

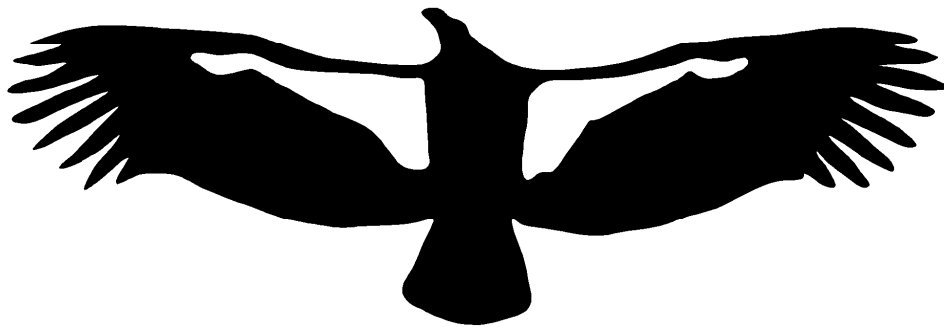
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MOTION ACCESS, LLC

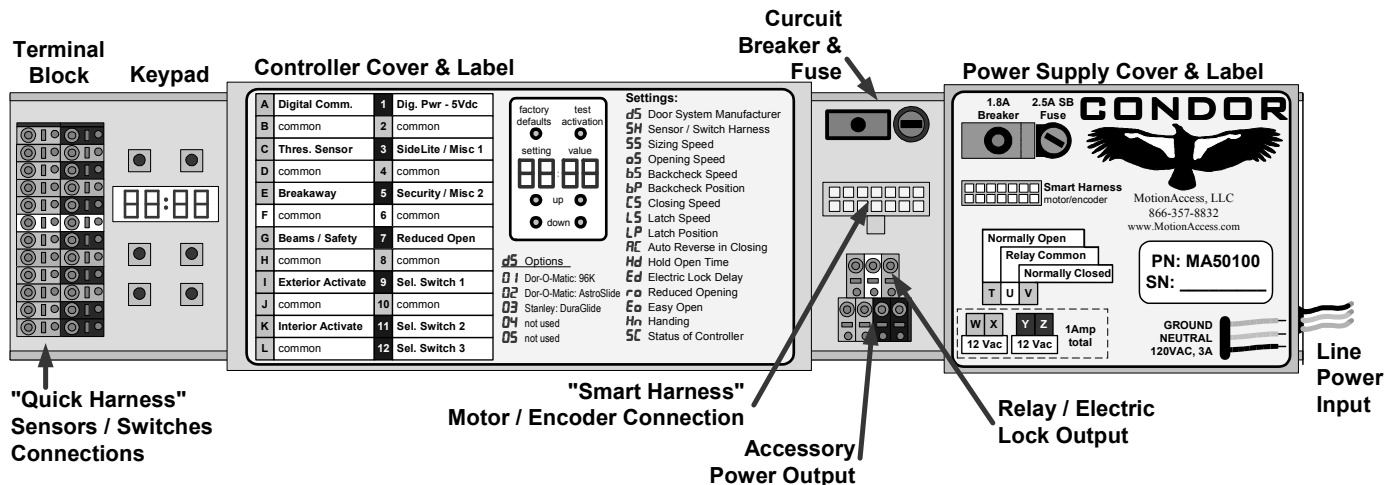
automatic entrance solutions

Installation & Operation Manual

CONDOR



UNIVERSAL SLIDE CONTROLLER



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Direct Replacement for:

01	Dor-O-Matic: 96K I & II
02	Dor-O-Matic: AstroSlide
03	Stanley: DuraGlide J / MC521
04	Besam: AMD II / UniSlide
05	Horton: 2150 Belt
06	GyroTech/Nabco: Whisper 1100 / 1175
07	Entra-Matic / American: SDC
08	Dorma: ESA
09	Besam UniSlide

For technical assistance call 866-357-8832

MA50110-K1

	<u>DANGER:</u>	This controller must be adjusted to ANSI standards by a qualified person. Unsafe operation may result.
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	<u>DANGER:</u>	Never remove the CONDOR covers for any reason or attempt uses which are not covered in this manual. Serious injury or death may result.
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Installation Instructions

1. Disconnect main power to the operator.
2. Remove existing controller.
3. Select harnesses as required. See steps 4 & 5 for details.

