

# Multilin™ DGCM Field RTU

## Cost-Effective Monitoring for Distribution Network Visibility

Most distribution assets are not being monitored, mainly due to space limitations, installation cost and the cost of the monitoring device itself. The Multilin DGCM is a versatile Field RTU (Remote Terminal Unit) that can monitor and control a wide range of pole top, pad mount, and underground distribution assets. This compact solution is designed for easy installation on new equipment and retrofit on installed assets, making distribution modernization a cost-effective endeavor. The Multilin DGCM supports most wired and wireless communication architectures along with multiple simultaneous industry standard communication protocols, resulting in a seamless and straightforward integration into DMS, OMS and SCADA systems.

### Key Benefits

- Improve efficiency and reliability by integrating remote feeders into DMS/OMS/SCADA
- Track non-technical losses with real-time energy monitoring
- Receive early warning signs of asset failure and approaching capacity limits
- Eliminate the need for fault passage indicators with built-in per-phase fault detection
- Develop customized control schemes with an advanced logic engine and expandable I/O
- Enhance fault location and load flow studies using sequence of event records & trending
- Reduce setup and commissioning time with easy-to-use software tools
- Suitable for use outdoors and in harsh environments (-40°C to +65°C)

### Monitoring and Control Applications



**RMU/Pad Mounted  
Switchgear**  
Local Automation,  
Switch Management



**Pole Top/Pad Mount  
Transformer**  
Transformer Monitoring, Load  
Flow Analysis



**Cables in Vaults and  
Cable Joint Boxes**  
Fault Monitoring &  
Early Overload Warning



**Pole Top Applications**  
Monitoring & Control



**Distribution Substation,  
LV Systems**  
Load Monitoring, Theft Detection



**End of Line Monitoring**  
Voltage Optimization Support  
Theft Detection



## Versatile Configuration

- Remote downloading of settings and firmware upgrades reduces trips for field crews
- Up to 18 CT and 3 VT inputs for multi-feeder monitoring and control
- Up to 32 digital inputs and 16 digital outputs for connection adaptability
- Support for traditional CTs/VTs and sensor inputs provides application flexibility

## Reliable Hardware

- Wide operating temperature range (-40°C to +65°C) for harsh environmental conditions
- Designed and tested to protection relay standards
- Rugged NEMA 3, IP 44 housing

## Cost-Effective Integration

- Unsolicited messaging for immediate issue notification
- Rogowski coil option reduces installation time
- Integrated cellular modem delivers accessible communication

## Compact Footprint

- Scalable solution supports multiple application needs
- Variable options (stand-alone, with or without HMI, with or without an enclosure) for situational requirements

