

# ENERGY METERS



DME SERIES

The logo consists of a stylized 'L' made of vertical bars of varying heights, followed by the word 'Lovato' in a bold, sans-serif font, and 'electric' in a smaller, bold, sans-serif font below it.

ENERGY AND AUTOMATION



## PRECISION

0.5s accuracy class

## EASE OF USE

Backlight graphic display

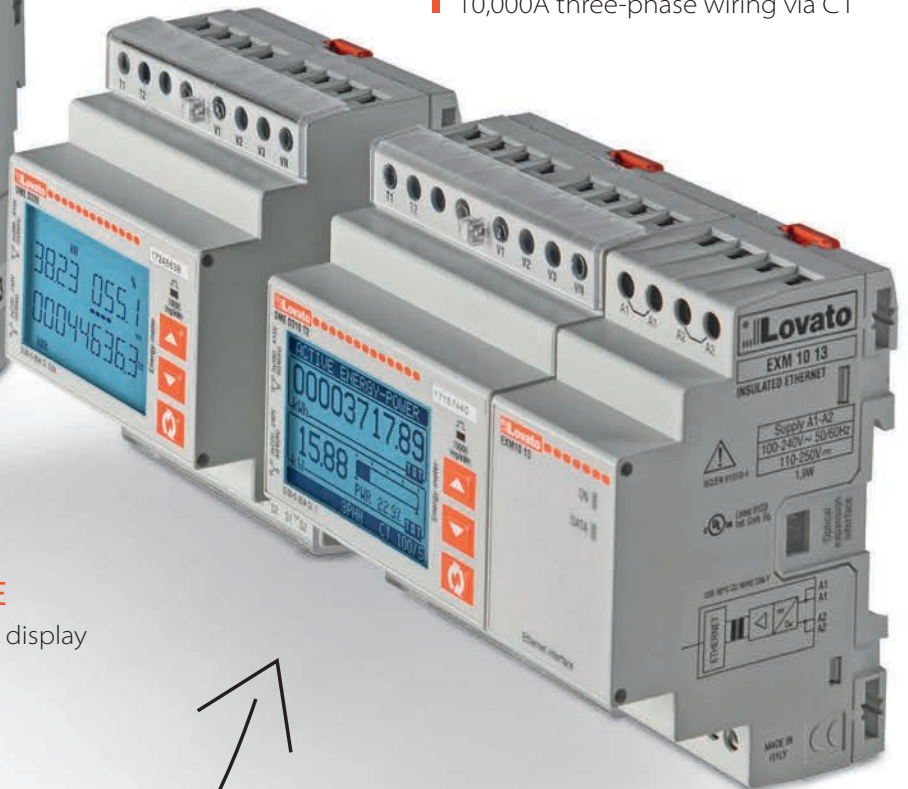
## SOFTWARE

Monitoring, configuration and remote control for energy management



## COMPLETE RANGE

From direct connection 40A single-phase in a single module to 10,000A three-phase wiring via CT



## MID VERSIONS

Energy meters certified for sub-metering even with extended temperature range (-25... +70°C) for outdoor applications

**Xpress**  
**Synergy**



Energy  
Management



DME

- total and partial energy meters (resettable)
- expandable versions with memory device for data logger, Ethernet communication and relay outputs for load disconnection
- versions with programmable output for energy pulses or alarm thresholds
- tariff input selection
- 4-quadrant measurements.



Photovoltaic

## For efficient management of energy consumption |

In a global scenario in which energy must be monitored and managed efficiently, LOVATO Electric presents its updated series of energy meters for single and three-phase systems. Compatibility with the EXM... type expansion modules and the availability of a data concentrator allow LOVATO Electric energy meters to connect with the most common communication systems (USB, RS232, RS485, M-BUS and Ethernet).



