AUTOMETERS SYSTEMS

AD3-125MC
Energy Meters Three-Phase

Application

The energy-meters "with a green back-lighted LCD screen for perfect reading" are used to measure three-phase systems or single-phase like in Residential, Utility and Industrial applications.

Monitoring of the energy-consumption goes via a S0 pulse output. The products can be set up to communicate with the Modbus RS485 Autometers Protocol V6 interface, used to analyze the energy-consumption to reduce the running cost to a minimum for Industrial plants and buildings like Offices, Hospitals, Universities etc.

Overview

Active energy-meters for three-phase alternating current with either 2, 8 digits digital counters.
These meters have 2 - S0 output generating pulses for remote processing of the instantaneous energy active and reactive measurements for 2 tariff.
Optional extra the RS485 ADM-F Modbus Communication Module.

Function

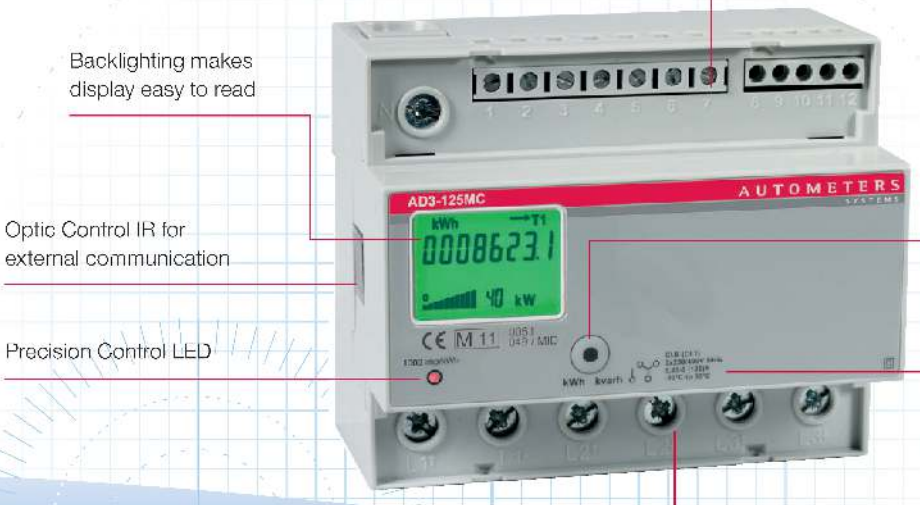
Display

		Unit	ID
Active Energy	Tariff 1	(M)-(k)-Wh	Energy import or export
	Tariff 2	(M)-(k)-Wh	Energy import or export
Reactive Energy	Tariff 1	(M)-(k)-varh	Energy import or export
	Tariff 2	(M)-(k)-varh	Energy import or export
Active Power		(M)-(k)-W	Utilisation and Instantaneous Value
Reactive Power			Utilisation and Instantaneous Value
Connection Errors			Phase Err

Communication Modules

Modbus RS485
Autometers Protocol V6

6 Standard Module Housing
Suitable for DIN Rail Mounting Direct Connection 125 A



Terminals S0 Pulse Outlet and Tariffs Change Command

Backlighting makes display easy to read

Read Out Selection Push Button kWh and W or kvarh and var

Optic Control IR for external communication

Space for the Certification Data can be provided on requesr MID

Precision Control LED

Supply Terminal 125 A Direction Connection

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Technical Data

Data in compliance with EN 50470-3, EN 504470-3, EN 62053-23 and EN 62053-31

General Characteristics			Direct Connection 125A
• Housing	DIN 43880	DIN	6 Modules
• Mounting	EN 60715	35mm	DIN Rail
• Depth	Active Energy	mm	70
• Reference Standard	Reactive Energy - Pulse Output	-	EN 50470-3 EN 62053-23-31
Operating Features			
• Connectivity	to Single/Three phase Network	N° Wires	2-4
• Storage of Energy Values and Configuration	Digital Display (EEPROM)	-	Yes
• Display Tariffs Identifier	For Active & Reactive Energy	N° 2	T1 and T2
Supply			
• Rated Control Supply Voltage ***Un***		VAC	230
• Operating Range Voltage		V	184 ... 276
• Rated Frequency ***Fn***		Hz	50
• Rated Power Dissipation (Max for Phase) ***Pv***		VA (W)	<8 (0.6)
Overload Capacity			
• Voltage Un	Continuous: Phase/Phase	V	480
	1 Second: Phase/Phase	V	800
	Continuous: Phase/N	V	276
	1 Second: Phase/N	V	300
• Current Imax	Continuous	A	125
	Momentary (0.5s)	A	-
	Momentary (10ms)	A	3750
Display (Readouts)			
• Connection Errors & Phase Out	Discernible from Phase Sequence Indic.	-	Phase Err
• Display Type	LCD	No Digits	8 (2 decimal)
	Digit Dimensions	mm x mm	6.00 x 3
• Active Energy : 1 Display, 8 Digit	Tariff 2	Wh	0.01
+ Display Import or Export (Arrow)	Overrow	MWh	999999.99
• Reactive Energy : 1 Display, 8 Digit	Tariff 2	varh	0.01
+ Display Import or Export (Arrow)	Overrow	Mvarh	999999.99
• Instantaneous Active Power: 1 Display, 3 Digit		W, KW or MW	000 ... 999
• Instantaneous Reactive Power: 1 Display, 3 Digit		var, kvar or Mvar	000 ... 999
• Instantaneous Tariff Measurment	1 Display, 1 Digit	-	T1 or T2
• Transformer Primary Current		A	-
• Display Period Refresh		S	1
Measuring Accuracy			
• Active Energy and Power	Acc. to EN 50470-3	Class 1	B
• Reactive Energy and Power	Acc. to EN 62053-23	Class 2	2
Measuring Input			
• Type of Connection			Direct
• Voltage ***Un***	Phase/Phase	V	400
	Phase/N	V	230
• Operating Range Voltage	Phase/Phase	V	319 ... 480
	Phase/N	V	184 ... 276
• Current ***Iref***		A	5
• Current ***Imin***		A	0.25
• Operating Range Current ***(Ist ... Imax)***	Direct Connection	A	0.020 ... 125
	Transformer Connection (CT)	A	-
• Frequency		Hz	50 ± 2%
• Input Waveform		-	Sinusoidal
• Starting Current for Energy Measurment ***(Ist***		mA	20
Pulse Output S0			
• Pulse Output	Acc. to EN 62053-31 for Act. and React. Energy I1 and I2	-	Yes
• Quantity Pulse Output	For Direct Connection 125A	Imp/kWh	500
• Pulse Duration		ms	80 = 2ms
• Required Voltage	Min. (Max.)	VAC (DC)	5 ... 230 ±5% (5...300)
• Permissible Current	Pulse ON (Max 230V AC/DC)	mA	90
• Permissible Current	Pulse OFF (Leak Cur. Max. 230V AC/DC)	uA	1

