



*micro*TAARE F1[®]

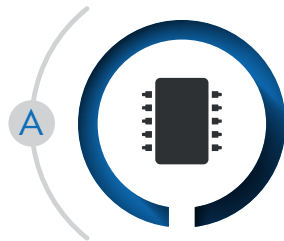
Testing Acquisition Analysis Reporting Engine

Integrated turn-key solution for complex and almost fully automated fuel consumption measurement in combination with *flowtronic* systems



Testing

microTAARE F1 in combination with *flowtronic* systems provides a turn-key solution for fuel consumption measurement according to national and international standards.



Acquisition

Maximum flexibility through sensor inputs from analog to CAN 2.0A as well as real-time signal processing. Robust design and extra bright 7" touchscreen display optimized for automotive testing.



Analysis

Analysis software module with online monitoring for direct display of important parameters. Monitoring and analysis of measurement data before, during and immediately after a single test run.



Reporting

Extensively automated data analysis and complete, documentation according to standards on the basis of relevant information from the data pool out of all individual measurements.



Engineering

Multifunctional turn-key solution that reproduces complex testing scenarios in an almost automatically running, interactive and software-supported test work flow.

The Challenge of Fuel Consumption Testing according to Standards

Reasons for *microTAARE F1* and *flowtronic* Systems

National and international standards as well as regulations increasingly require more complex testing procedures with increasing administrative demands. The objective of these requirements is to measure on-road fuel consumption on vehicles with internal combustion engine under the most realistic driving conditions possible.

The more complex the regulations and thus the requirements to be fulfilled, the larger the scope and the number of measurements to be carried out. This increases technical, personnel, time, organizational and financial expenditures.

Over and above the administrative and measuring challenges, the focus is on the work flow in the driving operation. Procedures and framework conditions are now so extensive that test drivers need the best possible support in carrying out their routine tasks.

As an ongoing example, the „New Chinese National Standard“ (JT/T 719-2016 and JT/T 711-2016) defines multidimensional and detailed general conditions for on-road fuel consumption testing of passenger cars as well as commercial vehicles under realistic driving conditions.

In addition this standard includes such as detailed driving conditions, which are decisive in the test preparation phase as the starting criteria of the measurement itself, or the continuous monitoring of predetermined test parameters while driving the test sequence.

After completion of a measurement, the test results are compared with the reference values specified in the standard in order to ensure the fulfillment of the officially defined test conditions.

Consequently, test engineers and test drivers need efficient and comprehensive support in their day-to-day work processes through dynamic data acquisition, intelligent signal processing and flexible data management.

Exactly the same applies to the analysis of the measurement data generated from a large number of test runs to be driven and the complex, standardized (also customer-specific) documentation.



*micro*TAARE®

microTAARE F1

Monday, June 12, 2017 16:35:25

Tests

Measure

Signals

Settings

Testing

*micro*TAARE F1 Testing Acquisition Analysis Reporting Engine

*micro*TAARE F1 is an integrated measuring system with which complex, testing scenarios can be reproduced in a complete work flow. This includes the whole sequence of operations beginning with the individual test run up to the final documentation.

The terms 'Testing', 'Acquisition', 'Analysis', 'Reporting' and 'Engineering' stand for the interrelated and therefore comprehensive range of functionality of the individual modules in the entire system.

This functionality is especially distinguished by the fact that within a single system measurement data are acquired from the individual sensor as a signal source, conditioned, analyzed, evaluated and then processed to the final documentation.

The completely newly developed system solution is based on a universally applicable, robust and compact hardware solution for data acquisition, signal conditioning and data evaluation.

As a scalable system it is developed for demanding tasks in the automotive driving test as well as at the test stand. At the same time it is perfect for typical standard measurements.

Especially when carrying out multi-layered measurement tasks, such as fuel consumption measurement confirming to standards, users benefit from the scope of interactive support throughout the entire duration of the test. It is equally advantageous for the user to be able to translate the user guide completely into its own language.

Better productivity, reproducibility and thus overall higher quality of all measurement data can be achieved in general by standardizing the processes in automotive testing. This includes the entire test sequence from each individual test run up to the final documentation.



Preparation phase. Keep vehicle at 40km/h

Close



Direction North South

N	3
S	1
Last result [l/100km]	6.17

Consumption [l/100km] **7.41**



Preparation Distance 40km/h 40.61

Back

Acquisition

microTAARE F1 Testing Acquisition Analysis Reporting Engine

This new measuring system is characterized by a robust design with milled aluminum housing and the suction holder unit for flexible mounting to the front screen.

Shape factor and weight represent the design-optimized system, which is characterized by an extra-bright 7"/ 17.78cm touch color display and a compact size for flexible use within automotive testing.

The variety of interfaces (CAN 2.0A, analogue, TTL, voltage strokes or signals for triggering, Ethernet, USB, etc.) in combination with the integrated, powerful real-time signal conditioning provides maximum flexibility in data acquisition.

The sensor inputs provide galvanic isolation and (limited) supply voltage for connected sensors. This helps to eliminate additional power supplies units.

