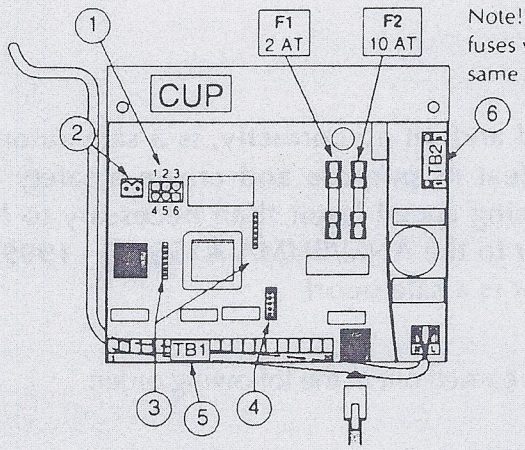
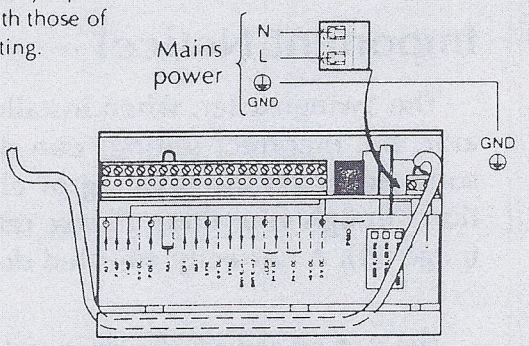
Wiring The CUP Control Unit

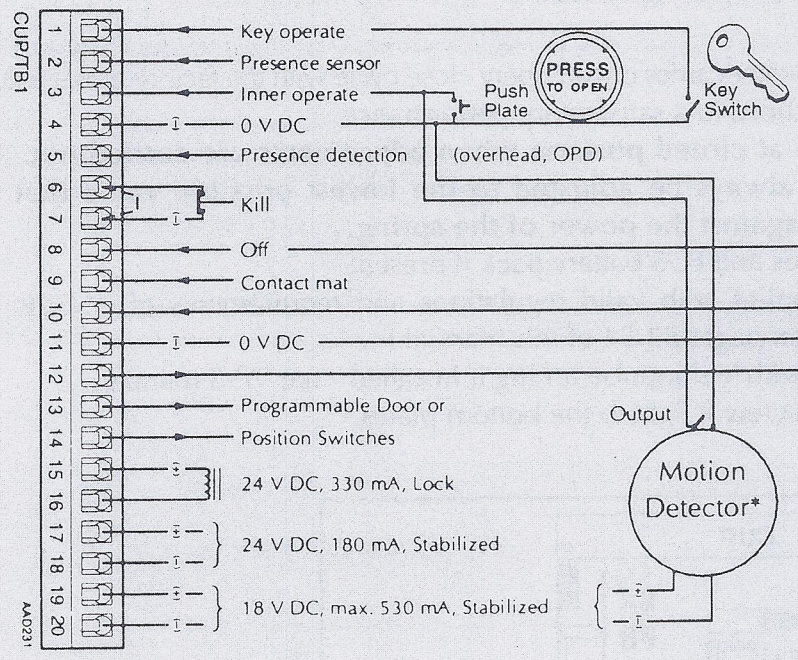
① Cam/Switch cable connector
② Connector for motor cable
③ Connecters for EXS extension unit
④ Connector for revolution counter cable
⑤ TB1 – Terminal block for external wiring
⑥ TB2 – Terminal block for backup battery, EUS

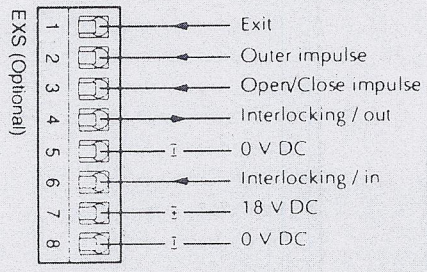


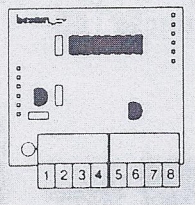
Note! Only replace fuses with those of same rating.



PMD Note! Always enter PIN code first after connecting PMD.







EXS Extension Unit

* For Visionpulse and Visionpulse S, see respective manuals.

