AUTOMETERS SYSTEMS

Operating Instructions

Single-phase Digital digital active energy meter with measurement I - U - P - Hz - PF imported and exported energies and by IR side set up communication - Direct connection 32 A

IIST106-01 Stand 15-06-2012

Code	Description
AD1-32MC	single-phase active energy-meter with direct connection 0.020 to 32 A **1 tariff** - 1 S0 **(MID calibrated)**

⚠ WARNING

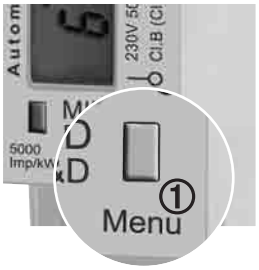
The Autometers range of DIN rail mounted meters should only been installed by a competent and qualified electrician who is fully aware of the latest electricity regulations concerning the installation of Electricity meters.
The AD1-32 must be installed in a suitable enclosure.

1) Quantities displayed

• By pushing the **"Command button** ① **"** it is possible to show:

Ref.	Quantities	Unit	Symbol
E1	Active Energy Imported	kWh	→
E2	Active Energy Exported	kWh	←

2) LCD display pages

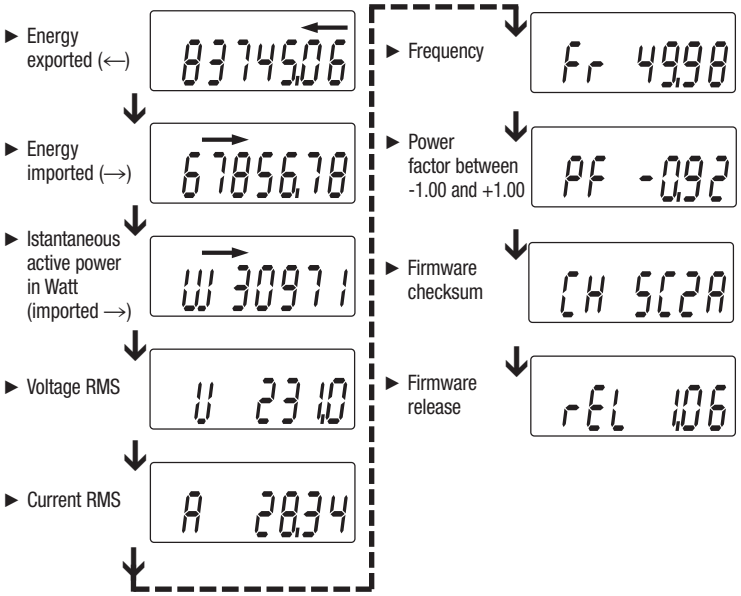


• The main page is shown at the meter power on, and whenever **"Command button** ① **"** is not pushed for 20 seconds. This page automatically displays the energy counter (**E1** or **E2**) which is increasing at that moment; on the top line is displayed the direction of the energy imported (→) or exported (←).

• By pushing the **"Command button** ① **"** is possible to show:

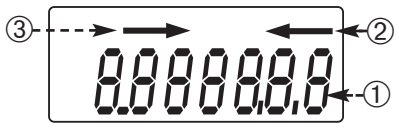
AD1-32MC

- Active energy imported (→)
- Active energy exported (←)
- The Firmware release
- The Firmware checksum
- The display test page



3) Display View

• Liquid crystal display



1) kWh display and other parameters
2) Power import/energy (→)
3) Power export/energy (←)

