

MEMO & ULYS

Submeters



Single-phase, three-phase, connected directly or via CT

Integrated communication: Ethernet, M-Bus, Modbus

Metering, submetering, energy monitoring, rebilling

Complete solution for implementing a metering plan

Measure up



Measuring to assess, allocate

Energy efficiency is not just a project for society, it is also a crucial economic challenge in the context of an **action plan to control and reduce energy consumption**. The incentives developed by politicians worldwide cover all sectors of the economy and all types of activities.

The new **regulations and certifications** for installations, implemented at national level to encourage savings and reduce impact on the environment, combine to fulfil the current requirements for optimization of installations' energy consumption.

ENERGY PERFORMANCE PROJECT

- Assess consumption per usage
- Fulfil the requirement for energy auditing established by 2012/27/UE
- Optimize consumption per square metre in a shop
- Reduce the electricity consumption of the production lines
- Link a usage to its cost
- Set up an Energy Performance Contract (EPC)
- Certify an office building as HQE
- Obtain ISO 50001 certification

Implementing a metering plan

While taking into account the constraints

To measure and meter at the level of the subfeeders, you need to take a number of major structural elements into account:

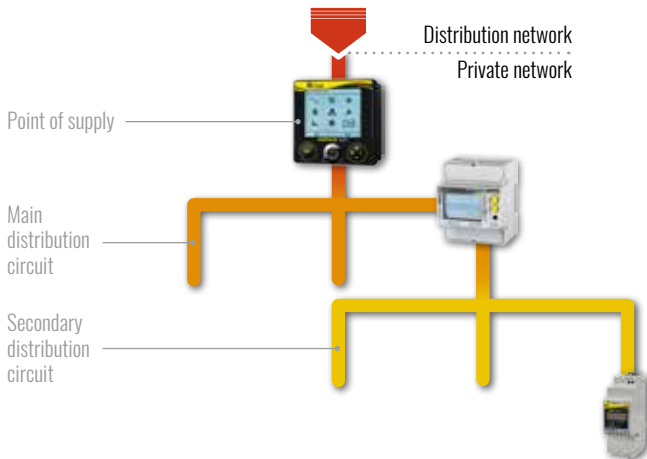
- Integration in an existing architecture or not
- The available communication protocols
- The types of loads connected to the electrical network
- The way the data are made available (locally or remotely)



and monitor

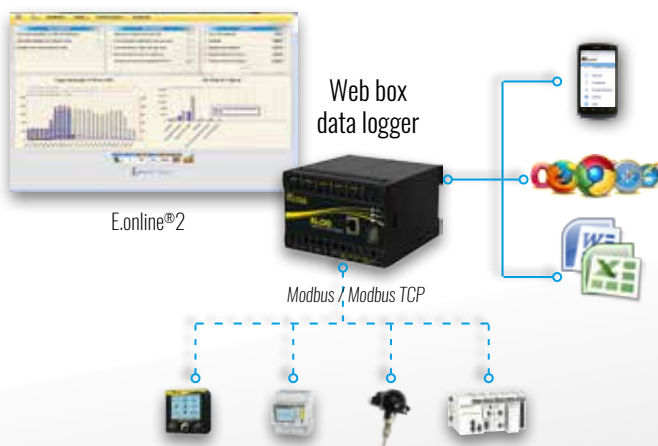
At all levels of the installation

Because of the complexity of the installations and equipment connected, increasingly demanding measurements are necessary, including both downstream and upstream of the electrical distribution circuit.



By means of an energy management system

The energy, climate and process data are collected via an automatic remote data-retrieval unit from the meters, sensors, power monitors, etc., connected to a communication network or equipped with pulses. The E.online®2 software completes the system to monitor, control and manage all the types of consumption.



Energy intelligence expert

The French manufacturer Enerdis has been active on the metering and measurement market for more than 20 years. A precursor in terms of energy management, its offering of industrial-grade products and systems covers the entire range of measurement requirements, whatever your sector of activity.

Nuclear, petrochemicals, rail transport, industry: for sectors with very severe environmental constraints, the Enerdis® offering includes solutions for all the most critical standard requirements. At the heart of the measurement professions, Enerdis plays a major role in implementing energy management and control systems.



MID meters

Mandatory for active energy rebilling on the basis of consumption calculations by index differences.

Enerdis's active energy meters are MID-certified. Their references end in «-M», e.g. MEMO4-M.

