
6	N.C.	N.O.	N.C.		
7	N.C.	N.C.	N.O.		
8	N.C.	N.C.	N.C.		
100P	100 Ohm Platinum RTD				
10C	10 Ohm Copper RTD				
100N	100 Ohm Nickel RTD				
120N	120 Ohm Nickel RTD				
HI	90 to 300 V DC / 80 to 265 V AC control voltage				
LO	20 to 60 V DC / 20 to 48 V AC control voltage				

1. For CT ratings greater than 1500:5, consult the factory.

2. FS = Fail safe: A fail safe relay is one that changes state when control power is applied to the 269/269Plus.
   NFS = Non fail safe: A non fail safe relay is one that remains on its shelf state when control power is applied to the 269/269Plus.

3. N.O. and N.C. are defined as open and closed contacts of an output relay with control power applied to the 269/269Plus and no trips or alarms present.

EXAMPLE:
For a 269Plus with options: 269PLUS-SV-100P-HI
For a 269 Drawout with options: 269-D/O-3-4-7-100P-HI

The 269 Plus relay is almost entirely field programmable. The information shown above must be specified when the relay is ordered, as these options are not selectable in the field. Additional features can be made available on special order by contacting GE Multilin.

*** CT information, failsafe code, and contact arrangement must be specified for drawout relays only; on standard 269 Plus models these features are field selectable.**

**** See Glossary for definitions**

1

PHASE CURRENT INPUTS

conversion:	calibrated RMS, sample time 2 ms
range:	0.05 to 12 × phase CT primary amps setpoint
full scale:	12 × phase CT primary amps setpoint
accuracy:	±0.5% of full scale (0.05 to 2 × phase CT primary amps setpoint) ±1.0% of full scale (over 2 × phase CT primary amps setpoint)
Frequency:	25 to 400 Hz sine wave

GROUND FAULT CURRENT INPUT

conversion:	calibrated RMS, sample time 2 ms
range:	0.1 to 1.0 × G/F CT primary amps setpoint (5 A secondary CT) 0.3 to 10.0 amps 50:0.025 A (2000:1 ratio)
full scale:	1 × G/F CT primary amps setpoint (5 A secondary CT) 10 A (2000:1 CT)
accuracy:	±4% of G/F CT primary amps setpoint (5 A secondary CT) ±0.3 A primary (2000:1 CT HGF 3”)
Frequency:	20 to 400 Hz for 5 A CTs 20 to 150 Hz for 2000:1 CTs

OVERLOAD CURVES

curves:	8 curves fixed shape 1 custom curve
trip time accuracy:	±1 sec. up to 13 sec. ±8% of trip time over 13 sec.
detection level:	±1% of primary CT amps

UNBALANCE

display accuracy:	±2 percentage points of true negative sequence unbalance (I_n/I_p)

RUNNING HOURS COUNTER

accuracy:	±1%

DIFFERENTIAL RELAY INPUT

relay response time:	100 msec. maximum (contact closure to output relay activation)

RELAY LOCK-OUT TIME

accuracy:	±1 minute with control power applied ±20% of total lock-out time with no control power applied

TRIP/ALARM DELAY TIME ACCURACY

short circuit trip:	instantaneous: 15 to 45 ms delayed: ±1.5 seconds
ground fault:	instantaneous: 15 to 45 ms delayed 0.5 sec.: ±150 ms delayed over 1 sec.: ±1 s or ±2.5% of total trip time
acceleration trip:	±200 ms or ±2% of total trip time
single phasing:	±1.5 seconds
immediate overload:	0.3 to 0.7 seconds
mechanical jam:	±1.5 seconds
rapid trip:	±1.0 seconds
undercurrent:	±1.5 sec. or ±2% of total trip time
current unbalance:	±1.0 sec. or ±2% of total trip time
metering:	±6.0 sec. ±2% of total trip time

RTD INPUTS

sensor types:	10 Ω copper 100 Ω nickel 120 Ω nickel 100 Ω platinum (specified with order)
display accuracy:	± 2°C
trip/alarm setpoint range:	0 to 200°C
dead band:	3°C
maximum lead resistance:	25% of RTD 0°C resistance

ANALOG CURRENT OUTPUT (4-20 mA STANDARD)

	PROGRAMMABLE		
OUTPUT	**0-1 mA**	**0-20 mA**	**4-20 mA**
MAX LOAD	2000 Ω	300 Ω	300 Ω
MAX OUTPUT	1.01 mA	20.2 mA	20.2 mA

accuracy:	±1% of full scale reading
polarity:	terminal 58 (“–”) must be at ground potential (i.e. output is not isolated)
Isolation:	non-isolated, active source
Update Time:	250 ms max.

