

ETAS ETAM3

XETK/FETK ECU Adapter, SAMTEC
FFSD - SAMTEC SFM (10fc - 10fc),
0m11

User Guide

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1 About this Document

1.1 Classification of Safety Messages

The safety messages used here warn of dangers that can lead to personal injury or damage to property:



DANGER

indicates a hazardous situation with a high risk of death or serious injury if not avoided.



WARNING

indicates a hazardous situation of medium risk, which could result in death or serious injury if not avoided.



CAUTION

indicates a hazardous situation of low risk, which may result in minor or moderate injury if not avoided.

NOTICE

indicates a situation, which may result in damage to property if not avoided.

1.2 Scope of Supply

Prior to the initial commissioning of the module, please check whether the product was delivered with all required components and cables (see chapter "Ordering Information"). Additional cables and adapters can be obtained separately from ETAS. A list of accessories and their order designation is available in this manual and at the ETAS Home Page.

2 Safety Information

2.1 General Safety Information

Please observe the Product Safety Notices ("ETAS Safety Notice") and the following safety notices to avoid health issues or damage to the device.



NOTE

Carefully read the documentation (Product Safety Advice and this User's Guide) that belongs to the product prior to the startup.

ETAS GmbH does not assume any liability for damages resulting from improper handling, unintended use or non-observance of the safety precautions.

2.2 Requirements for Users and Duties for Operators

The product may be assembled, operated and maintained only if you have the necessary qualification and experience for this product. Incorrect operation or operation by users without sufficient qualification may lead to injuries or death or property damages.

General Safety at Work

The existing regulations for safety at work and accident prevention must be followed. All applicable regulations and statutes regarding operation must be strictly followed when using this product.

2.3 Intended Use

An ETK is an electronic component that is installed in a vehicle control unit (ECU) to read data from the ECU or write data to the ECU.

Application Area of the Product

This product was developed and approved for automotive applications. For use in other application areas, please contact your ETAS contact partner.

Requirements for Operation

The following requirements are necessary for safe operation of the product:

- Use the product only according to the specifications in the corresponding User's Guide. With any deviating operation, the product safety is longer ensured.
- Observe the regulations applicable at the operating location concerning electrical safety as well as the laws and regulations concerning work safety!
- Do not apply any voltages to the connections of the product that do not correspond to the specifications of the respective connection.
- Connect only current circuits with safety extra-low voltage in accordance with EN 61140 (degree of protection III) to the connections of the product.
- The power supply for the product must be safely disconnected from the supply voltage. For example, use a car battery or a suitable lab power supply.
- Use only lab power supplies with double protection to the supply system.

- Ensure that the connections of the power supply are easily accessible.
- The module does not have an operating voltage switch.
 - Switch on the product by connecting the power supply cable with the power supply or by switching on the power supply.
 - Switch off the product by disconnecting it from the power supply or by switching off the power supply.



DANGER

Connect the power cord only with a vehicle battery or with a lab power supply! A connection to power outlets is prohibited.

- Route the power cord in such a way that it is protected against abrasion, damages, deformation and kinking. Do not place any objects on the power cord.
- Never apply force to insert a plug into a socket. Ensure that there is no contamination in and on the connection, that the plug fits the socket, and that you correctly aligned the plugs with the connection.
- Do not use the product in a wet or damp environment.
- Do not use the product in potentially explosive atmospheres.
- Keep the surfaces of the product clean and dry.

Potential Equalization



CAUTION

Danger from inadvertent current flow!

Depending on the design, the shield of the Ethernet cables can be connected with the housing of the module. Install the products only on components with the same electrical potential or isolate the products from the components.

Requirements for the technical State of the Product

The product is designed in accordance with state-of-the-art technology and recognized safety rules. The product may be operated only in a technically flawless condition and according to the intended purpose and with regard to safety and dangers as stated in the respective product documentation. If the product is not used according to its intended purpose, the protection of the product may be impaired.

Maintenance and Cleaning

The product is maintenance-free. Use a lightly moistened, soft, lint-free cloth for cleaning the product. Ensure that no moisture can enter. Never spray cleaning agents directly onto the product. Do not use any sprays, solvents or abrasive cleaners which could damage the product.

