



**NEW**

Now with Bluetooth  
measurement  
module MT-HV

## mega macs X

The innovative diagnostic solution –  
always personalized, always flexible



## Welcome to the future

## which adapts to your needs

Devoid of old and outdated habits, the mega macs X revolutionizes the way we work and communicate with vehicles. The most flexible diagnostic solution from Hella Gutmann to date is state of the art and practical like never before. Moreover, it can be adapted to suit any workshop – big or small

### REDESIGNED FROM START TO FINISH

Groundbreaking strategies for the future can only emerge by leaving one's comfort zone and by thinking outside the box. The evolution of mobile phones from a basic push button device to current smart phones is a perfect example. Now we are witnessing the transition of vehicles as a mere means of transport to highly connected and sophisticated all-rounders with a driving function. Drivers themselves choose vehicle functions, interior ambience and exterior effects via lighting and color.

This requires enormous amounts of data.

### A VERITABLE QUICK-CHANGE ARTIST

Therefore, Hella Gutmann has also completely revised the world of diagnostics and diagnostic data and created the mega macs X. With superfast protocols such as DoIP and CAN FD, it can do what many older diagnostic tools cannot: fast processing of very large data as required by the new vehicle generations.

And like drivers, workshops should also be free to decide which functions and data types they require for diagnosis and which operating devices they would like to use. Always bearing in mind that what is common practice today might be obsolete tomorrow.





# And the X? Stands for X advantages

The name mega macs has always been part of the brand name of Hella Gutmann diagnostic tools. Next to the mega macs 56 and the mega macs 77, we currently offer the diagnostic solutions mega macs PC and mega macs ONE. And despite being part of a well-established product line, the mega macs X still has new tricks up its sleeve. But above all: X advantages Hence, the X stands for all the advantages and features workshops can select and configure according to their individual requirements.

## **X = COST-EFFECTIVE STARTER DEVICE**

The X stands for economy and a wide range of applications on a modular basis. With the basic license, you can start multibrand diagnosis without financial risk, and the function >Reading /deleting trouble codes< is very useful if your business also includes buying and selling used cars. Several free software updates per year ensure continuously high vehicle coverage. As a display device, you can use a tablet, notebook or PC of your choice with the following operating systems: Windows, Android, Apple IOS, Linux.

## **X = FLEXIBLE AND EASY TO USE**

In workshops – regardless of size, specialization or focus – the X stands for a new kind of freedom. In the vehicle itself, only the mega macs X diagnostic module with the OBD interface cable is required. The device is operated via a separate display unit of your choice. No need to carry a heavy diagnostic device around with you. And should the notebook or tablet need replacing, it's no big deal.

## **X = INDIVIDUAL CONFIGURATION OF FUNCTIONS**

Above all, the X stands for the flexible adaptation of performance, function and service scope – and thus for maximum security of return on investment. If you wish to start with the minimum functions, which include trouble code reading and deleting, you can opt for the basic license. Upgrades to a higher license are possible at any time. Thanks to over-the-air programming, your mega macs X will grow with your individual needs right up to the top-notch diagnostic solution – the mega macs 77 SDI – with its guided measurements as well as new functions and data for driver assistance, lighting and e-mobility. For motorcycle diagnosis, two

versions will be available: The X-Bike license is aimed at workshops specializing in motorbikes only. Car workshops wishing to expand can add the optional X-Bike Add-on license to their portfolio.

## **X = FAST AND SEMI-AUTOMATIC INITIAL SETUP**

The mega macs X has been designed according to "Plug & Play". This applies especially to the browser-based initial setup with the chosen display unit. After scanning a QR code or entering the required data manually, the SDI setup starts automatically. During the intuitive installation procedure, your mega macs X is connected automatically to the display device.

## **X = SOFT-TOUCH HOUSING, DESIGNED FOR A LONG SERVICE LIFE**

The best repair is the one you can avoid: high-quality materials and a robust, shock absorbent TPE element protect your mega macs X as well as the vehicles from potential damage. Should the battery power decrease or the OBD plug become damaged, we have made provisions. Thanks to its two-shell housing, the new device is easy to repair which reduces downtime and costs. The OBD cable as well as the battery can be replaced individually.



