SIGMATEK

TAE 1921

Touch Display Unit

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Touch Display Unit TAE 1921

The TAE 1921 touch display unit is used to visualize automated processes. The operation and monitoring of automated procedures are simplified using this display unit.

A touch screen serves as the input medium for process data and parameters. The output is shown on a 19" SXGA TFT color display with LED backlighting.

A signal extender is required on the PC, which processes the display and USB signals, and sends them to the terminal over a standard Ethernet cable. Therewith, a connection over distance of 100 m between the PC and terminal is possible.

Contents

1 Technical Data

1.1 Performance Data

Interfaces	1x Display IN (HMI Link) 2x USB2.0 Type A (front + back side) 1x Chip card reader (optional)
Internal interface connections and devices	1x TFT color display 1x Touch
Control panel	Touch screen (resistive)
Display	19" TFT color display SXGA, 1280 x 1024 Pixel LED backlight
LEDs	Status display

For the Display IN interface, the appropriate connector is required to process video data from the IPC. The PC322 is therefore available with an integrated signal extender: PC322 01-310-322

Pour l'interface Display IN, le connecteur approprié est nécessaire afin traiter les données vidéo du PC. Le PC322 est donc disponible avec Signal extender: PC322 01-310-322

1.2 Electrical Requirements

Supply voltage	minimum +18 V DC	maximum +30 V DC
Supply voltage (UL)	18-30 V DC (Class 2)	
Current consumption supply voltage	1.7 A at 24 V	
Starting current	maximum 43 A	

Only US and Canada:
Use class 2 power supply only!

Seulement Etats-Unis et Canada:
Utilisez alimentation de la classe 2 uniquement!

For USA and Canada:

The supply must be limited to:
a) max. 5 A at voltages from 0-20 V DC, or
b) 100 W at voltages from 20-60 V DC

The limiting component (e.g. transformer, power supply or fuse) must be certified by an NRTL (Nationally Recognized Testing Laboratory).

Pour les États-Unis et le Canada:

L'alimentation doit être limitée à:
a) max. 5 A pour des tensions de 0-20 V DC, ou
b) 100 W pour des tensions de 20-60 V DC

Le composant imposant la limite (par exemple, transformateur, alimentation électrique ou fusible) doit être certifié par un NRTL (National Recognized Testing Laboratory, par exemple, UL).

1.3 Terminal

Dimensions	462 x 360 x 57 mm (H x W x D)
Weight incl. mounting bracket	typically 7 kg

1.4 Environmental Conditions

Storage temperature	-20 … +60 °C	
Environmental temperature	0 … +50 °C	
Humidity	10-90 %, non-condensing	
EMC tolerance	EN 61000-6-2 (industrial area): EMV resistance EN 61000-6-4 noise emission	
Vibration tolerance	EN 60068-2-6	2 - 9 Hz: Amplitude 3.5 mm 9 – 200 Hz: 1 g (10 m/s²)
Shock resistance	EN 60068-2-27	15 g (150 m/s²), duration 11 ms, 18 Shocks
Protection Type	EN 60529: protected through the housing	Front: IP54 Cover: IP20

1.5 Display

Type	19" TFT color display
Resolution	SXGA, 1280 x 1024 pixels
Backlighting	LED backlight
Lifespan	after 50,000 hours at 25 °C ambient temperature, the brightness is reduced by 50% of the original power

