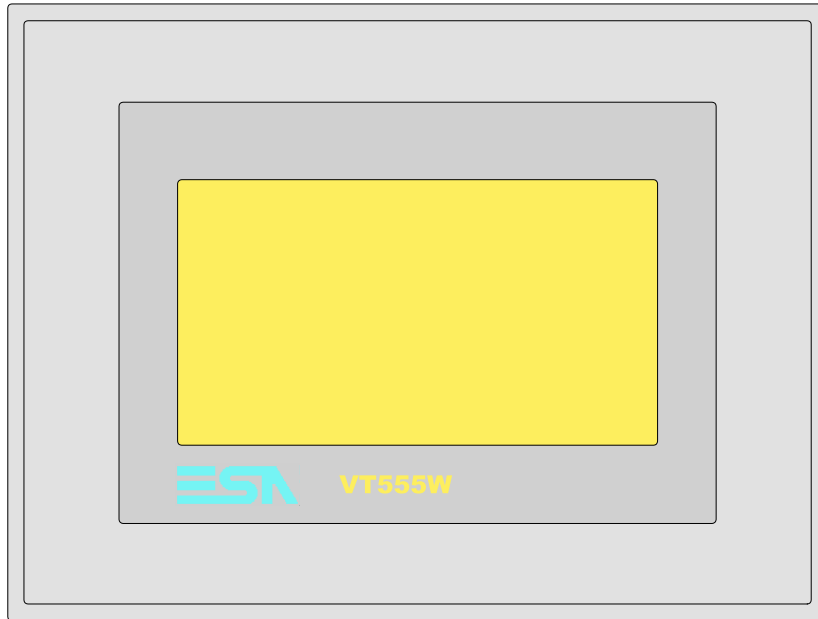

Chapter 20 Video terminal VT555W

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This chapter consists of 20 pages.



Technical characteristics The following table lists the principal technical characteristics of the product in question.

| Code of terminal | | Characteristics of terminal | | | | | |
|--|---|-----------------------------|---|---|---|---|---|
| VT555W 00000 | | | | | | | |
| VT555W A0000 | | | | | | | |
| VT555W AP000 | | | | | | | |
| VT555W A00DP | | | | | | | |
| VT555W AP0DP | | | | | | | |
| VT555W 000CN | | | | | | | |
| Display | | | ▼ | ▼ | ▼ | ▼ | ▼ |
| Type | LCD Monochromatic STN | ● | ● | ● | ● | ● | ● |
| | LCD 16 Colors STN | | | | | | |
| | LCD 16 Colors TFT | | | | | | |
| Touch screen | Matrix 20 x 8 (Cell:12x16 pixels) | ● | ● | ● | ● | ● | ● |
| Representational format | Graphic | ● | ● | ● | ● | ● | ● |
| Resolution [pixels] | 240 x 128 | ● | ● | ● | ● | ● | ● |
| Rows by characters | 16 x 40 / 8 x 20 / 4 x 10 | ● | ● | ● | ● | ● | ● |
| Display area size [mm] | 123 x 68 (5,5") | ● | ● | ● | ● | ● | ● |
| Character matrix in text mode [pixels] | 6 x 8 / 12 x 16 / 24 x 32 | ● | ● | ● | ● | ● | ● |
| Character size [mm] x 1 / x 2 / x 4 | 3 x 4 / 6 x 8 / 12 x 16 | ● | ● | ● | ● | ● | ● |
| Contrast adjustment | Software | ● | ● | ● | ● | ● | ● |
| | Automatic compensation with temperature | | | | | | |
| Character sets * | Programmable fonts/TTF Windows ® | ● | ● | ● | ● | ● | ● |
| Backlighting | | | | | | | |
| Type | LED | | | | | | |
| | CCFL lamp | ● | ● | ● | ● | ● | ● |
| Minimum lamp-life at 25°C [hours] | 15000 | ● | ● | ● | ● | ● | ● |

