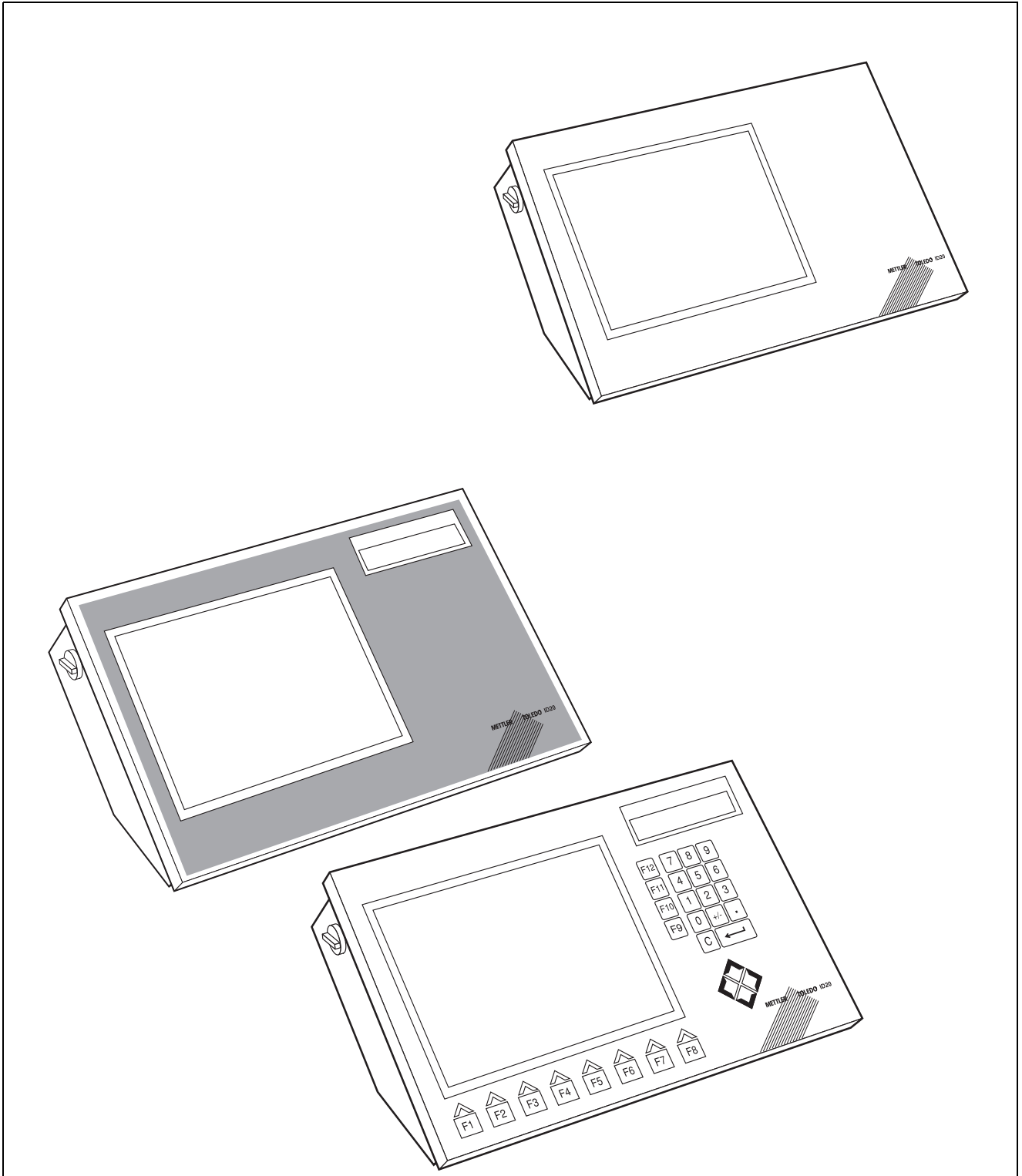**Operating instructions**
Installation information

METTLER TOLEDO MultiRange
ID20 / ID20 TouchScreen weighing terminals
ID20-IPC / ID20-IPC TouchScreen terminals

METTLER TOLEDO

Contents

Page

1 General

1.1 ID20 weighing terminals and ID20-IPC terminals

1.1.1 ID20 and ID20 TouchScreen weighing terminals

The weighing terminals ID20 and ID20 TouchScreen are freely programmable, industrial weighing terminals. This offers you flexible possibilities for use of a PC in a dust and splash-water protected housing as per IP67.

