Measurement of Relative Turns and Displacement in Subsea Running Tools

Abstract of the Disclosure

A running tool generates signals in response to setting of a subsea wellhead device that correspond to actual rotation and displacement of the running tool in the subsea wellhead. The running tool includes an encoder that generates a signal corresponding to the number of rotations of a stem of the running tool relative to a body of the running tool. The running tool also includes an axial displacement sensor that generates a signal corresponding to the axial displacement of a piston of the running tool relative to the body. The signals are communicated to the surface using an acoustic transmitter located on the running tool and an acoustic receptor located proximate to a drilling platform at the surface. The signals are communicated to an operator interface device from the receptor for further communication in a manner understood by an operator.

Figure 1