* VT555W 00000 only programmable fonts

| Code of terminal | Characteristics of terminal | | | | | |
|--|-----------------------------------|---|---|---|---|---|
| VT555W 00000 | | | | | | |
| VT555W A0000 | | | | | | |
| VT555W AP000 | | | | | | |
| VT555W A00DP | | | | | | |
| VT555W AP0DP | | | | | | |
| VT555W 000CN | | | | | | |
| User memory | | | | | | |
| Project [Bytes] | 256K + 384K (Text + Graphics) | | | | | |
| | 192K + 384K (Text + Graphics) | ● | ● | ● | ● | ● |
| Data memory [Bytes] | 32K (With back-up battery) | | | | | ● |
| | 128K (With back-up battery) | ● | ● | ● | ● | |
| Memory for Windows ® -based fonts [Byte] | 64K | | | | | |
| Memory Card for backup | -- | | | | | |
| Memory Card for expansion | -- | | | | | |
| Interfaces | | | | | | |
| MSP (Multi-serial port) | RS232/RS422/RS485/TTY-20mA | ● | ● | ● | ● | ● |
| ASP (Auxiliary serial port) | RS232/RS485 | | ● | ● | ● | ● |
| ASP-15L (Auxiliary serial port) | RS232/RS485 | | | | | |
| ASP-8 (Auxiliary serial port) | RS232 | | | | | |
| ASP-9 (Auxiliary serial port) | RS232 | | | | | |
| LPT parallel port | Centronics | | ● | | ● | |
| Auxiliary port | Connections for accessories | | | | | |
| Accessories | | | | | | |
| Connectable accessories | See table "Chapter 33" | ● | ● | ● | ● | ● |
| Clock | | | | | | |
| Clock | Hardware (With back-up battery) | ● | ● | ● | ● | ● |
| Networks | | | | | | |
| Integrated | Profibus-DP | | ● | ● | | |
| | CAN Open (Optoisolated interface) | ● | | | | |
| | Ethernet 10/100Mbit RJ45 | | | | | |
| Universal Bus Connector | -- | | | | | |
| Optional | See table "Chapter 33" | ● | ● | ● | ● | ● |
| Proprietary networks | | | | | | |
| ESA-Net | Network server | ● | ● | ● | ● | ● |
| | Network client | ● | ● | ● | ● | ● |
| Technical data | | | | | | |
| Power supply | 24Vdc (18..32Vdc) | | | | | |
| Power absorbed at 24Vdc | 15W | | | | | |
| Protection fuse | Ø5x20mm - 800mA Quick Blow F | | | | | |
| Protection level | IP65 (front-end) | | | | | |
| Operating temperature | 0..50°C | | | | | |
| Storage and transportation temperature | -20..+60°C | | | | | |
| Humidity (non-condensing) | <85% | | | | | |
| Weight | 1400gr | | | | | |
| Dimensions | | | | | | |
| External W x H x D [mm] | 210 x 158 x 54 | | | | | |
| Cut-out W x H [mm] | 198 x 148 | | | | | |
| Certification | | | | | | |
| Certifications and approvals | CE, cULus, NEMA12 | | | | | |

* VT555W 00000 only programmable fonts

Functions

The following table lists in alphabetical order all the functions of the VT in question.

Table 20.1: Functions and objects realizable with this VT (Part 1 of 4)

| Code of terminal | | |
|--|------------|---|
| VT555W **** | | |
| Objects/Functions | Quantity | ▼ |
| Alarm field | | ● |
| Alarm help | 1024 | ● |
| Alarm history buffer | 256 | ● |
| Alarm statistics | | |
| Alarms (Total/active simultaneously) | 1024/256 | ● |
| Arc | | ● |
| Automatic operations | 32 | ● |
| Backup/Restore | | ● |
| Bar data | | ● |
| Bit-wise password | 8bits | ● |
| Buttons | 160 x page | ● |
| Circles | | ● |
| Command: Change language | | ● |
| Command: Clear trend buffer | | ● |
| Command: Delete recipe | | ● |
| Command: Hardcopy | | ● |
| Command: Load recipe from data memory | | ● |
| Command: Modify password | | ● |
| Command: Next page | | ● |
| Command: Page help | | ● |
| Command: Password login | | ● |
| Command: Password logout | | ● |
| Command: Previous page | | ● |
| Command: Print alarm history | | ● |
| Command: Printer form feed | | ● |
| Command: Quit project | | ● |
| Command: Report | | ● |
| Command: Restarts reading time-sampled trend | | ● |
| Command: Run pipeline | | ● |
| Command: Save alarms history and trend buffers in flash | | |
| Command: Save recipe in data memory | | ● |
| Command: Save recipe received from device in buffer | | ● |
| Command: Save recipe received from device in data memory | | ● |
| Command: Send recipe from video buffer to device | | ● |
| Command: Send recipe to device | | ● |
| Command: Service page | | ● |

Unless otherwise stated, there is no limit to the number of includable elements, only the size of project memory sets a limit.
*) indicative value determined by the dimensions of the project, **) depends on memory available

Table 20.1: Functions and objects realizable with this VT (Part 2 of 4)