# Flexibility is the word

## THE CHOICE IS YOURS – REGARDING HARDWARE ...

It is up to you which device you want to use for operating the mega macs X: a tablet, notebook or PC with any of the current operating systems. You can also opt for the robust, preconfigured Hella Gutmann tablet.

For electric measurements, you can choose between two modules: the MT-USB for measurements up to 60 volts and the MT-HV for high-voltage measurements. The MT-HV enables yet further functions like the representation of fast signals and pressure measurements.

Thanks to the graded software SDI X<sup>1</sup> through SDI X<sup>5</sup> as well as SDI X-Bike, you can adapt the scope of services of your mega macs X exactly to your individual requirements. You invest once in exactly the performance, i.e. the software, you require. Later upgrades are uncomplicated. Like the software, you select your monthly user license X1 through X5, X-Bike or X-Bike Add-on. Upgrades or downgrades are possible at any time and can be carried out by the user themselves.

## ... AND SCOPE OF SERVICES

Hardware		Software		Licenses
ONETIME INVESTMENT	+	ONETIME INVESTMENT	+	RUNNING COSTS
mega macs X		SDI X <sup>1</sup> for license X <sup>1</sup>		License X <sup>1</sup>
Hella Gutmann Tablet (optional) Page 8		SDI X <sup>2</sup> for license X <sup>2</sup>		License X <sup>2</sup>
Measuring technology (optional) Page 12		SDI X <sup>3</sup> for license X <sup>3</sup>		License X <sup>3</sup>
		SDI X <sup>4</sup> for license X <sup>4</sup>		License X <sup>4</sup>
		SDI X <sup>5</sup> for license X <sup>5</sup>		License X <sup>5</sup>
		SDI module X-Bike for license X-Bike		License X-Bike
				License X-Bike Add-on

Software modules and licenses may vary from country to country.



# Sophisticated design & smart functions

Decentralization makes sense – also when it comes to designing a diagnostic tool. The "brain" of the mega macs X is housed in a small, compact casing. The sensitive touch screen, by contrast, is separate. This is useful if it gets damaged in the rough workshop environment.

## DESIGNED WITH THE USER IN MIND

When you look at the mega macs X, the first thing that strikes you is that it has neither a display nor a keyboard. However, what looks like an oversized VCI, with the wired OBD plug and integrated LED light, is the most innovative and flexible diagnostic solution from Hella Gutmann to date.

## CLEVER DETAILS THAT WORK FOR YOU

The well thought-out concept of the mega macs X is reflected in details such as the all-round cable duct and a magnetic surface which keeps the OBD plug neatly in place. Thanks to these features, the mega macs X turns into a compact unit which can be placed snugly on the charging cradle for inductive charging. Green LED progress bars on the front and back of the device indicate that the communication with the vehicle is established and active. Other functions are signaled by a partial lighting of the Swoosh.







The tough housing of the mega macs X accommodates the "thinking" part of the device consisting of processor, diagnostic software and the diagnostic protocols including CAN FD and DoIP for the newest vehicle generations. This is a great advantage since many older diagnostic devices are unable to communicate with them.

You decide which display unit you want use for vehicle diagnosis. Depending on preference or availability, this can be a tablet, notebook or a PC with one of the current operating systems

(Windows, Android, Apple IOS, Linux). Equipped with an integrated support bracket, the mega macs X can be attached to the side window of the vehicle, thus ensuring a stable, wireless connection to the display unit – even in vehicles with chrome-based window coating.

Just like smartphones, the mega macs X also has an integrated flashlight and a clever device search function. One click on the button "find my mega macs" on the user interface helps you find the runaway.



# Why wait? Start immediately!

The optional Hella Gutmann Tablet renders diagnosis with the mega macs X particularly easy. The modern Android tablet comes with a docking station with various interfaces including HDMI and Ethernet. This tablet was carefully chosen with particular focus on speed, reliability and durability. It is especially adapted for vehicle diagnosis with the mega macs X.