1.6 Control Unit

Touch panel	analog resistive glass touch panel
Active surface	376.3 x 301.1 mm

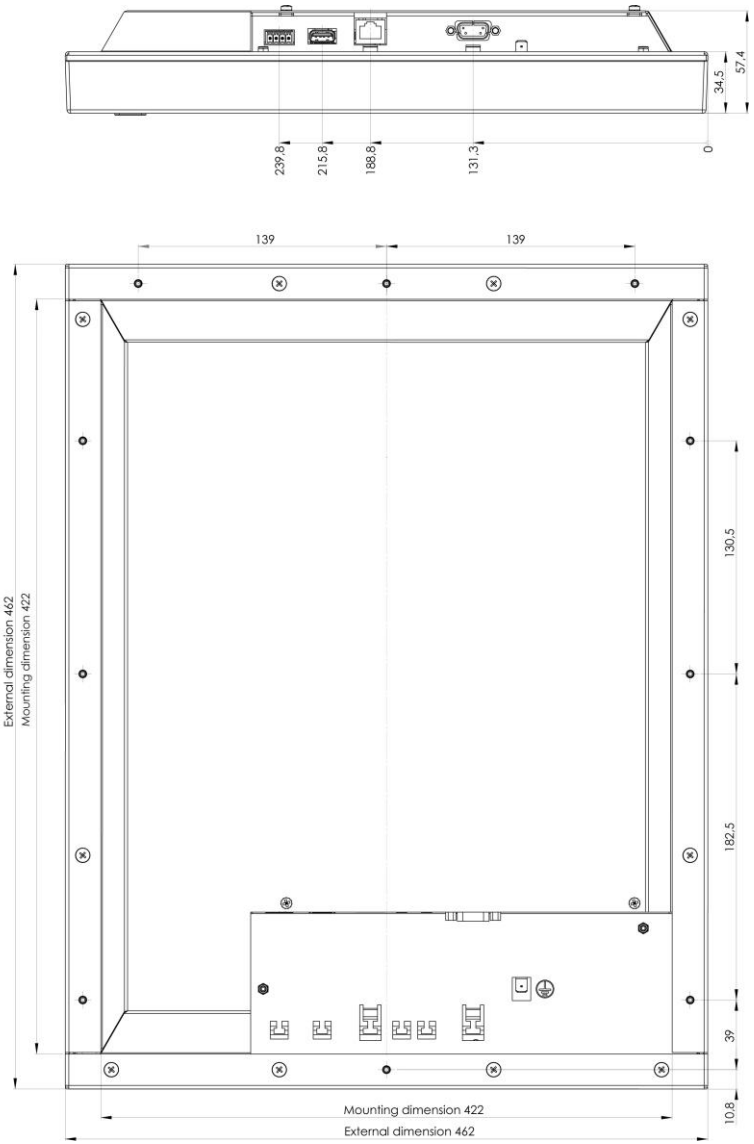
1.7 Miscellaneous

Article number	12-200-1921
Hardware version	1.x
Software version	1.x
Standard	UL (E247993)
Approvals	CE, cULus

In the HMI Link extenders with SW version 1.x, HMI Link display units/operating panels with SW version 1.x must be used.

2 Mechanical Dimensions

In mm



3 Chemical Resistance

3.1 Decorative Foil

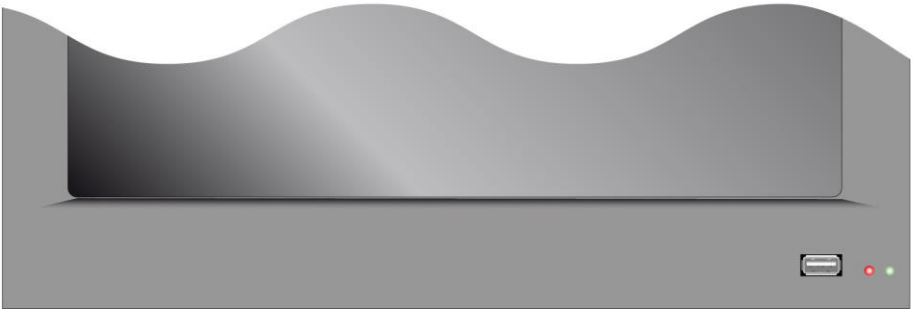
Solution	Effect over time	
	1 hour	24 hours
Methyl, ethyl, ketone	None	None
Cyklothexanol	None	None
Acetone	None	None
Ethanol	None	None
Benzyl alcohol	Yes	Yes
1.1.1.Trichlorethan (Genklene)	None	None
Perchloroethylene (Perklone)	None	None
Trichloroethylene	None	None
Methylene chloride	Yes	Yes
Diethyl ether	None	None
Toluene	None	None
Xylene	None	None
Benzine	None	None
Diesel oil	None	None
Nitric acid <10 %	None	None
Sodium hydroxide <10 %	None	None
Turpentine	None	None
Ethyl acetate	None	None

3.2 Touch Pad

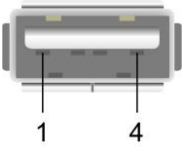
Solution	Visual Effect
Coal tar oil / toluene	None
Trichloroethylene	None
Acetone	None
Alcohol	None
Benzine	None
Machine oil	None
Ammonia	None
Glass cleaner	None
Mayonnaise	None
Ketchup	None
Wine	None
Salad oil	None
Vinegar	None

4 Connector Layout

4.1 Front



X5: USB 2.0 (Type A)



Pin	Function
1	+5 V
2	D0-
3	D0+
4	GND

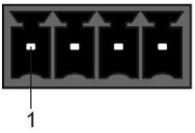
Status Displays

There is one red and one green status led in the front.