Quite simply, the most comprehensive

Functions

- From **active energy metering to recording of all the electrical activity** on a feeder (4 quadrants, alarms)
- Measurement of **single-phase and three-phase loads**
- **Direct** connection up to 80 A or **CT connection**
- **Dual tariff, energy index** via the pulse output
- **Energy rebilling.** All the Enerdis® meters are available in MID versions

Multi-protocol communication

Guaranteed interoperability via a wide variety of communication protocols, including **Modbus RS485, M-bus and Ethernet.**

The meters from Enerdis® offer full communication features:

- in an **integrated way** (Ulys TT, TD80, Memo4)
- associated with communication modules (Ulys MD80, TDA80, TTA) for product replacement

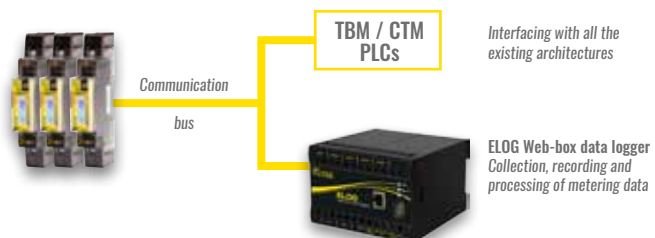


Active energy monitoring

Complete or simplified recording of

For a supervised submetering project

Linking a network of **ULYS TT/TD80 or MEMO4 Modbus meters** with an **ELOG web-box data logger** or a **PLC**



ensive range...

Installation

- **Compact size**
 - ◆ 1 module: single-phase with integrated communication
 - ◆ 4 modules: three-phase with integrated communication
- **Wiring simplified** by separation of the power terminals and the ancillary connections
- **Implementation facilitated** by a clear, functional startup guide
- **Error-free startup** thanks to display of the instantaneous current/voltages on the screen; detection of the phase sequence and verification loop for programming of the CT ratios



the activity on an electrical feeder of an installation

Essential tools for metering

MEMO3, MD65, ULYS TDA80 and ULYS TTA: 4 meters to view on site all the energy data on each electrical feeder







For advanced processing

The **ULYS TD80/TT Ethernet** meters store details of all the activity on an electrical feeder independently:

- Integrated web pages
- Alarms
- Recording of the electrical quantities
- Transmission of the data to an ftp server
- Time synchronization



Choose the right meter...

		SINGLE-PHASE NETWORK				
		Without communication			With communication	
		Upstream circuit-breaker rating	≤ 32 A	> 32 A		≤ 45 A
		Model	MEMO3 MEMO3-M 	MEMO4-M 	ULYS MD65 ULYS MD65-M 	MEMO4 Modbus MEMO4-M Modbus 
		Rating	32 A	45 A	65 A	45 A
		MID certification	MEMO3-M	MEMO4-M	ULYS MD65-M	MEMO4-M Modbus
		Accuracy class	IEC class 1 / MID class B			IEC class 1 / MID class B
Installation	Format	DIN modules	1	1	2	1
	Input voltage		230 Vac			
	Inputs	Direct		32 A	45 A	65 A
on CT			-	-	-	-
Metering and energy management	Total energy	Display	total kWh	kWh, kVAh, total & partial kVAh	kWh total	kWh, kVAh, total & partial kVAh
		Via communication	-	-	-	Oui
	Tariff		1	1	1	2
Multiple measurements	Electrical parameters	Display	-	inst, V, I, P, Q, S, F, FP	-	inst, V, I, P, Q, S, F, FP
		Via communication	-	-	-	inst, V, I, P, Q, S, F, FP
	Load and trend curves		-	-	-	-
Inputs / outputs	Pulse output(s)		1	1	1	1
	Tariff change input		-	-	-	-
Communication	RS485 Modbus		-	-	-	Yes
	Ethernet Modbus		-	-	-	-
	M-bus		-	-	-	-
Metrology	V/U/I		-	-	-	-
	P/Q/S		-	-	-	-
	Eact		IEC class 1 / MID class B			IEC class 1 / MID class B
	Ereact		-	-	-	-

To order

MEMO3: MEMN 003 NA	MEMO4-M: P01330751	ULYS MD65: P01330920	MEMO4 Modbus: P01330921
MEMO3-M: P01330700	-	ULYS MD65-M: P01330921	MEMO4-M Modbus: P01330922


Don't forget





Current transformers offering

TC CLIP 100 A /1 A	TCR 100 A/ 1 or 5 A
TC CLIP 250 A/1 A	TCR 150 A/ 1 or 5 A
TC CLIP 400 A/1 A	TCR 200 A/ 1 or 5 A
...	...

