UPM209 ‹1/5A CT, 80A direct›
4 DIN modules multifunction three-phase meter

- 4 DIN modules compact version
- Fully bi-directional four quadrants measurements for all energies and powers
- Main electrical parameters measured and displayed for a cost-effective consumption analysis
- Version for 1 or 5A CT or for direct connection up to 80A
- Possibility to connect by PT
- Up to 8 MB for data recording (ENH version)
- Possibility to record all energy counters (ENH version)
- Up to 24 parameters selectable among real time measurements for MIN/AVG/MAX recording (ENH version)
- MODBUS RTU/ASCII communication by RS485 port or MODBUS TCP communication by Ethernet port
- Possibility to manage the instrument in remote mode by WintoolNET software or by Web interface

» General features

UPM209 is an innovative instrument for measurement and recording of the electrical parameters. It is particularly suitable for consumption analysis and control, with an excellent quality/price ratio.

UPM209 is the ideal instrument to establish the measurement points on the plant.

The instrument can communicate through the RS485 serial port by MODBUS RTU/ASCII protocol or through Ethernet port by MODBUS TCP protocol.

Furthermore, it is available the WintoolNET software for the instrument remote management. Web interface is also available in case of instrument with Ethernet port: a very useful function that gives the possibility to manage the instrument by any PC connected on the network.

» Benefits

- UPM209 provides fully and accurate information on the load in the measurement point and it allows to calculate the costs of the energy consumption.
- Data read by PC allows to generate consumption profiles, recorded values trend, alarms/events report and costs calculation as well as critical values identification.
- Available the remote firmware upgrade of the instrument.

» Applications

- Energy audit.
- Monitoring system and energy control.
- Individual machine load monitoring.
- Power peak control.
- Switchboards, gensets, motor control centers, etc.
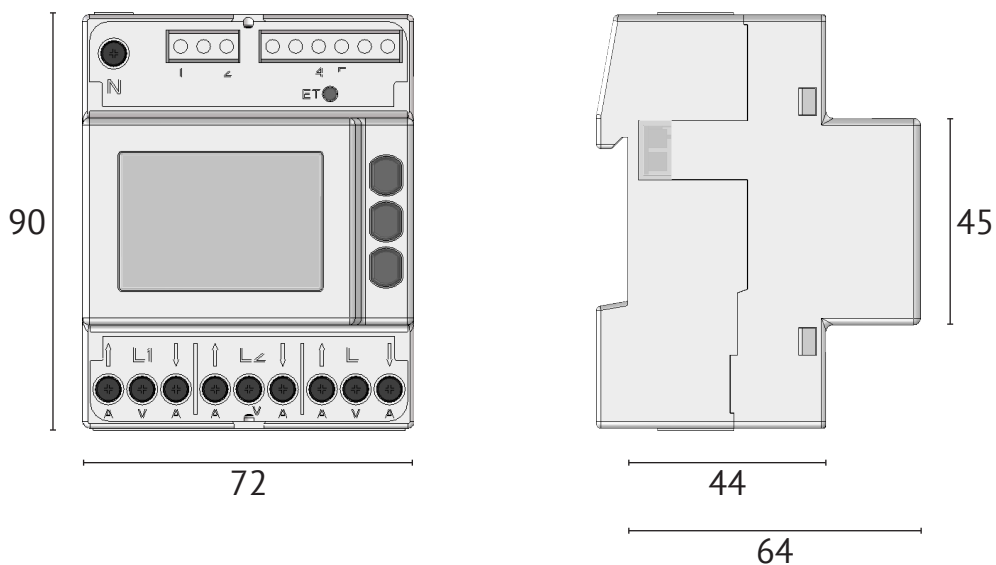- Remote metering and cost allocation.

