ABB

ReliaGear™ lighting panelboard
AMP1 integrated power and energy meter

The AMP1 power and energy meter provides a cost-effective integrated solution for ReliaGear lighting panelboard power monitoring and submetering applications. With exceptional performance, the AMP1 monitors key electrical parameters of the main power coming into the panelboard.

Overview
This information can then be transmitted to a building automation system (BAS), or similar system, to analyze usage and identify potential cost saving measures. Offering ANSI 12.20 0.2% accuracy, the revenue-grade AMP1 meter can be used for tenant billing and cost allocation.

The ReliaGear lighting panelboard comes with the AMP1 meter completely integrated, including current transformers, eliminating the need for any field installation or modifications. This integrated solutions helps you to meet the measurement and verification points required by the LEED and green building design. Optional data logging capability protects and stores up to 60 days' worth of data internally.

The AMP1 meter can be factory integrated in any of the following ReliaGear lighting panelboards up to 800 amperes: RQ, RE, RS, RQP, REP and RDP. main lug and main breaker configurations (THQB, THHQB, TEY, TEYF, TEYD, TEYH, TEYL, SE, SF, SG, SK) are also available. The pulse, Modbus and BACnet output models offer added flexibility for system integration.

Benefits
- Analysis of potential cost-saving actions
- Verify energy bills
- Identify wasteful practices and decrease unnecessary usage
- Fairly and accurately allocate energy costs to users
- Produce an energy profile
- Secure the optimum utility rate structure

Features
- Solutions up to 800 A
- Revenue grade, ANSI 12.20 0.2% accuracy
- Monitors voltage, amperage, power and energy
- Backlit LCD display
- Data logging option to ensure data is still preserved locally
- Communicates via Modbus RTU or BACnet — versatile and widely used protocols
- User-enabled password protection
- UL 67 approved
- 5-year warranty
- Earn points towards LEED certification

Applications
- Energy monitoring in building automation systems
- Renewable energy
- Energy management
- Commercial submetering
- Industrial monitoring
- Cost allocation

AMP1 technical specifications

Inputs

Control power, AC	50/60 Hz; 5 VA max.; 90 V min.; UL maximums: 600 V L-L (347 V L-N); CE maximums: 300 V L-N (520 V L-L)
Control power, DC	3 W max.; UL and CE: 125 to 300 V DC (external DC current limiting required)
Voltage input	UL: 90 V L-N to 600 V L-L ; CE: 90 V L-N to 300 V L-L

Current input

Scaling	5 A to 32,000 A
Input range	0 to 0.333 V or 0 to 1 V (selectable)
Pulse inputs (AMP4)	Contact inputs to pulse accumulators (one set with AMP4; two sets with AMP4)

Accuracy

Real power and energy	0.2% (ANSI C12.20, IEC 62053-22 Class 0.5S)

Outputs

All models (except AMP4)	Real energy pulse: N.O. static; alarm contacts: N.C. static
AMP1	Reactive energy pulse 30 V AC/DC
AMP2 and AMP3	RS-485 2-wire Modbus RTU (1200 baud to 38.4 kbaud)
AMP4	RS-485 2-wire BACnet MS/TP (9600 baud to 115.2 kbaud)

Mechanical

Mounting	DIN rail or 3-point screw mount

Environmental

Operating temperature range	-30 °C to 70 °C (-22 °F to 158 °F)
Storage temperature range	-40 °C to 85 °C (-40 °F to 185 °F)
Humidity range	<95% RH noncondensing
Safety	UL 508, EN61010

Selection guide

	AMP1B1	AMP1C2	AMP1C3	AMP1H5
Measurement capability — full data set				
Bi-directional energy measurements				
Power (3-phase total and per phase) real (kW), reactive (kVAR) and apparent (kVA)	•	•	•	•
Power factor: 3-phase average and per phase	•	•	•	•
Present power demand: real (kW), reactive (kVAR) and apparent (kVA)	•	•	•	•
Import and export totals of present power demand: real (kW), reactive (kVAR) and apparent (kVA)				
Peak power demand: real (kW), reactive (kVAR) and apparent (kVA)	•	•	•	•
Current (3-phase average and per phase)	•	•	•	•
Voltage: line-line and line-neutral (3-phase average and per phase)	•	•	•	•
Frequency	•	•	•	•
Accumulated net energy: real (kWh), reactive (kVARh) and apparent (kVAh)	•	•	•	•
Import and export accumulators of real and apparent energy				
Reactive energy accumulators by quadrant (3-phase total and per phase)				
Demand interval configuration: fixed or rolling block	•	•	•	•
Demand interval configuration: external sync to comms		•	•	•
Data logging				
Data logging: 10 16-bit configurable (can include date/time) data buffers			•	
Data logging: 3 time-stamped 32-bit configurable data buffers				•
Store up to 60 days of readings at 15-minute intervals			•	
Outputs				
Alarm output (N.C.)	•	•	•	•
1 pulse output (N.O.)		•	•	
2 pulse outputs (N.O.)	•			
RS-485 serial (Modbus RTU protocol)		•	•	
RS-485 serial (BACnet MS/TP protocol)				•
LON FT serial (LonTalk protocol)				
Inputs				
2 pulse contact accumulator inputs				•
1 pulse contact accumulator input				

References

AMP1B1, C2, C3 install	1TQC173000E0011
AMP1H5 install	1TQC173000E0049