



# Operating Instructions

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## PowerFlex Battery Charging System



Small and lightweight, the SKC PowerFlex® is an advanced charging system designed for optimal charging of NiCad and NiMH battery packs for most SKC personal air sampling pumps. Batteries for up to four different pump models (excluding EX and ATEX models and models with lithium-ion [Li-Ion] batteries) can be charged simultaneously on the five-station PowerFlex.

Pump-specific cables are used to connect battery packs to the PowerFlex so that only one charger is needed for most SKC personal sample pumps. PowerFlex fully charges battery packs in 6 to 8.5 hours, and then automatically switches to a safe pulse trickle charge. Each attached battery pack runs through an independent cycle. An LED at each port indicates battery charge status. Battery packs can be charged attached to or detached from the pump.

### Performance Profile\*

**Dimensions:** 4.4 x 5.5 x 1.4 in (11.1 x 14 x 3.5 cm)


**Weight:** 1.1 lbs (0.5 kg)

**Charging time<sup>†</sup>:** 6 to 8.5 hrs

**Status LED:** **Steady Red** = Charging  
**Steady Green** = Trickle charge

**Input voltage:** 100-240 V

**Intrinsic safety:** Not intended for use in explosive or hazardous locations

**Approvals:** Power supply is  **UL LISTED** for electrical safety and is CE marked.

\* For U.S.-produced pump models only. Not compatible with Ex or ATEX-approved models.

† Typical charging times vary with model, battery capacity, and level of discharge.

## Operation



### Caution



- PowerFlex line source is UL Listed for electrical safety, but the low-voltage charger unit is not. Do not use PowerFlex in hazardous locations, in rain, or in standing water. For indoor use only.
- **Remove pump-specific cables from the charger when they are not in use to avoid shorting.**
- Do not obstruct the cooling fan vent.

### *Procedure for PowerFlex Activation*

To activate the PowerFlex charger, follow the steps below **in the order indicated**. In particular, note that **the power cord must be plugged into the electrical outlet LAST**.

1. Plug the switching power supply into the power jack on the back of the PowerFlex.
2. Plug the adapter end of the power cord into the jack on the switching power supply.
3. Plug the other end of the power cord into **the electrical outlet** (100-240 V).

Failure to follow this sequence of steps will cause the charger to shut down due to a protective mechanism in the electronics. If this occurs, unplug the power cord from the electrical outlet and from the switching power supply, wait 2 minutes, and then plug the adapter end of the power cord into the jack on the switching power supply and the other end of the power cord into the electrical outlet.



**If any LED lights red or green upon plugging the charger into the wall outlet (no pump[s] attached), discontinue use of the charger and return it to SKC for repair.**

### *Procedure for Charging AirChek 2000 Pumps*

**Attention AirChek 2000 Users:** To prevent battery damage, follow the steps below in the order indicated.

1. Ensure the sample pump is off.
2. Open the protective cover on the pump charging port by turning the cover 90 degrees counter-clockwise.
3. Connect the charging plug end of the charging cable to the charging jack on the AirChek 2000 with the keyed edge facing down. **Caution:** Forcing the plug into the pack with the keyed edge facing up will cause damage to the battery pack.
4. Insert RJ-45 connector on the charging cable into the PowerFlex charging port.
5. Allow up to 60 seconds for the LED indicator to light red. If it does not light, see *Troubleshooting, Step 1*.
6. The battery is fully charged when the LED indicator lights green.
7. Disconnect the RJ-45 connector on the charging cable from the PowerFlex charging port.
8. Disconnect the charging plug end of the cable from the charging jack on the AirChek 2000 battery.
9. Close the protective cover on the pump charging port.



### *Procedure for Charging Other SKC Pump Models*

The following instructions apply to each charging port and sample pump used. Each port operates independently.

