AUTOMETERS SYSTEMS

AD3-80M
Energy Meters Three-Phase

Application

The AD3-80M is the latest in the Din rail meters from Autometers with MID certification appendix "B" and "D" making it acceptable for revenue collection. The AD3-80M has been designed and manufactured where price and limited information is required.

The meter has a clear LCD the default register is Import kWh with icons indicating voltages connected to the meter, direction of power flow and present tariff. By pressing the button on the front the display will scroll to engineering messages and display test.

Overview

The AD3-80M is a 3 phase 4 wire, 230/400 volt 50 Hz, 80 Amp direct connected kWh meter measuring active energy on import or export applications.

Function

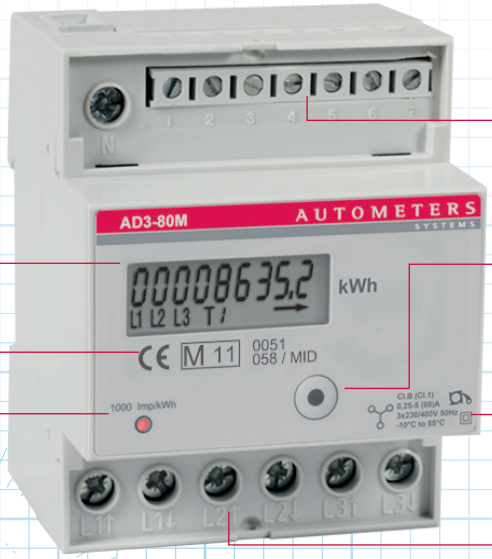
Display

		Unit	ID	Indication
Active Energy	Tariff 1	(M)-(k)-Wh	-	Import Indication ←
	Tariff 2	(M)-(k)-Wh	-	Export Indication →
Voltage Indication		L1,L2,L3	Will illuminate when voltage is present	-
Tariff		T1, T2 ⇄	Will illuminate indicating present tariff	-
Phased 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 Direct Connection 80 Amp



LCD Display

MID Certification Number

Precision Control LED

Terminals 1-2 External Time Switch
Terminals 4-5 Import Pulse Terminals
Terminals 6-7 Export Pulse Terminals

Switch to step through display

Technical details of Meter

Supply Terminals
80 Amp Direction Connection

AUTOMETERS SYSTEMS

AUTOMETERS SYSTEMS

AD3-80M Energy Meters Three-Phase

Technical Data

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

General Characteristics			**Direct Connection 80A**
• Housing	DIN 43880	DIN	4 Modules
• Mounting	EN 60715	35mm	DIN Rail
• Depth		mm	70
• Reference Standard	Active Energy	-	EN 50470-1-3
	Pulse Output	-	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 Frequenc y ***Fn***		Hz	50
• Rated Power Dissipation (Max for Phase) ***Pv***		VA (W)	<8 (0.6)
Overload Capacity			
• Voltage Un	Continuous: Phase/Phase	V	480
	1 Second: Phase:Phase	V	800
	Continuous: Phase/N	V	276
	1 Second: Phase/N	V	300
• Current Imax	Continuous	A	80
	Momentary (0.5s)	A	-
	Momentary (10ms)	A	2400
Display (Readouts)			
• Connection Errors & Phase Out	Discernible from Phase Sequence Indic.	-	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	Taris 2	Wh	0.01
+ Display import or Export (Arrow)	Overflow	-	99999999.9
• Transformer Primar y Current		A	-
• Display Period Refresh		S	1
Measuring Accuracy			
• Active Energy and Power	Acc. to EN 50470-3	Class 1	B
Measuring Input			
• Type of Connection			Direct
• Voltage ***Un***	Phase/Phase	V	400
	Phase/N	V	230
• Operating Range Voltage	Phase/Phase	V	319 ... 480
	Phase/N	V	184 ... 276
• Current ***Iref***		A	5
• Current ***In***		A	-
• Current ***Imin***		A	0.25
• Operating Range Current ***(Ist ... Imax)***	Direct Connection	A	0.015 ... 80
	Transformer Connection (CT)	A	-
• Transformer Current	Primary Current of the Transformer	A	-
	Smallest Input Step Adjus. in 5 A Steps	A	-
• Frequenc y		Hz	50
• Input Waveform		-	Sinusoidal
• Star ting Current for Energy Measurment ***(Ist)***		mA	15
Pulse Output S0			
• Pulse Output	Acc. to EN 62053-31 for Act. and React.		
	Energy T1 and T2	-	Yes
• Quantity Pulse Output	For Direct Connection 80A	Imp/kWh	***500***
	Depending on the Transf. Factor	Imp/kWh	-
• Pulse Duration		ms	30 ±2ms
• Required Voltage	Min. (Max.)	VAC (DC)	5 ... 230 ±5% (5...300)
• Permissible Current	Pulse ON (Max 230V AC/DC)	mA	90
• Permissible Current	Pulse OFF (Leak Cur. Max. 230V AC/DC)	uA	1

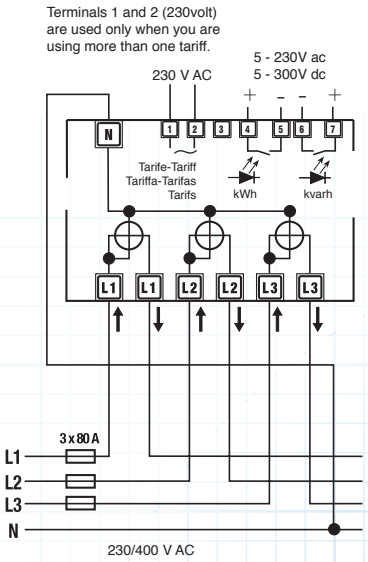
AD3-80M Energy Meters Three-Phase

Technical Data (Cont'd)

Optical Interfaces			
• Front Side ***(Accuracy Control)***	LED	imp/kWh	1000
Safety Acc. to EN50470-1			
• Indoor Meter		-	Yes
• Degree of Pollution		-	2
• Operational Voltage		V	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
• Safety-sealing between upper and lower housing part ***(AE3-80M / AE3-5M)***		-	Yes
Connection Terminals			
• Type Cage Main Current Paths	Screw Head Z +/-	POZIDRIV	PZ2
• 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	1.5 (35)
• Terminal Capacity Pulse Outlet	Stranded Wire with Sleeve Min. (Max.)	mm^2	1.5 (35)
	Solid Wire Min. (Max.)	mm^2	1 (4)
	Stranded Wire with Sleeve Min. (Max.)	mm^2	1 (2.5)
Environmental Conditions			
• Mechanical Environment		-	M1
• Electromagnetic Enviroment		-	E2
• Operating Temperature		°C	-10 ... +55
• Limit Temperature of Transpor tation/Storage		°C	-25 ... +70
• Relative Humidity (Not Condensation)		%	≤80
• Vibrations	50Hz Sinusodial Vibration Amplitude	mm	±0.075
• Degree Protection	Housing when mounted in front (term.)	-	IP51(*) / IP20

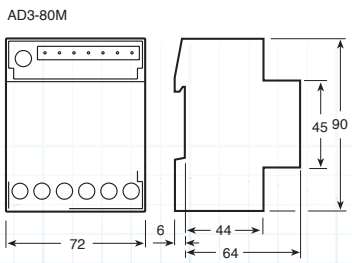
Circuit Diagrams

3 Phase 4 Wire Connection Diagram



80 Amp Direct Connected

Dimensions



Display Registers