



# **Operating Instructions / Hardware Manual**

## **ProVicom Eagle MT-316-R, MT-336-R**

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## 1. Purpose of the manual

This manual contains the information required for the proper application and use of the product. It has been written for technically qualified staff with expertise in automation or data transmission technology.

Qualified staff are:

- design managers who are familiar with safety concepts in automation or data transmission technology
- **or** operating staff who have been trained to work with the devices or systems and who are therefore familiar with the relevant contents of this manual
- **or** experienced operators / service technicians who have been trained in similar systems on the basis of safety technology standards.

This manual has been produced with due care. It contains all necessary information for project planning and for operation of the product. In the unlikely event of important technical documents missing or errors and discrepancies, please let us know.

For specific questions in individual cases, please contact the Support Department of R.-STAHL HMI Systems GmbH.

## 2. Formatting conventions

### Notation

**MENU** Terms from dialogues, menu items and buttons are displayed in capital letters.

**< >** Keys or shortcuts are displayed in pointed brackets, e.g. <CTRL + N>

**[ ]** Input strings are displayed in square brackets, e.g. [A:\SETUP:EXE]

**»** Requests to operate the program will start with the character »

*Italics* Program reactions to an operation will be displayed in italics.

### Notes



Information highlighted by this symbol is intended to prevent danger to the health and safety of staff and to prevent damage to property.



Information highlighted by this symbol indicates important information of which particular note should be taken.



Information highlighted by this symbol refers to a different chapter or section in this manual or other documentation.

### 3. Safety information

The detailed knowledge and correct technical implementation of the installation guidelines / safety instructions / functions described in this manual are a prerequisite for the safe operation.

As the components or devices described can be used in various areas and systems, it is essential that their functions and the corresponding safety instructions are incorporated into the safety concept of the overall system.



- After removing the housing or opening the control cabinet door, device components with dangerous voltage may be accessible.
- Product safety requires correct transport, storage, installation and operation.
- Product modifications may only be carried out by qualified staff familiar with this manual.

Compliance with the handling regulations and safety instructions will ensure that under normal circumstances the product will not pose any danger to staff or property.



Use the device for its intended purpose only.

Incorrect or unauthorized use and non-compliance with the instructions in this manual will void any warranty on our part.

Operation is subject to the following:

- National safety regulations
- National accident prevention regulations
- National assembly and installation regulations
- Generally accepted technical rules
- Safety instructions contained in these operating instructions
- Characteristic values and rated operating conditions on the rating and data plates
- Additional information signs on the device

## **4. ProVicom Eagle MT-316-R, MT-336-R**

### **4.1. Device function**

The MT-316-R (10.4" display) and MT-336-R (15" display) operator interfaces are intelligent visualization systems for automation applications. They can be installed in control cabinets or panels, for example.

Users operate the device by means of the foil keyboard that is integrated into the front plate and the LCD display with touch screen.

Communication with control and automation systems is achieved via the serial interfaces (RS-232, RS-422/485, Ethernet) located in the connection box at the rear of the devices. Various peripheral devices, such as barcode scanners, card readers, USB sticks and WLAN / Bluetooth modules can be connected via USB interfaces or optional fitted modules.

With a wealth of functions, these devices provide optimum visualization. Their active communication concept in combination with integrated functionality reduce the automation system workload.

In terms of software and functionality, the MT-316-R and MT-336-R operator interfaces are compatible with their predecessors, the MT-315 and MT-335.



## 4.2. Technical details

Function / Equipment	MT-316-R	MT-336-R
Display	TFT Aktiv-Color	TFT Aktiv-Color
Size	10,4"	15"
Resolution	800 x 600 pixels	1024 x 786 pixels
Brightness	200 cd/m <sup>2</sup>	200 cd/m <sup>2</sup>
Contrast	150:1	150:1
Life expectancy backlight	>50,000 h	>50,000 h
Processor	STPC	Pentium 1
Clock pulse rate	90 MHz	266 MHz
Memory (RAM)	32 MB / 128 MB	32 MB / 128 MB
Project memory (CompactFlash)	64 MB (standard), up to 512 MB	64 MB (standard), up to 512 MB
Touch screen	analogue resistive	analogue resistive
Keyboard	Foil short-stroke keyboard	Foil short-stroke keyboard
Functional keys	12	8
Freely assignable / number	Yes / 12	no/ -
Brightness key	no	no
System LED's	-	-
Function key LED's	-	8
Real-time clock	Yes	
Printer interface	LPT1 (standard, not electrically isolated)	
V.24/ RS-232 programming interface	COM1 RS-232 electrically isolated	
Communication interfaces	COM1, electrically isolated, RS-232-C / RS-422/485 optional via adaptor Profibus DP-MPI	
		COM2, RS-232, Barcode COM3, RS-422/485, TTY
Ethernet	10/100Mbit, RJ 45	
USB	2 (not supported by SPSPPlusWIN)	
VGA interface	-	Yes
Keyboard interface	Connection for PS/2 keyboard	
External floppy disk drive	no	
Mouse interface	serial standard PS/2 mouse (not supported by SPSPPlusWIN)	
Configuration memory type	Compact flash card	
Program and configuration memory	32 MB – 1 GB, plug-in card	
Main memory	32 Mbyte	
Number of process pictures	> 1000 dynamic	
Number of texts / messages	dynamically limited by main memory	
Number of variables per screen	255	
Number of messages	4096 fault messages, 4096 operation messages	
Font sets	4 independent Windows uncondensed fonts	
Number of protocol drivers	a max. of 4 simultaneously	
power supply	acc.to IEC 1131-2	
Nominal value	24 V DC	
Range	-15% to +20%	
max. power consumption	2 A	3 A
Protection type front plate	IP65	
back plate	IP20	
Ambient temperature		
Operation:	0..0.50°C	
Storage	-20..0.60°C	
Relative humidity	<80% at 25°C, without condensation	
EMC	CE number EN 61000-6-4 emitted interference EN 61000-6-2 immunity to interference	
Safety	VDE 0805; EN60950	
Housing	Aluminium front with polyester sheeting Housing cover made of stainless steel	
Dimensions (WxHxD) [mm]	370 x 270 x 69	420 x 341 x 69
Cut-out (WxH) [mm]	341 x 241 (+ 1)	402 x 323 (+ 1)
Wall thickness [mm]	≤ 1,5	≤ 1,5
Depth of cut-out	110 (inc. Profibus plug)	110 (inc. Profibus plug)
Weight [kg]	approx. 3.9	
Function / Equipment	Options	
Communication interface COM2	with KA-SER module reversible RS-232-C or SR-422/485	MPI, Profibus DP, Arcnet SST

### 4.3. Front view:

#### 4.3.1.MT-316



#### 4.3.2.MT-336



## 4.4. Software Design

- (Colour) graphic terminal
- Background charts, chart lists
- Windows fixed fonts

### Communication

- A maximum of four independent communication channels (4 different PLC protocols)
- Active reading and writing by the operator interface by means of the control protocols in / from the PLC. Communication programming is therefore no longer required.

### Advancing, Moving, Positioning

- Function and cursor keys are transferred directly and fast to the PLC or DCS.
- Touchscreen operation

### Displaying, parameterising, dosing, regulating

- Simple, user-friendly generation of process images
- Several thousand process items (1900 process variables)
- Process variables in suitable format per process diagram (MT-316-R/336-R: > 255 variables per diagram)
  - ◆ numerical data formats with input limits and conversion functions
  - ◆ Strings
  - ◆ Floating point variables
  - ◆ bar chart (with direct link to process variables)
  - ◆ Text lists and chart lists
  - ◆ Line charts
  - ◆ all conversion functions and limits from the PLC or definable during project design
- The read out and data conversion is done automatically at the operator interface.
- Limit editing (colour change etc.).
- Conditional hiding of variables and charts (fields and screen pages).
- plannable link of images, keys and processes
- Access authority
  - ◆ Password
  - ◆ Key switch
  - ◆ PLC program (operation type)

**Monitoring and Checking**

- Fault handling by bit
- Message bit processing, i.e. bit-controlled operating messages and list administration in the operator interface.
- User-friendly recording functions in the internal protocol memory; histogram with up to 512 entries.

**Menu Structures**

- Simple generation of menu structures (parameterising masks, tree structures) without PLC program.
- Direct activation of internal functions via function key.