The integrated Ethernet interface offers a seamless connection to external, customer-specific data acquisition systems or, in general, the integration into the IT architecture. In the same way, a data transmission via internet can be realized.

With that the test engineer is provided with an intelligent tool which can be used not only for individual measurements, but also complete test sequences with countless individual measuring journeys. This allows largely automated work flows during testing. For example, frame parameters, trigger conditions or a real-time monitoring of measured data can be set up for all individual test methods.

Same flexibility is provided for specifying a comparison between set values and actual values, the repetition of same test runs for statistical evaluations or the management of test runs in opposite direction (for example, north / south). Even the most complex test sequences with various individual measurements can be integrated into a test work flow.

During test execution, the system offers optimum support through the largely predefined work flow and detailed, interactive visual user guidance. This allows full concentration on vehicle driving as well as measuring operation. A possible distraction by manual documentation of measured data or an individual comparison of measuring results against predetermined set values is avoided.



Analysis and Reporting

microTAARE F1 Testing Acquisition Analysis Reporting Engine

The analysis module with its intelligence and flexibility is fundamental to the enormous performance of the *microTAARE F1* system.

In this way, online-monitoring allows flexible and selectable frame parameters to be analyzed before, during and immediately after the end of a single measurement.

These resulting values can directly control the logical sequence of an individual measurement or of the entire measurement sequence.

This enables the review of test results already within the preparation phase before a running test, during the test as well as immediately after test end, even with regard to predefined reference values.

Mathematical and statistical evaluations are applicable to a single test as well as to the results from a variety of measurements.

For the final reporting and technical documentation, all relevant measurement data and analysis results are extracted and processed from the entire data pool of the completed test work flow.

The reporting procedure for a complete test scenario can be obtained as an individually defined package. This defines the entire process and contains the mathematical, logical and statistical functionality as well as the layout of the documentation to be printed.

There is sufficient flexibility in software operation included, so that the user can, for example, selectively select the measuring journeys which are to be taken into account for evaluation and documentation, or delete faulty measurements.

Already on board of the vehicle compact reports can be printed. On the other hand, the PC at the user's workplace is intended for printing the complete and detailed documentation in the customer's layout.

This functionality allows test engineers to prepare complex, detailed documentation within a matter of minutes in accordance with the internal requirements and/or the requirements of national and/or international standards. This can largely replace the previous, manual and, therefore, personal and time-consuming evaluation and analysis of measurement data.



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Monday, June 12, 2017 16:35:25

Tests	Measure
Signals	Settings

Engineering

*micro*TAARE F1 Testing Acquisition Analysis Reporting Engine

We love engineering. And just as well the included detail „engine“ with regard to the degree of automation that can be provided for administration and operation within complex and repeating measuring tasks.

Particularly in the field of measuring technology, and especially in daily test driving, intelligent engineering by means of a largely software-supported sequences and the optimum usability can offer useful support and earnings in operational safety.

At the same time, the new *micro*TAARE generation provides the necessary degree of flexibility without limiting the test driver in the sequence of his measurement tasks such as selecting the best order of test runs or deleting faulty measurements.

A single turn-key system covers the entire measuring process from the connected sensor signal via the signal conditioning to the analysis and the final evaluation and documentation. Furthermore full network compatibility is given by the internal Ethernet interface.

Besides higher productivity, an enhanced quality assurance with optimized transparency, reproducibility and traceability of measurement data is also given. In addition, the integrated solution eliminates possible errors when transferring measured values to external systems for subsequent evaluation and documentation.

Overall, a decisive support of the daily work process is provided. This is given by dynamic data acquisition, intelligent signal processing, flexible management of the entire measurement data and automated data analysis and documentation.

This also means that personnel costs can be adjusted and further employees for monitoring, coordination and manual documentation may no longer be required.

*micro*TAARE F1 in combination with *flowtronic* fuel consumption measuring systems offer a consistent turn-key solution for fuel consumption measurement. Combined with other sensor, it fits with same precision for entirely different measurement tasks.

For us, engineering also means meeting the high expectations of our customers with consistently thought-out, robust system solutions. This includes service, support and service throughout the entire product life cycle.

About „The Why?“ of GREGORY Technology

Technology „Engineered, Designed and Made in Germany“ at a Glance

Our company GREGORY Technology GmbH, managed by its founder and owner, has not only more than 20 years know-how of high-tech product development but also the necessary experience and expertise within automotive measurement technology.

Products and services are primarily focused on mobile automotive testing. Herein mobile fuel consumption measurement is one of the core areas. We supply the worldwide automotive industry and their sub-contractors and service providers with innovative and cutting edge technology. Over and above, we are OEM partner and manufacturer for a global player in the field of highly specialized measurement equipment.

„As early as the company’s founding in 1996, the ultimate goal was to provide our customers and users with complete turn-key system solutions by supplying professional and robust high-tech measurement tools for their daily testing operation.“

Andreas Gregory - Founder of GREGORY Technology

With *microTAARE F1* and the *flowtronic* fuel consumption test systems GREGORY Technology offers presumably the first all-in-one system solution for complex fuel consumption measurement according to national regulations like the coming „New Chinese National Standard“ (JT/T 719-2016 and JT/T 711-2016).



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