The ID20 TouchScreen weighing terminal offers simple operator control via the screen.

You can combine these terminals with various items from the comprehensive range of accessories to produce a weighing system, which is ideally tailored to your specific requirements.
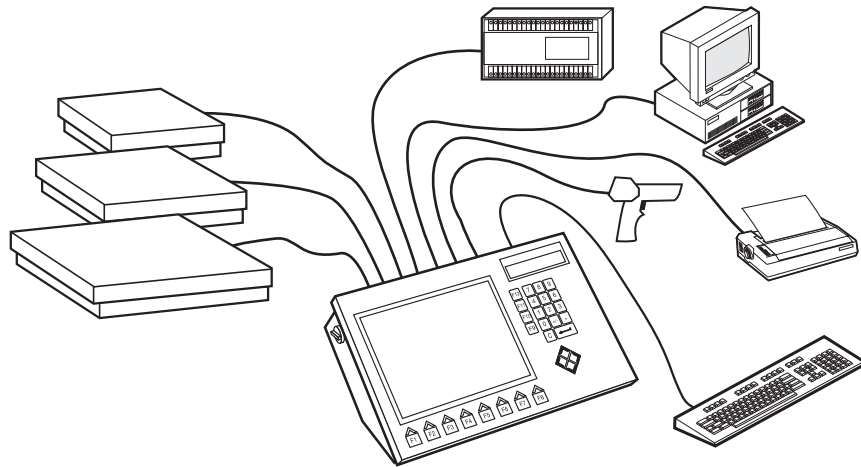
1.1.2 ID20-IPC and ID20-IPC TouchScreen terminals

The ID20-IPC terminals are PCs in dust-tight splashwater-protected enclosures, which comply with the requirements of IP67 and are suitable for industrial applications.

The ID20-IPC TouchScreen terminal offers simple operator control via the screen.

1.1.3 Documentation

Apart from these instructions, you will also receive supplementary documentation for the applicable operating system and accessories.

Chapters 2 and 3 of these instructions are irrelevant to the **ID20-IPC** terminals.

If you wish to program the weighing terminals yourself, you will find the necessary information in the "ID20 Programming Manual" (Order No. 506141). This description also contains other information, e.g. how to check the weighing functions.

1.2 Cautionary notes

▲ Do not use the weighing terminals ID20 / ID20 TouchScreen and the terminals ID20-IPC / ID20-IPC TouchScreen in a potentially explosive atmosphere.

▲ The display on the ID20 TouchScreen / ID20-IPC TouchScreen terminals is made of touch-sensitive plastic and not unbreakable glass. It must therefore be protected against impacts and jolting and cleaned in accordance with the instructions.

▲ To avoid accidents, the instrument may be opened only by trained customer service personnel.

▲ Transport instrument only when switched off, otherwise the hard disk could be damaged.

1.3 Design
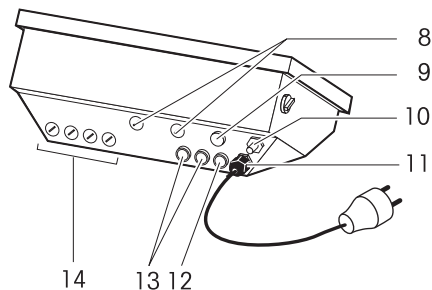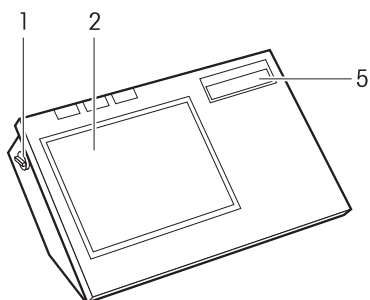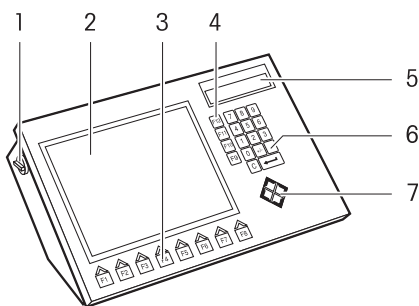
1 Power switch

2 Graphics display

3 Function keys

4 Function keys

5 Auxiliary display (certification window not with ID20-IPC)

6 Numeric keypad with sign, decimal point, clear and ENTER keys

7 Cursor keys

8 Optional weighing platform connections (not with ID20-IPC)

9 Weighing platform connection for scale 1 (not with ID20-IPC)

10 Optional network connection

11 Power cable

12 Keypad connection MF II

13 Interface connections RS232 (COM1/COM2)

14 Optional interface connections

2 Putting into operation

2.1 Attaching weighing platforms of the series D, F, K and N

1. Install the weighing platform in accordance with the instructions.
2. Route weighing platform cable to weighing terminal.
3. Plug the weighing platform connector into the terminal.