**Recipes / storage**

- Storage of set values in the operator interface
- Storage of line charts and trends in the operator interface

**Languages / fonts**

- Online language switch for 4 languages with different fonts (Windows fixed fonts)

**Programming**

- Project design via SPSPPlusWIN; 32-bit version for Windows 2000 and XP.

**Download firmware**

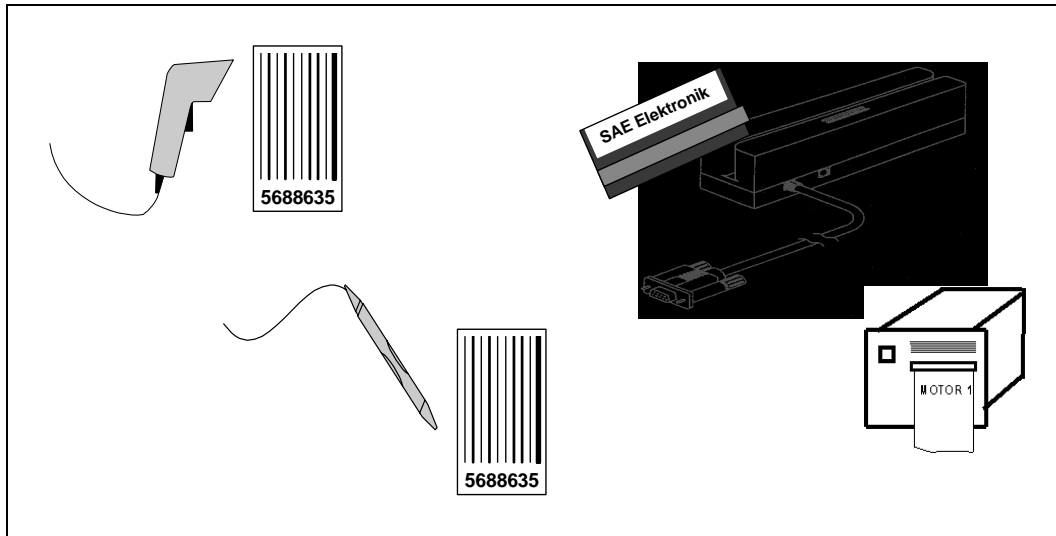
Download of the complete firmware with:

- protocol drivers
- system languages
- fonts

**Compatibility**

- All operator interfaces are programmed via the same interface.
- MT-316-R/336-R contain all functions of the other operator terminals with PLC mode so that existing projects can be imported easily and without problems.

## 4.5. Accessories



### 4.5.1. Programming cable

Type	VB-31
Cable length	5 m
Plug	PC side 9 pin Sub-D ProVicom side 9 pin. Sub-D

### 4.5.2. Connection cables to automation devices

For almost all couplings R. STAHL HMI Systems GmbH can supply a suitable connection cable. For an up-to-date list of connection cables, please refer to the price list.

### 4.5.3. Functional components, additional libraries

In general, no particular functional components or program libraries are necessary for communication with an R. STAHL HMI Systems GmbH operator interface (except: Profibus DP).

## 5. Installation

### 5.1. Interference suppression measures / Installation guidelines

**Please note carefully!**

The operator interfaces are state of the art electronic devices. Both their robust mechanical construction and the design of their electronic components make them ideal for industrial application.

The electromagnetically compatible installation of the operator interface is a prerequisite to its interference-free operation.

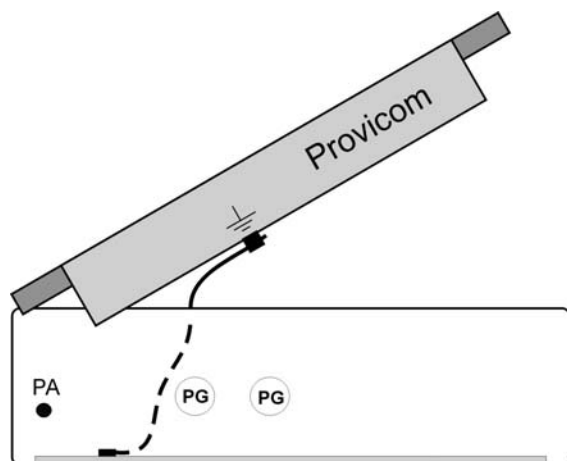
The interference energies coupled-in on the operating unit are removed via the functional earth connection ( $\perp$ /PA) on the rear.

This functional earth connection must be incorporated into the equipotential bonding by means of a short, low-resistance Cu-cable with a maximum diameter of 2.5mm<sup>2</sup> - 4mm<sup>2</sup>.

Otherwise, the measures taken in the device for high interference immunity and resistance to damage may become partially ineffective.

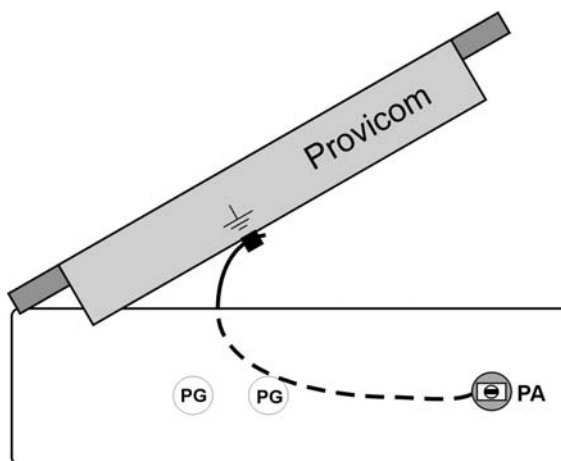
When installed in steel field housing, this functional earth connection must be connected to the internal PA housing connection with a 2.5mm<sup>2</sup> yellow/green cable.

Wiring in stainless steel field housing



The operating unit functional earth is fixed to the eyelet on the lower side of the housing

Wiring in plastic field housing



The operating unit functional earth is fixed to the equipotential bonding cable window

When selecting the mounting position, ensure that the maximum possible distance is achieved from electromagnetic interference fields. This is particularly important if frequency transformers are also used.

In some circumstances, protection against “stray rays” by means of screening plates is recommended.

### 5.1.1. EMC compliant installation

The electromagnetically compatible installation of the operator interface is a prerequisite to its interference-free operation.

The use of interference-protected cables and their shielded connection is another important measure.

#### Connection of shielding:

- ☞ A double-sided screen connection should be used between the controller and communication module for the data cable.  
Generally, only by connecting the shielding at both ends is it possible to achieve optimum reduction of all interference frequencies!

Alternative screen connection solutions are available for **EMC interference** but they must conform to national installation guidelines.

#### Shielding connection:

To prevent interference currents coupled into the cable screen from themselves becoming sources of interference, a low-impedance connection to the I /earth connector or the potential equalization is particularly important!

When using sub-D plug connectors you should always connect the screen to the metallic or metal-plated connector casing. Do not connect the shielding to pin 1 on the plug connector!

The plug terminal of some controllers is not always properly earthed. In such cases it may prove useful to isolate the shielding from the sub-D connector of the PLC and connect it directly to the earth lead or functional earth by means of the shortest possible cable (0.75 mm<sup>2</sup>...1.5mm<sup>2</sup>).

With stationary operation we recommend that the shielded cable be stripped fully and connected to the earth rail or equipotential bonding.

**In this case the shielding end at the interface should not be reconnected!**

When shielding in this way use metal cable clips which have a large connection area to the shielding surface and make good contact.

Before installation, check which installation regulations are stipulated by the manufacturer of the PLC for safe operation. These should be reconciled with the recommendations given in this manual.

### 5.1.2. Field housing with heating

#### Use of heaters:

Detailed description:

Use of heaters with dangerous voltages in V4A stainless steel housing:

This installation concerns a combination of devices, therefore an EC type examination is not required. As each of the devices used has an EC type examination certificate, together they meet the requirements according to 94/9/EC.

Operating these devices in combination does not cause any new electrical hazards!

As the heating and sensor components are devices of protection class 1 according to VDE0100, the protective earth (yellow/green) in the junction box must be connected to the system's protective earth!

The external PA connection of the stainless steel housing must also be included in the system's equipotential bonding!

