

Control Replacement in the Field

Work SMART

WEAR YOUR PPE !

Work Policy

Although regulators are designed to be able to replace a control without removing a regulator from service, some utilities require a regulator to be taken off line prior to performing this work.

Always follow the established procedures at your company. If in doubt, ask your supervisor.

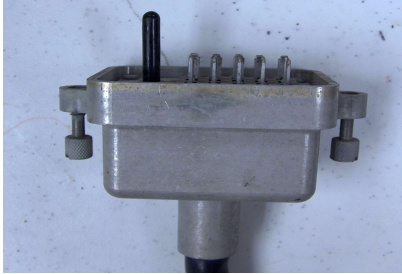
In order to replace a control with regulator in service, the following procedures must be followed:

Short CT Input to control and open voltage source(s).

This procedure will vary with brand and age of regulator

GE ML-32 & VR-1 (analog)

GE ML-32 and early VR-1 (analog control) regulator controls were intended to be replaced cabinet and all. A "shorting pin" is present in the cable to position indicator plug. As the plug is removed, a spring loaded switch in the position indicator jack shorts the CT. In the event this pin breaks during removal, shove the plug back in place, and take the regulator off line.



GE VR-1 (later, with digital control)

These controls have a CT shorting switch and PT cutout switch in the cabinet. The "replaceable" assembly is the swing out control.

The plug to position indicator has no provisions for automatic shorting. CT shorting and PT cutout switches are in the control cabinet.



CAUTION!

The plug housings of both types are identical in outside appearance!

In addition, replacement position indicators on rebuilt ML-32 regulators may be of the VR-1 style.

Provisions for shorting the CT may NOT have been added during the rebuild. If in doubt, take the reg off line before swapping control.

One more GE:

GE VR-1 regulators utilizing the SM-3 control utilize a solid state "clamping" circuit which effectively provides conduction across the CT when control is removed.

Do not trust it if any signs of burning or smoke are present in that area of the control cabinet. Take the reg off line first.

Siemens and Howard

Siemens and Howard regulators utilize a polarized disconnect plug in which a spring loaded contact in the cabinet receptacle. When you remove the plug, the CT shorts and power sources are opened.

Of course, the plugs are NOT identical. Even though they look similar, they are NOT interchangeable.

Eaton (Cooper)

Cooper (Eaton) controls utilize PT cutout and CT shorting switches.

Metering style knife switches are in older units and small terminal block mounted switches are in the newer.

IF AT ANY TIME YOU CAN NOT DETERMINE THE METHOD OF SHORTING THE CT AND OPENING POWER SOURCE TO CONTROL, OR ARE UNABLE TO DO SO, YOU MUST TAKE THE REGULATOR OFF LINE BEFORE CHANGING OUT CONTROL!

Finally,

Once you have the control swapped out, place it in MANUAL mode prior to energizing.

Once energized, you can now program in the operational values, and do an operational check in both manual and automatic modes.

Be sure to tag the old control "BAD" and write down observed operational defect on the tag.

And...don't forget to close and latch the cabinet!