### EXPANDABILITY

Input/output and communication modules

### COMMUNICATION

Modbus via RS232 or RS485, Ethernet or M-BUS

# DME

Series



Street lighting



Retail



Industry



Charging systems



220...  
240  
VAC

## > SINGLE-PHASE



- rated supply voltage: 220...240VAC
- operating limit: 187...264VAC
- active energy measurement and accuracy:
  - standard version: class 1 (IEC/EN 62053-21)
  - MID-certified version: -25...+55°C class B (EN 50470-3)
  - MID-certified version: -25...+70°C class B (EN 50470-3)
- reactive energy measurement and accuracy: class 2 (IEC/EN 62053-23)
- flashing metrological LED for energy consumption indication
- terminal covers that can be sealed included
- protection rating: IP40 on front, IP20 on terminals
- multi-measurement
- built-in RS485 or M-Bus communication port.



| SINGLE-PHASE WITH DIRECT WIRING                               |                                                                                     | DME D100 T1 | DME D110 T1 | DME D111 | DME D112 | DME D115 T1 | DME D120 T1 | DME D121 | DME D122 | DME D130 LM |
|---------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------|-------------|----------|----------|-------------|-------------|----------|----------|-------------|
| Maximum current                                               |                                                                                     | 40A         | 40A         | 40A      | 40A      | 40A         | 63A         | 63A      | 63A      | 63A         |
| Display                                                       | Vertical, no backlight                                                              | ■           | ■           | ■        | ■        |             |             |          |          |             |
|                                                               | Horizontal, with backlight                                                          |             |             |          |          | ■           | ■           | ■        | ■        | ■           |
| Measurement                                                   | kWh                                                                                 | ■           | ■           | ■        | ■        | ■           | ■           | ■        | ■        | ■           |
|                                                               | kW with average and max. demand                                                     |             | ■           | ■        | ■        | ■           | ■           | ■        | ■        | ■           |
|                                                               | kW with average and max. demand, kvar, V, I, Hz, PF, total and partial hour counter |             | ■           | ■        | ■        |             | ■           | ■        | ■        | ■           |
| Interface                                                     | Pulse output                                                                        | ■           |             |          |          |             |             |          |          |             |
|                                                               | Programmable output (pulses/thresholds)                                             |             | ■           |          |          | ■           | ■           |          |          |             |
|                                                               | Built-in Modbus RTU (RS485)                                                         |             |             | ■        |          |             |             | ■        |          |             |
|                                                               | Built-in M-Bus                                                                      |             |             |          | ■        |             |             |          | ■        |             |
| MID version -25...55°C                                        |                                                                                     | ■           | ■           | ■        | ■        |             | ■           | ■        | ■        |             |
| MID version -25...70°C                                        |                                                                                     |             |             | ■        |          |             |             |          |          |             |
| Load management                                               |                                                                                     |             |             |          |          |             |             |          |          | ■           |
| Compatibility with Synergy, Synergy Cloud and Xpress software |                                                                                     |             |             | ■        |          |             |             | ■        |          |             |

380...  
415  
VAC

## > THREE-PHASE



- rated supply voltage: 380...415VAC (L-L)
- operating limit: 323...456VAC (L-L)
- active energy measurement and accuracy:
  - standard version, direct connection: class 1 (IEC/EN 62053-21)
  - standard version, connection via CT: class 0.5s (IEC/EN 62053-22)
  - MID-certified version: -25...+55°C class B (EN 50470-3)
  - MID-certified version: -25...+70°C class B (EN 50470-3)
- reactive energy measurement and accuracy: class 2 (IEC/EN 62053-23)
- flashing metrological LED for energy consumption indication
- terminal covers that can be sealed included
- protection rating: IP40 on front, IP20 on terminals
- multi-measurement
- tariff input selection
- built-in RS485 or M-Bus communication port
- version supporting expansion modules.



| THREE-PHASE                                                   |                                         | DMED300 T2 | DMED301 | DMED302 | DMED305T2      | DMED330        | DMED332        | DMED310T2 |
|---------------------------------------------------------------|-----------------------------------------|------------|---------|---------|----------------|----------------|----------------|-----------|
| Maximum current                                               |                                         | 80A        | 80A     | 80A     | CT /5 or CT /1 | CT /5 or CT /1 | CT /5 or CT /1 | CT /5     |
| Connection type                                               | Direct                                  | ■          | ■       | ■       |                |                |                |           |
|                                                               | Via CT                                  |            |         |         | ■              | ■              | ■              | ■         |
| Interface                                                     | Programmable output (pulses/thresholds) | ■          |         |         | ■              |                |                | ■         |
|                                                               | Built-in Modbus RTU (RS485)             |            | ■       |         |                | ■              |                |           |
| Expandability                                                 | Built-in M-Bus                          |            |         | ■       |                |                | ■              |           |
|                                                               | Communication (RS485, Ethernet, USB)    |            |         |         |                |                |                | ■         |
|                                                               | Relay outputs for load disconnection    |            |         |         |                |                |                | ■         |
|                                                               | Data memory (data logger)               |            |         |         |                |                |                | ■         |
| MID version -25 ... 55°C *                                    |                                         | ■          | ■       | ■       | ■              | ■              | ■              | ■         |
| MID version -25 ... 70°C                                      |                                         |            | ■       |         |                |                |                |           |
| Accuracy according to ANSI C 12.20                            |                                         | ■          | ■       |         |                |                |                |           |
| Compatibility with Synergy, Synergy Cloud and Xpress software |                                         |            | ■       |         |                | ■              |                | ■         |

