Field Guide



Introduction

There are a variety of pressure applications that are located in remote areas. This remoteness adds a new layer of issues in the operation of pressure transmitters....

- Does the remote location have power supply limitations?
- How does the limited power supply effect the performance of the pressure transmitters?
- How does the remoteness effect the maintenance of the pressure transmitters?

To sum it up: The challenge for remote pressure applications is to get the measured value to a controller / monitor in a *timely* manner, *accurately*, and *reliably*; using as little power as possible while being easily maintained.

The Yokogawa EJA-E series with Low Power communication has met this challenge.

Low Power Consumption

Remote areas may get power from solar power, wind power, batteries, or any of a dozen new technology power recovery systems available. These sources are good; but, are limited in the amount of power supplied. A standard smart transmitter that outputs a 4 to 20 mA analog signal with a digital protocol overlay are relative power hogs on these limited power sources (as much as 480 mW), Pure digital protocols are just as power hungry (as much as 360 mW).

Several manufacturers solved the power consumption problem (including Yokogawa) by introducing a 1 to 5 VDC analog signal overlaid with HART digital protocol. Just like the traditional 4 to 20 mA analog signal, the 1 to 5 VDC analog corresponds to 0% to 100% of the pressure being measured. The HART digital protocol has the same functionality as the HART digital protocol overlaid on the 4 to 20 mA units.

This system greatly reduced the power consumption of the smart transmitters; but, Yokogawa believed we could design a smart transmitter that reduces power consumption even more.

Leveraging our unique all digital DPharp pressure sensor, Yokogawa designed a patent-pending switching circuit that allows the transmitter to maintain a constant very-low power consumption.

The best way to illustrate Yokogawa's low power consumption is to compare it to our competition.

Figure 2 compares the power consumption of Yokogawa verses our competition with two different power supply voltages.

Some competitor's consume as much as 84 mW.

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Enhance Operations

Figure 1: Typical low power pressure application, a solar powered well stack. This configuration includes a solar panel, batteries, controller, well head stack, and three low power EJA530E pressure transmitters.







Figure 2: Comparison of power consumption. Yokogawa verses competitor.







As shown in the graphs, Yokogawa's low power transmitters maintain a constant 27 mW power consumption.



EJA-E Series

Power Supply 9 to 28 VDC

Power Consumption 0.96mA to 3 mA, 27 mW

Can be used in a three or four wire system.

Your remote site will consume less power....

Performance

The Yokogawa low power pressure transmitter has the superior performance that Yokogawa transmitters are known for. As noted earlier, the transmitter uses the total digital DPharp pressure sensor giving the unit benefits of high accuracy, excellent stability, and large measurement range.

Accuracy: ±0.055% of Span Stability: ±0.1% of URL per 7 years Max measurement: 10,150 psig

Your remote site will run better

Refer to the product General Specification available on our website for all the performance specifications.

Maintenance

Remote locations can make maintenance challenging. What is needed is a transmitter that does not require maintenance often and, if it does, it is easy to maintain.

The performance of the DPharp sensor used in the EJA-E series increases the intervals between calibration checks—decreasing the number of visits to the remote location to check the transmitter.



Figure 3: Comparison of calibration intervals of Yokogawa pressure transmitters verses the competition.

But if maintenance is needed, Yokogawa has several communications options available—making maintenance easier.

FieldMate Windows 8 based communication platform allows management of your entire inventory of instruments. Loaded onto a laptop or tablet, this FieldMate gives you a powerful portable communication tool.

Or use FieldMate Hand-Held Communicator (HHC); it is FieldMate in a more usual hand held field design.

But, what if you forget your tablet or your HHC? No problem, the low power EJA-E series transmitters feature *Local Parameter Setting* that allow 10 different parameters to be updated without the use of the FieldMate tablet or FieldMate HHC.







Field Mate

andheld Communicator

Local Parameter Setting

Figure 4: Yokogawa has three different communication platforms available to make maintenance of the EJA-E series easy.

Your remote site will be easier to maintain....

Conclusion

Yokogawa's Low Power EJA-E series gets the measured value to a controller / monitor in a *timely* manner, *accurately*, and *reliably*; using as little power as possible while being easily maintained.

Your remote site will run better.... Your remote site will consume less power.... Your remote site will be easier to maintain....





www.yokogawa.com/us

Output Signal	1 to 5 VDC with HART 7
Supply Power	9 to 28 VDC
Power Consumption	27 mW (0.96 mA to 3 mA)
Wiring	Three or Four Wire
Output Load	1 M Ω or greater
Reference Accuracy	± 0.055% of Span
Stability	± 0.1% of URL per 7 years
Meaasurements Range	Up to 10,150 psi (Direct-mount Type)

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