POWER ANALYZERS AND **DIGITAL MEASURING** INSTRUMENTS

DMG SERIES



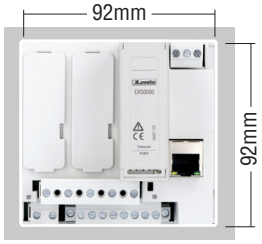
Lovato electric

POWER ANALYZERS WITH WIDESCREEN COLOUR LCD
DMG SERIES



WIDESCREEN COLOUR LCD

The large size of the colour LCD (4.3") allows for the optimal view of measures and parameters in a clear, simple and intuitive way.
The standard cutout dimensions (92x92mm) ensures a perfect compatibility with the usual front panel solutions.



10 LANGUAGES

The language shown can be selected from a large number of choices: English, French, German, Italian, Spanish, Portuguese, Polish, Russian, Czech, Chinese.

PROGRAMMABLE LEDs

3 front LEDs are programmable and let the user know the status of the device at any time: alarms programmed by the user, status of digital inputs or outputs, emission of pulses indicating energy consumption, communication in progress.



HIGH ACCURACY LEVEL FOR MEASUREMENTS

The measurements are verified according to the recognized international standards for measuring instruments: IEC 62053-22 (**class 0.5s**), IEC 62053-24 (**class 1**) and IEC 61557-12 (**class 0.5**).

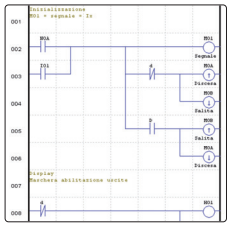
NFC CONFIGURATION

Thanks to NFC technology, it is possible to configure and modify parameters (even when the device is not powered) through NFC LOVATO App, which can be downloaded for free from the Google Play Store and App Store for Android and iOS smart devices.



PLC LOGIC

Thanks to the built-in PLC logic, the power analyzers can perform simple automations related to timers and alarm states and digital inputs.
Programming with "contacts" (**Ladder**) is simple and intuitive thanks to the use of Xpress configuration software.



	DMG7000	DMG7500	DMG8000	DMG9000
Built-in RS485 port	–	●	–	●
Built-in Ethernet port (with web-server)	–	–	●	●
Ethernet-RS485 gateway function	+ EXP1012 + EXP1013	+ EXP1013	+ EXP1012	●
Memory for data collection	–	–	●	●
Statistics of network quality according to EN50160	–	–	–	●
Neutral current measurement through dedicated CT	–	–	–	●
Neutral-Earth voltage measurement	–	–	–	●
Compatibility with EASY BRANCH power monitoring system	–	●	●	●

EVERYTHING UNDER CONTROL!

MEASUREMENTS

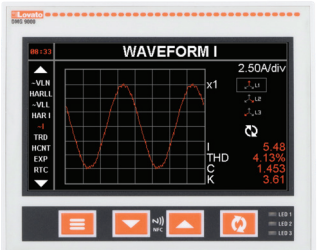
DMG power analyzers display all the measurements useful for a complete check of the electrical network. The voltage measurement input does not require external transformers **up to 600VAC**.

CHARTS AND HARMONICS

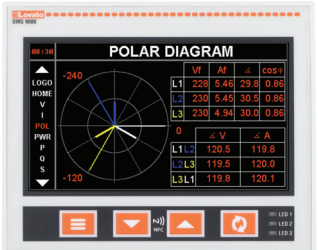
The electrical measurements are shown with waveform charts, polar diagrams and representations of the **harmonic spectrum up to the 63rd order** which is a useful tool to better understand the state of the system.

STATISTICS

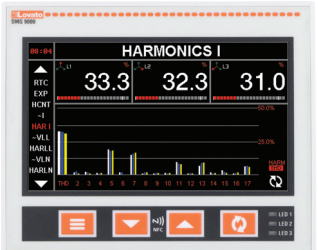
The DMG9000 model also provides statistics on the quality of the network according to the **EN50160** standard - class C - (voltage dips, overvoltages, interruptions, low frequency noises and much more).



