



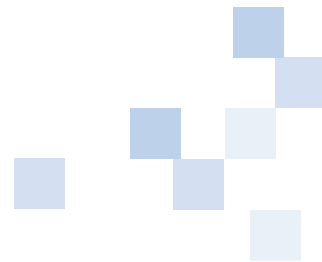
Multi-Protocol
Communication
Simple Implementation
MID Certification



Ethernet
Modbus
M-Bus

Ulys

Energy Meters



ULYS

Measuring Energy Performance

2 pulse outputs as standard features assignable to P, Q or S

Simple to program and use with 2 navigation keys

4-quadrant metering

Class 1 accuracy or MID Class B

Voltage presence indicators L1 L2 L3

Ethernet
Modbus
M-Bus

ULYSKOM Modules
Protocols: Modbus RS485, M-Bus, Ethernet Modbus TCP

Automatic recognition of the modules by the meters

Energy balance between energy consumed and energy produced

Indication of connection errors

Compact
2 modules (single-phase)
4 modules (three-phase)



LCD screen
Backlit



Tariff-change input as a standard feature (2 tariffs)

Single-phase meters offer the same functions as three-phase meters

Multiple measurements V, U, I, P, Q, S, PF, F, total energy index and partial index



Direct measurement readings via **integrated web pages** with ULYSCOM ETHERNET

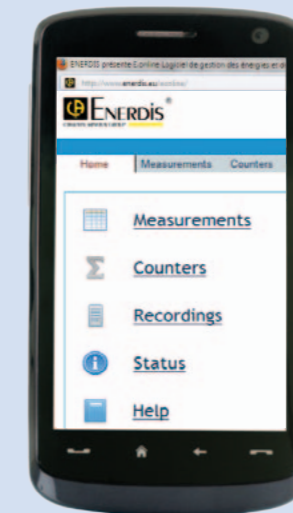
Compatible with single-phase or three-phase meters
Direct interfacing between the metering point and Enerdis's energy management software, or any other system (e.g. programmable logic controllers).

Measurements

A single-phase meter measures the same quantities as a three-phase meter.

	Direct reading on screen	Via communication
Instantaneous values		
V1, V2, V3, ΣV		●
U12, U23, U31		●
I1, I2, I3, In, ΣI		●
FP1, FP2, FP3, ΣFP		●
S1, S2, S3, ΣS	●	●
P1, P2, P3, ΣP	●	●
Q1, Q2, Q3, ΣQ	●	●
Frequency		●
Recorded values		
Active energy, receiver and generator (L1, L2, L3 and total)*	●	●
Reactive energy (L1, L2, L3 and total)*	●	●
Apparent energy (L1, L2, L3 and total)*	●	●
Resettable partial energy meter (ΣkWh, ΣkVarh, ΣkVAh)	●	●
4-quadrant energy balance (ΣkWh, ΣkVarh, ΣkVAh)	●	●

Communication



- **ULYSKOM Modbus** enables the meters to be interfaced directly with the Enerdis energy management software E.online® or with a CTM / TBM programmable logic controller.

- **ULYSKOM M-Bus** is delivered with the free M-Bus MASTER software to configure and read the quantities measured by the energy meter.

- **ULYSKOM Ethernet** can be used to read measurements directly via integrated web pages and to view an overview of consumption covering several weeks with a simple web browser.

It is also possible to export into Excel the consumption data and the quantities measured by the meters over a period of several weeks.

The Range

Model	Connection	Type of network	Type of current input	Dimensions	MID certification	Reference
ULYS MD80	Single-phase	230...240 Vac 50/60 Hz	80 A	2 modules	-	P01331010
ULYS MD80-M	Single-phase	230...240 Vac 50/60 Hz	80 A	2 modules	Yes	P01331011
ULYS TDA80	Three-phase, 3 or 4 wires	230/400...240/415 Vac 50/60 Hz	80 A	4 modules	-	P01331012
ULYS TDA80-3M	Three-phase, 3	230/400...240/415 Vac 50/60 Hz	80 A	4 modules	Yes	P01331013
ULYS TDA80-4M	Three-phase 4 wires	230/400...240/415 Vac 50/60 Hz	80 A	4 modules	Yes	P01331014
ULYS TTA	Three-phase, 3 or 4 wires	230/400...240/415 Vac 50/60 Hz	Isolated 1 or 5 A CT	4 modules	-	P01331015
ULYS TTA-3M	Three-phase, 3	230/400...240/415 Vac 50/60 Hz	Isolated 1 or 5 A CT	4 modules	Yes	P01331016
ULYS TTA-4M	Three-phase 4 wires	230/400...240/415 Vac 50/60 Hz	Isolated 1 or 5 A CT	4 modules	Yes	P01331017

COMMUNICATION MODULES	Reference
ULYSKOM Modbus RS485	P01331030
ULYSKOM M-bus	P01331031
ULYSKOM ETHERNET Modbus TCP	P01331032

MID Directive

Established in 2006 by the European Measuring Instrument Directive (2004/22/CE), MID certification of a meter is mandatory if energy is rebilled.

