

ACG-131 Multi-Circuit Smart Energy meter



- Master-Meter: ACG-131M
- Submeter: ACG-131S
- * Accuracy: 0.5S
- * Sensor: CT or Rogowski coil, with RJ12 port
- * Monitor up to 32 circuits (Single phase/Three phase)
- * Integrated power supply for master meter and submeter
- * Communication: Modbus-RTU, RS485,
- * Max baud rate: 38.4 kbps
- * Configuration software

Compact & Space-Saving
 RJ12 Plug design
 Simplified Installation
 Easy Maintenance
 Well-Designed Function
 Cost-Effective Performance



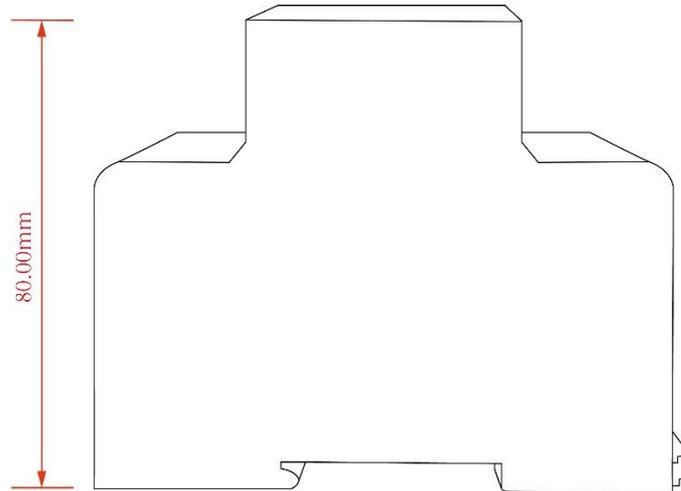
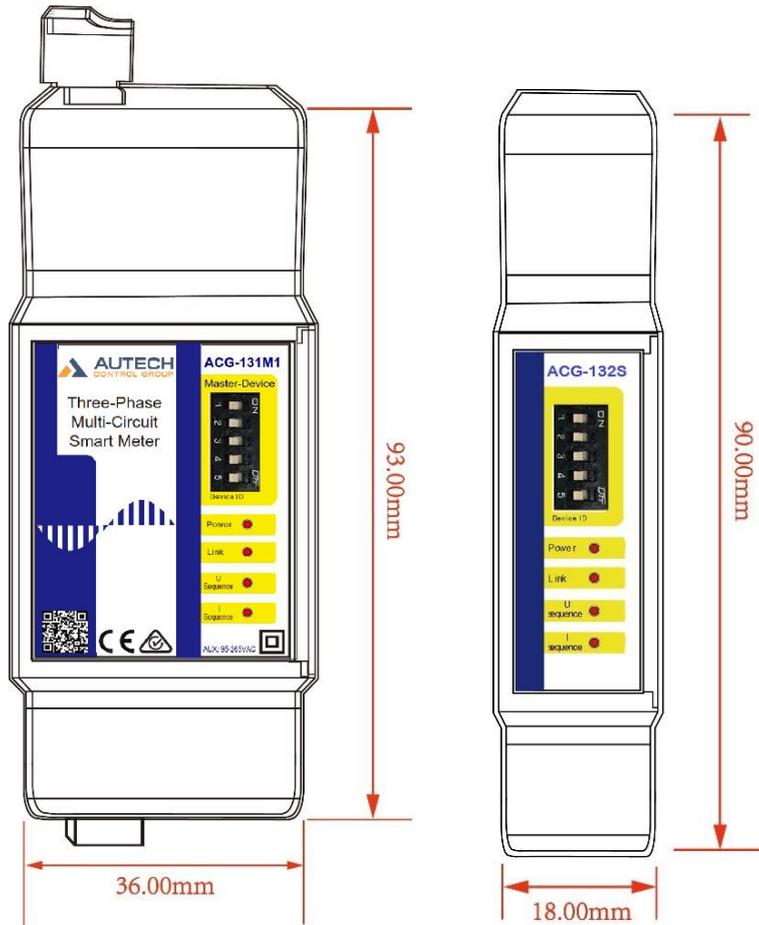
The ACG-131 smart energy meter supports both Rogowski Coils and voltage-output split-core CTs, enabling easy installation in retrofit applications and tight spaces, reducing installation time and costs.



