

AD3-5M

Energy Meters Three-Phase

Application

The AD3-5M is the latest in the Din rail meters range from Autometers with MID Approval appendix "B" and "D" making it acceptable for revenue collection.

The AD3-5M has been designed and manufactured where price and limited information is required. The meter is fitted with an LCD display showing various parameters the default register is "Import kWh rate 1" with icons L1,L2,L3 indicating individual phase voltage being present at the meter, an Arrow also illuminates indicating direction of power flow. By pressing the scroll button on the front the meter the display will change to the various optional displays. The current transformer setting and engineering displays are positioned as the last four displays.

The AD3-5M has two pulse outputs kwh pulse value 100 imp/kwh. The two rates are operated by an external time switch.

Overview

The AD3-5M is a 3 phase 4 wire, 230/400 volt 50 Hz, 5 Amp current transformer operated kWh meter measuring active energy on import or export applications.

Function

Display	Unit	ID	Indication
Active Energy	Tariff 1	(M)-(x)-Wh	-
	Tariff 2	(M)-(x)-Wh	-
Voltage Indication	L1, L2, L3	Will illuminate when voltage is present	-
Tariff	T1, T2	Will illuminate indicating present tariff	-
Phase Disconnection		Phase Error	-



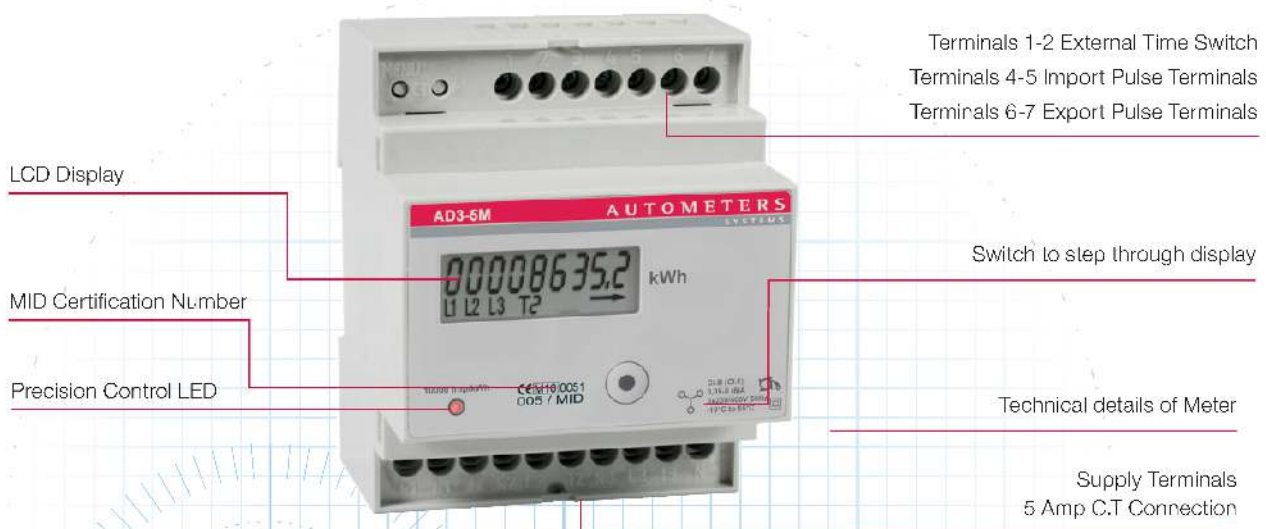
Installation



The meter must be fitted in a suitable enclosure. (See Autometers full range of enclosures).

4 Standard Module Housing

Suitable for DIN Rail Mounting C.T Connection 5 Amp



Technical Data

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

General Characteristics			Current Transformer 5 Amp
• Housing	DIN 43680	DIN	4 Modules
• Mounting	LN 607-5	35mm	DIN Rail
• Depth		mm	70
• Reference Standard	Active Energy Pulse Output	- -	EN 50470-1-3 EN62053-31
Operating Features			
• Connectivity	To Single/Three-phase Network	N° Wires	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)	<9 (0.6)
Overload Capacity			
• Voltage Un	Continuous: Phase/Phase	V	460
	1 Second: Phase/Phase	V	600
	Continuous: Phase/N	V	276
	1 Second: Phase/N	V	300
• Current I_{max}	Continuous	A	6
	Momentary (0.5s)	A	120
	Momentary (10ms)	A	-
Display (Readouts)			
• Connection Errors & Phase Out	Discrimble From Phase Sequence Ind.c.	-	Phase Err
• Display Type	LCD	No Digits	8 (1 decimal)
	Digit Dimensions	mm x mm	6,00 x 3
• Active Energy: 1 Display, 8 Digit	Tare 2	Wh	0.01
• Display Import or Export (Arrow)	Overflow	-	99999999.9
• Transformer Primary Current		A	5 ... 10,000
• Display Period Refresh		S	1
Measuring Accuracy			
• Active Energy and Power	Acc. to EN 50470-3	Class	B
Measuring Input			
• Type of Connection			Transformer/5A
• Voltage Un	Phase/Phase	V	400
	Phase/N	V	230
• Operating Range Voltage	Phase/Phase	V	319 ... 480
	Phase/N	V	184 ... 276
• Current I_{ref}		A	-
• Current I_n		A	5
• Current I_{min}		A	0.05
• Operating Range Current (I_{st} ... I_{max})	Direct Connection	A	-
	Transformer Connection (CT)	A	0.003 ... 6
• Transformer Current	Primary Current of the Transformer	A	5 ... 10,000
	Smallest Input Step Adjus. in 5 A Steps	A	5
• Frequency		Hz	50
• Input Waveform		-	Sinusoidal
• Starting Current for Energy Measurement (I_{st})		mA	3
Pulse Output S0			
• Pulse Output	Acc. to LN 62053-31 for Act. and React. Energy T1 and T2	-	Yes
• Quantity Pulse Output	Depending on the Transf. Factor	Imp/kWh ms	100-10-1 30 ±2ms
• Pulse Duration	Min. (Max.)	VAC (DC)	5 ... 230 ±5% (5...300)
• Required Voltage	Pulse ON (Max 230V AC/DC)	mA	90
• Permissible Current	Pulse OFF (Leak Cur. Max. 230V AC/DC)	µA	1
• Permissible Current			