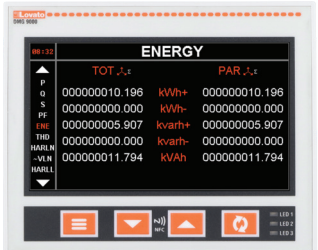
Waveforms



Polar diagram



Currents



Energy consumption control

Power analyzers with widescreen colour LCD



DMG...

NFC

Order code	Description	Qty per pkg	Wt
		n°	[kg]
Auxiliary supply 100...240VAC.			
DMG7000	Expandable with 3 EXP... modules	1	0.375
DMG7500	Expandable with 3 EXP... modules, built-in RS485 port, compatible with EASY BRANCH power monitoring system	1	0.375
DMG8000	Expandable with 3 EXP... modules, built-in Ethernet port, compatible with EASY BRANCH power monitoring system	1	0.375
DMG9000	Expandable with 3 EXP... modules, built-in RS485 and Ethernet port, compatible with EASY BRANCH power monitoring system	1	0.375
Auxiliary supply 12...48VDC.			
DMG9000D048	Expandable with 3 EXP... modules, built-in RS485 and Ethernet port, compatible with EASY BRANCH power monitoring system	1	0.375

new

Expansion modules



EXP10...



Order code	Description	Qty per pkg	Wt
		n°	[kg]
Inputs and outputs.			
EXP1000	4 opto-isolated digital inputs	1	0.060
EXP1001	4 opto-isolated static outputs	1	0.054
EXP1002	2 digital inputs and 2 static outputs, opto-isolated	1	0.058
EXP1003	2 relay outputs rated 5A 250VAC	1	0.050
EXP1004	2 analog inputs, opto-isolated 0/4...20mA or PT100 or 0...10V or 0...±5V	1	0.056
EXP1005	2 analog outputs, opto-isolated 0/4...20mA, 0-10V or 0...±5V	1	0.064
EXP1008	2 opto-isolated digital inputs and 2 relay outputs rated 5A 250VAC	1	0.058
Communication ports.			
EXP1010	Opto-isolated USB interface	1	0.060
EXP1011	Opto-isolated RS232 interface	1	0.040
EXP1012	Opto-isolated RS485 interface	1	0.050
EXP1013	Opto-isolated Ethernet interface	1	0.060
EXP1014	Opto-isolated Profibus-DP interface	1	0.080

Communication devices



CX01



CX02

Order code	Description	Qty per pkg	Wt
		n°	[kg]
CX01	USB/optical device with PC ↔ LOVATO Electric product connecting cable, for programming, data download, diagnostics and firmware upgrade	1	0.090
CX02	Wi-Fi device for PC ↔ LOVATO Electric product programming, data download, diagnostics and cloning	1	0.090

General characteristics
DMG... power analyzers display electrical values on their large colour LCD display with exceptional accuracy to enable precise monitoring of power grids. They are designed in flush-mount housing (cutout 92x92mm/3.62x3.62") with 3 slots for EXP series plug-in expansion modules to adapt them to a variety of applications.
The use of NFC technology allows the user to configure the unit and make settings with a smart device. The optical port on the back of the unit enables the user to make settings, run power grid diagnostics and update the power analyzer firmware.
The graphic interface, available in 10 languages (English, French, German, Italian, Spanish, Portuguese, Polish, Russian, Czech and Chinese), has been designed to facilitate the display of data, including:
- Voltage (phase, phase-to-phase and system)
- Phase current (calculated neutral current, and measured neutral current on the DMG9000...)
- Measurements on 4 quadrants
- Power (active, reactive and apparent phase and total power)
- Power factor (phase and total)
- Frequency
- Maximum (HIGH), minimum (LOW) and average (AVERAGE) of all measured values
- Peak power/current (max demand)
- Voltage and current asymmetry and active power unbalance
- Total harmonic distortion (voltage and current)
- Voltage and current harmonic analysis up to the 63rd order
- Active, reactive and apparent energy metering (partial and total)
- Hour meter (total and partial, programmable).

The EASY BRANCH multi-circuit measurement system
The DMG7500, DMG8000 and DMG9000... can also be used in multi-circuit applications when more than one load is to be monitored in the electrical switch board. All values are shown on the display or via the integrated communications interface.
Refer to page 28-19 for the components of the EASY BRANCH measurement system.

