

## 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	

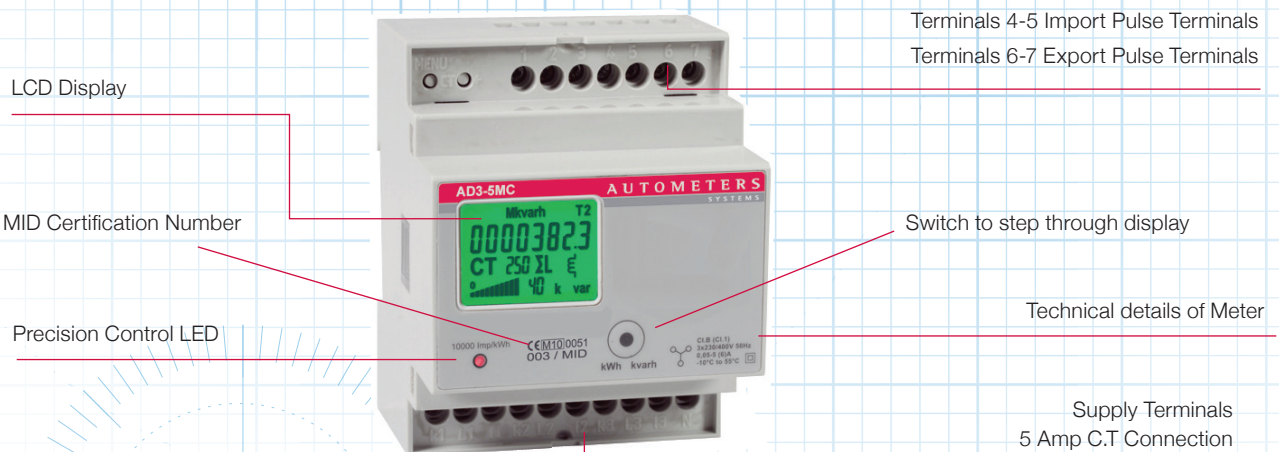
#### Communication Module



RS 485 Modbus (Autometers protocol V6)

#### 4 Standard Module Housing

Suitable for DIN Rail Mounting Current Transformer Operated 5 amp



## Technical Data

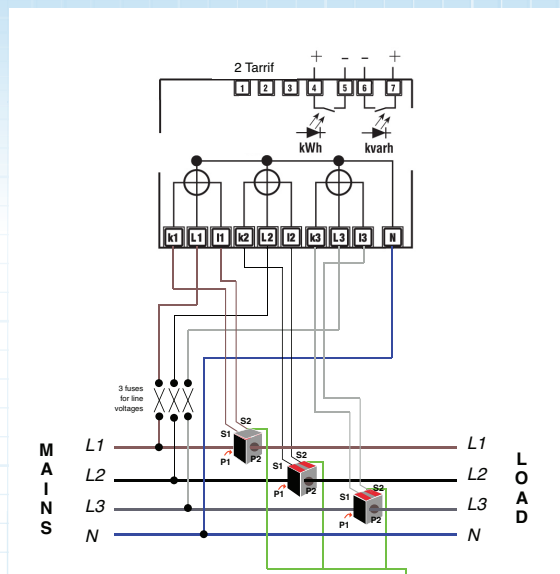
Data in compliance with EN 50470-1, EN 504470-3, EN 62053-23 and EN 62053-31

