Instruction Sheet
PN 51A-RB
June 2012/rev.B

Threaded In-Line, Submerged or Ball-valve Insertion pH Sensor

For additional information, please refer to enclosed DVD or visit our website at *www.emersonprocess.com/raihome/liquid/*.

MODEL RB 546
submersion/In-line pH Sensor

MODEL RB 547
Ball Valve Insertion pH Sensor

SPECIFICATIONS

Sensor Type: Poison Resistant pH

Measured Range: pH: 0-14

Maximum Temperature: 266°F/130°C at 40 psig/276 KPa

Maximum Pressure: 150 psig/1035 KPa at 158°F/70°C

Maximum Insertion/Retraction Pressure:
(option 546) 65 psig/448 KPa at 158°F/70°C
(option 547) 40 psig/276 KPa at 266°F/130°C

⚠ CAUTION

SENSOR/PROCESS APPLICATION COMPATIBILITY

The wetted sensor materials may not be compatible with process composition and operating conditions. Application compatibility is entirely the responsibility of the user.

⚠WARNING

Before removing the sensor, be absolutely certain that the process pressure is reduced to 0 psig and the process temperature is lowered to a safe level!

⚠ CAUTION

The solution used during calibration is an acid and should be handled with care. Follow the directions of the acid manufacturer. Wear the proper protective equipment. Do not let the solution come in contact with skin or clothing. If contact with skin is made, immediately rinse with clean water.

ATEX DIRECTIVE

Special Conditions for safe use

1. All pH/ORP sensors have a plastic enclosure which must only be cleaned with a damp cloth to avoid the danger due to a build up of an electrostatic charge.
2. All pH/ORP sensor Models are intended to be in contact with the process fluid and may not meet the 500V r.m.s. a.c. test to earth. This must be taken into consideration at installation.

ROSEMOUNT™ Analytical

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STORAGE AND MAINTENANCE

Model RB pH sensors require little care or maintenance. Simple guidelines follow:

During storage, sensors should be kept near room temperature and remain capped on the measuring end. These caps supplied from the factory are filled with a weak pH 7 buffer in order to keep the sensor wet. Sensors in storage should be checked semi-annually to assure that the cap retains moisture, if the pH 7 buffer evaporates, it may be replaced with ordinary tap water.

Cleaning of the pH sensor is easy. The reference usually does not require maintenance. Should a coating form over the exposed portion of the reference, it can usually be scraped off with a small penknife. Care must be taken not to break the glass when scraping the reference.

Glass pH electrodes can be cleaned in a number of ways. Scaling, oils, and other stubborn coatings can usually be removed by soaking the reference in 3-10% HNC solution for a few minutes and then rinsing under tap water. Very heavy coatings may require more than one soaking. Simple cleaning of minor coatings can often be accomplished by directing a stream of clean tap water directly onto the glass. Wiping the glass with a clean, soft cloth may be sufficient with new sensors. Care must be taken with this approach as the glass may break when mishandled.

Oils or greases that can accumulate on the glass bulb may not be visible to the eye. To remove these, stir the sensor in a solvent such as isopropyl alcohol. Heavy build-up may require a number of alcohol cycles followed by wiping with a soft cloth. A dish soap may also be used.

Sensor cables should be run through conduit or be protected from the environment, they are not weatherproof. Do not allow cables and connectors to become wet, lay on the ground or across equipment, etc. Cables should not be abraded, pinched, twisted or sharply bent.