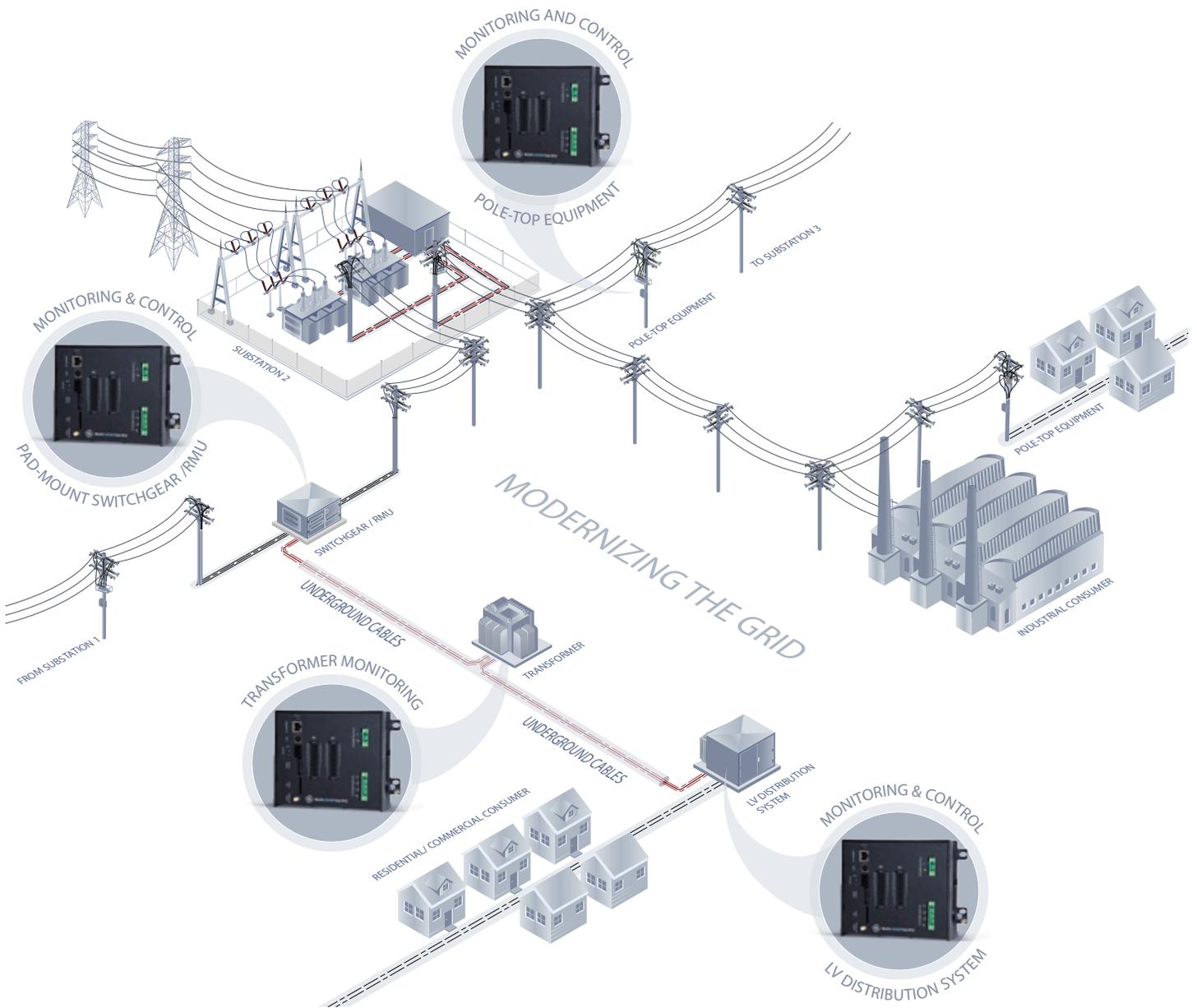


## Application Overview

Distribution systems have grown rapidly in the past few decades, including the addition of low carbon technologies, causing increased instances of system losses and poor supply quality. In order to improve operational planning, grid efficiency, and reliability, utilities need network or topographic information, real-time load data, as well as the status of distribution assets, like transformers and feeders.

The Multilin DGCM provides information from various field-based and substation-based assets, helping utilities achieve voltage optimization, quick fault detection, fault isolation, and prompt service restoration.

Overcurrent and under/over voltage conditions detected by the Multilin DGCM enable early warning signals of system issues. The Multilin DGCM also monitors for voltage, current, energy, power quality, and breaker/switch states, which facilitates efficient load planning. Using the Multilin DGCM, utilities can optimize operational planning, forecast short and long term loads, perform asset management, and achieve power quality. Additionally, the Multilin DGCM monitors asset variables, such as oil and winding temperature, oil pressure, energy release, and number of operations.

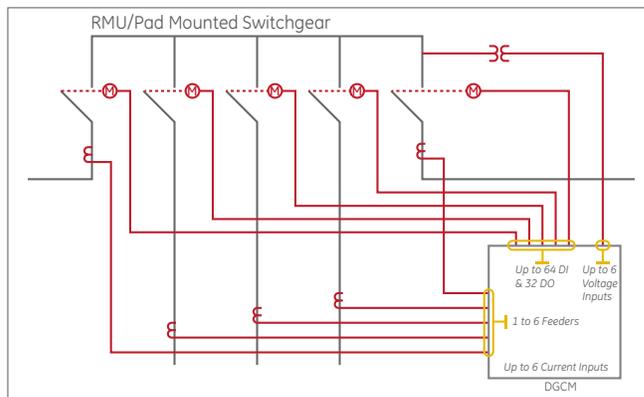


## Application 1: RMU/Pad Mounted Switchgear

Enhancing RMUs (Ring Main Units) and pad mounted switchgear with detection functionality has its own challenges regarding the mounting of conventional MV transformers. The Multilin DGCM enables the utility to overcome these challenges by offering Rogowski coil and Low Energy Analog (LEA) compatibility for current and voltage inputs. These features enable utilities in reducing their overall cost of installation and outage time.

### Key Benefits

- Real-time load monitoring and profiling of up to 6 feeders (18 individual phases)
- Overcurrent detection per phase (50, 51) for each feeder to identify faulted circuits and loads approaching overload levels
- Expandable digital inputs and outputs enable remote switching of main incomers or outgoing switches
- Support of multiple voltage sensors, such as LEA sensors and PT's, for cost-effective power quality monitoring
- Advanced FlexLogic™ engine to enable automated switching schemes
- Supports traditional CT's and Rogowski coils for quick retrofit solutions



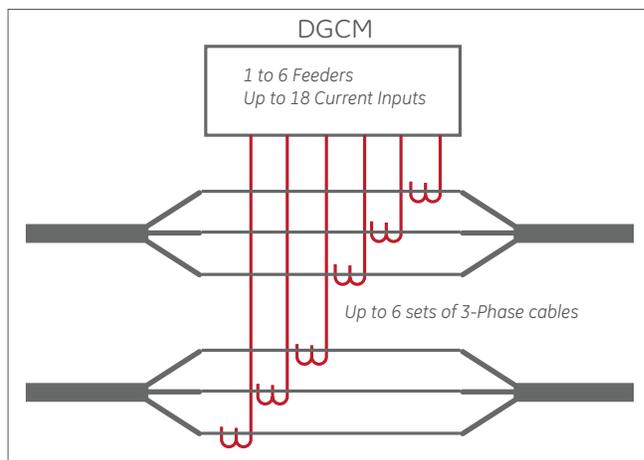
Automation of RMU/pad mounted switchgear with the Multilin DGCM improves grid reliability by reducing outage time.

## Application 2: Cables in Vaults and Cable Joint Boxes

The challenge faced in underground networks is the quick identification of faults. Deployment of the Multilin DGCM at strategic locations along cable paths enables faster fault detection as well as early warning signals in case of overload.