Measuring Input			CT connection till 10.000/5 A
<ul style="list-style-type: none"> <li>Frequency</li> <li>Input Waveform</li> <li>Star ting Current for Energy Measurment <b>(Ist)</b></li> </ul>	Hz - mA	50 sinusoidal 3	
<b>Pulse output SO</b>	acc.to EN 62053-31		
<ul style="list-style-type: none"> <li>Pulse output</li> <li>Quantity pulse output</li> <li>Pulse duration</li> <li>Required voltage</li> <li>Permissible current</li> <li>Permissible current</li> </ul>	for act. and react. energy T1 and T2 for direct connection 80A depending on the transf. factor. min. (max) pulse ON (max 230 V AC/DC) pulse OFF (leak.cur.max.230 V AC/DC)	- Imp/kWh Imp/kWh ms VAC (DC) mA µA	yes - 100-10-1 30 ±2 ms 5 ... 230 ±5% (5 ... 300) 90 1
<b>Optical Interfaces</b>			
Front side (accuracy control)	LED	Imp/kWh	10.000
<b>Safety acc. to EN 50470-1</b>			
<ul style="list-style-type: none"> <li>Indoor meter</li> <li>Degree of pollution</li> <li>Operational voltage</li> <li>AC voltage test (EN 50470-3, 7.2)</li> <li>Impulse voltage test • Protection class (EN 50470)</li> <li>Housing material flame resistance</li> <li>Safety-sealing between upper and lower housing part</li> </ul>	UL94		yes 2 300 4 6 II VO yes
<b>Adaptor for Communication</b>			
<ul style="list-style-type: none"> <li>Plug- and-play technology</li> <li>LAN (TCP/IP) interface</li> <li>Modbus RTU, Ascii interface</li> <li>M-Bus interface</li> <li>EID-KNX interface</li> <li>SD-Card datalogger</li> </ul>	Ethernet 802.3 RS-485 - 3 wires 2 wires EIB-standard	- - - - - -	<ul style="list-style-type: none"> <li>10/100 Mbps</li> <li>up to 19.200 bps</li> <li>up to 9.600 bps</li> <li>up to 9.600 bps</li> <li>1 to 8 Gigabytes</li> </ul>
<b>Connection Terminals</b>			
<ul style="list-style-type: none"> <li>Type cage main current paths</li> <li>Type cage pulse output</li> <li>Terminal capicity main current paths</li> <li>Terminal capacity pulse output</li> </ul>	screw head Z +/- blade for lotte screw solid wire min. (max.) straded wire with sleeve min. (max) solid wire min. (max.) straded wire with sleeve min. (max.)		PX1 0.8 x 3.5 1.5 (6) 1.56) 0.14 (2.5) 0.14 (1.5)
<b>Environmental conditions</b>			
<ul style="list-style-type: none"> <li>Mechanical enviornment</li> <li>Electromagnetic environment</li> <li>Operating temperature</li> <li>Limit temperature o transportation and storage</li> <li>Relative humidity (not condensation)</li> <li>Vibrations</li> <li>Degree protection</li> </ul>	50 Hz sinusodial vibration amplitude housing when mounted in front (term.)	- - °C °C % mm -	M1 E2 -10 ... +55 -25 ... +70 ≤80 ±0.075 IP51(*)/IP20

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

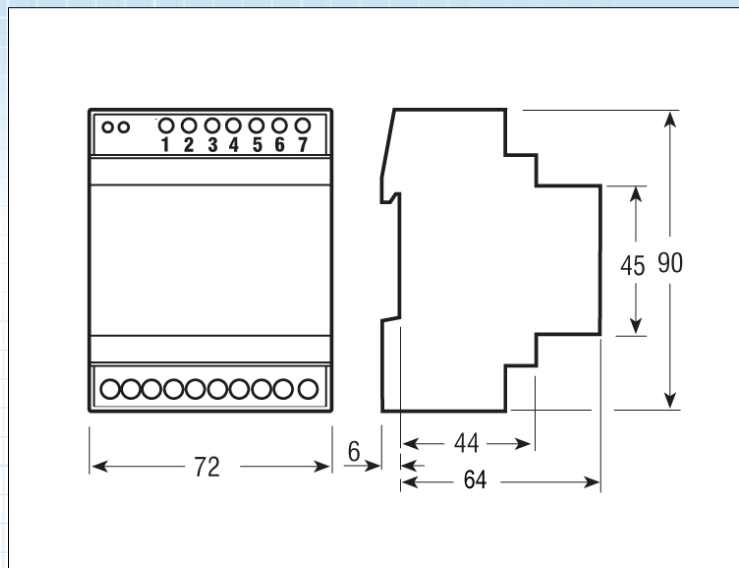
## Circuit Diagrams

3 Phase 4 Wire 5 Amp Current Transformer Operated  
Connection Diagram



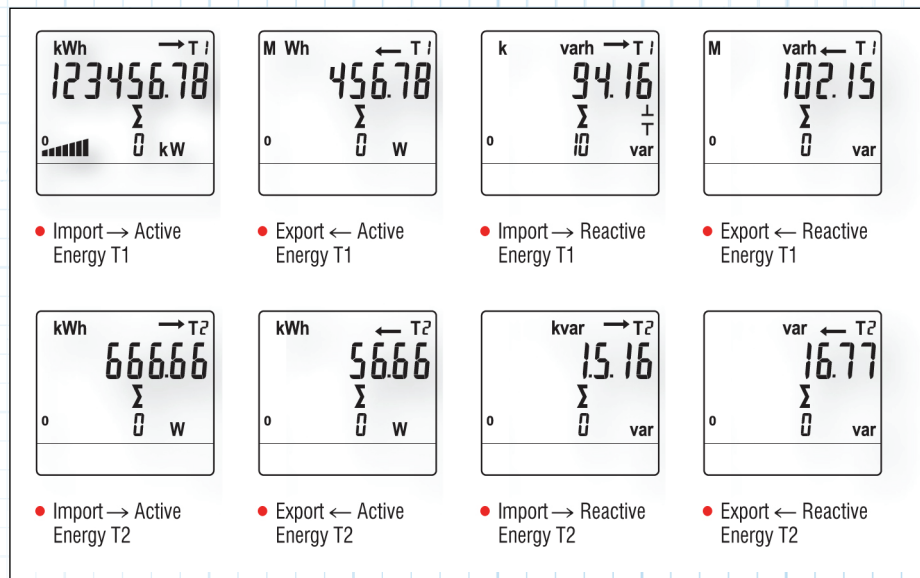
## Dimensions

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."



## 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.