SÜTRON

ELECTRONIC GMBH

Technical Manual

TesiMod Operating Terminal

BT2 LCD / BT2 VF

Standard Unit

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1 Explanation of Symbols

This manual uses the following symbols to indicate notes and hazardous situations.



Notes for the User



General Danger



Specific Danger

2 The Operating Terminal BT2

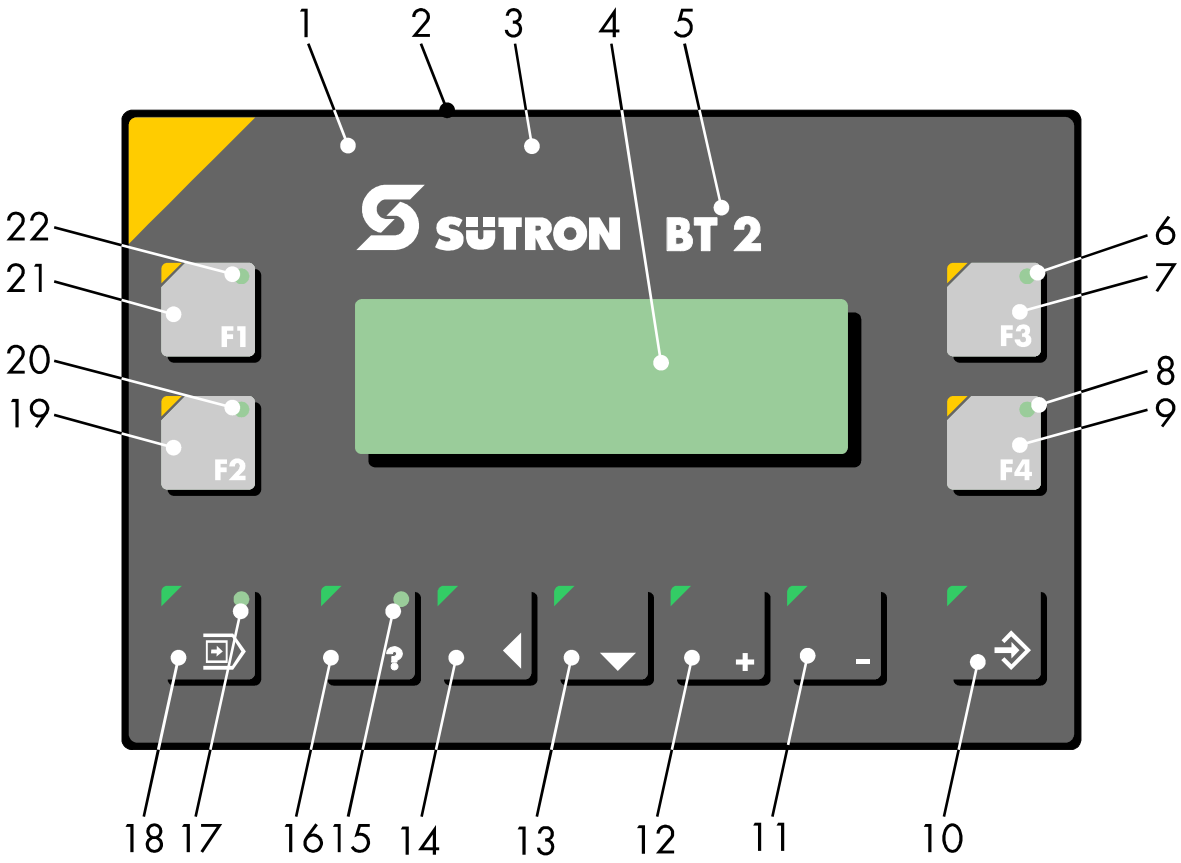
The **BT2** operating terminal rounds the TesiMod range of terminals off towards the bottom end. The small size makes it suitable for installation wherever space is limited while being able to take advantage of all of the functions provided by the larger operating terminals.

The device is fitted with function keys that can be labeled with slide-in identification strips.

The communication with the **BT2** is supported by standardized interfaces. The modularity of the software allows a quick adjustment to different protocols.

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2.1 Front View



1	Company Logo	12	Editing Key Plus
2	Front Panel	13	Key Cursor Down
3	Front Cover	14	Key Cursor Left
4	Filter Plate, Display Cutout	15	Status-LED Help
5	Operating Terminal Type Logo	16	Special Key Help
6	Status-LED Function Key F3	17	Status-LED Data Release
7	Function Key F3	18	Special Key Data Release
8	Status-LED Function Key F4	19	Function Key F2
9	Function Key F4	20	Status-LED Function Key F2
10	Special Key Enter	21	Function Key F1
11	Editing Key Minus	22	Status-LED Function Key F1

2.2 Keyboard

The **BT2** is fitted with 7 keys with a fixed assignment and 4 keys that can be freely assigned. The keyboard is made up of mechanical short-stroke keys. The key elements are covered with an embossed polyester sheet which is resistant to environmental effects. This combination allows a sensitive use of the keys. The LEDs that are provided in some of the keys are integrated directly into the respective key element. The LEDs are green in color. The keyboard has a lifetime of 2 mill switching cycles.

2.2.1 Editing Keys



The **Minus** key can be used to enter negative values within the editor. In the increment editor, the variable value is decreased by 1. When the key is held down, the function is repeated at an automatically increasing rate of repetition.



The **Plus** key can be used to enter positive values within the editor. In the increment editor, the variable value is increased by 1. When the key is held down, the function is repeated at an automatically increasing rate of repetition.

2.2.2 Control Keys



The **Cursor left** key can be programmed to directly select adjacent I/O masks. In the editor, it moves the cursor within a variable to the left by one character (character selection).



The **Cursor down** key can be programmed to directly select adjacent I/O masks. In the editor, it moves the cursor downwards to the next variable (variable selection).

2.2.3 Special Keys



The **Help key** always displays the current help text (online help). The help key LED flashes when a system message is pending. The system message is always displayed in plain-text.



The **Data Release** key is used to switch from the menu into the editor. The integrated LED lights up in the editing mode if the external data release has been set. If the external release has not been set, the LED flashes. When the Data Release key is pressed within the editor, the editing mode is exited.

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The **Enter** key is used to conclude data entry. When pressed while in the Startup Mask, the key switches into the Setup Mask.

2.2.4 Function Keys



The **function keys F1 to F4** with integrated LEDs for functional feedback. The keys can be freely assigned a soft key functionality; either for menu control or to trigger a function in the controller.

