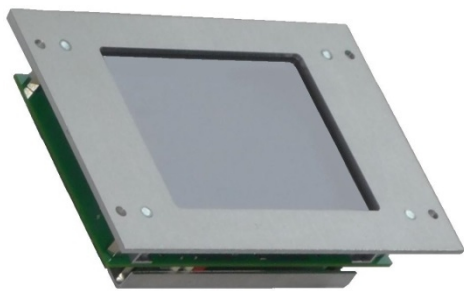


Display and control unit Z51-AB22

Ordering data

Designation	Type	Item no.
TFT LCD display, carrier board and connecting cable	Z51-AB22	150 605 51 AX
4x4 matrix keypad	8032U003A000	150 605 51 91 AX



- **TFT LCD display, screen diagonal 15cm (5.7“), VGA standard. 640 (H) x 480 (V) pixels, 262,144 colours**
- **LED backlighting**
- **4x4 matrix keypad**
- **Digital RGB interface**
- **Type of protection: I M1 Ex ia I Ma**

Application and functioning

The type Z51-AB22 display and control unit is an electronic component for installation in equipment destined for use in environments susceptible to fire-damp.

The display and control unit is used for the colour display of process images in an automation unit and for the input and change of parameters or menu selection.

The display and control unit is configured as an electronics module which consists of the actual colour TFT display module, a TFT carrier board and a plug-in keypad.

The display and control unit of type Z51-AB22 is destined for installation in a station housing of the associated automation and control devices of type Z51-iST3** of the ZM51 series and for connection to a central module of type Z51-ZM22.

The display and control unit of type Z51-AB22 is designed for category I M1, protection type Ex ia I Ma as per EN 60079-0:2009, EN 60079-11:2007 and EN 50303:2000.

The unit is equipped with a colour TFT LCD display module with a diagonal of 15cm (5.7“) which offers a resolution as per VGA standard (640

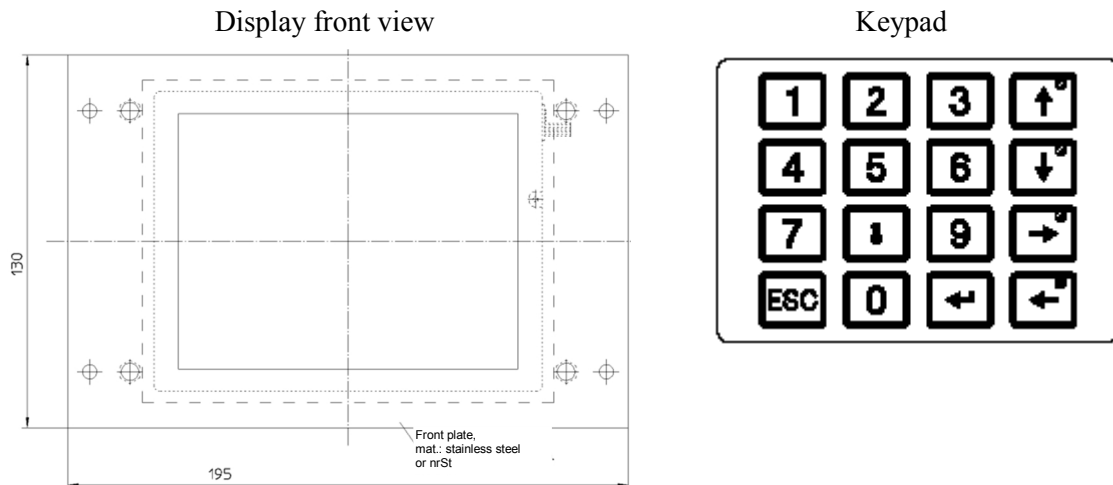
(H) x 480 (V) pixels) and can show 262,144 colours. The display area of the Z51-AB22 is backlit with LEDs.

The TFT carrier board is used to connect the TFT LCD display module to the digital RGB interface of a control unit (Z51-ZM22) and to decouple its power side from the intrinsically safe circuits of this unit, as well as to scan the keypad and to transmit the information data via a serial RS232 interface to the control, plus to generate / to carry out the intrinsically safe conditioning of the supply voltage for the TFT LCD module and the backlighting.

The display and control unit contains:

- one TFT carrier board for connection of the power supply (5V), the digital RGB interface line and an RS232 interface,
- TFT LCD display with 640(H) x 480(V) pixels / screen diagonal 15cm (5.7“), LED backlighting,
- 4x4 matrix keypad (short stroke keys), keys 0 to 9, ←, ↑, →, ↓, Escape, Enter. Each key in the right-hand row of keys contains an LED.

Mechanical configuration



The display and control unit of type Z51-AB22 consists of a "sandwich", where the TFT colour LCD module (15cm (5.7") typ., VGA), is fastened on the TFT carrier board with two metal angles.

At the front side of the TFT carrier board a metal front plate / a cover frame is screw-mounted, and at the rear side a cover plate.

A cover disk is glued to the rear side of the front plate through which the TFT display is visible.

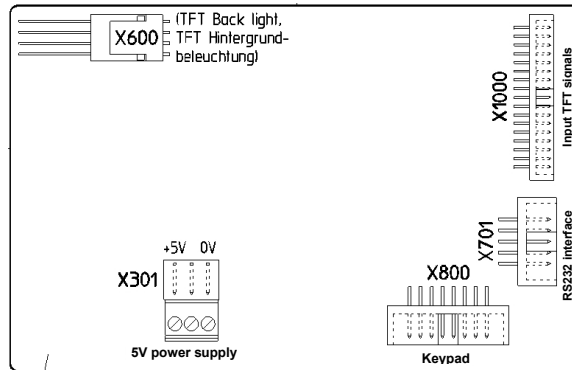
The front plate of the Z51-AB22 features 4 holes for fastening the disk behind a visualization opening of a station housing.

For connection to external circuits, the TFT carrier board features the 3-pin plug-in terminal (connection of the 5V supply voltage), a 34-pin header connector (TFT signals from the automation unit) and a 10-pin header connector (serial interface RS232).

A wiring diagram which shows the positions of the plug connectors on the TFT carrier board and the assignment of the plug-in terminal (5V supply), is fixed onto the rear side cover plate.

A separate adhesive plastic label which is also fixed to this plate indicates the nameplate markings of the component.

Wiring diagram



The keypad printed board is designed as a separate component. It contains a 4x4 matrix keypad and additionally 4 LEDs for indications and is connected to the TFT carrier board through a 16-wire connecting line such that it can be installed at an appropriate location in a station housing (on a suitable cutout).

Remark: Alternatively, the keypad can be connected directly to the plug connector of the central module Z51-ZM22 provided for this purpose.

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