

DIGIMAXX[®]

Digital Controller

Performance for all
demands



Description

As a part of the testing machine, the digital controller represents the link between the given test parameters and the measurement data acquisition. The controller is therefore a central component in order to obtain correct results and to optimise the test procedure.

FORM+TEST Seidner&Co GmbH offers tailor-made systems for various test requirements, which make the necessary test requirements feasible and at the same time integrate the appropriate measuring equipment quickly and easily. Due to years of experience and direct customer feedback, FORM+TEST is able to continuously enhance controllers and software solutions. The aim is to create user-friendly and flexible systems that are tailored to customer requirements. Due to our own hardware and software development, customised systems can also be realised.

To give you a first impression, we have summarised the most important information for you on the following pages. If you have any further questions, please do not hesitate to contact us or our representatives.

Set-Up

The wide and flexible range of digital controllers can be integrated in different housings.



Simple and space saving: Our set-top box.



19" rack together with the computer tidied up under the laboratory table.

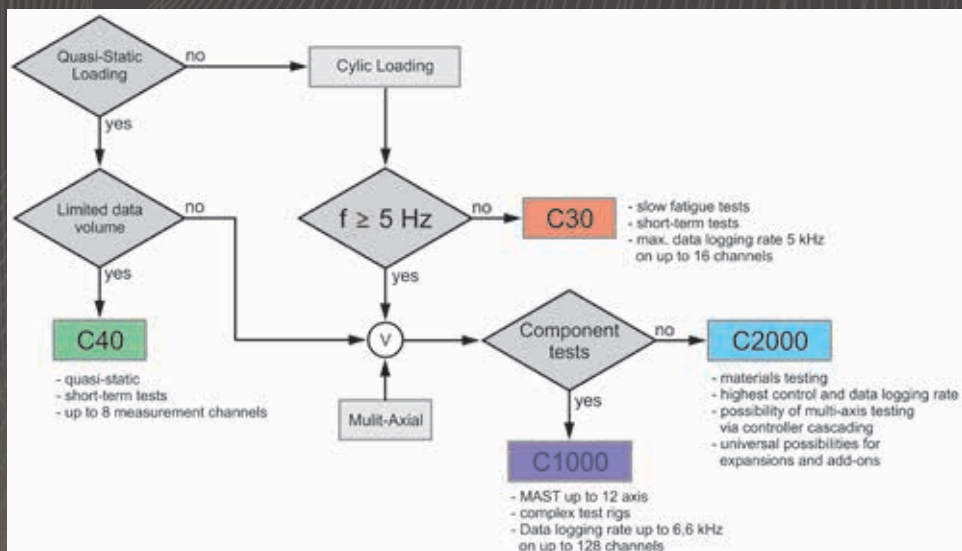


Installed in a 19" cabinet – if the drive power is sufficient – with integrated hydraulic aggregate and computer as a completely mobile drive station.

Selective Criteria

Concept

The requirements in material testing can vary significantly in complexity and scope. In order to fully meet these requirements with special regard to resources and costs, FORM+TEST offers different controller concepts. The individual basic modules are shown in the following flow chart.



Controller selection and scheme of requirements

This allows an easy and direct selection of the controller. The requirements of each test are discussed directly with the customer and compiled individually. Due to many years of experience FORM+TEST can offer the best possible advice and at the same time help to define the requirements precisely and purposefully.

Benefits

- complete coverage of test requirements
- maximum flexibility in system configuration
- minimisation of necessary costs

DIGIMAXX®	C40	C30	C1000	C2000
Standard testing	•	•	-	•
Statics	•	•	•	•
Dynamics	-	• ²	•	•
Material testing	• ¹	•	-	•
Component testing	-	-	•	•
Bespoke test procedures	-	- ³	•	•
Multi-axial	-	-	•	•

1) limited, 2) up to 5 Hz, 3) programmable upon request

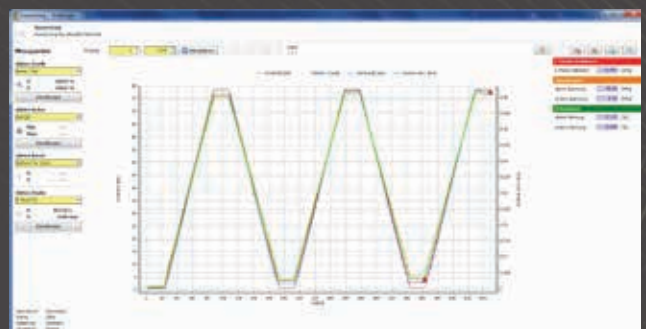
DIGIMAXX® C40

For simple, static and quasi-static tests, the latest generation of the **DIGIMAXX®** controller series, the **DIGIMAXX® C40**, is available. Its intuitive control using the built-in, modern and robust touch display. The test procedures are simple and can be quickly converted into reliable results. The **DIGIMAXX® C40** completely replaces the old and widely used **DIGIMAXX® C20** and can be used for possible modernization directly without further effort. The **DIGIMAXX® C40** combines the usual FORM+TEST quality with up-to-date performance and functionality.

The use of the **C20** controller in combination with the available PROTEUS^{MT} program packages extends the evaluation and testing possibilities enormously. This system was designed for static test in the field of building materials testing. For many standard tests, ready-made application modules are already available, which are specifically adapted to numerous test standards. A standard test is carried out without time-consuming settings. Information about the available user software can be obtained directly from us or our agencies.