### Key Benefits

- Compact, cost-effective fault detector for underground cable networks
- Rogowski coil option to enable retrofit installation in space-limited locations and to reduce the need for outages
- Early warning and fault detection per phase (50, 51) for each feeder to reduce fault location and feeder downtime
- Multiple communication (cellular and radio) and protocol options for easy integration into DMS and SCADA systems



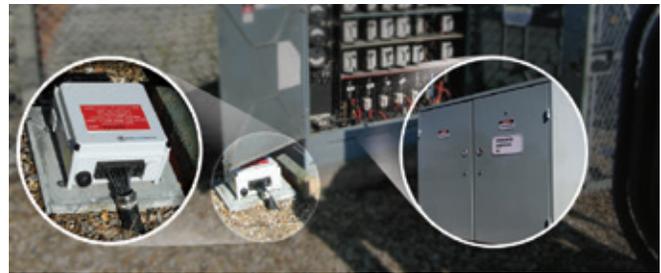
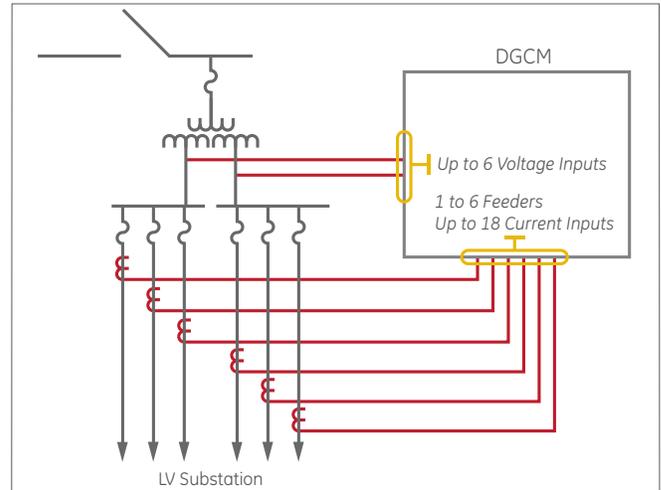
Using the Multilin DGCM on cables enables faster fault detection and isolation, reducing outages and crew deployment time.

## Application 3: Distribution Substation, LV Systems

Most distribution substations and indoor/outdoor LV systems lack asset monitoring and control. The Multilin DGCM can be used to effectively monitor power quality, as well as control, when necessary. Rogowski coil support provides current sensing in hard-to-find spaces and allows for modifications without an actual outage. The provision of overcurrent detection provides a vital warning signal well in advance of an actual failure.

### Key Benefits

- Real-time load and energy monitoring and profiling of up to 6 feeders (18 individual phases)
- Quick retrofit installation especially in tight spaces through Rogowski coil current sensors or traditional CT's
- Cost-effective energy monitoring through direct voltage measurements up to 400V or via LEA voltage sensors
- Ability to compensate for amplitude and phase shifting associated with different sensor types
- Identification of faulted circuits and loads approaching overload levels through overcurrent detection per phase (50, 51) for each feeder
- Per feeder energy monitoring and logging to help identify locations of theft detection
- Unsolicited messaging to ensure faster response time to SCADA/DMS systems, making utilities aware of impending abnormalities



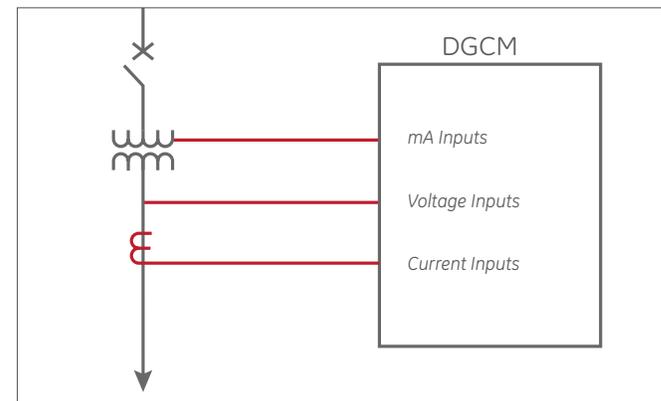
Monitoring at key LV consumer substations with the Multilin DGCM can help in faster fault isolation and energy theft detection.

## Application 4: Pole Top/Pad Mounted Transformers

Transformers may be loaded to their maximum capacity without the utility even realizing it, resulting in reduced transformer life. The Multilin DGCM enables the monitoring of transformer conditions, identifying transformers likely to fail. Keeping the utility updated of changing load demands enables proper planning for current peak loads and future demand.

### Key Benefits

- Quick retrofit installation especially in tight spaces through Rogowski coil current sensors or traditional CT's
- Energy monitoring and logging to help theft detection
- Remote configuration and firmware updates to simplify fleet management
- Real-time transformer load monitoring to improve load flow studies and planning
- Multiple communication (cellular, radio) and protocol options to ensure compatibility with existing infrastructure



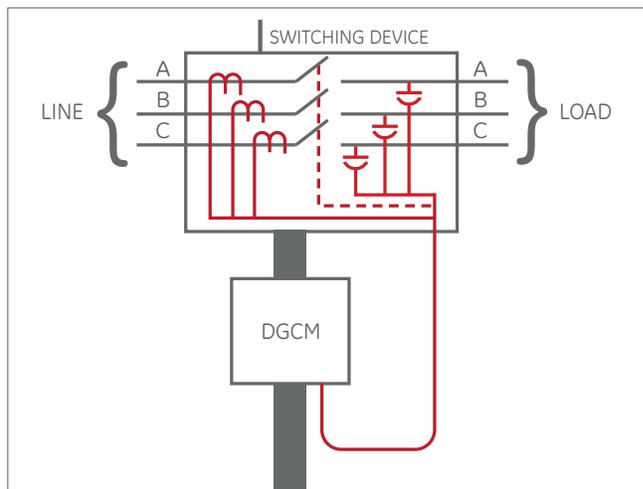
Transformer monitoring with the Multilin DGCM enables overload identification, which is key for load planning and asset management.

