

PRESS RELEASE

FOR IMMEDIATE RELEASE

Date: April 14, 2014

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Release #: 1105

Yokogawa Corporation of America Releases Oil Transloading Application for Truck/Railcar Unloading/Loading Metering - targeting the booming upstream oil & gas industries –

Yokogawa Corporation of America announces that it will release a panel packaged solution for metering truck/railcar unloading and loading based on the FCN-RTU* low-power autonomous controller of the STARDOM™ network-based control system on April 14, 2014. This new packaged solution has been developed to meet the requirements of our customers in the high-growth upstream oil & gas industries and complies with API MPMS 11.1, 11.4, 20.1, and ERCB Directive 17 guidelines.

*RTU: remote terminal unit

Development Background

With the rapid advance in oil and gas well drilling over the past few years, pipelines have not kept pace with new drilling sites. Many wells rely on truck and railcar transport to get the oil to refineries and distribution centers. With this increase in demand, customers reported that they were having the following issues with supplied components for their transloading and custody transfer solutions:

- Unreliable (PC-based) HMI
- High failure rate of motor/valve contactor

- Long delivery times of 8 - 12+ weeks
- Difficult to support vendor supplied components
- Unreliable water cut
- Salinity out of range of calculation
- Unreliable net oil readings due to entrained gas
- Too high power consumption for remotely located panels requiring solar power
- Too narrow range of density to meet new crude oil well needs

Yokogawa Corporation of America carefully examined the customers' needs and designed a low-power, reliable solution that meets industry needs.

Yokogawa's approach packages a 4 σ reliability net oil computer with a standard panel containing all the components needed to bring in flow, temperature, pressure, valve, and permissive IO to create a net oil metering solution for trucks, tanks, and railcars. This reduces the delivery time to 6 weeks or better and delivers a pre-configured package where parameter can be easily re-configured instead of requiring full engineering and programming at the site.

Product Features

1. Fully pre-packaged, pre-configured net oil computer solution

- Pre-configured for four different types of coriolis and water cut meters
- Configurable for up to four different salinity / brine density calculation methods
- Supports 1 year of data logging for each transaction
- Supports e-tickets/logs and paper printed tickets

2. Improved operating ranges

- Temperatures¹ ranging from -20°C to +70°C. These enhanced components are thus well suited for use in the very cold or hot weather conditions that can be encountered at oil and gas drilling sites
- 0% to 16%+ salinity
- Supports stand-alone and networked database and logging solution
- Low power consumption by net oil computer (as low as 1.6W²)
- Covers full range of fluids governed within the API MPMS 11.1 standard:

¹ Controller operating temperature range is -40°C to 70°C, ROTAMASS is -200°C to 230°C., HMI touchscreen is -20°C to 70°C. The optional water cut meter may further limit the operating temperature.

² Controller power consumption with typical truck loading applications is approximately 2.0W depending on configuration.

- Crude oil and refined products
(610.6 to 1163.5 kg/m³ @60°F) OR (611.16 to 1163.79 kg/m³ @15°C)
- Lubricating oil
(800.9 to 1163.5 kg/m³ @60°F) OR (801.25 to 1163.85 @15°C)

3. Liquid* and gas flow meter net oil corrections accurate to within 1%³

STARDOM supports both liquid and gas calculations that are compliant with API MPMS standards

* Liquid net oil calculation is currently available in North America only.

Major Target Markets

- Widely distributed facilities such as those used in oil and gas well and water and wastewater applications
- Oil wells, tank batteries, custody transfer stations, transloading transfer skids, on trucks, at railcar loading and distribution centers
- Water disposal wells and treatment centers

For more information on Yokogawa's new metering truck/railcar loading and unloading solution, please visit the [product page](#) located on our website.

About STARDOM

STARDOM is an open network control system consisting of components with control, operation, and monitoring functionality, and is highly acclaimed for combining the reliability of a DCS and the versatility and economy of a PLC. The autonomous controllers at the core of STARDOM have the same control and monitoring functions found in a PLC as well as the information distribution functions of a PC. They are widely used as intelligent remote terminal units (RTU) in distributed applications such as natural gas and oil wells. When used in combination, the FCN/FCJ autonomous controllers and FAST/TOOLS SCADA software give increased flexibility in distributed applications as well as the ability to buffer and backfill data during communication outages.

³ ROTAMASS density measurement accuracy is up to +/- 0.0005 g/cm³, gas +/- 0.5% of reading, liquid +/-0.1% of reading (see General specification 01R4B04-00E-E for more details). The water cut meter accuracy is 0.01%. The stated solution accuracy is the target accuracy for this application. Third party laboratory accuracy testing is ongoing.

About Yokogawa Corporation of America

Yokogawa Corporation of America (<http://yokogawa.com/us>) is a leading provider of Industrial Automation and Test and Measurement solutions. Combining superior technology with engineering, system integration, project management, and maintenance services, Yokogawa delivers field-proven operational efficiency, safety, and reliability. Yokogawa Corporation of America is headquartered in Sugar Land, TX, and is the North American Division of Yokogawa Electric Corporation's global network of 25 manufacturing facilities and 4 regional project engineering centers.

About Yokogawa

Yokogawa's global network of 88 companies spans over a total of 55 countries. Founded in 1915, the US\$4 billion company conducts cutting-edge research and innovation. Yokogawa is engaged in industrial automation and control (IA), test and measurement, and other business segments. The IA segment plays a vital role in a wide range of industries including oil, chemicals, natural gas, power, iron and steel, pulp and paper, pharmaceuticals, and food. For more information about Yokogawa, please visit our website www.yokogawa.com.