

A1800 ALPHA[®] meter



Elster has designed the A1800 ALPHA meter based on extensive metering technology and global metering standards knowledge.

Technical details

- IEC 62053 accuracy Class 0.2 %, 0.5 %, and 1.0 %
- UV-protected, polycarbonate, IP54 enclosure
- Wide operating ranges:
 - Voltage: 46 V to 528 V
 - Current: 1 mA to 10 A (CT-connected)
 - Temperature: -40 °C to +85 °C (inside meter)
- Energy plus demand for kWh, kVARh, and kVAh
- Four-quadrant metering for export-import
- Up to 4 tariffs per day for 4 day types
- Up to 12 seasons
- Nonvolatile memory
- Easily replaceable battery located under the terminal cover
- Precision internal clock with backup timekeeping provided by super capacitor and long-life battery
- 16-segment character LCD with optional backlight
- Windows-based software with multi-language support

Advanced features and functions

- Programmable thresholds for TR_{ue}Q monitors
- Optional 1 MB extended memory
- Transformer and line loss compensation
- Up to 8 channels of load profile data
- Up to 32 channels of instrumentation profile data
- External power supply support

System-ready meter

- Communication port with 2 interfaces on the main circuit board
- 4 pulse output relays on main circuit board
- Available with RS-232, RS-485, and future communication options developed by Elster and third parties
- Additional 2 relays on option board
- Optional second, independent communication port
- Optical port available in the ANSI or IEC standard
- Supports ANSI C12.18, C12.19, and C12.21 open protocols

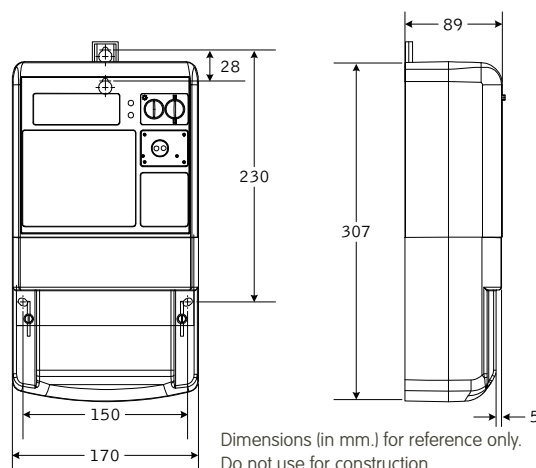
Built on the patented strengths of the ALPHA, the A1800 ALPHA meter is a highly accurate, robust, system-ready meter that is suited for advanced commercial, industrial, and substation metering applications.

Revenue protection

- Terminal cover and main cover opening detection
- Site service diagnostics
- Installation and system instrumentation tools that provide instantaneous volts, amps, power factor, phase angles, and more
- History log that records all changes to meter program and meter data
- Multiple level password scheme
- Phase voltage outage recording
- Cumulative demand calculation
- Reverse energy warning and recording
- Optional "always runs positive" feature that calculates the absolute energy value per phase
- Write protection feature that disables field reprogramming

Technical specifications

Accuracy	Active energy	Reactive energy
	0.2 % (IEC 62053-22)	2.0 % (IEC 62053-23)
	0.5 % (IEC 62053-22)	Actual accuracy better than 0.5 %
	1.0 % (IEC 62053-21)	
Maximum current	Continuous at 10 A Temporary (0.5 seconds) at 2000 % of maximum meter current	
Current range	0 A to 10 A	
Starting current	1 mA for CT-connected; <40 mA ($I_b = 5$ A) for direct-connected	
Maximum range	Continuous 528 VAC	
Voltage range	58 V to 415 V nominal range; 46 V to 528 V operating range	
Frequency	Nominal 50 Hz or 60 Hz \pm 5 %	
Temperature range	-40 °C to +85 °C (inside meter cover); -40 °C to +60 °C (outside)	
Humidity range	0 % to 100 % noncondensing	
Power supply burden	Less than 3 W	
Surge voltage withstand	Test performed	Results
	Oscillatory (IEC 61000-4-12)	2.5 kV, 60 seconds
	Fast transient (IEC 61000-4-4)	4 kV
	Impulse voltage test (IEC 60060-1)	12 kV @ 1.2/50 μ s, \geq 450 Ω (8 kV with option boards)
	AC voltage (insulation) test	4 kV, 50 Hz for 1 minute
Creep 0.000 A (no current)	No more than 1 pulse per quantity, conforming to IEC 62053 requirements	
Internal clock accuracy	Better than 0.5 seconds/day (while powered)	
Communications		
Optical port	1200 bps to 28,800 bps	Physical components meet IEC 62056-21 or ANSI C12.18
Optical port protocol	ANSI C12.18 and C12.19	
Serial ports	1200 bps to 19,200 bps	
Serial port protocol	ANSI C12.21 and C12.19	



About Elster Group

Elster Group is the world's leading manufacturer and supplier of highly accurate, high quality, integrated metering and utilization solutions to the gas, electricity, and water industries. In addition, through its subsidiary Ipsen International, it is the leading global manufacturer of high-level thermo-chemical treatment equipment.

The group has over 8,500 staff and operations in 38 countries, focused in North and South America, Europe, and Asia. Elster's high quality products and systems reflect the wealth of knowledge and experience gained from over 170 years of dedication to measuring energy and scarce natural resources.

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