

The Advantages of a Level Transmitter with Remote Electronics

INTRODUCTION

Process conditions and installation requirements are factors in level measurement that show no mercy. Having the right tools for the right job is essential. But when is a level transmitter with remote electronics the right tool?

BACKGROUND

The market is experiencing a shift from low-tech devices to high-tech devices for level measurement. Municipalities and businesses are pulling problematic floats and differential pressure transmitters out of service and installing newer technology with advanced level management options. Among these high-tech devices are Guided Wave Radar (GWR) level transmitters. These highly accurate devices provide versatility on a lot of fronts. While the focus of this document is remote electronics and not Guided Wave Radar itself, GWR level transmitters are at the core of the discussion because it is GWR technology to which we are adding remote electronics. A full explanation of GWR technology can be found in our white paper entitled, Ultrasonic Transmitters vs. Guided Wave Radar for Level Measurement.

CHALLENGE

Traditional level transmitter designs are built with the electronics fixed directly to the sensor. This design has advantages in that the device is one piece. This simple design requires minimal mounting effort since only one physical item needs to be mounted. However, there are challenges associated with this design. Mounting in areas that are susceptible to flooding and/or extreme temperatures can be problematic and result in costly equipment replacement. Additionally in certain cases, the clearance above a tank does not provide adequate room to mount a transmitter. It can be frustrating to find the right technology for an application, but not have a good way to install that technology because of inadequate space. Furthermore, certain construction projects require transmitters to be installed during a specific phase of the build. Especially in situations where the transmitter will no longer be easily accessible, configuration of the transmitter may be required onsite before the project can move forward. It may be difficult or even impossible to correctly configure the transmitter prior to the completion of construction.

SOLUTION

Remote electronics technology is an advanced feature of Guided Wave Radar level transmitters. In a remote electronics configuration, the electronics are mounted in a separate location from the level sensor. This is useful for a variety of applications and provides an answer to the challenges listed above.

DAMAGE PROTECTION

Water and heat tend to be the enemies of functional electronics. Remote electronics create a straightforward way to separate these incompatible items. Enclosures that protect against water and/or heat are a viable option when using traditional level transmitter configurations; however, one bad cable gland or seal can quickly result in costly equipment replacement. Process applications that experience vibration and highly radioactive areas can also benefit from the protection of remote electronics. Remote electronics takes protection a step further by using a fully submersible and durable sensor while removing electronics from the hazardous environment all together. Complete isolation is a very effective fail-safe.

“Mounting in areas that are susceptible to flooding and/or extreme temperatures can be problematic and result in costly equipment replacement.”



MOUNTING FLEXIBILITY

Remote electronics are useful in process applications where space is a critical factor and therefore the compact system design provides a benefit. Typically the electronics extend upwards from the sensor. If a typical installation is restricted due to an obstruction, remote electronics can be used to reduce the space needed in the area of the sensor installation.

INACCESSIBLE SENSOR

Beyond space requirements alone, construction contains build phases where meters are installed. In some cases, certain areas of a construction project are no longer accessible after that phase of construction is complete. In many applications, from nuclear to the double hull of a boat, a limited window of time exists when the transmitter can be installed. Remote electronics allows the sensor to be installed and the wires run out of the immediate area. At a later time, the remote electronics can be mounted, wired, and configured.

BENEFITS

Overall, remote electronics provide flexibility and protection for process applications that are a challenge to a traditionally configured level transmitter. Remote electronics are not the answer to every level need; however, when the application calls for mounting flexibility and electronics protection, a level transmitter with remote electronics is the right tool for the job.

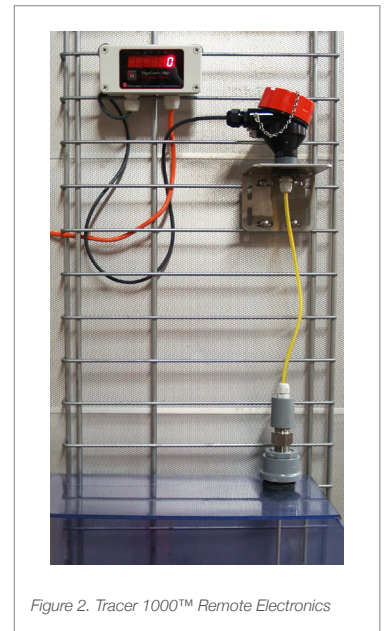


Figure 2. Tracer 1000™ Remote Electronics

“Remote electronics provide flexibility and protection for process applications that are a challenge to a traditionally configured level transmitter.”

ABOUT FLO-CORP

FLO-CORP (Flow Line Options Corp.) is committed to providing properly selected and configured flow, level, and display products with a focus on innovation and customer service. In 1988, FLO-CORP was incorporated in the State of Ohio and started as a small distribution company. In the last five years, FLO-CORP has moved past distribution and into manufacturing our own line of products. Through manufacturing, we have gained more control over origin of product, quality, and lead times. Furthermore, FLO-CORP now has creative control in the development of new products. We can focus on adding the functionality and features that will best serve our customers. FLO-CORP's management of quality, lead times, and innovation come together allowing us to provide more product value to our customers. We remain committed to personal customer interaction, where help can still be found without hearing an automated phone system. The FLO-CORP family is dedicated to working hard for our customers by using over three decades of combined experience in flow, level, and display.

For more information on FLO-CORP's

Tracer 1000/2000™ Guided Wave Radar with Remote Electronics, please contact:

FLO-CORP

9009 S. Freeway Dr. #4
Macedonia, OH 44056 USA
Phone: (877) 356-5463
Fax: (330) 468-0185

The content of this publication are presented for informational purposes only, and while effort has been made to ensure their accuracy, they are not to be construed as warranties or guarantees, expressed or implied, regarding the products or services described herein or their use or applicability. All sales are governed by our terms and conditions, which are available on request. We reserve the right to modify or improve the designs or specifications of our products at any time without notice.