| Code of terminal | | |
|--|-----------|---|
| VT555W **** | | |
| Objects/Functions | Quantity | ▼ |
| Command: Show alarms history | | ● |
| Command: Show page directory | | ● |
| Command: Show project information | | ● |
| Command: Show recipe directory | | ● |
| Command: Show sequence directory | | |
| Command: Shows driver status page | | ● |
| Command: Shows page help | | ● |
| Command: Shows page with function: PG | | |
| Command: Stops reading time sampled trend | | ● |
| Command: Trend reading saved in device | | ● |
| Command: Zero number of general pages | | ● |
| Date field | | ● |
| Day-of-the-week field | | ● |
| Dynamic texts: Bit-group-structured dynamic texts | 1024* | ● |
| Dynamic texts: Single-bit dynamic texts | | ● |
| Dynamic texts: Value-structured dynamic texts | | ● |
| E-keys | | |
| Equations | 32 | ● |
| F-keys | | |
| Free terminal | | |
| Function: Disables key | | |
| Function: Go to page | | ● |
| Function: Internal command | | ● |
| Function: Invert bit value | | ● |
| Function: Macro | | ● |
| Function: None | | |
| Function: Reset bit permanently | | ● |
| Function: Reset real-time bit | | ● |
| Function: Sequences | | |
| Function: Sets bit permanently | | ● |
| Function: Sets real-time bit | | ● |
| Function: Value-structure direct command | | ● |
| Global configuration of E-keys | | |
| Global configuration of F-keys | | |
| Headers and footers (Total/Number of fields per H-F) | 128/128 | ● |
| Info-messages (Total/active simultaneously) | 1024/256 | ● |
| Internal registers | 4096bytes | ● |
| Labels | | ● |
| LEDs assigned to sequence | | |

Unless otherwise stated, there is no limit to the number of includable elements, only the size of project memory sets a limit.
 *) indicative value determined by the dimensions of the project, **) depends on memory available

Table 20.1: Functions and objects realizable with this VT (Part 3 of 4)

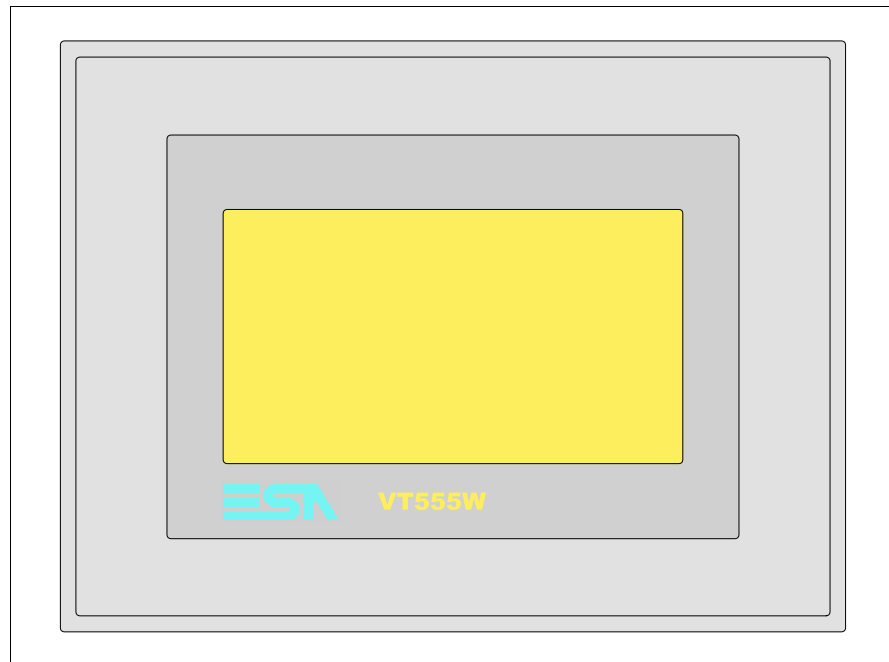
| Code of terminal | | |
|---|------------|---|
| VT555W ***** | | |
| Objects/Functions | Quantity | ▼ |
| Lines | | ● |
| Lists of bitmap images | | ● |
| Lists of texts | | ● |
| Local configuration of E-keys | | |
| Local configuration of F-keys | | |
| Macro field | 24 x pages | |
| Macros (Total/Commands x macro) | 1024/16 | ● |
| Message field | | ● |
| Message help | 1024 | ● |
| Multilanguage texts | 8 Langs. | ● |
| Object - Indicator | | |
| Object - Potentiometer knob | | |
| Object - Selector knob | | |
| Object - Sliding potentiometer | | |
| Object - Sliding selector | | |
| Page | 1024 | ● |
| Page help | 1024 | ● |
| Password | 10 | ● |
| Pipelines (Number/Tot bytes) | 64/512 | ● |
| Print | | ● |
| Print page (Total/Number of fields per page) | 1024/128 | ● |
| Programmable fonts | | ● |
| Project images | | ● |
| Public variables of ESANET network (Number/Total bytes) | 256/1024 | ● |
| Recipe field for recipe structure | | ● |
| Recipes (Number of variables per recipe) | 1024/256 | ● |
| Rectangles | | ● |
| Redefinable characters | | |
| Reports | 128 | ● |
| Sequences - Random | | |
| Sequences - Start/stop | | |
| Static bitmaps | | ● |
| Symbolic field: Bit-group-structured dynamic bitmaps | 1024* | ● |
| Symbolic field: Single-bit-structured dynamic bitmaps | | ● |
| Symbolic field: Value-structured dynamic bitmaps | | ● |
| System messages | | ● |
| System variables assigned to recipe structure | | ● |
| Time long field | | ● |
| Time short field | | ● |

