MIV

M Family Voltage/Frequency Relay

Three-phase and ground voltage protection relay.

Features and Benefits

- Advanced 16-bit microprocessor
- Configurable logic, curves, digital I/Os, and LEDs
- Flash memory for field upgrades
- Two settings groups
- Three models available for voltage, frequency and combined protection
- Drawout case for easy maintenance
- AC/DC power supply
- Access via front panel keypad or communication links
- Diagnostic features – event recording and analog/digital oscillography
- Compatible with M Family systems in half or full 19" racks

Applications

- Voltage and/or frequency protection at any voltage in automatic transfer systems, generators, motors, lines and busbars
- NEW enerVista.com compatible (see page 275)

Protection and Control

- Three-phase over and undervoltage, ground overvoltage
- Voltage unbalance, over and underfrequency

Monitoring and Metering

- Frequency and per-phase voltage

User Interfaces

- M+PC software for setting and monitoring
- Front RS232 and rear RS485 ports using ModBus® RTU protocol up to 19,200 bps

Protection

The MIV, a member of the M Family, is a digital device that provides voltage and frequency protection for a wide range of applications at any voltage level:

NOTE: The MIV1000 includes voltage functions, the MIV2000 includes frequency functions (four units), and the MIV3000 includes both voltage and frequency (two) units.

Phase Overvoltage

Two separately adjustable phase overvoltage units can be independently enabled. The pickup setpoint can be set from 2 to 250 V depending on the model, and a time delay from 0 to 600 seconds. The protection units operate on phase-to-phase or phase-to-ground voltage magnitudes.

Phase Undervoltage

This function has the same settings and features as the phase overvoltage protection. To avoid permanent undervoltage tripping when a breaker is open and the VTs are located on the line side, a setting is provided to enable/disable undervoltage protection units.

Ground Overvoltage

Two separately adjustable ground overvoltage units can be independently enabled. The pickup setpoint can be set from 2 to 250 V depending on the model and a time delay from 0 to 600 seconds.

Voltage Unbalance

This function operates on negative sequence voltage, and is included in the MIV 3000 relay. Pickup and time delay settings are the same as those of voltage functions.

Frequency Functions

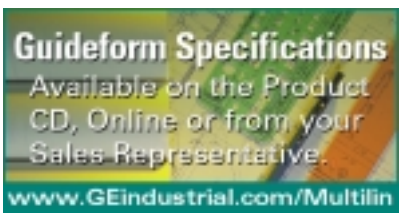
Depending on the model, either two or four independent definite time frequency units are provided. Each unit can be independently set as over and underfrequency, and is supervised by an independently adjustable undervoltage element.

Configurable Logic

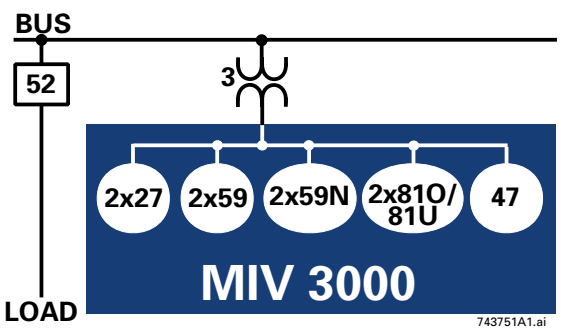
Up to four configurable logic schemes can be implemented via four pre-configured logic gates and timer cells. A graphical user interface provides easy configuration. The configurable logic output can be used to configure digital outputs and LEDs.