\* UTF-certified versions are available on request

## APPLICATION EXAMPLES

### Multi-measurement energy meters MID certificated with extended temperature range (-25...+70°C) and built-in RS485

Models **DMED111MID7** (single-phase direct connection up to 40A in 17.5mm) and **DMED301MID7** (3-phase direct connection up to 80A in 72mm) are suitable for applications where hot temperature conditions can occur (i.e. electrical vehicle charging stations).

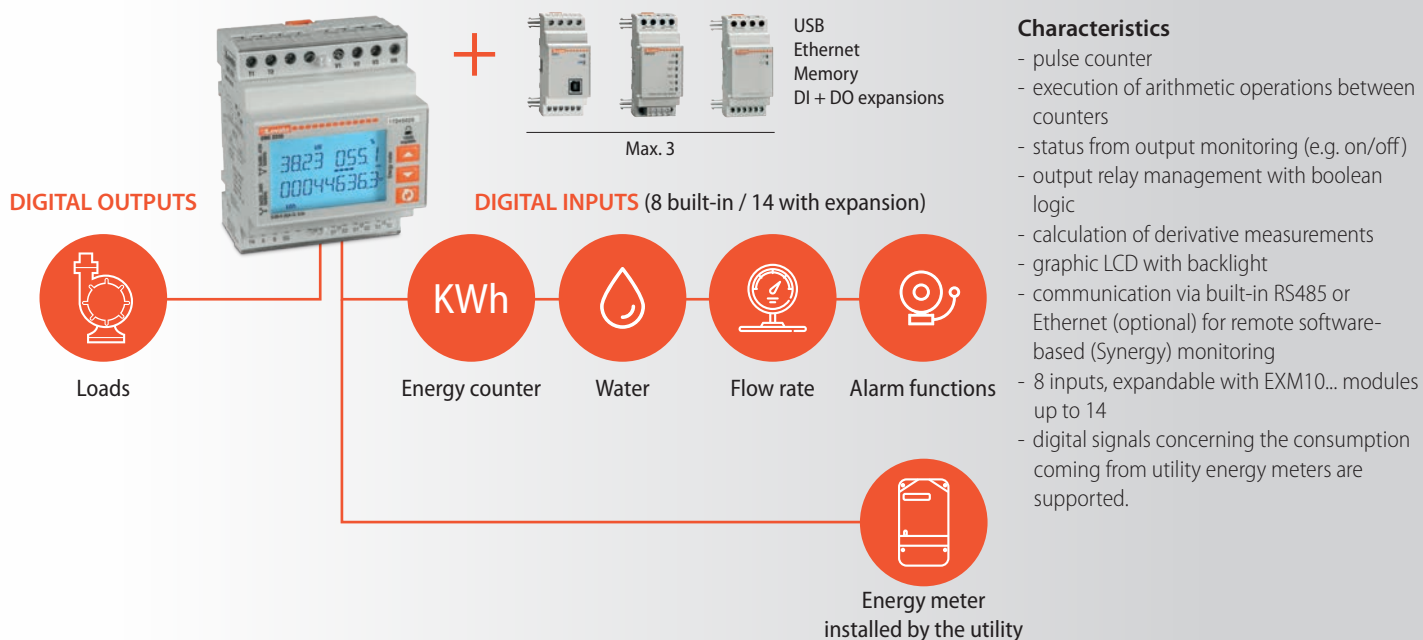
MID certification (2014/32EU) is required when sub-metering and billing are involved.