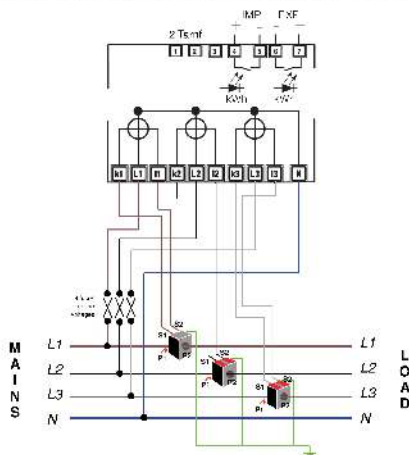
Technical Data Continued

Optical Interfaces	LED	mp/kWh	10,000
• Front Side (Accuracy Control)			
Safety Acc. to EN50470-1			
• Indoor Meter		-	Yes
• Degree of Pollution		-	2
• Operational Voltage		V	300
• AC Voltage Test (LN 50470 3, 7.2)		kV	1
• Insulation Voltage Test		1.2/50 μ s-kV	6
• Protection Class (EN 50470)		Class	II
• Housing Material Flame Resistance	UL 94	Class	VC
• Safety sealing between upper and lower housing part		-	Yes
Connection Terminals			
• Type Cage Main Current Paths	Screw Head Z -/4	POZ DRIV	PZ
• Type Cage Pulse Output	Blade for Slotted Screw	mm	0.8 x 3.5
• Terminal Capacity Main Current Paths	Solid Wire Min. (Max.)	mm ²	1 (4)
• Terminal Capacity Pulse Output	Stranded Wire with Sleeve Min. (Max.)	mm ²	1 (4)
	Solid Wire Min. (Max.)	mm ²	1 (4)
	Stranded Wire with Sleeve Min. (Max.)	mm ²	1 (4)
Environmental Conditions			
• Mechanical Environment		-	M1
• Electromagnetic Environment		-	E2
• Operating Temperature		°C	-10 ... +55
• Limit Temperature of Transportation/Storage		°C	25 ... +70
• Relative Humidity (Not Condensation)		%	≤80
• Vibrations	50Hz Sinusoidal Vibration Amplitude	mm	±0.075
• Degree Protection	Housing when mounted in front (term.)	-	IP61(*) / IP20

Circuit Diagrams

5 Amp CT Connection Diagram

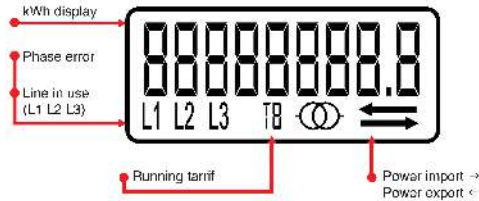
Terminals 1-2 (PZC coil) are used when you are using more than one tariff.



Display Registers

Display

Liquid crystal display



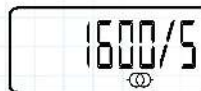
Main Pages



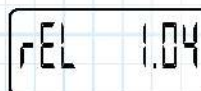
Import → Active Energy T1 Export ← Active Energy T1
(Example with line 2 missing)



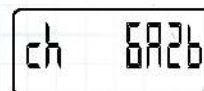
Import → Active Energy T2 Export ← Active Energy T2



Current transformer turns ratio



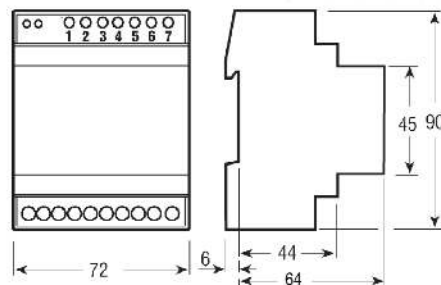
Firmware release



Firmware object code checksum

Dimensions

All dimensions in mm



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