Unless otherwise stated, there is no limit to the number of includable elements, only the size of project memory sets a limit.
*) indicative value determined by the dimensions of the project, **) depends on memory available

Table 20.1: Functions and objects realizable with this VT (Part 4 of 4)

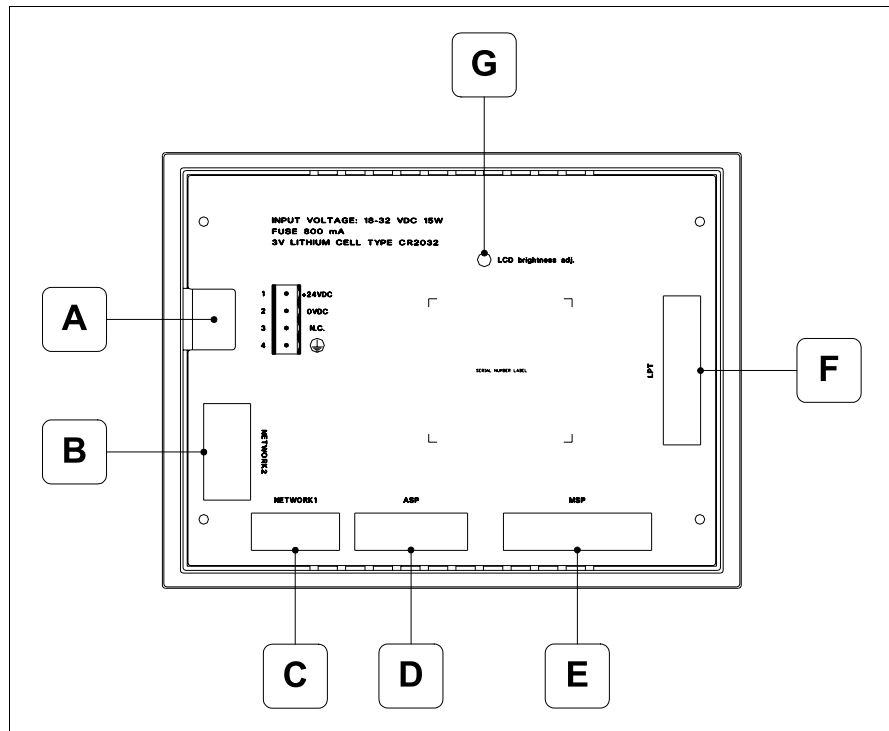
| Code of terminal | | |
|---|------------|---|
| VT555W ***** | | |
| Objects/Functions | Quantity | ▼ |
| Timer | 32 | ● |
| Touch Area | 48 | ● |
| Trend buffers | 128 | ● |
| Trends (Trends x page/Channels x trend) | 4/4 | ● |
| Trends sampled automatically (Memory/Trends/Readings) | 512bytes | ● |
| Trends sampled on command (Memory/Trends/Readings) | /**/240 | ● |
| Value direct command: ADD | | ● |
| Value direct command: AND | | ● |
| Value direct command: OR | | ● |
| Value direct command: SET | | ● |
| Value direct command: SUBTRACT | | ● |
| Value direct command: XOR | | ● |
| Variables: Limit values and linear scaling variables | 96 x pages | ● |
| Variables: Movement variable (Mobile symbolic field) | | ● |
| Variables: Threshold variables | | ● |
| Variables: Floating Point numerical variables | | ● |
| Variables: Numerical variables (DEC, HEX, BIN, BCD) | | ● |
| Variables: String variables (ASCII) | | ● |

Unless otherwise stated, there is no limit to the number of includable elements, only the size of project memory sets a limit.
 *) indicative value determined by the dimensions of the project, **) depends on memory available