Operational characteristics
- Auxiliary power:
  - 100...240VAC / 110...250VDC
  - 12-48VDC (DMG9000D048)
- Voltage measurement range: 50...720VAC L-L
- Can be used in medium and high voltage systems using TV
- Nominal input current: 5A or 1A with an external current transformer
- Frequency measurement range: 45...66Hz, 360...440Hz
- Accuracy (IEC/BS 61557-12):
  - voltage: Class 0.2 (V=100...480VAC L-N, 174...830VAC L-L)
    Class 0.5 (V=50...100 VAC L-N, 87...174VAC L-L)
  - current: Class 0.2 (Iref = 5AAC)
  - power: Class 0.5 (active), Class 1 (reactive)
  - power factor: Class 0.5
  - frequency: Class 0.02
  - THD and harmonics V and I: Class 5
  - active energy: Class 0.5s
  - active energy: Class 0.5s (IEC/EN/BS 62053-22)
  - reactive energy: Class 1 (IEC/EN/BS 62053-24)
- Integrated data memory (DMG8000, DMG9000...)
- Integrated communications ports (RS485 or Ethernet)
- Communications protocols: Modbus-RTU, ASCII and TCP
- Compatible with Synergy, Xpress and App NFC
- Protection rating: IP65 for front panel.

Synergy supervision and energy management software
See Section 36.

Xpress configuration and remote control software
See Section 36.

Lovato App NFC
See Section 36.

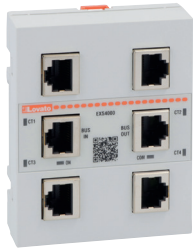
EXP series expansion modules
See page 35-3.

Certifications and compliance
Certifications: cETLus (in accordance with National Electrical Code (US) and Canadian Electrical Code).
Compliant with standards: IEC/EN/BS 61010-1, IEC/EN/BS 61000-6-2 and IEC/EN/BS 61000-6-4.

