

ES620

Thermo Module of the Compact Device Family



Robust, powerful measuring modules must be easy and convenient to cable and easy to integrate into the measurement and calibration system being used. ETAS has developed a new family of compact modules that meets these requirements. Of this family, the ES620 is the member that measures temperatures.

The metallic housings of this new module family are robust and appealing, and thanks to a clever idea, it is easy to quickly connect the modules of this generation with each other to simplify handling several devices. A well thoughtout cable concept makes it possible to connect the modules quickly and intuitively in a manner that protects them from polarity inversion. The modules are well suited for rough handling during calibration in the vehicle and on the test bench.

Modern and Proven Transmission Protocol

A proven and powerful Ethernet with TCP/IP protocol is used to transfer data between the modules and to the PC. In contrast to CAN and SMB there are no bandwidth limitations.

Easy module handling with automatic assignment of IP addresses, future integration into the in-house network, and diagnosis and re-

mote maintenance of the modules via the Internet are just a few of the benefits of this technology.

If several measurement modules are used in a network, the ES600 system module synchronizes the connected modules and thus ensures a time stability in the range of milliseconds.

Automotive Temperature Measurement

Temperature measurements using a thermocouple means measuring voltage in the microvolt range. The ES620 captures signals from temperature sensors via 16 channels that are electrically isolated from each other and from the supply voltage to achieve a consistently high common-mode rejection. This ensures maximum measuring accuracy even with non-potentialfree thermocouples. A separate cold-junction compensation at each input connector significantly minimizes the measurement error, even when ambient temperatures are fluctuating (e.g., due to strong sunlight).

The ES620 supports type J, K and N thermocouples covering a measuring range of -210 °C to +1372 °C (-346 °F to 2502 °F). The module operates at a resolution of 21

At a Glance

16 electrically isolated measuring channels for temperature sensors

Measuring channels electrically isolated from the supply voltage

Adjustable acquisition rate per channel; 10 samples/s to 0.1 samples/s

Parameterized software filter for signal smoothing

High measuring accuracy through 21 Bit resolution

Automotive measuring range of -210 °C to 1372 °C (-346 °F to 2502 °F)

Use of J, K and N type thermocouples

Data transfer to PC via Ethernet

Solid, functional metal housing

Member of the ETAS Tool Family – supported by INCA

Calibration service

Bit over the entire range, which allows a minimum measurement unit of 0.01 °C with a basic accuracy of ±0.25 °C (K type). Furthermore, the software filters and sampling rates can be optimized separately for each module.

Tailored for the Automotive Industry

The ES620 uses a power-saving transfer rate of 10 MBit/s to minimize the power consumption and heat-up of the device. In addition, the module detects when the connection to the PC is interrupted and automatically switches to stand-by mode. This redu-

ces the load on the vehicle electrical system. The ES620 can also be connected directly to the battery voltage supply for long periods. Furthermore, the ES620 has a wide temperature range suitable for tests in winter as well as in summer. Like other ETAS products, the input voltage range is suitable for automotive applications and protected against reverse voltage, and solid plug connectors are used for connections to the module.

Technical Data

Item	Characteristics	Beschreibung
General	Dimensions (H/ W/D)	72 x 125 x 160 mm / 2.8 x 4.9 x 6.3 in.
	Weight	1020 g / 2.25 lbs
	Temperature range	-40 to +70 °C / -40 to 158 °F (operation); -40 to +85 °C / -40 to 185 °F (storage)
Power supply	Operating voltage (reverse voltage protection)	6 to 32 V DC, reverse-voltage protected up to 40 V, protected against load dump
Current consumption	Continuous/Stand-by	220 mA (continuous); 5 mA (stand-by), each at 12 V
PC interface	Connection	10 MBit/s Base-T Ethernet
	Protocol	TCP/IP
	IP address	Dynamically via INCA
Inputs	Number of channels	16
	Resolution	21 Bit, corresponding to 0.01 °C
	Acquisition rate	0.1 samples/s to 10 samples/s, configurable per channel
	Limit frequency	10 Hz
	Input impedance	> 10 MΩ 1 nF
	Electrical isolation of inputs	±100 V channel to channel, channel to supply voltage
	Maximum allowed input voltage	32 V
Support by ETAS Software		INCA

ETAS Locations Worldwide

Germany

Stuttgart (Headquarter)

Brazil

São Bernardo do Campo

Canada

Waterloo

France

Saint-Ouen

India

Bangalore

Pune

Italy

Bari

Modena

Turin

Japan

Nagoya

Utsunomiya

Yokohama

Korea

Seongnam-si

P.R. China

Beijing

Changchun

Chongqing

Guangzhou

Shanghai

Wuhan

Sweden

Gothenburg

United Kingdom

Derby

York

USA

Ann Arbor

www.etas.com



www.etas.com/es620

For complete ordering information and accessories for the ES620 module, please refer to www.etas.com/ES620.

For more information, please contact your local ETAS representative.