3 Position Switch

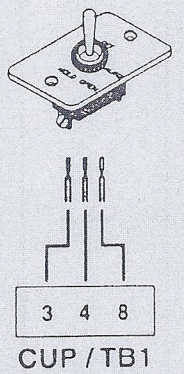
1) Legend plate instructions to be placed where they may be easily read.

2) Switch should be mounted within view of the door it is controlling.

3) Switch should be mounted where door opening/closing will not contact the person activating it.

Short 3 & 4 to hold open
Short 4 & 8 to hold closed

Caution!
If switched to off position and Push Reactivation has been chosen, the door will still operate when pushed.



See also page 46.

Adjusting The CUP Control Unit

Important Notice!

The Swingmaster, when installed and set up correctly, is a safe automatic power door operator, but incorrect settings can defeat its purpose and create a safety hazard. For safety reasons, never set the opening or closing speed faster than necessary to handle the traffic situation through your door. Please refer to the ANSI/BHMA A156.10 - 1999 excerpt in this manual (page 53). A correctly adjusted door is a safe door!

The start-up and adjustment must be carried out in the following order:

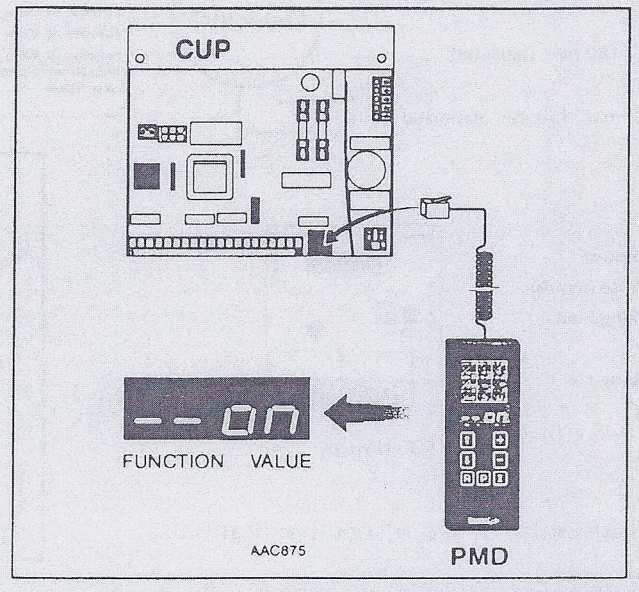
1. Connect the mains power.
2. Plug the PMD contact into the CUP control unit and enter your PIN code (see page 41).

Note! The PMD is not ready for use until a status or error code is displayed.

3. Select function 15 and set correct operator (see page 45).
4. Select function 27 and correct door opening direction.
5. Press button No. 4 (Auto).
6. Press the impulse button I. The operator carries out an open/ close cycle with the factory preset values.
7. If necessary, adjust the door functions to a satisfactory performance.

Note! The door must stand still at closed position when adjustments are carried out. The "balance force" should always be adjusted to the lowest possible value that will still hold the door open against the power of the spring.

8. Install activation units, accessories and EUS battery pack if present.
9. Check that the installation complies with valid regulations and requirements of ANSI/BHMA A156.10-1999 (reference given on pages 53-54 of this manual.)
10. Unplug the PMD, or continue with Visionpulse tuning if installed - see VP-S manual.
11. Fit the cover to the header and screw it tight to the bottom plates.



Introduction To PMD

The programming module PMD is used to program the operating values into the control units.

The PMD has a limited service life. A countdown is made at every connection and the remaining "value" is shown on the display. When the figures "-- 71" are shown, the PMD is unusable and must be updated.

PMD models:

PMD-B Service life: 2000 connections.
PMD-C Service life: 400 connections.
PMD-E Customer version with restricted use. Service life: 400 connections.

PIN-code

All new or updated PMDs are factory pre-programmed with the PIN-code "1234".

1. Connect the PMD to the control unit.
2. **"Pin_"** with a flashing dash will be shown on the display.
3. Enter the code **"1234"**. Every entered digit will be indicated with a dash "_" on the display.

Note! After five unsuccessful attempts to enter the correct PIN-code the error code **"71"** will be displayed. This means that the PMD is unusable and must be returned to the factory to be updated.

4. Push the button **"P"**.
5. The display will consecutively show:

a) Type of control unit e.g. CUD or CUP.
b) Remaining "value" of the service life.
c) **"00"**.
d) Actual status or error code e.g. **"on"**.