EASY BRANCH power monitoring system



EXS0000



EXS4000



EXS4001



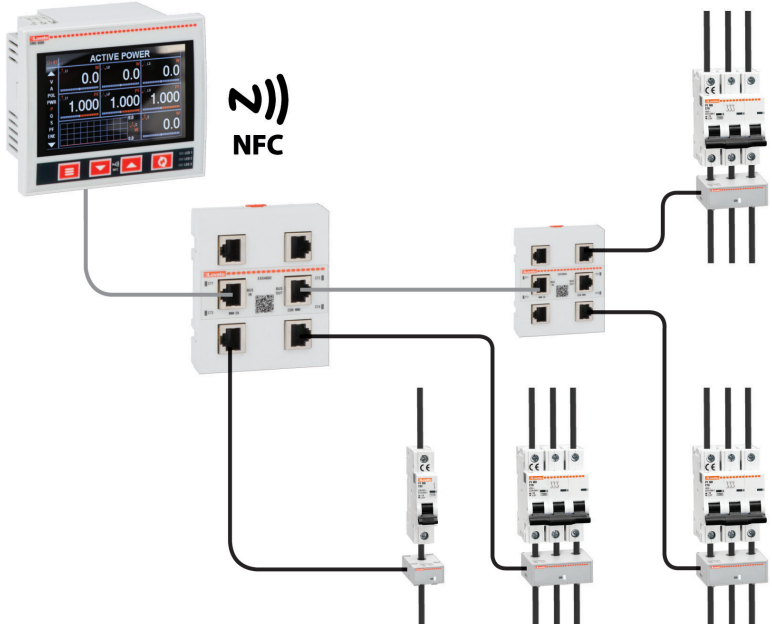
EXS1063



EXS3063

Order code	Description	Qty per pkg	Wt
		n°	[kg]
Modules for EASY BRANCH system.			
EXS0000	Bus module for EASY BRANCH power monitoring system	1	0.090
EXS4000	Current measuring module with 4 inputs for electronic RJ45 CTs	1	0.140
EXS4001	Current measuring module with 2 inputs for three-phase traditional CTs or 6 inputs for single-phase traditional CTs	1	0.210
Electronic current transformers for EASY BRANCH system. Single-phase.			
EXS1032	32A single-phase electronic current transformer with RJ45 cable, 2m long	1	0.060
EXS1063	63A single-phase electronic current transformer with RJ45 cable, 2m long	1	0.060
EXS1080	80A single-phase electronic current transformer with RJ45 cable, 2m long	1	0.105
EXS1125	125A single-phase electronic current transformer with RJ45 cable, 2m long	1	0.105
Three-phase.❶.			
EXS3032	32A three-phase electronic current transformer ❶ with RJ45 cable, 2m long	1	0.080
EXS3063	63A three-phase electronic current transformer ❶ with RJ45 cable, 2m long	1	0.080
EXS3080	80A three-phase electronic current transformer ❶ with RJ45 cable, 2m long	1	0.135
EXS3125	125A three-phase electronic current transformer ❶ with RJ45 cable, 2m long	1	0.135
Traditional current transformers. See Section 29.			

❶ Configurable as single-phase current transformer (3 single-phase measure per each EXS3...).



General characteristics
The EASY BRANCH multi-circuit metering system is a modern solution to the need for electrical parameter metering when more than one load is to be monitored inside a single electrical enclosure. Each DIN rail mounting current metering unit can monitor 2 or 4 measurement points and display the values on the DMG7500, DMG8000 or DMG9000... power analyzers to which it is connected, thus centralising the display of data, which includes:
- Phase current
- Measurements on 4 quadrants
- Power (active, reactive and apparent phase and total power)
- Power factor (phase and total)
- Maximum (HIGH), minimum (LOW) and average (AVERAGE) of all measured values
- Peak power/current (max demand)
- Current asymmetry and active power unbalance
- Total harmonic distortion (current)
- Current harmonic analysis up to the 63rd order
- Active, reactive and apparent energy metering (partial and total).

The RJ45 port on the EXS4000 metering module provides foolproof connection of EXS1... and EXS3... electronic current transformers.
The values can also be monitored using the communications ports of DMG... power analyzers, to which up to 8 current metering modules can be connected in cascade thanks to the integrated communications bus with standard Ethernet cable (cat.6), which also provides power.
Connecting 5 or more EXS4... current metering modules requires a 24VDC-0.2A power supply. Each measurement point can be configured as single- or three-phase, up to a total of 33 three-phase or 99 single-phase points.

Operational characteristics of EXS4... current measuring modules
- Power supplied by the bus cable (connecting 5 or more EXS4... current metering modules requires a 24VDC-0.2A power supply)
- nominal input current:
  EXS4000: 32A, 63A, 80A or 125A, depending on the connected EXS1... or EXS3... electronic transformer.
  EXS4001: 5A or 1A via external current transformer
- Accuracy (IEC/BS 61557-12):
  • current: Class 0.5 (Iref = 5AAC)
  • power: Class 1 (active), Class 2 (reactive)
  • power factor: Class 1
  • THD and current harmonics: Class 5
  • active energy: Class 1
  • active energy: Class 1 (IEC/EN/BS 62053-21)
  • reactive energy: Class 2 (IEC/EN/BS 62053-23)
- Diagnostics LED indicates correct power supply and electronic current transformer recognition
- Mounts to 35mm omega rail (IEC/EN/BS 60715).

Operational characteristics of EXS1... - EXS3... electronic current transformers
- Diagnostics LED to confirm connection
- Pre-wired cable: 2m
- RJ45 connector.

Synergy supervision and energy management software
See Section 36.

Xpress configuration and remote control software
See Section 36.

Lovato App NFC
See Section 36.

Certifications and compliance
Certifications: cETLus (in accordance with National Electrical Code (US) and Canadian Electrical Code).
Compliant with standards: IEC/EN/BS 61010-1, IEC/EN/BS 61000-6-2 and IEC/EN/BS 61000-6-4.

