

Comco ESD Control ProCenter Plus™ CTR201-1 & CTR201-2

The ESD Control model of the Comco ProCenter Plus employs features that help reduce the dangers of electro-static charge build-up, sparking, and damage to the work pieces.

HOW IT WORKS:

The ESD Control ProCenter Plus is equipped with an ionizer bar with a series of electrode probes that continuously emits a flow of charged ions into an air stream flowing out from around each of the probes. This flow of highly ionized air floods the ProCenter's work area and quickly neutralizes any surface charges.

To further reduce the build up of electro-static charges the ProCenter Plus includes the following accessories for grounding the nozzle and work piece:

Edge-Connector Grounding Bar

The board edge-connector grounding bar (WS2023) should be used to ground all edge pins on boards that have edge connectors. This device is made of a conductive rubber material and is connected through a 1-megohm resistor to a banana plug, which is to be plugged into one of the grounding receptacles in the ProCenter's Floor. It is recommended that as many connectors as possible on the target board be grounded.

Needle Probe

The needle probe (WS2021) is used to pierce through the conformal coating to ground a target trace when the defect is known to be an open trace with no conductive path to ground. The abrasive blast can quickly charge an open section of trace to voltages high enough to break down the insulation and spark to other traces, or across the defect. The spark currents can be very high and cause damage. The ionized air can neutralize the field by depositing a lot of charge on the outside of the coating, but this still leaves a dangerously charged trace. The needle probe provides a solution in the special case when repairing a batch of boards with this type of known defect. The needle probe also must be plugged into one of the grounding receptacles in the ProCenter's floor with its banana plug.

Grounded Handpiece & Conductive Nozzles

Always use the grounded handpiece assembly (WS2030-3) with a conductive nozzle installed. Some abrasives can build up an electrical static charge in the handpiece. Proper grounding of the nozzle and handpiece will reduce the charge on the abrasives and prevent an electro-static charge from being built up in the nozzle and operator, and arcing to the target work area. Whenever replacing the nozzle, always replace with a conductive nozzle. See the chart below for nozzle selection. The handpiece hose is connected to a bulkhead connector in the right side of the cabinet. The handpiece's ground wire has a banana plug which must be plugged into one of the grounding receptacles in the ProCenter's floor under the bulkhead connector.

High Performance Conductive Nozzle Selection Chart

Part Number	Nozzle Orifice Size (ID)	Color
MB1520-18C	.018"	Violet
MB1520-30C	.030"	Green
MB1520-29C	.046"	Yellow
MB1520-39C	.060"	Red

Grounding Jacks for Operator Wrist Straps

The grounding receptacles in the ProCenter's floor can also be used for wrist straps. If you are using Wrist Straps (not included) they can also be plugged into one of the grounding receptacles located outside of the blast cabinet in either side of the frame.



Set-Up and Operation

The ESD ProCenter Plus is shipped set-up and ready to use. The installation, set-up and use procedures are the same as a standard ProCenter Plus. See the Set-up guide that is included with the ProCenter Plus.

There are two settings to the ESD system which are optimized at the factory and require no additional adjustment.

1. The air flow out of the ionizer electro probe's sockets. This air flow is adjusted with the center regulator in the electronics box on the back of the ProCenter. This air flow is set at the factory using an electrostatic meter charged plate system to measure static neutralization in the work area of the chamber. The air flow requires no further adjustment.
2. The angle of the ionizer bar. The ionizer's angle is set at the factory to flood the normal working area of the blasting cabinet. As with the ionizer's air flow, no further adjustment is required.

GUIDELINES FOR USING THE ESD CONTROL PROCENTER:

1. Only blast when the ProCenter is operating and air is flowing out through the electrode probes.
2. Check to be sure the ionizer is ON and operating correctly. The indicator light in the top of the bar should be green. If the light is red or flashing there is a problem with the system and maintenance is required. (See below)
3. Ground as many of the board's connectors as possible.
4. If possible, use an abrasive that produces low charging.
5. The use of operator grounding devices is highly recommended.
6. Observe good board handling procedures both in and out of the ProCenter.

MAINTENANCE:

Note: Prior to performing any maintenance on the ProCenter Plus, always turn off unit and disconnect it from its electrical power and compressed air sources.

The ionizer bar has a series of indicator lights on its top surface.

