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(BDA Version 2.0 / Software-Stand 1.02)

For further inquiries and details our technical service is at your disposal. This also applies to on-site services and calibration (DAkkS accreditation D-K-20121-01-00) as well as training courses at our place or at yours.

Alluris GmbH & Co. KG

Technischer Service

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FMT-317CU Control unit for material testing machines

Thank you for choosing one of our high quality instruments. Read these operating instructions carefully before commissioning in order to handle the newly purchased device safely, make accurate and reproducible measurements and avoid damage.

1 General information

The device is used to operate and control Alluris Universal Testing Machines, which are used for a variety of material and component testing. Please therefore observe the information on the intended use of your basic system.

2 Safety



Transport and store the device carefully. Place the device with the stand provided next to the test machine or fasten it with the M4 threaded holes (max depth 4mm, see also drawing) provided on the rear side on a monitor arm with VESA standard.

Observe the permissible storage and environmental conditions for the device.

Plug and unplug all connections when the entire system is switched off only.



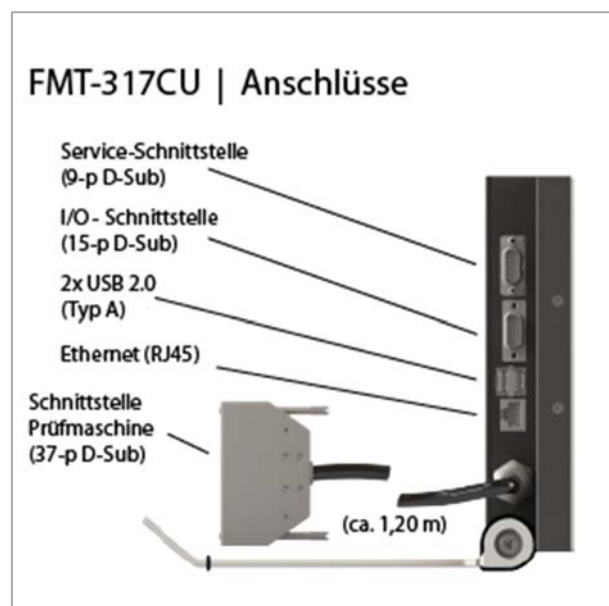
The material to be tested may break or splinter in such a way that personal injury may result. Please read the detailed safety instructions for your testing machine.



On universal testing machines is a risk of crushing. Please read the detailed safety instructions for your machine and take precaution measures.

3 Scope of delivery and connections

Description	Spare part / Accessories
37-pin D-SUB connector for connection to the universal testing machine;;	
9-pin socket for service with protection cap (part. no.: 20082);	20082 Protection cap
15-pin socket for safety device, digital in- and outputs and analogue inputs, with D-SUB plug (FMT-818.S) for test and commissioning. (see Declaration of Conformity) Further specifications on inputs and outputs and pin assignment can be found in the operating instructions of FMT-818.8 distribution box;	FMT-818.S D-SUB plug FMT-818.8 Distribution box (optical)
2 USB 2.0 sockets for input devices such as keyboard, mouse or scanner;	
1 Ethernet RJ45 socket for peer-to-peer connection with local PC (additional network board needed) or to connect to network LAN, incl. 1,5 m cable (Part. No.: FMT-911).	FMT-911 Cable



4 Commissioning

Before commissioning, make sure that the system (BU = base unit of the testing machine) is currently tested in accordance with VDE 701/702 and, if necessary, that a safety device has been installed correctly. The system must be switched off to plug in the connections.

Insert the 37-pin plug into the socket provided on the test bench and check the connections of the force transducer (D-SUB plug and M8 sensor plug).

Connect the protective device to the 15-pin D-Sub socket (Alternatively, use the supplied plug for test purposes).

To use the existing digital inputs and outputs as well as the analogue inputs, connect them to the M12 distribution (Part no.: FMT-818.8)

To establish the point-to-point connection for "FMT-DataExchange", connect the controller to a local PC with the supplied patch cable. If this PC is already connected to the corporate network via Ethernet, a second network card will be required.

Now switch on the system at the main switch. The control unit is ready for use after approx. 30s and displays a start screen which prompts you for homing (referencing).

5 Software

The operating system required for controlling the universal testing machine, including the software for manual operation, is already installed. Also preinstalled is the application "FMT-DataExchange" for communication with a local PC.

On the Alluris customer portal, you can set up your test system and edit test procedures and test plans. Preconfigured examples of tensile and break tests as well as bending and elongation tests are stored in the "FMT-TestEditor" application under your access data.

Further information and an explanation of the user interface is available as a tutorial on the Alluris website. Additional tutorials for the web applications "FMT-DataExchange" and "FMT-TestEditor" can be found there as well.

5.1 Alluris customer portal

Requirement for the use of the "FMT-TestEditor" is an Internet access and a current Internet browser, as well as the registration on the customer portal. For security reasons, only one cryptic key is stored in the database for a previously created user. This initial registration is done manually and you will receive a personal password. You can change this password, creating a new cryptic key that will be sent to us via email. This key is then manually transferred to the database. The access data are updated within one working day.

5.2 Editing the machine settings | FMT-System configurator

5.2.1 General settings

The control unit (CU = Control Unit) is presetted in the factory. On the basis of the existing hardware, such as basic machine (BU = Base Unit), load cell (FU = Force Unit) and other facilities, basic settings and hardware settings can be made in the menus. This configuration will later be used in the test plan, e.g. used for monitoring limit values and scaling of additional measuring channels (Analog In).