Hella Gutmann Tablet with docking station

## START IMMEDIATELY WITH THE PRECONFIGURED HELLA GUTMANN TABLET

Even if you have never handled a tablet before, with this package you are on the safe side. The Setup Wizard establishes the connection between the tablet and the mega macs X automatically and you can start working immediately.

The software of the tablet focuses on the essentials: the interaction with the mega macs X for diagnosis as well as e-mail and web browser functions. App downloads on the Hella Gutmann Tablet are blocked. This is intentional to ensure long-lasting operating speed of your display unit.

By the way, if you have any questions, you can always count on the Hella Gutmann support.





# Ready for more?

For quick troubleshooting, fault code and system parameter readings are the first ports of call. However, in certain cases electric measurements are indispensable. This is also a speciality of your mega macs X – in tandem with the optional measurement modules of your choice.

## USB MODULE FOR CURRENT, VOLTAGE AND RESISTANCE MEASUREMENTS

When the mega macs X is connected via USB cable to the optional measurement module MT-USB, the menu item >Measuring technology< shows on the SDI user interface of the display unit. Provided you have the relevant license, your diagnostic tool thus transforms into a two-channel multimeter for voltage measurements up to 60 V as well as for current and resistance measurements. The required settings are carried out on the display unit.



Measurement module MT-USB

# NEW

Innovative Bluetooth module for high- and low-voltage measurements



Measurement module MT-HV

## BLUETOOTH FOR ALL MEASUREMENTS IN THE HIGH- AND LOW-VOLTAGE RANGE

Connected via Bluetooth, the measurement module MT-X makes measurements even more comfortable. Depending on the license, the MT-HV with integrated high-voltage measurement technology also functions as a multimeter with 2-channel oscilloscope for low-voltage measurements with the added luxury of >Guided Measurements<. You can also connect a pressure measurement device.



# Functions and services

## in and around the mega macs X

Your mega macs X is as powerful as you want it to be. It depends on the configuration. You decide which functions and data you want to include. Should your requirements evolve, you can add new data later such as data on driver assistance, lighting systems or e-mobility. The icing on the cake is the reliable assistance provided by your competent friends at the Technical Help Line.

## Functions

With communication protocols such as DoIP and CAN-FD, the mega macs X is a highly flexible, multibrand diagnostic tool and an irreplaceable companion in your workshop. The fast switch between functions and data saves valuable time. Multiple entries are not longer necessary, sources of error are minimized. This starts with correctly identifying the vehicle via VIN or the alternatives.

Apart from the obligatory trouble code reading, the mega macs X has quite a number of other functions up its sleeve. These range from service resets, automatic mileage reading and consultation of system parameters through its PassThru function. With your mega macs X, you can also actuate actuators (actuator test) and perform basic settings, codings and calibrations. And nothing is faster than an automatically proposed solution which is spot on.

### SECURE YOUR FUTURE: CYBER SECURITY MANAGEMENT

The procedures manufacturers have introduced for unlocking the communication with the security systems of their vehicles differ greatly from one another. For workshops, they have become a major impediment to competitiveness and must be managed efficiently.

On the mega macs X, this task is performed by the Hella Gutmann Cyber Security Management. Once activated, you are free to work on vehicles with cyber security systems and use all the available diagnostic functions.

## Measuring Technology

Trouble code readings, consulting system parameters or actuator tests do not always lead to the root of the problem. If this is the case, a conventional electric measurement could provide the necessary information. With your mega macs X, this is not as tricky as the complex electronic systems in modern cars might suggest. With the addition of the measurement module MT-USB, your diagnostic device transforms into a convenient two-channel multimeter. The display unit is used for entering the required settings.

And there is more: With the Bluetooth measurement module MT-HV and the inserted MT 77, your mega macs X transforms into a fast 2-channel oscilloscope. You can rely on the mega macs X to guide you through the procedure. And with the highest software/license you can even carry out high-voltage measurements.

### NEXT STEP: GUIDED HIGH-VOLTAGE MEASUREMENTS

You can also rely on the diagnostic and metrological support of your mega macs X when working on vehicles with multi-voltage and high-voltage electrical systems. With due regard to all safety regulations and precautions, your diagnostic device will guide you safely through high-voltage measurements on hybrid and electric vehicles. Precise information and clear presentation of measurement results as well as nominal and actual value analyses are particularly convenient for the user.