2.2.4.1 Function Key Arrangement

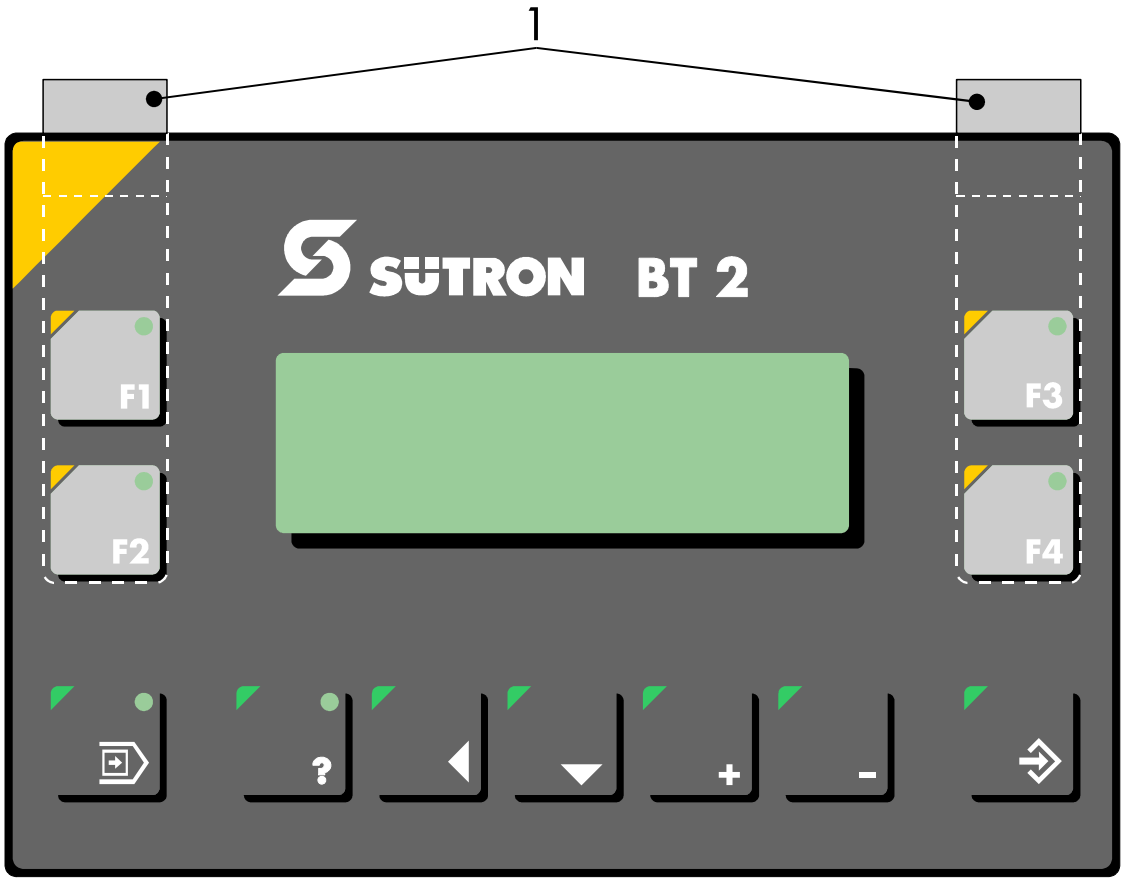


2.2.4.2 Slide-in Identification Strips for the Function Keys

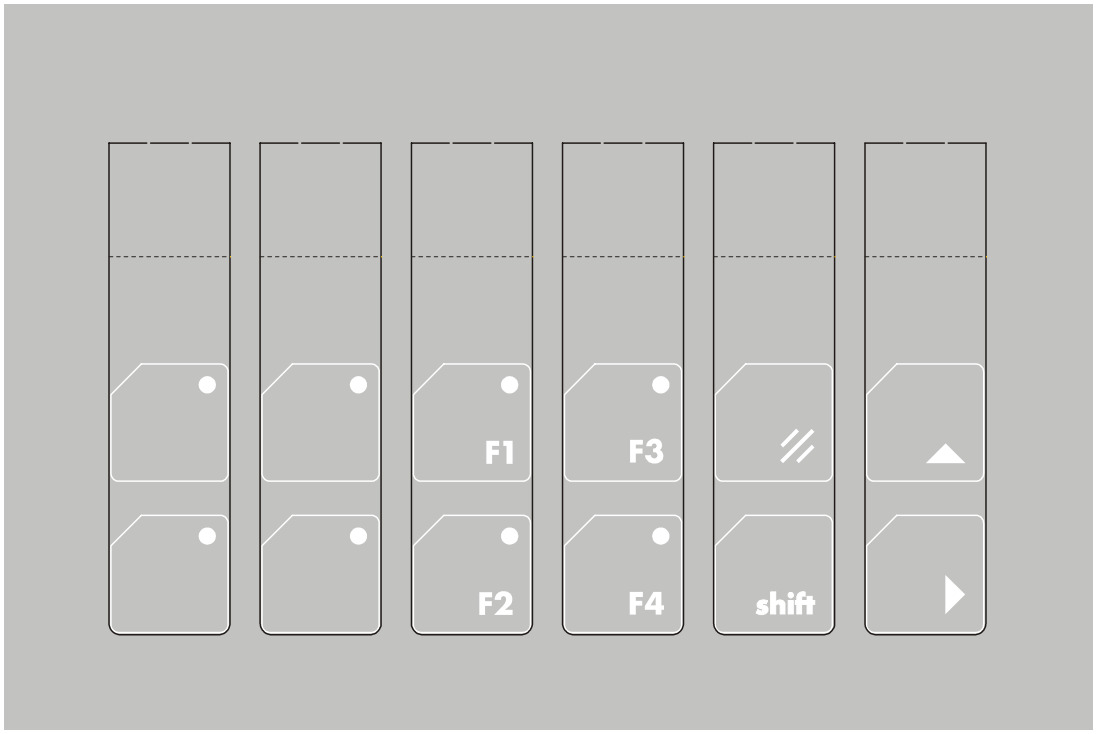
The slide-in identification strips can be replaced without having to disassemble the terminal. Inserting the strips from the rear of the front panel does not affect the tightness specified for the terminal. Two blank slide-in identification strips are supplied. The strips can be easily removed from the perforated sheet. Various labeling methods are recommended, depending on the number of terminals involved.

Suitable labeling methods for:

custom-made terminals,	
prototypes:	labeling with an indelible pen
small number of terminals:	transparency with laser printing
large number of terminals:	identification strips printed according to customer's needs