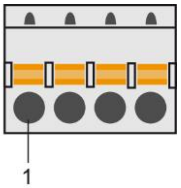
LED status	Definition
LED lights green	Device turned on and HMI-Link connected
LED blinks green	Gerät turned on, no HMI-Link connected
LED red	no function

4.2 Backside

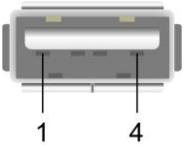
X1: Supply (FK-MCP 1.5/4-ST-3.5)



Pin	Function
1	+24 V supply
2	+24 V supply
3	GND
4	GND

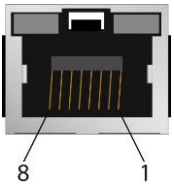


X2: USB 2.0 (Type A)



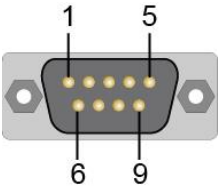
Pin	Function
1	+5 V
2	D0-
3	D0+
4	GND

X3: Display In (RJ45)



Pin	Function
1	DA+
2	DA-
3	DB+
4	DC+
5	DC
6	DB–
7	DD+
8	DD-

X4: COM1 (male)



Pin	Function
1	n.c.
2	Rx
3	TX
4	n.c.
5	GND
6	not used
7	n.c.
8	n.c.
9	n.c.

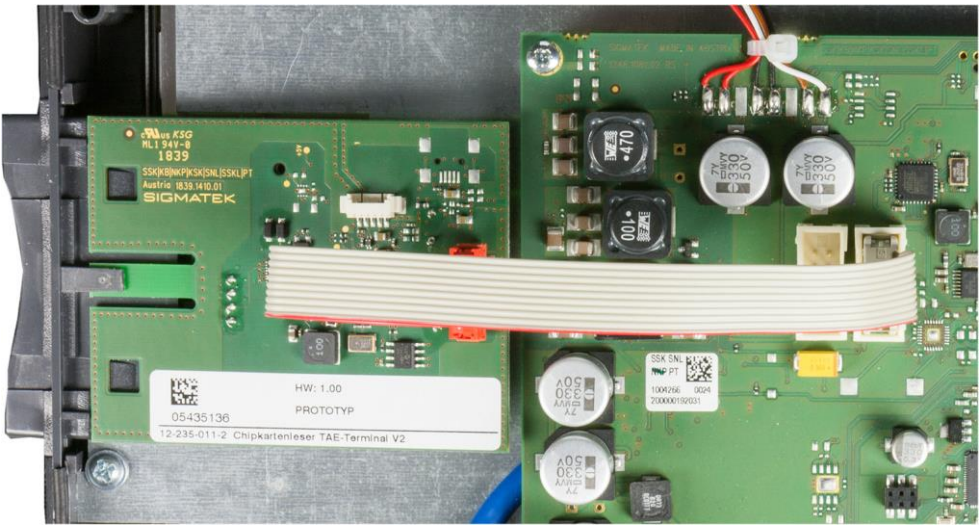
n.c. = do not use

The complete C-DIAS connector set CKL 216 with spring terminals is available from Sigmatek under the article number 12-600-216

5 Chip Card Reader

5.1 TAE until HW 3.90

A chip card reader can be added as shown below. The order number for the chip card reader is: 12-235-011-2.

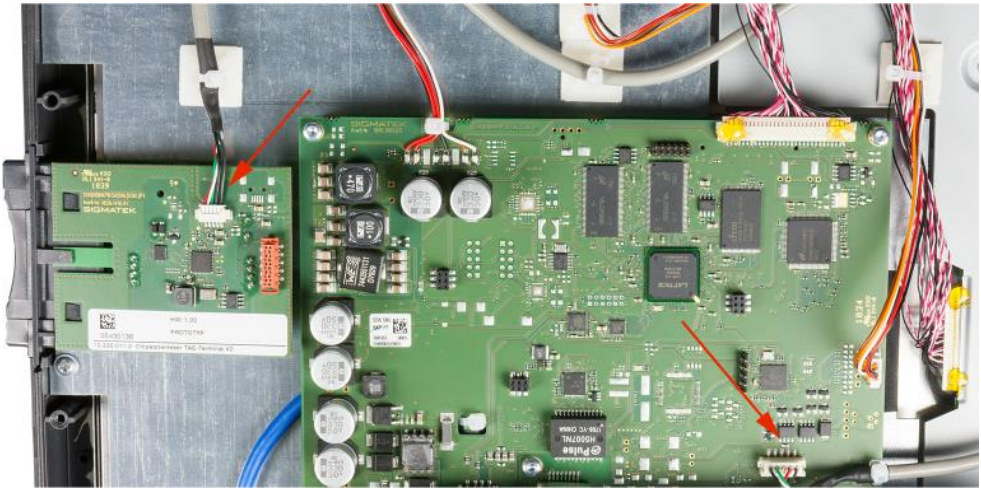


CAUTION!
If the chip-card reader should be mounted on the right side of the terminal, then the insertion frame for the chip-card reader has to be ordered additionally (Order no.: 12-235-012-Z1). When mounting on the left terminal side, the existing insertion frame can be used.

