

AD1-32MC

Energy Meter Single Phase

Application

The AD1-32MC is the latest in the new range of single phase, single module din rail meters which is MID approved with appendix "B" and "D" certification..

The new meter has the added features of displaying by pressing the scroll key kWh, Watts, Amps, volts, Power factor, and Frequency. A new feature for the single phase meter is the added facility of being able to add the ADM-F Modbus module giving the AD1-32MC full capabilities of transmitting the information to a BMS system.

The AD1-32MC meter is fitted with a clear LCD display to ensure ease of reading and a scroll key on the front of the meter to step through the various registers. The AD1-32MC is fitted with a clear seven digit LCD display with an arrow indicating Import or Export. On the front of the meter there is the identification plate, a scroll key, and a small red light for calibration testing.

The identification plate indicates the model number, current and voltage rating. Pressing the scroll key enables you to view the various registers and the red light flashes for calibration testing. On the side of the meter there is an IR port which enables transmission of data to the ADM-F Modbus module which is also available from Autometers.

Overview

The AD1-32MC is a 1 phase 2 wire multifunction meter indicating KWH import and export, Watts, Amps, Volts, Frequency, and Power Factor. The meter is designed for measuring circuits which are 230 volt, current rating not exceeding 32 Amp, on a 50 Hz supply. The meter has an IR port fitted on the left hand side of the case which matches the RS 485 Modbus module, Autometers protocol V.6.

The meter is also fitted with an SO pulse output. The ADM-F module makes the AD1-32MC a more suitable meter for BMS systems, this is an optional unit and must be purchased separately.

Function

Display

	Unit	Indication
Active Energy	kWh	Energy Import and Export
Active Power	W	Instantaneous Watts
Watts	W	7-digits
Current	A	7-digits
Voltage	V	7-digits
Power factor	cos	7-digits
Frequency	Hz	7-digits

1 Standard Module Housing

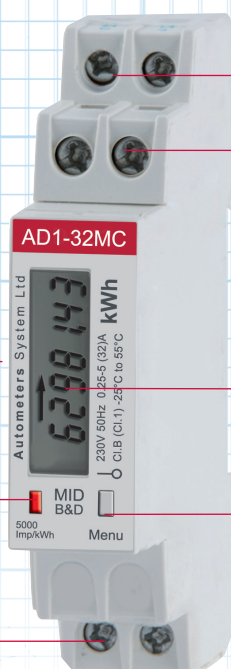
Suitable for Din Rail mounting, 32 amp direct connected



Communication Module



Picture showing the correct position of the ADM-F modbus



IR optical external output for ADM-F

Precision control LED

Supply terminals 32A direct connection L - L

Neutral supply terminals

SO pulse output terminals

7-digit clear easy to read display

Scroll key to read various registers.

Technical Data

Data in compliance with EN 50470-1, EN 504470-3, and EN 62053-31

General characteristics			Direct connection 32A
<ul style="list-style-type: none"> Housing Mouting Depth 	DIN 43880 EN 60715	DIN -35mm mm	1 module DIN rail 70
Operating features			
<ul style="list-style-type: none"> Connectivity Storage of energy values and configuration 	1 phase 2 wire network FRAM memory	n° wires -	2 yes
Supply			
<ul style="list-style-type: none"> Rated control supply voltage Un Operating range voltage Rated requencey fn Rated power dissipation (max.) Pv 		VAC VAC Hz VA (W)	230 184 ...276 50 ±2% ≤ 8 (0.6)
Overload capability			
<ul style="list-style-type: none"> Voltage Un 	continuous momentary (1 s)	VAC VAC	276 300
<ul style="list-style-type: none"> Current I_{max} 	continuous momentary (10 ms)	A A	32 960
Display readouts			
<ul style="list-style-type: none"> Display type Active energy: 1 display, 7-digit Instantaneous tariff measurement Display period refresh 	LCD digit dimensions 1 display, 1 digit	n° digits mm x mm kWh - s	7 (2 decimals) 6.00 x 3 0.00 ... 999999.9 1 T1 1
Measuring accuracy			
<ul style="list-style-type: none"> Active energy and power 	at 23± °C, referred to nominal values acc.to EN 50470-3	class	B
Measuring input			
<ul style="list-style-type: none"> Type of connection Operating range voltage Current I_{ref} Current I_{min} Operating range current (I_{1st} ... I_{max}) Frequency Inout waveform Starting current for energy measurement (I_{st}) 	phase/N phase/N direct connection	- VAC A A A Hz - mA	direct 184 ... 276 5 0.25 0.02 ... 32 50 ±2% alternating 20
Pulse output SO			
<ul style="list-style-type: none"> Pulse output Pulse quantity Pulse duration Required voltage Permissible current Permissible current 	acc. to EN 62053-31 for active energy min. (max.) pulse ON (max.230 V AC/DC) pulse OFF (leakage cur.max.230 V AC/DC)	- imp/kWh ms VAC (DC) m μA	yes 1000 90 ms 5 ...230±5% (5...300) 90 1
Optial interface			
<ul style="list-style-type: none"> Front side (accuracy control) 	LED	imp/kWh	5000
Safety acc. to EN 50470-1			
<ul style="list-style-type: none"> Indoor meter Degree of pullution Operational voltage AC voltage test (EN 50470-3, 7.2) Impulse voltage test Protection class (EN 50470) Housing material flame resistance 	 UL 94	- - VAC kV 1.2/50 sμ-KW class class	yes 2 300 4 6 II Vo

