

# ENERGY METERS



DME SERIES



ENERGY AND AUTOMATION

## 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

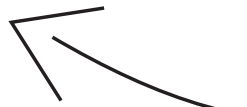
Input/output and communication modules

### COMMUNICATION

Modbus via RS232 or RS485, Ethernet or M-BUS

# DME

Series



Street lighting



Retail



Industry



Charging systems

## COMPLETE RANGE

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



## PRECISION

0.5s accuracy class

## EASE OF USE

Backlight graphic display

## SOFTWARE

Monitoring, configuration and remote control for energy management



## 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

**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
<b>Maximum current</b>		40A	40A	40A	40A	40A	63A	63A	63A	63A
<b>Display</b>	Vertical, no backlight	■	■	■	■					
	Horizontal, with backlight					■	■	■	■	■
<b>Measurement</b>	kWh	■	■	■	■	■	■	■	■	■
	kW with average and max. demand		■	■	■	■	■	■	■	■
	kW with average and max. demand, kvar, V, I, Hz, PF, total and partial hour counter		■	■	■		■	■	■	■
<b>Interface</b>	Pulse output	■								
	Programmable output (pulses/thresholds)		■			■	■			
	Built-in Modbus RTU (RS485)			■				■		
	Built-in M-Bus				■				■	
<b>MID version -25...55°C</b>		■	■	■	■		■	■	■	
<b>MID version -25...70°C</b>				■						
<b>Load management</b>										■
<b>Compatibility with Synergy, Synergy Cloud and Xpress software</b>				■				■		

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		DME D300 T2	DME D301	DME D302	DME D305 T2	DME D330	DME D332	DME D310 T2
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 **DME D111 MID7** (single-phase direct connection up to 40A in 17.5mm) and **DME D301 MID7** (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).

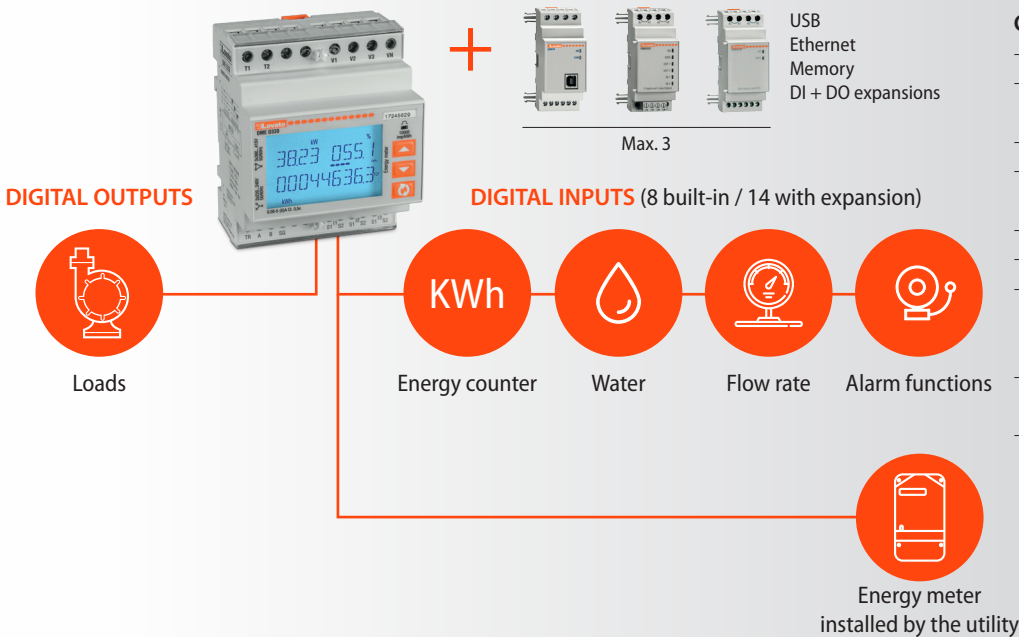
MID certification (2014/32EU) is required when sub-metering and billing are involved.

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.