Transport and Installation



CAUTION

The Product can be damaged or destroyed!

Some components of the ETK board may be damaged or destroyed by electrostatic discharges. Please keep the ETK in its storage package until it is installed. The board should only be taken from its package, configured, and installed at a workplace that is protected against static discharge.



CAUTION

During installation and removal, ECU and ETK must be in a de-energized state!



CAUTION

Risk of short circuiting the internal signals of the Product!

When you mount the Product, you must ensure that the screws and washers used will not penetrate the Product printed circuit board.



CAUTION

Differences in case ground potentials can cause high currents to flow through the shields of the cables that connect various system modules.

Ensure that the module mounting surfaces are at the same electrical potential or insulate the modules from their mounting surfaces.

Cabling

Use exclusively ETAS cables at the connections of the product! Adhere to the maximum permissible cable lengths! Observe the assignment of the cables to the connectors! Detailed information about cabling is located in the ETK User's Guides.

2.4 Identifications on the Product



Fig 1 Adhesive Label (Example: Label for XETK-S14.0A)

The following symbols are used for identifications of the product:

Symbol	Description
	The User's Guide must be read prior to the startup of the product!
	Symbol for WEEE, see chapter 0 on page 9
	Symbol for CE conformity, see chapter 2.6 on page 9
	Symbol for CE conformity, see chapter 2.7 on page 9
	Symbol for China RoHS, see chapter 2.8.1 on page 9
	Symbol for China RoHS, see chapter 2.8.2 on page 9
	Symbol for electrostatic sensitive components
XETK-S14.0A	Product designation (example)
F 00K 110 722	Order number of the product (example)
SN: yyxxxxx	Serial number (7-digit), depending on product Serial Number is not available.
XXXX/YY	Product version
ZZZZ	Year of manufacture
ETAS GmbH, PO Box 300220, 70442 Stuttgart, Germany	Manufacturer's address



NOTE

For symbols and product information one or several adhesive labels can be used.

2.5 Taking the Product Back and Recycling

The European Union has passed a directive called Waste Electrical and Electronic Equipment, or WEEE for short, to ensure that systems are setup throughout the EU for the collection, treating and recycling of electronic waste. This ensures that the devices are recycled in a resource-saving way representing no danger to health or the environment.



Fig 2 WEEE symbol

The WEEE symbol (see Fig 2) on the product or its packaging shows that the product must not be disposed of as residual garbage. The user is obliged to collect the old devices separately and return them to the WEEE take-back system for recycling. The WEEE directive concerns all ETAS devices but not external cables or batteries. For more information on the ETAS GmbH Recycling software, contact the ETAS sales and service locations.

2.6 CE marking

With the CE mark attached to the product or its packaging, ETAS confirms that the product corresponds to the applicable product-specific European Directives. The CE Declaration of Conformity for the product is available upon request.

2.7 UKCA Declaration of Conformity (Great Britain)

With the UKCA mark attached to the product or its packaging, ETAS confirms that the product corresponds to the product-specific, applicable standards and directives of Great Britain. The UKCA declaration of conformity for the product is available on request.

2.8 RoHS Conformity

2.8.1 European Union

The EU Directive 2011/65/EU limits the use of certain dangerous materials for electrical and electronic devices (RoHS conformity). ETAS confirms that the product corresponds to this directive which is applicable in the European Union.