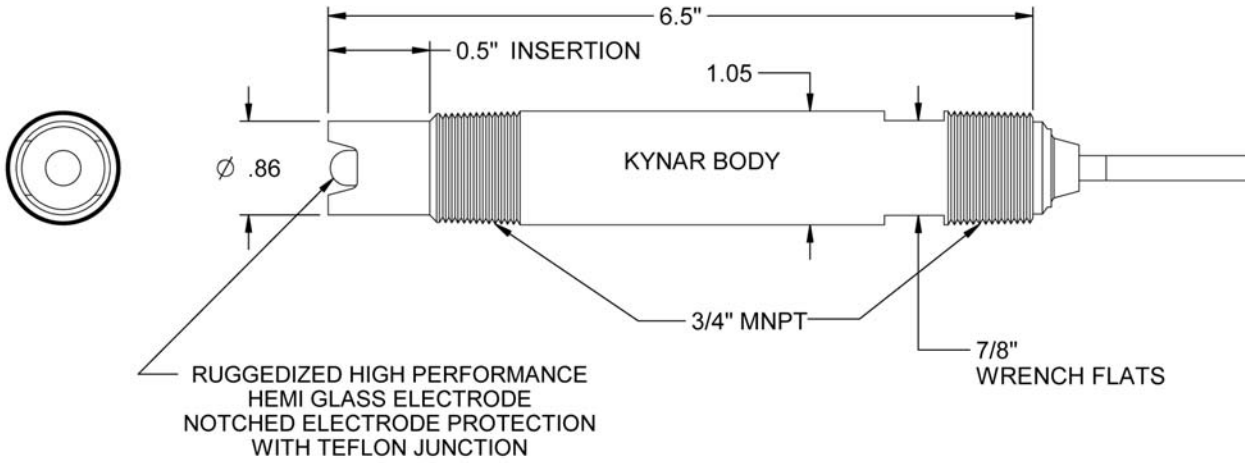

FIGURE 1. Sensor Dimensions, Submersion/In-Line

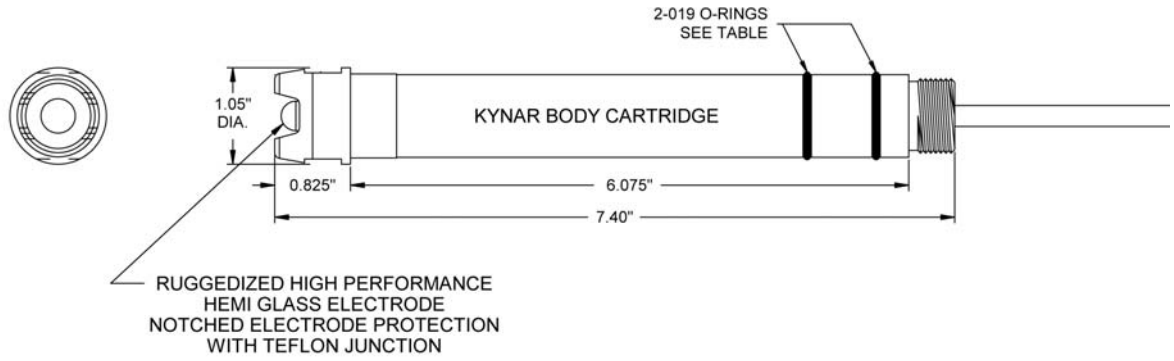

FIGURE 2. Sensor Dimensions, Ball Valve Insertion

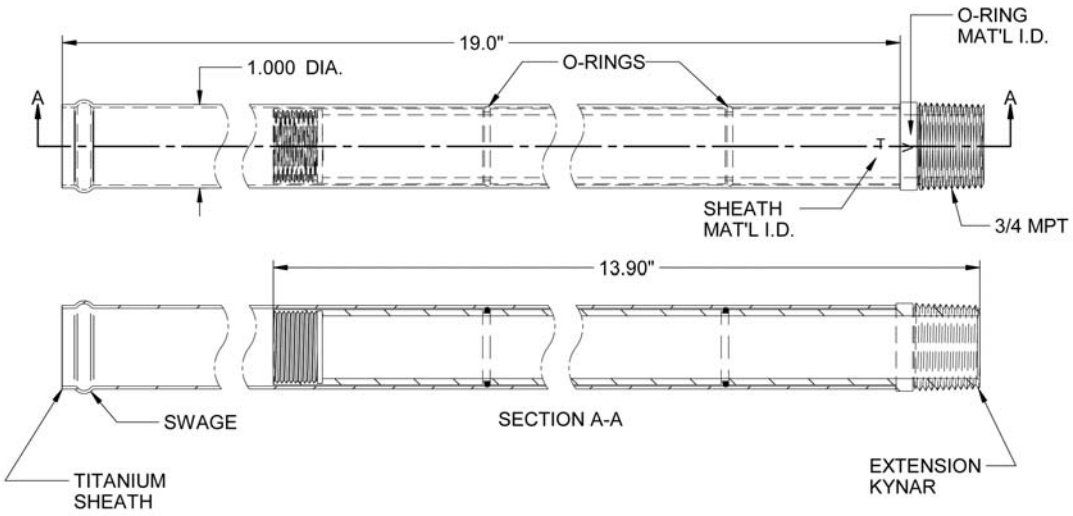

FIGURE 3. Sensor Dimensions, Ball Valve Insertion

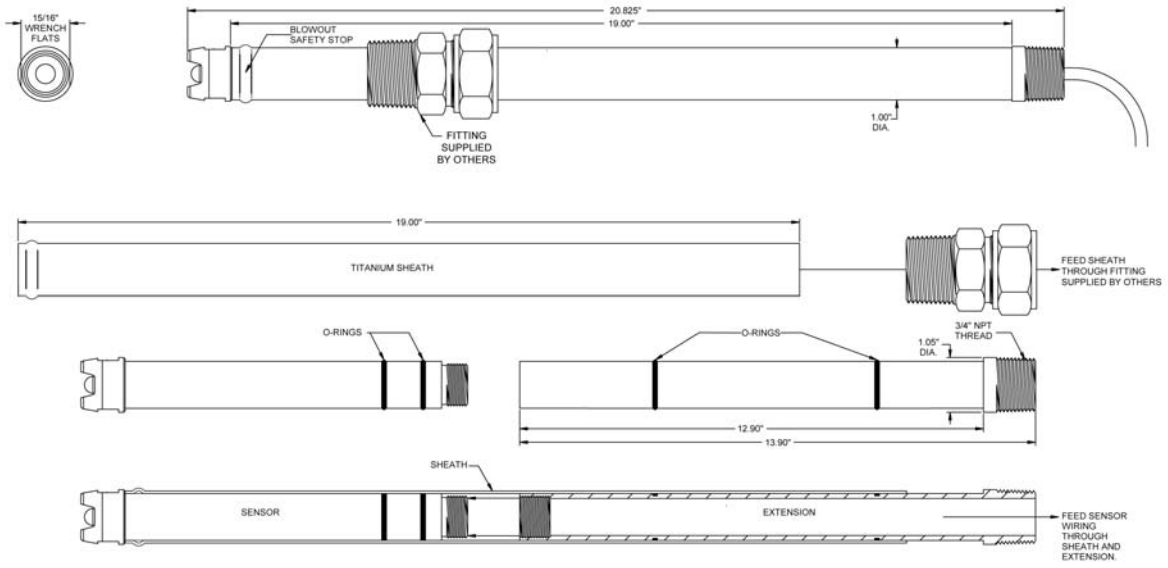

FIGURE 4. Sensor Dimensions, Ball Valve Insertion