## Application 5: Pole Top Applications

The Multilin DGCM can be used for a wide range of pole top applications, such as remote controls for reclosers, switches, sectionalizers, interchange tie closures, tap changers and capacitor bank controllers. The Multilin DGCM's hardware and communication flexibility can be applied to a wide variety of field applications where monitoring and/or remote control is required.

### Key Benefits

- Cost-effective automation of installed field equipment (reclosers, switches, sectionalizers, interchange tie closures, tap changers and capacitor bank controllers)
- Overcurrent detection per phase (50, 51) for each feeder to identify faulted circuits and loads approaching overload levels
- Energy monitoring and logging to help theft detection
- Remote configuration and firmware updates to simplify fleet management
- FlexLogic to allow for the creation of customized control schemes that can be used in many pole top applications
- Supports direct voltage measurements up to 400V or LEA voltage sensors for cost-effective monitoring



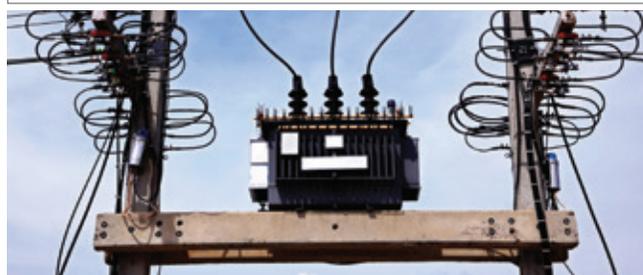
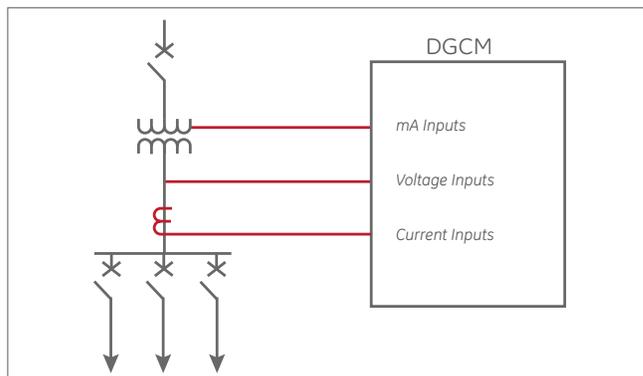
Detection functions and FlexLogic enable the Multilin DGCM to be used for most pole top applications.

## Application 6: End of Line Monitoring

Utility and industrial end of line monitoring for Volt/VAr control schemes play an important role in voltage optimization by ensuring the end customer is being provided with the proper voltage level. The Multilin DGCM can be used in applications where only voltage and/or current monitoring is required by high-end SCADA or DMS systems.

### Key Benefits

- End of line voltage and current measurements to help in short term and long term operational planning
- Energy monitoring and logging to help theft detection
- Real-time monitoring of voltage for integrating in Volt/VAr control schemes
- Overcurrent detection with alarm/trip to provide early warning signals of potential failures
- Support for multiple communications technologies including cellular and private radio networks



Volt/VAr control schemes are better optimized using the Multilin DGCM, as changes in voltage (real-time) are reported almost immediately (unsolicited messaging) over most utility protocols.

## Hardware Options

The Multilin DGCM is a cost-effective monitoring and control solution for most pole top, transformer, end of line, RMU and pad mounted switchgear applications, especially where ease of installation is desired and space constraints exist. Modular design and expandable I/O support most customer needs.

### Base Unit

**(Supports Maximum 2 Modules)**

- 3 Voltage Inputs
- Up to 18 Current Inputs (2 Cards)
- Up to 32 Digital Inputs and 16 Digital Outputs (2 Cards)
- Note : Maximum 2 Cards



\* Base Unit

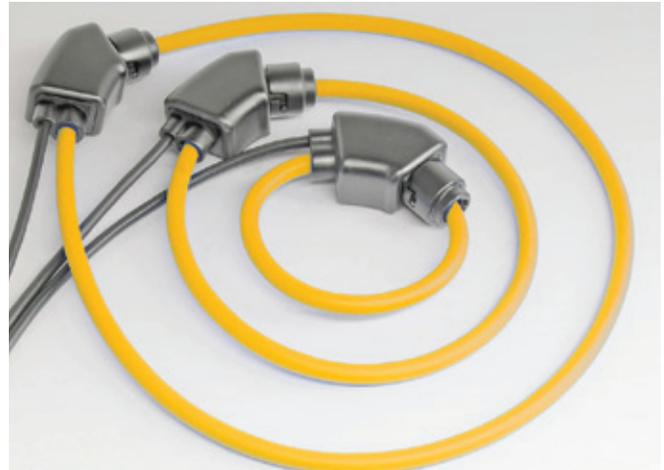
## Analog Inputs

The Multilin DGCM utilizes many traditional and non-traditional sensors:

- Traditional CT's
- Traditional PT's
- Rogowski Coils
- LEA Sensors – 0 to 12V Output

### Rogowski Coils

Rogowski coils can be used on bare conductors for voltages of up to 600V and on insulated cables for higher voltages. The use of Rogowski coils shortens the installation time, reducing outage periods and installation costs.