## Data and New Data Types

Without the right data at the right time and place, even the best technician gets stranded once in a while. We therefore take great care in providing our customers with high-quality OE-conforming technical data. Unnoticed, numerous links to the corresponding data-bases are active in the background of your mega macs X while it is in operation.

However, not every workshop requires all the available and continually increasing data. It is therefore you, who decides which modules and functions best suit your needs. Depending on your configuration, all the data you need on a vehicle is instantly available to you. Data is continuously updated and expanded with regard to content and model coverage.

### IN KEEPING WITH THE TIMES: ADAS & LIGHTING AND E-MOBILITY

Working on vehicles with state-of-the-art driver assistance, lighting and high-voltage systems demands your full attention and large amounts of additional data. The ADAS & Lighting module takes account of the growing number and complexity of driver assistance systems as well as the many variations between different models and manufacturers. The data and functions of the e-Mobility module provide all the information you need before and while working on electric and hybrid vehicles.

## Services

What would life in the workshop be like if you had to go it alone? Probably arduous. The good news is that Hella Gutmann customers are never left to their own devices. Should you be at your wit's end with a particular vehicle, our experienced technicians from the Hella Gutmann Technical Help Line are ready to assist.

Whether via chat message from the mega macs X or via telephone call to the Technical Help Line, our team of more than 90 experts will help with even the trickiest question. With years of experience and up-to-date, manufacturer-specific information, we are assisting more than 2,000 workshops every day in troubleshooting and repairing the vehicles of their customers.

### CONVENIENT: CALL FLAT INCLUSIVE

Time is money. If your license includes the VIP service "Call Flat", there is no need to check whether there is credit on your call card. Among other things, this means that you can also provide your employees with a "free ticket" for using the Technical Helpline. This saves time at no extra costs.

Please bear in mind that the service scope of our technical support may vary from country to country.



# Diagnosis and Data in One

With the mega macs X, measurements are easier than it may seem. You decide, which additional modules you need – now or later.

Voltage, resistance, current or pressure? Fixed numeric values or changing signals? Low or high voltage? The modular system of the mega macs X provides you with practical solutions – some of them guided – for all your measurement requirements.

As from license X3, you have the possibility to add measurement functions to your diagnostic tool. Depending on your requirements, you need at least one of the measurement modules MT-USB or MT-HV.

With the measurement module MT-USB, your mega macs X\* becomes a digital 2-channel multimeter enabling measurements up to 60 volts. When you connect the USB cable, the module is automatically recognized and can be accessed via the menu item >Measuring technology< on the SDI interface. The settings are carried out on the display unit.

## MEET THE DREAM TEAM: MEGA MACS X AND MT-HV

Together, the mega macs X and the MT-HV make a veritable dream team. The larger MT-HV not only has the same sleek design as the mega macs X, it's also just as flexible. And as can be expected of two siblings of the latest generation, they connect conveniently via Bluetooth. The innovative measurement module MT-HV with integrated high-voltage measuring technology was conceived especially for the mega macs X and includes all the measurement functions you need for working on electric and hybrid vehicles – provided your mega macs X is equipped with the highest SDI software X<sup>5</sup> and has an activated X<sup>5</sup> license:

- High-voltage measurements up to 1000 V
- Insulation resistance measurements with adjustable test voltage
- Potential equalization measurements of HV components
- Resistance measurements (HV service disconnect plug)