5.2.2 Operating system and software | Set up network

In the menu operating system and software you make the network settings, and you can set the system language and time zone.

5.2.3 Update software

The system configurator also contains the latest software version. We always recommend that you update the control unit to the latest version. If you have not yet recorded an update, you must always incrementally update one after the other as they may build on each other.



Please ensure that the update is first loaded to the control unit using FMT-DataExchange, then the version in the system configurator is changed and saved, and then the system is re-loaded to the control unit via FMT-DataExchange. For incompatible software versions, you will receive an error message in the customer portal.

5.3 Creating new test procedures and test plans | FMT-TestEditor

You can create new test procedures yourself with "FMT-TestEditor". You can access this web application anytime, anywhere via the Internet. After you have created and saved a new test procedure / test plan, you can download it to your local PC or company network. To use the inspection plan on your universal testing machine, load the machine-readable file created by the web application onto your controller using "FMT-DataExchange".

5.4 Transmission of test procedures and measurement results | FMT-DataExchange

The transmission of new test plans and measurement results is done with the "FMT-DataExchange" app in the Internet browser (e.g. Internet Explorer, Microsoft Edge, Firefox, Safari) regardless of the connected device or operating system.

5.4.1 For point-to-point connection

In the browser, go to <http://fmt317-yxxxxx.alluris.lan:3000>. Where y corresponds to the letter of the serial number, xxxxx corresponds to the 5-digit number of the serial number on the nameplate on the back of the control unit. (e.g., SN: A.12345 = <http://fmt317-a12345.alluris.lan:3000>) The browser then launches the FMT DataExchange application.

5.4.2 For network connection (LAN)

In the browser, go to <http://fmt317-yxxxxx:3000>. Where y corresponds to the letter of the serial number, xxxxx corresponds to the 5-digit number of the serial number on the nameplate on the back of the control unit. (e.g., SN: A.12345 = <http://fmt317-a12345:3000>) The browser then launches the FMT DataExchange application. If your network requires a DNS suffix, enter this in front of :3000. You can also use the IP address assigned to the controller directly in the browser.

6 Measurement results

The test procedures determine how measured values are recorded. These measurement results are stored together with the test plan, including the parameters used for the test. Measurement results can be displayed in the browser with the "FMT-DataExchange" app and saved in a .XLSX, .CSV or .XML format on a local PC or in the company network and edited in other programs.

7 Notes on the calibration of the length measuring system

When commissioning the controller for the first time on an existing universal testing machine, the calibration certificate for the length measuring system loses its validity and must be recreated. Calibration certificates for the force measuring device (load cell) do not need to be renewed.

8 Warranty, service and updates

According to our terms and conditions, we grant a warranty of 12 months from the date of purchase on the hardware. This warranty is extended for a further 12 months upon conclusion of a service contract. Updates to the operating system and software to control the test bench are free of charge unless the warranty has expired.

The controller is maintenance-free. To clean the user interface, only use soft cloths and non-abrasive or corrosive cleaning agents. Internal back-up batteries used to maintain data when the system is not powered should be replaced after 5 years by Alluris Service or a service provider authorized by Alluris.

The warranty is voided if the unit is opened and the warranty seal on the back of the controller has been damaged.

9 A.1 Technical Data

Active area	mm	211x158
Touch	Type	PCAP
Version		1.00
Resolution - Force	rel.	1 / 10.000
Resolution - Length	mm	0,001
Resolution - Speed	mm/min	1
Resolution - Stroke	mm/min	0,01
Power Supply		from base unit
Consumption	A @ 230 V AC	1,8
Machine interface	Type	D-Sub, 37-P
2 USB (socket)	Type	USB 2.0
Ethernet (socket)	Type	100Base-TX (RJ45)
2 Digital IN (Optocoupler)	Type	5V Pull-Up
3 Digital OUT	Type	24 V Push -Pull
2 Analog-IN (A/D-converter)	Type	0-20 mA (12-Bit) 0-10 VDC (12-Bit)
Service interface	Type	D-Sub, 9-P
Temperature - operation	°C	10 - 35
Temperature - trans/store	°C	-10 - 60
Dimension (LxWxH)	mm	241 x 191 x 46 (220)
Mounting	Type	100 mm - Vesa
Weight	kg	2,6

10 A.2 Frequently asked questions (FAQ's)

Question	Answer / Solution

A.3 Declaration of conformity

Manufacturer: Alluris GmbH & Co. KG
Basler Strasse 65
DE 79100 Freiburg, Germany

Product: Control unit for material testing machines

Part Nr. : FMT-317CU (Serial No.: see type lable)

We hereby confirm the conformity of the product with the EU directives valid at the time of delivery.
The conformity with the EMC Directive 2017/30 / EU refers to the following standards and classifications and applies to the industrial area and the living area.

EN 55011:2016 Radio disturbance properties (limit class B)

EN 61000-6-2:2005 Immunity

Report no.: 20170716El1

Conformity with the Machinery Directive 2006/42 / EC may be confirmed with the overall system consisting of the testing machine, the force and length measuring devices and the corresponding safety devices.

In accordance with the WEEE Directive 2012/19/EU, this device is classified as a "Monitoring and Control Instrument" and must not be disposed of as unsorted municipal waste. You may return the device to us for recycling or proper disposal (WEEE Reg.No. DE 49318045). More information is available on our website www.alluris.de

Compliance with all applicable requirements of the EU Directives is hereby confirmed by the CE mark on the device.



Freiburg (Germany), October 2017

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