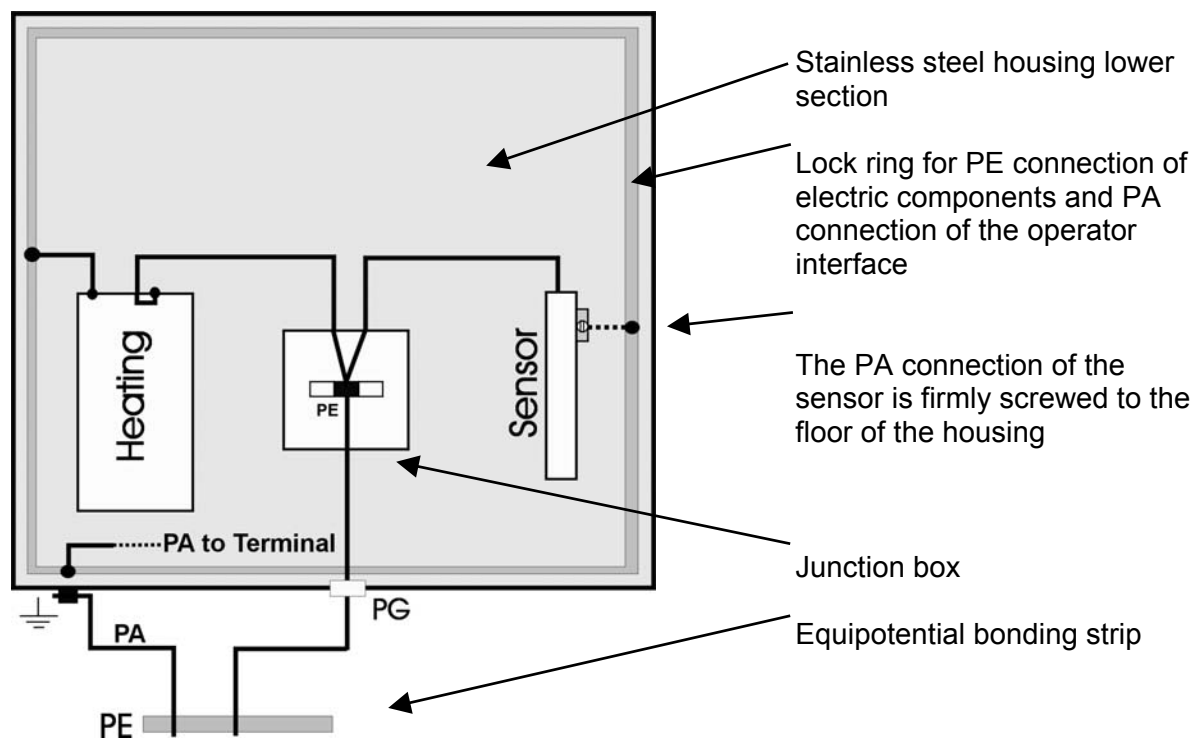


Illustration: PE/PA wiring in steel field housing with heating



## 5.2. Instructions for Mounting and Installation

**Remove** the operator interface from the packaging. The scope of delivery includes:

- Operator interface
- mounting devices
- Operating Instructions / Hardware Manual
- CD with drivers and documentation

The operator interface may be **mounted** directly in

- Control cabinet doors or
- operating panels.

MT-316-R / MT-336-R are suitable for vertical mounting in operating panes and control cabinet doors. Before mounting, cut-out should be made into the front plate. Additional holes are not required for fastening. The front plate must be **no thicker than 9 mm**.

Choose the **mounting position** on the basis of the following criteria:

- optimum height for access to the device
- proper lighting conditions to ensure good display legibility
- the mounting surface should be level, smooth and stable
- If ambient temperature is high, there should be provision for ventilation
- avoid mounting in the immediate vicinity of switching or current converter circuits.

Make a cutout with the following dimensions

Device	Width	Height	Cut-out depth	Material thickness
MT-316-R	341 mm (+1)	241 mm (+1)	approx. 110 mm	min. 1.5 mm
MT-336-R	402 mm (+1)	323 mm (+1)	approx. 110 mm	min. 1.5 mm

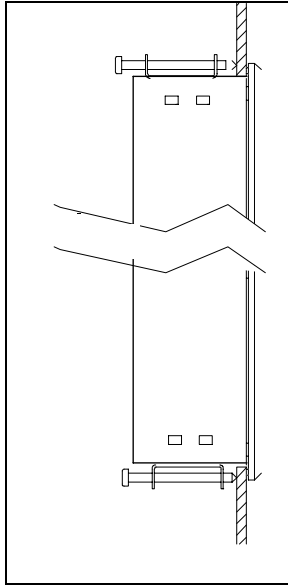
Changing **labeling strips** before mounting (only for MT-316-R):

The labeling strips must be changed from the rear of the device (lower side).

- Remove strips carefully with tweezers. Under no circumstances insert pointed tools into the slit as this may damage the covering foil!
- Label the strips
- Reinsert them carefully (at an angle of about 45 degrees to the front panel):
  - ◆ do not exert any pressure on the front plate
  - ◆ cutting the corners will facilitate this.

If you are making new strips they must be of exactly the same size as the original strips (see appendix. "Labelling Strips"). They must not protrude from the rubber seal.

**Mount** the device using the fasteners :



Fix a fastener each to each corner (vertically or horizontally) and also to the recesses at the upper and lower part of the housing cover.

Tighten the screws slightly.

Check the position of the displays and ensure above all that the **rubber seals are correctly positioned**.

Now tighten the fixing screws with 0.3-0.4 Nm.

Fig.: Mounting diagram:

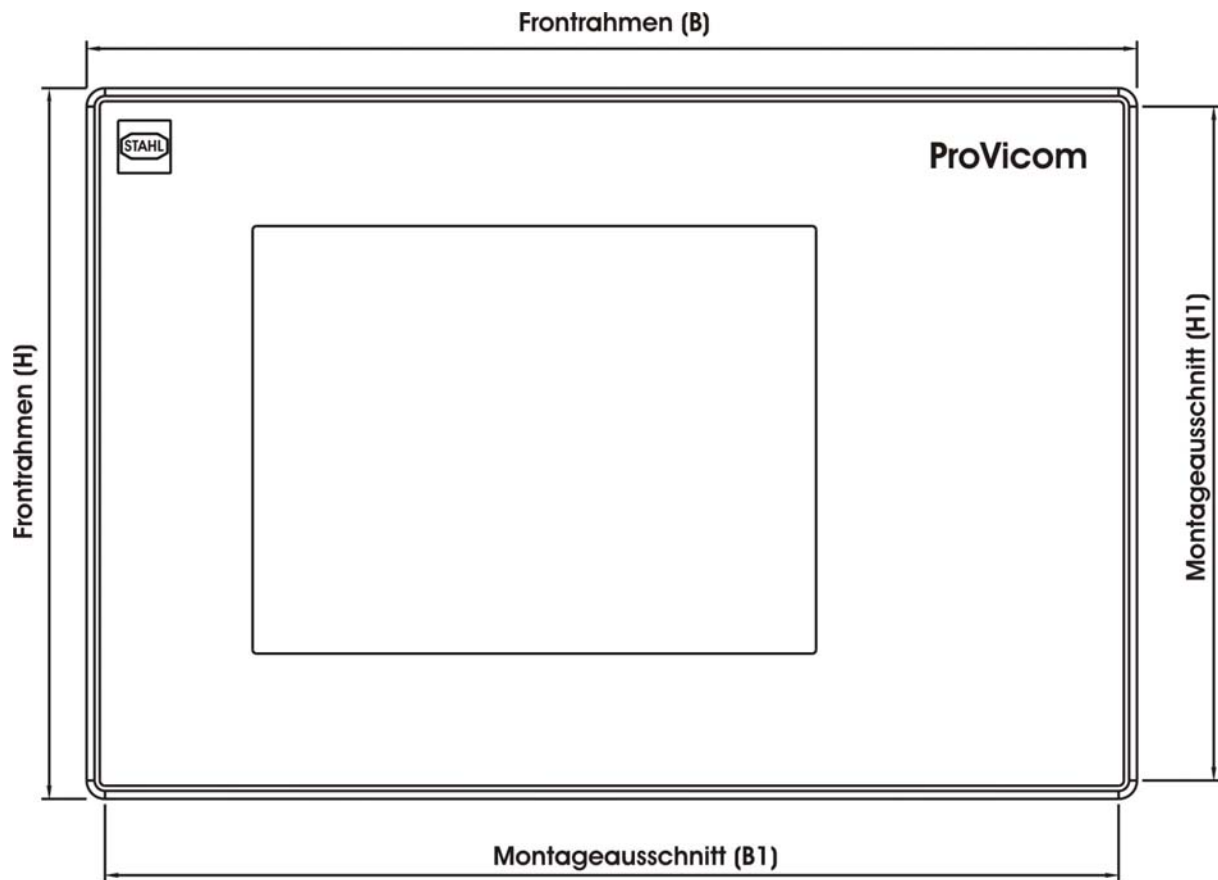


**Caution:**

IP65 is achieved with

- proper mounting and
- a level and smooth mounting surface

## 5.2.1. Mounting diagram:



	Frontrahmen (BxH)	Montageausschnitt (B1xH1)
ProVicom MT-316	370 x 270	341 (+1) x 241 (+1)
ProVicom MT-336	420 x 341	341 (+1) x 241 (+1)

Dimensions in mm.

