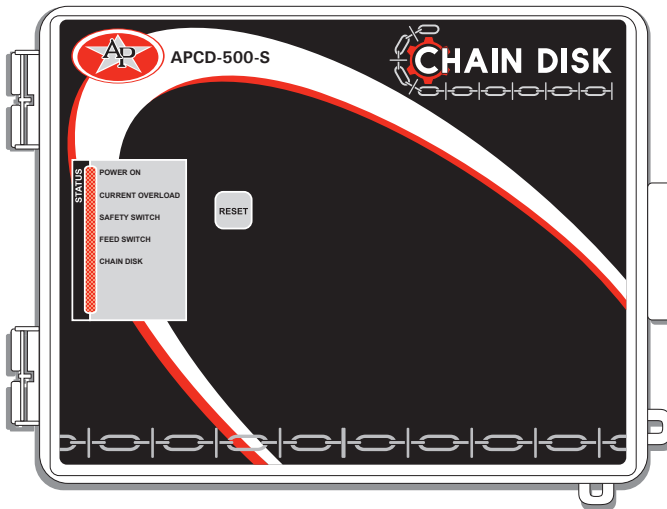


# APCD-500-S

## Chain Disk Auxiliary Module

### User's manual



## Manufacturer

Thevco Electronics  
5200, Armand-Frappier  
St-Hubert (Qc)  
Canada J3Z 1G5

## WARNINGS

The warranty can be void if this product is used in a manner not specified by the manufacturer.

Every effort has been made to ensure that this manual is complete, accurate and up-to-date. The information contained in it is however subject to change without notice due to further developments.

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## 1. INTRODUCTION

### 1.1. Precautions



**WARNING:** Read and save these instructions!

Safety may be jeopardized if the equipment is used in a manner not specified by the manufacturer. Carefully read and keep the following instructions for future reference.

Although fuses at the input and outputs of the controller protect its circuits in case of an overload or over-voltage, we recommend installing an additional protection device on the controller's supply circuit.

The room temperature where the controller is located must always remain between 32°F and 104°F (0°C to 40°C). Indoor use only!

To avoid exposing the controller to harmful gases or excessive humidity, it is preferable to install it in a corridor.

If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Do not spray water on the controller! In order to clean the control, wipe it with a damp cloth.



**Before servicing or cleaning unit, switch power off at service panel and lock the switch disconnecting means to prevent power from being switched accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.**

### 1.2. Symbols of the Manual



**Warning.** Read the following text carefully; it contains important information which, if ignored, may cause the controller to operate improperly.



**High Voltage.** Hazard of electrical shock. Read the message and follow the instructions carefully.



**Pay attention.** The following text contains very useful information.



**Both direct and alternating current (AC/DC).**



**Direct current (DC).**



**Alternating current (AC).**

**For Customer Use:** Enter below the serial number located on the side of the alarm system and keep this information for future reference.

Model: APCD-500-S

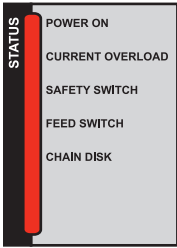
Serial number: \_\_\_\_\_

Date installed: \_\_\_\_\_

## 2. TERMS & SYMBOLS

### 2.1. Status LEDs

The LEDs at the right of the control panel give the status of each output. The following table gives the meaning of each pilot light:



LED	MEANING
POWER ON	The APCD-500-S is correctly powered.
CURRENT OVERLOAD	Flashes when the amperage draw of the drive unit has exceeded the <i>Max Current</i> limit for the <i>Overload Delay</i> .  Fix the problem then press and hold the RESET button to restart the system.
CHAIN DISK SAFETY SWITCH	Turns on when the drive unit has reached its safety switch.  Fix the problem then press and hold the RESET button to restart the system.
FEED SWITCH	Turns on when the proximity sensor detects feed. Flashes during the <i>Feed Bypass Delay</i> .
CHAIN DISK OUTPUT	Turns on when the drive unit is running.

### 2.2. Internal Switches

The internal switches are located inside the box on the bottom board. When the controller is shipped from the factory, all the switches are set to OFF.



Internal switches 1-7 are used to set the ID number of each APCD-500-S unit. Internal switch #8 is used to return to the previous communication method as explained below.

#	OFF	ON
1	Only lift the switch that corresponds to the id# of this slave Chain Disk System.	Id #1
2		Id #2
3		Id #3
4		Id #4
5		Id #5
6		Id #6
7		Id #7
8	Communication terminals are enabled.	Communication terminals are disabled. Do not turn this switch on unless your dealer tells you to do it.



#### Communication Mode

Internal switch #8 allows stepping back to the communication mode that was previously used by the APCD-500 controller (without using COMM terminals). This option is used to ensure the compatibility between APCD-500-S units and older versions of the APCD-500. Do not turn this switch ON unless your dealer tells you to do it.