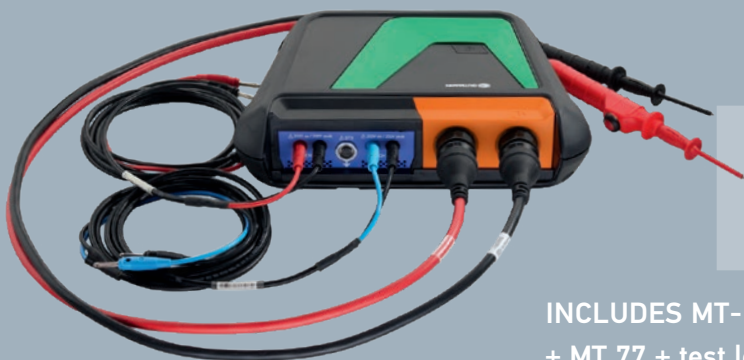
\* as from software/license level X<sup>3</sup>



includes the MT-HV

PLUS

INCLUDES MT-HV + HIGH-VOLTAGE TEST LEADS black/red



INCLUDES MT-HV + HIGH-VOLTAGE TEST LEADS black/red  
+ MT 77 + test leads black/blue + test leads black/red

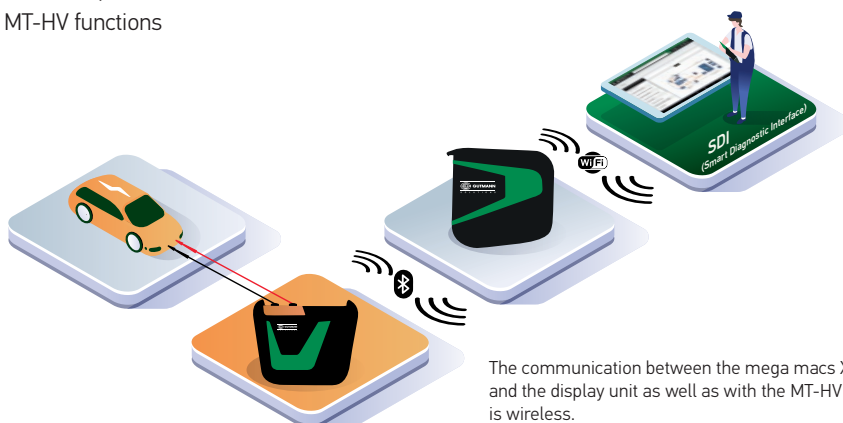
PRO

#### QUICK-CHANGE ARTIST FOR LOW-/ HIGH-VOLTAGE AND PRESSURE MEASUREMENTS

The innovative Bluetooth module not only enables high-voltage measurements. A clever feature allows you to awaken a second metrological heart for the low-voltage range in the MT-HV. Just insert your existing or newly acquired measurement module MT 77 in the module slot of the MT-HV.

With the suitable test probes and amp clamps, you have a digital 2-channel multimeter and a superfast 2-channel oscilloscope at your disposal. If the module slot stays vacant, the MT-HV functions exclusively as a high-voltage multimeter.

**Our tip:** You can use the MT-HV with inserted MT 77 as from SDI software X<sup>4</sup> and license X<sup>4</sup>. However, in this instance, the heart beating in the HT-HV is exclusively low voltage. You can enjoy wireless measurements and the deluxe >Guided measurements< function. With the MT 77 inserted in the MT-HV, you can connect your LPD-Kit sensors and carry out pressure measurements.



The communication between the mega macs X and the display unit as well as with the MT-HV is wireless.

# A brief introduction to measuring technology

**Low voltage (LV) and high voltage (HV):** In vehicles, alternate current (AC) up to 30 V or direct current (DC) up to 60 V is considered low voltage (LV) – anything above is high voltage (HV). Most electric vehicles – high-performance models in particular – operate at around 400 V.

## DIGITAL MULTIMETER

Measuring device with variable measurement ranges for current (A), voltage (V) and resistance measurements ( $\Omega$ ). Basic multimeters have one input channel. More sophisticated 2-channel multimeters are able to measure two signals at once and display them graphically. However, the significance in relation to the temporal axis depends directly on the sampling rate and bandwidth. **Our 2-channel measurement modules: MT-USB and MT 56 up to 60 V with sampling rate 1 MSa/s, max. bandwidth 100 kHz and MT 77 up to 200 V with sampling rate 64 MSa/s, max. bandwidth 10 MHz.**