Rogowski Coil

## Advanced Integration

The Multilin DGCM employs industry standard communications technologies, making it one of the easiest and most flexible controllers to use and integrate into new and existing SCADA and DMS infrastructures.

### Multiple Protocol Support

Multiple communication ports and protocols allow for remote control and easy access to device and system information.

Simultaneous industry standard protocols(slave) supported:

- DNP 3.0 – Serial and Ethernet
- Modbus® Serial and Ethernet
- IEC® 60870-5-104, (IEC 60870-5-101 available Q4 2015)

### Remote Communication

The Multilin DGCM's integrated cellular modem eliminates the need for external wireless devices, reducing infrastructure costs.

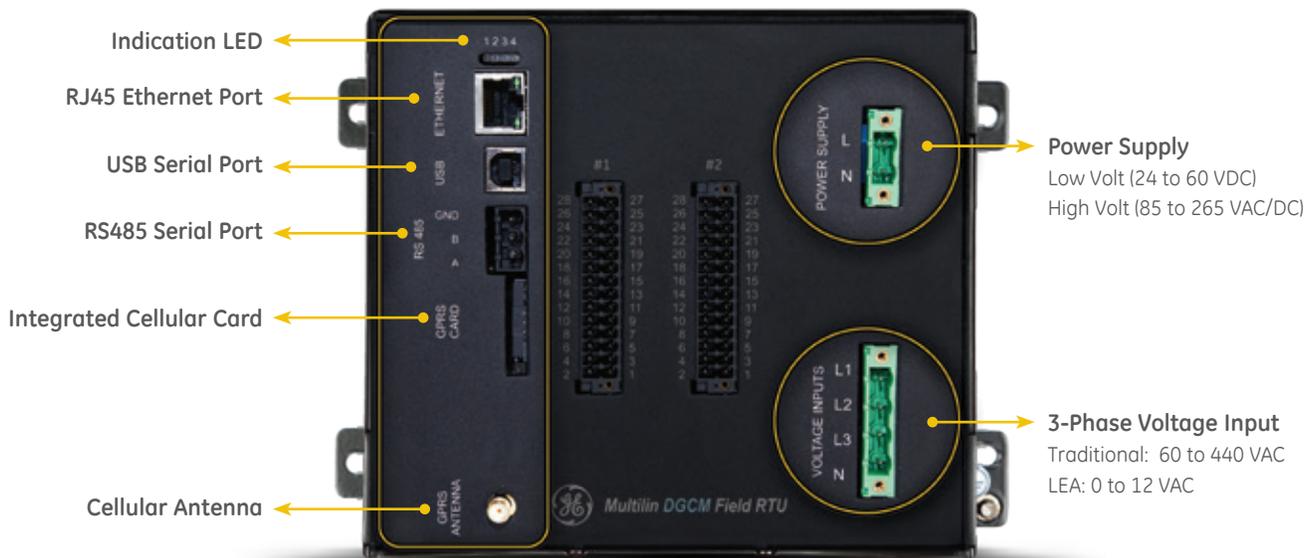
The Multilin DGCM can communicate to FDIR/FLISR/SCADA systems via wireless communications media including:

- Wireless radio (MDS™ or customer specific)
- GSM/GPRS
- Pre-wired for future radio

Options for MDS radios when purchased with enclosure:

- MDS iNET-II
- MDS TransNet

The Multilin DGCM can be used as an I/O extension for relays or for current and voltage measurements into new and existing SCADA and DMS infrastructures.



### Package Solution Option

The Multilin DGCM can be purchased as a stand-alone unit or installed inside a cabinet. Refer to the order code section for order options.



## Automation and Control

The Multilin DGCM offers powerful I/O and programmable logic (FlexLogic) options for advanced automation and control, reducing the need for and costs associated with additional programmable controllers and discrete control devices.

### Remote Control

For both operational efficiency and reliability, the Multilin DGCM provides remote control for operating overhead switches and pad mount switchgear. The Multilin DGCM can be locally locked to prevent remote control operations during field maintenance. Capable of providing both local and manual control of switchgear, the compact size of the Multilin DGCM enables it to fit into existing outdoor distribution substations where space constraints exist.

### Set Point Group Control

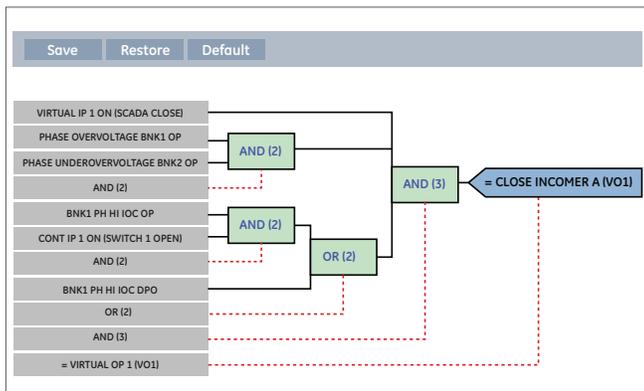
The Multilin DGCM has three set point groups. The activation of the groups can be done either from SCADA, HMI or via a digital input.

### Virtual Inputs and Outputs

The Multilin DGCM provides 32 virtual inputs and 32 virtual outputs that provide users with the ability to send commands to the device. The Multilin DGCM can accept commands from SCADA, through the front HMI, or front USB port, and issue commands, such as close or open.