Flush-mount LCD multimeters, expandable



DMG600 - DMG610
DMG615 - DMG620



DMG611R...

new

Order code	Description	Qty per pkg	Wt
		n°	[kg]
Icon LCD 72X46mm/2.83x1.81", backlight, harmonic analysis, auxiliary supply 100...440/110...250VDC, expandable with modules series EXP...			
DMG600	Front optical port, multilanguage❶	1	0.300
DMG610	Front optical port, built-in RS485 serial port, multilanguage❶	1	0.350
DMG611R0100	Front optical port, built-in RS485 serial port, multilanguage❶. Current reading through 3 Rogowski coils included, max current 100A	1	0.350
DMG611R0500	Front optical port, built-in RS485 serial port, multilanguage❶. Current reading through 3 Rogowski coils included, max current 500A	1	0.350
DMG611R3000	Front optical port, built-in RS485 serial port, multilanguage❶. Current reading through 3 Rogowski coils included, max current 3000A	1	0.350
DMG611R6300	Front optical port, built-in RS485 serial port, multilanguage❶. Current reading through 3 Rogowski coils included, max current 6300A	1	0.350
DMG615	Front optical port, built-in RS485 serial port, multilanguage❶. class 0.5s	1	0.350
DMG620	Front optical port, built-in Ethernet port, multilanguage❶. class 0.5s	1	0.350

❶ Italian, English, French, Spanish and Portuguese.

Expansion modules



EXP10...



Order code	Description
EXPANSION MODULES Inputs and outputs.	
EXP1000	4 opto-isolated digital inputs
EXP1001	4 opto-isolated static outputs
EXP1002	2 digital inputs and 2 static outputs, opto-isolated
EXP1003	2 relay outputs rated 5A 250VAC
EXP1008	2 opto-isolated digital inputs and 2 relay outputs rated 5A 250VAC
Communication ports.	
EXP1010	Opto-isolated USB interface
EXP1011	Opto-isolated RS232 interface
EXP1012	Opto-isolated RS485 interface
EXP1013	Opto-isolated Ethernet interface

Communication devices



CX01



CX02

Order code	Description	Qty per pkg	Wt
		n°	[kg]
CX01	USB/optical device with PC ↔ LOVATO Electric product connecting cable, for programming, data download, diagnostics and firmware upgrade	1	0.090
CX02	Wi-Fi device for PC ↔ LOVATO Electric product programming, data download, diagnostics and cloning	1	0.090

General characteristics
DMG6... digital multimeters are capable of viewing the measurements with high accuracy on the wide icon LCD, which allow to control energy distribution networks.
They are available with a flush-mount housing, (96x96mm/3.78"x3.78") and 1 expansion slot to fit plug-in expansion modules, suitable for numerous applications.
The main features include an extended power supply voltage range, high measurement accuracy, expandability and icon interactive interface for simple use.
They are equipped with a front optical port for programming via USB (CX01) or WI-Fi (CX02) communication devices to allow:
- Configuration of parameters
- Parameters copy
- Cloning of stored data.

Main measurements:
- Voltage: phase, line and system values
- Current: phase values (neutral current calculated)
- Power: apparent, active and reactive phase and total values
- P.F.: Power Factor per phase and total
- Frequency of measured voltage value
- HIGH-LOW-AVERAGE value functions for all measurements
- Maximum demand of power and current values
- Voltage and current asymmetry
- Total harmonic distortion (THD): voltage and current
- Harmonic analysis of voltage and current up to the 15° order
- Energy meters for active, reactive, apparent partial and total values
- Hour counter for programmable total and partial hours.

Operational characteristics
- Auxiliary supply voltage range:
  - 100...440VAC / 110...250VDC❷
- Voltage measurement range:
  50...720VAC L-L
- Usage in medium and high voltage systems with voltage transformers
- Rated input current: By external CT 5A or 1A
- Current reading through Rogowski coils for DMG611...
- Frequency measurement range 45...66Hz, 360...440Hz
- True RMS measurements: for voltage and current
- Measurement accuracy:
  - Voltage: ±0.5% (50...720VAC)
  - Current: ±0.5% (0.1...1.1In)
  - Power: ±1% f.s.
  - Frequency: ±0.05%
  - Active energy: Class 1 (IEC/EN/BS 62053-21)
  - Reactive energy: Class 2 (IEC/EN/BS 62053-23)
- Measurement accuracy DMG615/620::
  - Voltage: ±0.2% (50...720VAC)
  - Current: ±0.2% (0.1...1.1In)
  - Power: ±0.5% f.s.
  - Frequency: ±0.05%
  - Active energy: Class 0.5 (IEC/EN/BS 62053-22)
  - Reactive energy: Class 2 (IEC/EN/BS 62053-23)
- Non-volatile memory for data storage
- Communication protocol Modbus-RTU, ASCII and TCP
- Compatible Synergy and Xpress software
- Flush-mount housing 96x96mm/3.78"x3.78"
- EN degree of protection: IP54 on front.