2.2 Attaching weighing platforms of the series B, G, R and M

Precision scales of the **series B, G, R and M** can be connected to the ID20 weighing terminal with the LC-IDNet B, LC-IDNet R/G or IDNetPac-M connection set.

1. Set up scale, see operating instructions of scale.
2. Connect appropriate connection set to scale.
3. Route cable of connection set to weighing terminal and plug in.

2.3 Attaching ID20 to power supply

CAUTION
The weighing terminal ID20 only functions properly with mains voltages of 110 V to 240 V AC.

➜ Make sure that the mains voltage at the installation location lies within this range.
➜ Make sure that the mains outlet is grounded and easily accessible.

Connecting

➜ Connect mains plug of ID20 to a mains outlet and switch on with the mains switch.

The following appears after switching on:
• in the auxiliary display the weight and the scale number,
• in the graphics display the scale program, see section 3.

If no weighing platform is connected, the following appears after switch-on:
• "NO SCALE!" appears in the additional display,
• the PC operating system appears in the graphics display.

2.4 Marking and sealing of certified weighing platforms

ID code　With the ID code it can be checked whether certified weighing platforms have been tampered with since the last calibration. The ID code can be displayed on the terminal at any time, see section 2.5.

During calibration the currently displayed ID code is recorded and sealed.

During each change to the configuration the displayed ID code increases. It then no longer matches the sealed ID code; the calibration is not longer valid.

Certification　To mark and certify your weighing system, please contact METTLER TOLEDO Service or your local board of weights and measures.

Check certification

1. Display ID code, see section 2.5. No value is shown for noncertified weighing platforms, but instead: CODE ===.

2. Compare ID code displayed with sealed ID code on ID card.
   The certification of the weighing system is only valid when both values are identical.
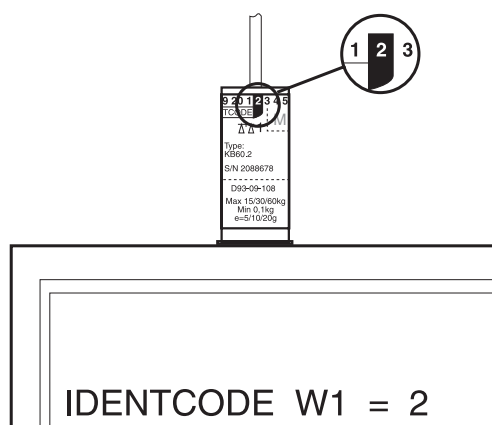
2.5   Test possibilities

The ID20 and ID20 TouchScreen contain a simple DOS program for checking the most important weighing functions that can be operated with the function keys or with the screen.

Starting test program

➔ Under MS-DOS / WIN3.1 / WIN95 / WIN98: Enter "LIGHT SCALE" and confirm with ENTER.

or

➔ Under WIN NT 4.0: Enter "LIGHT_NT SCALE" and confirm with ENTER.

The following selection menu appears on the display:

TARE	ZERO	IDENT	SCALE	SERVICE	DRIVER	CONTROL	EXIT
F1	F2	F3	F4	F5	F6	F7	F8

Meaning of the functions:
F1   TARE   Taring
F2   ZERO   Zeroing
F3   IDENT   Display of the identification code
F4   SCALE   Scale switching
F5   SERVICE   Call-up of the service mode
F6   DRIVER   Software identification
F7   CONTROL   Alibi memory
F8   EXIT   Quit test program

Further details can be found in the instructions "ID20 Programming Manual" (Order No. 506141).

3 Scale program

3.1 Overview

With the scale programs SCALE.EXE (for DOS) and WINSCALE.EXE (for Windows and Windows NT) the weighing terminals can be used with weighing platform(s) independent of a network for simple weighing. You have the basic functions zero setting, taring and preset tare as well as 4 identification keys available.

The weight values gross/net/tare together with the identification data as well as the date and time are stored on the hard disk of the weighing terminal. These data can be recalled, e.g. via the network and incorporated in your inventory management system.

3.2 Scale program for DOS

3.2.1 Operation of the scale program

The weighing terminals are configured in the factory so that the scale program is started automatically on switching on when a weighing platform is attached.