## TEST LEADS, PROBES, CLAMPS, CURRENT METER

Test leads with test probes and clamps serve to measure the electrical values on the exposed part of current carrying cables and pins. The clamp meter enables contactless current measurement during operation. **Our tip: clamp meter blue 40 to 700 A, clamp meter green up to 40 A. The test lead black/blue is for input channel 1, the test lead black/red for input channel 2.**

## OSCILLOSCOPE

An oscilloscope displays the temporal course of electrical voltage (period duration). Thus, fast electrical processes can be visualized. Preferably 2 or 4 input channels are available in order to display and compare several overlaying current signals on an x- and y-axis. These fast, oscillating and sometimes pulse-width modulated control signals only exist in the low-voltage range up to 60 V. The quality of an oscilloscope is determined by its speed. If it is too slow, signal errors remain undetected. For workshops, a 2-channel oscilloscope is generally sufficient. **Our tip: mega macs X + MT-HV + MT 77, oscilloscope with 2 galvanically isolated input channels, sampling rate 64 MSa/s and max. bandwidth 10 MHz.**

## HIGH-VOLTAGE MULTIMETER

High-voltage measurement device for measuring voltage and resistance. Important measurements on electric vehicles are voltage measurements between 0 and 1,000 volts, insulation resistance measurements adjustable in variable increments, potential equalization measurements on HV components and resistance measurements, e.g. on the HV service disconnect plug. For these HV measurements, one input channel is sufficient. **Our solution: mega macs X + MT-HV up to 1,000 V.**

## HIGH-VOLTAGE TEST LEADS AND PROBES

Test leads especially for high-voltage measurements with large diameter. Safety is assured by features like the manual operating button which has to be pressed during the entire measurement procedure. **Our tip: HV test leads black/red with extra large contactor. If required, the test probes can be replaced and OE-specific adapters can be fitted.**

## GUIDED MEASUREMENTS

Semi-automatic user guidance with precise information on what measurement devices to use on the clearly defined interfaces. In the low-voltage range, the automatic setting of the measurement ranges and the automatic analyses of the measured values in relation to the vehicle- or component-specific nominal values. **Our solution: mega macs X + MT-HV (with MT 77) as from license X<sup>4</sup>.**

## IMPORTANT NOTICE

When working on high-voltage systems, always wear personal protective equipment (e.g. safety gloves and facial protection) and ensure a safe work environment (e.g. warning signs/barriers). Available from your trading partner.





# Customize your mega macs X

Thanks to our preconfigured software/license modules, you can customize your mega macs X according to your requirements. And if you need more later on, you simply switch to a more comprehensive package. After all, flexibility is the ability to respond to changing conditions in a flexible manner.

## GROW WITH YOUR CHALLENGES

Start small to make it really big later? Or hit the ground running? Whatever decision you take – it is the right one. After all, up- and downgrades are possible at any time.

This also applies if you add the optional motorbike license X-Bike Add-on to your portfolio. By the way, all your regular software updates are always free of charge.