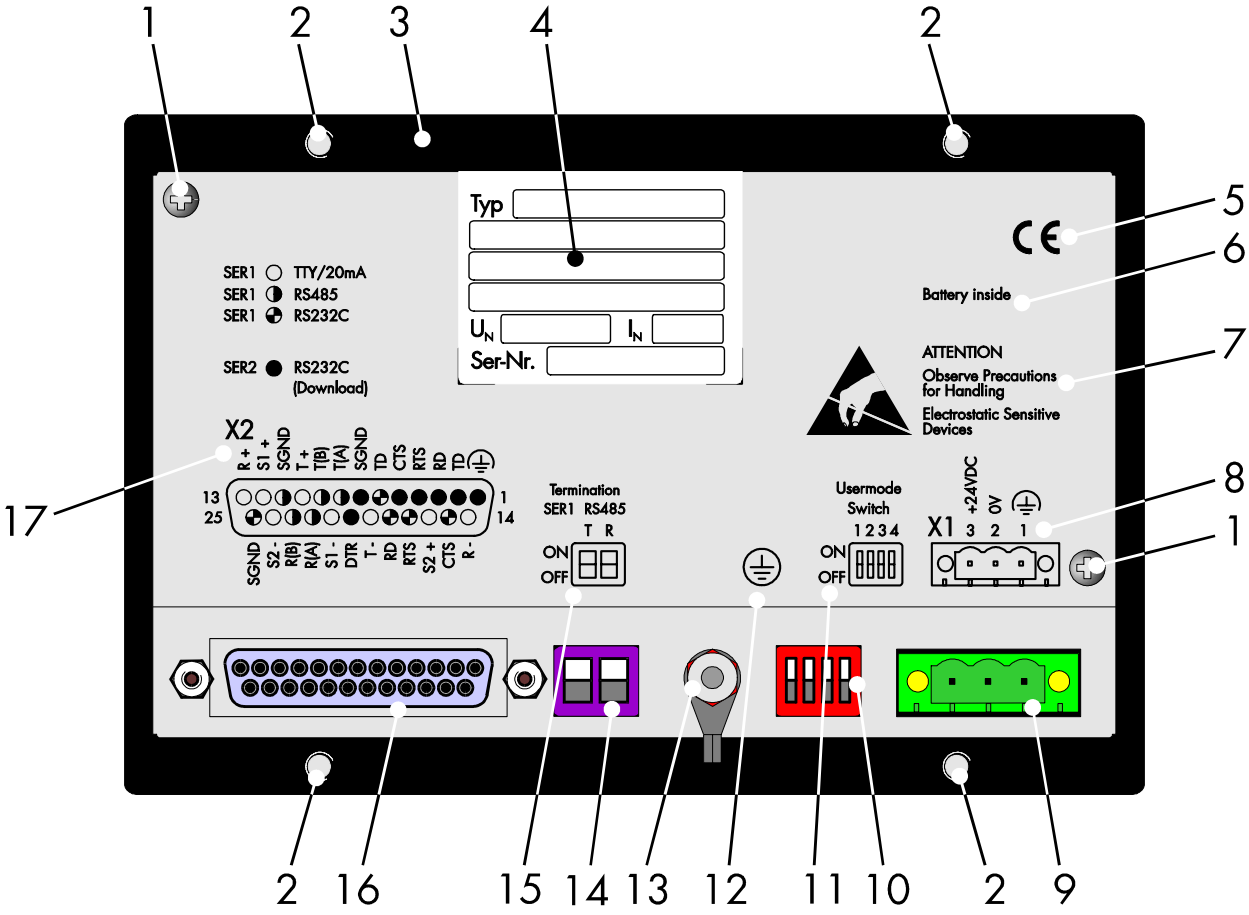


*1 Position of the slide-in identification strips in the **BT2***



Set of slide-in identification strips (standard)

2.3 Rear View



1	Fastening Screw for Enclosure
2	Mounting Bolts
3	Front Panel
4	Name Plate
5	CE Mark
6	Battery-related information
7	Warning
8	Pin Assignment Connector X1
9	Connector X1 (Power Supply)
10	User-Mode Switch
11	Switch Positions of User-Mode Switch
12	Mark for Protective Ground
13	Threaded Bolt for Protective Ground
14	Terminator Switch (X2-SER1 RS485)
15	Switch Positions of Terminator Switch
16	Female Connector X2
17	Pin Assignment Female Connector X2

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2.4 Mounting the Terminal

The rear panel mounting is suitable for easy and sealed installation in places where the rear side of the appliance is accessible. The appliance is particularly suitable for mounting in control cabinets with a mounting wall plate thickness of approximately 1 to 6 mm.
The front panel permits sealed installation of the operating terminal in accordance with the IP65 degree of protection (at the front). At the rear side of the front panel a circumferencial sealing is attached.
All parts for mounting the appliance are given with the spare parts set.

Special care needs to be taken during installation to maintain this high degree of protection. The operating terminal is inserted from the front through the panel cutout and screwed to the mounting wall from the rear. The seal must be positioned evenly and the fastening elements tightened uniformly.

When installing the terminal, keep a minimum space of 30 mm around the terminal for adequate air circulation.

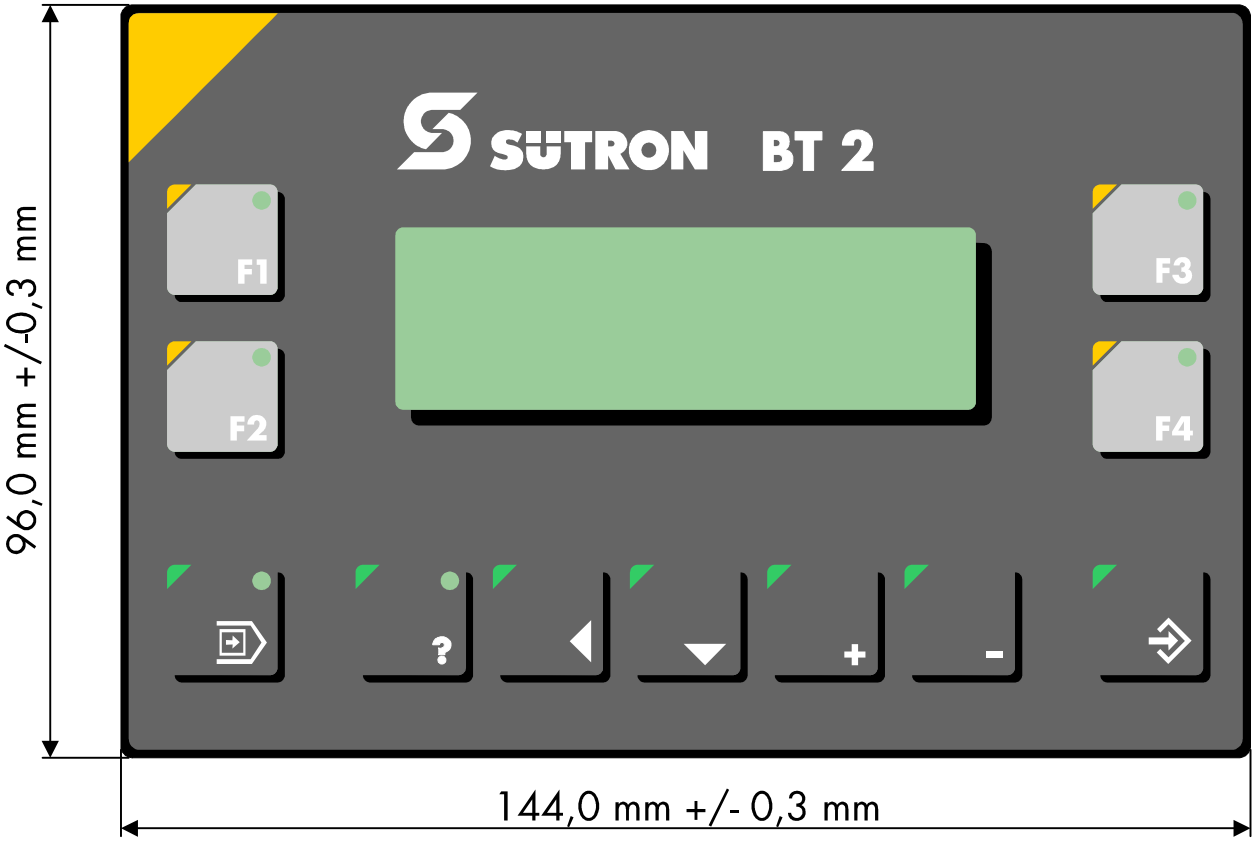
The tightness between the front panel and the mounting surface depends on the care during installation.