	<u>DANGER:</u>	Never modify harnesses. Unsafe operation may result.
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Manufacturer	Model	“Smart Harness” * Motor & Encoder	Optional Harnesses	
			“Quick Harness” Sensors	Other
Dor-O-Matic	96K I	MA70312	none needed	-
Dor-O-Matic	96K II	MA70313	MA70371	-
Dor-O-Matic	AstroSlide	MA70314	MA70372	MA70373 LookSee
Stanley	DuraGlide (newer power supply board)	MA70315	MA70374	-
Stanley	DuraGlide (older power supply board)	MA70315	MA70375	-
Stanley	DuraGlide (MC521 MGB)	MA70319	none needed	-
Horton	2150 Belt	MA70316	none needed	-
Besam	AMD II	MA70318	none needed	-
GyroTech	Whisper 1175	MA70320	MA70376	-

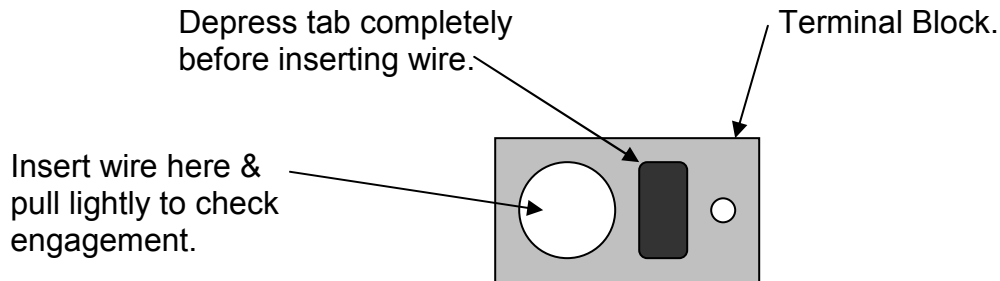
* Not needed with Universal Condor Motor/Gearbox.

4. If using an OEM motor, Connect the “Smart Harness” to the Condor (main power must be disconnected). If using a Universal Condor Motor, no “Smart Harness” is required. Please see the attached table “*Condor Motor/Gearboxes*” to view available motor manufactures that work with the Condor Control.

	<u>DANGER:</u>	Connections are safety critical. Ensure wires are fastened securely in terminal blocks.
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5. If using a “Quick Harness” then connect it to the Condor per the wiring diagram packaged with the harness.

6. Ensure wire engagement.



7. Install Condor into header.
8. Connect the “Quick Harness” to the associated connectors. Or connect the sensors & switches directly to the Condor per the wiring diagrams provided with the “Smart Harness”.

	<u>DANGER:</u>	Connections are safety critical. Ensure wires are fastened securely in terminal blocks.
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9. Connect the “Smart Harness” to the motor & encoder. If using a Universal Condor Motor, connect the motor/encoder directly to the controller.

	<u>DANGER:</u>	Route harnesses away from moving parts & sharp edges.
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	<u>WARNING:</u>	Do not overload Accessory Power Supplies. Two 12 Vac supplies are available at 1Amp total (12 Watts). This will power approximately 6 sensors. Refer to the sensor manufacturer for exact power requirements.
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10. Route all wiring away from moving parts and sharp edges. If needed, use the wire clips supplied.
11. Move door(s) manually and ensure controller & wiring do not interfere with existing equipment.
12. With main power off, make line power connections to the controller per local codes (120 volt, 60 Hz, Fused, 15 amp 3-wire power supply).
13. Place door(s) approximately 1 foot from the “full closed” position. This will aid in determining the “Handing” of the door during initial activation. The handing (H_n) of the door will need to be change if the door initially starts to close during sizing. Further information is provided on Step 18. Please also see the attached table for *Controller Adjustments* to change Handing (H_n).

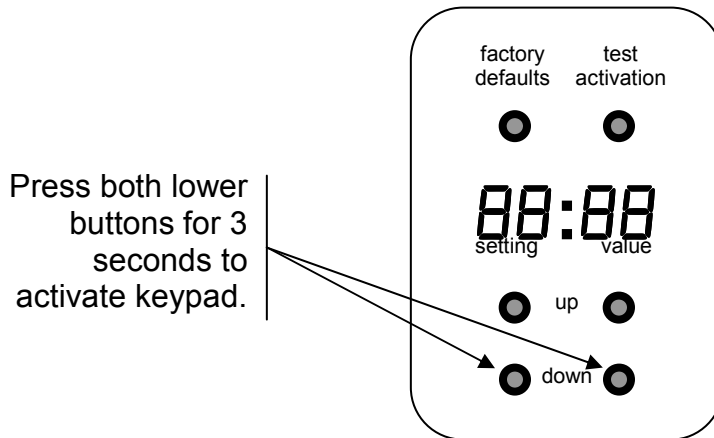
	<u>DANGER:</u>	Keep fingers and hands way from moving parts. The door may activate unexpectedly when power is restored.
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14. Ensure the correct motor “Smart Harness” is attached before connecting main power. Apply 120Vac main power to operator.