SOFTWARE MODULES				
SDI module X <sup>1</sup>	SDI module X <sup>2</sup>	SDI module X <sup>3</sup>	SDI module X <sup>4</sup>	SDI module X <sup>5</sup>
LICENSES*				
License X <sup>1</sup>	License X <sup>2</sup>	License X <sup>3</sup>	License X <sup>4</sup>	License X <sup>5</sup>
FUNCTIONS				
<ul style="list-style-type: none"> <li>Reading/deleting trouble codes (without global check)</li> <li>DoiP technology</li> </ul>	<ul style="list-style-type: none"> <li>Reading/deleting trouble codes</li> <li>DoiP technology</li> <li>Service reset</li> <li>Basic setting</li> <li>Parameters</li> <li>Codings</li> <li>Actuator test</li> <li>Test function</li> <li>Proposed online solutions based on trouble codes</li> <li>Cyber Security Management</li> <li>Automated retrieval of kilometer/mileage reading</li> </ul>	<ul style="list-style-type: none"> <li>Reading/deleting trouble codes</li> <li>DoiP technology</li> <li>Service reset</li> <li>Basic setting</li> <li>Parameters</li> <li>Codings</li> <li>Actuator test</li> <li>Test function</li> <li>Proposed online solutions based on trouble codes</li> <li>Cyber Security Management</li> <li>Automated retrieval of kilometer/mileage reading</li> </ul>	<ul style="list-style-type: none"> <li>Reading/deleting trouble codes</li> <li>DoiP technology</li> <li>Service reset</li> <li>Basic setting</li> <li>Parameters</li> <li>Codings</li> <li>Actuator test</li> <li>Test function</li> <li>Proposed online solutions based on trouble codes</li> <li>Cyber Security Management</li> <li>Automated retrieval of kilometer/mileage reading</li> </ul>	<ul style="list-style-type: none"> <li>Reading/deleting trouble codes</li> <li>DoiP technology</li> <li>Service reset</li> <li>Basic setting</li> <li>Parameters</li> <li>Codings</li> <li>Actuator test</li> <li>Test function</li> <li>Proposed online solutions based on trouble codes</li> <li>Cyber Security Management</li> <li>Automated retrieval of kilometer/mileage reading</li> </ul>
MEASURING TECHNOLOGY**				
		<ul style="list-style-type: none"> <li>Multimeter</li> </ul>	<ul style="list-style-type: none"> <li>Multimeter</li> <li>2-channel oscilloscope</li> <li>Guided measurements</li> <li>Pressure measurements</li> </ul>	<ul style="list-style-type: none"> <li>Multimeter</li> <li>2-channel oscilloscope</li> <li>Guided measurements</li> <li>Pressure measurements</li> <li>Guided high-voltage measurements*</li> </ul>
		Required measurement technology (minimum): MT-HV with MT 56 or MT-USB	Required measurement technology (minimum): MT-HV with MT 77	Required measurement technology (minimum): MT-HV with MT 77
DATA				
	<ul style="list-style-type: none"> <li>HGS Data</li> </ul>	<ul style="list-style-type: none"> <li>Recall campaigns</li> <li>Component test values</li> <li>Component location</li> <li>Timing belt data</li> <li>Wiring diagrams</li> <li>Cabin air filter</li> <li>Fuses/relays</li> <li>Flat rate units</li> <li>Service data</li> <li>HGS Data</li> </ul>	<ul style="list-style-type: none"> <li>Recall campaigns</li> <li>Component test values</li> <li>Component location</li> <li>Timing belt data</li> <li>Wiring diagrams</li> <li>Cabin air filter</li> <li>Fuses/relays</li> <li>Flat rate units</li> <li>Service data</li> <li>HGS Data</li> <li>PIN data</li> <li>Service information</li> <li>Manufacturer campaigns</li> <li>Battery management</li> <li>Repair instructions</li> <li>Diesel information</li> <li>Interactive wiring diagrams</li> <li>Symptom-based solutions</li> </ul>	<ul style="list-style-type: none"> <li>Recall campaigns</li> <li>Component test values</li> <li>Component location</li> <li>Timing belt data</li> <li>Wiring diagrams</li> <li>Cabin air filter</li> <li>Fuses/relays</li> <li>Flat rate units</li> <li>Service data</li> <li>HGS Data</li> <li>PIN data</li> <li>Service information</li> <li>Manufacturer campaigns</li> <li>Battery management</li> <li>Repair instructions</li> <li>Diesel information</li> <li>Interactive wiring diagrams</li> <li>Symptom-based solutions</li> </ul>
SERVICES				
	<ul style="list-style-type: none"> <li>Call Flat (Technical Help Line)</li> </ul>	<ul style="list-style-type: none"> <li>Call Flat (Technical Help Line)</li> </ul>	<ul style="list-style-type: none"> <li>Call Flat (Technical Help Line)</li> </ul>	<ul style="list-style-type: none"> <li>Call Flat (Technical Help Line)</li> </ul>
NEW FUNCTIONS AND DATA TYPES				
				<ul style="list-style-type: none"> <li>ADAS &amp; LIGHTING</li> <li>E-mobility</li> </ul>

Software modules and licenses may vary from country to country. For motorbike diagnosis, two options will be available: The X-Bike license is aimed at workshops specializing in motorbikes only. Car workshops wishing to expand can add the optional X-Bike Add-on license to their portfolio.