1. Ensure the sample pump is off.
2. Select the appropriate pump-specific cable.
3. Insert the RJ-45 connector into a charging port on the PowerFlex. The connector should slide easily into the port.
4. Insert the charging plug end of the cable into the charging jack on the appropriate sample pump.

**AirChek 52 Note:** Plug the charging plug end of the cable into the jack on the **back** of the battery pack.

5. The LED at the port containing the pump will light a steady red to indicate that a charge sequence has been initiated. *Batteries for up to four different pump models can be charged simultaneously on the five-station PowerFlex.*

**!** If the LED does not light red within 60 seconds, see *Troubleshooting, Step 1*.



6. Once the battery pack is fully charged, the LED at the port will change to a steady green to indicate that PowerFlex has switched to a trickle charge to keep the battery at full charge.
7. The battery can be removed at any time after the LED turns green. Detach the battery from the cable and remove the cable from the charger.

**Important Note:** Remove pump-specific cable from charger when not in use to avoid shorting.

**Important Note:** Pumps may remain connected to the charger indefinitely (without causing damage to the pump or charger).

## Troubleshooting

If the LED does not light when a battery pack is plugged into a port or the LED does not turn off after a battery pack is unplugged, follow the steps in the table.

Step	Action	No result, Action	Yes result, Action
1	Keep the unit powered on. If the battery is deeply discharged, the LED may take up to 30 minutes to light or turn off.	Go to Step 2	Proceed with operation
2	Check fan. Is it running? a. Check power to unit and/or b. Move unit to a different wall outlet	Go to step 3	Proceed with operation
3	Move battery to different port	Go to Step 4	Proceed with operation
4	Unplug charger from its power source for 20 seconds. Plug it back into power source.	Go to Step 5	Proceed with operation
5	Replace pump-specific cable	Go to Step 6	Proceed with operation
6	Try a different battery pack	Call SKC	Proceed with operation — previous battery pack may be damaged; call SKC.

### PowerFlex Technology


Charging NiCad/NiMH batteries is generally accomplished by applying constant current to the battery. SKC PowerFlex Chargers use a technology that is new to industrial hygiene equipment batteries. Reflex charging† delivers pulses of current instead of constant current to charge batteries. In between pulses, PowerFlex applies short reverse pulses that discharge the battery slightly and short pauses. This eases the battery into a full and uniform charge. It helps to prevent dramatic increases in internal temperature and pressure that can damage the battery and shorten its life.

† Patented by Galaxy Power, Inc.

**Note:** Discharging the pump battery before charging is not necessary with this system because the charging technology does not promote memory. However, if the user desires to discharge before charging, simply run the pump until it stops, then charge the battery.

PowerFlex Charging System	Cat. No.
<b>PowerFlex 5-station Charger†</b> includes power supply and cord. <i>Purchase pump-specific cables separately; choose from list below</i>	
<b>100-240 V</b>	<b>223-1000</b>
<b>PowerFlex Single Charger†</b> includes power supply. <i>Purchase pump-specific cables separately; choose from list below.</i>	
<b>100-240 V</b>	<b>223-2000</b>

PowerFlex Pump-specific Cables†	Cat. No.
<b>AirChek® 2000</b>	<b>223-1001</b>
<b>Universal XR (5 cell)</b>	<b>223-1002</b>
<b>Universal XR (4 cell, MSHA)</b>	<b>223-1003</b>
<b>AirChek 52</b>	<b>223-1004</b>

Accessory	Cat. No.
<b>Nylon Carry Case</b> , for 5-station PowerFlex, includes padded shoulder strap and compartment for cables	
	
	<b>224-903</b>

† For U.S.-produced pump models only. Not compatible with Ex or ATEX-approved models.

### SKC Limited Warranty and Return Policy

SKC products are subject to the SKC Limited Warranty and Return Policy, which provides SKC's sole liability and the buyer's exclusive remedy. To view the complete SKC Limited Warranty and Return Policy, go to <http://www.skcinc.com/warranty>.

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