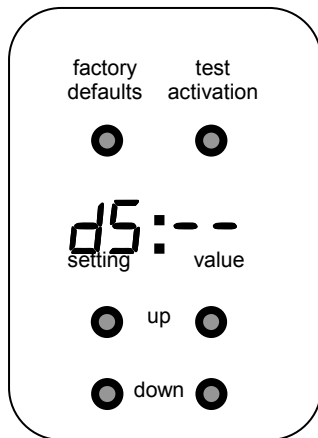
	<u>DANGER:</u>	Keep fingers and hands way from moving parts at all times. Door movement or unintentionally pressing the “test activation” button during the following steps may cause the door to move.
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	<u>DANGER:</u>	If the CONDOR is installed behind the drive belt, chain, etc. (drive mechanism) DO NOT USE the test activate button.
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15. To turn on keypad, simultaneously press the two lower buttons for 3 seconds. The keypad will turn off after 5 minutes without use.

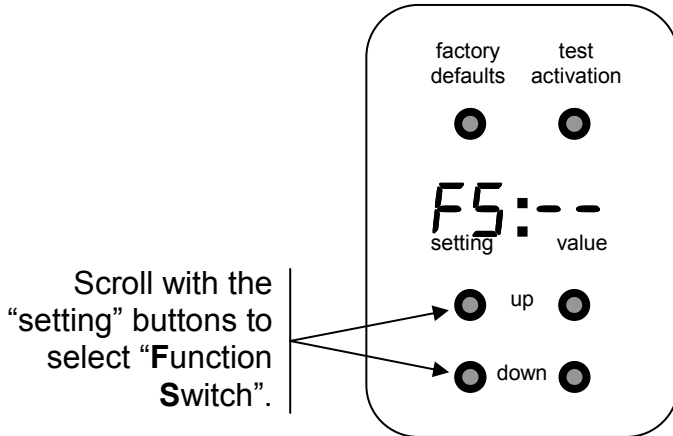


16. Verify the appropriate value for “d5” (Door System) is displayed. Power may need to be cycled to reset “d5”. If “d5” does not match the system being worked on, please call *Technical Support* before going on to next step.



Value	Door System
01	Dor-O-Matic: 96K
02	Dor-O-Matic: AstroSlide
03	Stanley: DuraGlide
04	Besam: AMD II
05	Horton: 2150 Belt
06	Gyrotech: Whisper Slide
07	Entra-Matic / American SDC
08	Dorma ESA
09	Dorma UniSlide

17. The wiring logic for every manufacturer’s jamb/control switches is typically different. The default logic selected by the Condor is based on the “d5” (Door System) detected. This setting can be changed through the “F5” (Function Switch) setting. There are typically two reasons to change this setting. One, the switch will be wired directly to the control box and not through the sensors. Two, you only have an alternate manufacturer’s switch available. To activate this functionality scroll down to “F5” (Function Switch) setting and select value.



Value	Function Switch
no	Jamb/Control Switches are wired through sensors (or interface board).
0 1-24	See the attached Switch Harness Table.

18. Ensure yourself and others are clear of door(s) and mechanism. Press the “test activate” button and the doors will “size”. Use the “test activate button” to activate the door(s) at any time. The doors should initially start to open. If they start to close then the Handing (H_n) of the doors needs to be changed. Please see the attached table for *Controller Adjustments* to change Handing (H_n).

	<u>DANGER:</u> This controller must be adjusted to ANSI standards by a qualified person.
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19. Using the keypad, adjust the door operation (see the attached table for *Controller Adjustments*). Doors should be adjusted to ANSI/BHMA A156.10 standards and any other applicable standards. To return to the factory settings hold down the “factory default” button for 5 sec.

	<u>DANGER:</u> Complete a walk through test. Refer to the latest version of ANSI/BHMA A156.10 for proper door setup. Ensure the door is setup to meet all applicable national & local standards.
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20. **Complete a Walk-Through-Test.** Ensure Compliance with ANSI/BHMA A156.10 (latest version) & all applicable national and local standards.