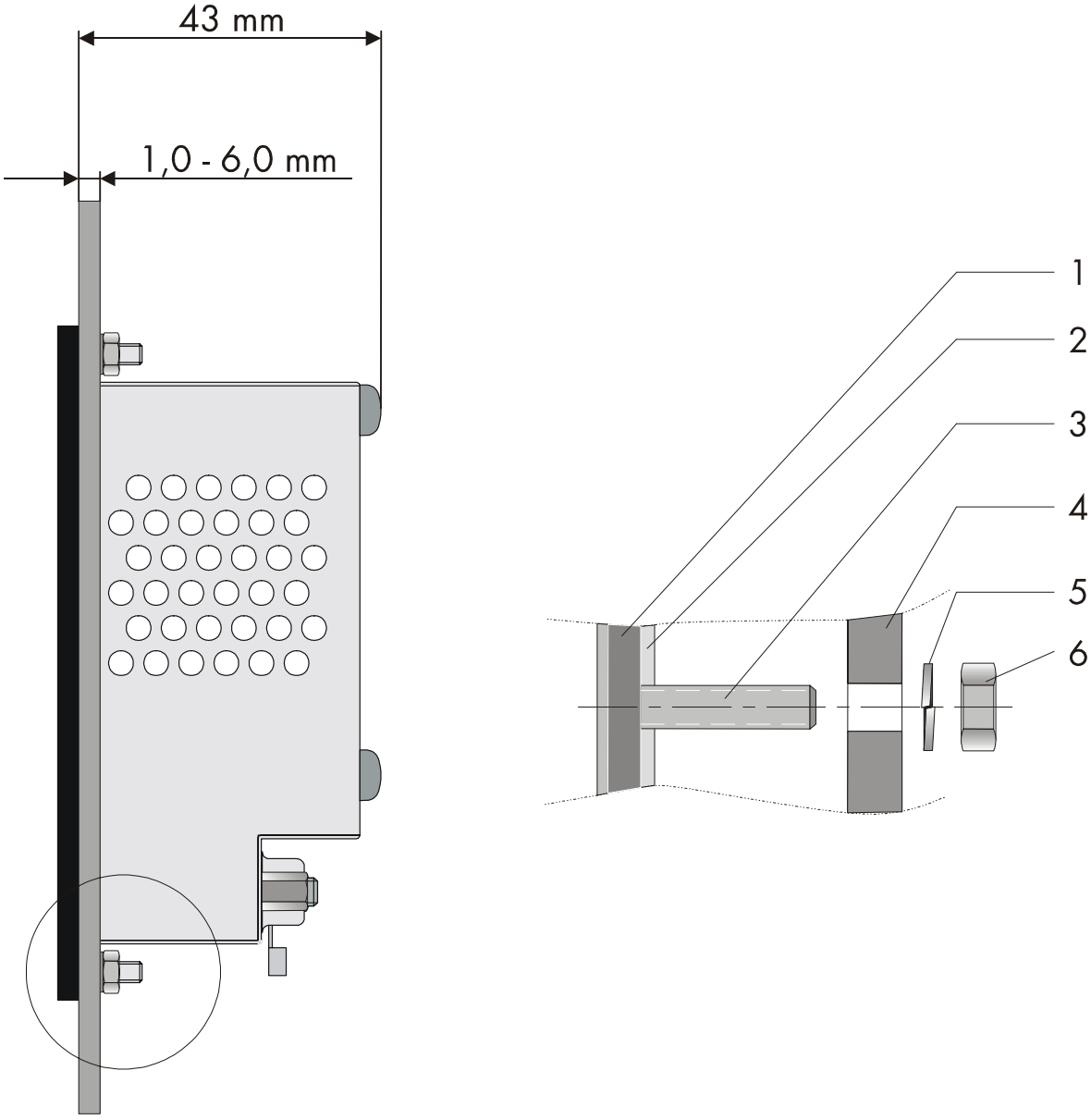
Mounting and maintenance may only be performed by qualified and authorized personnel!

Front Panel Dimensions	96.0 x 144.0 x 3.5 mm	(H x W x D)
Panel Cutout	82 x 138 mm +1/-0 mm	(H x W)

2.4.1 Front Panel Dimensions

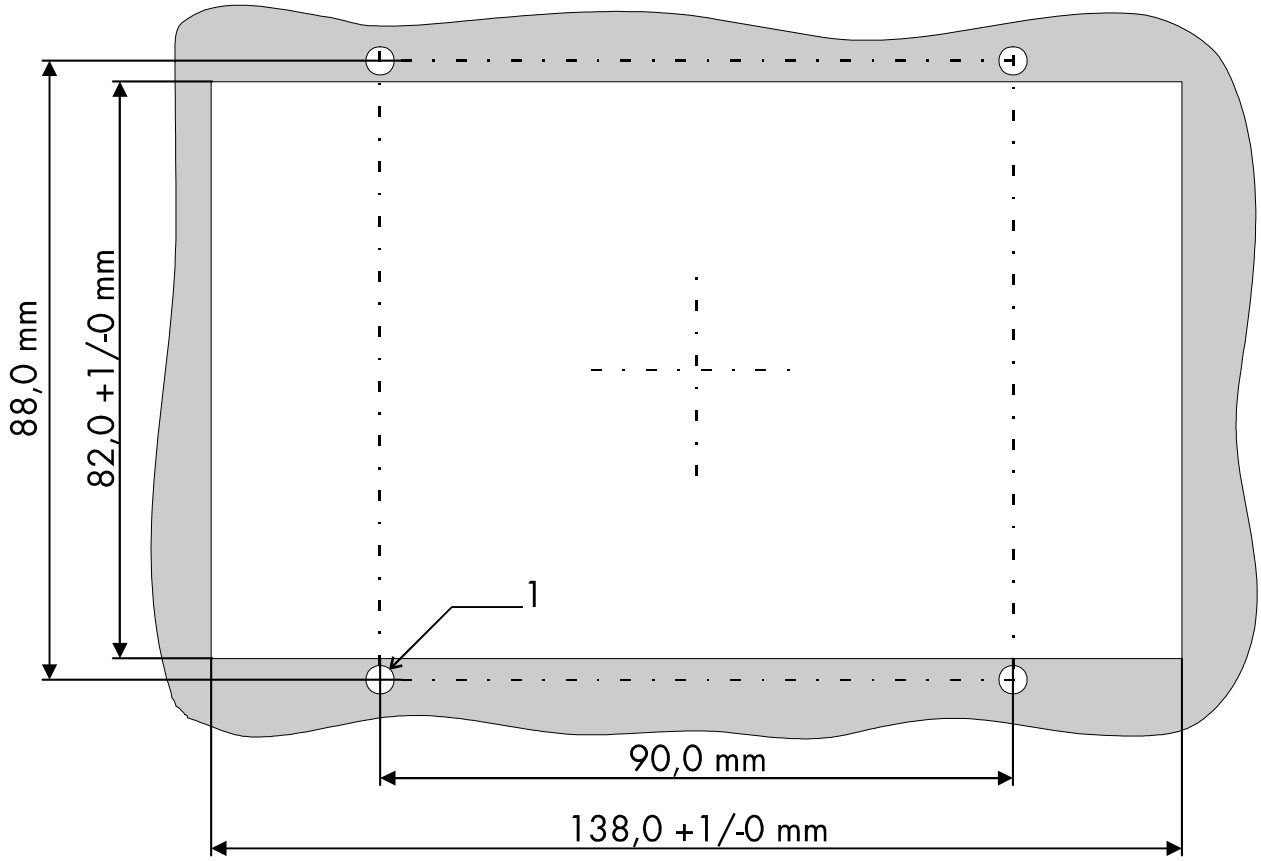


2.4.2 Side View, Mounting Depth



1	Front Panel	4	Mounting Surface Thickness 1 to 6 mm
2	Foam Sealing	5	Spring Lock Washer B3 DIN127 Form B
3	Press-In Threaded Bolt M3 x 9	6	Nut M3 DIN934

2.4.3 Panel Cutout



1 4 Holes with a Diameter of 3.5 mm

2.5 Pin Assignments

The operating terminal is fitted with the following Connectors:

The connector X2 combines several interface standards within one physical connector. The connector is divided into two channels. The channel for communication (SER1) is divided from the channel for upload/download/logging printer/scanner (SER2). The channels can operate independent of each other.
The channel of communication (SER1) can handle - specified by protocol - only one of the three interface standards.

