

# ADP3-80C

## Energy Meters Three-Phase

### Application

The new ADP range of Multifunction digital power-meters with a green backlight LCD display, made for a fast and correct reading, are ideal instruments for installation in distribution panels, where the user can easily read and monitor more electrical parameters.

They are also used to measure the energy of three phase systems, for example in residential, generics and industrial applications. They are provided with two SO outputs: one for active imported energy, the other for active exported energy. The meters can be set up to transmit the electrical parameters by RS 485 Modbus (Autometers V6 protocol) by using the ADM-F external Modbus module. By transmitting the information to Autometers HORIZON metering system it is possible to analyze the energy-consumption and reduce the running costs to a minimum for industrial plants and buildings like Offices, Hospitals Universities etc.

### Overview

The ADP3-80C is a 3 phase 4 wire 230/400 volt 80 Amp multifunction meter, four modules wide with a large and easy to read display showing many parameters of electrical energy, with it's wide range of communications options makes it the ideal meter for most applications in distribution panels.

### Function

Display	Unit	ID
Current	A	I1, I2, I3
Tensions related	V	L1-N, L2-N, L3-N
Tensions between phases	V	L1-L2, L2-L3, L3-L1
Power factor	PF	L1, L2, L3
Frequency	Hz	L1
Active power	(<M) W	Utilization and instantaneous value I1, I2, I3
Reactive power	(<M) var	Utilization and instantaneous value I1, I2, I3
Apparent power	(<M) VA	Utilization and instantaneous value L1, L2, L3
Active energy	Tariff 1 (M)-(K) Wh	Energy absorbed or supplied L
Connection errors		PHASE Err
Primary transformer	5 ... 10.000/5	CT (current transformer)



Picture showing the installation of the external ADM-F Modbus module

### 4 Standard Module Housing

230/400 Volt 80 Amp 50Hz



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

**Technical Data**

Data in compliance with EN50470-1, EN50470-3, EN62053-23 and EN62053-31

			ADP3-6C
<b>General characteristics</b>			
• Housing	DIN 43880	DIN	4 modules
• Mounting	EN 60715	35 mm	DIN rail
• Depth		mm	70
• Reference standard	active energy reactive energy - pulse output	-	EN 50470-1-3 EN 62053-23-31
<b>Operating features</b>			
• Connectivity	to single/three-phase network	no wires	2-4
• Storage of energy values and configuration	internal flash memory	-	yes
• Tariff	for active energy	-	1 Tariff
<b>Supply</b>			
• Rated control supply voltage $U_n$		VAC	230
• Operating range voltage		V	184 ... 276
• Rated frequency $f_n$		Hz	50 ±2%
• Rated power dissipation (max. for phase) $P_v$		VA (W)	±6 (0.6)
<b>Overload capability</b>			
• Voltage $U_n$	continuous; phase/phase	V	480
	1 second; phase/phase	V	600
	continuous; phase/N	V	276
	1 second; phase/N	V	300
• Current $I_{max}$	continuous	A	80
	momentary (0,5 s)	A	-
	momentary (10 ms)	A	2400
<b>Display (readouts)</b>			
• Connection errors and phase out	discernible from phase-sequence indic.	-	PHASE Err
• Display type	LCD - Energy	n° digits	9 (1 ... 3 decimal)
	LCD - Instantaneous	n° digits	4 (1 ... 3 decimal)
	digit dimensions	mm x mm	6.00 x 3
• Active energy: 1 display, 9 digit + display import or export (arrow)	tariff 1	Wh	0.01
	overload	MWh	9999999.99
• Instantaneous active power: 3 display, 3-digit		W, kW or MW	000 ... 999.9
• Instantaneous reactive power: 3 display, 3-digit		var, kvar or Mvar	000 ... 999.9
• Instantaneous apparent power: 3 display, 3-digit		VA, kVA or MVA	000 ... 999.9
• Instantaneous tariff measurement		1 display, 1-digit	T1
• Transformer primary current		A	-
• Display period refresh		s	1
<b>Measuring accuracy</b>			
• Active energy and power	acc.to EN 50470-3	class 1	B
• Reactive and apparent power	acc.to EN 62053-23	class 2	2
<b>Measuring input</b>			
• Type of connection			direct
• Voltage $U_n$	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	5
• Current $I_n$		A	-
• Current $I_{min}$		A	0.25
• Operating range current ( $I_{st}$ ... $I_{max}$ )	direct connection	A	0.015 ... 60
	transformer connection	A	-
	primary current of the transformer	A	-
	smallest input step adjus. in 5 A steps	A	-
<b>Measuring input</b>			
• Frequency		Hz	50
• Input waveform			sinusoidal
• Starting current for energy measurement ( $I_{st}$ )		mA	15
<b>Pulse output SO</b>			
• 2 pulse output	1 pulse output for energy export 1 pulse output for energy import	-	yes yes
• Quantity pulse output	depending on the transf. factor, adjus.	imp/kWh	-
• Pulse duration		ms	30 ±2 ms
• Required voltage	min. (max)	VAC (DC)	5 ... 230 ±5% (5 ... 300)
• Permissible current	pulse ON max. 230 V AC/DC)	mA	30
• Permissible current	Imp. OFF (leak. Cur. Max. 230V AC/DC)	µA	1
<b>Safety acc. to EN 50470-1</b>			
• 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
• Insulating material flame resistance	UL 94	class	VO