Technical Specifications

Electrical Specifications

Single-phase type

Current input
Rated current: (5) 80 A
Istart: 20 mA

Voltage input
Measurement range: 0 to 9,999,999.9 kWh
Consumption: 7.5 VA max
Rated voltage: 230...240 Vac (+/- 20 %)
Frequency: 50/60 Hz

Direct three-phase type

Current input
Rated current: (5) 80 A
Istart: 20 mA

Voltage input
Measurement range: 0 to 9,999,999.9 kWh
Consumption: 7.5 VA max / phase
Rated voltage: 3 x 230/400 Vac...3 x 240/415 Vac (+/-20 %)
Frequency: 50/60 Hz

Three-phase type with 1 or 5 A isolated inputs

Current input
Rated current: 5 A
Istart: 2 mA
Max CT ratio: 10,000

Voltage input
Measurement range: 0 to 9,999,999.9 kWh
Consumption: 7.5 VA max / phase
Rated voltage: 3 x 230/400 Vac...3 x 240/415 Vac (+/-20 %)
Frequency: 50/60 Hz

Tariff-change input

T1: No voltage
T2: 80 Vac/Vdc to 276 Vac/dc max

Pulse outputs

Number: 2 assignable to Ea, Eq or Es
Type: Optically isolated, 250 Vac/dc
Duration: 50 ms
Poids:
Single-phase: 500 pulses/kWh, /kVArh, /kVAh
Direct three-phase: 100 pulses/kWh, /kVArh, /kVAh
Three-phase on CT: set automatically according to CT ratio: from 1,000 pulses/kWh to 0.1 pulses/kWh, /kVArh, /kVAh
Max. current: 100 mA

Accuracy

Active energy: Class 1 according to IEC 62053-21
Class B according to MID EN50470-1-3
Reactive energy: Class 2 according to IEC 62053-23

Metrological LED

Characteristics: 1,000 pulses / kWh

Communication modules:

ULYSKOM RS485 :
230 Vac +/- 20 % / 50 Hz / < 5 VA
Configurable RTU (8N1) or ASCII (7E2) mode – Speed from 300 to 115,200 bps – Integrated 120 Ω line termination resistance (directly activatable on the module)
Connection: 2 wires, half-duplex

ULYSKOM M-BUS :
Self-powered on the communication bus – Speed from 300 to 38,400 bps – Connection: 2 wires, M-Bus

ULYSKOM ETHERNET: 230 Vac +/- 20 % / 50 Hz / < 5 VA
Compatible with 10 or 100 base T – Connection: RJ45

Mechanical Specifications

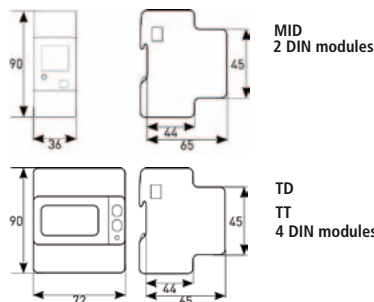
Protection rating: IP51 on front panel
Connection of power circuit:
Single-phase and direct three-phase – screw-on terminal strip for 35 mm² wires
Inputs on CT: screw-on terminal strip for 6 mm² wires
Connection of pulse output and tariff-change input: screw-on terminal strip for 2.5 mm² wires
Mounting on 35 mm² DIN rail

Number of modules:
ULYSKOM RS485 and M-BUS: 1 DIN module
ULYSKOM ETHERNET: 2 DIN modules

Environment

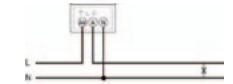
Operating temperature: - 25 °C to + 55 °C
Storage temperature: - 25 °C to + 75 °C
Relative humidity: max 80% without condensation