Note: If status code 10 is displayed for swing doors, check that the correct operator type has been selected under function 15.

Change of PIN-code

The factory pre-programmed PIN-code can be changed to a personal code as follows:

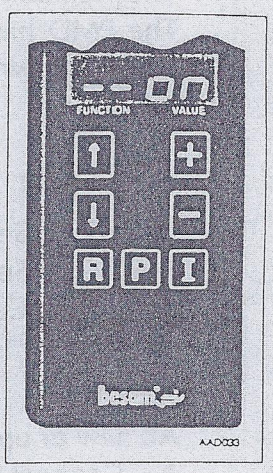
1. Carry out the instructions 1-5 under "PIN-code" above.
2. Select function **"30"**, value **"b"**.
3. Push the button **"P"**.
4. The display will show four flashing dashes **"_ _ _ _"**.
5. Enter your personal code (four digits). Every entered digit will be shown on the display.

Note! If a wrong digit is entered, disconnect and reconnect the PMD contact and start from the beginning with the factory pre-programmed PIN-code.

6. Push the button **"P"**.
7. **"Pin_"** with a flashing dash will be shown on the display.
8. Enter your **"personal code"** and push **"P"** once more to confirm that the correct code was entered.

Note! It is not possible to revert to old codes if you have forgotten the new one. If a mistake was made during the programming the PMD will revert to step 4 ("_ _ _ _").

PMD – Push Button Set



Function buttons

These buttons are used to set or check* the functions (01-99) for speed, hold open time, monitoring, and so on. The up and down arrow buttons increase and decrease the number by one digit. If the button is held down for more than 1 second, the function number will be increased/decreased every 0.1 second. When the final function (99) has been reached, the digits will roll over to function 01 and start again.

* *Note! When selecting any of these functions, the last value programmed into the Swingmaster control unit will be displayed, except for function 99, where value 01 will always be displayed.*

Value buttons

These buttons are used to set the value for the selected function. The plus and minus buttons increase and decrease the value by one digit. If the button is held down for more than 1 second, the value will be increased/decreased every 0.1 second. When the end value has been reached the digits will roll over and start again.

Program button

This button is used to program the control unit with the function and value selected on the PMD. To indicate that data have been transferred into the control unit, the display will be blank (fractions of a second) and then show the selected digits.

Impulse button

This button is used to give an opening impulse to the operator. If the button is held down, an impulse is given every 0.2 seconds.

Reset button

This button is used to reset the control unit. Hold the button down for about 2 seconds to reset.

Function display

When a FUNCTION button is depressed, the latest function used will be presented on the function display. If no function has been selected previously, the function "01" will be shown. If the FUNCTION and VALUE buttons are not activated for 5 s, the display will show "– –".

Value display

The VALUE display shows the value for the selected function. If the FUNCTION and VALUE buttons are not activated for 5 s, the VALUE display will show the present status or error code for the operator.

Back

The function description on the back of the PMD is reversible. The green side is to be used when adjusting sliding doors and the blue side when adjusting swing doors.

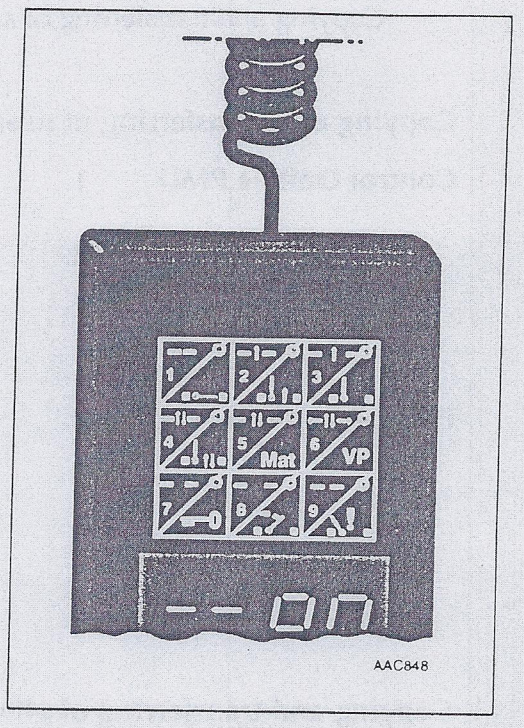
PMD – Program Selection

Program selector (blue push-button set to be used)

Buttons 1-4 control necessary functions of the operator. The PMD will override the settings of the program selector, if installed. The program selector will resume function about 30 seconds after the PMD is removed.