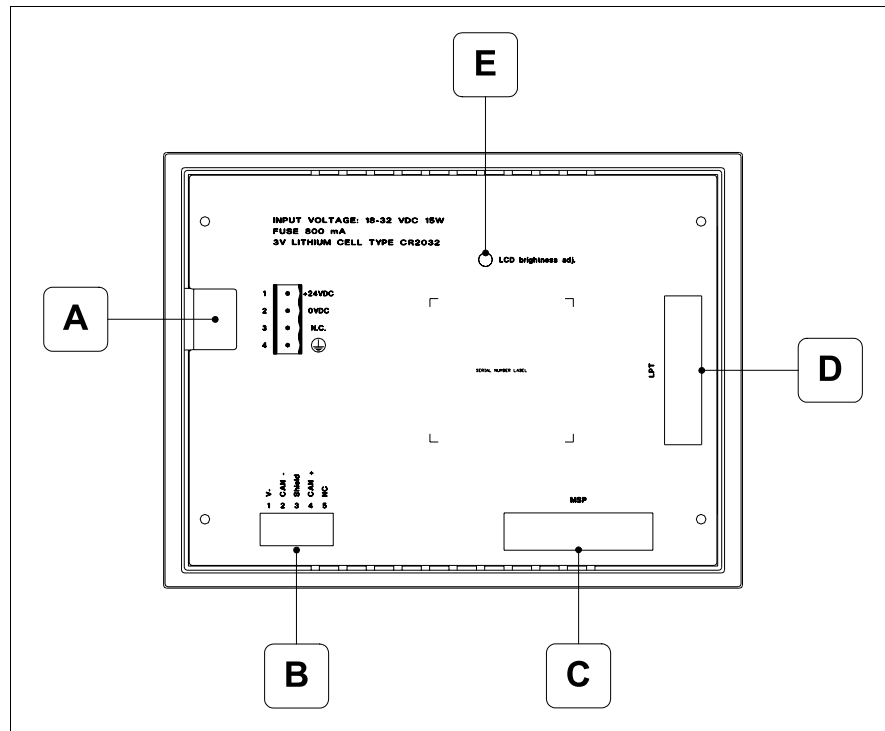
Front view

All buttons and signals are defined using the programming software (see Software Manual).

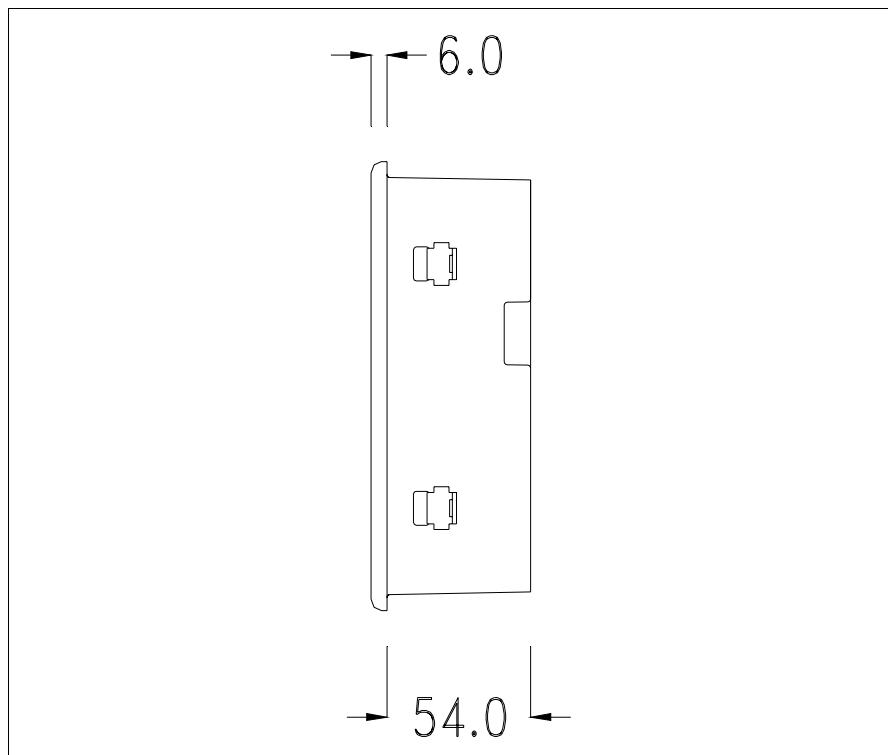
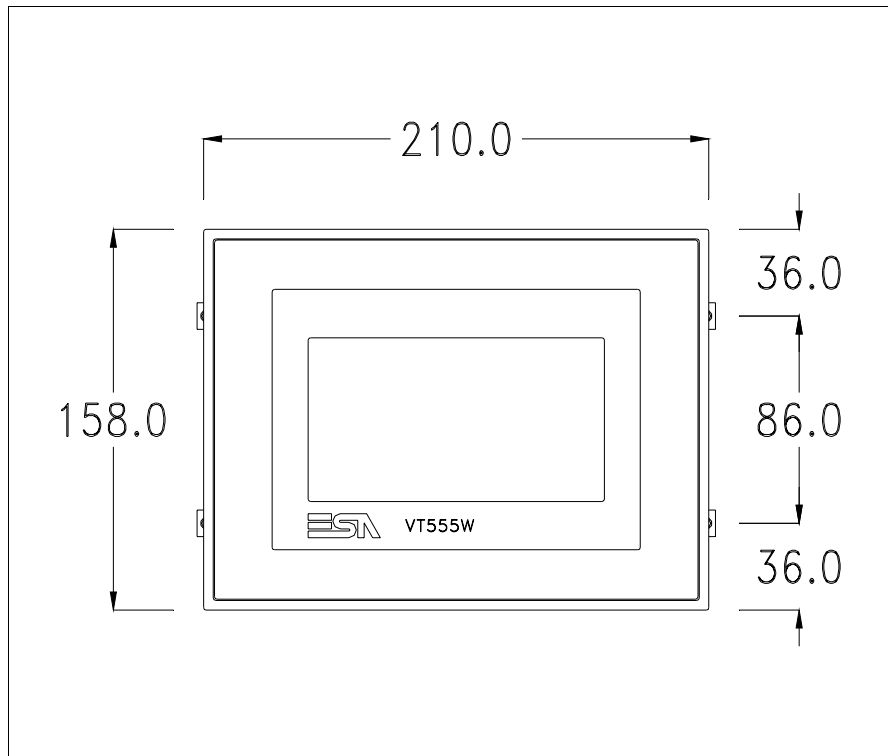
**Standard
series rear
view**