### FlexLogic

FlexLogic in the Multilin DGCM helps reduce costs by providing the ability to create customized control schemes, minimizing the need for auxiliary components and wiring. Schemes can be configured with FlexLogic, specifying what actions need be taken, based on the status of fault detections or control elements, and inputs driven by connected sensors and equipment.



Using FlexLogic, customers can develop customized control schemes for multiple applications.

## Fault/Level Detections

Effective fault isolation is a key feature for grid reliability. The Multilin DGCM provides early warning of downstream overcurrent and earth faults. It can be programmed to isolate a faulted segment, either independently or from remote SCADA systems. The Multilin DGCM also offers control, monitoring and diagnostics in one integrated and efficient design.

### Overcurrent Protection

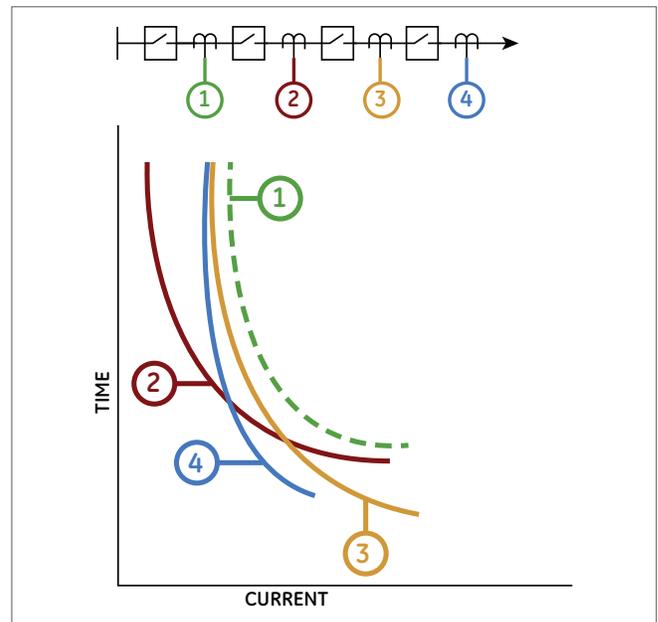
Instantaneous and time overcurrent functions are available for phase, and neutral currents. A variety of time curves are provided, including IEEE@/ANSI®, IEC A/B/C long time inverse and short time inverse definite time and user-programmable curves.

### Cold Load Pick-Up

The Multilin DGCM can be programmed to block instantaneous overcurrent elements, and raise the pick-up time of overcurrent elements, when a cold load condition is detected. Cold load conditions are sensed during the closing of the breaker on a feeder that has been de-energized for a long time. The feeder in-rush and motor accelerating currents during breaker closing may be above some overcurrent protection settings.

### Over Voltage (OV) Detection

The phase OV detection alerts utilities of sustained OV conditions. The OV detector generates an alarm when the voltage exceeds the selected voltage level after a specified time delay.



Custom FlexCurves can be constructed to coordinate with other upstream and downstream protection devices.

### Under Voltage (UV) Detection

The phase UV detection alerts utilities against sustained UV conditions. The UV detector generates an alarm when the voltage drops below the selected voltage level after a specified time delay.

### Power Loss

The Multilin DGCM can detect a power loss condition in each phase of the power distribution line. Open/close commands are blocked, unless currents and voltages of each phase fall below minimum set values. When the switch is closed, the power loss detection of the source side is used to control the open command execution.

## Measurements

The Multilin DGCM provides high accuracy metering and recording of AC signals, measuring the following key parameters:

### Basic Measurements

- Current: Ia, Ib, Ic, In
- Phase-to-phase and phase-to-ground voltages for bus and line: Van, Vbn, Vcn, Vbb, Vab, Vbc, Vca
- Active power (per-phase and total): Wa, Wb, Wc, W
- Reactive power (per-phase and total): VARa, VARb, VARc, VAR
- Total active, reactive and apparent energy: MWh, MVARh, MVAh
- Power factor (per-phase and total)
- Frequency

### Power Quality Measurements

- Voltage sag/swell
- Current unbalance
- Demand: voltage, current, active power, apparent power, energy, temperature
- 2nd to 15th harmonic for current
- 2nd to 15th harmonic for voltage
- THD in 20% for current
- THD in 20% for voltage

These data points can be easily integrated into a customer’s database for seamless viewing through SCADA or a DMS system, such as GE’s PowerOnTM Control or GENe.

## Data Management and Diagnostics

### Event Recorder

To enable more effective post event analysis and troubleshooting, the Multilin DGCM provides an integrated event recorder and detailed diagnostic features. The event recorder offers:

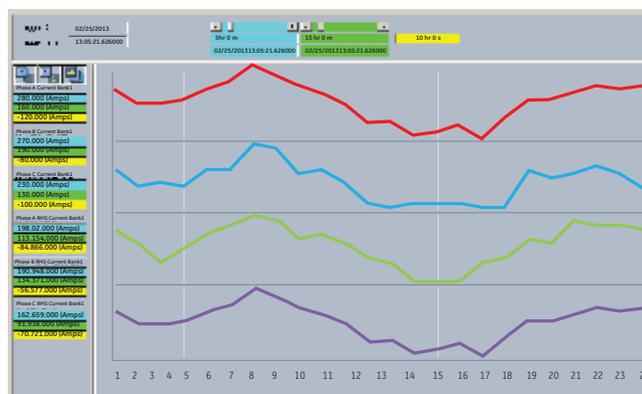
- Storage for up to 1024 time stamped events
- Pick-up & drop-off of detection elements
- Instantaneous values of voltage/current at the time each event occurred

### Trending and Data Logging

The Multilin DGCM provides a 200 channel RMS recorder for advanced disturbance diagnostic features. Data recording can be set to record from 1 minute to 60 minute intervals. This significantly reduces the time and cost associated with troubleshooting power system events and reconstructions. The data can be immediately analyzed for trends, or stored for archival purposes.

