



Box or Bag Filling Carousel

Model CC/CCS

Manual

Table of Contents

Introduction	2
Dimensions	2
Specifications	2
Technical Data	2
How to assemble the Carousel	3
How to open the front panel of the controller	4
How to change the language of the controller	4
Control board and exterior hook ups	5
How to connect the counting signal to the controller.....	6-7
How to wire the alarm signal to shut down the IMM or other equipment	8
How to program the carousel controls	9-11
To enter the programming mode	
To delete previously set values	
To enter new values for a specific application	
How to exit the programming mode	12
How to start the Carousel	13
Automatic mode	14
Sampling	15
Advance	15
Shut down	15
Trouble shooting	16
Preventive maintenance	17
Accessories	18
Spare parts list	19
How to order Spare parts	20



INTRODUCTION

This user manual was designed to provide information and specifications regarding the safe set up, operation and maintenance of the CC/CS box or bag-filling carousel using the C130 control unit.

DIMENSIONS

The CC/CS carousel is available in the following standard diameters: 31 ½", 39¼", 47¼", and 59". The system can be designed to fill either boxes, bags or both. It is available in either single or dual level configurations.

SPECIFICATIONS

The Crizaf carousel is designed to fill boxes or bags using a count signal from a molding machine, robot, weigh-scale hopper etc. The carousel control can be configured as needed, to accept a 24V signal, an signal from an isolated dry contact or a signal from a proximity switch or photo eye (NPN switching only).

The carousel frame consists of formed and painted industrial steel. The unit is equipped with a rack and pinion drive. High quality thrust bearings and hardened sprockets guarantee a long lasting maintenance free operation. Standard casters are Ø 80mm (3.1") for easy mobility.

The direction of rotation is factory preset. Each carousel is shipped with a 15 ft cord terminating with a standard 3-prong plug which can be plugged in any 110 VAC receptacle with ground.

TECHNICAL DATA

Power Source..... 110 VAC 60 HZ

Total Power Installed.... 0.18 KW

Motor

Type..... M 71 4
 Power..... 0.18 kW
 Electrical feeding..... 110 Volt
 Cycle..... 60 Hz
 RPM..... 1680 RPM
 Contact numbers..... 3

Speed Reducer

Type..... RMI 40 D
 Ratio..... 1/100

Sprocket Wheel

Diameter..... Ø 585 mm Z = 98

Motor Drive Sprocket

Diameter..... Ø 150 mm Z = 23

Table Platform

Diameter / mm..... Ø 800 / Ø 1000 / Ø 1200 /
 Ø 1500

Casters

Diameter..... Ø 80 mm with brake

HOW TO ASSEMBLE THE CAROUSEL

The carousel is shipped, broken down into two major components, the rotating platform, which includes the drive mechanisms etc, and the control box and post.