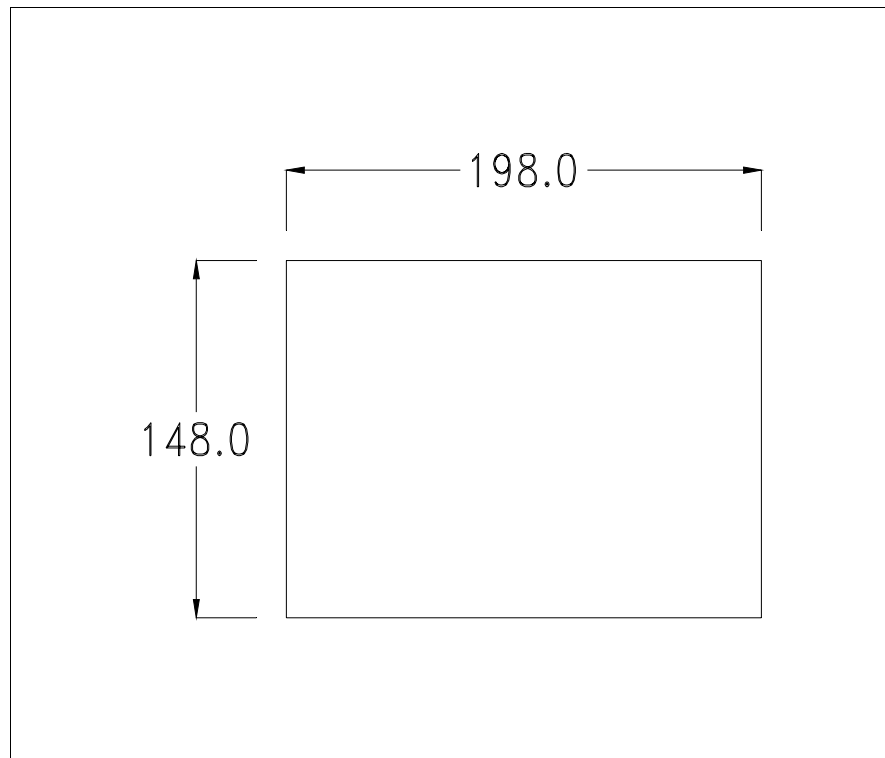


| Position | Function |
|----------|---|
| A | Power supply connector |
| B | NETWORK2 serial port for network communication (Option) |
| C | NETWORK1 serial port for network communication (Option) |
| D | ASP serial port for communicating with PC or other devices (Option) |
| E | MSP serial port for communicating with PLC/PC |
| F | LPT port for connecting printer (Option) |
| G | Trimmer for brightness control |

**CAN series
rear view**

| Position | Function |
|----------|---|
| A | Power supply connector |
| B | CAN serial port |
| C | MSP serial port for communicating with PLC/PC |
| D | LPT port for connecting printer (Option) |
| E | Trimmer for brightness control |

**Dimensions
and Cut-out**



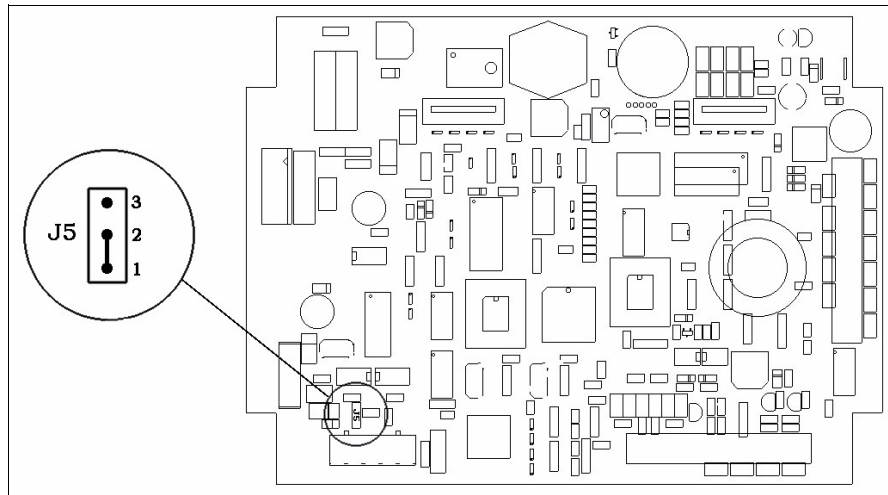
To fix the sealing gasket and secure the VT to the container see “Chapter 29 -> Mounting the terminal within the container“.

