

# Universal ECG Leads Off Indication

A leads off condition is characterized by a drop in signal on one or more of the ECG leads. The software notifies the user that a lead is off by 1: placing a red circle with a slash on the affected lead marker (visible on the left-hand side of the screen) and by 2: sounding an alarm (optional).

To determine which lead(s) is down refer to the table below:

If Down	Software will mark the following lead(s):
RL (N)	All Leads
RA (R)	All Leads
LA (L)	All but Lead II (L)
LL (F)	All Leads
V1 (C1)	V1 (C1)
V2 (C2)	V2 (C2)
V3 (C3)	V3 (C3)
V4 (C4)	V4 (C4)
V5 (C5)	V5 (C5)
V6 (C6)	V6 (C6)

We have found that most reports of leads off conditions are a fault of;

**Bad or expired electrodes** (step 1) or

**Improper Patient Prep.** (Step 2)

To determine the cause of the leads off indication perform the following troubleshooting steps:

1. **Inspect the electrode and electrode adapter:**
  - a. Check the expiration date located on the electrode package. Patient electrodes have a conductive gel that breaks down over time and will cause a leads off condition and or artifact in the tracing.
  - b. Replace the electrodes on the patient with a known good package of non-expired electrodes.
  - c. Re-run the ECG test.
2. **Ensure the patient is properly prepared:**
  - a. If necessary, shave the electrode sites.
  - b. Thoroughly clean the areas and allow to dry.
  - c. Prep skin by briskly rubbing with gauze, being careful not to break or damage the skin.
  - d. Apply each electrode, adhesive side down to desired site. Ensure the electrodes are not expired.
  - e. For positive electrode contact, start from outer edge and run your finger around the electrode several times, working toward the center.
  - f. Connect the cables to the patient ensuring correct lead placement.
  - g. If these steps are followed and the leads-off condition remains continue to step 3
3. **Inspect the electrode adapter:**
  - a. Ensure the adapter (“alligator” clip or snap adapter) is not damaged by connecting the adapter to a different lead wire for instance Lead V6 is off but all the other leads appear to have a good connection, swap the electrode adapter from V6 with V5, is the leads off condition moves with the electrode adapter, replace the electrode adapters PN 5000-1917.
4. **Inspect the electrode:** If steps 1-3 do not solve the problem try replacing the electrode and ensuring the the new electrode has sufficient conductive gel and contact to the skin.

## Resting ECG Tab Electrodes

*Product #: Z-5000-1920 (Box of 4000) or Z-5000-1919 (Box of 1000)*

- Gel: Adhesive Gel
- Chloride Content: 4%
- Substrate: Synthetic Paper or Vinyl
- Sensor: Ag/AgCl
- Shape/Size: Rectangle, 1" x 7/8"
- Adhesive Performance: Usable up to 1 hour
- Shelf Life: 2 years, when stored between 10-32°C

## Sure-Lock Snap and Tab Electrode Adapters

*Product #: 5000-1917*

- Universal Adapter fits both snap and tab electrodes: Fits 3 mm to 4 mm pin leads
- Latch Lock System: Securely locks on electrodes, leads won't detach
- Secure Connection: Reduces false alarms
- Re-usable: Adapters can be cleaned/sterilized and re-used

## Wet Gel Monitoring Electrodes

*Product #: V100300*

- Fast-Acting Wet Gel
- Superior Conductivity
- Up to 72 hours of continuous use
- Better Skin Contact
- Competitively Priced
- Recommended for [VectraplexECG System](#) to monitor the patient and for holter monitoring.