ABBERFIELD
INDUSTRIES
PTY LTD ABN 61 000 112 569

PC301

COIN OPERATED PHOTOCOPY CONTROLLER

TECHNICAL & SERVICE DETAILS

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PC301 CONTROLLER

OPERATION

- Coins of any denomination may be inserted and the display will show available credit.
- If the cash box over fills coins will be returned to the user.
- When the photocopy price is equalled or exceeded the photocopier will be enabled and may be operated normally.
- As each copy is taken the photocopier must give a signal to down count the accumulated display by the value of the copy.
- Additional signals can be sent from the copier to the coin validator indicating use of different paper size, etc. If this signal is present at the same time as the PC301 receives the copy complete signal, the display can down count a different price.
- When the copies have down counted the displayed coins in credit, a balance less than a copy price will either remain on the display permanently or only for 30 seconds, before blanking out, depending on the customer set up (optocoupler input on terminal strip).
- Whenever the credit falls below the nominated vend price, a separate relay operates momentarily. This may be used to simulate operation of the photocopier reset push button (not normally required).
- Validation of each coin denomination can be separately eliminated by operation of a slide switch.
- Two coin validation criteria are programmed and selected by side switch. This allows best acceptance of all normal coins (wide setting) or best rejection of counterfeit coins (narrow setting).
- Key By-pass - A key switch in the rear of the housing allows operation of the photocopy machine without use of coins.
- Abberfield can provide leads prewired to suit many brands of photocopiers. This allows direct plugging of the PC301 into photocopier interface sockets.

DATA RETRIEVAL

A data retrieval mode allows the unit to display the number of operations at each price since the last resetting of the log data.

MAIN LOG TABLE

1. If the Audit Log input is shorted momentarily or kept shorted, it will show the normal data log with the omission of the Gross revenue.

2. If the Audit Log input is shorted twice in one second then it will show the full data log including the Gross revenue since the unit was installed.

Display	Function
Log 1	Main log number (increments in reset)
t0t	Total revenue since last data reset in the format.
AAAA	
BB.BB	$AAAABB.BB
GrOS	Gross revenue since installation in the format
AAAA	
BB.BB	$AAAABB.BB
vv.vv	Price (if not set to zero)
n	Number of operations at price vv.vv
	vv.vv and n repeats until all prices for the application have been displayed.
End	

RESET MAIN LOG TABLE

When the display shows 'End' if the Audit log input is shorted again for two seconds then the total revenue and the number of operations for each price are reset to zero. The display will show 'rSt' acknowledging that the log data was reset. The log number will be incremented to next value.

NOTE: If the coin validator By-Pass inputs are energised and the Audit Log input is shorted as for normal data retrieval the log of the free operations will be displayed.

ERROR MODE

Setting the 7th dip switch up to the ON position allows the display to show error messages for each coin deposited.

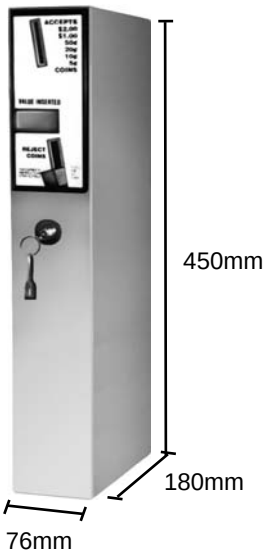
At power up the optics of the unit are checked. If an optic is found not to be working (due to components failure or optical blockage) an error message is displayed as shown below.