If the scale program was not started automatically:

➔ Enter C:\SCALE and confirm with ENTER.

Function keys F1...F8 or the screen keys are used for operator control of the weighing program. The weighing program functions are divided into 3 keypad levels. The ID20 TouchScreen also displays a window for you to enter numbers or text.

Assignment of the function keys

Level 1	A	B	C	D	ZERO	TARE	PRINT	--->
Level 2	A	B	C	D	PRETARE	SCALE		--->
Level 3	A	B	C	D	KEY CONF	COM INIT		--->
	F1	F2	F3	F4	F5	F6	F7	F8

A...D	Entry of the identification data
ZERO	Zero setting
TARE	Taring
PRINT	Printing/storage of data records on the hard disk
PRETARE	Preset tare
SCALE	Scale switching
KEY CONF	Changing the designation of the identification keys
COM INIT	Configuring the serial interfaces
--->	Switching over keyboard level

Ending weighing program

➜ Press ESC key.

3.2.2 Basic functions

Zero setting
Zero setting corrects the weight of minor amounts of contaminants on the load plate. Zero setting is possible only within a certain range.

➜ Press the ZERO key, the weight display shows "0.000 kg".

Taring
The weighing platform can store only one tare value at a time.

1. Place empty container on the weighing platform.

2. Press the TARE key, the weight display shows "0.000 kg".
   From now on, all weight values shown are net values referred to the stored tare weight. When the weighing platform is unloaded, the stored tare weight is shown in the display with a negative sign.

Preset tare
For numeric entry of a known tare weight.

1. Press the PRETARE key.

2. Enter known tare value and confirm with ENTER.

Clearing preset tare

➜ Press the PRETARE key and confirm with ENTER.

Scale switching
This key is active only if several scales are attached to the weighing terminal.

➜ Press the SCALE key, the weighing terminal switches to the scale with the next higher number.

If the scale with the highest number was active, a switch is made back to the first scale.

3.2.3 Auxiliary functions

Identifications
The F1…F4 keys resp. the A …D fields are assigned memories which are used for the identification of the weighing data. The memories have a name (designation) and a content (identification). Designation and identification can comprise maximum 20 characters. They are retained after switching off.

Entering identification

1. Press the key or field of the desired identification.

2. Enter identification using the keypad or read in using a bar-code reader.

If an identification has already been entered, this will be cleared by the new entry.

Designation of the identification keys

The identifications can be assigned names (designations), which appear over the key.

1. Press the KEY CONF key.

2. Press an identification key, the existing designation appears.

3. Enter new designation and store with ENTER or read in using a bar-code reader. The old designation is cleared, the new designation appears over the key.

Printing/storage of data records

Weight values with designations, identifications and date/time can be printed out on the GA46 Printer or saved in the text file SCALE.DAT. The weight values are also stored together with the date/time in the alibi file.

→ Press the PRINT key.
The data record is printed out or stored in the file SCALE.DAT as follows:

Designation F1↵
Identification F1↵
Designation F2↵
Identification F2↵
Designation F3↵
Identification F3↵
Designation F4↵
Identification F4↵
DD.MM.YY HH:MM:SS↵
Gross weight↵
Net weight↵
Tare weight↵↵

Configuring the serial interface

The built-in serial interfaces can be configured via the scale program.

1. Press the COM INIT key.

2. Select desired interface (COM1...COMn).
The currently programmed interface parameters appear on the display.

The following configurations are possible:

GA46	This automatically sets all parameters appropriate to the GA46 Printer.
BARCODE READER	When this interface mode is selected, the transmission parameters appropriate to the peripheral device must be set. **Factory setting:** 2400 baud, 7 data bits, 1 stop bit, even parity, no handshake
COMMAND/RESPONSE	Simple command set for communication with the weighing terminal. The following commands are available: S, SI, SIR, SX, SXI, SXIR, Z, T, T_value_unit. The transmission parameters appropriate to the peripheral device must be set. **Factory setting**: 2400 baud, 7 data bits, 1 stop bit, even parity, no handshake

3.3   Scale program for Windows operating systems

If the scale program has not been automatically started:

→ Start C:\WINSCALE\WINSCALE.EXE.

The WINSCALE.EXE program offers the same functions as the scale program for DOS described in 3.2. The operation corresponds to the usual Windows conventions.

4 Maintenance / Cleaning

CAUTION

▲ Never use concentrated acids and bases or corrosive solvents.

▲ In wet cleaning, interface sockets not in use must be closed by caps.

