

Tubeless tyres performance testing

Region: South Asia (India)
Industry: Chemical (Tyre manufacturing)
Products: EJX530B (Wireless Pressure Transmitter)
 YFGW510 (Field Wireless Access Point)
 YFGW410 (Field Wireless Management Station)
 DX1000 (Paperless Recorder)



Introduction:

Pressure measurement of tubeless tyres to monitor the air loss is one of the key performance tests in the tyre manufacturing units.

Relocation of tyres from one testing rack to the other for various tests and frequent movement of the testing setup for conditional tests to various locations calls for cable free implementation for ease of handling.

Benefits:

- NO signal cables, NO power cables, NO problem of cable damage – **Less maintenance**
- Continuous online measurement of pressure and automated data logging– **Enhanced Performance**
- Low power consumption devices with proven battery life of over 1.7 years for pressure transmitters; powered by non-proprietary batteries – **Reduced OPEX**
- High accurate sensors for measurement with Wireless capabilities enables cable free operation – **Operational flexibility**

Requirements:

Generally offline gauges are used for the pressure measurement during the testing procedure to have a setup which can be relocated for different conditional tests. Since the accuracy of measurements with offline gauges were not satisfactory, wired transmitters were used with sufficient cabling to cover the entire testing area. The measured data during the testing process was manually logged and records maintained to track.

Cable free operation for operational flexibility with movable test set up, accurate measurements to monitor air loss and to record at a centralized location is the key challenge in maintaining the quality and performance of the manufactured tyres.

Solution:

Yokogawa's unique digital sensing technology DPharp synonymous for high precision sensing and industry proven IEC62734 ISA100.11a wireless protocol for reliable wireless communication provides a unique combination to ensure end to end wireless digital sensing.

Wireless pressure transmitters help in easy movement of the test set up to various locations for conditional tests without cumbersome cabling involved. Wireless transmitters being battery powered further enhances the freedom of movement with no requirement of wires for powering.

Output from the management station with access point, which is gateway infrastructure is connected to Yokogawa's paperless recorder enabling automated centralized data logging and recording facility.

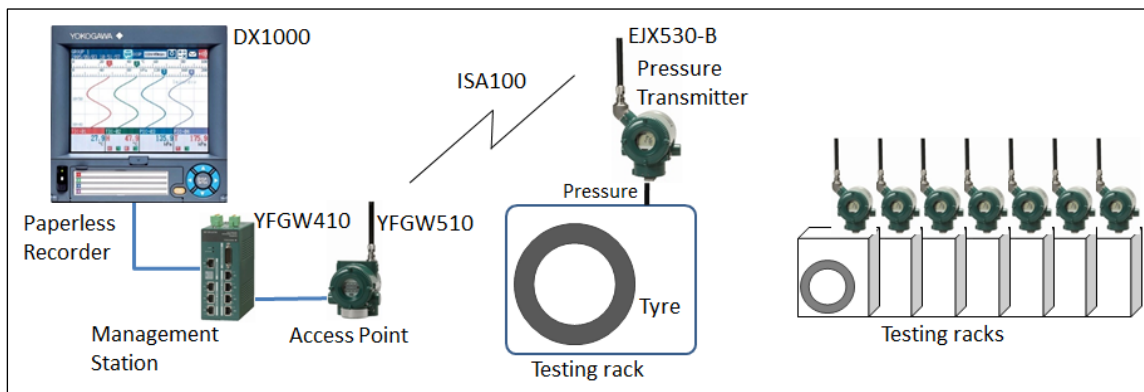
- Reliable: Continuous signal availability.
- Accurate: Dependable digital sensors for measurement.
- Ease of use: Free to move test set up.

Equipment List:

EJX530B	x8	DX1000	x1
YFGW510	x1	YFGW410	x1

Conclusion:

- Yokogawa's wireless pressure transmitters enabled cable free operation with accurate measurements overcoming the key challenges of application requirements.
- Paperless recorders with Modbus input facilitates data recording feature. This ensures automated continuous data logging without human intervention.
- ISA100 scalable gateway infrastructure enables future expansion of the network with simply adding wireless transmitters up to 500 units.



Representative image only

Yokogawa has a proven track record of delivering reliable, scalable and open technologies for a century. ISA100 wireless solutions address the specific challenges of the industrial automation industry while lowering cost of ownership for our end users and maximizing their return on investment.