MIV Guideform Specifications

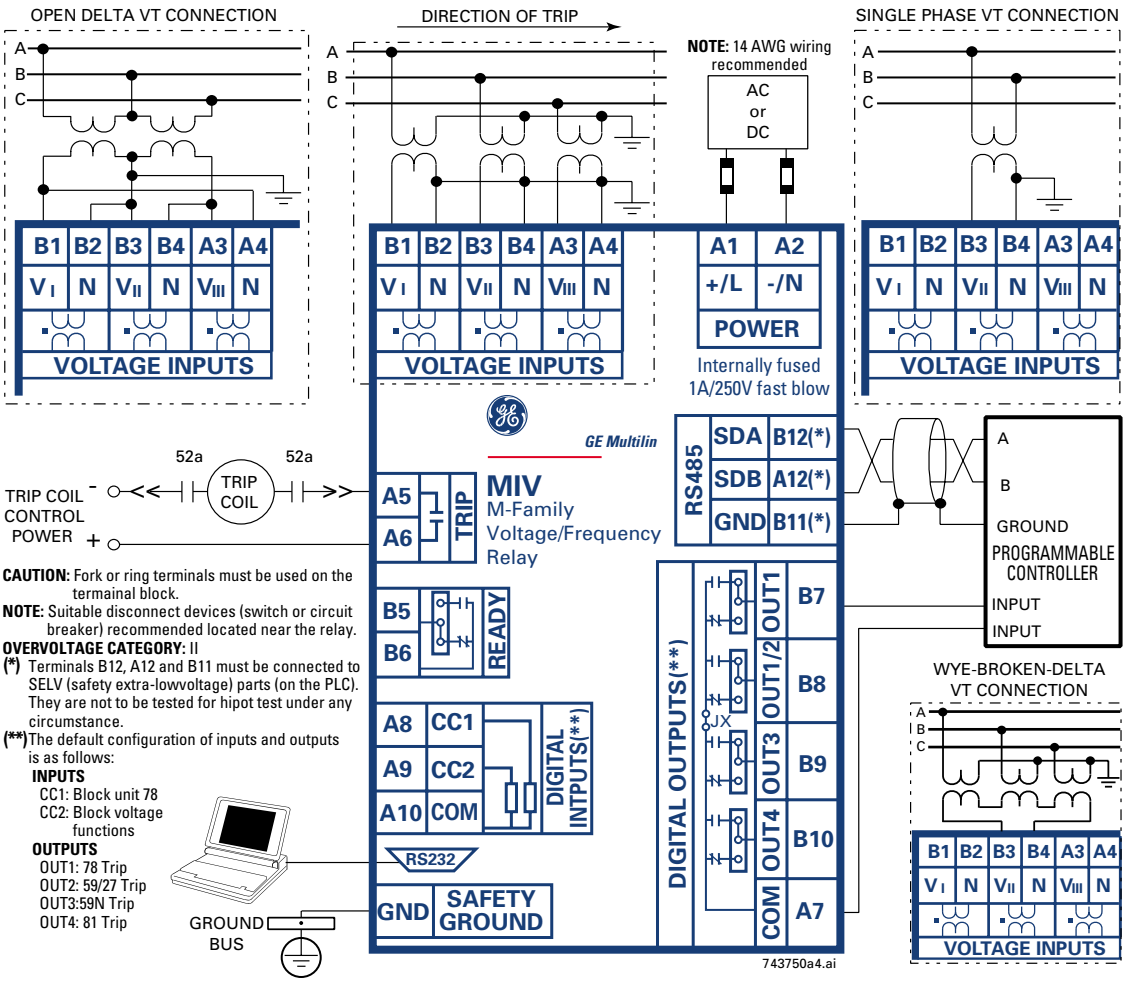
For an electronic version of the MIV guideform specifications, please visit: www.GEindustrial.com/Multilin/specs, fax your request to 905-201-2098 or email to literature.multilin@indsys.ge.com.



Functional Block Diagram



Typical Wiring



CAUTION: Fork or ring terminals must be used on the termainal block.
NOTE: Suitable disconnect devices (switch or circuit breaker) recommended located near the relay.
OVERVOLTAGE CATEGORY: II
(*) Terminals B12, A12 and B11 must be connected to SELV (safety extra-lowvoltage) parts (on the PLC). They are not to be tested for hipot test under any circumstance.
(**) The default configuration of inputs and outputs is as follows:

INPUTS
CC1: Block unit 78
CC2: Block voltage functions

OUTPUTS
OUT1: 78 Trip
OUT2: 59/27 Trip
OUT3:59N Trip
OUT4: 81 Trip

Ordering

MIV	*	0	*	0E000	*	00	*	
MIV								Voltage/frequency relay
	1							Voltage functions
	2							Frequency functions
	3							Voltage + frequency functions
		0						10 – 250 V setting range
		1						2 – 60 V setting range
					F			24 – 48 VDC auxiliary voltage
					H			110 – 250 VDC 110 – 230 VAC auxiliary voltage
							C	Individual relay
							S	Mounted in an M+ system†

† If relays are to be mounted in an M+ system either an M050 half 19" rack or M100 full 19" rack case must be ordered. The M050 and M100 racks are provided at no additional cost.

Accessories

B1315P2 Depth reducing collar

enerVista enabled See page 275.
www.enerVista.com