Optional accessory:
 Cold pressed terminal to RJ12 connector

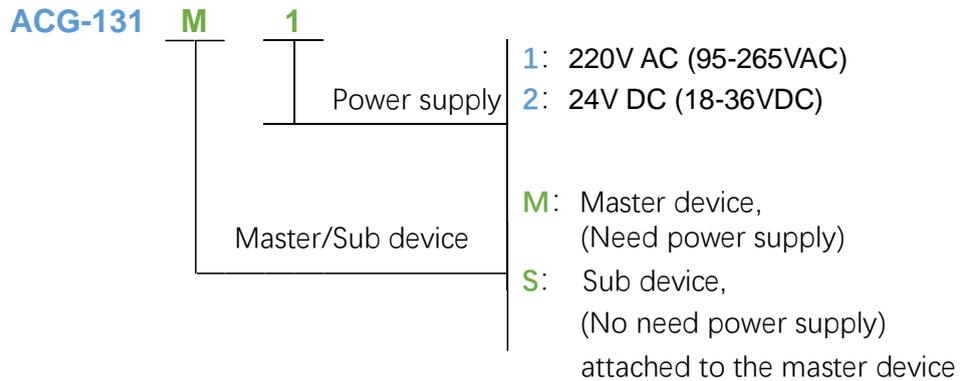


Product Dimensions



Dimension drawing

ACG-131 Model No. naming rules



Hardware Specifications

Description	
Mounting type	Din Rail
Model No.	Master meter: ACG-131M, Submeter: ACG-131S
Type of current sensor	Rogowski coil Voltage-output current transformer
Feature	Directly connect to Rogowski coil
Advantage	Wide current range, measurement without dismantling
Wiring system	3P4W_3CT, 3P3W_3CT, 3P3W_2CT, 1P3W, 1P2W
Application field	Power analysis and energy consumption monitoring
Display screen	None
Weight	ACG-131M: 122g; ACG-131S: 59g
Dimension	ACG-131M: L*W*D 9.3*8.0*3.6CM; ACG-131S: L*W*D 9.3*8.0*1.81CM
Color	White
Current measurement	
Channel input voltage range	0-900mVAC peak, 636 mV RMS
Rogowski coil	50mV/kA@50Hz(0-12000A), @60Hz(0-10000A) 85mV/kA@50Hz(0-7000A), @60Hz(0-6000A) 100mV/kA@50Hz(0-6000A), @60Hz(0-5000A)
mV-Secondary CT	0~99999A

Voltage measurement	
Measurement range	0~600VAC
Maximum measured value	720VAC
Digital signal	
Switching output	1-circuit electromagnetic relay output, contact capacity: 3A 30V DC, 3A 250V AC
Switching value input	Optocoupler isolation (5kVrms)
Communication	
RS485 Communication	One RS485 communication interface Interface type: two-wire half-duplex Communication baud rate: 2400bps~38400bps Protocol: Modbus-RTU
Power supply	
Power supply	ACG-131M1: 220V AC auxiliary power supply (95-265VAC)
	ACG-131M2: 24V DC auxiliary power supply (18-36VDC)
	ACG-131S: 5V DC (supplied by Master-Device)
Maximum power consumption	≤3.5VA

Measurement Parameters

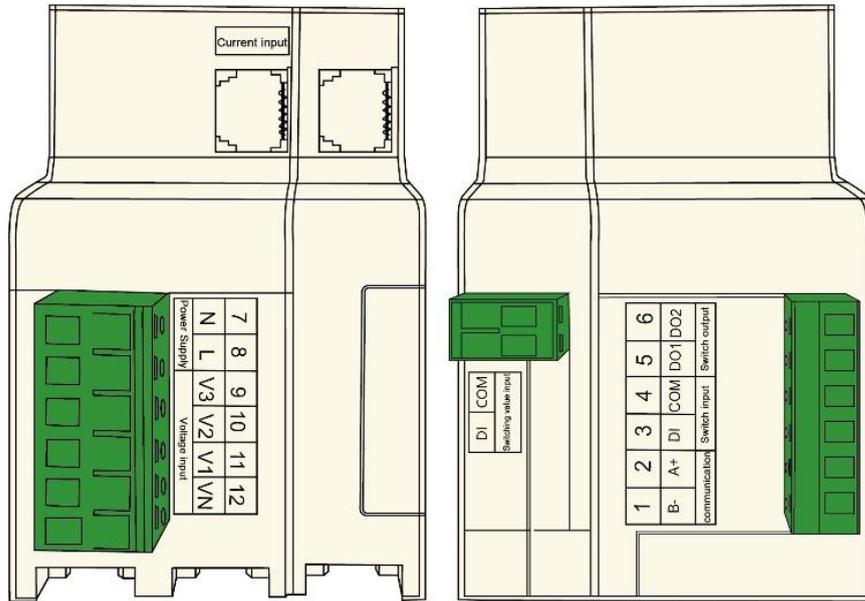
Instantaneous value	
Phase Voltage	U1, U2, U3, AVG, U0 (Zero sequence voltage)
Line Voltage	U12, U23, U31, AVG
Current	I1, I2, I3, AVG, In
Grid frequency	F1, F2, F3, Σ
Power factor PF	PF1, PF2, PF3, Σ
Fundamental power factor DPF	DPF1, DPF2, DPF3, Σ
Active power	P1, P2, P3, Σ
Reactive power	Q1, Q2, Q3, Σ
Apparent power	S1, S2, S3, Σ
Energy	
Active energy Pos.	EP1, EP2, EP3, Σ
Active Energy Neg.	EP1, EP2, EP3, Σ
Reactive Energy Pos.	EQ1, EQ2, EQ3, Σ
Reactive energy Neg.	EQ1, EQ2, EQ3, Σ
Apparent Energy	ES1, ES2, ES3, Σ
Tariff Energy	ET1, ET2, ET3, ET4, ET5, ET6