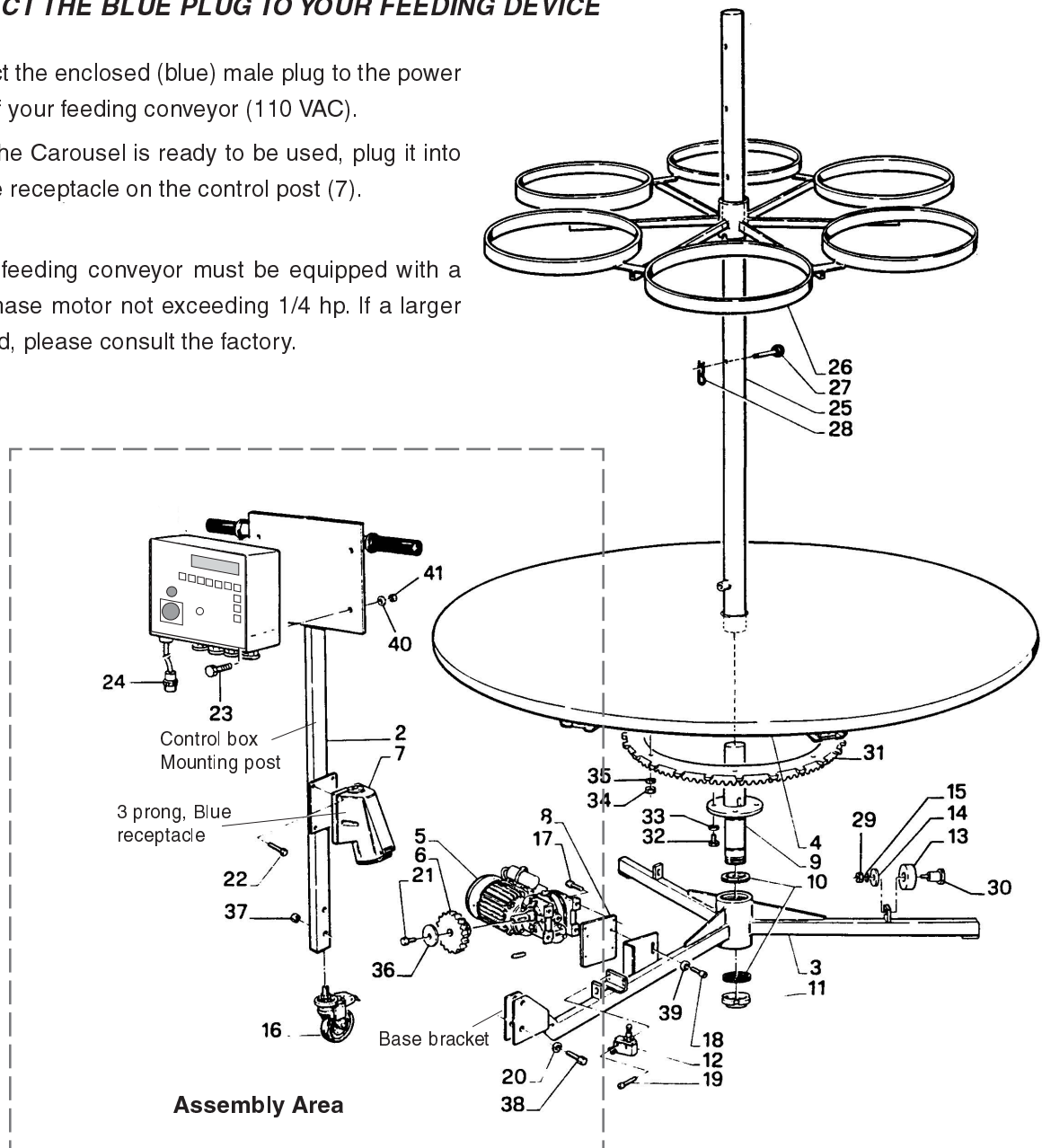
1. ATTACH THE CAROUSEL PLATFORM TO THE CONTROL BOX

- Slide the mounting post of the control box into the bracket on the support base of the rotating platform.
- Secure the post to the base bracket with enclosed screws, nuts and washers. Tighten the screws.

2. CONNECT THE BLUE PLUG TO YOUR FEEDING DEVICE

- Connect the enclosed (blue) male plug to the power cable of your feeding conveyor (110 VAC).
- When the Carousel is ready to be used, plug it into the blue receptacle on the control post (7).

Note: The feeding conveyor must be equipped with a 110/60/1 phase motor not exceeding 1/4 hp. If a larger drive is used, please consult the factory.



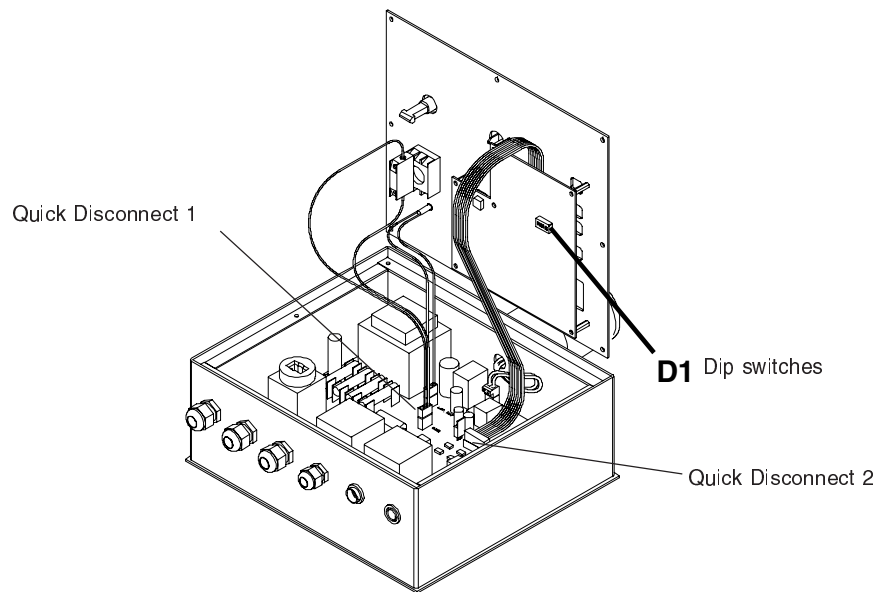
HOW TO OPEN THE FRONT PANEL OF THE CONTROLLER



WARNING

ALWAYS DISCONNECT THE POWER TO THE CAROUSEL
PRIOR TO REMOVING THE FRONT PANEL

1. Turn the main switch to the horizontal position.
2. Loosen the eight screws on the front panel. Slowly remove the panel.
3. The display and function keys are connected to the main board via cables with quick disconnects. In order to completely remove the front panel, you must disconnect these cables from the main board.



HOW TO CHANGE THE LANGUAGE OF THE CONTROLLER

The pre set language of the carousel controller is English. However, the language can be easily changed to one of five other languages by flipping the appropriate dip switch located on the back side of the front panel of the controller (D1).