Settings

1.	"Off"	The door is closed.
2.	"Exit"	Exit only.
3.	"Open"	The door is permanently open.
4.	"Auto"	The door opens with inner and outer activation units.
5.	Mat	Mat safety impulse.
6.	VP (IFD)	Presence detection.
7.	"Key impulse"	Key opening impulse.
8.	"Low speed opening" or "Learn" if VP-S is connected	Push the button for 3 s. The door opens with pre-set low speed. Used to automatically adjust the sensitivity of the VP-S.
9.	"Door opening angle >99°" *	Push the button for 3 s, then open the door to the required angle and close it by hand. The new angle is now programmed into the control unit.



* Operator mechanical stops may need adjustment.

Special Note: For surface applied Swingmaster MPs with reveals greater than 2", to achieve the desired angle, manually open the door slightly less (-4°) than required. E.G., if 90° is desired, push #9 for 3 seconds and open door to 86°, then close. When activated, door will open to 90°.

Pre-programmed run programs (Function 98)

Pre-programmed basic values for six different run programs (operating performance) can be selected with the function 98 and any of the values from 01 to 06. The value 98/03 is factory pre-programmed and selected to give a satisfactory function for most doors.

When selecting the values in the order from 01 to 06, the performance of the operator is gradually increased and can be adapted to the valid operating conditions. If the performance has to be increased depending on door size and/or door weight, never use a higher value than necessary. To comply with authority requirements, the value selected must give the operator a smooth and safe closing.

Programming the run programs into the control unit

1. Plug the PMD into the control unit on the operator.
2. Select function 98 and any of the values from 01 to 06.
3. Press the program button P within 5 seconds. The selected run program will now be transferred from the PMD to the control unit.

Note! The only values transferred will be values that affect the operator performance.

PMD – Push Button Set

Copying and transferring of programmed values (Function 98)

This function is used to facilitate the adjustment by copying and transferring the values from one smoothly running operator to another one with similar operating conditions. The values can be copied and transferred in two levels.

- Copying and transferring of user values only – Functions 01–27.
- Copying and transferring of all values.

Copying and transferring of user values only:

Control Unit → PMD

1. Plug the PMD into the control unit on the operator having the values to be copied.
2. Select function **98** and value **99.**
3. Press the program button **P** within 5 seconds. The user values only will now be transferred from the control unit to the PMD.

PMD → Control Unit

1. Plug the PMD into the control unit on the operator receiving the copied values.
2. Select function **98** and value **98**
3. Press the program button **P** within 5 seconds. The user values will now be transferred from the PMD to the control unit on the new operator.

Copying and transferring of all values:

Control Unit → PMD

1. Plug the PMD into the control unit on the operator having the values to be copied.
2. Select function **98** and value **97.**
3. Press the program button **P** within 5 seconds. All programmed values will now be transferred from the control unit to the PMD.

PMD → Control Unit

1. Plug the PMD into the control unit on the operator receiving the copied values.
2. Select function **98** and value **96.**
3. Press the program button **P** within 5 seconds. All values will now be transferred from the PMD to the control unit on the new operator.

