

Test equipment – Data integrity - Digital Solutions

April 2025

1. Data integrity

- Data integrity is necessary for a high-quality inspection, ensuring the accuracy of the data and eliminating errors.
- To guarantee data integrity, values measured by the test equipment have to be sent automatically to the data base without possibility to be modified.
- In many countries is a mandatory requirement to comply with ISO 17020:2012 or due to National Regulations. For instance, is a requirement by ENAC (Spanish National Entity of Accreditation) according Technical Note 66



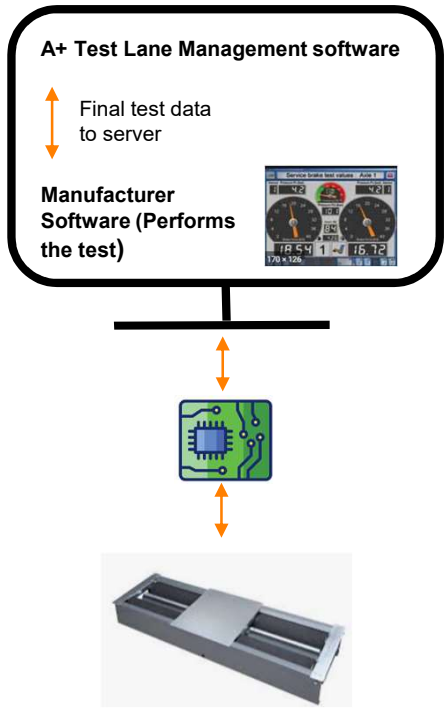
1. Data integrity

- Automated equipment with automatic data sending is mandatory in most of the countries where Applus+ operates.
- Examples of countries where Applus+ operates and automated data sending is mandatory are:
  - In Spain, to comply with ISO 17020:2012
  - In India, according National Regulations.
  - In Saudi Arabia, test lane is managed by a software supplied by the Government and automated data sending is also mandatory.
  - In Ireland, is also mandatory to send data automatically.
  - In LATAM, is mandatory in all the countries (Argentina, Chile, Ecuador and Uruguay).
- For this reason, Applus+ has developed several solutions to comply with this requirement, taking into account that in the different inspection centers can exist analogic or digital equipment.

2. Software protocol – Data exchange

Solution 1: Files exchange protocol

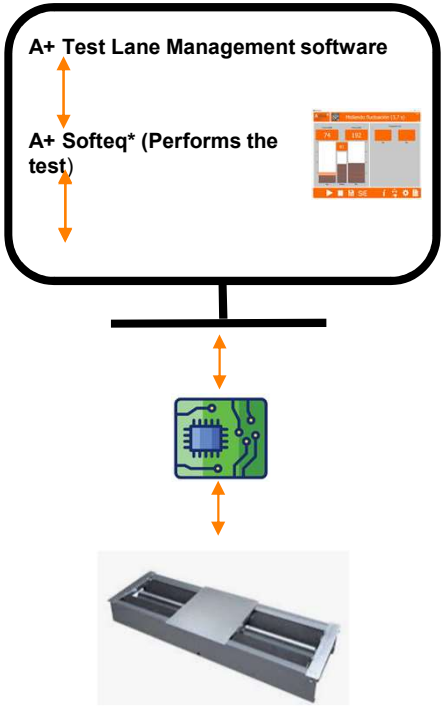
- Applus+ software sends data to start the test to Manufacturer software.
- All the procedure is managed by the manufacturer's software.
- After the test, manufacturer's software sends all the results to Applus+ using a files exchange protocol.
- Applus+ has a protocol translator software, able to connect with almost all the manufacturers brands and protocols (GIEG, ES-IN/ES-OUT, MCTC…)

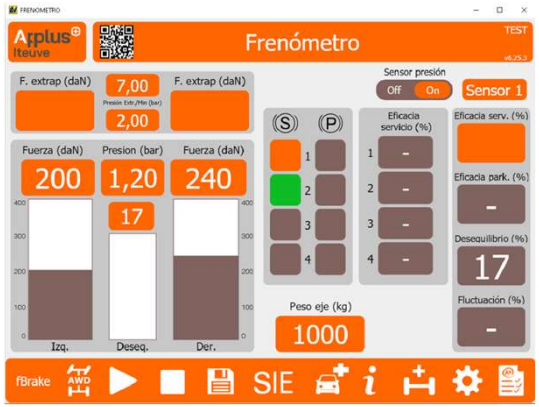


2. Software protocol – Continuous data sending

Solution 2: Receive measured data during the test

- During all the test, manufacturer software sends all measured data to Applus+ Software through a TCP/IP protocol.
- Manufacturer software is background.
- Complete procedure and data are managed by Applus+.
- Same procedure and screens independently of the manufacturer.



