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Find the *ETAS ES1000.2* at our website: *Click HERE*

# ES1000.2 Housing

User's Guide

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# 1 Introduction

The ES1000 system comes in a strong, EMC-tight metal housing (ES1000.2) making it ideal for mobile use in an automobile. It has nine VME slots, eight of which are available for additional interface cards. The ES1000 housing has an actively terminated VME64x backplane.

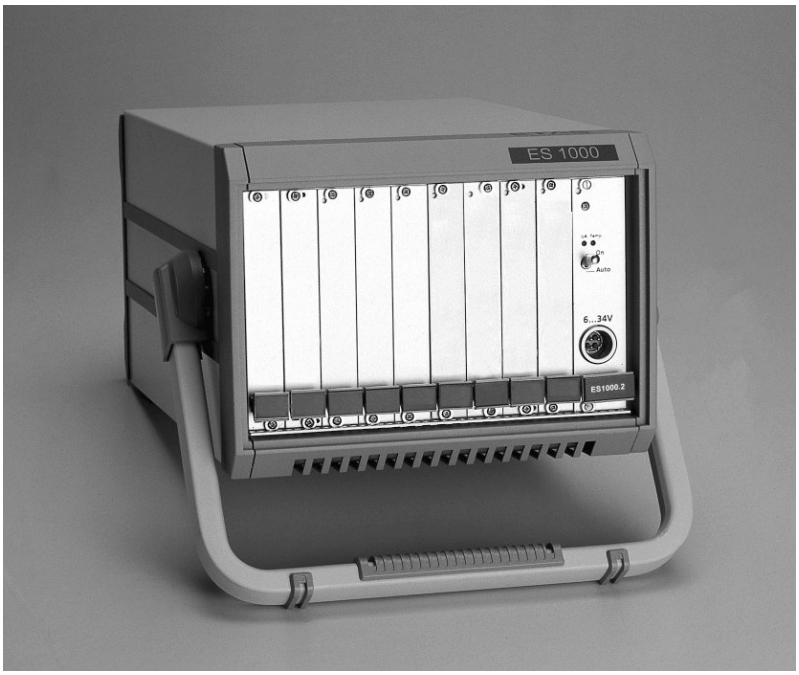



**Fig. 1-1** ES1000.2 Housing



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## 1.1 Block Diagram

The figure below is a block diagram showing the housing functions.

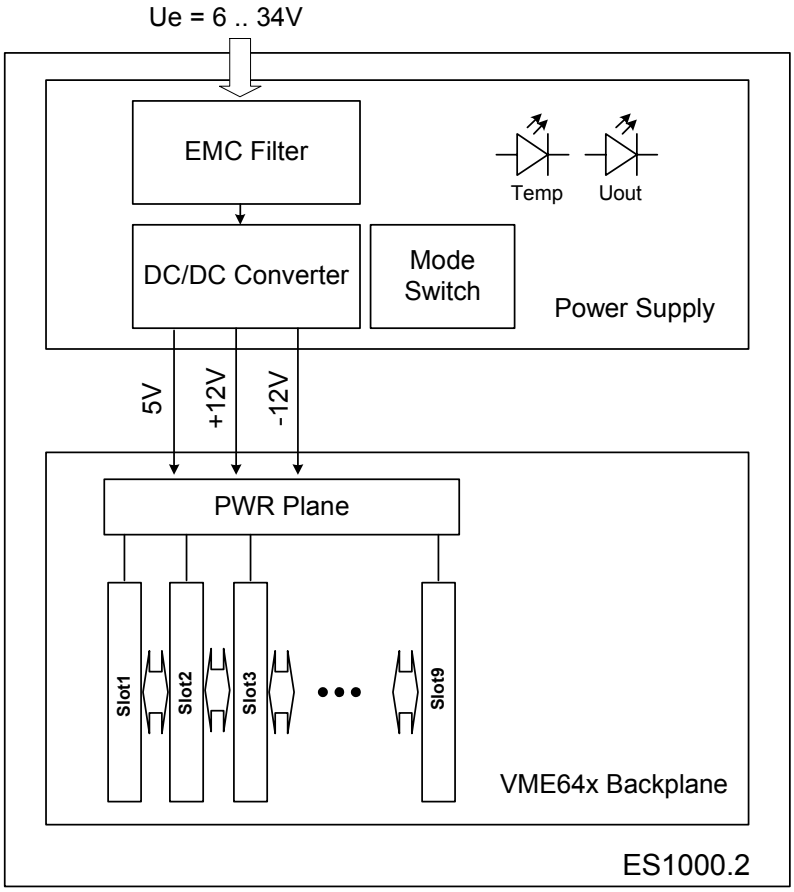



**Fig. 1-2** Block Diagram of the ES1000.2 Housing



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# 2 Features

## 2.1 Slots

The housing has 9 slots with a width of 4 HP each. The slots are designed for standard Eurocard-size boards measuring 100 mm x 160 mm. The front panel height of the boards is 3 U.

