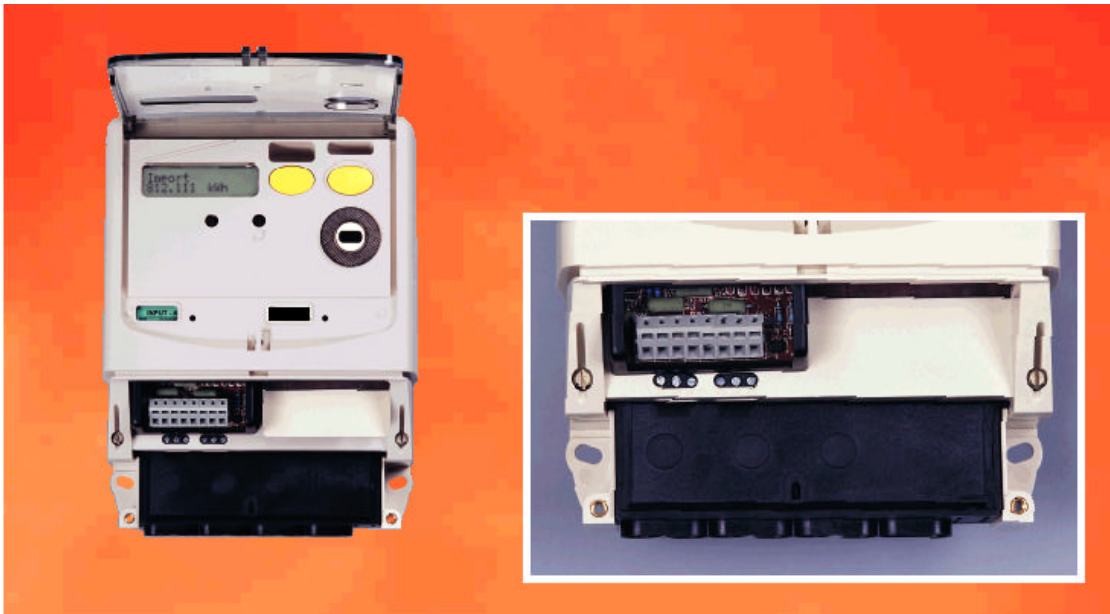


A1700 Alpha⁰

Input/Output



The Power to Change...

Module Types

Four Input Module

Features

- Inputs from external meters for data collection
- Inputs for creation of end of billing and/or end of integration period
- Programmable scaling factor
- Records input pulse or engineering units
- Three customer defined registers allow two module inputs to be combined or a module input to be combined with an A1700 meter internal register
- Input circuit detection without use of external power
- Pulse collection continues and load profile data is stored when power to meter is removed
- Class II isolation from meter

Four Output Relay Module

Features

- Re-transmit pulses from energy registers, customer defined registers or any time of use register
- Programmable output pulse value
- Provide indication of billing reset, rising demand alarm, end of integration period, time of use register active and alarms
- Class II isolation from meter

Options

- Three solid-state relays and one 5A relay
- Four solid-state relays

The modular design of the A1700 meter allows the systems performance to be further enhanced by the introduction of an input module or an output module that fits beneath the meter terminal cover. These modules can be retrofitted without breaking the meter certification seal or removing power from the meter.

By installing an input module, existing A1700 installations can be upgraded to provide load profile data for external meters such as gas, water or electricity. Up to four inputs provide a cost-effective solution for multi-utility metering. The customer defined registers combine module inputs with the A1700 internal registers allowing kWh total import, kWh total export or any of the four quadrant registers to be summated with any similar input.

The output module can be fitted in addition to the A1700 meters internal relays, providing a total of eight outputs. Two versions of the output module are available. MODVAB provides three solid state relays and one 5A relay for controlling an external load or contactor. MODVAC has four solid state relays. The solid state relays allow the A1700 to be integrated into an existing energy management system by providing the energy manager with any measured data from the meter. The re-transmission of the end of billing and end of integration period from the meter ensures the systems are synchronised. A demand alarm can be used to indicate that a programmed threshold has been exceeded.



Input Module

Four inputs
Input types:

- Volt free contact
- Transistor switch

Registration Input

Each input has a cumulative register which can have an initial offset to ensure it matches the external meter.

Programmable water and gas input rates:
Water rate/pulse – 0.5, 1, 5 litres typically
Gas rate/pulse – 10dm³, 1ft³ typically
Programmable scaling factor. To record the pulse count, set the scaling factor to one.
Can be used for time of use registration.

Customer Defined Registers

Customer defined registers can be used in tariff structures or load profiling.

Examples of the A1700 customer defined register configurations are shown below.

- Summate two module inputs (Input 1 + Input 3)
- Summate a module input with an A1700 meter register (Input 2[kWh] + A1700 import kWh register)

Load Profile

At the end of an integration period, the contents of each rising demand, input register and customer defined register can be transferred to non-volatile memory to create a load profile record.

In the event of a power outage the module stores 30 minute data for a period of 48 hours. Data is transferred to the meter when power is restored.

Technical

| | |
|----------------|-------------------------|
| Voltage rating | 27V d.c. max |
| Current rating | 10mA max (input active) |
| Pulse width | 20ms min, 200ms max |
| Pulse rate | 4Hz max |
| Baud rate | 4 pulses/second |

Output Module Types

MODVAB

- Three solid state relays
- One 5A relay

MODVAC

- Four solid state relays

Relay Functions

Re-transmit pulses from:

- kWh total import/export
- kvarh lagging/leading, import/export
- Three customer defined registers
- kVAh
- Input register
- Any time of use register

The re-transmission rate is programmable

Indication of:

- End of billing
- End of integration period
- Time of use active indication
- Rising demand alarm
- Meter powered
- Alarm monitoring, any combination of:

| | |
|-------------------------|-------------------|
| Option board error | Battery fail |
| Battery elapsed warning | Meter-fault |
| Reverse run warning | Over-current |
| Phase failure | Partial demand |
| Meter comms event | Time/data changed |

Technical

Solid state relays:

| | |
|----------------|-----------|
| Voltage rating | 240V a.c. |
| Current rating | 100mA |

High rating relay:

| | |
|----------------|-----------|
| Voltage rating | 240V a.c. |
| Current rating | 5A |

Isolation Levels

Isolation to protective Class II (all modules).



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