Synergy supervision and energy management software
See Section 36.

Xpress configuration and remote control software
See Section 36.

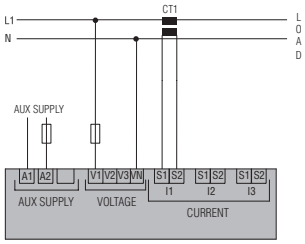
EXP series expansion modules
See page 35-2.

Certifications and compliance
Certifications obtained: cULus (except DMG611... and DMG620), EAC, RCM; UL listed for USA and Canada (cULus – File E93601), as Auxiliary Devices – Multimeters.
Compliant with standards: IEC/EN/BS 61010-1, IEC/EN/BS 61010-2-030, IEC/EN/BS 61000-6-2, IEC/EN/BS 61000-6-3, UL 61010-1, CSA C22.2 n° 61010-1, UL 61010-2-030, CSA 22.2 n° 61010-2-030.

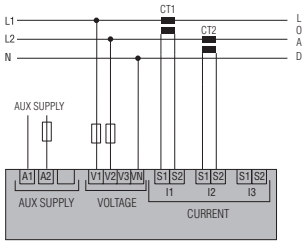
❷ Consult Technical support about versions with supply 12...48VDC

MULTIMETERS DMG...

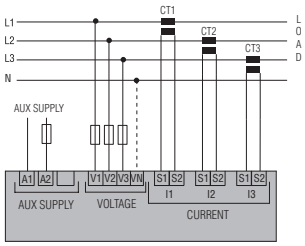
Single-phase



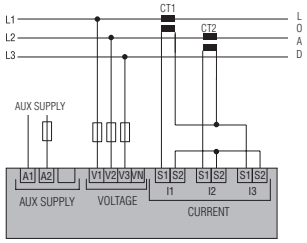
Two-phase

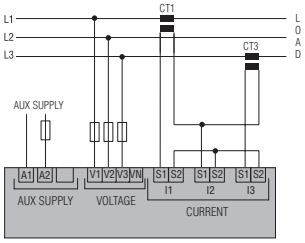


Three-phase with or without neutral

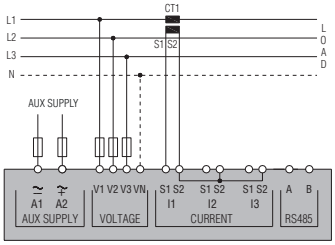


Three-phase without neutral in ARON connection





Balanced 3-phase connection with or without neutral



CODE	AUX SUPPLY
DMG100-110-200-210-300	100...240VAC 110...250VDC
DMG6...	100...440VAC 110...250VDC
DMG7000-7500-8000-9000	100...240VAC 110...250VDC

RS485 for DMG110 and DMG210



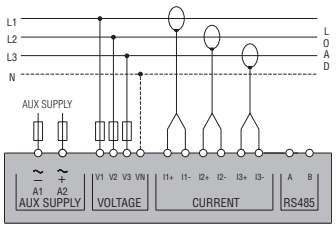
RS485 for DMG610



RS485 for DMG7500 and DMG9000



MULTIMETERS DMG611...



RS485 for DMG611



Flush mount LCD multimeters, expandable



DMG 600 - DMG 610



DMG 700 - DMG 800…



DMG M3 800 01

Order code	Description	Qty per pkg	Wt
		n°	[kg]
DMG 600	Backlight icon LCD, 72x46mmm/2.8x1.8", auxiliary supply 100-400VAC / 120-250VDC, front optical port	1	0.300
DMG 610	Backlight icon LCD, 72x46mmm/2.8x1.8", auxiliary supply 100-400VAC / 120-250VDC, front optical port and RS485 port	1	0.350
DMG 700	Graphic 128x80 pixel LCD, auxiliary supply 100-440VAC/110-250VDC. Multilanguage: Italian, English, French, Spanish and Portuguese	1	0.510
DMG 700 L01	Graphic 128x80 pixel LCD, auxiliary supply 100-440VAC/110-250VDC. Multilanguage: English, Czech, Polish, German and Russian	1	0.510
DMG 800	Graphic 128x80 pixel LCD, harmonic analysis, auxiliary supply 100-440VAC/110-250VDC. Multilanguage: Italian, English, French, Spanish and Portuguese	1	0.510
DMG 800 L01	Graphic 128x80 pixel LCD, harmonic analysis, auxiliary supply 100-440VAC/110-250VDC. Multilanguage: English, Czech, Polish, German and Russian	1	0.510
DMG 800 D048	Graphic 128x80 pixel LCD, with harmonic analysis, auxiliary supply 12-24-48VDC	1	0.520
DMG M3 800 01	DMG 800 portable unit in M3N case, prewired, for mobile applications, with USB port, without external cable (see page 23-31)	1	3.300