EVENT	DATE	TIME	CAUSE OF EVENT
53	02/03/2012	16:22:44:103	TOC pickup
52	02/03/2012	16:22:44:220	Loss 01 Power
51	02/03/2012	16:22:45:115	TOC drop off
50	02/03/2012	16:22:45:175	AS first shot
49	02/03/2012	16:22:47:680	TOC pickup
48	02/03/2012	16:22:47:710	Loss of Power
47	02/03/2012	16:22:48:132	TOC drop off
46	02/03/2012	16:22:48:192	A5 second shot
45	02/03/2012	16:22:48:412	Switch Open

The Multilin DGCM event recorder enables users to analyze the sequence of events after each triggered event. Each event is stored with the event number, date, time and analog data of interest.



The Multilin DGCM data logger helps in better understanding the analog channel behavior, by sampling at a selectable time interval rate of 1 to 60 minutes.

## Software and Configuration

The EnerVista™ suite is an industry leading set of software programs that simplifies every aspect of using the Multilin DGCM.

EnerVista provides all the tools to monitor the status of the protected asset, maintain the controller, and integrate information, measured by the Multilin DGCM, into SCADA or DMS monitoring systems.

The ability to easily view sequence of events is an integral part of the setup software, as postmortem event analysis is critical to proper system operation.

### EnerVista Launchpad

EnerVista Launchpad is a powerful software program that provides users with all of the setup and support tools needed for configuring and maintaining GE's Multilin products. The setup tools within Launchpad allow for the configuration of devices in real-time, by communicating via serial, Ethernet or modem connections, or offline, by creating device setting files to be sent to devices at a later time.

Included in Launchpad is a document archiving and management system that ensures critical documentation is up-to-date and available when needed.

Documents available include:

- Manuals
- Application Notes
- Guide Form Specifications
- Brochures
- Wiring Diagrams
- FAQs
- Service Bulletins

## Setup with EnerVista Software

EnerVista setup software can reduce device setup and configuration time.

Single Click Device Communications

Quick Link Diagnostic Information

Online Device Configuration and Monitoring

Menu Driven Device Configuration

Offline Device Setting File Configuration

SETTING [GROUP 1]	PARAMETER
Current Ph High IOC Function Bnk1	Alarm
Current Ph High IOC Pickup Bnk1	2.00 x CT
Current Ph High IOC Delay Bnk1	0.50 s
Current Ph High IOC Block Bnk1	Off
Current Ph High IOC Events Bnk1	Enabled
Current Ph High IOC Targets Bnk1	Self-Reset

# Technical Specifications

## POWER SUPPLY

### HIGH RANGE POWER SUPPLY

Nominal:	110 to 240 VAC 125 to 250 VDC
Range:	85 to 265 VAC (50 and 60 Hz) 85 to 265 VDC

### LOW RANGE POWER SUPPLY

Nominal:	24 to 48 VDC
Range:	20 to 60 VDC

## PHASE CURRENT INPUTS

### PHASE CURRENT INPUTS (CTS)

Range:	0.05 to 2.50 × CT
Input Type:	1 A or 5 A (SW Selectable)
Nominal Frequency:	50/60 Hz
Burden:	<0.1 VA at Rated Load
Accuracy:	±1% of Reading ±0.2% Full Scale
CT Withstand:	1 Second at 20 × Rated Current, Continuous at 4x Rated Current

### PHASE CURRENT INPUTS

(Rogowski Coils)	IP67
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## PHASE VOLTAGE INPUTS

### PHASE VOLTAGE INPUTS (Direct Connection)

Range:	60 to 440 VAC
Nominal Frequency:	50/60 Hz
Burden:	<0.25 VA at 120 V
Accuracy:	±0.5% Throughout Range
Voltage Withstand:	2xVn Continuously, 3xVn 10s

### PHASE VOLTAGE INPUTS (LEA)

Range:	0 to 10 VAC
Nominal Frequency:	50/60 Hz
Input Impedance:	> 10 MΩ
Accuracy:	±0.5% Throughout Range
Voltage Withstand:	2xVn Continuously, 3xVn 10s

## DIGITAL I/O

### DIGITAL INPUTS

Thresholds:	20 to 64 VDC for Low Range 100 to 240 VAC for High Range
Recognition Time:	1/2 Cycle
Debounce Time:	10 to 100 ms, Selectable, in Steps of 5 ms

### DIGITAL OUTPUTS

Contact Material:	Silver-Alloy
Operate Time:	10 ms
Continuous Current:	6 A
Make and Carry for 4s:	15 A per ANSI C37.90

## COMMUNICATIONS

### SERIAL

RS485 Port:	Opto-Coupled
Baud Rates:	Up to 115 kbps
Protocol:	Modbus RTU, DNP 3.0, (IEC® 60870-5-101 available Q4 2015)