## 6. Electrical Installation

### 6.1. General information

The operator terminals require electrical connections for:

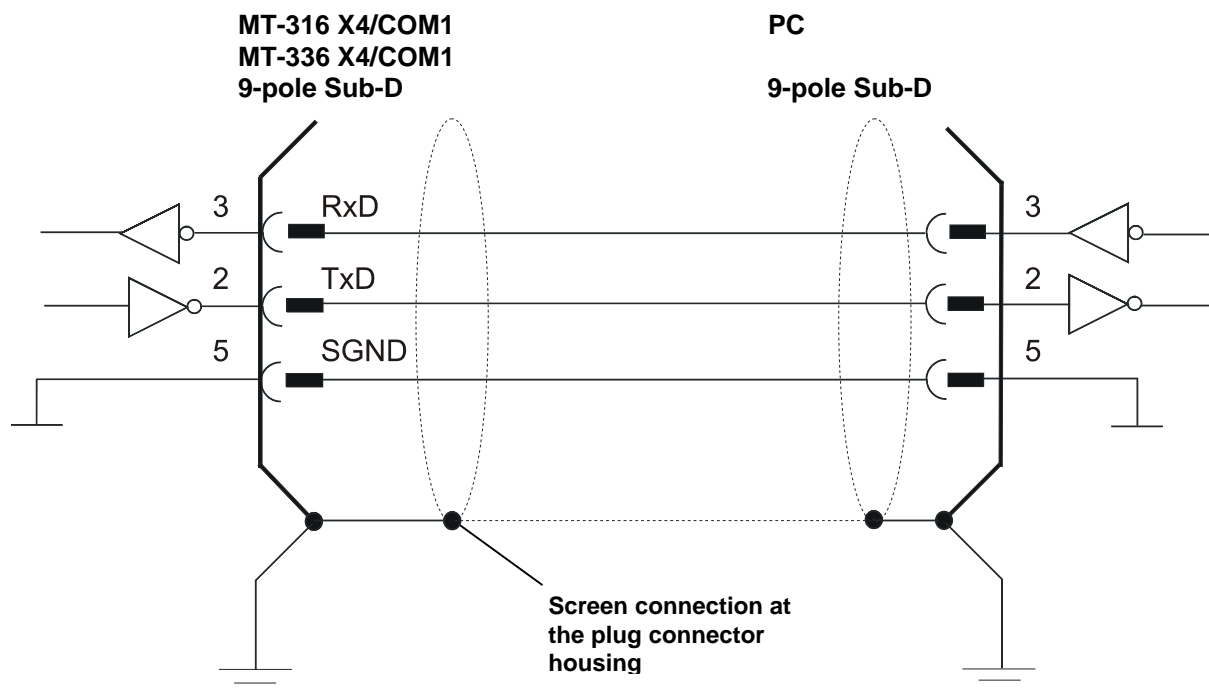
- Power supply
- a PLC or other communication devices
- a printer



- Screened lines only are permitted for all signal connections.
- All plug-in connections must be screwed in or arrested.
- Signal lines must not be laid in the same cable pit as power current lines.
- The manufacturer's warranty does not extend to malfunctions or damage caused by the use of DIY cables or cables from other manufacturers.

### 6.2. Connection to PC

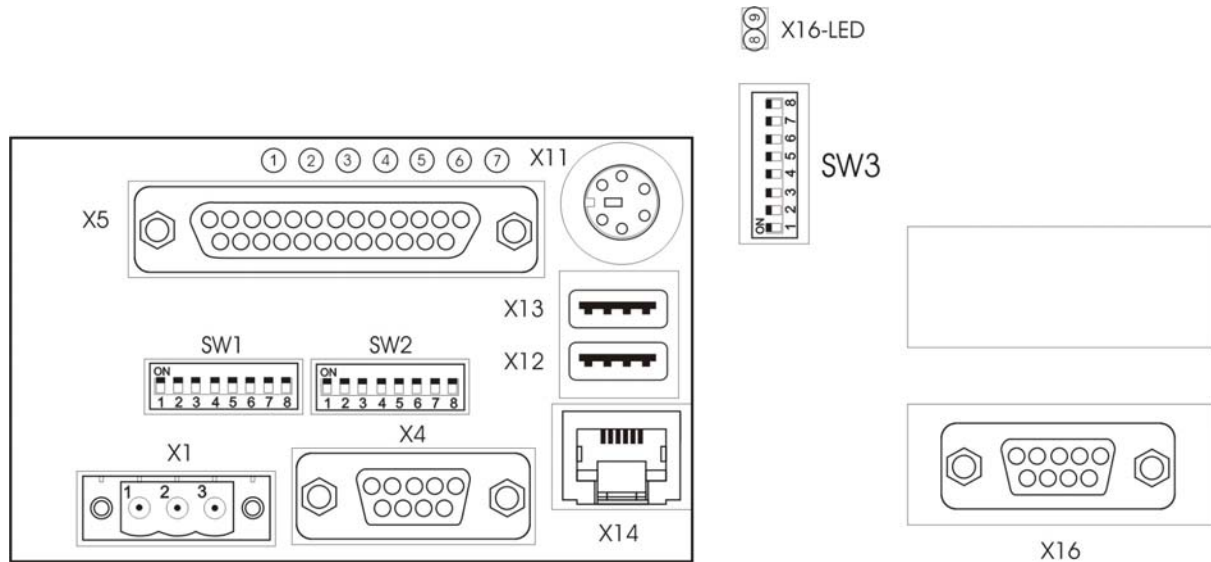
VB-31 connection cable for ProVicom to PC connection (programming cable)



## 6.3. Connection and assignment overview

### 6.3.1. MT-316-R

#### 6.3.1.1. Connection overview



#### 6.3.1.2. Power Supply

The power supply cable is connected to the three-pin plug connector of plug X1. For this, use the enclosed three-pin terminal plug.

##### Configuration at X1

PIN	Definition
1	+24 V
2	PE
3	0 V



- The power supply must not exceed the range specified. Otherwise, the function of the operator interface might be impaired.
- The 24V power supply must be safely electrically separated from the extra-low voltage.
- The operator interface should be electrically bonded to the control cabinet's earth. For this, use the enclosed grounding screw and also connect the PE connection of the X1 plug with the control cabinet's earth.

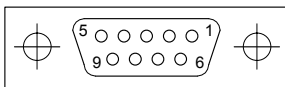
### 6.3.1.3. Standard interface connection assignments

The connection assignment of the following interfaces is assumed to be known, since they are PC standard assignments:

X11 Keyboard and mouse  
 X12 USB  
 X13 USB  
 X14 Lan RJ45

### 6.3.1.4. Configuration at X4 (COM1)

Electrically isolated RS-422/485 or RS-232 interface can be configured via SW1 and SW2 DIL switches. The bus terminal for RS-422/485 and half duplex operation can be configured with the SW1 DIL switch.