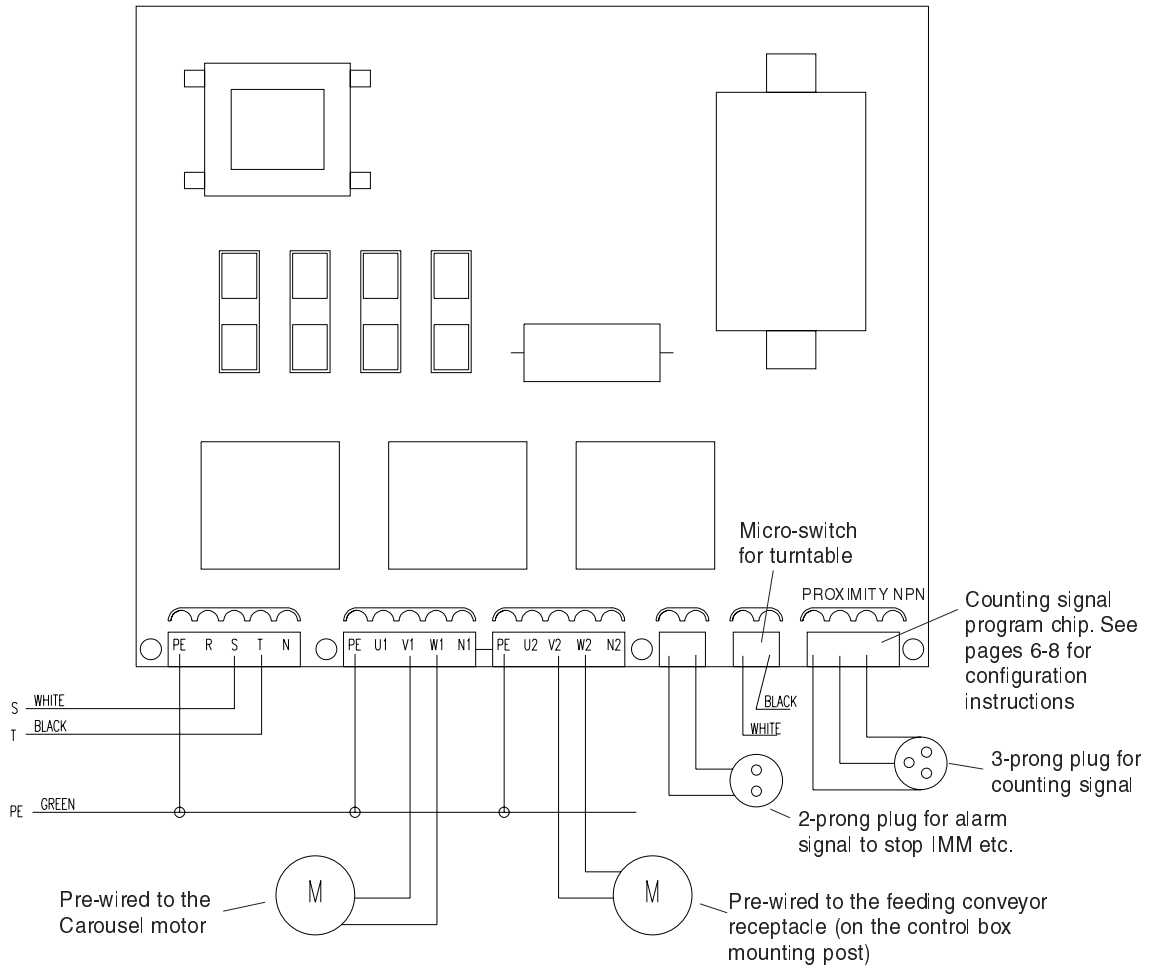
To switch to a different language, flip the English switch (3) up and the desired dip switch down.

Note: If none of the dip switches is selected the controller will display an asterix and the program will not run.

- Dip switch 1 Italian
- Dip switch 2 French
- Dip switch 3 English
- Dip switch 4 Spanish
- Dip switch 5 German
- Dip switch 6 Portugese

CONTROL BOARD & EXTERIOR HOOK UPS

110 Volt AC 60 hz 1 phase



LEGEND

V1 = White S = White
 W1 = Black T = Black
 V2 = White
 W2 = Black
 PE (Positive Earth) (ground) = green

HOW TO CONNECT THE COUNTING SIGNAL TO THE CONTROLLER

Important!

The duration of a momentary signal must not exceed 1 second.



Attach the appropriate wires to the removeable plugs

To connect the counting signal to the controller, the appropriate wires must first be attached to the removeable plugs. When attaching the wires, be certain to attach the + or - to the correct side. Once the wires are attached, simply plug into the appropriate terminal.

Note! The plugs attach tightly to the terminal board. When removing a plug, it is a good idea to place a finger over the top of the board to hold it firmly in place (it is securely attached at the bottom with a screw).



To connect a 24V DC Photo Eye / NPN sensing (2 plugs are used to connect a Photo Eye)

Attach 24 V DC power supply wires,
for Photo Eye here

Attach switching wires here

Important!

The duration of a momentary signal must not exceed 1 second.

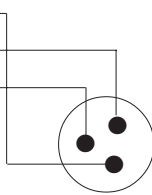


To connect a 24V DC or 24V AC, momentary counting signal
(1 plug is used to connect a momentary counting signal)

Attach momentary counting signal here.



To connect a proximity sensor
(2 plugs are used to connect a proximity sensor)



To connect a dry contact
(One plug is used to connect a dry contact)

