

5.1 LogR Sensor Package

ProMinent® LogR Sensor Package

DESCRIPTION AND USE

General corrosion is the evenly distributed thinning of an immersed metal due to the electrochemical reaction between the metal and the process stream. The rate of general corrosion is measured in mils per year, mpy. Weight loss coupons are commonly used to measure general corrosion. The coupon is weighed, immersed for 30, 60 or 90 days, removed, cleaned & re-weighed. The loss of weight & immersion period are converted to a corrosion rate. It's an inexpensive method but it does not measure corrosion rate in real time so it's difficult to identify process conditions, which increase or decrease corrosion.

Linear Polarization Resistance (LPR measures general corrosion rate in real time updated every 2.5 minutes. The method includes conversion approximations which result is a measured that will not be the same as the coupon rate but that will track the coupon rate. LPR is used to measure changes in corrosion rate as process corrosivity varies and as process chemistry is controlled.

LPR METHOD

LPR uses two standardized cylindrical metal coupons, nominally 0.1875" D x 1.25" L of the same metallurgy, typically both steel, copper, admiralty, copper-nickel or zinc.

The coupons are polarized to several mV and the resulting current measured. The polarity is reversed & the current re-measured. The corrosion rate is calculated using the measured currents, the polarization voltage corrected for process resistivity and constants based on the coupon metallurgy.

PITTING INDICATOR

The current measured when the coupon tips are connected together is displayed as a pitting index in mpy. Although LPR cannot measure the actual pitting rate, the pitting index is used as a measure of pitting severity.

ProMinent® LogR offers exchangeable sensor tips with on-board selectable metallurgy (carbon steel, copper & 443 admiralty), data logging with USB compatible down-loading & 4-20mA reporting & alarm contacts.



Part No.

WE TYPICALLY STOCK ONE UNIT WHICH IS OUR P/N:

7760788

This is the LogR monitor, sensor, and tee.

The sensor has two 'tips' on the end, and both tips are the same metallurgy.

The tips on the sensor included with above P/N: 7760788 are Carbon Steel ('CS').

The sensor-tips are replaceable, and inter-changeable as pairs.

Note: This means you must have same metallurgy for both tips on the sensor. They are regarded as consumables.

Sensor-tips are stocked separately:

Part No.

1x pair (i.e. 2 individual tips) of Copper Tips ('Cu')

7760241

1x pair of Carbon Steel Tips ('CS')

7760240

1x pair of Admiralty Tips ('AM')

7760238

Spare - Threaded PVC insertion sleeve

7760445

Spare - "O" Ring for threaded sleeve

7760557

Spare - PVC tee 3/4" NPT - from PAAS [code 805007]

Spare - LogR Sensor [sensor only without tips]

7760792