\*corresponding software module required  
\*\*corresponding accessories required

# Technical Data

## TECHNICAL DATA MT-HV

Supply voltage	12–32 V
Power input	10 W type
Current draw	1 A
Dimensions	300 x 360 x 80 mm (L x W x H)
IP degree of protection	IP20
Overload protection	max. 1,000 volts
Measuring channels	1 (galvanically isolated)
Measured variables of HV modules	<ul style="list-style-type: none"> <li>• High-voltage measurement up to 1,000 volts</li> <li>• Potential equalization measurement</li> <li>• Insulation resistance measurement</li> <li>• Resistance measurement (service disconnect plug)</li> </ul>
Interfaces	USB-C, Bluetooth, RJ45
High-voltage test lead red	<ul style="list-style-type: none"> <li>• Length: 1,500 mm</li> <li>• Test probe holder with operating button and 4-mm test connection (safety connector) for manufacturer-specific test adapter</li> <li>• incl. removable test probe</li> </ul>
High-voltage test lead black	<ul style="list-style-type: none"> <li>• Length: 1,500 mm</li> <li>• Test probe holder with 4-mm test connection (safety connector) for manufacturer-specific test adapter</li> <li>• incl. removable test probe</li> </ul>

## MEGA MACS X

Processor	ARM dual processor 1.2 GHz RAM 2 GB DDR3, EMMC 32 GB
Interfaces	USB-C, Ethernet
Supply voltage	DC 12 V - 24 V
Dimensions	210 x 193 x 80 mm (H x W x D)
Requirements for the display unit	<ul style="list-style-type: none"> <li>• Screen diagonal 25.4 cm (10")</li> <li>• Screen resolution at least 1024*768 Pixel</li> <li>• Wi-Fi according to IEEE 802.11 n</li> <li>• Google Chrome browser at least version 81</li> </ul>

## HELLA GUTMANN SOLUTIONS


Unit 6, Appletree Industrial Estate  
Chipping Warden  
Oxon, OX17 1LL  
Tel.: +44 1295 662402  
E-mail: [hgs.support@hella.com](mailto:hgs.support@hella.com)  
[www.hella-gutmann.co.uk](http://www.hella-gutmann.co.uk)

2022-03

## TECHNICAL DATA MT 77

Supply voltage	5 V DC (via module interface)
Power input	10 W
Current draw	max. 2 A
Dimensions	43 x 110 x 136 mm (H x W x D)
IP degree of protection	IP20
Bandwidth	max. 10 MHz
Sampling rate	64 MSa/s 10 mmX
Memory depth	64 kB
Amplitude resolution	14 bit
Measuring channels	2 (galvanically isolated)
Measured variables	<ul style="list-style-type: none"> <li>• Voltage max. 200 V</li> <li>• Current (external clamp meter*)</li> <li>• Resistance</li> <li>• Pressure (external LPD-Kit*)</li> </ul>

## MEASURING TECHNOLOGY MT-USB

Supply voltage	5 V  (via USB)
Power input	max. 2.5 W
Current draw	max. 500 mA
Dimensions	38 x 102 x 130 mm (H x W x D)
IP degree of protection	IP20
Bandwidth	max. 100 kHz
Sampling rate	1 MSa/s
Amplitude resolution	12 bit
Measuring channels	2
Measured variables	<ul style="list-style-type: none"> <li>• max. 60 V</li> <li>• Current (external clamp meter*)</li> <li>• Resistance</li> </ul>

## HELLA GUTMANN TABLET

Software	Android 9.0
Display	X10.1" WUXGA 1200x1920 IPS 470 nits
Interfaces	Docking station, USB 3.0 USB 2.0, Micro USB 2.0
Wireless interfaces	Wi-Fi IEEE 802.11 a/b/g/n/ac Bluetooth® 4.1, Bluetooth® 4.2
Battery run time	up to 8.5 h
Dimensions	283.4 x 192 x 21.9 mm

\* Additional accessories required

You will find more detailed technical data at  
[www.hella-gutmann.com/manuals](http://www.hella-gutmann.com/manuals)