

AD3-5MC

Energy Meters 3-Phase 4-Wire

Application

The AD3-5 MC is the latest in the range of 3 phase 4 wire kWh and kVarh Din rail meters, which has been MID approved with Appendix "B" and "D" certification.

This new meter has the facility to communicate via RS 485 Modbus (Autometers protocol V6) by placing the ADM-F module next to it. The benefit of the ADM-F module is that it allows the meter to transmit over 20 parameters of information such as Volts, Amps Frequency and Power Factor

The AD3-5MC meter has been fitted with a green back light display to ensure ease of reading and a scroll key on the front of the meter to step through the various registers. The meter will display kWh, kW, kVarh, kVar, import, export and has the option of displaying two rates on the display. The two rates can only be activated by an external remote time switch. The current transformer ratio is adjustable by pressing the two buttons which are positioned behind the terminal cover at the top.



Overview

The AD3-5MC is a 3 phase 4 wire kWh, kVarh, import, export two rate meter, 230/400 volt, 50 Hz, 5 Amp current transformer operated meter measuring active and reactive energy on import and export applications.

What makes the AD3-5MC so adaptable is that the RS-485 module the ADM-F can be simply added at a later date enabling it to be transmit more information and to read the registers more accurately making it a better meter for BMS systems. The ADM-F is an option and must be purchased separately; it is one module wide and must be fitted to the left hand side of the meter.

Function

Display	Unit	Indication
Active Energy	Tariff 1	(M)-(k)-Wh Energy absorbed or supplied
	Tariff 2	(M)-(k)-Wh Energy absorbed or supplied
Reactive Energy	(M)-(k)-varh	Energy absorbed or supplied
	(M)-(k)-varh	Energy absorbed or supplied
Active Power	(M)-(k)-W	Utilisation and Instantaneous Value
Reactive Power		Utilisation and Instantaneous Value
Connection Errors		Phase Error

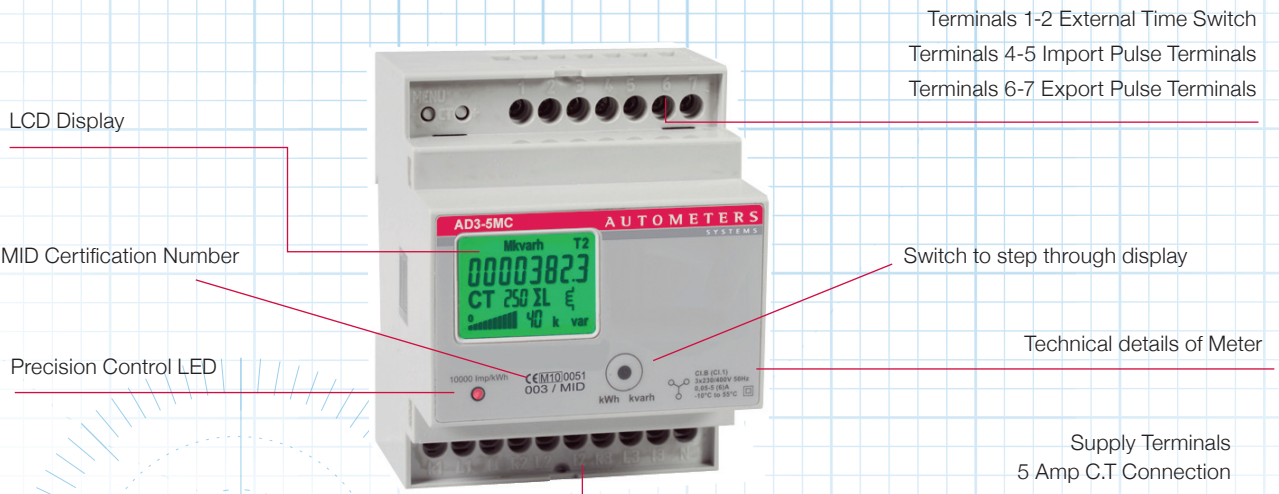
Communication Module



RS 485 Modbus (Autometers protocol V6)

4 Standard Module Housing

Suitable for DIN Rail Mounting Current Transformer Operated 5 amp



Technical Data

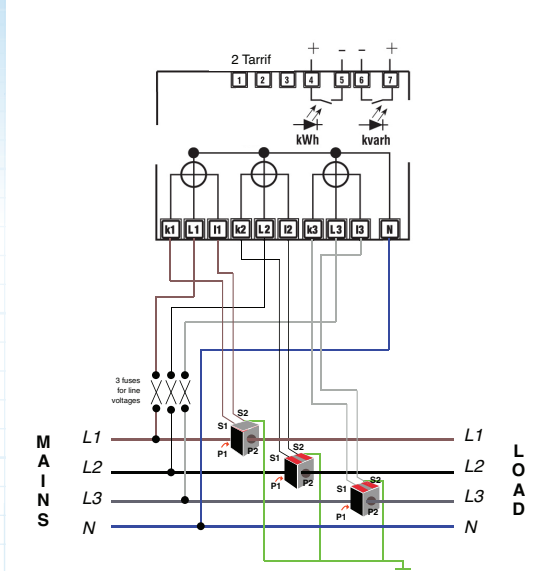
Data in compliance with EN 50470-1, EN 504470-3, EN 62053-23 and EN 62053-31