EXP 10…

Order code	Description
DMG 600/610, DMG 700 AND DMG 800 EXPANSION MODULES Inputs and outputs.	
EXP10 00	4 opto-isolated digital inputs
EXP10 01	4 opto-isolated static outputs
EXP10 02	2 digital inputs and 2 static outputs, opto-isolated
EXP10 03	2 relay outputs rated 5A 250VAC
EXP10 04	2 opto-isolated analog inputs 0/4-20mA or PT100 or 0-10V or 0...±5V for DMG 800
EXP10 05	2 opto-isolated analog outputs 0/4-20mA or 0-10V or 0...±5V for DMG 800
EXP10 08	2 opto-isolated digital inputs and 2 relay outputs rated 5A 250VAC
Communication ports.	
EXP10 10	Opto-isolated USB interface
EXP10 11	Opto-isolated RS232 interface
EXP10 12	Opto-isolated RS485 interface
EXP10 13	Opto-isolated Ethernet interface with web server function for DMG 800
EXP10 14	Opto-isolated Profibus-DP interface for DMG 800
EXP10 30	Data storage, clock-calendar (RTC) with backup reserve energy for data logging for DMG 800

General characteristics
DMG 600, DMG 610, DMG 700 and DMG 800 digital multimeters are capable of viewing the measurements with high accuracy on the wide graphic LCD, which allow to control energy distribution networks.
They are available with a flush-mount housing, 96x96mm/3.78x3.78" size, and expansion slots to fit plug-in expansion modules (1 for DMG 600/610 and 4 for DMG 700/800) suitable for numerous applications.
The main features include an extended power supply voltage range, high measurement accuracy, expandability and graphic interactive interface for simple use.
Main measurements and functions include:
- Voltage: phase, line and system values
- Current: phase values (neutral current calculated)
- Power: apparent, active and reactive phase and total values
- P.F.: Power Factor per phase and total
- Frequency of measured voltage value
- HIGH-LOW-AVERAGE value functions for all measurements
- Maximum demand of power and current values
- Voltage and current asymmetry
- Total harmonic distortion (THD): voltage and current
- Harmonic analysis of voltage and current up to the 31° order with DMG 800 only
- Energy meters for active, reactive, apparent partial and total values with programmable tariff functions
- Hour counter for programmable total and partial hours
- Pulse counter for general use: consumption pulse counting for water, gas, etc., with expansion module only.

Operational characteristics
- Auxiliary supply voltage range:
  - 100-400VAC / 120-250VDC for DMG 600/610
  - 90-484VAC / 93.5-300VDC for DMG 700/800
  - 9-70VDC for DMG 800 D048
- Voltage measurement range:
  - 50-720VAC for DMG600/610
  - 20-830VAC L-L / 10-480VAC L-N for DMG 700/800
- Usage in medium and high voltage systems with voltage transformers
- Rated input current: By external CT 5A for DMG 700; 1A or 5A for DMG 600/610 and DMG 800…
- Frequency measurement range: 45-66Hz
- True RMS measurements: for voltage and current
- Measurement accuracy for DMG 600/610-DMG 700:
  - Voltage: ±0.5% (50-720VAC DMG 600/610; 50-830VAC DMG 700)
  - Current: ±0.5% (0.1-1.1In)
  - Power: ±1% f.s.
  - Frequency: ±0.05%
  - Active energy: Classe 1 (IEC/EN 62053-22)
  - Reactive energy: Class 2 (IEC/EN 62053-23)
- Measurement accuracy for DMG 800…:
  - Voltage: ±0.2% (50-830VAC)
  - Current: ±0.2% (0.1-1.1In)
  - Power: ±0.5% f.s.
  - Power factor: ±0.5%
  - Frequency: ±0.05%
  - Active energy: Classe 0.5S (IEC/EN 62053-22)
  - Reactive energy: Class 2 (IEC/EN 62053-23)
- Non-volatile memory for data storage
- Communication protocol Modbus-RTU, ASCII and TCP
- Compatible with Synergy software
- Flush-mount housing 96x96mm/3.78x3.78"
- IEC degree of protection: On front IP54 DMG600/610; IP65 all others. All IP20 at terminals

