



489 Generator Management Relay

Release Notes

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Overview

Summary

- Affected products: 489 Generator Management Relay
- Date of release: 18 October 2005
- Firmware revision: 4.00
- Hardware revision: K
- Boot code revision: 4.01

Release summary

GE Multilin has released a new generation of enhanced 489 Generator Management Relays with Ethernet connectivity. The relay can now record up to 256 events and up to 128 cycles of oscillography capture, providing improved understanding of system conditions in the event of a fault. The EnerVista 489 Setup software has enhanced settings file features, including the ability to protect against accidental changes in the settings file by locking it to the relay serial number.

The 489 relay offers direct connectivity to the most popular network in the industry, as well as security features that increase reliability and ease of use. The new firmware revision is 4.00; the new hardware revision is K.

GE Multilin technical support

GE Multilin
215 Anderson Avenue
Markham, Ontario
Canada L6E 1B3

Telephone: 905-294-6222 or 1-800-547-8629 (North America), +34 94 485 88 00 (Europe)

Fax: 905-201-2098 (North America), +34 94 485 88 45 (Europe)

E-mail: multilin.tech@ge.com

Home Page: <http://www.GEmultilin.com>

Release details

New features

Communications: 10Base-T Ethernet connectivity added to the 489

10Base-T Ethernet connectivity has been added to the 489 relays to allow customers to communicate via Ethernet networks. The Ethernet connection is at the back of the relay through the RJ45 connector. Refer to the 489 instruction manual for details on the physical connection.

The Ethernet specifications are as follows:








Version 2.0/IEEE 802.3
 10Base-T: RJ45 connection
 Modbus TCP/IP

To ensure optimal relay response, the typical connection timeout for master devices should be set as shown in the following table:

TCP/IP sessions	Timeout setting
up to 2 sessions	2 seconds
up to 4 sessions	3 seconds

New setpoints have been added for Ethernet communications under the [S1 489 SETUP](#) > [COMMUNICATIONS](#) menu:

PATH: [SETPOINTS](#) > [S1 489 SETUP](#) > [COMMUNICATIONS](#)

■ COMMUNICATIONS [▷]		SLAVE ADDRESS: 254	Range: 1 to 254 in steps of 1
MESSAGE		COMPUTER RS485 BAUD RATE: 9600	Range: 300, 1200, 2400, 4800, 9600, 19200
MESSAGE		COMPUTER RS485 PARITY: None	Range: None, Odd, Even
MESSAGE		FRONT PORT RS232 BAUD RATE: 19200	Range: 300, 1200, 2400, 4800, 9600, 19200
MESSAGE		IP ADDRESS: 0.0.0.0	Range: standard IP address format
MESSAGE		SUBNET IP MASK: 255.255.255.000	Range: standard IP address format
MESSAGE		GATEWAY IP ADDRESS: 0.0.0.0	Range: standard IP address format

Ethernet setpoints can be programmed through the relay keypad or through the EnerVista 489 Setup software.

Connection status indicators were added to the actual values menu for Ethernet communication as follows:

PATH: [ACTUAL VALUES](#) > [A1 STATUS](#) > [NETWORK STATUS](#)

■ NETWORK STATUS [▷]		Ethernet Lnk Con Dia Status [■] [■] []	Range: refer to the 489 instruction manual
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Order codes: new models and options have been added

The order code has changed to introduce the Ethernet option by adding “-T” to the order code to indicate 10Base-T Ethernet connectivity. The new order code is shown below:

Table 1: 489 Order Codes

	489	-	*	-	*	-	*	-	*	-	*
Base unit	489										489 Version 4.00 Release
Phase current inputs	P1										1 A phase CT secondaries
	P5										5 A phase CT secondaries
Control power			LO								25 to 60 V DC; 20 to 48 V AC at 48 to 62 Hz
			HI								88 to 300 V DC; 70 to 265 V AC at 48 to 62 Hz
Analog outputs					A1						0 to 1 mA analog outputs
					A20						4 to 20 mA analog outputs
Display											Basic display
							E				Enhanced display, larger LCD
							T				Enhanced display with Ethernet (10Base-T)
Harsh environment									H		Harsh (chemical) environmental conformal coating

Modified features

Firmware release 4.00 has been redesigned to accommodate the new hardware design. This release is not backwards compatible with versions 3.00 and lower.

Event records and oscillography capture have been enhanced. The event recorder now records **256** events and the waveform capture records **128** cycles.

For version 4.00, two new files are being released:

main code: 32K400A8.000

boot code: 30K401A0.000

EnerVista software changes

The EnerVista 489 Setup software has been enhanced to support Ethernet and the new hardware. The following features are introduced with this software release:

- Support for revisions 1.5x, 3.0x, and 4.0x
- Enhanced offline settings file feature to include rename settings file, duplicate settings file, and compare settings file features
- Offline serial number blocking feature introduced

Instruction manual changes

The following changes have been made to the instruction manual:

- The new order code has been added.
- Added Ethernet setpoints to the [S1 489 SETUP](#) page.
- Added connectivity status to the actual values.
- Installation details for the Ethernet option has been added.
- Instructions on the number of Modbus TCP/IP sessions have been added.
- Number of events and waveform capture specifications have been changed.