Attach plug here

HOW TO WIRE THE ALARM SIGNAL TO SHUT DOWN A MOLDING MACHINE OR OTHER DOWN STREAM EQUIPMENT

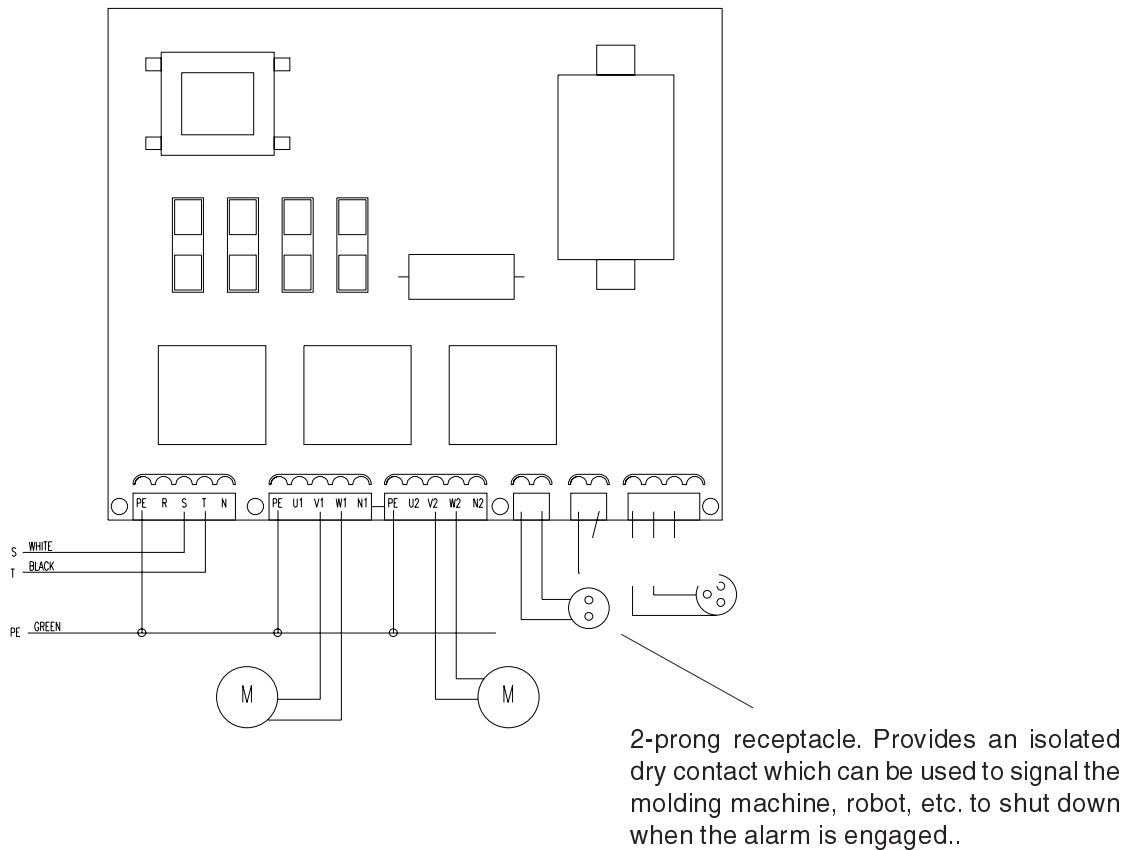
If you do not plan to use this carousel feature, proceed to the next page.

How to access the Alarm Shut-down feature

If desired, the alarm signal can be used to shut down a molding machine or other piece of equipment such as a robot, assembly machine, etc.

At the bottom of the control box is a 2-prong receptacle which provides an isolated dry contact when the alarm is engaged. In order to avoid overfilling containers, this can be used to send a signal from the alarm to the molding machine, robot etc. to shut down, or standby i.e. during a lights-out operation.

- Wire the included 2 prong plug to the equipment you wish to shut down, being careful to configure the wiring according to the usage of the wires coming from the receptacle.
- Plug the plug into the 2 prong receptacle on the bottom of the control box.
- When the alarm engages, the controller will automatically signal the equipment to shut down.



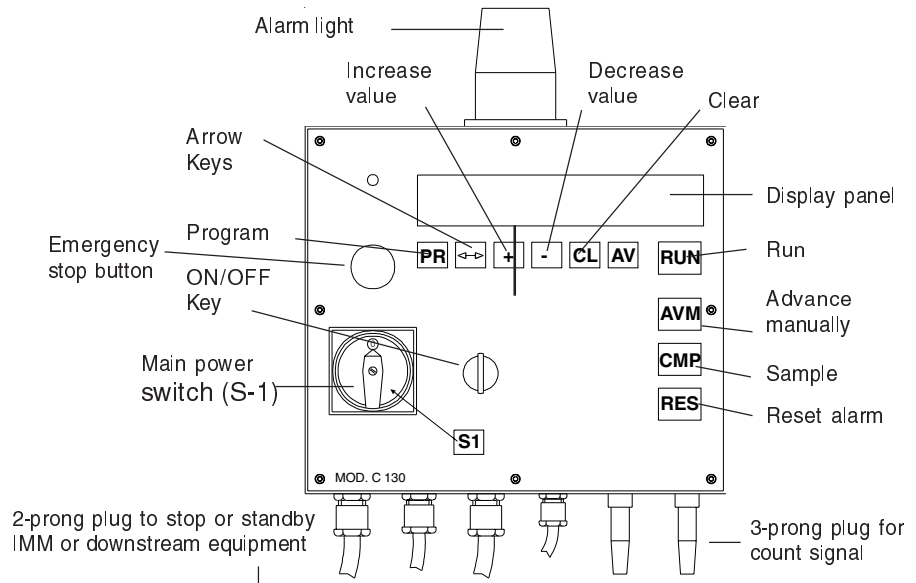
HOW TO PROGRAM THE CAROUSEL CONTROLS



Programming the Crizaf carousel is normally simple to do. However, should you encounter problems with sequencing or programming, the controller can be easily reset. See page 10 for complete directions.

TO ENTER THE PROGRAMMING MODE

- Turn the main power switch (**S-1**) to **ON** (vertical position).
- Turn the key *slightly* to the right. Important! Do not overturn the key. It will turn only a very small amount.



If you are programming the controller for the first time, the top row of the display panel will show **INACTIVE STATUS** and the columns will show 00 000000 01 02 02. To enter values for your application, press the **PR** (program) button and continue to page 12.