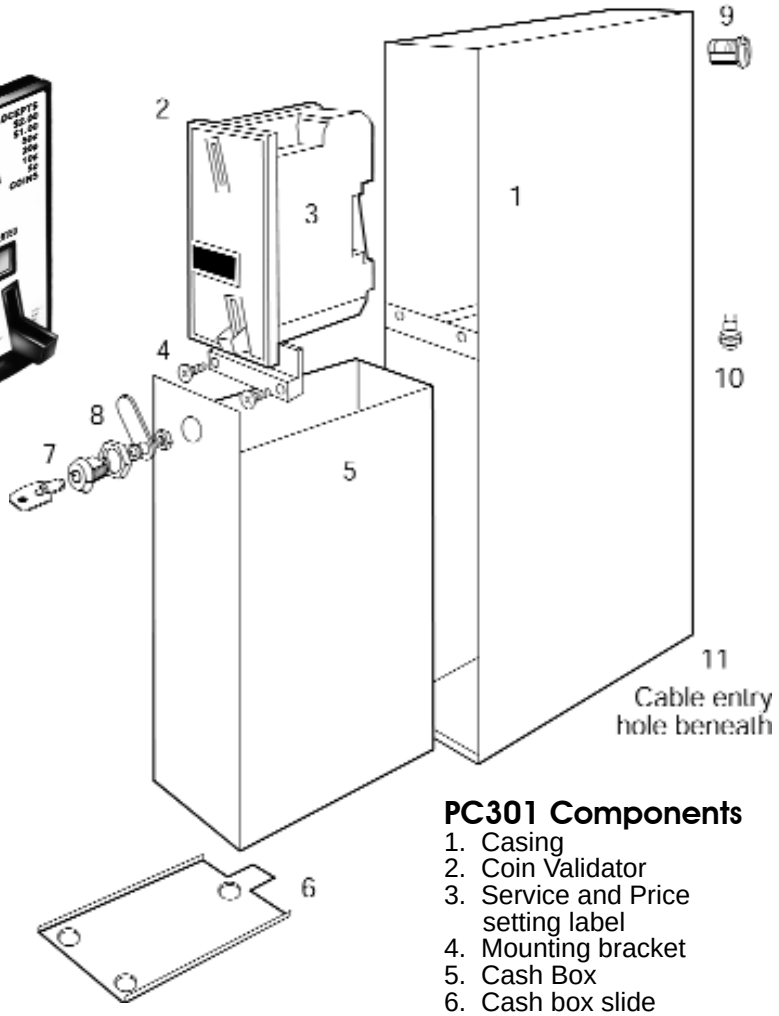
Opt0	Wake up	Opt2	Diameter 2
Opt1	Diameter 1	Opt3	Cash box

These codes suggest the coin track is in need of cleaning. Other errors are: -

nE20	Width low
nE21	Width high
nE22	Coin masked by dip switch
nE23	Coin masked by coin value set to 00.00
nE25	Coin didn't enter cash box
nE26	Cash box opto blocked
nE30	Metal amplitude low
nE31	Metal amplitude high
nE32	Metal period low
nE33	Metal period high
E34	No match for all width, period & amplitudes
E50	Coin jammed, didn't follow sequence
E99	Coin metal response could not be measured

Where n = coin number (1 to 8) on which the error occurred (ie the nearest match).





COIN VALIDATOR

There are three active parts to the controller, the control unit, power supply and face plate. The control unit plugs into a display circuit board forming part of the centre plate and power supply on the opposite side. This assembly is held together by two screws, one from each side of the unit. They form one assembly, covered by a single serial number.

Any coin denomination (including tokens) can be validated as a factory calibration. However it is possible to calibrate the validators in the field, please refer to the Abberfield Technology service department. Any of the coins in the coin set can be subsequently eliminated by operation of validate / eliminate slide switches on the side of the validator.

CLEANING OF COIN TRACK

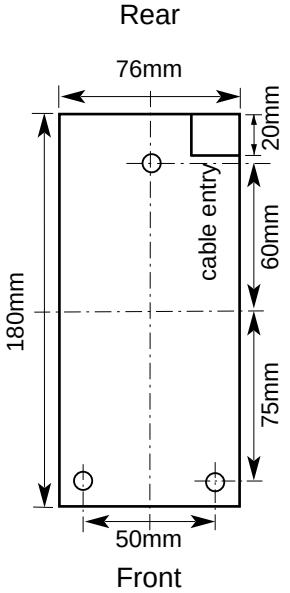
After considerable use there may be a build up of dirt on the coin track that impedes the flow of coins and the validator will need opening for cleaning. Also foreign objects placed in the validator which do not pass through the system will need to be cleaned out. This is easy to achieve by loosening both security screws and expanding the validator to allow jammed objects to pass. If this is not successful then remove the two security screws, one each side of the validator. These are clearly marked with the control board screw being at the top and the other screw being at the bottom on the other side. The control board mechanism can then be withdrawn by pulling backwards. When cleaning the coin track it is important to ensure that the two small optical sensing holes are not filled with dirt. Clean with industrial alcohol or methylated spirits. Take care not to leave a residue in the optical sensor holes but do not use a pin or similar to clean into the holes as the optical lens may be scratched. There is also a reflective mirror on the power supply board opposite the lower coin to bin optical sensors. This should be kept clean.