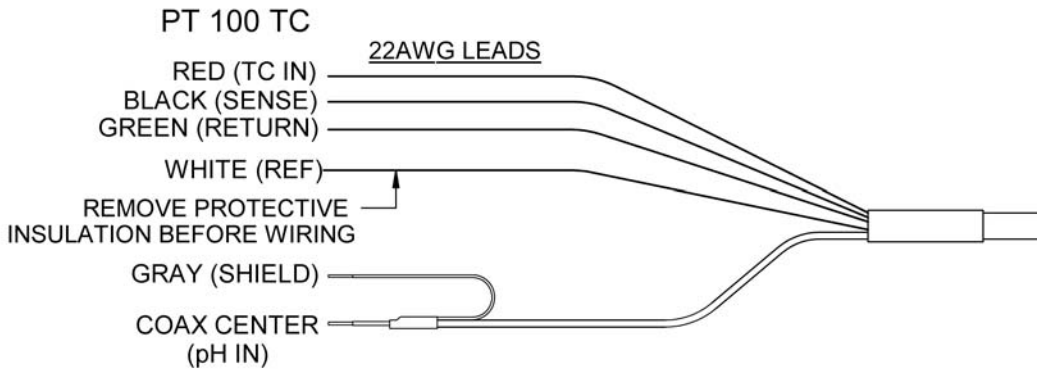

FIGURE 5. Wiring

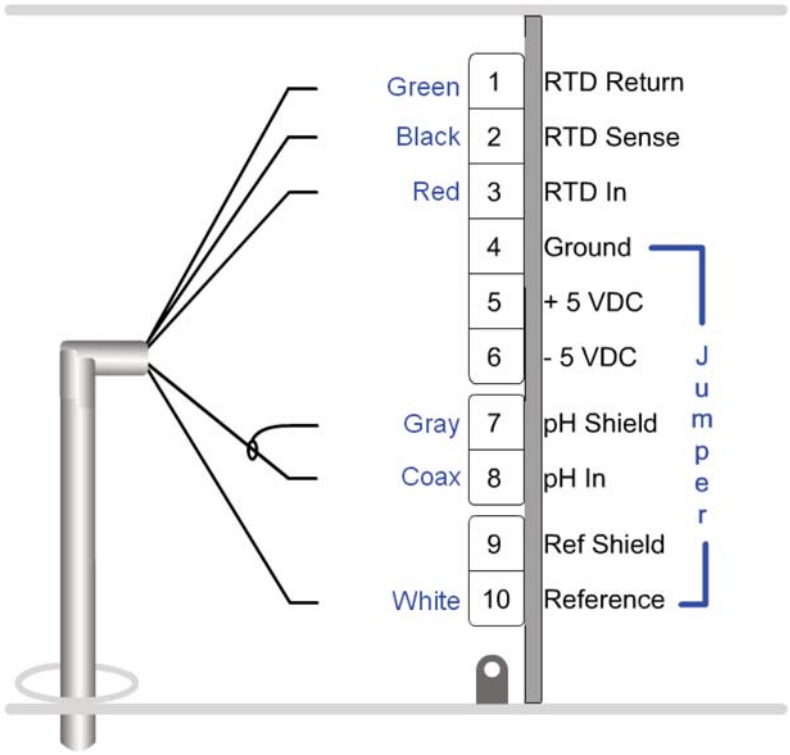

FIGURE 6. Wiring Models 56,1056, 1057, and 1066

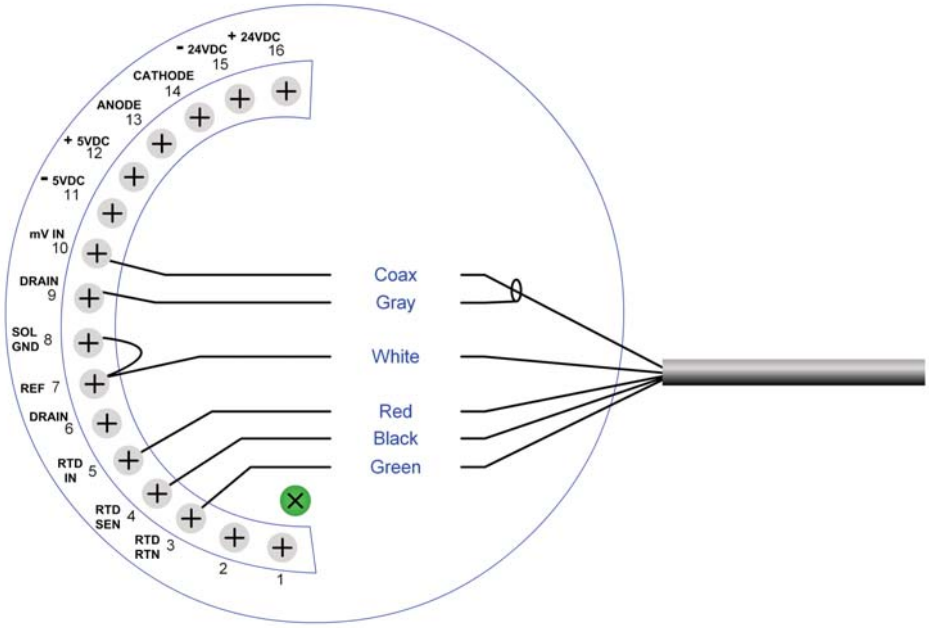

FIGURE 7. Wiring, Model 5081

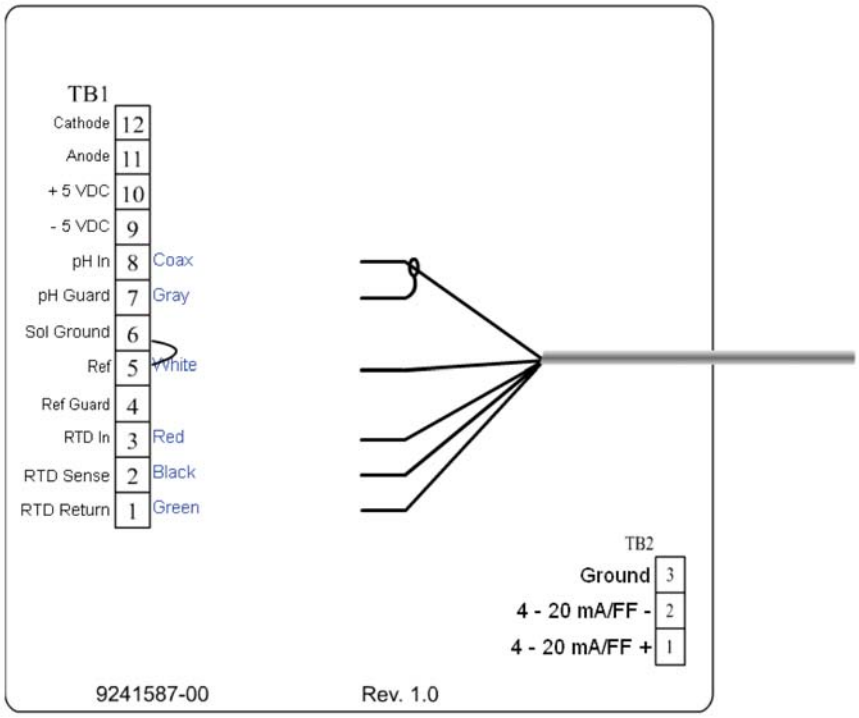

FIGURE8. Wiring, Model XMT

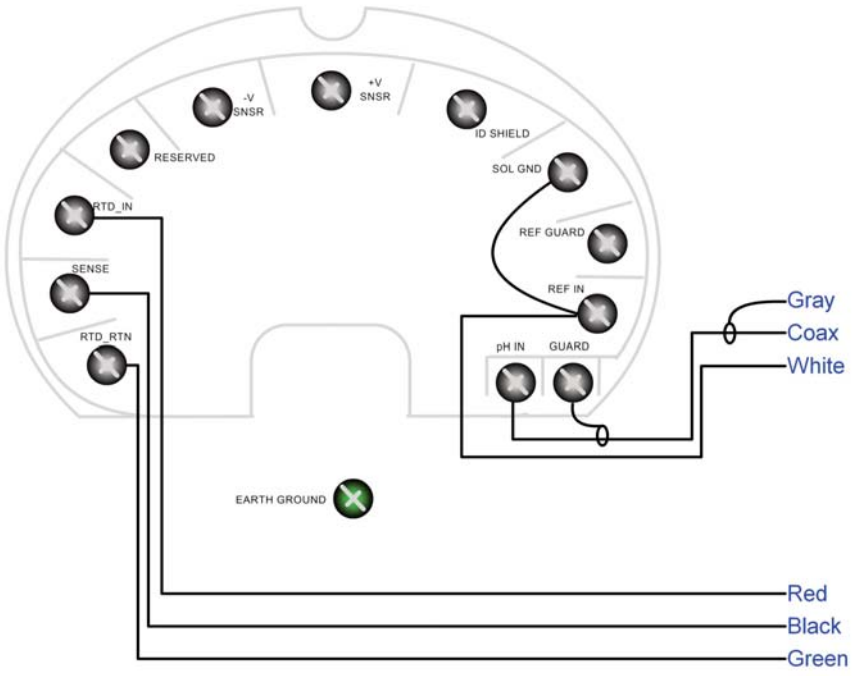

FIGURE 9. Wiring, Model 6081