Note that turning internal switch #8 ON completely changes the way the APCD-500-S works. If you turn it ON, refer to revision 01 of the APCD-295-S manual and to revision 02 of the wiring diagram (contact your dealer).

## 3. INSTALLATION

### 3.1. Mounting Instructions

Open the latch and lift the cover. Remove the black caps located on each of the four mounting holes. Mount the enclosure on the wall using four screws. Be sure the electrical knockouts are at the bottom of the enclosure in order to prevent water from entering the controller. Insert the screws in the mounting holes and tighten. Fasten the four black caps provided with the controller onto the four mounting holes. The enclosure must be mounted in a location that will allow the cover to be completely opened right up against the wall.

### 3.2. Connections

To connect the controller, refer to the wiring diagram enclosed with this user's manual. Use the electrical knockouts provided at the bottom of the enclosure. Do not make additional holes in the enclosure, particularly on the side of the enclosure when using a computer communications module.

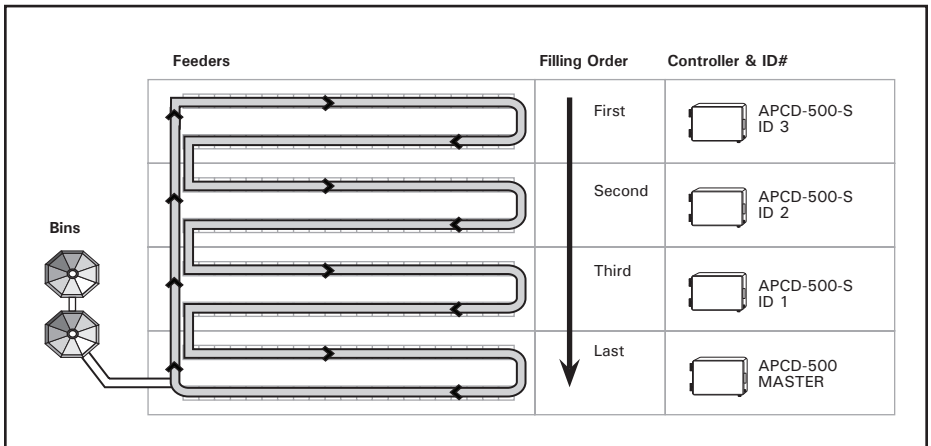


**All wiring must be done by an authorized electrician and must comply with applicable codes, laws and regulations. Make sure power is off before doing any wiring to avoid electrical shocks and equipment damage.**

## 4. OPERATION OF THE CONTROLLER

### 4.1. Description of the Controller

APCD-500-S units allows adding up to 7 feeders to a Chain Disk system that is controlled by an APCD-500 controller. The picture below shows how the system works. Refer to the APCD-500 manual to see how the whole Chain Disk system works.



## 4.2. Operation of the Slave Chain Disk Systems

The feeders connected to APCD-500-S units are controlled by the master APCD-500 controller except if a current overload occurs or if the drive unit's safety switch is reached: when one of these situations occurs, the APCD-500-S stops the drive unit and feed entry (bin auger).

**Reset Button:** This button is only used if your APCD-500S unit operates according to the previous communication method (if internal switch #8 is set to ON). With the new communication mode (internal switch #8 to OFF), this reset must be performed from the master Chain Disk controller (APCD-500 controller).


**Toggle Switch:** A toggle switch can be connected to the main board. This switch allows stopping the drive unit of the APCD-500-S unit and stopping bin augers manually, without sounding the *Chain Disk is Not Running* alarm until the next feed cycle. Refer to the wiring diagram enclosed with this manual to connect the toggle switch.



**The toggle switch DOES NOT cut the power lines to the chain disk motor. Disconnect the breaker For servicing and maintenance.**

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## 5. TECHNICAL SPECIFICATIONS

Type.....	APCD-500-S
Main supply fuse .....	 F1A, fast-blow
Mains supply/frequency .....	230V+10% -20%, 2HP, 50/60Hz
Housing .....	IP54, plastic casing
Operating temperature .....	0 to 40°C
Storage temperature .....	-15 to 50°C
Ambient relative humidity.....	max. 95%
Auger motor.....	max 230 Vac, max 1/2 HP
Internal Contactor.....	230Vac / 2HP max
Nema Code Letter: .....	A to L max
Full-load amps (FLA): .....	13A max
Locked rotor amps (LRA): .....	170A max



**Running a motor with higher ratings could result in potential controller damages and/or fire. If the Nema Code Letter is not available, exclusively use the LRA ratings!**



**The room temperature where the controller is located must always remain between 32 and 104°F (0 and 40°C). For indoor use only!**

