

MICRO MOTION, INC., Petitioner

v.

INVENSYS SYSTEMS, INC., Patent Owner

IPR2014-00390 - Patent No. 6,754,594

IPR2014-00392 - Patent No. 8,000,906

IPR2014-00393 - Patent No. 7,571,062

INVENSYS' DEMONSTRATIVE EXHIBITS

for

Oral Hearing on March 12, 2015

Invensys Systems, Inc. Exhibit 2029

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'062 Patent: claim 1/Romano

- Only challenge to claim 1 is anticipation by Romano
- Romano does not anticipate claim 1
 - Romano only applies a phase shift to the right *sensor* channel for measurement purposes
 - Romano's *sensor* channel phase shift does not "propagate through" to the drive signal
 - Romano's *sensor* channel phase shift only compensates for delay of a single component
- Petitioner's new arguments were improperly raised in the Reply and are wrong

'062 Patent: claim 1/Romano

1. A digital flowmeter comprising:
 - a vibratable conduit;
 - a driver connected to the conduit and operable to impart motion to the conduit;
 - a sensor connected to the conduit and operable to sense the motion of the conduit; and
 - a control and measurement system connected between the driver and the sensor, wherein the control and measurement system is configured to:
 - receive a sensor signal from the sensor,
 - generate a drive signal based on the sensor signal using digital signal processing,
 - supply the drive signal to the driver, and
 - generate a measurement of a property of material flowing through the conduit based on the signal from the sensor;
 - use digital processing to adjust a phase of the drive signal to compensate for a time delay associated with components connected between the sensor and the driver.

'062 Patent: claim 1/Romano

The only phase shift identified in the Petition and Dr. Sidman's original declaration is the $2\pi/128$ radian phase shift applied to the right *sensor* signals:

utilizes a "128" point look-up table of sine values. Now, to compensate for this phase shift between the sampled velocity signals, each of the "64" samples for every tube cycle produced by the left velocity sensor is multiplied by a corresponding sine term, while, as discussed below, each of the "64" samples produced by the right channel is multiplied by a corresponding sine term that includes a phase shift of $2P/128$ radians.

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