Dimensions

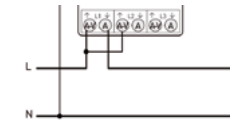


Connections

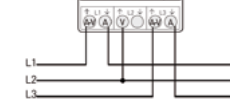
Single-phase MD80(-M)



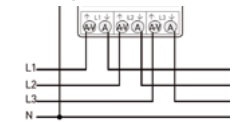
Single-phase TDA80



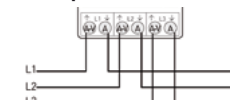
Three-phase TDA80 (-4M)



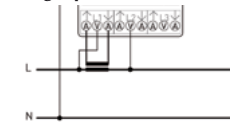
Three-phase TDA80



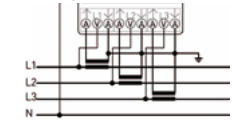
Three-phase TDA80 (-3M)



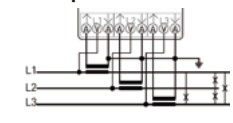
Single-phase TTA



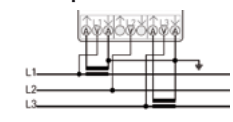
Three-phase TTA (-4M)



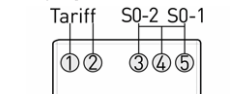
Three-phase TTA



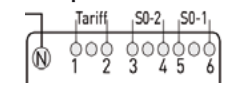
Three-phase TTA (-3M)



Tariff inputs & S0 pulse outputs Single-phase



Tariff inputs & S0 pulse outputs Three-phase



Other Energy Meters

Model	Connection	Inputs	Size	Communication	Accuracy class	MID	Ref.
MEMO3	Single-phase	32 A	1 Module	Pulse output	1	-	MEMN003NA
MEMO3-M	Single-phase	32 A	1 Module	Pulse output	B	Yes	P01330700
ULYS MD65	Single-phase	65 A	2 Modules	Pulse output	1	-	P01330920
ULYS ETAR	3-phase, 3/4 wires	TP+TC 1 ou 5A	7 Modules	Pulse output	1	-	CEAR1001A

Current Transformers

Model	TCR 21	TCR 21	TCR 21	TCR 31	TCR 31	TCR 51	TCR 51	TCR 61	TCR 61	TCR 61
Primary (A) *	50	100	150	200	250	300	400	600	800	1000
Secondary (A) **	5	5	5	5	5	5	5	5	5	5
Accuracy (%)	Cl 3	Cl 1	Cl 1	Cl 1	Cl 1	Cl 1	Cl 1	Cl 1	Cl 1	Cl 1
Power (VA)	3	2,5	3,5	3	3,75	7,5	7,5	15	20	20
a (mm)	70	70	70	70	70	80,5	80,5	102	102	102
b (mm)	58	58	58	58	58	64	64	84,5	84,5	84,5
c (mm)	49	49	49	49	49	60,5	60,5	76	76	76
Cable diameter (mm)	20	20	20	22	22	28	28	44	44	44
Busbars (mm)	15 x 10	15 x 10	15 x 10	20 x 12	20 x 12	20 x 25	20 x 25	50 x 30	50 x 30	50 x 30
	20 x 10	20 x 10	20 x 10	25 x 11	25 x 11	30 x 15	30 x 15	60 x 12	60 x 12	60 x 12
	25 x 5	25 x 5	25 x 5	30 x 10	30 x 10	40 x 10	40 x 10			
Reference	19202319B	19202325B	19202328B	19202430B	19202431B	19204333B	19204335B	19204738B	19204741B	19204742B

* For intermediate ranges and ranges > 1,000 A: please contact us
** For 1 A secondary: please contact us.

FRANCE
Enerdis
16, rue Georges Besse - Silic 44
92182 ANTONY Cedex
Tel: +33 1 75 60 10 30
Fax: +33 1 46 66 62 49
export@enerdis.fr
www.enerdis.com

UNITED KINGDOM
Chauvin Arnoux Ltd
Nelson Ct, Flagship Sq, Shaw Cross
Business Park
Dewsbury, West Yorkshire - WF12 7TH
Tel: +44 1924 460 494
Fax: +44 1924 455 328
info@chauvin-arnoux.co.uk
www.chauvin-arnoux.com

MIDDLE EAST
Chauvin Arnoux Middle East
P.O. BOX 60-154
1241 2020 JAL EL DIB - LEBANON
Tel: +961 1 890 425
Fax: +961 1 890 424
camie@chauvin-arnoux.com
www.chauvin-arnoux.com

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