

C O I N - P L U S , T M

TIMER CREDIT BOARD

Simple to connect:

Single standard connection to coin mechanism;
 Simple connection to optional LED display;
 Simple screw connections to power, external lamps and buttons, and machine.

Manual credit/start button on-board;

External manual credit/start facility.

Coin counter output for audit and metering.

Optional relay output.

Optional attract mode.

Full control of Electronic Coin Mechanism

Lamp:

ON- indicates machine "ready",
 OFF - indicates machine "out-of-service";
 FLASH - indicates more coins are required.

Extensive range of coin/credit combinations:

16 different pence-per-credit settings.

Extensive range of time/credit combinations:

1 to 99 seconds or 1 to 99 minutes-per-credit.

Ready for the new 50p and £2 coins.

Full handshake with machine:

Timer only operates when the machine is ready;
 The machine can stop coins being accepted.

Full control of Coin Mechanism Coin Inhibit:

Individual coin types can be rejected.

Interface to four digit LED displays:

Display of the time remaining as the timer runs;

Continuous self test;

Invalid configuration detection with fail-safe and warning indicator;

Features

- Produces a fixed time output for each credit;
- Time is not issued if the Machine Ready Input is grounded (Machine Not Ready);
- During timing the Machine Ready Input can optionally be used to switch the output off and pause the countdown;
- In Automatic mode time is issued as soon as credits are available and the Credit Button and Manual Credit Input give "cashless credits";
- In Manual mode the Credit Button and Manual Credit Input act as start signals;
- User selectable display of either time in seconds (0000 to 9999) or minutes/seconds (00.00 to 99.59) on optional 4-digit LED display;
- Supports coin mechanism anti-strimming protection;
- Contact factory for other currencies;
- Never loses partial credit.

User (field programmable) options	Factory set options
Pence-per-credit setting (16 settings)	Currency
Time-per-credit setting (1 - 99 seconds or minutes)	Relay output in addition to transistor output
Optional pause function	Attract mode
Display format (2 settings)	
Automatic or Manual start	

The Switch settings tables shown here are for UK coins 10p, 20p, 50p, £1, £2.
Contact the factory for other coinsets and currencies.

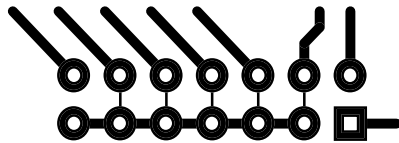
Switch settings

Function	S1-5	S1-6	S1-7	S1-8
Time units are seconds	OFF			
Time units are minutes	ON			
Seconds display format		OFF		
Min.Sec display format		ON		
Disable PAUSE function			OFF	
Enable PAUSE function			ON	
Automatic timer start				OFF
Manual timer start				ON

Function	S1-1	S1-2	S1-3	S1-4
10p per credit	OFF	OFF	OFF	OFF
20p per credit	ON	OFF	OFF	OFF
30p per credit	OFF	ON	OFF	OFF
40p per credit	ON	ON	OFF	OFF
50p per credit	OFF	OFF	ON	OFF
60p per credit	ON	OFF	ON	OFF
70p per credit	OFF	ON	ON	OFF
80p per credit	ON	ON	ON	OFF
90p per credit	OFF	OFF	OFF	ON
£1.00 per credit	ON	OFF	OFF	ON
£1.10 per credit	OFF	ON	OFF	ON
£1.20 per credit	ON	ON	OFF	ON
£1.30 per credit	OFF	OFF	ON	ON
£1.40 per credit	ON	OFF	ON	ON
£1.50 per credit	OFF	ON	ON	ON
£1.60 per credit	ON	ON	ON	ON

Notes:

- 1 COIN+TM automatically accumulates time as coins are entered. If the total time accumulated exceeds the capacity of the display the message "FULL" appears, the coin mechanism is disabled and, in manual mode, timing starts as soon as the Machine Ready Input is not grounded.
- 2 The coin mechanism is disabled while the Credit Button is held pressed or the Manual Credit Input is grounded.



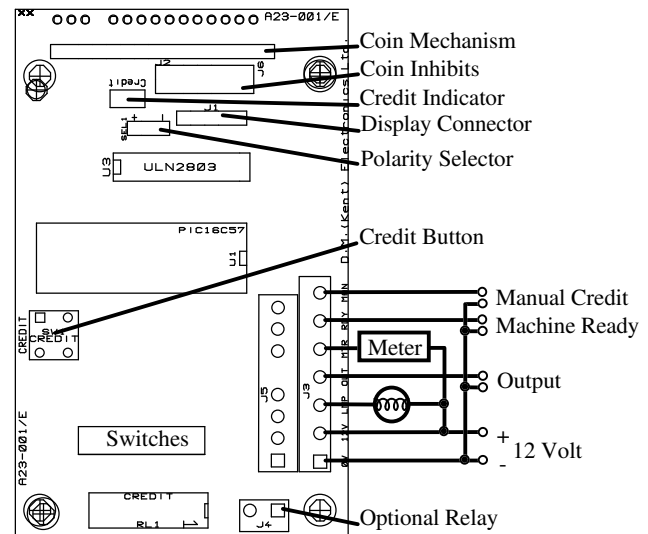
Cut link to Inhibit Coin: £2 £1 50p 20p 10p

Polarity Selection	
+	Mars Electronics International: CF, ME, MS Series Coin Controls: C220, C435 Series
-	Asahi Seiko: all models (A23-004/A required) Coin Controls: C120 Series (interface required)

Function	S2-1	S2-2	S2-3	S2-4
0 tens units per credit	OFF	OFF	OFF	OFF
1 tens units per credit	ON	OFF	OFF	OFF
2 tens units per credit	OFF	ON	OFF	OFF
3 tens units per credit	ON	ON	OFF	OFF
4 tens units per credit	OFF	OFF	ON	OFF
5 tens units per credit	ON	OFF	ON	OFF
6 tens units per credit	OFF	ON	ON	OFF
7 tens units per credit	ON	ON	ON	OFF
8 tens units per credit	OFF	OFF	OFF	ON
9 tens units per credit	ON	OFF	OFF	ON
Other settings are Invalid				

Function	S2-5	S2-6	S2-7	S2-8
0 units per credit	OFF	OFF	OFF	OFF
1 units per credit	ON	OFF	OFF	OFF
2 units per credit	OFF	ON	OFF	OFF
3 units per credit	ON	ON	OFF	OFF
4 units per credit	OFF	OFF	ON	OFF
5 units per credit	ON	OFF	ON	OFF
6 units per credit	OFF	ON	ON	OFF
7 units per credit	ON	ON	ON	OFF
8 units per credit	OFF	OFF	OFF	ON
9 units per credit	ON	OFF	OFF	ON
Other settings are Invalid				

Drawing



Issues addressed by COIN+TM

All credit boards must correctly handle a number of real-world situations. The COIN+TM directly handles all the following situations:

- Partial credit is not lost. Every coin the user offers to the credit board counts towards the issuing of credit in the fixed pence-per-credit facility.
- Complete handshaking between the COIN+TM, the coin validator and the machine ensures that the machine will be issued with time only when it is ready and the coin validator only accepts coins when the COIN+TM is ready.
- Multi-pulse coin validators are directly handled by COIN+TM. No interface hardware is required to accept the new £2 coin directly from Mars Cashflow series coin validators or other coin validators re-programmed to issue multi-pulses.
- All credit boards must have some upper limit on credits held within the board. COIN+TM locks the coin mechanism out and prevents coin acceptance when these limits are reached. COIN+TM will not loose basic or partial credits and will correctly issue credit time even if overloaded.