Connector X1	24 VDC	Supply Voltage
Connector X2 SER1	TTY / 20 mA	Communication
Connector X2 SER1	RS232c	Communication
Connector X2 SER1	RS485	Communication
Connector X2 SER2	RS232c	Upload/Download/Logging Printer/Scanner

2.5.1 Pin Assignment X1 Supply Voltage

The supply voltage is connected via the connector X1.

The unit is equipped with a reverse voltage protection. If the poling is wrong, the unit doesn´t operate.

This unit confirms to the safety class I. For safe operation it is necessary to use safety extra-low voltage (SELV) in accordance with DIN EN 61131 for the supply voltage.

Connector in the terminal: 3-pin male connector strip Phoenix COMBICON MSTBV 2,5/3-GF

Pin	Designation	Function
1	⏚	Signal Ground
2	0 V	Supply Voltage 0 V
3	24 VDC	Supply Voltage 24 VDC

The supply voltage is connected via a plug-in 3-pin female connector strip. The cable is secured in the female connector strip by means of screw terminals. Cables with fine wires with a cross-section of up to 2.5mm^2 can be used. The female connector strip is secured in position by means of a screw-type locking.
The female connector strip of the type **Phoenix COMBICON MSTB 2.5/3-STF** is supplied.



Hazardous voltages can exist inside electrical installations that can pose a danger to humans. Coming in contact with live parts may result in **electric shock!**



Please note with respect to pin assignment:
If shielded connecting cables are used for the supply voltage, the shield should be connected to pin 1.



Threaded bolt for protective grounding

A separate ground conductor must be provided for the ground screw in each case. The minimum cross-section of the ground conductor must be 1.5 mm^2 and the length as short as possible. Compliance with this information increases the operational safety.

2.5.2 Pin Assignment X2 SER1 TTY / 20 mA Current Loop

TTY / 20 mA current loop, passive

Pin	Designation	Channel	Function
10	T+	SER1	Transmit Data, Positive Polarity
13	R+	SER1	Receive Data, Positive Polarity
14	R-	SER1	Receive Data, Negative Polarity
19	T-	SER1	Transmit Data, Negative Polarity

TTY / 20 mA current loop, active

Pin	Designation	Channel	Function
10	T+	SER1	Transmit Data, Positive Polarity
12	S1+	SER1	Power Source 2, Positive Polarity
13	R+	SER1	Receive Data, Positive Polarity
14	R-	SER1	Receive Data, Negative Polarity
16	S2+	SER1	Power Source 1, Positive Polarity
19	T-	SER1	Transmit Data, Negative Polarity
21	S1-	SER1	Power Sink 1, Negative Polarity
24	S2-	SER1	Power Sink 2, Negative Polarity

Termination:
When using the channel SER1 as current loop the terminator switches for RS485 must be switched OFF!

The interface can be connected as either an active or passive current loop depending on the wiring. The transmit line and the receive line are provided with separate 20mA power sources. The compliance voltage is approximately 24 VDC.
The maximum baud rate is 19200Bd. The maximum cable length depends on the baud rate and rate of transmission errors.
For longer cable lengths, the 20mA power supply should be fed by the transmitting unit. This can decrease crosstalk on the signal lines considerably.
In idle state (signal logical 1) a current loop of 20 mA can be measured on the cable.

Signal logical 1 - Current flow 20mA
Signal logical 0 - Current flow is interrupted

A shielded cable with twisted pair wires (cable type LiYCY-TP) and a minimum cross section of 0.08 mm^2 must be used. The maximum cable length is 100 m.



Connect the cable shield to the metal hoods of the connectors over as large a surface as possible! Please refer to appendix A.

2.5.3 Pin Assignment X2 SER1 RS485

The interface RS485 is suitable for point-to-point connections and multipoint connections.

Termination for point-to-point connection:
For operation with point-to-point connection the **termination** must always be activated.

Termination for multipoint connection:
For operation with multipoint connections only the **termination** at the cable end must be activated.

The signals of the interface are electrically isolated.
The configuration of the hardware can be adapted to different systems. The associated wires are marked with "A" and "B". Some descriptions refer to the pins with "+" and "-", where the following applies: A = + and B = -. The voltage levels comply with the standards and are defined as follows:

Signal logical 1 - $U_A - U_B <= -0.3$ V i.e. ($U_A < U_B$)
Signal logical 0 - $U_A - U_B >= +0.3$ V i.e. ($U_A > U_B$)

Pin	Designation	Channel	Function
8	T(A)	SER1	Transmit Data Channel A
9	T(B)	SER1	Transmit Data Channel B
11	SGND	SER1	Signal Ground
22	RD(A)	SER1	Receive Data Channel A
23	RD(B)	SER1	Receive Data Channel B

A shielded cable with twisted pair wires (cable type LiYCY-TP) and a minimum cross section of 0.34 mm^2 (for 400 m) must be used. The maximum cable length is 400 m.



Connect the cable shield to the metal hoods of the connectors over as large a surface as possible! Please refer to appendix A.

2.5.4 Pin Assignment X2 SER1 RS232c

Interface for communication with controller.

Pin	Designation	Channel	Function
6	TD	SER1	Transmit Data
15	CTS	SER1	Clear To Send
17	RTS	SER1	Request To Send
18	RD	SER1	Receive Data
25	SGND	SER1	Signal Ground

A shielded cable with stranding in layers (cable type LiYCY) and with a minimum cross-section of 0.25 mm^2 must be used. The maximum cable length is 15 m.



Connect the cable shield to the metal hoods of the connectors over as large a surface as possible! Please refer to appendix A.

2.5.5 Pin Assignment X2 SER2 RS232c

Interface for download, upload, logging printer and scanner.

Pin	Designation	Channel	Function
1	⏚	SER2	Low-noise Earth
2	TD	SER2	Transmit Data
3	RD	SER2	Receive Data
4	RTS	SER2	Request to Send
5	CTS	SER2	Clear To Send
7	SGND	SER2	Signal Ground
20	DTR	SER2	Data Terminal Ready

A shielded cable with stranding in layers (cable type LiYCY) and with a minimum cross-section of 0.25 mm^2 must be used. The maximum cable length is 15 m.



Connect the cable shield to the metal hoods of the connectors over as large a surface as possible! Please refer to appendix A.

2.6 Shielding

The shield must be connected to the metal hoods of the connector housings at both ends and over as large a surface as possible. It should be noted that a potential equalization line with a minimum cross-section equal to 10 times that of the shield may be necessary as a result of the grounding on both sides.

2.7 Display

The display in the **BT2** operating terminal is a 4-line LCD Module with a width of 20 characters. The version with the VF Module is fitted with a 4-line display with a width of 20 characters too.
The characters are displayed by a matrix of 5 x 7 dots. The LCD Module has a yellow-green LED backlighting.The VF Module is luminescent. The operating terminal has an optimum viewing angle of approximately 90°. The contrast of the display is kept constant over the entire temperature range. The default contrast can be set online by means of a system variable.