## 2.2 Backplane

The backplane of the housing is 160-pin. The pin assignment corresponds to the extended VMEbus standard, VME64x. Both VMEbus standard and extended VME64x standard boards can be used.

## 2.3 Fan

The housing is equipped with three temperature-controlled fans. The quantity of air supplied automatically adapts to the heat emission of the boards and the temperature of the ambient air.

## 2.4 Power Supply

Power is supplied via a Lemo jack using the K100 cable. During mobile operation, power must be supplied to the system from the "continuous plus" of the vehicle's onboard power supply.

**note**

*During continuous operation at high ambient temperatures, the input voltage should be at least 8 V.*



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# 3 Power Supply

The power supply of the ES1000.2 housing is also specifically suited for use in an automobile. It has the following equipment features:

- broad input voltage range
- transient filter (meets ISO 7637-1)
- active reverse-connect protection
- output voltage monitoring
- temperature monitoring
- sustained-short-circuit-proof
- power monitor in accordance with VMEbus specification (ACFAIL/SYSRESET)

The following figure shows the front panel of the power supply:

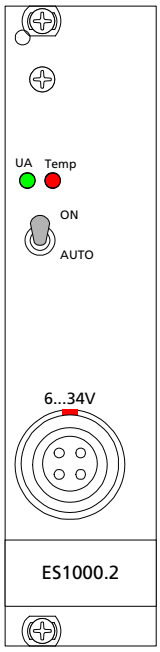



**Fig. 3-1** Front Panel of the ES1000.2 Power Supply

## 3.1 Displays

There are two LED displays on the front panel of the power supply:



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- voltage monitoring (green): if the green LED is lit, all output voltages are within their nominal range.
- temperature check (red): if the red LED is lit, the ES1000.2 should be switched off to prevent damage from overheating.

## 3.2 Switches

- ON means it is in operation
- AUTO means the power supply is switched off

## 3.3 Connectors

The voltage is supplied via a Lemo connection. The following figure shows the Lemo jack - the pin assignment is listed in the table.

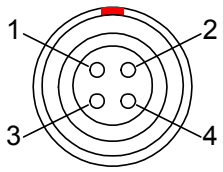



**Fig. 3-2** Connectors for the Power Supply

| Pin | Function | Pin | Function |
|---|---|---|---|
| 1 | 'Continuous plus' | 2 | Ground |
| 3 | 'Continuous plus' | 4 | Ground |

**Tab. 3-1** Pin Assignment: Power Supply



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# 4 Operation

This section provides information about the installation and removal of the VMEbus boards and automatic overcurrent protection of the housing.

## 4.1 Installation of VMEbus Boards

Some VMEbus boards need to be configured before they can be installed. Take a look at the relevant board manual for details.

**note**

*The boards may only be configured and installed at a workplace that is protected against electrostatic discharges.*

**Installing a Board**

1. Turn off the power to the housing. Check that all devices connected to the housing by cable have also been powered off.
2. If the slot in which you want to install the board is protected by a cover, remove this cover.
3. Insert the board into the slot. Make sure that the top and bottom of the board smoothly slide into the guide rails.
4. Push the board in until the connector securely locks into place.
5. Tighten the mounting screws for the front panel of the board.
6. Connect the required cables to the front panel connectors.

## 4.2 Removal of VMEbus Boards

**note**

*The boards may only be removed at a workplace that is protected against electrostatic discharges.*

**Removing a Board**

1. Turn off the power to the housing. Check that all devices connected to the housing by cable have also been powered off.



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2. Disconnect all connectors from the board you want to remove.
3. Loosen the mounting screws at the top and bottom edge of the board's front panel.
4. Grasp the handle of the board and carefully pull it out.
5. Slide the board into its storage package or an anti-static bag.
6. Secure the slot with a protective cover.