» Related Products

- WintoolNET

algodue®
ELETTRONICA
Innovative Electronic Systems

» Available configurations

		BASIC	ENH
CURRENT INPUTS (make one choice only)	For 1/5A CT	●	●
	Direct connection up to 80A	●	●
AUXILIARY POWER SUPPLY	85...265 VAC	●	●
COMMUNICATION PORT (make one choice only)	RS485 for MODBUS RTU/ASCII communication	●	●
	Ethernet for HTTP, MODBUS TCP communication	●	●
INSTRUMENT REMOTE MANAGEMENT	WintoolNET	●	●
	Web server (only for instrument with Ethernet port)	●	●
SIGN REPRESENTATION IN MODBUS PROTOCOL (make one choice only)	Sign bit	●	●
	2's complement	●	●
DIGITAL OUTPUT (only for instrument with RS485 port)	For alarm events or pulse emissions	●	●
DMD VALUE CALCULATION MODE	Fixed window	●	
	Fixed or Sliding window		●
MEMORY	1 MB	●	
	8 MB		●
RECORDINGS	Active and reactive power AVG values	●	
	Real time params MIN/AVG/MAX values (up to 24 params programmable)		●
	Energy counters		●
WIRING MODES	Three phase, 4 wires, 3 currents (3.4.3)	●	●
	Three phase, 3 wires, 2 currents (3.3.2)	●	●
	Single phase (1ph)	●	●
THD & HARMONICS	Voltage and current THD values	●	●
	Voltage and current harmonics up to 15th		●
APPARENT ENERGY COUNTERS (make one choice only)	Total counters	●	●
	Separated Inductive&Capacitive counters	●	●