⚠ Where accessories need to be fixed in or onto the VT terminal, you are advised to do this before securing the VT to its container.

Accessories Any accessories should be mounted in accordance with the instructions in the relevant chapter (see “Chapter 33 -> Video terminal accessories“).

Termination of CAN line This paragraph applies only to the CAN series. The VT in question integrates the termination resistances of the serial line (typically 120 ohms) which can be inserted by means of a jumper (preset on 1-2, line not terminated). To activate the termination:

- Make sure the device is not connected to the power supply.
- Remove the cover.
- Identify the jumper unit J5.



- Position the jumper between pins 2 and 3 (line terminated).
- Replace the back cover.
- Reconnect the power supply.

Transfer PC -> VT

For everything to function properly, the first time the VT operator terminal is switched on it needs to be correctly loaded, that is it needs to have transferred to it:

- Firmware
- Communication driver
- Project

(Given that the transfer of the three files in practice occurs with a single operation, it will be defined as “Project transfer” for the sake of simplicity.)

For this it is essential that the VT be prepared to receive the transfer. (See also “Chapter 37 -> Command area”).

Preparation for reception


The program VTWIN (see Software Manual) must be used for the transfer, but the terminal must be set up to receive. This means carrying out the following steps:

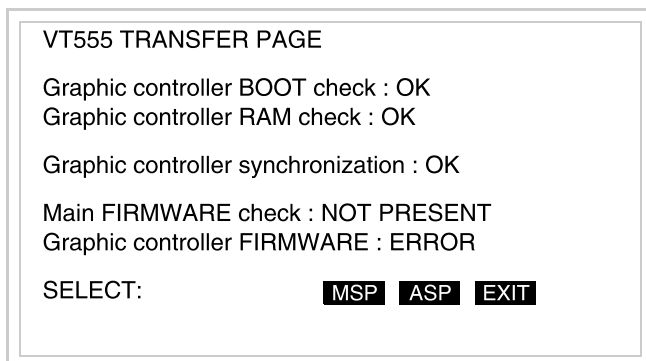
- Check that the VT is off
- Check that there is a serial connection between the PC and the VT
- Switch on the VT by pressing simultaneously on two diagonally opposed angles of the screen



and wait a moment, or, using the appropriate button (see Page 20-18), till the VT displays the following mask

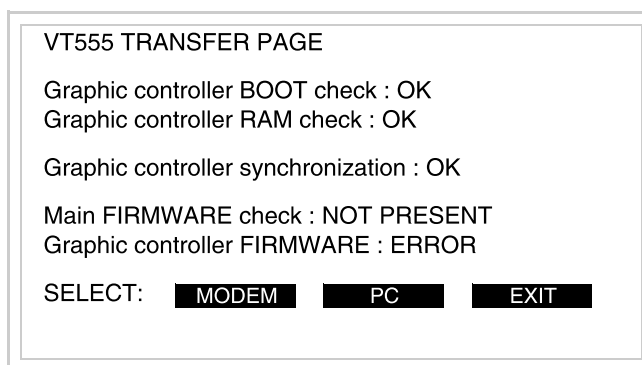
VT terminal with no Modem function:

- Choose the port you intend to use for the transfer (MSP or ASP); touch the relevant  on the display. The VT is now ready to receive (refer to Software Manual for transfer procedure)



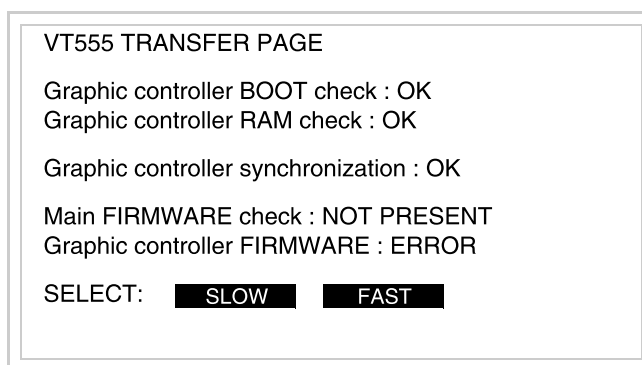
VT terminal with Modem function:

- Proceed from the preceding mask; the following mask appears



- Choose the required transfer mode: MODEM if you intend to use a modem or PC if you intend to use a serial port; touch the relevant on the display

If the choice made is PC, the VT is ready to receive (see Software Manual for transfer), if, on the other hand, you choose MODEM, the following mask will appear



The choice should be according to the speed you intend to use for the transfer (Slow=9600bit/sec or Fast=38400bit/sec), touch the relevant on the display. The VT is now ready to receive (see Software Manual for the transfer).