Measuring Input		CT connection till 10.000/5 A	
• Frequency	Hz	50	
• Input Waveform	-	sinusoidal	
• Starting Current for Energy Measurement (<i>I_{st}</i>)	mA	3	
Pulse output SO	acc.to EN 62053-31		
• Pulse output	for act. and react. energy T1 and T2	-	yes
• Quantity pulse output	for direct connection 80A depending on the transf. factor.	Imp/kWh	-
• Pulse duration		Imp/kWh	100-10-1
• Required voltage	min. (max)	ms	30 ±2 ms
• Permissible current	pulse ON (max 230 V AC/DC)	VAC (DC)	5 ... 230 ±5% (5 ... 300)
• Permissible current	pulse OFF (leak.cur.max.230 V AC/DC)	mA	90
		µA	1
Optical Interfaces			
Front side (accuracy control)	LED	Imp/kWh	10.000
Safety acc. to EN 50470-1			
• Indoor meter			yes
• Degree of pollution			2
• Operational voltage			300
• AC voltage test (EN 50470-3, 7.2)			4
• Impulse voltage test • Protection class (EN 50470)			6
• Housing material flame resistance	UL94		II
• Safety-sealing between upper and lower housing part			VO
(mod.282331-282141)			yes
Adaptor for Communication			
• Plug- and-play technology		-	•
• LAN (TCP/IP) interface	Ethernet 802.3	-	10/100 Mbps
• Modbus RTU, Ascii interface	RS-485 - 3 wires	-	up to 19.200 bps
• M-Bus interface	2 wires	-	up to 9.600 bps
• EIB-KNX interface	EIB-standard	-	up to 9.600 bps
• SD-Card datalogger		-	1 to 8 Gigabytes
Connection Terminals			
• Type cage main current paths	screw head Z +/-		PX1
• Type cage pulse output	blade for lotte screw		0.8 x 3.5
• Terminal capacity main current paths	solid wire min. (max.)		1.5 (6)
	straded wire with sleeve min. (max.)		1.5(6)
• Terminal capacity pulse output	solid wire min. (max.)		0.14 (2,5)
	straded wire with sleeve min. (max.)		0.14 (1,5)
Environmental conditions			
• Mechanical environment		-	M1
• Electromagnetic environment		-	E2
• Operating temperature		°C	-10 ... +55
• Limit temperature o 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 (term.)	-	IP51(*)/IP20

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

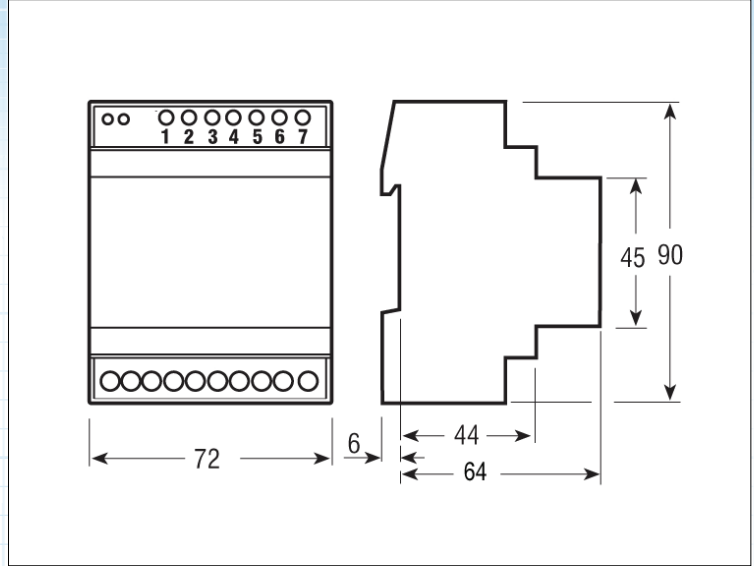
Circuit Diagrams

3 Phase 4 Wire 5 Amp Current Transformer Operated Connection Diagram



Dimensions

All Dimensions in mm



Display Registers

Below is the displays available by pressing the scroll button on the front of the meter. The meter will automatically default after a few minutes to "Import Active energy T1."

<p>• Import → Active Energy T1</p>	<p>• Export ← Active Energy T1</p>	<p>• Import → Reactive Energy T1</p>	<p>• Export ← Reactive Energy T1</p>
<p>• Import → Active Energy T2</p>	<p>• Export ← Active Energy T2</p>	<p>• Import → Reactive Energy T2</p>	<p>• Export ← Reactive Energy T2</p>

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