The displayable character set is shown by the display as the standard character set. Depending on type of LCD module the character set Cyrillic or Katakana is available, too. The VF module only supports loading the character set Katakana. Additionally you can use the character attribute *Flashing*.

Displays for the **BT2 (LCD/VF)** at a glance:

	BT2 (LCD)	**BT2 (VF)**
Type:	LCD Module	VF Module
Resolution:	4 x 20 Dots	4 x 20 Dots
Backlight:	LED backlit	Luminescent
Lifetime LCD/VF:	100000 h	50000 h
Lifetime Backlight:	100000 h	—
Lines:	4	4
Characters/Line:	20	20
Character Matrix:	5 x 7 Dots + Cursor	5 x 7 Dots + Cursor
Character Height:	4.3 mm	4.7 mm
Illumination Color:	—	Blue-green
Background Color:	Yellow-green	—
Visible Front Cutout:	74 mm x 23 mm	74 mm x 23 mm



If the display is damaged, do not swallow or breathe in the liquids or gases being emitted and avoid direct contact with skin.
Danger of Poisoning! Could Result in Burns!

2.7.1 Display Contrast Setting

The contrast for the display can be adjusted by means of the software. This requires the system variable **LCDContrast** to be set up in an I/O mask of the application. The value can then be modified using any editor that can handle integer numbers.
The limit values for the brightness must be set to

Lower level: -25
Upper level: +70

The values that apply for the VF Module brightness settings are as follows:

Input Value	Brightness Level	Brightness
<1	2	50%
1	1	25%
2	2	50%
3	3	75%
4	4	100%
>4	2	50%

If this variable is not defined in the menus or the value is out of the range of values, the default setting (value 25) will be loaded when the system is initialized.
The system variable can be stated in any I/O-mask of the application!

2.7.2 Default Contrast Setting

If the contrast of the display should be such that the masks are no longer legible, the default contrast setting can be restored using the user mode switch.

Position of the switch to restore the contrast:

S1 ON
S2 OFF
S3 OFF
S4 ON

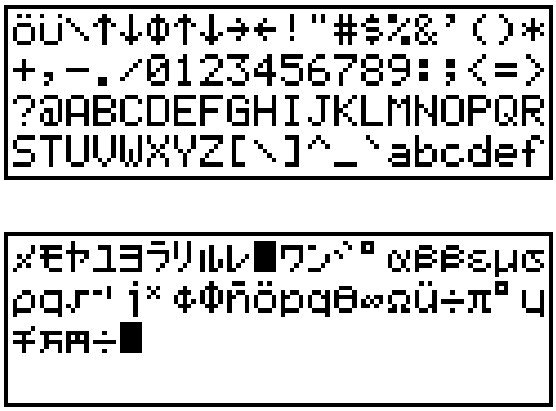
This switch position coincides with “activating download by hardware”. The contrast will be reset before the warning is displayed. The warning will be displayed in a legible manner.
How to setup the default contrast:
- Switch off the operating terminal
- Set the DIP-switches to the above decribed switch positions
- Switch on the operating terminal
- Upon display of a warning, switch off the operating terminal
- Set the switch S4 to the OFF-position
- Switch on the terminal again.

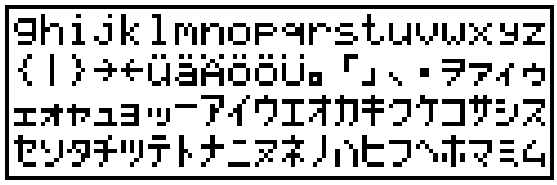
The application description is not lost.

2.7.3 Character Attributes

By preselecting an attribute, all characters can be displayed as follows:
- normal
- flashing