PC301 Components

1. Casing
2. Coin Validator
3. Service and Price setting label
4. Mounting bracket
5. Cash Box
6. Cash box slide
7. Lock Assembly
8. Lock cam
9. Key By-Pass Switch
10 Data retrieval Button
11. Cable entry

PC301 fitted to optional mounting stand - other mounting brackets available

Base mounting template



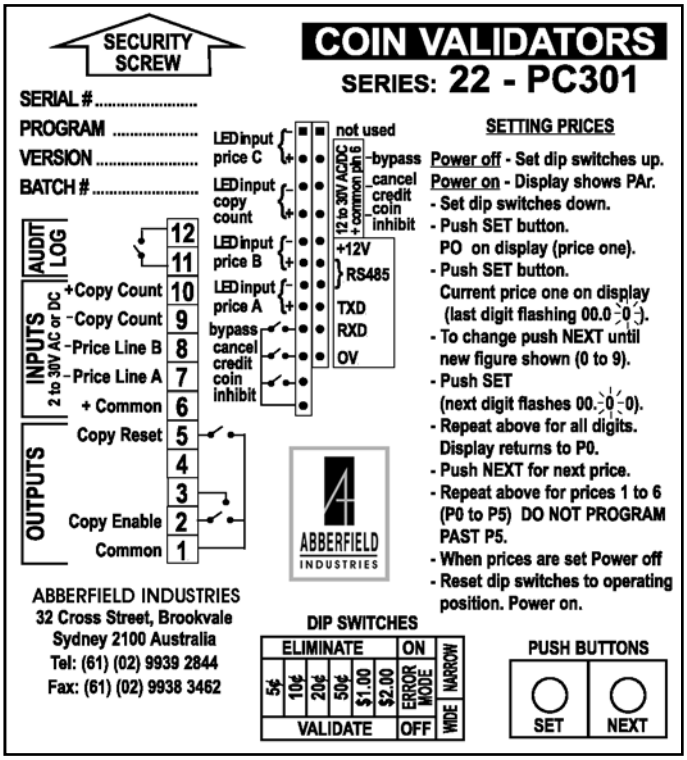
ELECTRICAL

Standard units can use 240 Volts A.C. or 12 Volts A.C. or D.C. supply. On the main terminal block the down count and pricing signals supplied from the copier can be 2V to 30V A.C. or D.C.. It is usual to take signals from the photocopy counter or paper feed clutches or from the photocopier paper select LED connections (in parallel). The input on the pin strip marked LED must be in series with the photo-copier LED. This input is direct to a sensitive opto-coupler and although polarity is marked on the pin strip label it may operate correctly if reversed.

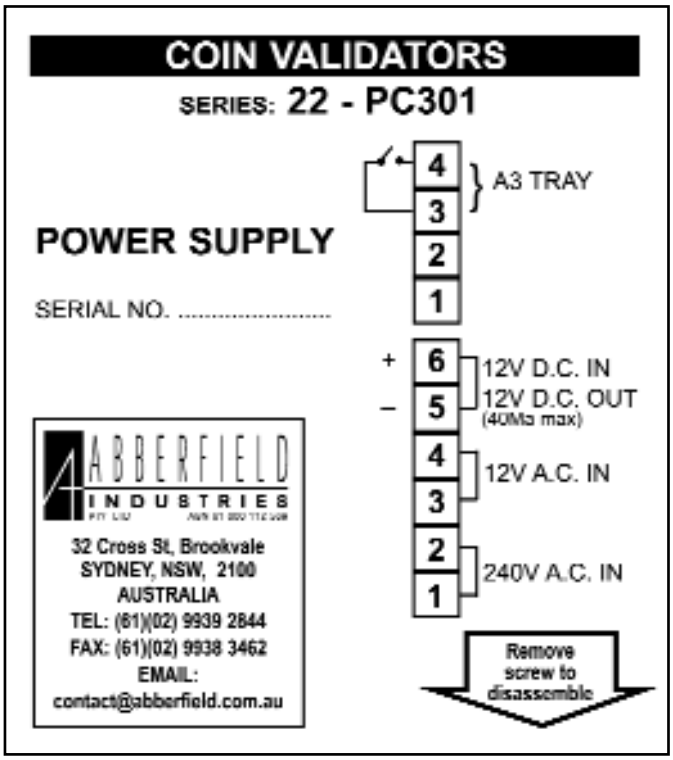
An A3 contact is sometimes used to disable A3 use on A4 pricing.

TO PROGRAM COPY PRICES

1. Remove supply power to the validator.
2. Set all dip switches in the up or eliminate position.
3. Turn supply power back on.
4. Display will then settle on 'PAr' for parameters after 5 seconds.
5. With validator turned on set all dip switches in down or validate position.
6. Push the "SET" push button located adjacent to the dip switches and 'PO' will be displayed, this is price one.
7. To change this price push the 'SET' push button again.
8. The display will then show the current price for this price with the last digit flashing 00.0.0.
9. To change this digit push the 'NEXT' push button until the desired figure is shown, 0 to 9.
10. To change another digit push the 'SET' push button until the desired digit is flashing.
11. Then push the 'NEXT' push button to change its value.
12. Once you have stepped through all 4digits then the display will read 'PO'
13. Again, to advance to the next price push the 'NEXT' push button until the desired price position is reached.
14. PO to P5 are the price positions for prices 1 to 6.
15. To change all the prices repeat above procedure.
16. Do not change P6 to P9 unless instructed by the manufacturer.
17. Once all the prices you desire the validator to work on have been set, turn the validator off and then return the dip switches to their normal position, (usually all down). Then turn the power back on.