» Technical drawing

90

72

45

44

64

algodue ®
ELETTRONICA
Innovative Electronic Systems

» Measurements & recordings

INSTANTANEOUS VALUES		BASIC	ENH
VOLTAGE	V_{L1-N} - V_{L2-N} - V_{L3-N} - V_{L1-L2} - V_{L2-L3} - V_{L3-L1} - V_Σ [V]	●	● MAM
CURRENT (+/-)	I_{L1} - I_{L2} - I_{L3} - I_N - I_Σ [A]	●	● MAM
ACTIVE POWER (+/-)	P_{L1} - P_{L2} - P_{L3} - P_Σ [W]	● AVG	● MAM
REACTIVE POWER (+/-)	Q_{L1} - Q_{L2} - Q_{L3} - Q_Σ [var]	● AVG	● MAM
APPARENT POWER (+/-)	S_{L1} - S_{L2} - S_{L3} - S_Σ [VA]	●	● MAM
POWER FACTOR (ind&cap)	PF_{L1} - PF_{L2} - PF_{L3} - PF_Σ	●	● MAM
DPF (+/-)	DPF_{L1} - DPF_{L2} - DPF_{L3}		● MAM
TANGENT Ø (+/-)	$TAN\emptyset_{L1}$ - $TAN\emptyset_{L2}$ - $TAN\emptyset_{L3}$ - $TAN\emptyset_\Sigma$	●	● MAM
VOLTAGE THD	$THDV_{L1}$ - $THDV_{L2}$ - $THDV_{L3}$ - $THDV_{L1-L2}$ - $THDV_{L2-L3}$ - $THDV_{L3-L1}$ [V]	●	● MAM
CURRENT THD	$THDA_{L1}$ - $THDA_{L2}$ - $THDA_{L3}$ - $THDA_N$ [A]	●	● MAM
FREQUENCY	f [Hz]	●	● MAM
PHASE ORDER	Ph	●	●
DEMAND VALUES (DMD)			
DMD CURRENT (abs)	I_{L1DMD} - I_{L2DMD} - I_{L3DMD} - I_{NDMD} - $I_{\Sigma DMD}$ [A]		●
DMD ACTIVE POWER (imp&exp)	P_{L1DMD} - P_{L2DMD} - P_{L3DMD} - $P_{\Sigma DMD}$ [W]	●	●
BALANCE OF DMD SYSTEM ACTIVE POWER (+/-)	$P_{\Sigma DMDBAL}$ [W]		●
DMD REACTIVE POWER (imp&exp)	Q_{L1DMD} - Q_{L2DMD} - Q_{L3DMD} - $Q_{\Sigma DMD}$ [var]	●	●
BALANCE OF DMD SYSTEM REACTIVE POWER (+/-)	$Q_{\Sigma DMDBAL}$ [var]		●
DMD APPARENT POWER (imp&exp)	S_{L1DMD} - S_{L2DMD} - S_{L3DMD} - $S_{\Sigma DMD}$ [VA]		●
BALANCE OF DMD SYSTEM APPARENT POWER (+/-)	$S_{\Sigma DMDBAL}$ [VA]		●
DMD POWER FACTOR (imp&exp)	PF_{L1DMD} - PF_{L2DMD} - PF_{L3DMD} - $PF_{\Sigma DMD}$		●
MAX VALUES			
MAX VOLTAGE	$V_{L1-NMAX}$ - $V_{L2-NMAX}$ - $V_{L3-NMAX}$ - $V_{L1-L2MAX}$ - $V_{L2-L3MAX}$ - $V_{L3-L1MAX}$ - $V_{\Sigma MAX}$ [V]	●	●
MAX CURRENT (abs)	I_{L1MAX} - I_{L2MAX} - I_{L3MAX} - I_{NMAX} - $I_{\Sigma MAX}$ [A]	●	●
MAX ACTIVE POWER (imp&exp)	P_{L1MAX} - P_{L2MAX} - P_{L3MAX} - $P_{\Sigma MAX}$ [W]		●