COMMUNICATIONS

Type:	RS485 2-wire, half duplex, isolated
Baud Rate:	300, 1200, 2400
Protocol:	Subset of Modbus® RTU
Functions:	Read/write setpoints (03/16), Read actual values (03/04)

RELAY CONTACTS

VOLTAGE		MAKE/CARRY CONTINUOUS	MAKE/ CARRY 0.2s	BREAK
RESISTIVE	30 VDC	10	30	10
	125 VDC	10	30	0.5
	250 VDC	10	30	0.3
INDUCTIVE (L/R=7ms)	30 VDC	10	30	5
	125 VDC	10	30	0.25
	250 VDC	10	30	0.15
RESISTIVE	120 VAC	10	30	10
	250 VAC	10	30	10
INDUCTIVE PF=0.4	120 VAC	10	30	4
	250 VAC	10	30	3

configuration: FORM C NO/NC

contact material: silver alloy

minimum permissible load: 5 V DC, 100 mA
12 V AC, 100 mA

SWITCH INPUTS

Type: Dry contacts

CAUTION **DO NOT CONNECT LIVE CIRCUITS TO THE DIGITAL SWITCH INPUTS. THEY ARE DESIGNED FOR DRY CONTACTS ONLY!**

CT BURDEN DUE TO CONNECTION OF RELAY

	CT INPUT (AMPS)	BURDEN	
		(VA)	(mΩ)
PHASE CT (1A)	1	0.04	43
	4	0.5	31
	13	4.8	28
PHASE CT (5A)	5	0.06	2.4
	20	1	2.5
	65	8.5	2.01
G/F CT (5A)	5	0.08	3
	10	0.3	3
G/F CT (50:0.025)	0.025	0.435	696 Ω
	0.1	3.29	329 Ω
	0.5	50	200 Ω

CT THERMAL WITHSTAND

Phase CT (1A, 5A) & G/F 5A tap:
3 ×: continuous
6 ×: 40 sec.
12 ×: 3 sec.

Phase CT 1A & 5A:
40 x: 2 sec.
80 x: 1 sec.

G/F 50:0.025 mA: 6 ×: continuous

CONTROL POWER (INCLUDES TOLERANCES)

Frequency: 50/60 Hz

LO range: 20 to 60 V DC
20 to 48 V AC

HI range: 90 to 300 V DC
80 to 265 V AC

Max. power consumption: 20 VA

Voltage low ride-through time: 100 ms
(at 120 V AC/125 V DC)

NOTE Relay can be powered from either AC or DC source. If Control Power input exceeds 250 V, an external 3 A fuse must be used rated to the required voltage.

INTERNAL FUSE SPECIFICATIONS

T3.15A H 250 V

Timelag high breaking capacity

DIELECTRIC STRENGTH ROUTINE TEST

2200 V AC, 50/60 Hz for 1 sec.

GROUND (Terminal 42) to
Output Contacts (Terminals 29 through 40)
Control Power (Terminals 41 & 43)
Current Transformer Inputs (Terminals 72 through 83)

NOTE **If Hi-Pot tests are performed, jumper J201 beside Terminal 43 should be placed in the "HI-POT" position. Upon completion of Hi-Pot tests, the jumper should be placed in the "GND" position. See Figure 5–3: HI-POT TESTING on page 5–7.**

WARNING **To avoid electrical shock, discharge J201 by shorting across the pins before reconnecting the J201 jumper.**

TYPE TESTS

Dielectric Strength:	2.0 kV for 1 minute to relays, CTs, power supply
Insulation Resistance:	IEC255-5,500 V DC
Transients:	ANSI C37.90.1 Oscillatory 2.5kV/ 1MHz
	ANSI C37.90.1 Fast Rise 5kV/10ns
	Ontario Hydro A-28M-82
	IEC255-4 Impulse/High
	Frequency Disturbance
	Class III Level
Impulse Test:	IEC 255-5 0.5 Joule 5kV
RFI:	50 MHz/15W Transmitter
EMI:	C37.90.2 Electromagnetic Interference @ 150 MHz and 450 MHz, 10V/m
Static:	IEC 801-2 Static Discharge
Humidity:	95% non- condensing
Temperature:	-25°C to +60°C ambient
Environment:	IEC 68-2-38 Temperature/Humidity Cycle
Dust/Moisture:	NEMA 12/IP53 with proper installation
Altitude Rating:	2000m IEC 1010-1

OPERATING AMBIENT TEMPERATURE & STORAGE TEMPERATURE

–25°C to +60°C

PACKAGING

Shipping box:	11.40" x 7.50" x 16.00" (W × H × D)
	290 mm x 190 mm x 410 mm (W × H × D)
Ship weight:	3.5 kg 7.75 lb.