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## Technical Data

Data in compliance with EN50470-1, EN50470-3, EN62053-23 and EN62053-31

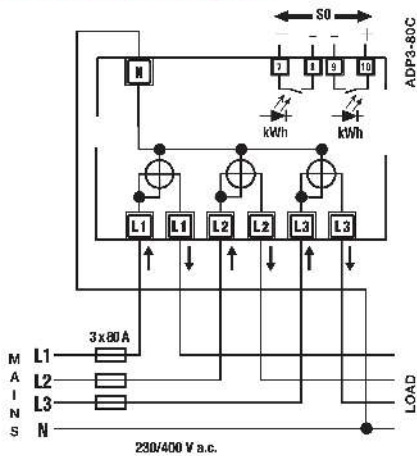
### Adaptor for Communication (only for ADP3-5G)

• Modbus RTU, Ascii interface	RS-485 – 8 wires	-	up to 19,200 bps
<b>Connection terminals</b>			
• Type cage main current paths	screw head 7.47	POZIDRIV	P77
• Type cage pulse outlet	blade for slotted screw	mm	0.8 x 3.5
• Terminal capacity main current paths	solid wire min. (max.)	mm <sup>2</sup>	1.5 (35)
	stranded wire with sleeve min. (max.)	mm <sup>2</sup>	1.5 (35)
	solid wire min. (max.)	mm <sup>2</sup>	0.14 (2.5)
	stranded wire with sleeve min. (max.)	mm <sup>2</sup>	0.14 (1.5)
• Terminal capacity pulse outlet			
• Environmental conditions			M1
• Mechanical environment			E2
• Electromagnetic environment			10 ... +55
• Operating temperature		°C	-25 ... +70
• Limit temperature of transportation and storage		°C	80
• Relative humidity (not condensation)		%	+0.075
• Vibrations	50 Hz sinusoidal vibration amplitude	mm	IP51(*)/P20
• Degree protection	housing when mounted in front (term.)	-	

