

A1800 ALPHA[®] meter 150 series CT-rated



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

Technical details

- IEC 62053 accuracy Class 0.2 % and 0.5 %
- UV-protected, polycarbonate, IP54 enclosure
- Wide operating ranges:
 - Voltage: 46 V to 498 V
 - Current rating: 1(10)A, 5(10)A, optional 5(20)A
 - Temperature: -40 °C to +55 °C (ambient)
- 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
- 256 KB 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
- Optional Read without Power feature ensures the meter can be read when it is not externally powered

Advanced features and functions

- Programmable thresholds for TRueQ 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
- Optional auxiliary power supply

System-ready meter

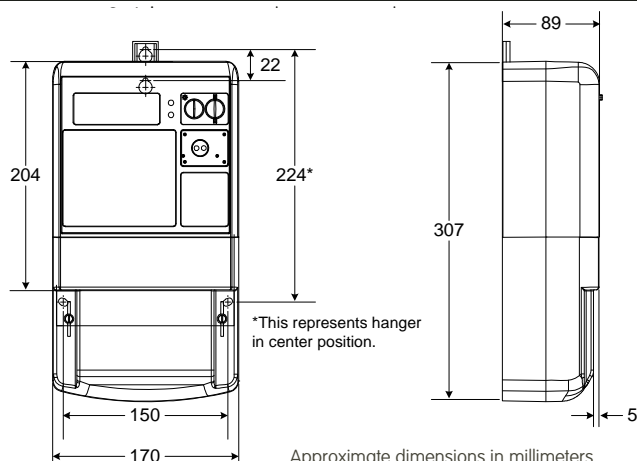
- Communication port with 2 interfaces on the main circuit board
- 4 pulse output relays on main circuit board
- Available with RS-232, RS-485, and future communication options developed by Elster and third parties
- Optional second, independent communication port
- Optical port available in the ANSI or IEC standard physical configuration
- ANSI C12.18, C12.19, and C12.21 open protocol support
- Optional DNP protocol support
- Optional Modbus support
- Optional DLMS/COSEM open protocol support

Built on the patented strengths of the ALPHA, the A1800 ALPHA meter is a highly accurate, robust meter suitable for advanced commercial, industrial, and substation metering applications, including EnergyAxis® metering points.

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 Positive feature that calculates the absolute energy value per phase
- Write protection feature that disables field reprogramming
- Enhanced TR_{ue}Q tests that measure power quality and ensure tamper protection

| | | |
|-----------------------------------|--|---|
| Accuracy | Active energy | Reactive energy |
| | 0.2 % (IEC 62053-22) 0.5 % (IEC 62053-22) | 2.0 % (IEC 62053-23) Actual accuracy better than 0.5 % |
| Maximum current | Continuous at 10 A Temporary (0.5 seconds) at 2000 % of maximum meter current | |
| Current rating | 1(10)A, 5(10)A; optional 5(20)A | |
| Starting current | 1 mA | |
| Voltage range | 58 V to 415 V nominal range | |
| Maximum range | Continuous 498 VAC | |
| Frequency | Nominal 50 Hz or 60 Hz ± 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 µs, ≥450 Ω (8 kV with option boards) |
| | AC voltage (insulation) test | 4 kVrms 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 per day (while powered) | |
| Read without Power | 20 years based on 6 uses per year and 3 write operations per each use | |
| 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; DLMS/COSEM (optional) | |



About Elster Group

Elster, a global leader in smart metering and smart grid systems and solutions, has delivered more than 3 million smart metering devices worldwide with systems located in North America, Europe, Central America, Australia, New Zealand and the Caribbean. Elster smart metering system solutions provide utilities with energy conservation capabilities via demand response programs, smart grid applications, and operational efficiencies resulting in significant value creation across the utility enterprise. Elster has more than 7,500 staff and operates globally in North America, South America, Europe, Africa, Middle East, and Asia.

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