INACTIVE STATUS				
00	000000	01	02	02

If you have used the carousel before, the previously used values will automatically appear in the display panel. If you wish to use these values again:

- Press the **RUN** button.
- Turn the Molding machine (robot, photo eye, Weigh-scale hopper) on. The carousel will begin its fill cycle.

TO DELETE PREVIOUSLY USED VALUES

If you have used the carousel before, but would like to enter new values, you must first delete the previously used values. This will reset the values to 0. *Note:* this function can also be used to turn the alarm off.

- Turn the Main power switch and the key off.
- Turn the Main power switch **ON** .
- Press and hold the **RES** (reset) button.
- Simultaneously turn the key on (do not overturn the key, a tiny bit is all that is necessary). This will delete all previously set values.
 - The top row will show INACTIVE STATUS.
 - The columns will show 00 000000 01 02 02.
- Press the **PR** button and continue to page 12.

INACTIVE STATUS				
00	000000	01	02	02

TO ENTER NEW VALUES FOR A SPECIFIC APPLICATION

To program new values into the carousel control, press the **PR** (program) button, PROGRAMMING will appear in the top row of the display. This will allow you to program in the following information.

PROGRAMMING				
Number of cavities in mold or parts per signal	Number of parts per container	Conveyor delay time prior to index of table	Number of containers on the platform	Number of box, after which you want the Alarm to signal

To enter or change values while in the programming mode

- To move between columns, press the **←→** keys.
- To increase or decrease values, press the **+** or **-** key.
- To return a value to zero, press the **CL** (clear) key.
- To index the platform to the next available position press the **AV** (advance) key.
- Note: the above keys are available only during programming.

Once in the programming mode, the controller will prompt you to enter the following information:

- **Number of cavities in mold or parts per signal.** Use the + or - key to enter the number of cavities in the mold or the number of parts per cycle, i.e. if the mold has 16 cavities, enter the number 16. If using a device that sends only 1 signal per total count, such as a robot, weigh-scale hopper, assembly machine, etc., enter 1.
- **Number of parts per container.** Use the + or - key to enter the number of parts desired in each container. This must be a multiple of the number shown in the first column. *Note:* For large multiples, you can hold the plus key to accelerate the count. *Note:* The controller will automatically show a multiple of the number entered in the first column.
- **Conveyor delay time prior to index of table.** Enter the number of seconds that it takes for the parts to move from the infeed drop area (under the mold) to the container on the platform. *Note:* Because the machine signal is sent as the parts drop out of the mold, this setting delays the indexing of the carousel until all of the parts that have been counted have sufficient time to move from under the molding machine to the container. Important! You must plug the feeding conveyor into the blue receptacle located on the mounting post of the carousel control.
- **Number of containers** . Enter the number of boxes or bags that are placed on the carousel platform.
- **Number of box, after which you want the Alarm to signal.** The alarm control determines after which box in sequence, the alarm will sound, ie. if you will be filling 8 boxes, and would like the alarm to ring after the 7th box has been filled, enter 7 into the alarm control.

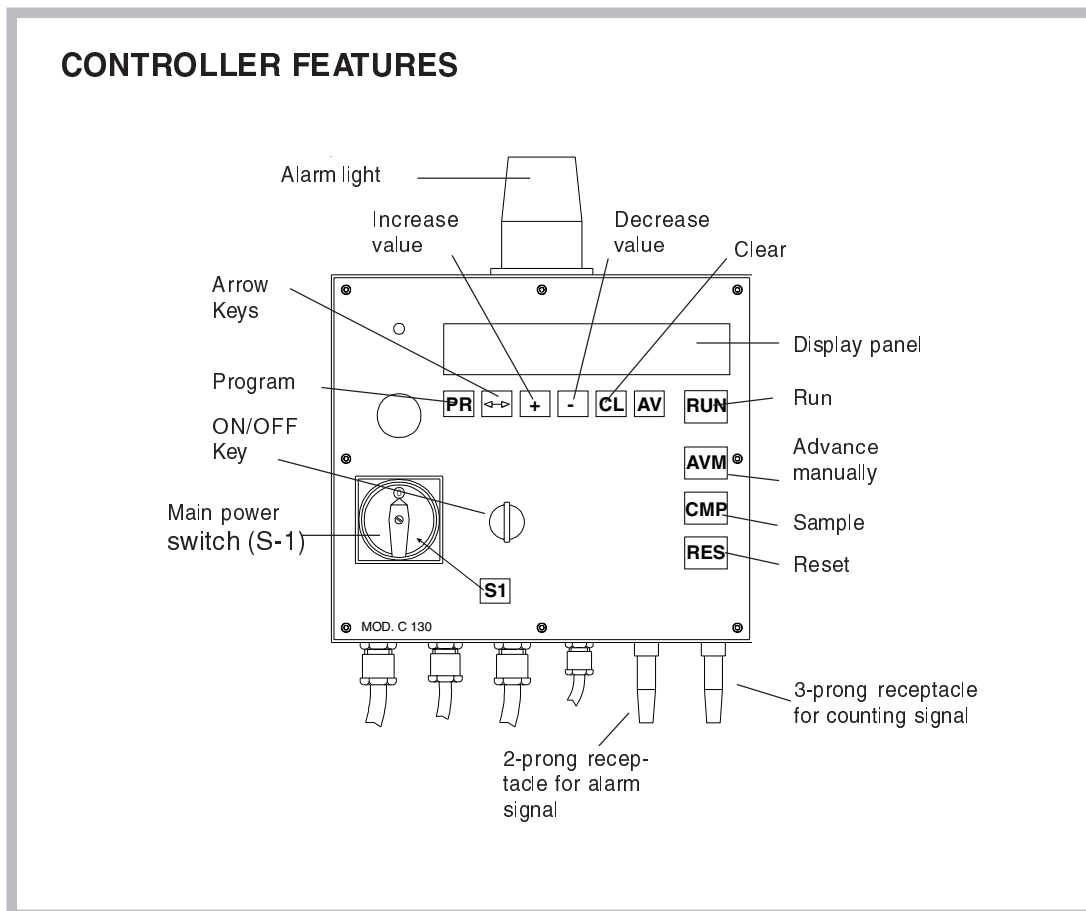
ENTER NEW VALUES FOR A SPECIFIC APPLICATION (CONTINUED)

