

# METERING INSTRUMENTS AND CURRENT TRANSFORMERS

Digital Measuring Instruments



## Flush mount LCD multimeters, expandable



DMG 600 - DMG 610



DMG 700 - DMG 800...



DMG M3 800 01



EXP10...

Order code	Description	Qty per pkg	Wt
		n°	[kg]
DMG 600	Backlight icon LCD 72x46mm harmonic analysis, auxiliary supply 100...440VAC/120...250VDC, front optical port. Multilanguage: Italian, English, French, Spanish, Portuguese and German.	1	0.300
DMG 610	Backlight icon 72x46mm harmonic analysis, auxiliary supply 100...440VAC/120...250VDC, built-in RS485 front optical serial port. Multilanguage: Italian, English, French, Spanish, Portuguese and German.	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 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 D048	Graphic 128x80 pixel LCD, 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 p. 16-18)	1	3.300

Order code	Description
DMG600/610, DMG700, DMG800 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
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 600/610, 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/3.78"x3.78") 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:

- 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<sup>th</sup> (DMG 600/610) and 31<sup>st</sup> order (only DMG 800)
- Energy meters for active, reactive, apparent partial and total values
- programmable tariff functions (only DMG 700/800)
- Hour counter for programmable total and partial hours
- Pulse counter for general use: consumption pulse counting for water, gas, etc., with expansion module only DMG 700/800.

### Operational characteristics

- Auxiliary supply voltage range:
  - 90...484VAC / 93,5...300VDC per DMG 600/610/700/800
  - 9...70VDC per DMG 800 D048
- Voltage measurement range:
  - 20...830VAC L-L / per DMG 700/800
  - 50...720VAC L-L per DMG 600/610
- Usage in medium and high voltage systems with voltage transformers
- Rated input current: By external CT 5A for DMG 700; By external CT 5A or 1A for DMG 600/610, 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 per DMG 600/610; 50...830VAC per DMG 700)
  - Current: ±0,5% (0,1...1,1In)
  - Power: ±1% f.s.
  - Frequency: ±0,05%
  - Active energy: Classe 1 (IEC/EN 62053-21)
  - 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: Class 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 and Xpress software
- Flush-mount housing 96x96mm/3.78"x3.78"
- Degree of protection: On front IP54 DMG 600/610; IP65 all others. All IP20 at terminals.

Overall M3N case dimensions: 280h x 220w x 170d mm.

Synergy supervision and energy management software  
See page 16-22.

Xpress configuration and remote control software  
See page 16-25.

EXP series expansion modules  
See page 16-15.

### Certifications and compliance

Certifications obtained: cULus, EAC (except DMG M3...) Compliant with standards: IEC/EN61010-1, IEC/EN61000-6-2, IEC/EN61000-6-3, UL508, CSA C22.2 n° 14. For DMG 600/610 UL610-1, CSA C22.2 n° 61010-1.