ATTENTION!
L'installation du lecteur de carte à puce sur le côté droit du terminal requiert en outre un introducteur (numéro de commande: 12-235-012-Z1).
L'introducteur existant peut être utilisé lors de l'installation du lecteur de carte à puce sur le côté gauche du terminal.

5.2 TAE since HW 4.00

A chip card reader can be added as shown below. The order number for the chip card reader is: 12-235-011-2.



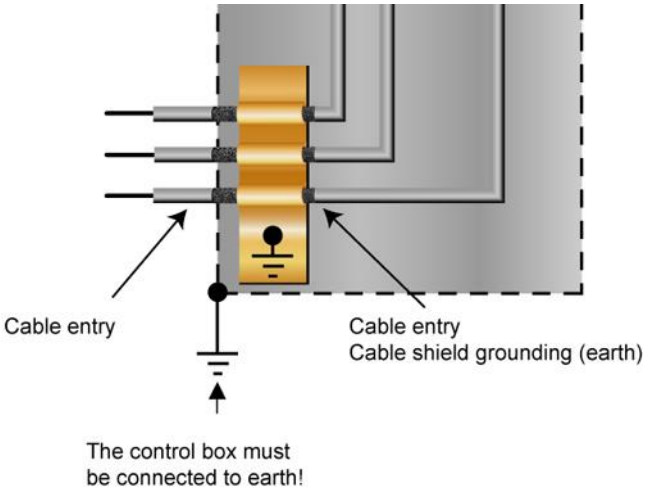
The USB cable must be secured with the supplied adhesive sockets and cable ties.

6 Wiring Guidelines

6.1 Ground

The terminal must be connected to earth through the assembly on the control cabinet or over the connection provided. It is important to create a low-ohm earth connection, only then can error-free operation be guaranteed. The earth connection should have a maximum cross section and the larges (electrical) surface possible.

Any noise signals that reach the terminal over external cables must be filtered over the earth connection. With a large electrical surface, high frequency noise can also be dissipated (skin effect).



6.2 Shielding

For the HM Link line, CAT5e or CAT6 cables with shielded RJ45 connectors must be used. The cable shielding is connected to ground via the RJ45 connector.

Noise signals can therefore be prohibited from reaching the electronics and affecting the function.

6.3 ESD Protection

Typically, USB devices (keyboard, mouse) are not equipped with shielded cables. These devices are disrupted by ESD and in some instances, no longer function.

Before any device is connected to or disconnected from the terminal, the potential should be equalized (by touching control cabinet or earth terminal). This will allow the dissipation of electrostatic loads (caused by clothing/shoes).

7 Cleaning the Touch Screen

CAUTION!
Before cleaning the touch screen, the terminal must first be turned off to avoid unintentionally triggering functions or commands!

ATTENTION!
Avant de nettoyer l'écran tactile, le terminal doit d'abord être éteint afin d'éviter un déclanchement involontaire des commandes!

The terminal's touch screen can only be cleaned with a soft, damp cloth. A screen cleaning solution such as anti-static foam, water with a mild detergent or alcohol should be used to dampen the cloth. The cleaning solution should be sprayed onto the cloth and not directly on the terminal. The cleaning solution should not be allowed to reach the terminal electronics, for example, through the ventilation slots.

No erosive cleaning solutions, chemicals, abrasive cleansers or hard objects that can scratch or damage the touch screen may be used.

If the terminal comes in contact with toxic or erosive chemicals, carefully clean the terminal immediately to prevent acid damage!

To ensure the optimal function of the terminal, the terminal should be cleaned regularly!

To extend the lifespan of the touch screen as much as possible, using the fingers to operate the terminal is recommended.

Pour garantir le fonctionnement optimal du terminal, le terminal doit être nettoyé régulièrement!

Pour prolonger la durée de vie de l'écran tactile on recommande d'utiliser les doigts pour l'opérer.

Documentation Changes

Change date	Affected page(s)	Chapter	Note
20.12.2013	4	1.2 Electrical Require-ments	Added Supply voltage (UL) and note in grey box
	5	1.7 Miscellaneous	Added Standard in Miscellaneous table
26.05.2015	10	4.1 Front	Status LEDs description
15.06.2015	6	1.7 Miscellaneous	Added SW version mnemonic
15.10.2018	13	5 Chip Card Reader	Reader for new HW version added
17.10.2018	4	1.2 Electrical Require-ments	UL information added
	6	1.7 Miscellaneous	