- To allow an operator time to refill the system, it is generally recommended to set the alarm to sound after the second to last box has been filled.
- For a lights out operation, the carousel can be programmed to fill to the last box. To do this enter the total number of boxes on the carousel. The alarm will sound after the last box has been filled. The carousel will remain in this position until the alarm is reset.

Note: The alarm signal can also be used to shut down a molding machine or other piece of equipment such as a robot, assembly machine, etc. during a lights out operation. See page 9 for complete instructions.

HOW TO EXIT THE PROGRAMMING MODE

To end the programming mode, press the **PR** key.



HOWTO START THE CAROUSEL

Once you have programmed the control unit, you are ready to start the carousel.

1. Connect the counting signal.

If you have not already done so, plug the count signal of the molding machine (robot, weigh-scale hopper etc.) into the 3-prong receptacle on the bottom of the control box. Note: the controller must first be configured to accept your signal. See pages 6-8.

2. Connect the alarm signal *(if you choose to access this feature)*

If you are using the alarm signal to stop (or standby) the molding machine or other downstream equipment i.e. during a lights out operation, plug it into the 2-prong receptacle on the bottom of the control box. *Note:* You must first wire the 2-prong plug to the equipment you wish to shut down, being careful to configure the wiring according to the usage of the wires coming from the receptacle. See page 9 for complete instructions.

3. Plug the power cord of your feeding conveyor into the blue receptacle located on the mounting post of the control box. *Note:* you must first connect the power cord of the conveyor to the blue plug.

4. Press the RUN button.

5. Turn the Molding machine, Robot, Weigh-scale hopper etc. on.

Note: If the alarm sounds, press the 'reset alarm' button to interrupt the alarm signal.

AUTOMATIC MODE

Once the Carousel has been programmed and the molding machine (robot, weigh-scale hopper etc.) started, it will enter the automatic mode.

- AUTOMATIC MODE will show in the top line of the display.
- All values will show in the columns as programmed, except for the 2nd column (number of parts in the container). This display will increase with every count signal in multiples of the first column (number of cavities or parts per signal).
- When the desired number of parts per container is reached, the delay timer will activate. This delays the indexing of the platform until the last counted cycle has time to reach the container. The top line of the display will briefly show ADVANCE.
- Once the delay timer expires, the feeding conveyor will stop and the platform will index to the next position.
- The feeding conveyor will restart. The display will return to Automatic Count.
- When the pre-set number of containers in the Alarm setting is reached, the visual and acoustic alarm will engage.
- To reset the system and silence the alarm, press the RESET ALARM button.
- The sequence will repeat.
- If the alarm is not reset, the last container in the sequence will be filled and the carousel will shut down. This prevents already full containers from being overfilled.
- If the Alarm function has been programmed to shut down the molding machine or other downstream equipment, the equipment will be shut down after the last container has been filled.

SAMPLING

A sample cycle of parts can be removed during the AUTOMATIC COUNT MODE by pressing the CPM (sample) button. This will deduct a number of parts equal to one cycle from the total number of parts in the container.

ADVANCE

To interrupt a cycle and move the platform to the next container during the AUTOMATIC cycle, push the AVM (advance) key. This will move the platform to the next container and reset the number of parts per container to zero.

SHUT DOWN

To turn the Carousel off, turn the main power switch counter clock wise to the horizontal position.

TROUBLE SHOOTING

- 1. Problem** The Alarm setting (column 5) will not allow you to program in any value greater than 2.

Solution The controller used for the Carousel is also used for several other Crizaf products. It is possible that your controller is set to control one of these other products. If you suspect that this may be the problem, you must switch the controller to the carousel program.

To switch to the Carousel program:

 1. Turn the main power ON.
 2. Push the emergency stop button to turn the power off.
 3. Twist and release the emergency stop button.
 4. Press the **↔** button.
 5. Simultaneously turn the key to activate the program.

Once you have performed the above steps, the alarm light will flash and you will hear either 1 or 2 tones. 2 tones means you are in the Carousel program. 1 tone means you are in the alternate program. If you hear 1 tone repeat the steps above to re-enter the Carousel program.
- 2. Problem** In spite of carefully following the programming directions, the controller will not program as it should.

Solution Once you are sure you are in the carousel program (see above) reset the controller.

 1. Turn off the main power.
 2. Turn on the main power.
 3. Press and hold RES button. Simultaneously turn the key.
 5. The Display will show INACTIVE STATUS.
 6. You can now re-program the controller.
- 3. Problem** The controller display shows all asterisks.