Controller Adjustments

Setting Display	Setting Function	Value Range	Factory Default	Description of Function
d5	Door System Manufacturer	01-09	automatic	Identifies the “Smart Harness” & must match the door system being worked on. Needed to properly control/interpret the motor, sensors and switches (see table on front cover for values).
5C	Status of Controller	-	-	Displays what the controller is sensing. See “Trouble Shooting” section.
F5	Function Switch	no & 01-24	same as d5	Identifies which jamb/control switch wiring is used. Normally this value is the same as d5. This setting can be changed if the switch manufacturer does not match the OEM. Note: 24 & 23 corresponds to MotionAccess’s Universal 4&3 Function Key Switch respectfully. no corresponds to when an OEM control does not have switch inputs (AstroSlide & Model J).
55	Sizing Speed	01-05	03	Sets the speed of doors during initial start-up and when an obstruction has been detected. “Sizing” allows the controller to determine the full open and full closed position. Set this parameter to operate at a slow speed that does not allow the doors to slam. Check this speed by resetting main power. Wait at least two seconds after sizing completion before re-activating.
o5	Opening Speed	01-10	05	Sets the opening speed of the door.
b5	Backcheck Speed	01-05	03	Sets the backcheck speed.
bP	Backcheck Position	01-06	04	Sets position that backcheck speed initiates.
C5	Closing Speed	01-10	05	Sets the closing speed of the door.
L5	Latch Speed	01-05	04	Sets the latch speed.
LP	Latch Position	01-06	03	Sets position that latch speed initiates.
AC	Auto-Reverse in Closing	05-99	50	Sets obstruction sensitivity during closing.
bL	Breakaway Logic	nC-no	d5 dependent	Sets the Breakaway Logic. Most manufacturers are NC (Normally Closed).
Hd	Hold Open Delay	01-30	01	Sets how long the door stays open after activation (1-30 seconds).
Ed	Electric Lock Delay	y, n	n	Enables lock relay and sets a delay for door activation after lock is energized.
ro	Reduced Opening	50-80	70	Sets an approximate percent opening for the “reduced opening” switch. AKA “Weatherwise.”
EO	Easy Open	y, n	y	Manually forced openings will cause a slow speed activation (default is y).
Hn	Handing	Lh, rh	rh	Sets motor rotation. Needed on a limited number of manufactures.
Pb	Power Boost	no-03	no	Sets the closed holding force generated by the motor.
Ct	Checkspeed Torque	05-99	90	Sets obstruction sensitivity during slow closing check speeds (i.e. Latchcheck and closing sizing speeds).

Wiring Inputs at Terminal Block

Terminal	Terminal Function	Description of Terminal Function
A	Digital Communication (output)	Works with the Stanley-StanGuard and Dor-O-Matic-Looksee threshold safety sensors. This output is used in conjunction with “C – Threshold Sensor” and helps prevent the door from closing when a detection is made. Threshold sensors have special communication requirements beyond that of a simple dry contact. Please refer to the specific wiring diagrams provide with the control.
C	Threshold Sensor	Works with the Stanley-StanGuard and Dor-O-Matic-Looksee threshold safety sensors. This input is typically used in conjunction with “A – Digital Communication” and prevents the door from closing when active. These sensors have special communication requirements beyond that of a simple dry contact. Please refer to the wiring diagrams in the harness kits for details. This input can also be used independently for general safety sensors.
E	Breakaway	This input is hooked to the breakaway switch in the door system. It is used when the active sliding doors are allowed to “breakaway” and swing open. When a door is in “breakaway” the normally closed contact of the switch is opened and the controller immediately shuts off power to the operator. If the active door cannot breakaway then a jumper must be added to “E” & “F”. Dry contacts only.
G	Beams / Safety	This input is the primary safety. Infrared photo beams and/or other threshold sensors are connected to this input. This input prevents the doors from closing. This input behaves very similarly to an “activation” signal; however, the “Beam/ Safety” signal will not cause a fully-closed door to open. Dry contacts only.
I	Exterior Activate	This input is wired to the exterior activation. Motion detectors and/or presence sensors that are exterior to the building are typically hooked to this input. This input causes the doors to open and prevents the doors from closing. If the selector switch of the door is set to “One-Way” traffic then the “Exterior Activate” behaves identically to the “Beam / Safety”, which will not allow a fully closed door to open. Dry contacts only.
K	Interior Activate	This input is wired to the interior activation. Motion detectors and/or presence sensors that are interior to the building are typically hooked to this input. This input causes the doors to open and prevents the doors from closing. Dry contacts only.