269 Plus drawout:

Shipping box:	13.25" x 12.50" x 20.50" (L × H × D)
	340 mm x 320 mm x 520 mm
Ship weight:	12 kg 26.4 lb.

CERTIFICATIONS

ISO:	Manufactured to an ISO9001 certified program
UL:	UL recognized (file E83849) UL 508 Industrial Control Equipment. UL1053 - Ground Fault Protection Equipment.
CSA:	Certified per C22.2 No.14 - Industrial Control Equipment
CE:	Conforms to IEC 947-1, IEC 1010-1
Overvoltage Category:	II
Pollution Degree:	2
IP Code:	40X

The 269 Plus Drawout does not meet CE compliance.

HAZARD may result if the product is not used for intended purposes.

This equipment can only be serviced by trained personnel.

Relay contacts must be considered unsafe to touch when the system is energized!

PHASE CURRENT INPUTS

Conversion:	true rms, 64 samples/cycle
CT input:	1A and 5A secondary
Burden:	0.2 VA
Overload:	20 x CT for 1 s, 100 x CT for 0.2 s
Range:	1 to 150% of CT primary
Frequency:	up to 32nd harmonic
Accuracy:	±1% of display

VOLTAGE INPUTS

Conversion:	true rms, 64 samples/cycle
VT pri/Sec:	direct or 120 to 72000:69 to 240
Input range:	20 to 600 V AC
Full scale:	150/600 V AC autoscaled
Frequency:	up to 32nd harmonic
Accuracy:	±1% of display

ANALOG OUTPUTS

	OUTPUT	
	0-1 mA (T1 option)	**4-20 mA (T20 option)**
MAX LOAD	2400 Ω	600 Ω
MAX OUTPUT	1.1 mA	21 mA

Accuracy:	±2% of full scale reading
Isolation:	50 V isolated, activesource

MEASURED VALUES

PARAMETER	ACCURACY % DISPLAY	RESOLUTION	RANGE
Voltage	±1%	1 V	20 to 100% of VT
Current	±1%	1 A	1 to 150% of CT
kW	±2%	1 kW	0 to 65535 kW
kvar	±2%	1 kvar	0 to 65535 kvar
PF	±2%	0.01	±0.00 to 1.00
Frequency	±0.2%	0.1 Hz	20.00 to 70.00 Hz

CONTROL POWER

Input:	90 to 300 V DC or 70 to 265 V AC, 50/60 Hz
Power:	nominal 10 VA maximum 20 VA
Holdup:	100 ms typical (@ 120 V AC/125 V DC)

TYPE TESTS

Dielectric strength:	2.0 kV for 1 minute to relays, CTs, VTs, power supply
Insulation resistance:	IEC255-5, 500 V DC
Transients:	ANSI C37.90.1 Oscillatory 2.5 kV/ 1MHz ANSI C37.90.1 Fast Rise 5 kV/10 ns Ontario Hydro A-28M-82 IEC255-4 Impulse/High Frequency Disturbance Class III Level
Impulse test:	IEC 255-5 0.5 Joule 5 kV
RFI:	50 MHz/15 W Transmitter
EMI:	C37.90.2 Electromagnetic Interference @ 150 MHz and 450 MHz, 10V/m
Static:	IEC 801-2 Static Discharge
Humidity:	95% non-condensing
Temperature:	–10°C to +60°C ambient
Environment:	IEC 68-2-38 Temperature/Humidity Cycle
Dust/moisture:	NEMA 12/IP53

PACKAGING

Shipping box:	8½" × 6" × 6" (L × H × D) 215 cm × 152 cm × 152 cm (L × H × D)
Ship weight:	5 lbs/2.3 kg

CERTIFICATION

ISO:	Manufactured to an ISO9001 certified program
UL:	UL listed (file E83849) UL 508 - Industrial Control Equipment. UL1053 - Ground Fault Protection Equipment.
CSA:	Certified per C22.2 No.14 - Industrial Control Equipment

NOTE **It is recommended that all relays be powered up at least once per year to avoid deterioration of electrolytic capacitors in the power supply.**