

ES59x

ECU and bus interface modules



The compact hardware modules of the ES59x series, ES592, ES593-D, and ES595, support the ECU and bus interfaces Ethernet/XETK, ETK, FlexRay, CAN, and LIN (see also table “Overview of ES59x Interfaces” on next page). The interfaces are used for ECU calibration, diagnostics, flash programming, and for bus monitoring with INCA.

For integrating the ES59x modules with other tool environments, ETAS provides C libraries. All ES59x modules are connected to the host application via Fast Ethernet.

The right interface

For connecting and synchronizing XETK ECUs, additional interface hardware or measurement modules, the ES592, ES593-D and ES595 modules are equipped with further Ethernet interfaces in addition to the PC port.

The module types ES592 and ES595 each provide one ETK, two CAN and two LIN connections. In addition, the ES595 module offers a two channel FlexRay interface.

At a glance

- Compact hardware modules with Ethernet/XETK, ETK, FlexRay, CAN, and LIN interfaces suitable for in-vehicle use
- ECU calibration, diagnostics and flash programming
- Bus monitoring and logging
- Collection of time synchronous data
- Seamless integration with INCA
- Open interface for integration with existing tool environments

Fully compatible

All ES59x modules come in the same compact housing and can be easily connected to each other or to the measurement modules of the ES600 and ES400 product families. The INCA configurations of the ES59x hardware and the preceding ES590/ES591 units are compatible.

For the modules, Y-cables are offered. Those provide for connecting two serial buses to the double-assigned jacks of the devices.



Technical overview of ES59x interfaces

Module	ECU and bus interfaces				Interfaces for device connection	
	ETK	FlexRay	CAN	LIN	Ethernet	
					PC/Upstream module	Downstream module
ES592	1 x	-	2 x High/Low Speed	2 x	1 x	2 x
ES593-D	1 x	-	4 x High Speed	-	1 x	2 x
ES595	1 x	2 channels	2 x High/Low Speed	2 x	1 x	1 x

Technical data

Size and Weight

Dimensions (HxWxD) 45x127x160 mm/1.75x5.0x6.3 in

Weight Approx. 800 g/approx. 1.8 lbs

Environment

Temperature range -40 °C to +70 °C/-40 °F to +158 °F (operation)
-40 °C to +85 °C/-40 °F to +185 °F (storage)

Tested for Mechanical shock, vibration, fall, temperature shock, temperature alteration, according to EN 60068 and ISO 16750

Power supply

Operating voltage 7 V to 29 V DC

Power consumption 500 mA at 14.4 V (typical, operation), 20 mA at 14.4 V (typical, stand-by)

Power management Power-on/off when Ethernet traffic starts/stops (wake-up/stand-by) (PC or upstream module on/off), power-on when CAN traffic starts (ES593-D)

Protection Reverse voltage protection, load dump protection

Ethernet interfaces

Connection and protocols 10/100 Base-T; TCP/IP

Time synchronization Time resolution: 1 µs

Power supply of connected devices ES4xx and ES6xx measurement modules, XETKs

ECU and bus interfaces

ETK/XETK Universal ECU interface for demanding measurement applications

FlexRay (ES595) 1 FlexRay V2.1 interface with 2 channels A and B and one additional internal node for synchronizing the FlexRay bus

LIN (ES595/ES592) 2 channels, LIN V2.0

CAN (ES595/ES592) 2 channels, optionally High Speed (up to 1 Mbaud) or Low Speed

CAN (ES593-D) 4 High Speed channels

Status display

LEDs Operation, interfaces, synchronization

Compatible hardware

PC/ETAS Upstream modules Desktop or Laptop-PC with Ethernet port, module ES592, ES593-D, ES595, and ES600 Network and Interface Modules

ETAS Downstream modules ES592, ES593-D, ES595, ES600 Network Module and Interface Modules, ES4xx and ES6xx Measurement Modules, ES910 Prototyping and Interface Module, XETK



For ordering information and accessories for the ES59x modules please refer to www.etas.com/ES59x.