Overall M3N case dimensions: See page 4-17.

Synergy supervision and energy management software See Section 27.

EXP series expansion modules See Section 28, page 2.

Certifications and compliance
Certifications obtained: EAC for all except DMGM380001; UL listed for USA and Canada (cULus – File E93601), as Auxiliary Devices – Multimeters for DMG… types pending for DMG600/610 and excluding DMGM380001.
Compliant with standards: IEC/EN 61010-1, IEC/EN 61000-6-2, IEC/EN 61000-6-3, UL508, CSA C22-2 n°14.

DIGITAL MULTIMETERS DMG5...



CODE	DESCRIPTION
DMG500	Backlight icon 72x46mm LCD, auxiliary supply 100...240VAC/110...250VDC, multilanguage ❶
DMG510	Backlight icon 72x46mm LCD, harmonic analysis, auxiliary supply 100...240VAC/110...250VDC, built-in RS485 serial port, multilanguage ❶

❶ english, italian, french, spanish, portuguese, german.

MEASUREMENTS

- voltage: phase, line and system values
- current: phase values (neutral current calculated)
- power: apparent, active and reactive phase and total values
- P.F.: Power Factor per phase and total
- frequency of measured voltage value
  HIGH-LOW-AVERAGE value functions for all measurements
- maximum demand of power and current values
- voltage and current asymmetry
- total harmonic distortion (THD): voltage and current
- harmonic analysis of voltage and current up to the 15° order (DMG510)
- energy meters for active, reactive, apparent partial and total values
- hour counter for programmable total and partial hours.

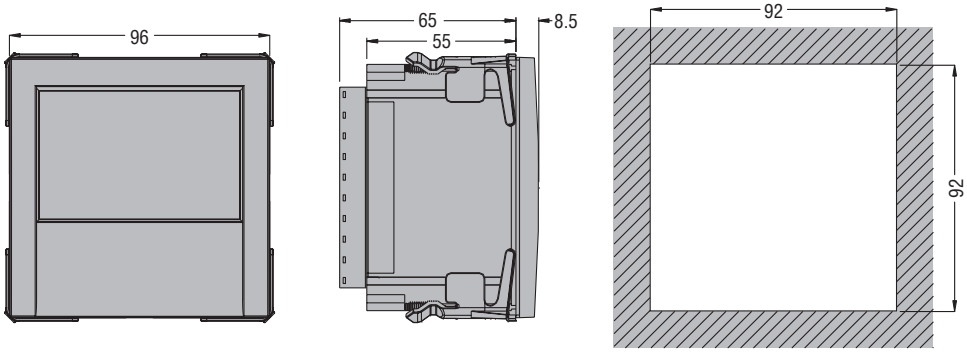
OPERATIONAL CHARACTERISTICS

- auxiliary supply voltage range:
  100...240VAC / 110...250VDC
- measurement voltage range: 480VAC max
- rated input current: by external CT 5A or 1A
- frequency measurement range: 45...66Hz
- measurement accuracy:
  - active energy: Class 1 (IEC/EN 62053-21)
  - reactive energy: Class 2 (IEC/EN 62053-23)
- communication protocol Modbus-RTU, ASCII
- EN degree of protection: IP54 on front.

CERTIFICATIONS AND COMPLIANCE

- Certifications obtained: EAC.
- Compliant with standards: IEC/EN 61010-1, IEC/EN 61010-2-030, IEC/EN 61000-6-2, IEC/EN 61000-6-3.

DIMENSIONS [mm]



SOFTWARE

- Xpress for configuration and remote control via PC;
- Synergy and Synergy cloud, for supervision and energy management.