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

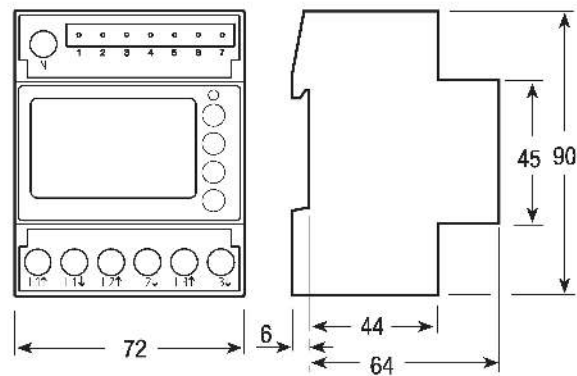
## Circuit Diagrams

### 3 Phase 4 wire Connection Diagram

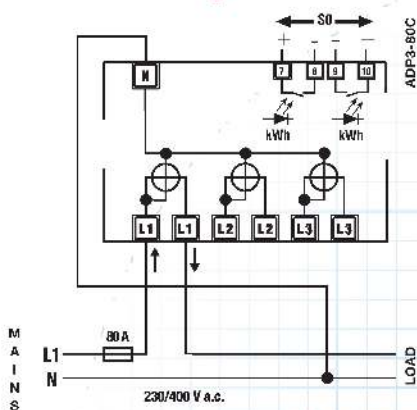


## Dimensions

### ADP3-80C



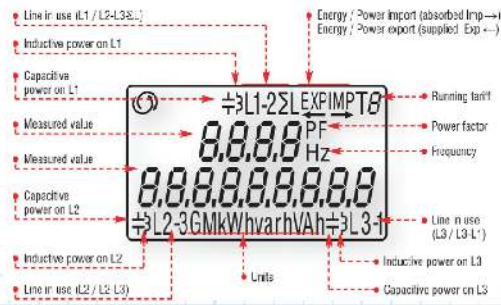
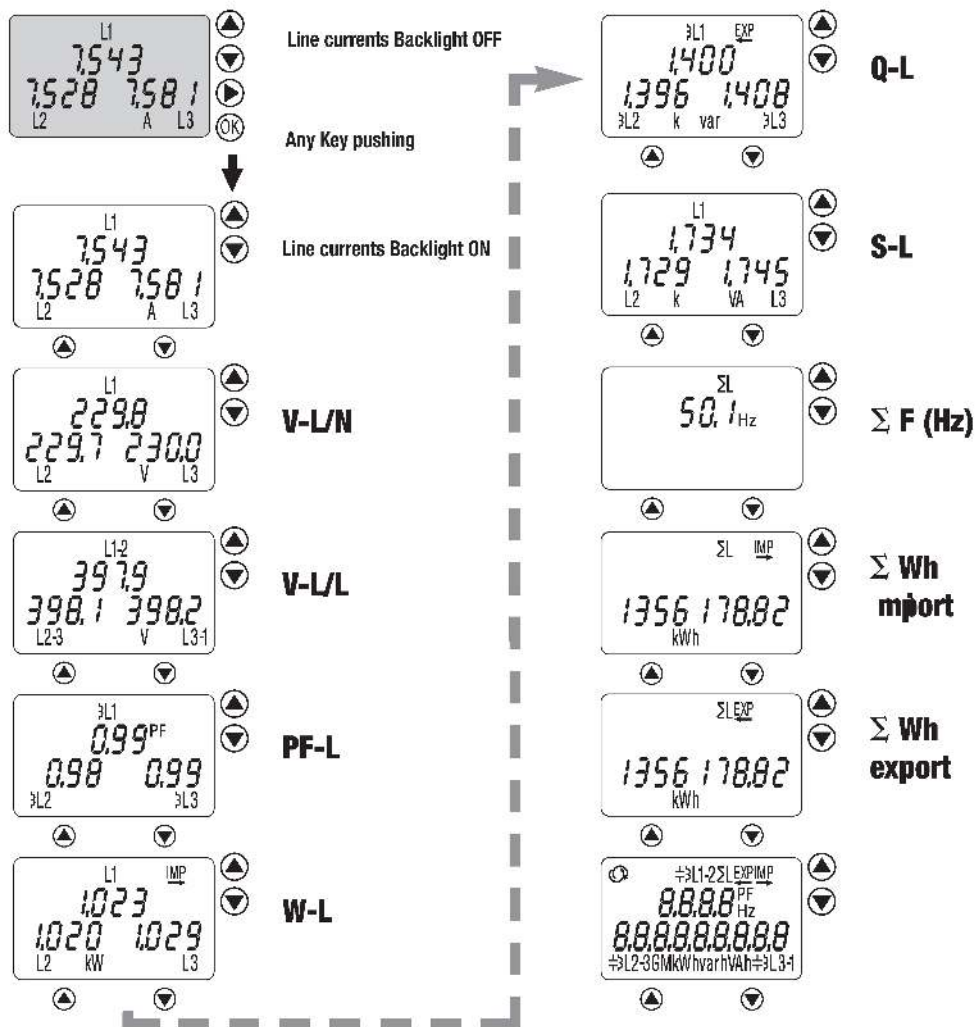
### 1 Phase 2 wire Connection Diagram



Display Registers

Main Menu

Measurements - Start Up



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