Sub-D 9 pin socket

RS-422/485		
PIN	Signal	Definition
1	CTS	Clear to Send -
2	RTS	Ready to Send
3	TxD+	Transmit Data +
4	RxD+	Received Data +
5	GND	Ground
6	RxD-	Received Data +
7	CTS+	Clear to Send -
8	RTS+	Ready to Send -
9	TxD-	Transmit Data +
RS-232		
1	-	
2	TxD	Transmit Data +
3	RxD	Received Data +
4	-	
5	GND	Ground
6	-	
7	CTS	Clear to send-
8	RTS	Ready to Send
9	-	

**Dip switch settings for X4**

Switch	RS-232	RS422/RS485 half duplex	RS422/RS485 full duplex	bus terminal
SW1 – 1	ON	OFF	OFF	
SW1 – 2	ON	OFF	OFF	
SW1 – 3	ON	OFF	OFF	
SW1 – 4	OFF	ON	ON	
SW1 – 5	OFF	ON	OFF	
SW1 – 6	OFF	ON	ON	
SW1 - 7	OFF	X	X	ON TXD
SW1 -8	OFF	X	X	ON RXD
SW2 – 1	ON	OFF	OFF	
SW2 – 2	ON	OFF	OFF	
SW2 – 3	ON	OFF	OFF	
SW2 – 4	ON	OFF	OFF	
SW2 – 5	OFF	ON	ON	
SW2 – 6	OFF	ON	ON	
SW2 - 7	OFF	ON	ON	
SW2 -8	OFF	ON	ON	



Signals for different physical interface types can be activated via switches SW1 and SW2.

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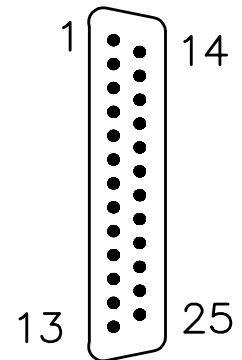


For the physically last device on the bus, a terminating resistor must be used to activate termination. This only applies to the RS422 or RS485 configuration.

---

### 6.3.1.5. Printer installation on LPT1 (X5)

Pin	Definition	Pin	Definition
1	/ Strobe	14	/ Auto LF
2	D0	15	/ Error
3	D1	16	/ Reset
4	D2	17	/ Select Input
5	D3	18	GND
6	D4	19	GND
7	D5	20	GND
8	D6	21	GND
9	D7	22	GND
10	/ Ack	23	GND
11	BUSY	24	GND
12	Page End	25	GND
13	Select		



### 6.3.1.6. Status LED

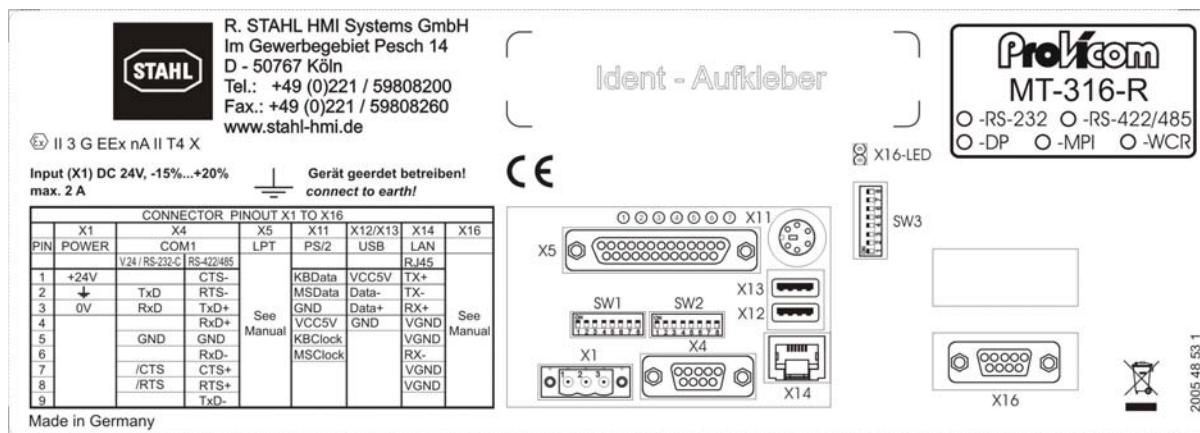


LED	Description
1	Status LED Blinking (CPU/FPGA)
2	10/100 MBIT display Ethernet (off 10 / on 100)
3	Power supply 3.3 V
4	Power supply 2.5 V
5	Power supply 5 V
6	Read/Write access CompactFlash
7	LINK/ACT Ethernet



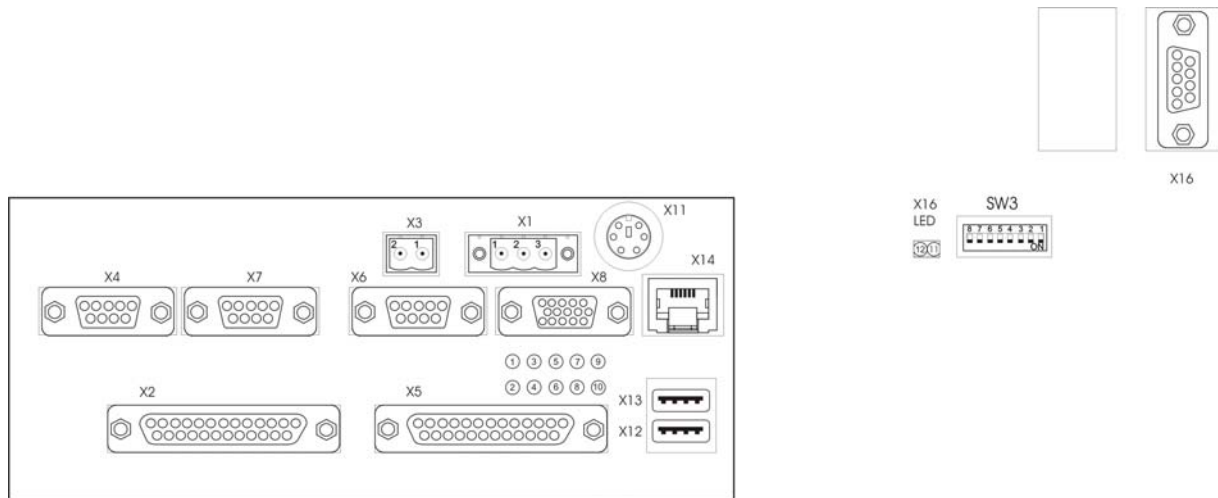
### 6.3.1.7. Type plate

Each operator interface has a type plate on its rear with the identification of electrical connections, as shown below:



### 6.3.2. MT-336-R

#### 6.3.2.1. Connection overview



☞ The X3 alarm relay and the CAN-BUS X7 interface are not supported by the software and are therefore **WITHOUT** function.

#### 6.3.2.2. Power supply

The power supply cable is connected to the three-pin plug connector of plug X1. For this, use the enclosed three-pin terminal plug.

##### Configuration at X1

PIN	Definition
1	+24 V
2	PE
3	0 V



- The power supply must not exceed the range specified. Otherwise, the function of the operator interface might be impaired.
- The 24V power supply must be safely electrically separated from the extra-low voltage.
- The operator interface should be electrically bonded to the control cabinet's earth. For this, use the enclosed grounding screw and also connect the PA connection of the X1 plug with the control cabinet's earth.

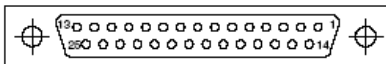
### 6.3.2.3. Standard interface connection assignments

The connection assignment of the following interfaces is assumed to be known, since they are PC standard assignments:

X8	VGA
X11	Keyboard and mouse
X12	USB
X13	USB
X14	Lan RJ45

### 6.3.2.4. Configuration at X2 (COM3)

Sub-D 25 pol. Buchse



Sub-D 25 pin socket

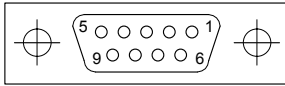
RS-422/485		
Not electrically isolated.		
PIN	Signal	Definition
18	TxD-	Transmit Data -
19	TxD+	Transmit Data +
20	RxD -	Received Data -
21	RxD+	Received Data +
TTY		
9	RxD-	Received Data -
11	Iin 1	+20mA output 1
12	Iout 1	0mA output 1
13	TxD-	Transmit Data -
22	Iin 2	+20mA output 2
23	Iout 2	0mA output 2
24	RxD+	Received Data +
25	TxD+	Transmit Data +

**Dip switch settings for X2**

Switch	RS422/RS485 half duplex	RS422/RS485 full duplex	bus terminal
SW3 – 6	ON	OFF	
SW3 – 7	X	X	ON TxD
SW3 – 8	X	X	ON RxD

### 6.3.2.5. Configuration at X4 (COM1)

Electrically isolated RS-422/485 or RS-232 interface can be configured via SW1 and SW2 DIL switches. The bus terminal for RS-422/485 and half duplex operation can be configured with the SW1 DIL switch.