**Information
relating to
driver**

After the project has been transferred, the VT can make available information relating to what has been loaded. The information regards:

- Serial ports present
- The name of the driver loaded
- The version of the driver loaded
- Network address of the VT
- Last error to have occurred


To acquire this information carry out the following operations:

- Be situated in any page of the project
- Press two diagonally opposed angles that are free of any settable objects or buttons (at least one angle must be free)



and there appears the following mask


| | | |
|---------|----------------------------|------|
| Port | : xxxxxxxxxxxxxxxxxxxxxxxx | PROG |
| Driver | : xxxxxxxxxxxxxxxxxxxxxxxx | TRAN |
| Ver | : xxxxxxxxxxxxxxxxxxxxxxxx | PAGE |
| Addr VT | : xxxxxxxxxxxxxxxxxxxxxxxx | → |
| Error | : xxxxxxxxxxxxxxxxxxxxxxxx | ESC |

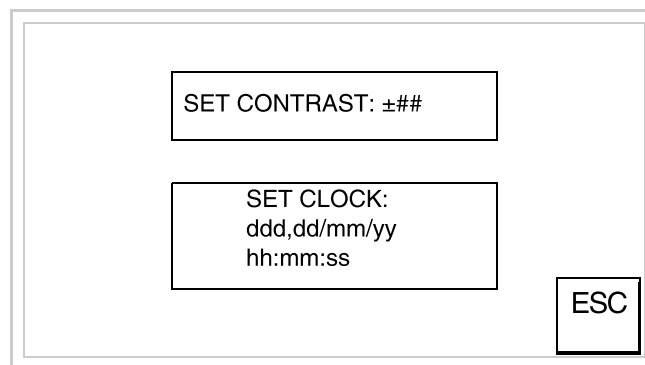
There is one of these pages for each communication port; movement between the various pages is effected by pressing .

From this page you can:

- Set the clock and the contrast
- Prepare the VT to receive the program


Setting the clock and the contrast:

To set the clock and the contrast, while displaying the above illustrated page, press ; the following mask appears



To set the contrast touch the words SET CONTRAST on the display; you will see the following mask

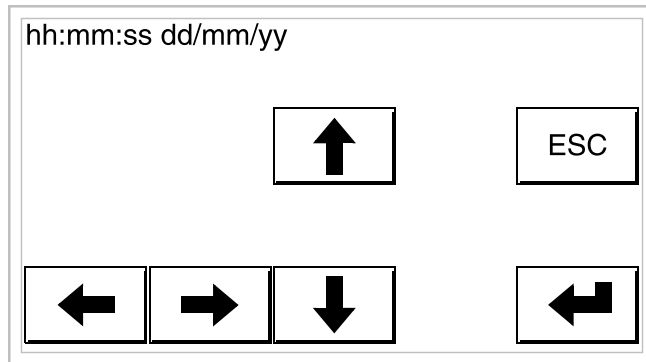



Use the arrow  for any variation (see “Chapter 36 -> Operation of terminal with touch screen“).

To set the clock touch the words SET CLOCK on the display; the following mask appears


 **For the clock to be used properly, a special battery has to be**

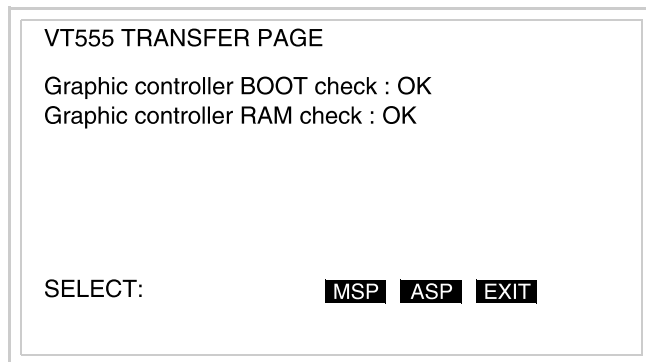
inserted in the terminal (see “Chapter 33 -> Video terminal accessories”).




Use the arrow  for any variation (see “Chapter 36 -> Operation of terminal with touch screen”).

Prepare the VT to receive the program:

To prepare the VT to receive the program, while displaying the driver information page (see Page 20-16), press , and you will see the following mask



Which on-screen  you touch depends on the port you intend using.

The VT is now ready to receive (refer to Software Manual for information on the transfer procedure). Once you enter this mask, you can quit without transferring only by switching off and switching on the VT again or by pressing the EXIT .

Possible error messages that may be encountered in the driver information page are:

- PR ERR

Problem-> Errors have been detected in the data exchange between the VT and the Device.

Solution-> Check the cable; there may be disturbance.


- COM BROKEN

Problem-> Communication between VT and Device interrupted.

Solution-> Check the serial connection cable.

An error message followed by [*] indicates that the error is not currently present but was and has since disappeared.

Example: COM BROKEN*

When  is pressed you quit the display of information regarding the driver.

Adjusting the contrast on the display

To improve the quality of the representation on the display it may be necessary to adjust its contrast. This can be done by going to the page proposed (see Page 20-17) and changing the value (from +31 to -32) in evidence at that moment. Increase the value to darken the display; to lighten it, decrease the value.