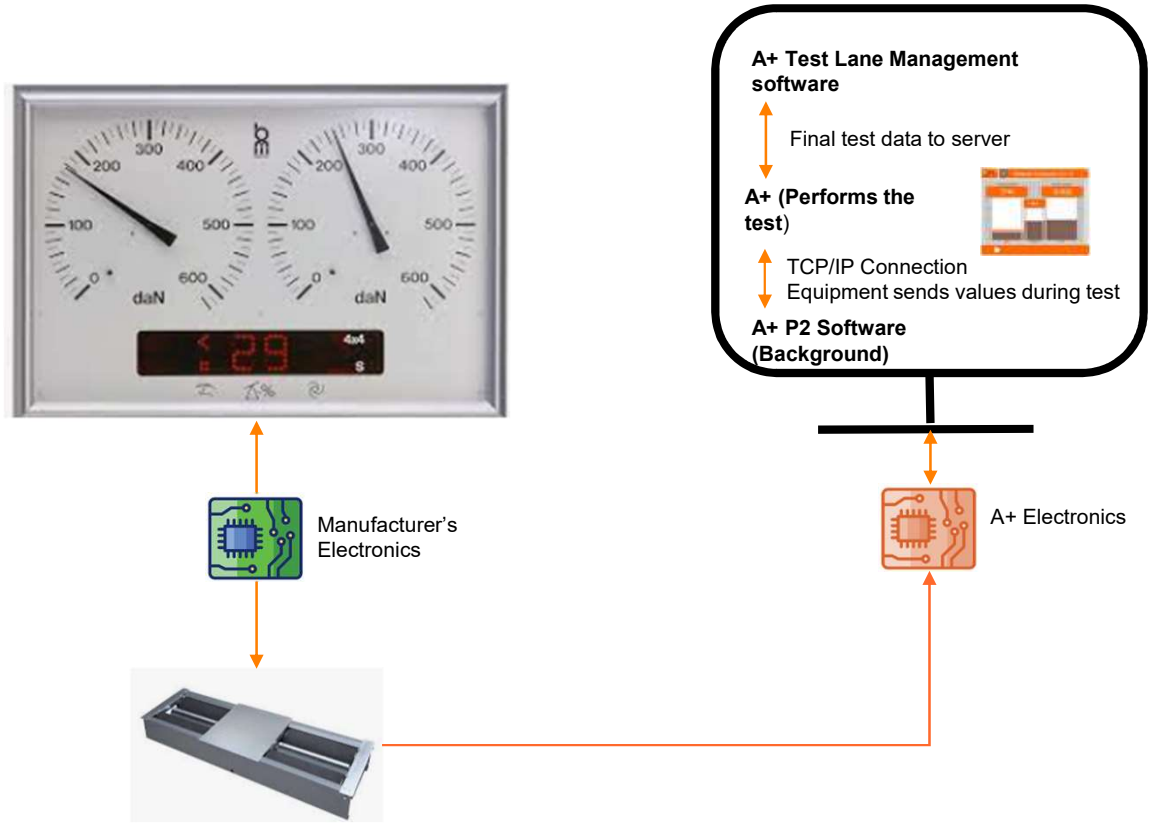




3. New electronics

Solution 1: New electronics installed in a parallel way

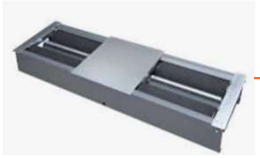
- With manufacturer's display / electronics
- Manufacturer manages the equipment (start, stop…)
- A+ electronics installed in parallel without measurement affection.
- A+ software to manage A+ electronics.
- Procedure and data managed by A+.
- A+ doesn't maintain the equipment
- Test equipment maintains technical/legal regulations

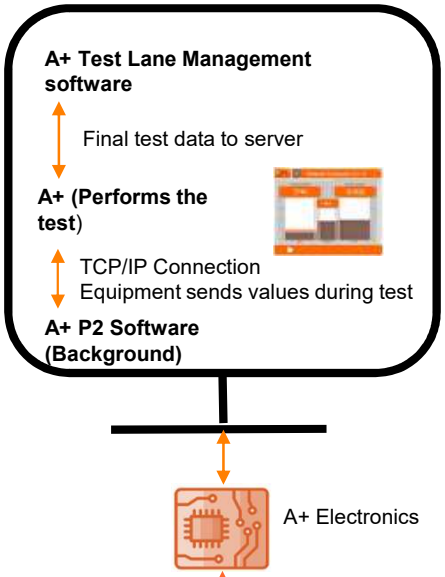


3. New electronics

Solution 2: New electronics replacing manufacturer's one

- No manufacturer's display / electronics
- A+ manages the equipment (start, stop…)
- A+ software to manage new electronics
- Procedure and data managed by A+.
- A+ maintains the equipment





Thanks for your attention

Applus+ Together beyond standards

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