



**Connection Diagram of Iotron™ pH, ORP and Ion Selective (ISE) Sensors WITH Preamplifiers  
to 3TX-pH-X pH/ORP Transmitters and 3TX-ISE-X Ion Selective Transmitters**

ASTI Cable Color Coding	Instrument Terminal Value	3TX-pH/ISE Terminal Number
Green	+5V Power (Green)	1
White	pH/ISE Sensor <i>mV Signal</i>	2
Black	-5V Power (Black)	3
Yellow	TC (Yellow)	4
Blue & Red	TC (Blue) & Common–Ground–Reference (Red)	5

**Note 1:** The 3TX-pH transmitter can be used for either pH or ORP measurement and wiring connections are the same for both pH and ORP sensors (only the Parameter No. 03 needs to be changed/toggled to select between the two input types). For ORP sensors select mV as the input type in P03.

**Note 2:** For 3TX-ISE the ion measurement type (ammonium, fluoride, nitrate, calcium..etc) must be defined at time of purchase and cannot be changed after receipt of transmitter (see label on 3TX-ISE for which ion measurement type is supported for that given unit).

**Note 3:** Depending upon the TC ordered it may be necessary to change the parameter 04 from Pt1000 (default) to Pt100 (selectable). The wiring is identical whether Pt100/Pt1000 are used.

**Note 4:** Mating pH/ORP/ISE sensor must have the appropriate type of preamplifier integrated inside the sensor or using an external preamplifier in a waterproof J-Box to interface with the 3TX-pH-X or 3TX-ISE-X transmitter. These 3TX-pH-X & 3TX-ISE-X are different hardware from the 3TX-pH and 3TX-ISE transmitter that can directly interface pH/ORP/ISE sensors WITHOUT preamplifiers. The software and functionality is identical for both types of 3TX transmitter; the only difference is whether the sensor to interface must or must not have a preamplifier. The maximum recommended cable length for sensors with preamplifiers is 300 feet (in conduit).