## 4.3 Automatic Overcurrent Protection

The AC unit in the housing is provided with an automatic overcurrent protection. If the AC unit detects an overcurrent condition for an output voltage, it shuts down all outputs. The corresponding front panel LED goes out. The AC unit's overcurrent protection can be reset by briefly switching it off.

**Resetting the Automatic Overcurrent Protection**

1. Turn off the power to the housing.
2. Wait approximately one minute.
3. Turn the power to the housing back on.



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# 5 Technical Data

This section contains the technical data on the ES1000.2 housing in tabular form.

| | |
|---|---|
| Mechanical structure | 19“ housing |
| Slots | 9 slots (4 HP wide) for standard Eurocard-size boards (100 mm x 160 mm) |

## *Housing*

| | |
|---|---|
| Height | 180 mm |
| Width | 235 mm |
| Depth | 360 mm |
| Ambient temperature | -40...+70 °C |

## *Power Supply*

| | |
|---|---|
| Size | 19", 3 U, half width |
| Dimensions (L x W x H) | 35.5 x 23.5 x 17.5 cm |
| Input voltage | 6...34 V DC, min. 8 V for continuous operation |
| Power input | typ. 50...60 W, max. 150 W |
| Output voltage/current | 5 V max. 15 A<br>12 V max 1 A |
| Residual ripple | < 50 $mV_{ss}$ |

## *Backplane*

| | |
|---|---|
| Standard | VME64x |
| Number of pins | 160 per slot |
| Compatibility | Standard VMEbus<br>VME64x |



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*Fan*

| | |
|---|---|
| Control | Temperature sensor in the area of the boards |



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# 14 Technical Data

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# 6 ETAS Contact Addresses

*ETAS HQ*

**ETAS GmbH**

| | | |
|---|---|---|
| Borsigstr. 14 | Phone: | +49 (711) 8 96 61-0 |
| 70469 Stuttgart | Fax: | +49 (711) 8 96 61-105 |
| Germany | E-mail: | sales@etas.de |
| | WWW: | www.etas.de |

*France*

**ETAS SAS**

| | | |
|---|---|---|
| 1, place des Etats-Unis | Phone: | +33 (1) 56 70 00 50 |
| SILIC 310 | Fax: | +33 (1) 56 70 00 51 |
| 94588 Rungis Cedex | E-mail: | sales@etas.fr |
| France | WWW: | www.etas.fr |

*Great Britain*

**ETAS Engineering Tools Application and Services Ltd.**

| | | |
|---|---|---|
| Studio 3, Waterside Court | Phone: | +44 (0) 1283 - 546512 |
| 3rd Avenue, Centrum 100 | Fax: | +44 (0) 1283 - 548767 |
| Burton-upon-Trent | E-mail: | sales@etas-uk.net |
| Staffordshire DE14 2WQ | WWW: | www.etas-uk.net |
| England | | |

*Japan*

**ETAS K.K.**

| | | |
|---|---|---|
| 9-1, Ushikubo 3-chome, | Phone: | +81 (45) 912-9550 |
| Tsuzuki-ku | Fax: | +81 (45) 912-9552 |
| Yokohama 224-0012 | E-mail: | sales@etas.co.jp |
| Japan | WWW: | www.etas.co.jp |



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*Korea*

**ETAS Korea Co. Ltd.**

| | | |
|---|---|---|
| 3F, Samseung Bldg. | Phone: | +82 (2) 5747 016 |
| 61-1, Yangjae-dong | Fax: | +82 (2) 5747 120 |
| Seocho-gu | E-mail: | sungik.hong@etas.co.kr |
| Seoul | | |
| Republic of Korea | | |

*North America*

**ETAS Inc.**

| | | |
|---|---|---|
| 3021 Miller Road | Phone: | +1 (888) ETAS INC |
| Ann Arbor, MI 48103 | Fax: | +1 (734) 997-9449 |
| USA | E-mail: | sales@etasinc.com |
| | WWW: | www.etasinc.com |

*South America*

**UNIT**

| | | |
|---|---|---|
| Av. Cel Amancio Bueno, 30 | Phone: | +55 (19) 3242 0620 |
| Jd. Chapadao | Fax: | +55 (19) 3241 96 96 |
| Campinas SP 13066 740 | E-mail: | unit@mpc.com.br |
| Brazil | | |



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