DANGER:

This controller must be adjusted to ANSI standards by a qualified person. Refer to the latest version of ANSI/BHMA A156.10 for proper door setup. Ensure the door is setup to meet all applicable national & local standards.

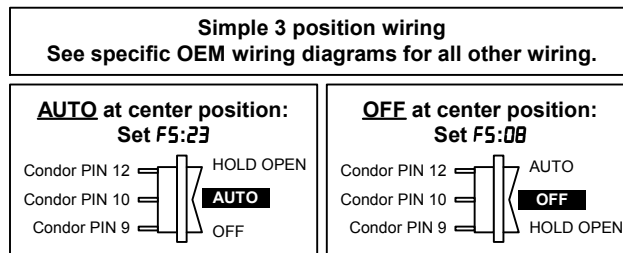
Wiring Inputs at Terminal Block (continued)

1, 2	Reserved	Not used.
3	SideLite / Misc 1	This input is hooked to the presence sensor above the sidelites. It lets the controller know that someone is in the path of an opening door. The controller responds by slowing the opening speed of the door. Dry contacts only.
5	Security / Misc 2	This input is typically hooked to a "Morning Entry" switch and/or a "Card-Reader". It causes the door to activate regardless of the selector switch position. Dry contacts only.
7	Reduced Open	This input is wired to a "Reduced Opening / Weather Wise" switch. It causes the door to only partially open, saving on heating & cooling costs. Dry contacts only.
9, 11, 12	Sel. Switch 1, 2, 3	Almost every door manufacturer handles its selector switches differently. Based on the motor harness attached to the control, the switches are configured to match the original manufacturer's hardware. Please refer to the wiring diagrams in the harness kits for details. Dry contacts only.
B, D, F, H, J, L, 4, 6, 8, 10	Commons	Commons for all the terminals. Dry contacts only.
T	Relay Contact (N.C.)	Normally Open relay contacts.
U	Relay Common	Common for the relay contacts T & V.
V	Relay Contact (N.O.)	Normally Closed relay contacts.
W, X	12Vac Accessory Power #1	Output terminals for accessory power. Do not exceed 1 amp total for W,X & Y,Z.
Y, Z	12Vac Accessory Power #2	Second output terminals for accessory power. Do not exceed 1 amp total for W,X & Y,Z.

	<u>DANGER:</u>	This controller must be adjusted to ANSI standards by a qualified person. Refer to the latest version of ANSI/BHMA A156.10 for proper door setup. Ensure the door is setup to meet all applicable national & local standards.
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Switch Harness (F5) Table

Value Display	Original Equipment	Description of Function & Inputs Selector Switch 1, 2 & 3
00	AstroSlide - Doromatic DG/Model J - Stanley	Switch is wired through sensors. The selector switches are non-functioning.
01	96K - Doromatic	See wiring and logic diagram MA70412_FRW.
02	AstroSlide - Doromatic	See wiring and logic diagram MA70414_FRW.
03	DuraGlide - Stanley	See wiring and logic diagram MA70415_FRW.
04	PG4000, AMD I&II - Besam	See wiring and logic diagram MA70418_FRW.
05	Horton Belt	See wiring and logic diagram MA70416_FRW.
06	Whisper - Nabco/GyroTech	See wiring and logic diagram MA70420_FRW.
07	SDC - Entra-Matic	See wiring and logic diagram MA70421_FRW.
08	ESA - Dorma	See wiring and logic diagram MA70417_FRW.
09	Unislide - Besam	See wiring and logic diagram MA70418_FRW.
23	BFT Linea	Contact Factory.
23	Gildor	Contact Factory.
23	KM 1100	Contact Factory.
23	KM 7000	Contact Factory.
23	BWN Belt	Contact Factory.
05	Horton Linear	Contact Factory.
23	Motion Access - Universal 4&3 Position Key Switch (used as 3 position)	See wiring and logic diagram MA44108 (or any of the above diagrams).
24	Motion Access - Universal 4&3 Position Key Switch (used as 4 position)	See wiring and logic diagram MA44108 (or any of the above diagrams).