Both the meters are multi-measurement type (kWh, kvarh, kW with average and max demand values, kvar, V, I, Hz, PF, total and partial hour counters).

All quantities are available through Modbus RTU protocol over the built-in RS485 communication port.

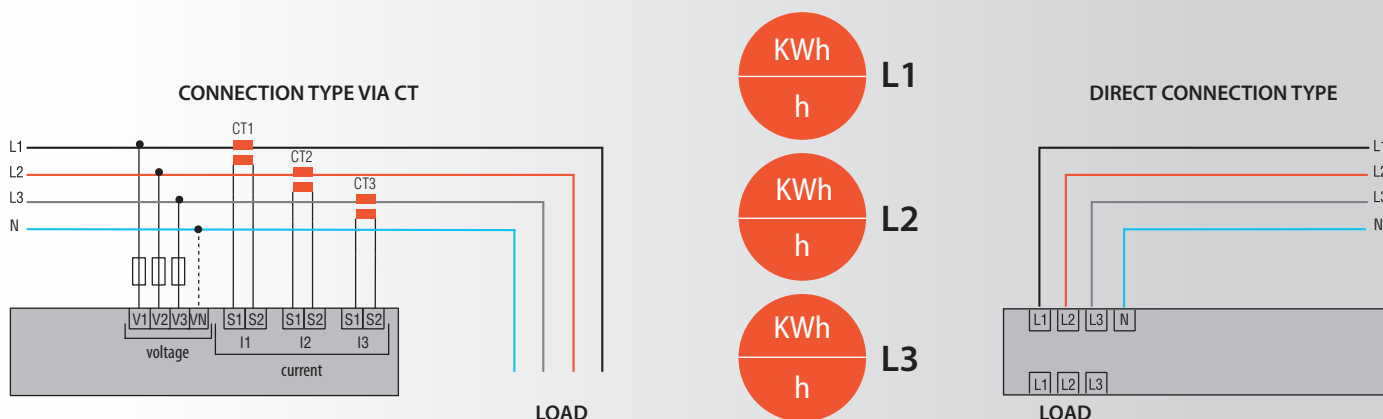


### DMECD: smart expandable data concentrator with built-in RS485



### THREE-PHASE VERSIONS: monitoring energies of each phase with dedicated hour counters

DME series three-phase meters can be used for monitoring the consumption and hours of operation on each phase.



## Single-phase

| Order code       | Maximum current | Size | Accuracy class | Interface             |
|------------------|-----------------|------|----------------|-----------------------|
| <b>DMED100T1</b> | 40A             | 1U   | 1              | 1 pulse output        |
| <b>DMED110T1</b> | 40A             | 1U   | 1              | 1 programmable output |
| <b>DMED111</b>   | 40A             | 1U   | 1              | RS485                 |
| <b>DMED112</b>   | 40A             | 1U   | 1              | M-Bus                 |
| <b>DMED115T1</b> | 40A             | 2U   | 1              | 1 programmable output |
| <b>DMED120T1</b> | 63A             | 2U   | 1              | 1 programmable output |
| <b>DMED121</b>   | 63A             | 2U   | 1              | RS485                 |
| <b>DMED122</b>   | 63A             | 2U   | 1              | M-Bus                 |
| <b>DMED130LM</b> | 63A             | 4U   | 1              | 2 relay outputs       |

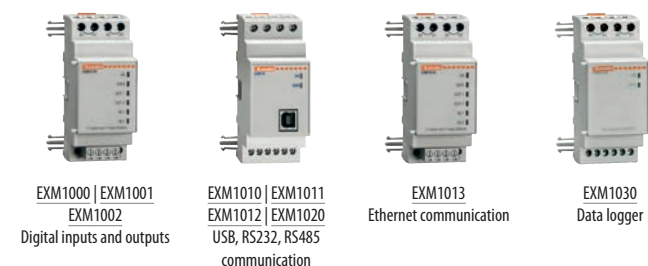
| MID versions        |     |    |   |                       |
|---------------------|-----|----|---|-----------------------|
| <b>DMED100T1MID</b> | 40A | 1U | B | 1 pulse output        |
| <b>DMED110T1MID</b> | 40A | 1U | B | 1 programmable output |
| <b>DMED111MID</b>   | 40A | 1U | 1 | RS485                 |
| <b>DMED111MID7</b>  | 40A | 1U | 1 | RS485                 |
| <b>DMED112MID</b>   | 40A | 1U | 1 | M-Bus                 |
| <b>DMED120T1MID</b> | 63A | 2U | B | 1 programmable output |
| <b>DMED121MID</b>   | 63A | 2U | B | RS485                 |
| <b>DMED122MID</b>   | 63A | 2U | B | M-Bus                 |