Separate display for stand-alone operation



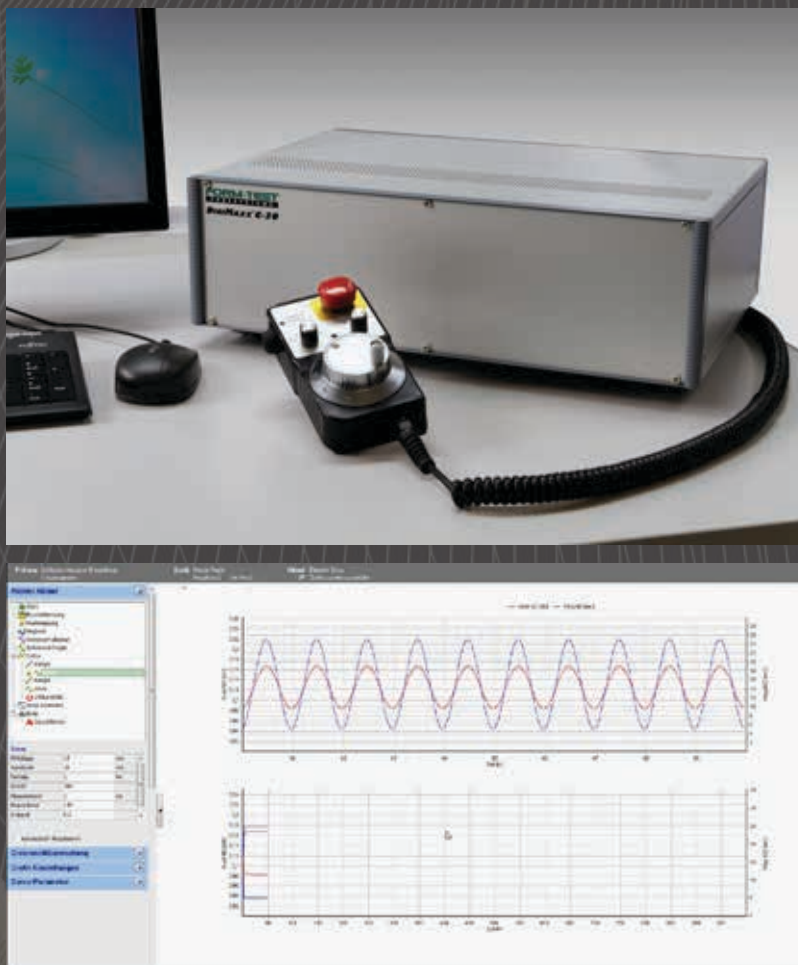
Example of PROTEUS^{MT}-software

Key Facts Summarised

- easy operation
- static tests
- many application modules available in PROTEUS^{MT}-software

DIGIMAXX[®] C30

The **DIGIMAXX[®] C30** controller represents a consequent performance tuning of the static controller **DIGIMAXX[®] C40**. The **C30** offers extended possibilities for the connection of sensors. Due to its increased performance and an even faster control processor, tests can be carried out at higher speeds. This allows simple cyclic tests to be carried out. In order to be able to use the full potential of the extended functions, the test software PROTEUS^{MT} with its various modules is required.



Example of PROTEUS^{MT}-software

Key Facts Summarised

- quasi-static tests and cyclic tests up to 5 Hz frequency
- operation together with the application modules of the PROTEUS^{MT}-software

DIGIMAXX® C1000

In the strength analysis of components and structures, their operating loads must be represented by the test setup. They can act in different directions. This is precisely why the **DIGIMAXX® C1000** controller has been developed: its high-performance system can control up to twelve individual control loops simultaneously and record up to 128 measurement channels. The new controller system is operated together with the software solution PROTEUS^{PRO}. The test software stands out especially for the direct integration into MATLAB, creating a completely freely programmable environment. After analysing the individual requirements, the environment can also be customised. In addition, there are ready composed test modules allowing wide application in component testing. In addition to the pure component testing, selected modules in material testing are available, too.



Example of user interface of the **C1000** controller

Examples of Application Modules

- “sequencer” for sequential multi-stage tests
- “MIMIC” for time-history reproduction
- “MAST”-analysis for multi-axis tests
- material testing: fatigue tests, static fracture mechanics, creep tests
- calibration modules

Key Facts Summarised

- up to 12 axes simultaneously controllable
- up to 128 measurement channels
- data logging speed up to 6.6 kHz on all channels
- user-specific software interfaces and test sequences possible

DIGIMAXX[®] C2000

The top model of the **DIGIMAXX[®]** series is the **C2000**. It completes the range of the FORM+TEST digital controllers and offers universal possibilities with a focus on material testing. Due to the high data recording rate of more than 10 kHz on all synchronized channels it is also suitable for highly dynamic tests. Powerful control electronics require appropriate software for the best possible application. For this purpose we have developed the program package PROTEUS^{PRO A}. Together with the individual software modules of the software, almost all test requirements and issues are covered. Even complex load sequences can be represented and simulated experimentally by freely programmable test sequences. All measured variables can be integrated into the control loop and linked together to form new test variables via corresponding formulas.

If the test requirement makes it necessary to operate several control loops simultaneously, the controller can be connected in parallel via fast Gigabit connections. In principle, the maximum number is limited by the speed of the data connection and data recording.



Examples of Application Modules

- fatigue tests
- creep tests
- fracture mechanics: static, cyclic and crack growth tests
- thermo-mechanical fatigue tests (TMF)
- freely programmable test procedures

Key Facts Summarised

- simultaneous operation of up to 32 control loops (by interconnection of up to 32 single controllers)
- more than 128 measuring channels with synchronised data logging
- highest data acquisition rate above 10 kHz
- bespoke test procedures



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