Trouble Shooting

The “Status of Controller” (SC) function of the Condor slide controller is a very powerful diagnostic tool. This function allows the technician to see all the inputs the Condor slide controller is sensing. For example, if the “key switch” is “OFF” and the “breakaway switch” is “OPEN”, then two of the values displayed will be “OF” and “BR”. One can see that this information is very useful when trying to identify a wiring problem and can often speed the servicing of a door.

Diagnostic Codes

Diagnostics are accessed by scrolling down to the “SC” setting.

SC: - -

Examples of diagnostic codes are shown below:

Safety / Beams is active:

SC: SA

Exterior Activate is active:

SC: EA

Note that many of the diagnostic codes are the same as the codes used during configuration. Please see the attached table for various *Diagnostic Codes*.

Diagnostic Codes

Code	Name	Description
1d	1 - Directional	Key switch is in the 1-way position. This code is only displayed when the door is closed & key switches are directly connected to the control.
2d	2 - Directional	Key switch is in the 2-way position. This code is only displayed when the door is closed & key switches are directly connected to the control.
bA	Breakaway	Breakaway active (indicating a panel is broken away).
EA	Exterior Activate	The Exterior Activate input is active.
Eo	Easy Open	Door is opening, actuated by a push.
Fc	Fully Closed	The door is fully closed and idle. This message is shown if key switches are not directly connected to the controller. Otherwise, the state of the key switch (1-way/2-Way/Off/Hold-open) is shown.
fo	Fully Open	Door is fully open.
Ho	Hold Open	The key switch is in the "Hold Open" position.
IA	Interior Activate	The Interior Activate input is active.
LC	Learn Closing	The door is in sizing/learn mode attempting to find the closed position.
Ld	Locked Door	Three possible problems: 1) manually locked door; 2) faulty motor or encoder; 3) faulty motor or encoder connection.
Ln	Length (inches)	Length of Door Opening. This is an informational message seen after the Learn/Sizing cycle has completed. It gives the length of a single door travel in inches.
Lo	Learn Opening	The door is in sizing/learn mode attempting to find the fully open position.
LS	Learn Stall	The door was previously sizing open and now has encountered a stall. This stall can be due to a manual lock, the door is fully open, or the door was manually blocked while attempting to size open.
oF	Off	Key switch is in the OFF position. This message is only shown if the key switches are directly connected to the controller.
oP	Opening	Door was closing, and a safety or activation signal has caused it to re-activate.
oS	Opening Speed Mode	The door is opening normally at Opening Speed.

Diagnostic Codes (continued)

P _o	P artially O pen	Door is partially open. This is due to an obstruction.
r _o	R educed O pening	Door is opened according to the Reduced Opening (Weather Wise) setting.
S _A	S afety / B eams	The Safety/Beams input is active.
S _C	S low C losing	Safety Slow Closing. The door closes slowly following a stall during the previous closing cycle.
S _E	S ecurity E ntry	Security / Morning Entry input is active.
S _t	S talled	The door was stalled while opening or closing. If it was stalled while closing, the door will auto-reverse. If the door was stalled while opening, then it will continue to attempt to open, but at a slow speed.
t _A	T est A ctivate	Test Activate pushbutton is active.
t _S	T hreshold S ensor	The Threshold Sensor input is active.
U _S	U ndersized	The door opening is below the minimum size of 18 inches. This message is only seen during a sizing attempt.

Compatibility Chart

Motor/Gearboxes that work with the Condor Control:

Manufacturer *	Motor / Gearboxes	
	OEM MGB	Condor MGB
Dor-O-Matic: 96K I & II	96175, 84456	MA50100- M12
Dor-O-Matic: AstroSlide	72620, 72188, 96991	MA50100- M14
Stanley: Model J & MC521	313443, 313186	MA50100- M15
Horton: 2003 Belt	C5600, C5600-1	MA50100- M16
Besam: AMD I	-	MA50100- M118
Besam: AMD II	529712	MA50100- M18
Gyrotech: Whisper 1100	-	MA50101- M120
Gyrotech: Whisper 1175	219528	MA50100- M20
Entra-Matic & American: SDC	-	MA50100-M21
Dorma: ESA	-	MA50100-M22
Besam: Unislide	-	MA50100-M23
Besam: PG4000	-	MA50100-M25
BFT Linea	-	Contact Factory
Gildor	-	Contact Factory
KM 1100	-	Contact Factory
KM 7000	-	Contact Factory
BWN Belt	-	Contact Factory
Horton Linear	-	Contact Factory

* Consult the factory for any manufacturer or model not shown.