1. **MASTERCRAFT/MOELLER SENDER OUTPUTS**
Mastercraft fuel and water senders have used 5 different outputs since the 1990s. So when replacing a sender, it’s not enough that the replacement sender be the same length. It needs to have the same output too. The Empty/Full output range is on the label following the “12v” spec: eg 0/5v in the example below. But simplest is to use the original part number (square brackets in the photo) for the replacement. That is A001805 in the example below.

An approximate table of years versus outputs is:

**Before 2000:** E240/F33 ohms for VDO or Teleflex needle gauge. 2-wire sender.

**2000-2001:** “CPMDC01” (see note below)

**2002-2007:** “CPMDC” (see note below), though some water senders were E0/F5 volts

**2008-2013:** Royce-brand senders were used. Unlike for ours, the heads don’t look like hockey pucks. I believe these were all E0/F5 volt, though it’s possible they were actually E0.5/F5 volts.

**2014-present:** E0/F5 volts

Note: “MDC” refers to the Medallion/BorgWarner’s “Marine Data Concentrator” motorized gauges. The CP prefix mean “with special Centroid Products (CP) output that wont work for any other gauge”. And doubly unfortunately, that special output was different from 2000-2001 than for 2002-2007. When CPMDC senders are ordered in quantity, we send CPMDC rather than CPMDC01, but we can reprogram a CPMDC to a CPMDC01. Or if ordered individually, we ask for the year of the boat.

2. **MASTERCRAFT VERSUS MOELLER PART NUMBERS**
Moeller builds tanks for Mastercraft and orders senders by Moeller part numbers. So for original equipment, the part numbers on the labels will be Moeller numbers, with typical format 395xxx or A00xxxx. Replacements will have the Mastercraft part number on the label, with typical prefix 125xxx. I’ve not found anyone at Mastercraft of Moeller with a conversion list between the part numbers. If Mastercraft is uncertain what to send you, we’ll most likely be able to determine a Mastercraft part number for you based on the Moeller by checking our invoices. **If it doesn’t have the same output range on the label, it’s not the right replacement.**

3. **ETHANOL AND FUEL SENDERS BEFORE 2014**
Our senders measure capacitance. Inconveniently, the capacitance of E10 (10% ethanol) is twice that of E0. If you always use E10, than can be corrected for senders before 2014 by a Full adjustment. Senders from 2014 on correct automatically at fillips by what we call Full Detection. If you always use E10, a Full adjustment would likely be acceptable as a solution, the FD is the less restrictive solution. Any replacement for a part number these days will have FD.

4. **TECH SUPPORT**
We’re a small company and do tech support by email only ([help@centroidproducts.com](mailto:help@centroidproducts.com)). You’ll get an answer from an engineer the same business day. There are several known symptoms that don’t actually involve the sender, so it can be worthwhile to get some troubleshooting advice.