MAX REACTIVE POWER (imp&exp)	Q_{L1MAX} - Q_{L2MAX} - Q_{L3MAX} - $Q_{\Sigma MAX}$ [var]		●
MAX APPARENT POWER (imp&exp)	S_{L1MAX} - S_{L2MAX} - S_{L3MAX} - $S_{\Sigma MAX}$ [VA]		●
MAX POWER FACTOR (imp&exp)	PF_{L1MAX} - PF_{L2MAX} - PF_{L3MAX} - $PF_{\Sigma MAX}$		●
MAX TANGENT Ø (imp&exp)	$TAN\emptyset_{L1MAX}$ - $TAN\emptyset_{L2MAX}$ - $TAN\emptyset_{L3MAX}$ - $TAN\emptyset_{\Sigma MAX}$		●
MAX VOLTAGE THD	$THDV_{L1MAX}$ - $THDV_{L2MAX}$ - $THDV_{L3MAX}$ - $THDV_{L1-L2MAX}$ - $THDV_{L2-L3MAX}$ - $THDV_{L3-L1MAX}$ [V]		●
MAX CURRENT THD	$THDA_{L1MAX}$ - $THDA_{L2MAX}$ - $THDA_{L3MAX}$ - $THDA_{NMAX}$ [A]		●
MAX DMD CURRENT	$I_{L1MAXDMD}$ - $I_{L2MAXDMD}$ - $I_{L3MAXDMD}$ - $I_{\Sigma MAXDMD}$ [A]		●
MAX DMD ACTIVE POWER (imp&exp)	$P_{L1MAXDMD}$ - $P_{L2MAXDMD}$ - $P_{L3MAXDMD}$ - $P_{\Sigma MAXDMD}$ [W]	●	●
MAX DMD REACTIVE POWER (imp&exp)	$Q_{L1MAXDMD}$ - $Q_{L2MAXDMD}$ - $Q_{L3MAXDMD}$ - $Q_{\Sigma MAXDMD}$ [var]	●	●
MAX DMD APPARENT POWER (imp&exp)	$S_{L1MAXDMD}$ - $S_{L2MAXDMD}$ - $S_{L3MAXDMD}$ - $S_{\Sigma MAXDMD}$ [VA]		●
MIN VALUES			
MIN SYSTEM ACTIVE POWER	$P_{\Sigma MIN}$ [W]	●	●
MIN SYSTEM REACTIVE POWER	$Q_{\Sigma MIN}$ [var]	●	●
MIN SYSTEM APPARENT POWER	$S_{\Sigma MIN}$ [VA]	●	●
COUNTERS			
ACTIVE ENERGY (imp&exp)	kWh_{L1} - kWh_{L2} - kWh_{L3} - kWh_Σ [Wh]	●	● EC
BALANCE OF SYSTEM ACTIVE ENERGY	$kWh_{\Sigma BAL}$ [Wh]	●	● EC
REACTIVE ENERGY (imp&exp) (ind&cap)	$kvarh_{L1}$ - $kvarh_{L2}$ - $kvarh_{L3}$ - $kvarh_\Sigma$ [varh]	●	● EC
BALANCE OF SYSTEM REACTIVE ENERGY (ind&cap)	$kvarh_{\Sigma BAL}$ [varh]	●	● EC
APPARENT ENERGY (imp&exp) *(ind&cap on request)*	$kVAh_{L1}$ - $kVAh_{L2}$ - $kVAh_{L3}$ - $kVAh_\Sigma$ [VAh]	●	● EC
BALANCE OF SYSTEM APPARENT ENERGY *(ind&cap on request)*	$kVAh_{\Sigma BAL}$ [VAh]	●	● EC
INSTALLATION HOUR COUNTER	HRCNTi [h]		●
MEASUREMENT HOUR COUNTER	HRCNTm [h]		●
HARMONIC ANALYSIS UP TO 15th			
VOLTAGE HARMONICS	V_{L1-N} - V_{L2-N} - V_{L3-N} - V_{L1-L2} - V_{L2-L3} - V_{L3-L1} [V]		● MAM
CURRENT HARMONICS	I_{L1} - I_{L2} - I_{L3} - I_N [A]		● MAM

