Oilfield Exploration above the Polar Circle

FieldConnex® Ensures Communication Even at Extreme Temperatures

At a Glance

- FieldConnex® ensures communication in arctic temperatures
- Selected FieldConnex® FieldBarriers and Segment Protectors are certified for use down to –53 °C
- Remote access enables plant monitoring and management from a control room

The Application

R. Trebs and A. Titov fields are among the largest onshore oil fields in Russia with around 1.1 billion barrels of estimated oil reserves. The fields span 2,151 square kilometers, and the total production capacity is estimated at 140.06 million metric tons. Located in the northeastern part of the Netes Autonomous Okrug in Russia, oilfield exploration here is particularly challenging due to the extreme arctic temperatures.

The Goal

Trebs and Titov needed digital infrastructure that could ensure reliable communication between all automation components throughout its upstream oilfield exploration process. Since temperatures rarely rise above freezing in this part of Russia—even in the summer—automation technology used here needs to be able to withstand extremely cold temperatures.

The Solution

To offer the perfect solution, Pepperl+Fuchs Russia obtained a customer-specific low-temperature certification for FieldConnex® FieldBarriers and Segment Protectors. In order to achieve the certification, the housings, screws, stopping plugs, and breather drains were made of metal, and the housings were sealed with silicone instead of neoprene. While standard labels are only sufficient for –40 °C, the engraved stainless steel nameplates that are screwed or riveted to these FieldConnex® devices can withstand outdoor conditions down to –53 °C.

The Benefits

The FieldConnex® portfolio resists harsh environments and works in extreme temperatures down to –53 °C. Further, simple installation is a valuable feature—especially in harsh environments. Consequently, there is little need for complex and costly testing.

Remote access to the devices enables access to diagnostic and configuration data, along with measurement data and device status. Thus, the operator can retrieve and change settings remotely without leaving the safety and warmth of the control room. What's more, remote access enables predictive maintenance, which keeps trips to the field to an absolute minimum.

For more information, visit: **pepperl-fuchs.com/fieldconnex**