Communication modules (for ULYS MD80 / TDA80 / TTA)

Model	Reference
ULYSCOM MODBUS RS485	P01331030
ULYSCOM M-BUS	P01331031
ULYSCOM ETHERNET MODBUS TCP	P01331032

Communication	
	> 45 A
	ULYS MD80 ULYS MD80-M
	
	80 A
	ULYS MD80-M
IEC class 1 / MID class B	
	2
230 Vac	
	80 A
	-
	kWh, kVArh, total & partial kVAh
	Via ULYSCOM
	2
FP	inst, V, U, I, P, Q, S, F, FP
FP	inst, V, U, I, P, Q, S, F, FP
	Via ULYSCOM ETHERNET
	2
	1
	Via ULYSCOM
	Via ULYSCOM
	Via ULYSCOM
	0.5 %
	1 %
IEC class 1 / MID class B	
	IEC class 2

THREE-PHASE NETWORK			
Without integrated communication		With integrated communication	
80 A	On TC	80 A	On TC
ULYS TDA80 ULYS TDA80-M	ULYS TTA ULYS TTA-M	ULYS TD80 ULYS TD80-M	ULYS TT ULYS TT-M
			
80 A	On CT (1-5 A)	80 A	On CT (1 - 5 A)
ULYS TDA80-M	ULYS TTA-M	ULYS TD80-M	ULYS TT-M
IEC class 1 / MID class B		IEC class 1 / MID class B	
4	4	4	4
230 Vac / 400 Vac		230 Vac / 400 Vac	
80 A		80 A	
-	Isolated	-	Isolated
kWh, kVArh, total & partial kVAh	kWh, kVArh, total & partial kVAh	kWh, kVArh, total & partial kVAh	kWh, kVArh, total & partial kVAh
Via ULYSCOM	Via ULYSCOM	Yes	Yes
2	2	2	2
inst, V, U, I, P, Q, S, F, FP, ΣP, ΣQ, ΣS	inst, V, U, I, P, Q, S, F, FP, ΣP, ΣQ, ΣS	inst, V, U, I, P, Q, S, F, FP, ΣP, ΣQ, ΣS	inst, V, U, I, P, Q, S, F, FP, ΣP, ΣQ, ΣS
inst, V, U, I, P, Q, S, F, FP, ΣP, ΣQ, ΣS	inst, V, U, I, P, Q, S, F, FP, ΣP, ΣQ, ΣS	inst, V, U, I, P, Q, S, F, FP, ΣP, ΣQ, ΣS	inst, V, U, I, P, Q, S, F, FP, ΣP, ΣQ, ΣS
Via ULYSCOM ETHERNET	Via ULYSCOM ETHERNET	ULYS TD80 Ethernet / -M	ULYS TT Ethernet / -M
2	2	1	1
1	1	1 (except Ethernet model)	1 (except Ethernet model)
Via ULYSCOM	Via ULYSCOM	ULYS TD80 Modbus / -M	ULYS TT Modbus / -M
Via ULYSCOM	Via ULYSCOM	ULYS TD80 Ethernet / -M	ULYS TT Ethernet / -M
Via ULYSCOM	Via ULYSCOM	ULYS TD80 M-bus / -M	ULYS TT M-bus / -M
0.5 %		0.5 %	
1 %		1 %	
IEC class 1 / MID class B		IEC class 1 / MID class B	
IEC class 2		IEC class 2	

330752	ULYS MD80: P01331010
330753	ULYS MD80-M: P01331011

ULYS TDA80: P01331012	ULYS TTA: P01331015	ULYS TD80 Modbus: P01331034	ULYS TT Modbus: P01331035
ULYS TDA80-M: P01331018	ULYS TTA-M: P01331019	ULYS TD80-M Modbus: P01331036	ULYS TT-M Modbus: P01331037
		ULYS TD80 M-bus: P01331042	ULYS TT M-bus: P01331043
		ULYS TD80-M M-bus: P01331044	ULYS TT-M M-bus: P01331045
		ULYS TD80 Ethernet: P01331038	ULYS TT Ethernet: P01331039
		ULYS TD80-M Ethernet: P01331040	ULYS TT-M Ethernet: P01331041



Quick identification of MID "-M" meters



From electrical measurement to energy performance management

Drawing on long experience in energy monitoring of applications, **Enerdis®** develops **products and services** for easy **control** of all types of **energy consumption**, particularly in the context of an **ISO 50001** approach.

Current transformers

Compact, economical, rugged range for non-intrusive measurement installations.



Remote data retrieval and recording of energy data

Web-box data logger ELOG

Automatic remote data retrieval, recording and storage of the energy, climate and process data.

Processing may be performed locally or by means of an energy information system, whatever the manufacturer of the equipment.



Comprehensive monitoring of LV/HV power quality

ENERIUM® power monitors

Measurement, recording and analysis of all the electrical quantities.

Energy monitoring system

E.online® 2 software

Control, monitoring, management and supervision of multi-energy, multi-site and multi-user energy data.

Generation of financial and energy reports in accordance with the ISO 50001 standard.



THE ENERDIS APPLICATIONS TEAM

To assist you:

- in choosing the solutions to implement
- by commissioning installations
- by training the users on site or at our premises

Please do not hesitate to contact us

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