

# A1700

## Direct Connected or CT Metering



### Applications

Commercial and Industrial

### Brief Description

The A1700 offers outstanding measurement and complex tariff capabilities for use in both industrial and commercial direct connected, CT and CT/VT operated applications. The meter can operate as a stand alone unit or as part of a comprehensive metering system.

The A1700 features include a fully programmable customer defined display and an optical port for local communications. Two slots are provided for the addition of an input (or output) and a communications module. Load profile data can be stored for up to 900 days. As an alternative the meter can store 450 days of load profile and 370 days of instrumentation profile data. Data stream mode communications allows up to 90 days of 30 minute profile data to be collected in less than 30 seconds.

Communications modules can be RS232 or RS485.

A range of communications media (PSTN, GSM, Ethernet, PAKNET) plug into a module directly under the meter terminal cover.

An optional input module provides the ideal solution for multi-utility metering. As an alternative, a module with four outputs can be provided to increase the number of outputs to eight.

A module with battery can be provided to read meter data when power has been removed from the meter. Windows™ 'Power Master Unit' software programs or reads the meter data.

The meter can be supplied to meet accuracy Class 0.2s or 0.5s for CT operation and Class 1 or Class 2 for direct connected, CT or CT/VT operation.

EC Directive 2004/22/EC (MID): Class A, B or C.

### Features

- Accuracy Class 0.2s or 0.5s for CT operation and Class 1 or Class 2 for direct connected, CT or CT/VT operation
- EC Directive 2004/22/EC (MID) Class A, B or C
- Direct connected, CT or CT/VT operated
- Comprehensive tariff structure
- 2 line, multilingual display
- Instantaneous instrumentation values
- Instrumentation monitoring
- Instrumentation profiling
- Extensive load profile data
- 2 module slots for extended functionality
- Voltage imbalance detection
- Temperature compensation to maintain RTC accuracy during power outages
- Summation of 5 input values
- 5 co-incident demand values
- 2 kVA registers
- High security design

### Options

- Up to 8 outputs
- Interchangeable input/output modules
- Communication modules (RS232 or RS485)
- Communications media (PSTN, GSM, Ethernet, PAKNET)
- Data stream mode communications
- Transformer loss compensation
- Short terminal cover
- Display backlight
- Replaceable RTC backup battery
- Read without power
- Auxiliary a.c. or d.c power supply
- 230V a.c output





## Measured Quantities

- kWh total import/export
- kvarh Q1, Q2, Q3, Q4
- kVAh (2 calculated values)
- 3 customer defined registers - summation of up to 5 values
- 4 inputs for external meters (if fitted)

## Tariff Structure

- 32 Time of Use Registers
- 8 Maximum Demand Registers
- 5 Co-incident Demands
- 2 Sliding Demands
- 12 Seasons
- 24 Season Changeover Dates
- 96 Switching Times
- 64 Exclusion Dates

May vary according to firmware version

Programmable deferred tariff and display

## Data Storage

- Programmable integration period
- Load profile storage or instrumentation quantity
- Demand & instrumentation integration periods independently defined

Number of days (30 minute period, 1 channel)

Measured Load Profile	Instrumentation Profile
900	0
450	0
450	370
0	450

Up to 36 sets of historical data. Fully customer defined, multilingual

## Input/Output

**Four input module** - End of billing, end of integration period, inputs from external meters

**Four output relay module** - Retransmit pulses from energy registers, customer defined registers or any time-of-use register

Option of three solid-state relays and one 5A relay or four solid-state relays

## Communications

- Local: IEC 62056-21 (formerly IEC 61107)
- Remote: Interchangeable modules (RS232, RS485 or customer specific)
- Media : GSM, PSTN, Ethernet, PAKNET

## Case

### Sealed flip-up lid

- Conceals utility/reset pushbutton
- Provides for customers own information to be securely added to the nameplate
- Visual identification of modules fitted

## Options

- ANSI communications port
- 9.5 mm terminal block

## Technical Data

Current Range	CT operated - 5-6A, 5-10A, 1-2A, 1-1.2A Direct connected - 10-100A (widest range)
Reference Voltage	57.5 - 240V (3 phase 4 wire) 100 - 415V (3 phase 3 wire)
Frequency	50Hz or 60Hz
Burden	Single element - 1.92W, 4.17VA Two/three element - 1.12W, 2.45VA
Voltage Circuits (230V)	CT operated - 0.12VA @ 5A/phase, 0.02VA @ 1A/phase Direct connected - 0.2VA @ 100A/phase
Current Circuits	
Insulation	4kV RMS 50Hz
Impulse Withstand	12kV 1.2/50µs 50ohm source
Display	2 line, 16 character dot matrix liquid crystal display 8mm digits
Baud Rates	1200, 2400, 4800, 9600
Product Life	15 years
Certified Product Life	10 years (by OFGEM)
Temperature	-25° C to + 55° C (Operational range) -25° C to + 70° C (Optional operating range) -25° to + 70° C (Storage)
Humidity	Annual mean 75% (for 30 days spread over one year, 95%)
Pulse Width / Value	Programmable
Relay Specification	240V a.c. 100mA 1 x 5A relay (option, module only)
Dimensions	279mm (high) x 170mm (wide) x 81mm (deep)
Weight	1500 grams
Specifications	IEC62052-11 and IEC62053-21, -22, -23 EC Directive 2004/22/EC (MID) Class A, B or C IP53 to IEC60529:1989
Case	