## Data concentrator

| Order code   | Size | Interface | Input number | Expandability            |
|--------------|------|-----------|--------------|--------------------------|
| <b>DMECD</b> | 4U   | RS485     | 8 built-in   | max. 3 EXM... expansions |

## Expansions for DMED310T2, DMED310T2 MID and DMECD

| Order code     | Description                                                  |
|----------------|--------------------------------------------------------------|
| <b>EXM1000</b> | 2 digital inputs and 2 static outputs, opto-isolated         |
| <b>EXM1001</b> | 2 opto-isolated digital inputs and 2 relay outputs 5A 250VAC |
| <b>EXM1002</b> | 4 opto-isolated digital inputs and 2 relay outputs 5A 250VAC |
| <b>EXM1010</b> | Opto-isolated USB interface                                  |
| <b>EXM1011</b> | Opto-isolated RS232 interface                                |
| <b>EXM1012</b> | Opto-isolated RS485 interface                                |
| <b>EXM1013</b> | Ethernet interface                                           |
| <b>EXM1020</b> | Opto-isolated RS485 interface and 2 relay outputs 5A 250VAC  |
| <b>EXM1030</b> | Data storage, RTC with backup battery for data logging       |



## Accessories



## Three-phase

| Order code         | Maximum current | Size | Accuracy class | Interface              |
|--------------------|-----------------|------|----------------|------------------------|
| <b>DMED300T2</b>   | 80A             | 4U   | 1*             | 2 programmable outputs |
| <b>DMED300T2UL</b> | 80A             | 4U   | 0.5**          | 2 programmable outputs |
| <b>DMED301</b>     | 80A             | 4U   | 1*             | RS485                  |
| <b>DMED301UL</b>   | 80A             | 4U   | 0.5**          | RS485                  |
| <b>DMED302</b>     | 80A             | 4U   | 1*             | M-Bus                  |
| <b>DMED305T2</b>   | CT /5 or /1     | 4U   | 0.5s           | 2 programmable outputs |
| <b>DMED330</b>     | CT /5 or /1     | 4U   | 0.5s           | RS485                  |
| <b>DMED332</b>     | CT /5 or /1     | 4U   | 0.5s           | M-Bus                  |
| <b>DMED310T2</b>   | CT /5           | 4U   | 1              | 2 programmable outputs |

| MID versions        |             |    |   |                        |
|---------------------|-------------|----|---|------------------------|
| <b>DMED300T2MID</b> | 80A         | 4U | B | 2 programmable outputs |
| <b>DMED301MID</b>   | 80A         | 4U | B | RS485                  |
| <b>DMED301MID7</b>  | 80A         | 4U | B | RS485                  |
| <b>DMED302MID</b>   | 80A         | 4U | B | M-Bus                  |
| <b>DMED305T2MID</b> | CT /5 or /1 | 4U | B | 2 programmable outputs |
| <b>DMED330MID</b>   | CT /5 or /1 | 4U | B | RS485                  |
| <b>DMED332MID</b>   | CT /5 or /1 | 4U | B | M-Bus                  |
| <b>DMED310T2MID</b> | CT /5       | 4U | B | 2 programmable outputs |

\* Class 1 according to IEC/EN 62053-21, accuracy measured in the 0.75A-80A range: **0.5%**

\*\*Accuracy according to ANSI C 12.20

## Software



Software for energy monitoring and efficiency.

Read the energy efficiency brochure to find out more!  
Scan this QR code with your smartphone.



Configuration and remote control software.



Energy Management



DME

Visit **EM.LOVATOELECTRIC.COM**



## Certifications



UTF-certified versions are available on request

# ENERGY METERS



ENERGY AND AUTOMATION

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## LOVATO ELECTRIC S.P. A.

Via Don E. Mazza, 12  
24020 Gorle (Bergamo), Italy

tel. +39 035 4282111  
[info@LovatoElectric.com](mailto:info@LovatoElectric.com)

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