Sub-D 9 pin socket

RS-422/485		
PIN	Signal	Definition

1	CTS	Clear to Send
2	RTS	Ready to Send
3	TxD+	Transmit Data +
4	RxD+	Received Data +
5	GND	Ground
6	RxD-	Received Data -
7	CTS+	Clear to send +
8	RTS+	Ready to send +
9	TxD-	Transmit Data -

RS-232		
1	-	
2	TxD	Transmit Data
3	RxD	Received Data
4	-	
5	GND	Ground
6	-	
7	CTS	Clear to Send
8	RTS	Ready to Send
9	-	

## Dip switch settings for X4

Switch	RS-232	RS422/RS485 half duplex	RS422/RS485 full duplex	bus terminal
SW1 – 1	ON	OFF	OFF	
SW1 – 2	ON	OFF	OFF	
SW1 – 3	ON	OFF	OFF	
SW1 – 4	OFF	ON	ON	
SW1 – 5	OFF	ON	OFF	
SW1 – 6	OFF	ON	ON	
SW1 - 7	OFF	X	X	ON TxD
SW1 -8	OFF	X	X	ON RxD
SW2 – 1	ON	OFF	OFF	
SW2 – 2	ON	OFF	OFF	
SW2 – 3	ON	OFF	OFF	
SW2 – 4	ON	OFF	OFF	
SW2 – 5	OFF	ON	ON	
SW2 – 6	OFF	ON	ON	
SW2 - 7	OFF	ON	ON	
SW2 -8	OFF	ON	ON	



Signals for different physical interface types can be activated via switches SW1 and SW2.

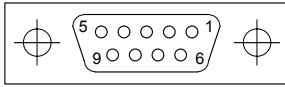
---



For the physically last device on the bus, a terminating resistor must be used to activate termination. This only applies to the RS422 or RS485 configuration.

---

### 6.3.2.6. Configuration at X6 (COM2/Barcode)



Sub-D 9 pin socket

RS-232

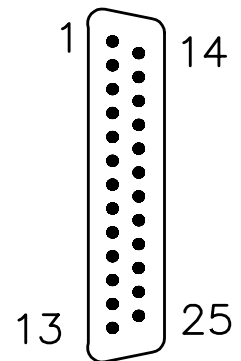
Not electrically isolated.

PIN	Signal	Definition
-----	--------	------------

1	DCO	Data Carrier Detect
2	RxD	Input line +
3	TxD	Output line +
4	DTR	Data Terminal Ready
5	GND	Earth
6	DSR	Data Set Ready
7	RTS	Ready for output-
8	CTS	Output request
9	+5V	5V power supply

### 6.3.2.7. Printer installation on LPT1 (X5)

Pin	Definition	Pin	Definition
1	/ Strobe	14	/ Auto LF
2	D0	15	/ Error
3	D1	16	/ Reset
4	D2	17	/ Select Input
5	D3	18	GND
6	D4	19	GND
7	D5	20	GND
8	D6	21	GND
9	D7	22	GND
10	/ Ack	23	GND
11	BUSY	24	GND
12	Page End	25	GND
13	Select		



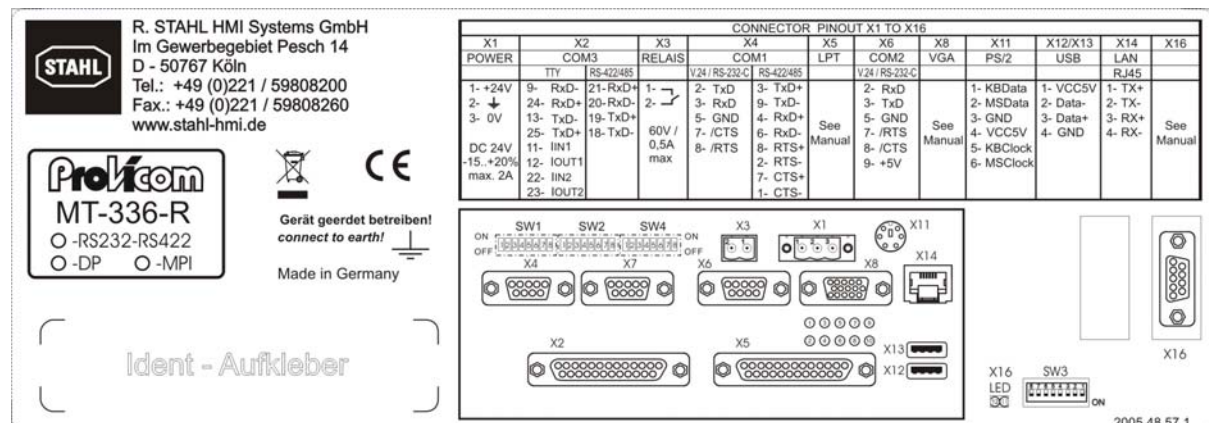
### 6.3.2.8. Status LED

- ① ③ ⑤ ⑦ ⑨  
② ④ ⑥ ⑧ ⑩

LED	Description
1	Power supply 5 V
2	Power supply 3.3 V
3	Power supply 12 V
4	Status LED Blinking (CPU/FPGA)
5	Reserve
6	Reserve
7	Read/Write access CompactFlash
8	Read/Write access optional hard-disk
9	10/100 MBIT display Ethernet (off 10 / on 100)
10	LINK/ACT Ethernet

### 6.3.2.9. Type plate

Each operator interface has a type plate on its rear with the identification of electrical connections, as shown below:





## 7. Keyboard description

### 7.1. Set-up menu

#### 7.1.1. General information

- Users can navigate in the "RTSetup" menu either via the function keys or the touch screen.
- It is also possible to connect and use an external keyboard.
- Within the application the setup menu can only be called up by means of a programmed function.

First, call up the "communication – wait for master" window. By pressing **<F12> » ESC** you will return to the main menu (📖 see section 7.1.2).

Data input without external keyboard:

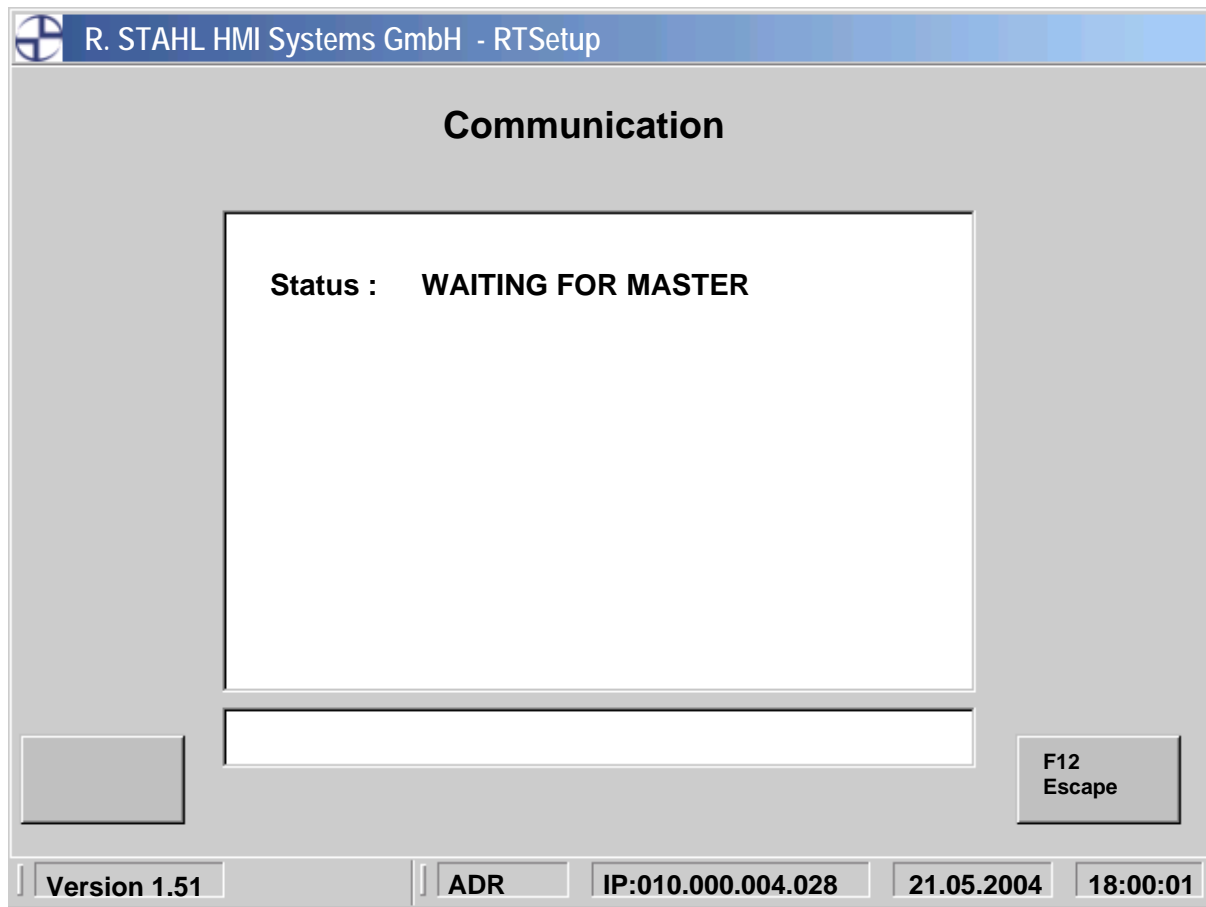
- If there is no external keyboard, tap on the input field once or twice (depending on the type of field) and the internal (touch) keyboard will appear. Use this keyboard to enter the new value.
- Accept each new value by pressing the **<↵>** (Enter-) key.