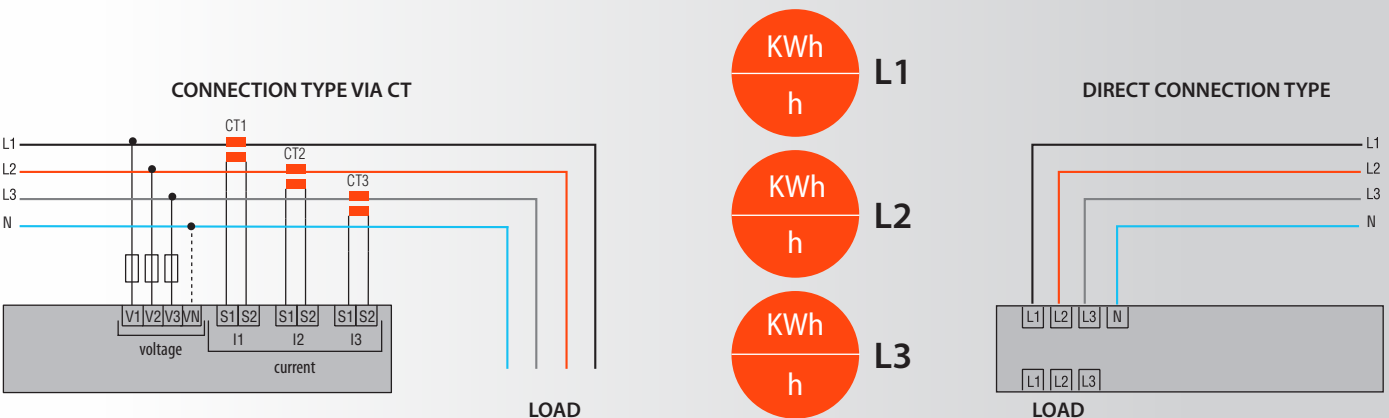


### DME CD: smart expandable data concentrator with built-in RS485



### 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>DME D100 T1</b>	40A	1U	1	1 pulse output
<b>DME D110 T1</b>	40A	1U	1	1 programmable output
<b>DME D111</b>	40A	1U	1	RS485
<b>DME D112</b>	40A	1U	1	M-Bus
<b>DME D115 T1</b>	40A	2U	1	1 programmable output
<b>DME D120 T1</b>	63A	2U	1	1 programmable output
<b>DME D121</b>	63A	2U	1	RS485
<b>DME D122</b>	63A	2U	1	M-Bus
<b>DME D130 LM</b>	63A	4U	1	2 relay outputs

MID versions				
<b>DME D100 T1 MID</b>	40A	1U	B	1 pulse output
<b>DME D110 T1 MID</b>	40A	1U	B	1 programmable output
<b>DME D111 MID</b>	40A	1U	1	RS485
<b>DME D111 MID7</b>	40A	1U	1	RS485
<b>DME D112 MID</b>	40A	1U	1	M-Bus
<b>DME D120 T1 MID</b>	63A	2U	B	1 programmable output
<b>DME D121 MID</b>	63A	2U	B	RS485
<b>DME D122 MID</b>	63A	2U	B	M-Bus

## Data concentrator

Order code	Size	Interface	Input number	Expandibility
<b>DME CD</b>	4U	RS485	8 built-in	max. 3 EXM... expansions

## Expansions for DME D310 T2, DME D310 T2 MID and DME CD

Order code	Description
<b>EXM10 00</b>	2 digital inputs and 2 static outputs, opto-isolated
<b>EXM10 01</b>	2 opto-isolated digital inputs and 2 relay outputs 5A 250VAC
<b>EXM10 02</b>	4 opto-isolated digital inputs and 2 relay outputs 5A 250VAC
<b>EXM10 10</b>	Opto-isolated USB interface
<b>EXM10 11</b>	Opto-isolated RS232 interface
<b>EXM10 12</b>	Opto-isolated RS485 interface
<b>EXM10 13</b>	Ethernet interface
<b>EXM10 20</b>	Opto-isolated RS485 interface and 2 relay outputs 5A 250VAC
<b>EXM10 30</b>	Data storage, RTC with backup battery for data logging



EXM10 00 | EXM10 01  
EXM10 02  
Digital inputs and outputs



EXM10 10 | EXM10 11  
EXM10 12 | EXM10 20  
USB, RS232, RS485  
communication



EXM10 13  
Ethernet communication



EXM10 30  
Data logger

## Accessories



DM  
Current transformers  
50A to 4000A



EXC M4G 01  
4G Modem/Router



EXC CON 01  
RS485-Ethernet converter



EXC GL A01  
Gateway data logger

## Three-phase

Order code	Maximum current	Size	Accuracy class	Interface
<b>DME D300 T2</b>	80A	4U	1*	2 programmable outputs
<b>DME D300 T2 UL</b>	80A	4U	0.5**	2 programmable outputs
<b>DME D301</b>	80A	4U	1*	RS485
<b>DME D301 UL</b>	80A	4U	0.5**	RS485
<b>DME D302</b>	80A	4U	1*	M-Bus
<b>DME D305 T2</b>	CT /5 or /1	4U	0.5s	2 programmable outputs
<b>DME D330</b>	CT /5 or /1	4U	0.5s	RS485
<b>DME D332</b>	CT /5 or /1	4U	0.5s	M-Bus
<b>DME D310 T2</b>	CT /5	4U	1	2 programmable outputs

MID versions				
<b>DME D300 T2 MID</b>	80A	4U	B	2 programmable outputs
<b>DME D301 MID</b>	80A	4U	B	RS485
<b>DME D301 MID7</b>	80A	4U	B	RS485
<b>DME D302 MID</b>	80A	4U	B	M-Bus
<b>DME D305 T2 MID</b>	CT /5 or /1	4U	B	2 programmable outputs
<b>DME D330 MID</b>	CT /5 or /1	4U	B	RS485
<b>DME D332 MID</b>	CT /5 or /1	4U	B	M-Bus
<b>DME D310 T2 MID</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

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## Certifications



UTF-certified versions are available on request

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