Solution The language of the controller has not been selected. To select the language of the controller, you must open the front panel of the controller and flip the dip switch to the appropriate language. See page 4 for complete directions.
- 4. Problem** The alarm will not shut off.

Solution Press the RESET ALARM button.
- 5. Problem** As the Carousel indexes to the next position, the conveyor continues to move, spilling the parts.

Solution In order to have the conveyor stop while the Carousel indexes, the power cord must be attached to the blue plug and plugged into the blue receptacle on the control post.
- 6. Problem** When you press PR to program in new values, the programming prompts do not appear.

Solution The controller will not allow you to enter the programming mode. Press the AVM button first and then the PR button. If this does not work follow the reset directions in Solution 2. above.

PREVENTIVE MAINTENANCE

The CC/CS carousel is essentially maintenance free. However, a few easy preventive maintenance steps can significantly increase the lifetime of the carousel.

1. Lubricate the sprocket wheel once every 6 months with common industrial grease.
2. Keep the carousel clean! Moving parts, such as the motor sprocket and sprocket wheel can create an additional load on the motor if they are not kept clean. Do not use harsh cleaners or alcohol. Use common household cleaner with warm water.
3. Check sprockets on a regular basis to be sure there are no plastic parts caught.
4. In order to prevent excess stress on the motor, it is important to check to see that the sprocket of the reducer is not binding with the platform sprocket wheel. Check to see that there is a little bit of 'play' between the sprocket and the wheel. If it is too tight, loosen the four bolts holding the gear reducer and slide it down slightly to increase the gap.

WARNING

THIS CAROUSEL IS DESIGNED TO OPERATE IN A REASONABLY CLEAN, DUST-FREE AND MOISTURE-FREE INDUSTRIAL ENVIRONMENT !!! OPERATING THE CAROUSEL IN A WET ENVIRONMENT OR IN THE PRESENCE OF OIL, METAL SHAVINGS, ETC., IS DANGEROUS FOR THE OPERATOR !! THIS MAY CAUSE DAMAGE TO THE CAROUSEL AND VOID THE WARRANTY !! DO NOT STAND ON THE CAROUSEL !

ACCESSORIES

1. Bag Holders

- Standard sizes and configurations are available in 7-10 days.
- Additional sizes and configurations (including trapezoid or triangle shapes) can be special ordered.
- All standard bag holders are designed to fit onto standard mounting hardware.
- Bag holders (for the same diameter carousel) are interchangeable.
- Also available are adjustable carousel supports for extra heavy bags (special order).

AVAILABLE IN 7-10 DAYS

STANDARD RING SIZES AND CONFIGURATIONS

Important! Choose a ring size that is at least 1" less than the diameter of your bag

Carousel Diameter	Ring Diameter					
	5.91" 150mm	7.78" 200mm	9.84" 250mm	11.81" 300mm	13.78" 350mm	15.75" 400mm
31 1/2" 800mm	12 rings	08 rings	06 rings	04 rings	-	-
39 1/4" 1000mm	-	-	08 rings	06 rings	04 rings	04 rings
47 1/4" 1200mm	-	-	-	08 rings	06 rings	04 rings
59" 1500mm	-	-	-	12 rings	08 rings	08 rings

HOW TO CHOOSE THE CORRECT RING SIZE

Determine the diameter of the bag.

1. Lay the bag flat and measure the width of the opening. If there are any folds, be sure to pull them out.
2. Multiply the width of the bag x 2 and then divide by 3.14. This is the diameter of your bag.

Order the ring size that is closest to being at least 1" **less** than the diameter of the bag.

2. Positioning rails

Positioning rails bolt to the carousel platform to provide accurate positioning of boxes on the platform. For available sizes, please call customer service.

3. Box flap supports

Cylindrical, box flap supports, slide over the corners of the box flaps to support them in the open position.



CP-7486-FG

Quantity	Price
16	\$14.75
32	\$29.45
64	\$58.90



SPARE PARTS LIST

Pos.	Description	Order #	Recommended Spare Parts
1	Control Box enclosure	CS 01	
2	Mounting post control box	CS 02	
3	Support base for platform	CS 03	
4	Rotating platform (Ø refer to QC- CS 04 sheet)	CS 04	
5	Gearmotor - (refer to QC-sheet)	CS 05	
6	Motor drive sprocket Ø 150mm Z=23	CS 06	
7	3 prong Receptacle feeding device	CS 07	
8	Motor mounting plate	CS 08	
9	Support post rotating platform	CS 09	
10	Thrust bearing 51110	CS 10	
11	Metal ring Ø 150 mm - p=1.5mm	CS 11	
12	Micro switch	CS 12	
13	Nylon wheel Ø 50 mm	CS 13	
14	Washer Ø 10-30mm	CS 14	
15	Lock washer Ø 10 mm	CS 15	
16	Locking caster Ø 80 mm	CS 16	
17	Hex head screw, TE M6 x 20	CS 17	
18	Screw, B M8 x 15	CS 18	
19	Screw, TC M5 x 30	CS 19	
20	Hex head screw, TE M8 x 35	CS 20	
21	Hex head screw, TE M8 x 15	CS 21	
22	Screw, TC M4 x 12	CS 22	
23	Screw, TC M4 x 20	CS 23	
24	(3) Prong connector	CS 24	
24 A	(2) Prong connector	CS 24 A	
25	Post for bag holder	CS 25	
26	Steel ring bag holder	CS 26	
27	Pin with plastic ball	CS 27	
28	Safety pin	CS 28	
29	Nut, M10	CS 29	
30	Shaft for nylon wheel, Ø 27 mm	CS 30	
31	Steel rim Ø 585 mm Z = 98	CS 31	
32	Hex head screw, TE M10 x 25	CS 32	
33	Washer Ø 10 mm	CS 33	
34	Nut, M6	CS 34	
35	Washer, Ø 6 mm	CS 35	
36	Washer Ø 8 - 55 mm	CS 36	
37	Nut, M8	CS 37	
38	Hex head screw, TE M8 x 60	CS 38	
39	Washer Ø 8 mm	CS 39	
40	Washer Ø 5 mm	CS 40	
41	Nut, M5	CS 41	
42	Visual & acoustic alarm unit	CS 42	