Input via external keyboard:

- If an external keyboard is connected, values can be directly entered into a field.
- Again, accept each new value by pressing the **<↵>** (Enter-) key.
- The settings in the main menu can only be changed after a **LOGIN**.

### 7.1.2. Start-up of the operator interface

After booting, the set-up program displays the following menu:

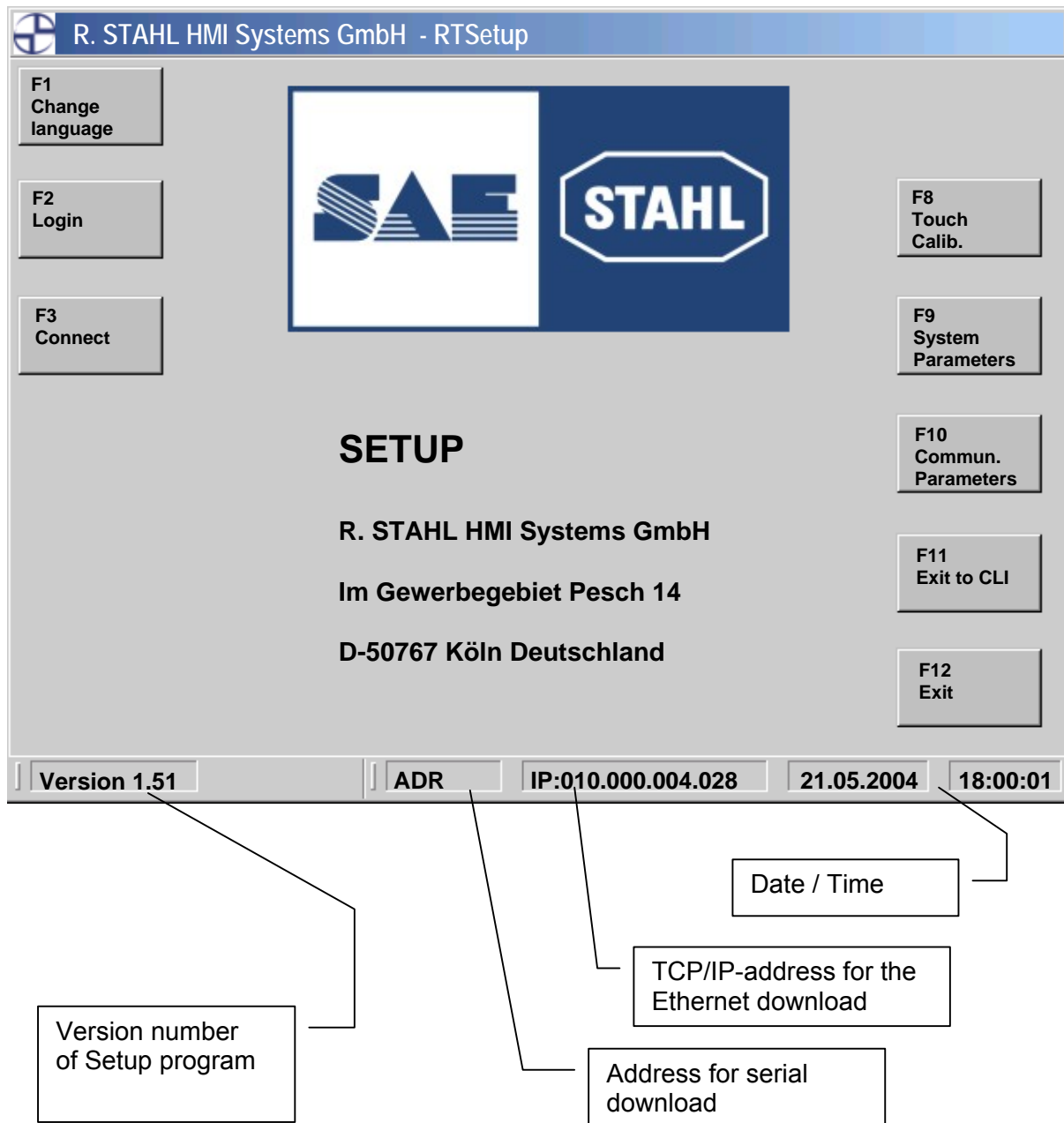


If there is no data input and the PC does not establish a connection within a preset interval (to be set via **NEW AUTOEXIT TIMEOUT** (📖 see section 7.1.4.5)), the set-up program is automatically terminated and the operator interface will start the application.

You can exit this screen with **<F12> » ESC** and return to the main menu.

### 7.1.3. Main menu

The main menu has the following options:



#### 7.1.4. Main menu settings

##### 7.1.4.1. General information

- The settings in the main menu can only be changed after a **LOGIN** (📖 see section 7.1.4.3).
- Press **<F6> » OK** to accept each new setting.
- Press **<F12> » Exit** to reject a setting and return to the main menu.

##### 7.1.4.2. Change menu language

Press the **<F1> » CHANGE LANGUAGE** key to select a different language.

- Three different languages are available for the setup:
- German, English and French.

#### 7.1.4.3. Log-in

Start the log-in process by pressing the <F2> » **LOGIN** key, and the following screen will appear:

The screenshot shows a login window titled "R. STAHL HMI Systems GmbH - RTSetup". The main heading is "Password". Below it is a large white rectangular input field with the text "Enter password \*\*\*\*\*". At the bottom left is a button labeled "F6 OK", and at the bottom right is a button labeled "F12 Escape". The status bar at the bottom contains the following information: "Version 1.51", "ADR", "IP:010.000.004.028", "21.05.2004", and "18:00:01".

- After entering your password in the » Enter Password field you will be able to change settings
- The operator interfaces have no default password.
- Passwords may consist of all letters (except ö, ä and ü) and the numbers 0 to 9. Special characters are not supported.
- The password may consist of a maximum of 20 characters.
- If you have not defined a password yet, press <↵> (Enter) to log on.
- If the password is correct, the message "**Log-in successful**" will appear.
- If you enter an incorrect password the message "**Incorrect password. Please re-try**" will appear.
- If another user has already logged in, the message "**password not verified, please re-try**" will appear.