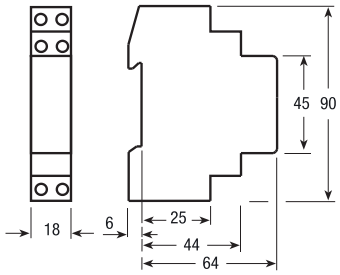
Symbols

• Measuring elements

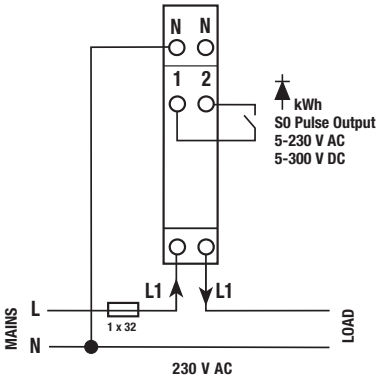
• Reversal preventing device

• Protected by double insulation

Dimension

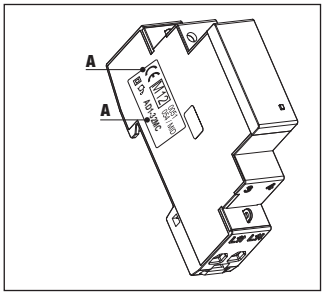


Wiring diagram



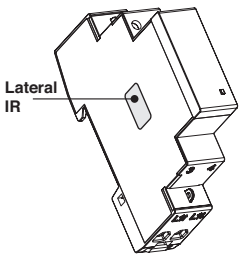
MID calibrated

AD1-32MC

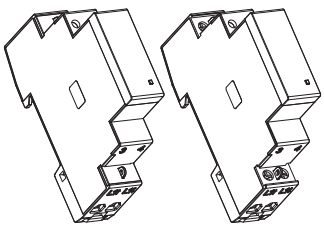


A) Device code and certification data indications

Lateral IR interfaces

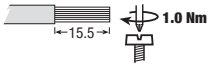


Sealable terminal covers

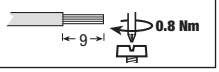


Cable stripping length and max. terminal screw torque

32 A direct connection main terminals
Screw driver PZ1



Tariff and communication terminals
Screw driver blade 0.8x3.5 mm



Technical data

Data in compliance with EN 50470-1, EN 50470-3 and EN 62053-31			**AD1-32MC direct connection 32 A**
General characteristics			
• Housing	DIN 43880	DIN	1 modules
• Mounting	EN 60715	35 mm	DIN rail
• Depth		mm	70
Operating features			
• Connectivity	to single-phase network	n° wires	2
• Storage of energy values and configuration	FRAM memory	-	yes
Supply			
• Rated control supply voltage ***Un***		VAC	230
• Operating range voltage		VAC	184 ... 276
• Rated frequency ***fn***		Hz	50 ±2%
• Rated power dissipation (max.) ***Pv***		VA (W)	⩽8 (0.6)
Overload capability			
• Voltage ***Un***	continuous	VAC	276
	momentary (1 s)	VAC	300
• Current ***Imax***	continuous	A	32
	momentary (10 ms)	A	960
Display (readouts)			
• Display type	LCD	n° digits	7 (2 decimals)
	digit dimensions	mm x mm	6.00 x 3
• Active energy: 1 display, 7-digit		kWh	0.00 ... 999999.9
• Instantaneous tariff measurement		-	1
	1 display, 1-digit	-	T1
• Display period refresh		s	1
Measuring accuracy	at 23 ±1°C, referred to nominal values		
• Active energy and power	acc.to EN 50470-3	class	B
Measuring input			
• Type of connection	phase/N	-	direct
• Operating range voltage	phase/N	VAC	184 ... 276
• Current ***Iref***		A	5
• Current ***Imin***		A	0.25
• Operating range current ***(Ist ... Imax)***	direct connection	A	0.02 ... 32
• Frequency		Hz	50 ±2%
• Input waveform		-	alternating
• Starting current for energy measurement ***(Ist)***		mA	20
Pulse output S0	acc.to EN 62053-31		
• Pulse output	for active energy	-	yes
• Pulse quantity		imp/kWh	1000
• Pulse duration		ms	90 ms
• Required voltage	min. (max.)	VAC (DC)	5 ... 230 ±5% (5 ... 300)
• Permissible current	pulse ON (max. 230 V AC/DC)	mA	90
• Permissible current	Impuls OFF (leakage cur. max. 230 V AC/DC)	µA	1
Optical interface			
• Front side ***(accuracy control)***	LED	imp/kWh	5000
Safety acc. to EN 50470-1			
• Indoor meter		-	yes
• Degree of pollution		-	2
• Operational voltage		VAC	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
Lateral IR interfaces			
• For communication moduls connection **(LAN-TCP/IP / M-Bus / Modbus RTU / KNX / SD-Card Datalogger)**		-	yes
Connection terminals			
• Type cage main current paths	screw head Z +/-	POZIDRIV	PZ1
• Type cage pulse output	blade for slotted screw	mm	PZ0
• Terminal capacity main current paths	solid wire min. (max.)	mm^2	16
	stranded wire with sleeve min. (max.)	mm^2	16
• Terminal capacity pulse outlet	solid wire min. (max.)	mm^2	0.15 (4)
	stranded wire with sleeve min. (max.)	mm^2	0.15 (2.5)
Environmental conditions			
• Mechanical environment		-	M1
• Electromagnetic environment		-	E2
• Operating temperature		°C	-25 ... +55
• Limit temperature of transportation and storage		°C	-25 ... +70
• Relative humidity (not condensation)		%	⩽80
• Vibrations	50 Hz sinusoidal vibration amplitude	mm	±0.075
• Degree protection	housing when mounted in front (terminal)	-	IP51(⁎)/IP20

(⁎) **For the installation in a cabinet at least with IP51 protection.**