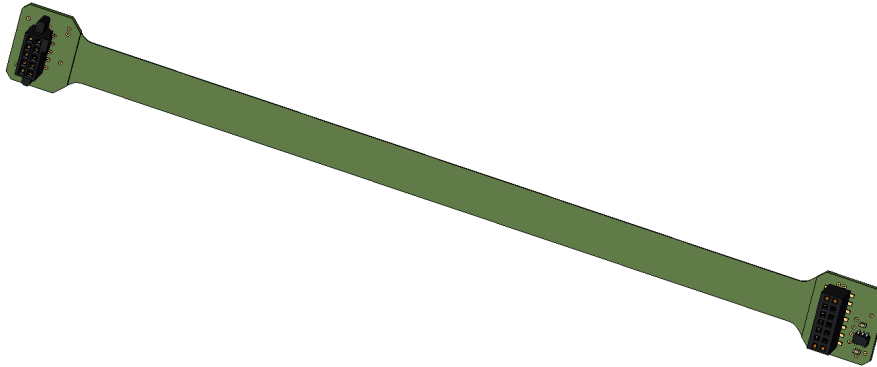
2.8.2 China

ETAS confirms that the product meets the product-specific applicable guidelines of the China RoHS (Management Methods for Controlling Pollution Caused by Electronic Information Products Regulation) applicable in China with the China RoHS marking affixed to the product or its packaging.

3 Introduction

ETAM3 adapts ECU a 10 pin SAMTEC TFM-105 connector to an XETK. To increase to signal-noise ratio there is a buffer in the /TRST line supplied by the VDD(Sense) Voltage. L-FAST Mode is not possible with the ETAM3 adapter.

3.1 View



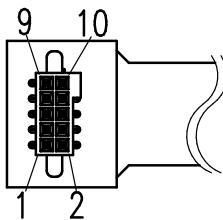
NOTE

Minimum bending radius for the flex foil is 3mm.

4 Technical Data

4.1 ECU Connector

In order to be able to use the ETK adapter ETAM3 in the ECU, a 10 pin SAMTEC connector (e. g. TFM-105-02-S-D-P) must be available on the ECU. JTAG or DAP mode depends on the used FETK or XETK.



Pin Number	JTAG Mode	DAP Mode
1	GND	GND
2	TCK	DAP0
3	/TRST	/TRST
4	TDO	DAP2
5	TMS	DAP1
6	TDI	-
7	WDGDIS	WDGDIS
8	VDD (Sense)	VDD (Sense)
9	/RESETOUT	/RESETOUT
10	/PORESET	/PORESET

4.2 Electrical Characteristics for /TRST Signal

Supply /TRST Buffer

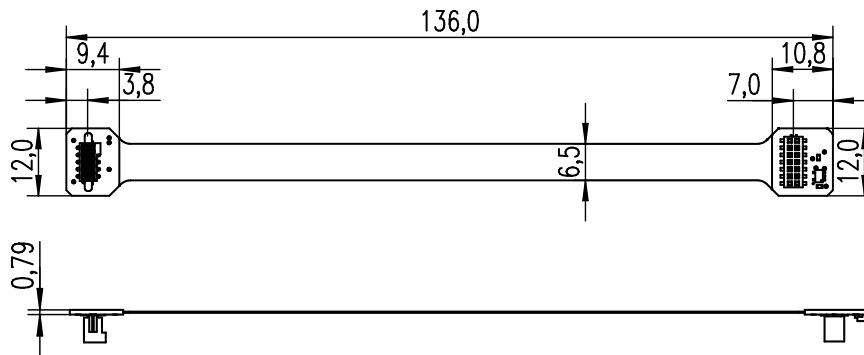
Signal	Condition	VIHmin	VIHmax
VDD(Sense)	ECU on	3.0V	5.5V

/TRST Output Signal

Signal	Condition	VOHmin	VOHmax	VOLmax
/TRST	VDD(Sense)=3V IOH = 4mA	2.34V	VDD(Sense)	0.52V
/TRST	VDD(Sense)=4.5V IOH = 8mA	3.66V	VDD(Sense)	0.52V

4.3 Measurement Drawings

Measured in mm



4.4 Temperature Range

Condition	Temperature
Operating Temperature	-40 °C - +110 °C

5 Ordering Information

Short Name	Order Number
ETAM3	F 00K 109 673

6 ETAS Contact Addresses

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70469 Stuttgart

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ETAS Subsidiaries and Technical Support

For details of your local sales office as well as your local technical support team and product hotlines, take a look at the ETAS website:

ETAS subsidiaries WWW: www.etas.com/en/contact.php

ETAS technical support WWW: www.etas.com/en/hotlines.php