PMD – Functions And Values

Function	Description	Value	*)
01	High speed opening	15-90 °/s	45
02	Low speed opening	05-15 °/s	10
03	Low speed distance opening	05-40 °	20
04	High speed closing	15-60 °/s	25
05	Low speed closing	05-15 °/s	10
06	Low speed distance closing	05-30 °	20
07	Lock kick, additional	00-40 °/s	00
08	Hold open time	00-60 s	05
09	Key open time	00-60 s	05
10	Door opening angle [1]	30-99 °	70
11	Switch 1, angle [2]	00-99°	10
12	Switch 2, angle [2]	00-99°	60
13	VP-S swing side [3]	A/b no/yes	A
14	VP-S approach side [3]	A/b no/yes	A
15	Type of operator [4]	00-99	00
16	Push Reactivation, PR [5]	00-60 s	02
17	Presence impulse monitoring [6]	00-20	20
18	Mat safety monitoring [6]	00-20	20
19	Presence detection type, break/make impulse [7]	A/b break/make	b
20	Overhead presence detection	A/b no/yes	A
21	Navig-Aider (SA/OHC)	00-01	00
22	Balance force, open door	00-40	24
23	Hold force, closed door [8]	00-40	00
24	Locking without/with power [9]	A/b w/o / w.	A
25	Opening delay for unlocking [10]	00-50 x 0,1 s	00
26	Spring closing only	A/b no/yes	A
27	Door opening direction	A/b	A
28	Number of operator cycles performed x 10000	00-99	00
29	Number of operator cycles performed x 100	00-99	00
30	Change of PIN-code [11]	A/b no/yes	A
96	VP-S swing side, status [3]	-9→.9	.F
97	VP-S approach side, status [3]	-9→.9	.F
98	Run program [12]	01-06	03
	Copying and transferring of values between operators [13]	96-99	–
99	System tests [14]	01-05	–

*) Factory pre-programmed values in the control unit.

1) To set angle >99°, see item 9, page 43.
2) Used for switching of the VP (IFD) detection fields.
3) Used if VP-S is installed on swing/approach side.
4) IK-A= 00; IKA-S=02
5) Value 00 = No PR. 01-60 s = Hold open time.
6) Value 00 = No monitoring, 01-20 = Monitoring. The control unit will monitor the VP-S (IFD) and/or the mat. After the set value of actuations (01-20) without a VP-S (IFD) /mat impulse, the door will stay open. Note: for trained traffic applications with no presence detection, this may be set to 00.
7) Used for switching between break or make impulse for terminal No. 5 on the CUP.
8) Selects an additional hold force for a closed door.
9) After changing always press the reset button R.
10) An impulsed operator signals a lock-release to unlock the striking plate.
11) See page 41.
12) Pre-programmed basic values for 6 different run programs can be selected (see page 43).
13) See page 44.
14) 5 functional tests can be performed (see page 52).

PMD Codes, Tests and Status

PMD error codes.

Note that if more than one error code exists, correcting the first will let the second display, correcting the second will let the third display, and so on until all errors codes have been fixed.

Reason	Error Code	Remedies
Door opened without impulse	50 flashing	Check why the door moved.
Mat safety error	51 flashing	Check the contact mat.
Presence impulse error	52 flashing	Check the VP/VP-S and cables.
Motor error	53 flashing	Replace the motor.
Revolution counter error	54 flashing	Check revolution counter, cables.
Control unit error	55 flashing	Replace the control unit.
PMD error	69 flashing	Replace the PMD.
PMD-CUP communication error	70 flashing	Check the connections.
PMD access denied.	71 flashing	Return the PMD to be updated.

Testing with the PMD.

The PMD can initiate some system tests. Select function 99 and then enter the values shown below to specify a particular test. Press the program button P on the PMD to start the test. If the test is unsuccessful an error code will flash on the value display.

Value	Test Of	Error Code
01	External program selector switch	51 flashing
02	Motor, Visual test. (Let the door close before commencing this test.)	The motor runs about 1 second in the opening direction, then closes the door(s) again.
03	Revolution counter	54 flashing
04	Mat safety monitoring	51 flashing
05	Presence impulse monitoring	52 flashing

Status codes with the PMD.

The PMD normally shows the following status codes during operation. These status codes are not error codes. If any one of the status codes are constantly displayed during cycling, the corresponding input device has to be checked, and if necessary remedied or replaced.

Status Code	Status	Remedies
on	Operation ok	Normal – everything is OK.
10	Search for closed position	Let the door finish its cycle.
11	Inner impulse active	Check this input.
12	Outer impulse active	Check this input.
13	Key impulse active	Check this input.
14	Synchronizing impulse active	Check this input.
15	Interlocking impulse active	Check the connections.
16	Mat safety active	Check this input.
17	Presence detection active	Check this input.
18	Presence impulse active	Check this input.
19	Door blocked	Check for obstacles
20	Kill impulse active	Check this input.
21	Low speed opening/Learn	Let the door finish its cycle.
22	Door opened with open/close impulse	Close the door with new impulse.

Note!
If the fault persists and all the recommended measures have been taken, the operator and control must be returned well packed to the factory. Please include a written description of the problem with the unit being returned.