Harmonics	
Voltage Harmonic Distortion	Total harmonic (U1, U2, U3) Odd total harmonic (U1, U2, U3) Even total harmonic (U1, U2, U3) Sub-harmonic 1-50th (U1, U2, U3)
Current Harmonic Distortion	Total harmonic (I1, I2, I3) Odd total harmonic (I1, I2, I3) Even total harmonic (I1, I2, I3) K-factor (I1, I2, I3) Sub-harmonic 1-50th (I1, I2, I3)
Voltage Harmonic Value	Total harmonic (U1, U2, U3) Sub-harmonic 1-50th (U1, U2, U3)
Current Harmonic Value	Total harmonic (I1, I2, I3) Sub-harmonic 1-50th (I1, I2, I3)
Phase	
Phase sequence	Voltage, Current
Voltage angle	U1, U2, U3
Current angle	I1, I2, I3
Voltage-current angle	UI1, UI2, UI3
Demand	
Demand	Total active power, total reactive power, total apparent power
Maximum demand of total active power	Maximum demand and time
Maximum demand of total reactive power	Maximum demand and time
Maximum demand of total apparent power	Maximum demand and time
Unbalance	
Voltage unbalance	Negative Sequence, zero Sequence
Current unbalance	Negative Sequence, zero Sequence
Max. & Min.	
Phase Voltage	Each phase and average
Line Voltage	Each phase and average
Current	Each phase and average
Active power	Each phase and total
Reactive power	Each phase and total
Apparent power	Each phase and total

Accuracy and Certifications

Measurement Accuracy	
Current measurement accuracy	0.1%+ Current sensor accuracy
Voltage measurement accuracy	±0.2%(60V~600V AC)
Grid frequency	±0.01%(45~65Hz)
Power factor	±0.005
Active and apparent power	IEC62053-22 class 0.5S
Reactive power	IEC62053-21 class 1S
Active energy	IEC62053-22 class 0.5S
Reactive energy	IEC62053-21 class 1S
Environment condition	
Operating temperature	-25℃~+70℃
Storage temperature	-40℃~+85℃
Humidity range	5~95% RH, 50℃ (non-condensing)
Class of pollution	2
Overvoltage capacity	III, Applicable to power distribution system below 277/480VAC
Insulation strength	IEC61010-1
Altitude	3000m Max
Anti-pollution grade	IP20 (Meet the standard of IEC 60629)
Quality guarantee	12 months
EMC (Electromagnetic compatibility)	
Electrostatic discharge	Level IV(IEC61000-4-2)
Radiated immunity	Level III (IEC61000-4-3)
EFT Electrical fast burst immunity	Level IV (IEC61000-4-4)
Surge immunity	Level IV (IEC61000-4-5)
Conducted disturbance immunity	Level III (IEC61000-4-6)
Power frequency magnetic field immunity	0.5mT (IEC61000-4-8)
Conduction and radiation	Class B (EN55022)
Measurement standard	
EN 62052-11, EN61557-12, EN 62053-21, EN 62053-22, EN 62053-23, EN 50470-1, EN 50470-3, EN 61010-1, EN 61010-2, EN 61010-031	

Wiring



Interface number	Interface name	Interface definition	Interface type	Remarks
1	B-	RS485 Communication B	Communication	RS485 communication
2	A+	RS485 Communication A		
3	DI	Digital input +	Switching value input	Digital input
4	COM	Digital input -		
5	DO1	Digital output 1	Switching output	One relay output, normally open contact
6	DO2	Digital output 2		
7	N	Power supply	Power supply	ACG-131M1: 95~265VAC, 45~60Hz
8	L	Power supply		
7	-	Power supply (-)	Power supply	ACG-131M2: 18-36VDC
8	+	Power supply (+)		
9	V3	Phase L3 Voltage input	Voltage input	Measuring voltage input channel
10	V2	Phase L2 Voltage input		
11	V1	Phase L1 Voltage input		
12	VN	Phase N Voltage input		