HOW TO ORDER SPARE PARTS

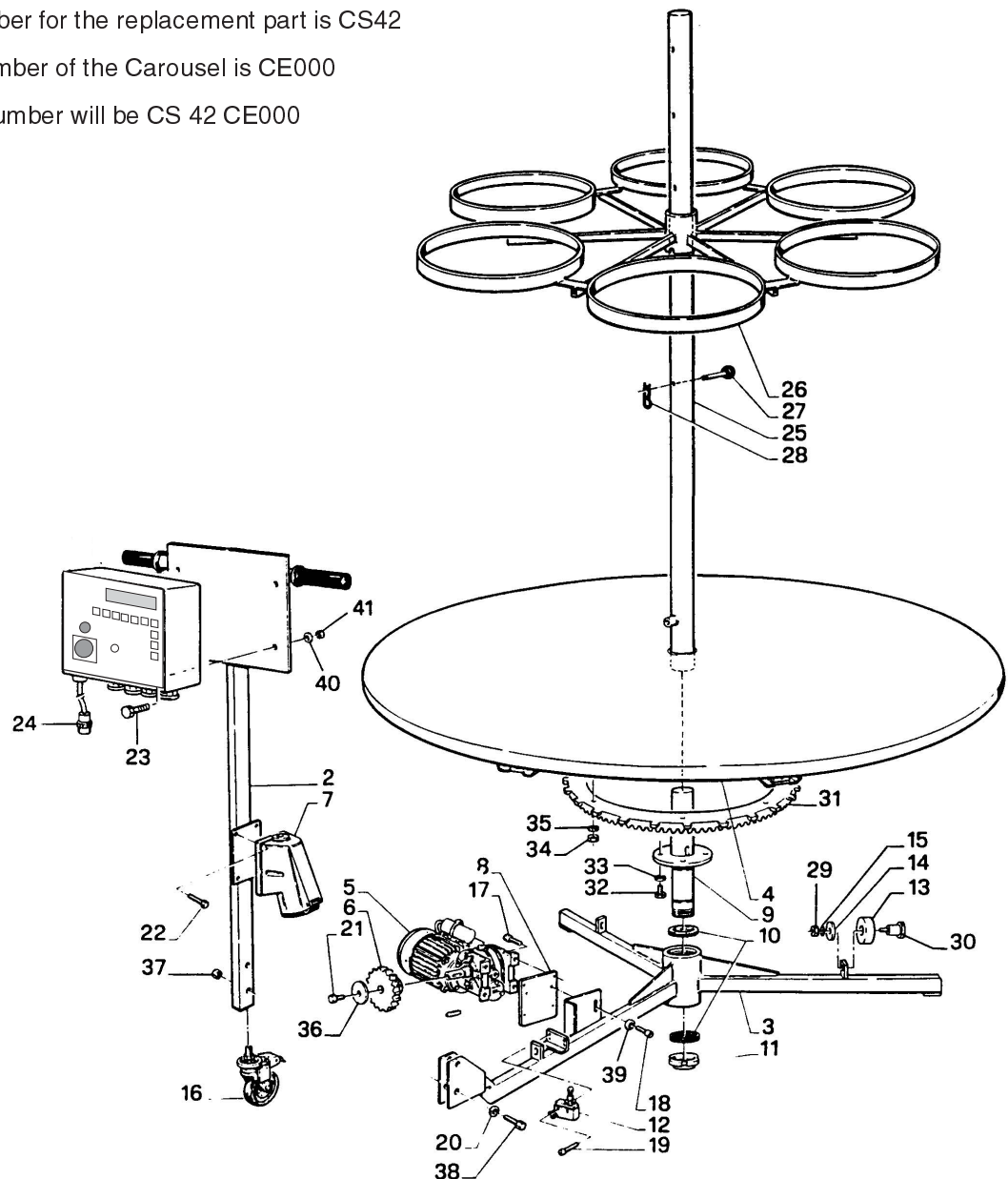
To determine the spare part Order Number for your Carousel

- Identify the part you need from the drawing below.
- Note the part number on the drawing.
- Identify the name of the part and the Order Number from the spare parts list.
- Add the serial number of the Carousel.

Example:

You want to order a visual and acoustic alarm for your Carousel. The serial # of the Carousel is CE000.

- The part number for the replacement part is CS42
- The serial number of the Carousel is CE000
- Your Order Number will be CS 42 CE000



Manual for Box/Bag Filling Carousel

Model CC & CS

Customer: _____

Date: _____

Serial Number: _____

Model: _____



Box Filling Carousel - Model CS



Bag Filling Carousel - Model CC