#### 7.1.4.4. Change password

After successful log-in, press the <F2> » **LOGIN** key to return to the password menu, and the following screen will appear:

R. STAHL HMI Systems GmbH - RTSetup

**Password**

Enter Password : \*\*\*\*\*

Re-enter password : \*\*\*\*\*

F6  
OK

F12  
Escape

Version 1.51    ADR    IP:010.000.004.028    21.05.2004    18:00:01

- Enter your new password in the » **ENTER PASSWORD** field.
- Verify the password by typing it again into the » **REPEAT PASSWORD** field.
- Confirm your password by pressing <↵> (Enter-) and move to the second input field. Enter the new password again into this field.
- If you are using an external keyboard, use the cursor keys to move to the second input field.
- If the password is identical in both fields, the following message will appear: "Password changed successfully".
- If the passwords are not identical, the message "***password not verified, please re-try***" will appear and the password will not be changed / accepted.

#### 7.1.4.5. Touch calibration

If the touch screen is not working properly within the application, you can re-calibrate it.

- Press the **<F8> » TOUCH CALIB.** key to begin the touch calibration.
- Press the **<F8> » TOUCH KALIB.** key to exit the set-up menu and start the application.
- An asterisk (\*) will appear four times on the screen (1. top left, 2. top right, 3. bottom left, 4. bottom right).
- Tap exactly on the asterisk \*. The touch screen is then re-calibrated and the system returns to the main menu.

#### 7.1.4.6. System parameters

Call up the system parameter menu item by pressing the <F9> » **SYSTEM PARAMETER** key

- With this menu item, you can set time and date and the auto-exit timeout.

The screenshot shows a software window titled "R. STAHL HMI Systems GmbH - RTSetup". Inside the window, the title "System" is centered at the top. Below it, a white rectangular box contains the following text:

- Enter system time : 18:00
- Enter system date : 21.04.2004
- New autoexit timeout : 60 s

Below this box, a white rectangular box displays "Current Setup Autoexit Timeout : 60 s". At the bottom left of the main window area is a button labeled "F6 OK". At the bottom right is a button labeled "F12 Escape".

The bottom status bar of the window contains several fields:

- Version 1.51
- ADR
- IP:010.000.004.028
- 21.05.2004
- 18:00:01

- The input fields for date and time are divided into separate fields, as follows:
  - the input field for time is divided into fields for minutes and hours.
  - the input field for the date is divided into fields for day, month and year.
- The auto-exit timeout determines for how long the "Communication – waiting for master" screen will be displayed before the application is started automatically.
- You may enter any value from 0 to 65535 seconds.
- The current auto-exit timeout value is shown in the **CURRENT SETUP AUTO-EXIT TIMEOUT** field.



#### 7.1.4.7. Communication parameters

Call up the communication parameter menu item by pressing the **<F10> » COMMUNICATION PARAMETER** key

- Use the communication parameters to determine the serial and network settings.

**R. STAHL HMI Systems GmbH - RTSetup**

### Communication parameters

**Serial settings:**

**Station number:** 001

**Network settings**

**IP-address :** 010.000.004.028

**Subnet screen :** 255.255.000.000

**Accept IP for project:** YES

**[001] 010.000.004.028 255.255.000.000**

**F6 OK** **F12 Escape**

**Version 1.51** **ADR** **IP:010.000.004.028** **21.05.2004** **18:00:01**

- For the serial setting you only need to identify the station number. All other interface parameters are set by the SPSPPlusWIN project and downloaded together with the project.
- The default station number is 001.
- You may enter any value between 1 and 247 for the station number.
- For the network settings, you may specify the IP address and the subnet screen of the operator interface in the respective fields.
- With the field "ACCEPT IP FOR PROJECT" you can accept the new IP address for your project. This is a YES / NO field.
  - Data input without external keyboard:  
By tapping on this field you can switch between YES and NO.
  - Input via external keyboard:  
Press the **<↵>** (Enter-) key and a pop-up window will appear where you can select YES or NO.
- Please note that the operator interface does not support an automatic allocation of IP addresses via DHCP.

#### 7.1.4.8. Change to CLI

By pressing **<F11> » Exit to CLI** you can exit the program and change to the CLI user interface (CLI = Command Line Interpreter).



**Caution:**

It is possible to change or delete files and directories erroneously within this CLI user interface !

Please access this level only with the aid of R. STAHL HMI System's support department.

Incorrect access to the CLI level of the operator interface may result in malfunction !

- You need an external keyboard for access to the CLI level.

#### 7.1.4.9. Exit main menu


You can exit the main menu by pressing the **<F12> » Exit** key. The operator interface will then start the application.

## 7.2. Operation

### 7.2.1. Keyboard definition

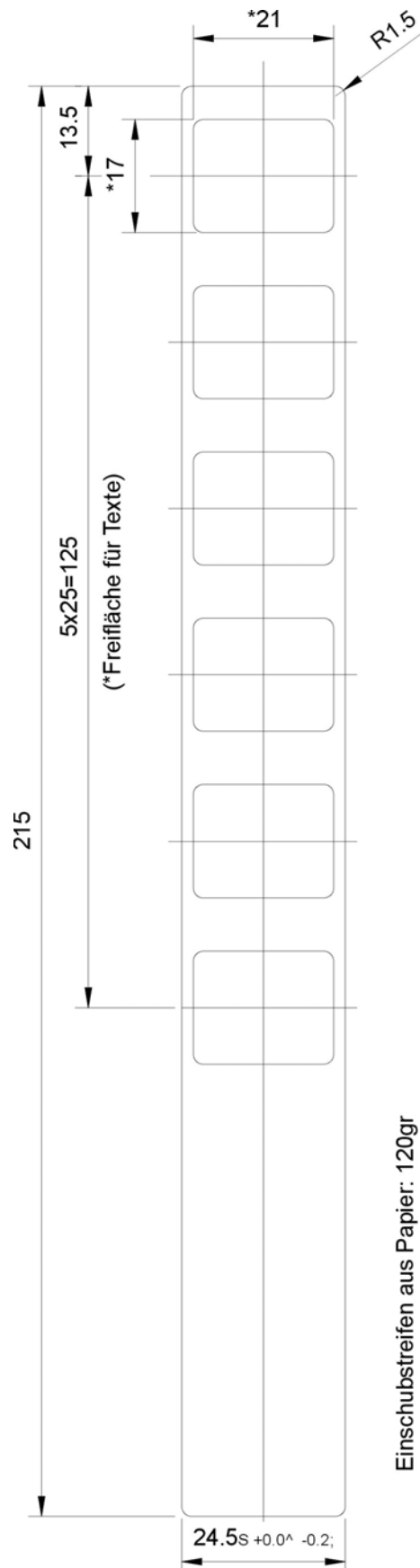
- The keys of the operator interfaces are different, depending on type and thus hardware.
- The actions of different keys depend on:
  - the key itself
  - the programming of the key via the software
  - the overall function within the various function menus

#### – Functional keys

Key	Comment
	Single operation

- By pressing a key, the programmed command will be executed and the corresponding key bit will be set.  
For more information on key bits please refer to the SPSPPlusWIN online help.

## Attachment – Labelling strips MT-316



## Attachment – EC-Declaration of Conformity

EG - Konformitätserklärung  
EC-Declaration of Conformity  
CE-Déclaration de Conformité



Wir/ We /Nous

R. STAHL HMI Systems GmbH  
Im Gewerbegebiet Pesch 14  
D-50767 Köln

erklären in alleiniger Verantwortung dass unser Produkt  
*declare under our sole responsibility that the product*  
*attestons sous notre responsabilité que le produit*

Provicom MT - 316 - R - xxx , MT - 336 - R - xxx

auf welches sich diese Erklärung bezieht, mit der /den folgenden Norm(en) oder normativen Dokumenten übereinstimmt

*which is the subject of this declaration, is in conformity with the following standard(s) or normative documents*

*auquel cette déclaration se rapporte, est conforme aux norme(s) ou aux documents normatifs suivants*

Bestimmung der Richtlinie <i>Terms of the directive</i> <i>Prescription de la directive</i>	Titel und/oder Nr. sowie Ausgabedatum der Norm <i>Titel and/or No. and date of issue of the standard</i> <i>Titre et/ou No. Ainsi que date démission des normes</i>
98/336/EWG : Elektromagnetische Verträglichkeit <i>98/336/EEC: Electromagnetic compatibility</i> <i>98/336/CEE: Compatibilité électromagnétique</i>	EN 61000-6-2 (2002) EN 61000-6-4 (2002)

Köln, den 17.01.2006

Ort und Datum  
*Place and date*  
*lieu et date*

Joachim Düren  
Technical Director

Werner Bertges  
Quality Manager

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