

ABSTRACT

One of the characteristics of the sensor is a wide range of produce linear curve between the actual physical parameter values with parameter physically measurable. On the measurements often found obstacles, one of which is the limitations of the measuring instrument for measurements, because the sensor is used with narrow or can't measure the wider range. This research has been conducted on the improvement of the range of magnetic field sensors have a narrow range through smart calibration with interpolation equations. Where the result of the interpolation equations sensor has narrow range are then in transformation to the reference sensor has a wider range. So the new equation yields the equation in the form of interpolation. These equations are processed and programmed using the software, after which the program smart calibration were implanted to mikrokontroller. Based on the transformation of the curve of the sensor has narrow range with a wide range retrieved results measurement wider range approaching with a relative average error of 1,6 %.

Keywords : Range, Smart Calibration, Interpolation