LEGEND

● = Standard

AVG = Parameters for AVG recording (fixed)
MAM = Parameters for MIN/AVG/MAX recording (up to 24 params programmable)
EC = Parameters for Energy counter recording (fixed)

+/- = Signed value
imp&exp = Values splitted in imported and exported
abs = Absolute value
ind&cap = Values splitted in inductive and capacitive

DMDBAL = Difference between the positive and negative demand value: [DMD+] - [DMD-]
BAL = Difference between the imported and exported value: [imp] - [exp]

algodue® ELETTRONICA
Innovative Electronic Systems

» Specifications

POWER SUPPLY	
Voltage range:	85 ... 265 VAC
Safety:	300 V CAT III
Maximum consumption:	Instrument with RS485 port: 1.6 VA - 1 W
	Instrument with Ethernet port: 4.5 VA - 1.6 W
Frequency:	50/60 Hz
VOLTAGE INPUTS	
Voltage range:	3x10/17 ... 3x285/495 VAC
Safety:	300 V CAT III
Minimum voltage for FFT calculation:	20/35 VAC (multiplied by PT ratio in case of PT use) with direct connection
CURRENT INPUTS	
Maximum value:	1/5A CT model: 6A
	80A model: 80A
Starting current (I_{st}):	1/5A CT model: 2 mA
	80A model: 20 mA
CT burden:	1/5A CT model: 0.04 VA
Minimum current for FFT calculation:	1/5A CT model: 100 mA * CT ratio
	80A model: 200 mA
TYPICAL ACCURACY	
Voltage:	±0.2% reading in 10% FS...FS range (FS=Full Scale value)
Current:	±0.4% reading in 5% FS...FS range
Power:	±0.5% reading ±0.1% FS (PF=1)
Frequency:	±0.1% reading ±1 digit in 45...65 Hz range
Active energy:	Class 1 according to IEC/EN 62053-21
Reactive energy:	Class 2 according to IEC/EN 62053-23
DISPLAY & KEYBOARD	
Display:	Backlighted LCD, 43x29 mm
	3 rows, 4 digits + symbols
Keyboard:	3 front buttons + 1 protected button
COMMUNICATION PORT	
Type:	RS485 optoisolated or Ethernet (RJ45)
Protocols:	MODBUS RTU/ASCII in case of RS485 port
	HTTP, NTP, DHCP, MODBUS TCP in case of Ethernet port
Baud rate:	300 ... 57600 bps in case of RS485 port
	10/100 Mbps in case of Ethernet port
DIGITAL OUTPUT (DO)	
Type:	Passive optoisolated
Maximum values (according to IEC/EN 62053-31):	27 VDC - 27 mA
Energy pulse length (only for DO in pulse mode):	50 ±2ms ON time
Maximum output reaction time (only for DO in alarm mode):	1 s
WIRE DIAMETER FOR TERMINALS	
Measuring terminals (A & V):	1/5A CT model: 1.5 ... 6 mm^2
	80A model: 1.5 ... 35 mm^2
Terminals for digital output, AUX input, RS485 port:	0.14 ... 2.5 mm^2
SIZE & WEIGHT	
LxHxP, W:	72x90x65 mm, max 436 g
ENVIRONMENTAL CONDITIONS	
Operating temperature:	-25°C ... +55°C (3K6)
Storage temperature:	-25°C ... +75°C (2K3)
Max humidity (without condensation):	80%
Sinusoidal vibration amplitude:	50 Hz ±0.075 mm
Protection degree - frontal part:	IP51 (granted only in case of installation in a cabinet with at least IP51 protection degree)
Protection degree - terminals:	IP20
Pollution degree:	2
Installation and use:	Internal
STANDARD COMPLIANCE (for the parts applicable for the instrument)	
Directives:	2006/95/EC, 2004/108/EC
Safety:	EN 61010-1, EN 61010-2-030, EN 61010-2-032
EMC:	EN 61326-1, EN 55011, EN 61000-4-2, EN61000-4-3, EN61000-4-4,
	EN61000-4-5, EN61000-4-6, EN61000-4-11, EN61000-6-2

algodue ®
ELETTRONICA

Innovative Electronic Systems

ORDER CODE	VERSION		POWER SUPPLY	COMMUNICATION PORT with SIGN BIT in Modbus		APPARENT EN. COUNTER (VAh)	I/O	REMOTE MANAGEMENT	
	BASIC	ENH	Auxiliary	RS485	ETHERNET	SEPARATED Ind&Cap	DO	WintoolNET	Web Server
FOR 1/5A CTs (not included)									
1208.0001.0001	●		85...265VAC	●		●	●	●	
1208.0002.0001	●		85...265VAC		●	●		●	●
1208.0003.0001		●	85...265VAC	●		●	●	●	
1208.0004.0001		●	85...265VAC		●	●		●	●
80A DIRECT CONNECTION									
1209.0001.0001	●		85...265VAC	●		●	●	●	
1209.0002.0001	●		85...265VAC		●	●		●	●
1209.0003.0001		●	85...265VAC	●		●	●	●	
1209.0004.0001		●	85...265VAC		●	●		●	●

OPTIONS AVAILABLE ONLY ON REQUEST (MOQ 30 PCS)

2'S COMPLEMENT for sign representation in Modbus protocol

TOTAL apparent energy counters (Ind+Cap)

To be indicated together with the selected order code from the list above.

LEGEND
BASIC: Reduced parameter set and functions - 1MB memory, active & reactive power AVG recording.
ENH: Extended parameter set and functions - 8MB memory, real time parameters MIN/AVG/MAX recording (up to 24 parameters programmable), energy counter recording.
DO: 1 digital output for alarm or pulse emission.
WintoolNET: Software for instrument remote management, downloadable for free at www.algodue.it, in the Client protected area.

NOTE: Subject to change without notice

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for ALGODUE *manufacturer:*

Other Similar products are found below :

1101.0005.0001　1109.0004.0001　1107.0011.0001　1107.0012.0001　1107.0005.0001　1107.0007.0001　1107.0001.0001　1107.0003.0001　1104.0011.0001　1104.0003.0001　1104.0007.0001　1208.0002.0001　1211.0001.0001　1211.0002.0001　1101.0003.0001　1109.0001.0001　1104.0005.0001