

SD20p-1Vpp/TTL Quick Start Guide

1. Pneumatic circuit and communication cable connection

Perform the measurement system installation according to the diagram below:



Connect the filters and air regulator assembly to the compressed air network (40~110psi, 3~10Bar) and the SD20-p1Vpp / TTL conditioner. The air supply should be free of lubrication and have low humidity and impurities. Clear the particulate filter (5 µm) and the coalescing filter (0.05 µm) whenever necessary. The instrumentation pressure regulator output is factory set and should **NOT** be changed by the user.

Connect the communication cable to the Gage-chek or compatible equipment. Connect the air gage (air plug, air ring, snap gage or another compatible device) to the SD20p-1Vpp/TTL module.

For details refers to the SD20p manual available at www.metrolog/sd20p

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2. Configuration and system calibration

The SD20-p1Vpp/TTL generates approximately 1 sinusoidal cycle to 0.0005mm variation detected by the air gage. Note, however, this sensibility is a direct function of the air gage geometry and may vary according to the air tool construction. Thus, it is **essential** to calibrate the readout (GageChek, ND 287 or other compatible equipment) with, at least, **2 calibration masters**.

The basic configuration and calibration process can be summarized in:

1. Setup the readout input channel to 1Vpp quadrature sinusoidal signal, typically with signal period of $2\mu\text{m}$ or less;
2. Zero reference the displayed reading using the minimum calibration master;
3. Note the dimensional difference generated by the SD20p-1Vpp/TTL when the maximum calibration master is inserted into the air gage;
4. Calculate the air gage sensitivity, dividing the observed readings difference by the masters dimensional difference;
5. Apply the calculated gage sensibility (gain factor) to the active readout channel, thus yielding a calibrated reading.

3. Measurement

After finishing the calibration process, the system is ready for use. Other settings of the inspected product (tolerance limits, mathematical formulas or control charts) should be setup as required by the application.

It is recommended to perform zero referencing periodically (using one of reference masters), especially in environments without thermal control, to compensate for measurement offset caused by thermal expansion/contraction of the measurement components.



See manual, chapter 3, for details about the setup and calibration process.