Technical Data

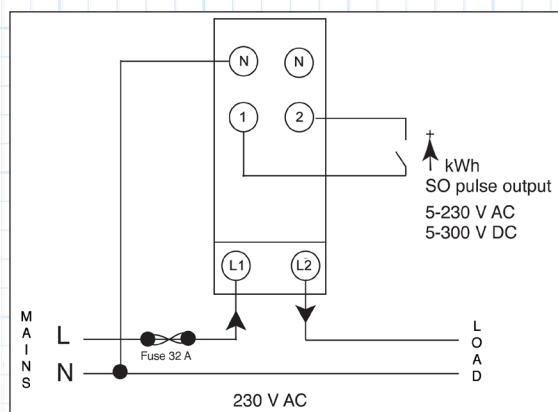
Data in compliance with EN 50470-1, EN 504470-3, and EN 62053-31

Lateral IR interfaces			Direct connection 32A
<ul style="list-style-type: none"> For communication modules connection <p>(LAN - TCP/IP / M-Bus / Modbus RTU / KNX / SD-Card Datalogger)</p>			yes
Connection terminals			
<ul style="list-style-type: none"> Type cage main current paths Type cage pulse output Terminal capacity main current paths 	screw head Z +/-	POZIDRIV	PZ1
	blade for slotted screw	mm ²	PZ0
<ul style="list-style-type: none"> Terminal capacity pulse outlet 	solid wire min. (max)	mm ²	16
	stranded wire min. (max.)	mm ²	16
	solid wire min. (nmax)	mm ²	0.15 (4)
	stranded wire with sleeve min. (max)	mm ²	0.15 (2.5)
Environmental conditions			
<ul style="list-style-type: none"> Mechanical environment 			M1
<ul style="list-style-type: none"> Electromagnetic environment 			E2
<ul style="list-style-type: none"> Operating temperature 			-25 ... +55
<ul style="list-style-type: none"> Limit temperature of transportation and storage 			-25 ... +70
<ul style="list-style-type: none"> Relative humidity (not condensation) 			≤80
<ul style="list-style-type: none"> Vibrations 			±0.075
<ul style="list-style-type: none"> Degree protection 			IP51(*)/IP20

* For the installation in a cabinet at least with IP51 protection

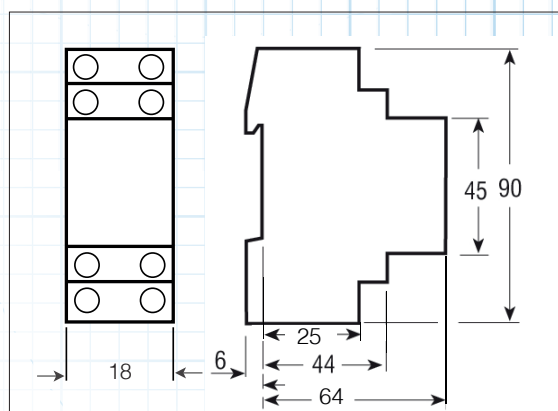
Circuit Diagram

A fuse of 32 A is recommended for the line protection.



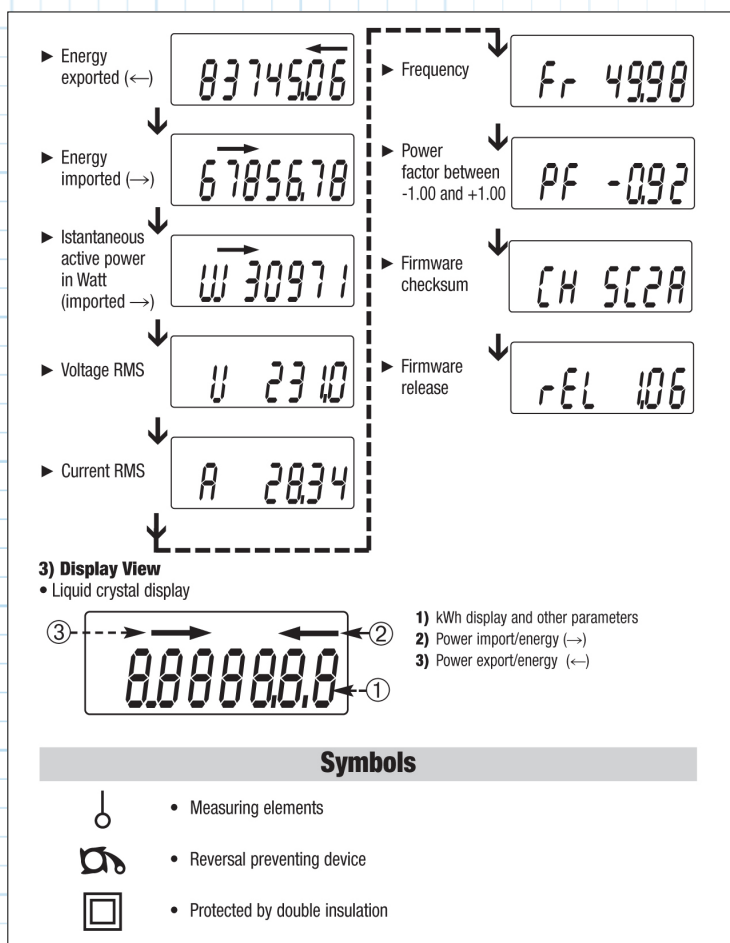
Dimensions

All dimensions are in mm



Registers

Below are the registers available on meter



Autometers Systems Limited

4B Albany Road, Chorlton-cum-Hardy, Manchester, M21 0AW

Tel: +44 (0) 161 861 9056 Fax: +44 (0) 161 881 3745

www.autometers.co.uk Email: sales@autometers.co.uk

Product development is continuous and Autometers Systems Ltd reserves the right to make alterations and manufacture without notice. Products as delivered may therefore differ from the descriptions and illustrations in this publication.