2.7.4 Font Normal



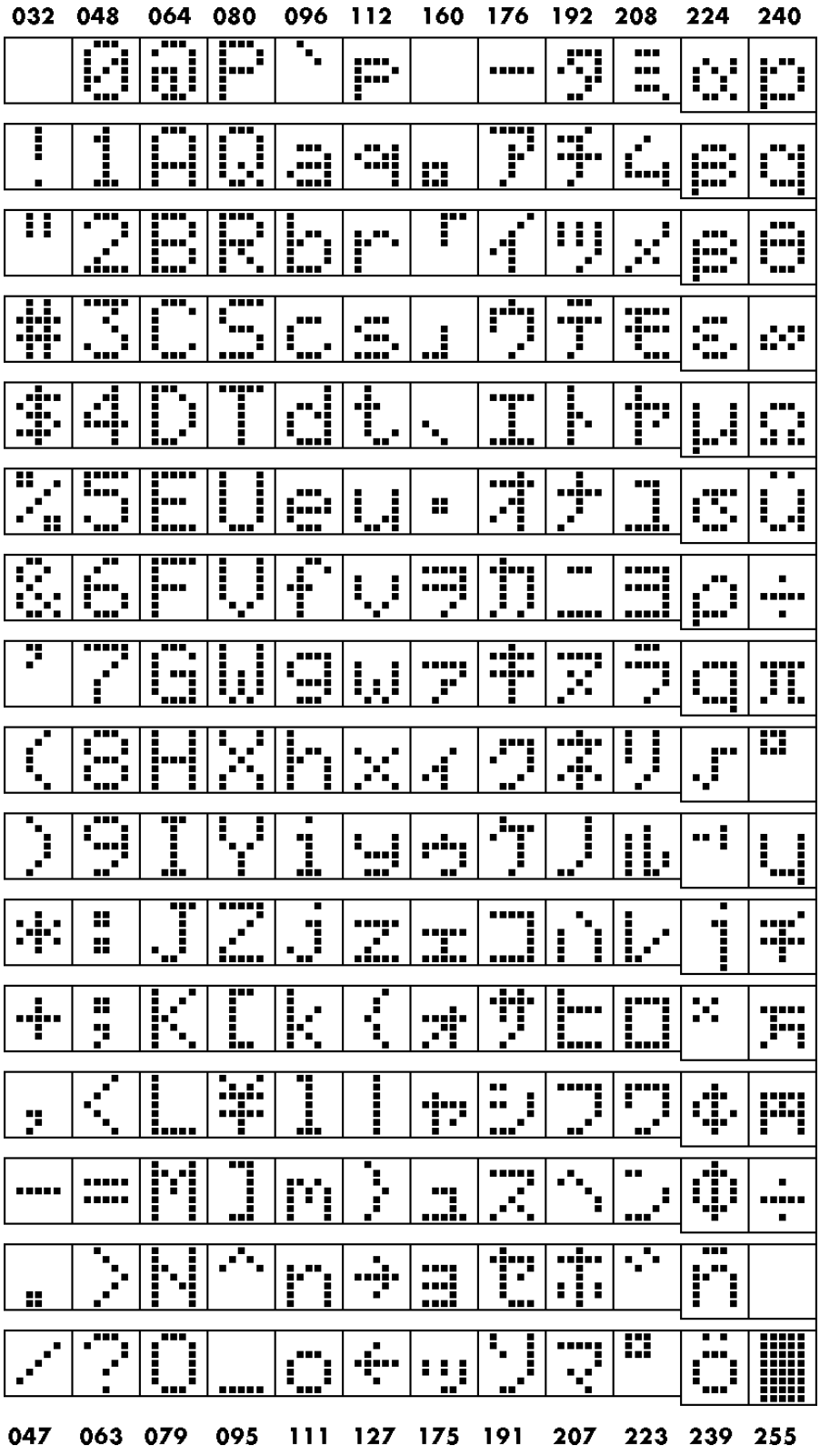


2.7.5 Displayable Character Set

0		32		64	@	96	`	128		160		192		224	
1		33	!	65	A	97	a	129	ü	161		193		225	ß
2		34	"	66	B	98	b	130		162		194		226	
3		35	#	67	C	99	c	131		163		195		227	
4		36	$	68	D	100	d	132	ä	164		196		228	
5		37	%	69	E	101	e	133		165		197		229	
6		38	&	70	F	102	f	134		166		198		230	
7		39	'	71	G	103	g	135		167		199		231	
8		40	"	72	H	104	h	136		168		200		232	
9		41	)	73	I	105	i	137		169		201		233	
10		42	*	74	J	106	j	138		170		202		234	
11		43	+	75	K	107	k	139		171		203		235	
12		44	,	76	L	108	l	140		172		204		236	
13		45	-	77	M	109	m	141		173		205		237	ø
14		46	.	78	N	110	n	142	Ä	174		206		238	
15		47	/	79	O	111	o	143		175		207		239	
16		48	0	80	P	112	p	144		176		208		240	
17		49	1	81	Q	113	q	145		177		209		241	
18		50	2	82	R	114	r	146		178		210		242	
19		51	3	83	S	115	s	147		179		211		243	
20		52	4	84	T	116	t	148	ö	180		212		244	
21		53	5	85	U	117	u	149		181		213		245	
22		54	6	86	V	118	v	150		182		214		246	÷
23		55	7	87	W	119	w	151		183		215		247	
24	↑	56	8	88	X	120	x	152		184		216		248	°
25	↓	57	9	89	Y	121	y	153	Ö	185		217		249	
26	→	58	:	90	Z	122	z	154	Ü	186		218		250	
27	←	59	;	91	[	123	{	155		187		219		251	
28		60	<	92	\	124	|	156		188		220		252	
29		61	=	93	]	125	}	157		189		221		253	
30		62	>	94	^	126		158		190		222		254	
31		63	?	95	_	127		159		191		223		255	

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2.7.6 Loadable Font Katakana

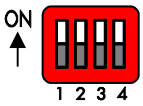


2.7.7 Loadable Font Cyrillic



2.8 User-Mode Switch

The user-mode switch is placed at the rear side of the unit. The switch levers can be accessed by using a pen or a small screwdriver.



S1	S2	S3	S4	Function
I	X	-	-	Standard-Mode with PLC (delivery state)
I	X	I	-	Standard-Mode without PLC
-	I	-	-	Transparent-Mode with start and stop code of the keys
-	-	-	I	Transparent-Mode without stop code of the keys
I	-	-	I	Activate download (deletes application memory) und default contrast setting

Legend of above table:
I = Switch position ON
\- = Switch position OFF
X = Switch position irrelevant

2.9 Battery

A built-in lithium battery buffers the data in the RAM memory and also supplies the real-time clock with power. The discharge degree of the battery is monitored constantly to prevent any loss of data.
The battery provides a minimum life of 5 years, even under unfavourable operating conditions.
If the battery is drained the system message „change battery“ is generated.
A new battery is supported by Sütron electronic or the sales representative of your country.

Replacing the battery:
The battery can be replaced while the operating voltage is connected to ensure that the message data and time setting are not lost. Mind the safety instructions!

- Remove the mounting bolts of the field bus connectors (if available)
- Remove the fastening screws of the enclosure and remove the enclosure
- Replace the cable fastener, which is used to hold the battery
- Plug off the connector of the battery cable and replace the battery
- Plug on the connector of the new battery
- Place the new battery onto the plastic carrier on the printed circuit board and fasten it with a new cable fastener
- Place the enclosure on the rear side of the unit
- At first fasten the bolts of the field bus connectors (if available) and at last fasten the screws of the enclosure properly

Changing the battery may only be performed by qualified and authorized personnel!

Sewage and refuse displosal:
Dispose only drained batteries into the collection box of the community or of the local dealer. The battery is stated as drained when the message „change battery“ appears on the display of the appliance.

To prevent short circuitry in the collection boxes insulate the poles of each battery with insulation tape or put each single battery into a plastic bag.



Do not put lithium batteries in fire or heat them above 100° C and do not recharge them. **Danger of Explosion!**



Do not open lithium batteries. **Danger of Poisoning!**



Electrostatic discharges can damage electronic components! ESD protective measures must be observed!

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2.10 Fuse

A semiconductor fuse is used to prevent damage to the operating terminal. Once the fuse has been activated, the device must be disconnected from the supply voltage to allow the semiconductor fuse to regenerate. With an ambient temperature of 20 °C, the regeneration takes about 20 seconds. The higher the ambient temperature, the longer the regeneration period.
The semiconductor fuse is not designed to be replaced.

2.11 Application Memory

The unit is equipped with a 256 KByte flash memory an application memory.
After switching on the unit the size of the application memory is displayed. This memory area is available to store the user application, the loadable protocol driver, the fonts and the recipe data.

3 Technical Data

Keyboard	a Total of 11 Keys, Mechanical with Tactile Feedback, 1 Million Switch Cycles Divided into 2 Control Keys 4 Function Keys with LEDs and Slide-in Identification Strips 1 Special Key without LED 2 Special Keys with LEDs 2 Editing Keys
LCD Display	Backlit LCD Module / Luminescent VF Module, 4 Lines with 20 Characters Each, Display Area 23 x 74 mm with Glare Suppression for Increased Contrast Lifetime LCD: 100000 h Lifetime Backlight: 100000 h Lifetime VF: 50000 h
Interface X2	Variable Baud Rates and Data Formats SER1 TTY / 20 mA Communication SER1 RS485 Communication SER1 RS232c Communication SER2 RS232c Download/Upload/Scanner/ Logging Printer

Protocols Standard	ABB CS31 ABB T200 AEG KS-Functions AEG Modbus Allen Bradley Bosch BUEP19/BUEP19E DIN-Meßbus Slave, DIN-Meßbus Gateway GE Fanuc SNP IDEC Micro3 Jetter PASE / PCOM5 Mitsubishi FX-Series and A-Series Moeller SUCOM 1 (PS306/316) Moeller SUCOM 1 (PS4-201) OMRON Host-Link OMRON NT-Link Siemens SINEC L1 Master Link Siemens 3964R/RK512 Siemens S5 PG (AS511) Siemens S7 PPI Siemens S7 MPI (HMI-Host Adaptor)
Protocols Field Bus	none
Central Unit	Z80-CPU, 10 MHz, Watchdog Timer, Real-Time Clock, Programmable Interface Parameters, Temperature Compensation of the Display, Adjustment of Brightness/Contrast, Battery Monitoring, User Mode Switch
Memory	256 Kbyte Flash Memory, Application Memory 128 Kbyte stat. CMOS-RAM, Battery-Backed
Connection System	Plug-in Type, via SubminD Female Connector Strips
Supply Voltage	24 V Direct Voltage, Residual Ripple Max. 10%, SELV in accordance to DIN EN 61131 Minimum Voltage 19.2 V Maximum Voltage 30.2 V Typ. Power Consumption <0.3 A Peak Current (10 ms) <0.5 A
Connected Load	~10 W
Fuse	Semiconductor Fuse

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Reverse Voltage Protection	Protection Diode
Noise Immunity	EC Electromagnetic Compatibility Directive 89/336/EEC EN 50081-1 Table A1 EN 50082-2 EN 55011 Limit Class A* EN 55022 EN 61000-4-2 EN 61000-4-3 EN 61000-4-4 EN 61000-4-5 EN 61000-4-6

***Warning:**
This is a class A product. In residential areas there may be radio disturbance. Appropriate protective measures must be taken by the operator.