ION MONITOR: When the ProCenter Plus is first turned on, the ION MONITOR lights will sequence through a series of red flashes and then the center light will remain on in a steady green state.

ION/ALM COND:

Flashes 1 time per second – Indicates environmental conditions (e.g. the temperature, humidity or metals in or near the Procenter Plus) are unstable and likely to reduce the performance of static elimination. This condition could likely be caused by metal object such as a fixture inside the cabinet which is absorbing the ions. The ionizer will continue to operate but the static elimination will likely be unstable.

Flashes 2 times per second – Indicates the level of ion generation is low due to dirty or worn out electrode probes. Clean or replace probes. (See below) The ionizer will continue to operate but at diminished effectiveness.

Flashes 3 time per second – Indicates internal circuit is damaged or an abnormal electrical discharge occurs. The ionizer will stop emitting ions and needs to be repaired or replaced.

Electrode Probe Maintenance:

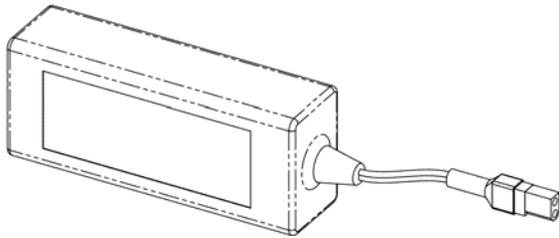
Some abrasives may cause contamination of the electrode probes. They can be cleaned with a soft brush or cotton swab with alcohol, and also by gently blowing off with compressed air. If the probes lose their sharp point, they should be replaced. The probes can be removed for replacement by unscrewing counter clockwise. A package of (4) Electrode Probes is Comco part number ST2472.

ESD CONTROL SYSTEM REPLACEMENT PARTS:

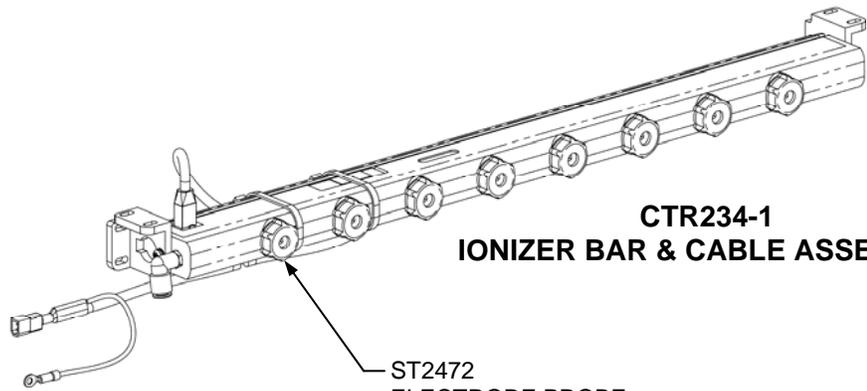
Power Supply 115 -240V P/N CTR235-1

Replacement Electrode Probes (4) P/N ST2472

Ionizer Bar & Cable Assembly P/N CTR234-1

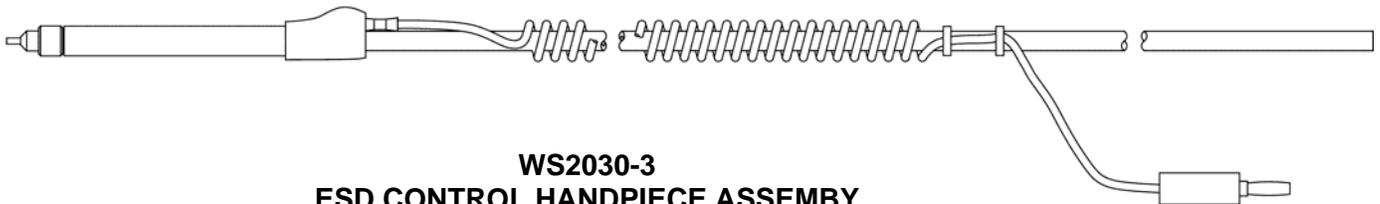


**CTR235-1
POWER SUPPLY**



**CTR234-1
IONIZER BAR & CABLE ASSEMBLY**

ST2472
ELECTRODE PROBE



**WS2030-3
ESD CONTROL HANDPIECE ASSEMBLY
1/4" HOSE**