### ETHERNET (COPPER)

Modes:	10/100 MB (Auto-Detect)
Connector:	RJ45
Protocol:	IEC® 60870-5-104

### USB

Standard Specification:	Compliant with USB 2.0
Data Transfer Rate:	115 kbps

### GPRS

Quad-Band EGSM 850/900/1800/1900 MHz	
GSM/GPRS Protocol Stack 3GPP Release 4 Compliant	
Sensitivity:	≤-107 dBm (typ.) @ 850 / 900 MHz ≤-107 dBm (typ.) @ 1800 /1900 MHz
Extended temperature range:	-40°C to +85°C

### DIMENSIONS

Base Size:	150 mm (W) x 140 mm (H) x 110 mm (D); 5.91" (W) x 5.51" (H) x 4.33" (D)
Weight (Base):	2 kg; 4.41 lbs

## Type Tests

TEST DESCRIPTION	LEVELS	STANDARD
<b>IMMUNITY</b>		
ESD	8 kV contact/ 15 kV air discharge	IEC 61000-4-2, EN60255-22-2
Radiated RF Immunity	10 V/m (80 MHz to 1 GHz) 3 V/m (1.4 GHz to 2.0 GHz) 1 V/m (2.0 GHz to 2.7 GHz)	IEC 61000-4-3:2002, EN60255-22-3
Radiated RF Immunity	80 MHz-1 GHz 20 V/m included Frequency Sweep, Keying Test and Spot Frequencies (except GSM)	IEEE C37.90.2:2004
Fast Transient	4 kV at 5 kHz	IEC 61000-4-4:2012/ IEC 60255-22-4
Surge	2 kV	IEC 60255-22-5
Conducted RF Immunity	10 Vrms (150 kHz to 80 MHz)	IEC 61000-4-6, IEC 60255-22-6
Power Frequency Magnetic Field Immunity	Level 5: 100 A/m continuous 1000 A/m 1 to 3 s	IEC 61000-4-8:2001
Voltage Dip	0% during 1 cycle 40% during 10/12 cycles 70% during 25/30 cycles 80% during 250/300 cycles	IEC 61000-4-11:2004
Voltage Interruption	0% during 250/300 cycles	IEC 61000-4-11:2004
<b>EMISSIONEN</b>		
Radiated RF Emission	Group 1 & Class B	CISPR 11, IEC 60255-25
Conducted RF Emission	Group 1 & Class B	CISPR 11, IEC 60255-25

TEST DESCRIPTION	LEVELS	STANDARD
<b>ELECTRICAL (Category IV, 300V)</b>		
Dielectric Strength	Basic & Supplementary Insulation: 3.3 kV at least 1 min	EN60255-5
Impulse	Reinforced Insulation: 5.4 kV at least 1 min	IEC 61010-1:2010
Clearance & Creepage	Category IV, 300 V, Table K 4 IEC 61010-1:2010/	

## ENVIRONMENTAL

- Operating temperature: -40°C to + 65°C as per IEC 60068
- Relative humidity cyclic: IEC 60068-2-30; 55°C 95% humidity

## MECHANICAL

- Sinusoidal vibration: IEC 60068-2-6:2007 Class 1
- Shock and bump: IEC 60068-2-27:2008 Class 1
- Seismic: IEC 60068-3-3:1991 Class 2

## MISCELLANEOUS

- Ingress of solid objects and water: IEC 60529:2007 IP44 (with external enclosure) NEMA 3/4 for cabinet
- Resistance to mechanical stresses: IEC 61010-1:2010 (Paragraph 8)
- Protection against the spread of fire: IEC 61010-1:2010 (Paragraph 9)
- IEC 61000-3-2 (2008): Limits for harmonic current emissions
- IEC 61000-3-3 (2008): Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems

# Ordering Codes

## DGCM FIELD RTU

	DGCM	*	E	*	-	S	S	-	*	-	*	-	X	-	X	-	X	-	X	*	1	*	Description
Base type	DGCM																						Field RTU
		A																					Base Unit Includes : 3 x Voltage Inputs (60 to 440 VAC)
		B																					Base Unit Includes : 3 x Voltage Inputs (0 to 12 VAC, LEA)
Power Supply			H																				High Volt AC Power Supply (85 V to 265 VAC/DC)
			L																				Low Volt DC Power Supply (24 to 60 VDC)
Modules							C				C												9 x CT Inputs 5 Amp/1 Amp Secondary
							F				F												9 x Rogowski Coil Inputs
							P				P												16 x Digital Inputs, 8 x Digital Outputs (64 DI & 32 DO Maximum, 100 to 240 VAC/DC)
							Q				Q												16 x Digital Inputs, 8 x Digital Outputs (64 DI & 32 DO Maximum, 24 to 60 VDC)
							X				X												None
Controller																					1		Controller Only (No Display)
																					2		Controller in Enclosure (No Display)
Wireless Radios																						X	No External Communications
																						1	Long Range High-Speed Serial Communication MDS TransNet (EL805-MD9X1AFCD1WN) - Available with controller in enclosure
																						2	Long Range Ethernet & Serial Communication MDS INET-II (INETII-MD9A1AVFCD1NNO) - Available with controller in enclosure

## Rogowski Coil

	ROGS	-	*	*	*	
Rogowski Coil Sensors	ROGS	-	A	A	3	Rogowski Coil Sensor, 3 m termination length required to be ordered when F option for current input is chosen

Digital Energy  
 650 Markland St.  
 Markham, ON  
 Canada L6C 0M1  
 Toll Free (NA Only): 1-800-547-8629  
 Tel: 905-927-7070  
 Fax: 905-927-5098  
 gedigitalenergy@ge.com

## GEDigitalEnergy.com

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