Environmental Test	Operating Temperature	0°C to 50°C
	Storage Temperature	-25°C to 60°C
	Relative Humidity for:	
	Operation	max. 75% annual average
	Storage	max. 75% annual average
	Non-condensing	

Degrees of Protection	EN 60259 Mechanical Degrees of Protection Front: IP65 Rear: IP20
Front Panel	Aluminum, black anodized with affixed polyester cover, polyäthylen foam seal around rear of front panel 96.0 x 144.0 x 3.5 mm (H x W x D)
Panel Cutout	82 x 138 mm +1 / -0 mm (H x W)
Mounting Depth	43 mm without Connector (Approx. 70 mm with Connector)
Enclosure	Zinc-Coated Steel Plate
Total Weight	approx. 400 g

4 Declaration of Conformity

EG - Konformitätserklärung

Seriennummer : BT2/101xxx

Dokument - Nr./
Monat. Jahr : CE-BT2.101_1/12.1997

Der Unterzeichner, der den nachstehenden Hersteller vertritt

Hersteller :	SÜTRON ELECTRONIC GMBH	
Anschrift :	SÜTRON ELECTRONIC GMBH Kurze Straße 29 D-70794 Filderstadt (Bonlanden)	Telefon 0711/77098-0 Telefax 0711/77098-60

oder der den vom Hersteller nachstehend benannten Bevollmächtigten vertritt, der innerhalb der Gemeinschaft (oder des EWR) niedergelassen ist (falls zutreffend)

Bevollmächtigter:	Siegfried Buck
Anschrift:	Kurze Straße 29 D-70794 Filderstadt

erklärt hiermit, daß das Produkt

Produktkennzeichnung :	Tesimod - Bedienterminal BT2/101 x

in Übereinstimmung mit den Bestimmungen der nachstehenden EG-Richtlinie(n) (einschließlich aller zutreffenden Änderungen)

Referenz-Nr.	89 / 336 / EWG
Titel	Richtlinie des Rates zur Angleichung der Rechtsvorschriften der Mitgliedsstaaten über die elektromagnetische Verträglichkeit

und daß die Normen und/oder technischen Spezifikationen, die auf der Umseite in Bezug genommen sind, zur Anwendung gelangt sind.

Die letzten beiden Ziffern des Jahres in dem die CE-Kennzeichnung angebracht wurde: ..... (nur einzutragen, wenn die Übereinstimmung mit den Bestimmungen der Niederspannungsrichtlinie 73/23/EWG erklärt wird)

Aussteller : SÜTRON ELECTRONIC GMBH

Ort , Datum : Filderstadt , 18.12.97

Unterschrift: Siegfried Buck

Siegfried Buck , Geschäftsführer

(Name und Funktion der vom Hersteller oder von seinem Bevollmächtigten zur Unterschrift berechtigten Person)

Die Sicherheitshinweise der mitgelieferten Produktdokumentation sind zu beachten .

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EG-Konformitätserklärung

Seriennummer : BT2/101xxx

Dokument - Nr./
Monat. Jahr : CE-BT2.101_1/12.1997

Bezugnahme auf Normen und/oder technische Spezifikationen oder Teile von diesen die für diese Konformitätserklärung zur Anwendung gelangt sind :

- harmonisierte Normen :

Referenznummer	Ausgabedatum	Titel	Teile (1)
DIN EN 55011 10.97		Funkstörungen bei ISM-Geräten	
DIN EN 50081-1 Tab. A1	01.92	EMV-Störaussendung Wohnbereich	1
DIN EN 50082-2	02.96	EMV-Störfestigkeit Industriebereich	2
DIN EN 61000-4-2	1995	EMV-Störfestigkeit ESD	2
DIN EN 61000-4-3	08.97	EMV-Störf. Hf-elektromagn. Felder	3
DIN EN 61000-4-4	1995	EMV-Störfestigkeit Burst	4
DIN EN 61000-4-5	1995	EMV-Störfestigkeit Surge	5
DIN EN 61000-4-6	04.97	EMV-Störf. leitungsgef. Störgr.	6
DIN EN 55022 05.95		Funkstörungen bei ITE-Geräte	

- oder andere Normen und/oder technische Spezifikationen:

Referenznummer	Ausgabedatum	Titel	Teile (1)

- andere Technische Lösungen, deren Details in den technischen Unterlagen oder in der technischen Dokumentation enthalten sind :

- Andere in Bezug genommene Dokumente oder Informationen, die von den anzuwendenden EG-Richtlinien gefordert werden :

Prüfbericht : 76269-1-BCD

(1) Wo zutreffend, müssen die angewandten Teile oder Abschnitte der Norm oder der technischen Spezifikation in Bezug genommen werden.

SÜTRON ELECTRONIC GMBH
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D-70794 Filderstadt (Bonlanden)
Telefon 0711/77098-0
Telefax 0711/77098-60
Geschäftsführer:
Siegfried Buck
Amtsgericht Nürtingen
HRB - Nr. 981

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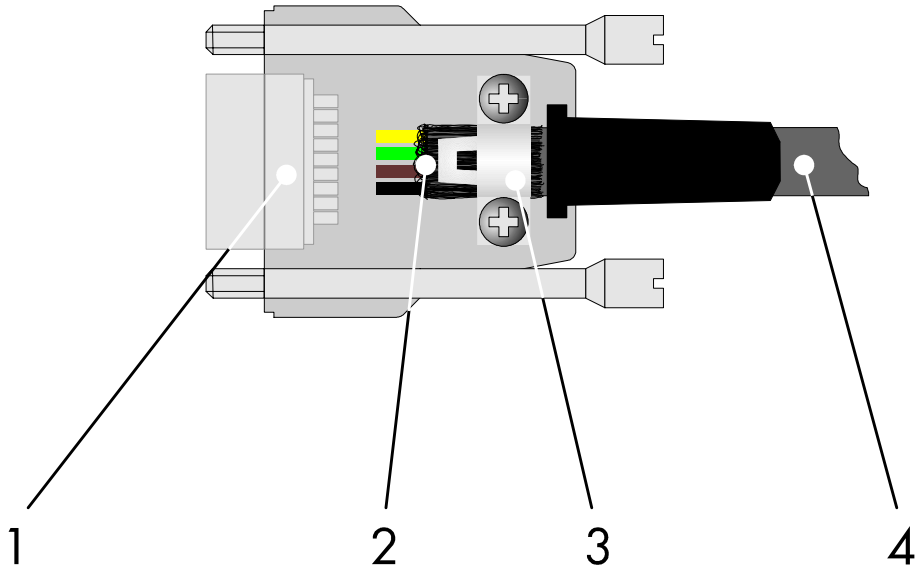
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Appendix A

A Appendix A

A.1 Shielding of SubminD - Interconnections



1 SubminD Connector
2 Shield
3 Cord Grip
4 Cable

The shield must be pushed back tubularly.
By fastening the cable with the cord grip you have to ensure an electrical contact of the shield to the housing over an area as wide as possible and an appropriate strain relief.