Label on left side of validator



Label on right side of validator

CUSTOMER ADJUSTABLE

Price Settings

Price Line	Prices Set	Function
P0	00.20	A4 Black
P1	00.40	A3 Black
P2	01.00	A4 Colour
P3	02.00	A3 Colour
P4	00.00	Not used
P5	00.00	Not used

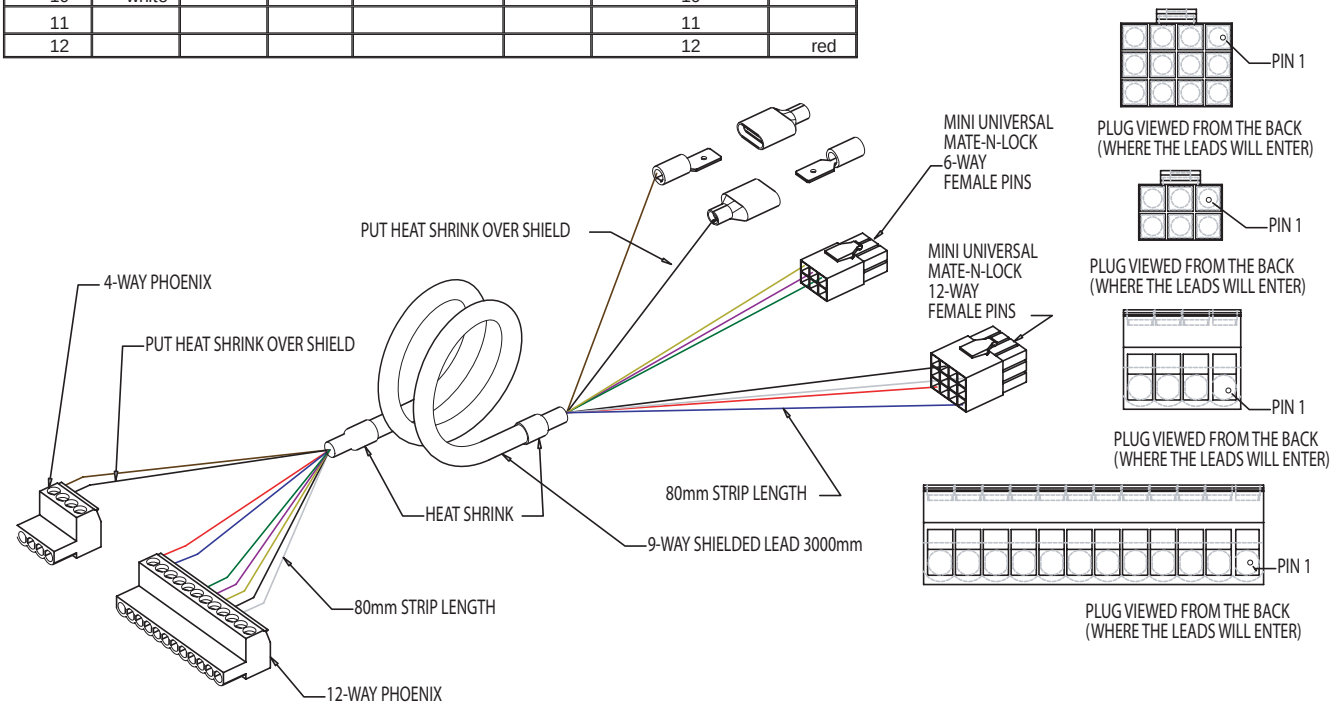
FACTORY SET - DO NOT ALTER

Operating Parameters

P6	00.50
P7	00.00
P8	00.00
P9	0110
PA	00.00

PHOTOCOPY LEADS - PC301 STANDARD

Phoenix		Phoenix		Mini Universal Mate-n-lock		Mini Universal mate-n-lock	
12-way	colour	4-way	colour	6-way	colour	12-way	colour
1	red	1	brown	1	green	1	white
2	blue	2	shield	2	violet	2	
3		3		3	yellow	3	black
4		4		4		4	
5				5		5	
6	green			6		6	
7	violet					7	
8	yellow					8	
9	black					9	blue
10	white					10	
11						11	
12						12	red



PHOTOCOPY LEADS - PC151, PC171 & PC301 TAIL LEAD

Mini Universal Mate-n-lock female		Mini Universal mate-n-lock female	
6-way	colour	12-way	colour
1	green	1	white
2	violet	2	
3	yellow	3	black
4		4	
5		5	
6		6	
		7	
		8	
		9	blue
		10	
		11	
		12	red