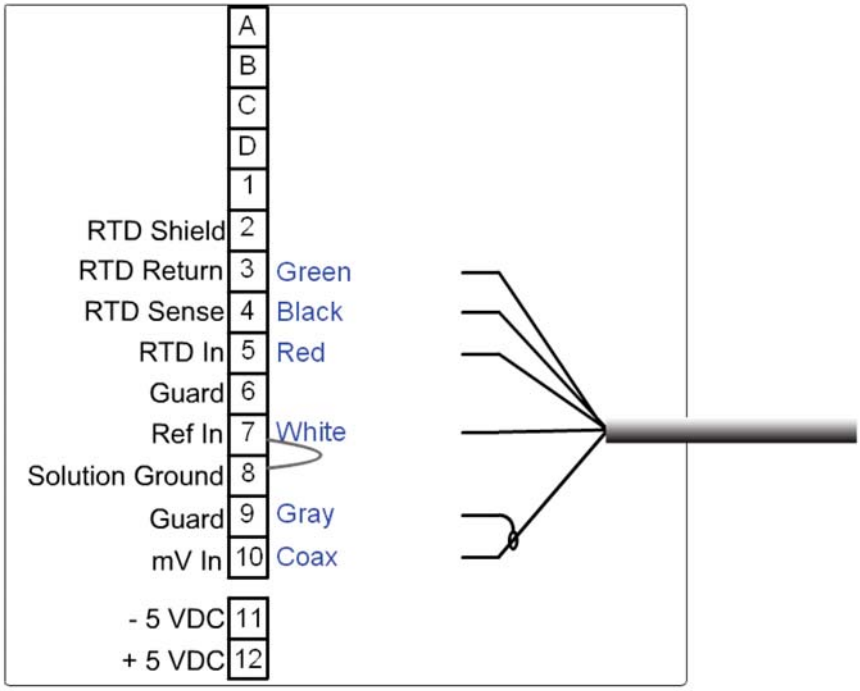

FIGURE 10. Wiring, Model 54e

MODEL RB PH SENSOR – ORDERING INFORMATION

Model RB	pH Sensor
LEVEL 1	**O-RING MATERIAL**
V	Viton
E	EPDM
K	Kalrez
LEVEL 2	**BODY**
546	¾" MNPT Inline & Submersion
547	Replacement cartridge valve insertion (tube ordered separately)
LEVEL 3	**MEASURING ELECTRODE**
R	J Glass high performance
LEVEL 4	**TIP CONFIGURATION**
DT	Dual notch teflon junction with solution ground
LEVEL 5	**TEMPERATURE COMPENSATION**
C	PT100 RTD
LEVEL 6	**BODY OPTIONS**
S	Standard body 546 & replacement 547 options
LEVEL 7	**INSERTION DEPTH**
0.5	0.5" for option 546 only
N	None, standard configuration for option 547 only
LEVEL 8	**CABLE CONFIGURATION**
15E	15' cable with reference on separate wire
30E	30' cable with reference on separate wire
LEVEL 9	**LEAD TERMINATIONS**
TT	All tinned leads

ACCESSORIES

Other Accessories	
PART NUMBER	**DESCRIPTION**
RB5104-0120V	20" Titanium Kynar Viton retractable insertion tube
RB5104-0120E	20" Titanium Kynar EPDM retractable insertion tube

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