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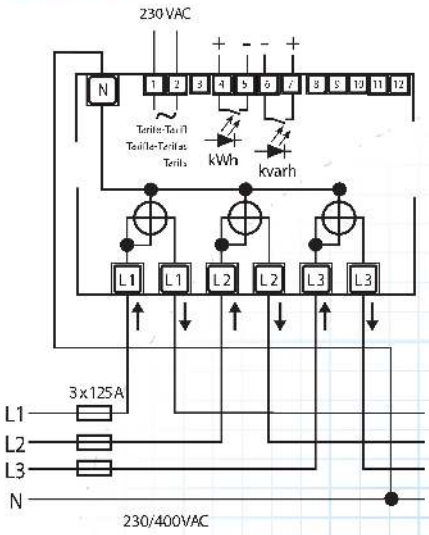
Technical Data (Cont'd)

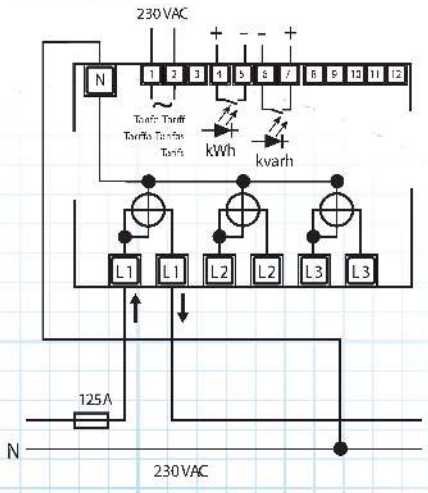
Optical Interfaces			
• Front Side ***(Accuracy Control)***	LED	imp/kWh	1000
Safety Acc. to EN50470-1			
• Indoor Meter		-	Yes
• Degree of Pollution		-	2
• Operational Voltage		V	300
• AC Voltage Test (EN 50470-3, 7.2)		kV	4
• Impulse Voltage Test		1.2/50 µs kV	6
• Protection Class (EN 50470)		Class	II
• Housing Material Flame Resistance	UL 94	Class	V0
• Safety-sealing between upper and lower housing part (Mod. 282351 282141)		-	Yes
Adapator for Communication			
• Plug and Play Technology	Ethernet 802.3	-	-
• LAN (TCP/IP) Interface	RS-485 - 3 Wires	-	10/100 Mbps
• Modbus RTU, ASCII Interface	2 Wires	-	up to 19.200 bps
• M-Bus Interface	EIB Standard	-	up to 9.600 bps
• EIB-KNX Interface		-	up to 9.600 bps
• SD-Card Datalogger		-	1 to 8 Gigabytes
Connection Terminals			
• Type Cage Main Current Paths	Screw Head Z /-	POZIDRIV	PZ2
• Type Cage Pulse Output	Blade for Slotted Screw	mm	0.8 x 3.5
• Terminal Capacity Main Current Paths	Solid Wire Min. (Max.)	mm²	1.5 (35)
• Terminal Capacity Pulse Outlet	Stranded Wire with Sleeve Min. (Max.)	mm²	1.5 (35)
	Solid Wire Min. (Max.)	mm²	1 (4)
	Stranded Wire with Sleeve Min. (Max.)	mm²	1 (2 .5)
Environmental Conditions			
• Mechanical Environment		-	M1
• Electromagnetic Enviroment		-	E2
• Operating Temperature		°C	-10 ... +55
• Limit Temperature of Transportation/Storage		°C	-25 ... +70
• Relative Humidity (Not Condensation)		%	80
• Vibrations	50Hz Sinusodial Vibration Amplitude	mm	±0.075
• Degree Protection	Housing when mounted in front (term.)	-	IP51(*) / IP20

Circuit Diagrams

3 Phase 4 Wire



1 Phase 2 Wire



Dimensions