▲ Caution! With IP67 type of protection, cleaning with water under pressure (e.g. hosing down with a water hose or high-pressure cleaner) is not admissible!

▲ The display on the ID20 TouchScreen terminal is made of touch-sensitive plastic and not of unbreakable glass. Never use abrasive cloths or sponges for cleaning.

Cleaning

→ Grease spots and obstinate dirt marks can be removed with commercial washing-up liquid or glass cleaning agents.

5 Technical data

5.1 Standard equipment

Processor*   80486 DX4, 75 MHz

RAM*   16 MByte DRAM on board

Hard disk   At least 2.1 GByte, shockproof mounting

Operating system*   MS-DOS™ 6.22 or higher

Housing   Chrome-nickel steel throughout DIN X5 CrNi 1810

Keypad*   Tactile touch membrane keypad, with audio acknowledgement

Type of protection (IEC529)   Dust- and splashwater-proof according to IP67

Ambient conditions

Ambient temperature   In operation: –10 …+40 °C for scales of accuracy class III
           0 …+40 °C for scales of accuracy class II
Storage: –25 …+60 °C

Relative humidity   20 … 80 %, noncondensing

Power supply

Voltage   110 V … 240 V AC, +10/–15 %; 50/60 Hz

Power consumption   Approx. 60 VA

Display

Graphics display   Active Color-TFT-LCD display

Auxiliary display   Separate, certifiable weight display

* Other possibilities: see Alternative equipment

Dimensions
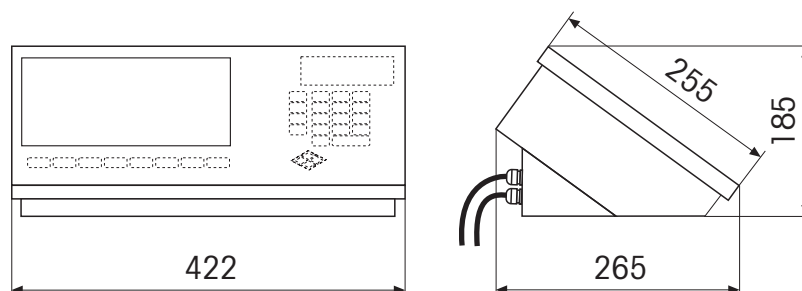
5.2   Alternative equipment

Instead of the standard equipment mentioned above, the following alternative equipment is available:

		Order no.
Processor	Pentium 75 MHz	22000628
RAM	32 MByte DRAM 64 MByte DRAM (only with Pentium processor)	00506144 22002931
Operating system	Windows 3.11 + DOS Windows 98 Windows NT	00507814 00507815 22000981
Operator control	Analog TouchScreen	00507279

5.3   Pin assignments
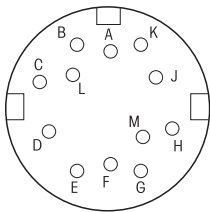
Weighing platform connection

A   TXD+, send loop of the weighing platform
B   VDIS 40 V
C   VNOR 13 V
D   RXD+, receive loop of the weighing platform
F   RXD–, receive loop of the weighing platform
G   Protective ground
H   Signal ground
J   TXD–, transmit loop of the weighing platform
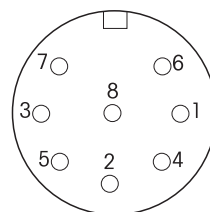
Serial interface connections (COM1, COM2, RS232)

Pin 1   Protective ground
Pin 2   TXD–, send line of the terminal
Pin 3   RXD–, receive line of the terminal
Pin 4   DTR–, Data Terminal Ready
Pin 5   +5 V, max. 250 mA for RS232
Pin 6   Signal ground
Pin 7   RTS/CTS
Pin 8   DSR–, Data Set Ready

6 Optional equipment

6.1 Interfaces

Interfaces for retro-fitting into the terminal, IP67 circular connector in the rear panel of the enclosure.

Max. 4 interfaces for serial data transmission and digital signal inputs/outputs can be retro-fitted, only 2 interfaces can be retro-fitted into the ID20 TouchScreen terminal.

		Order no.
Additional scale connection Interface 111	For attachment of METTLER TOLEDO MultiRange weighing platforms, maximum of 2 additional connections possible	00505489
Extensions for weighing platform cable	Connection cable extension, 10 m, connector at both ends Cable adapter kit comprising two terminal boxes Special cable on reel (100 m)	00504134 00504133 00504177
Ethernet-2	Ethernet - 10 Base 2 - Coax, connection not IP67	00505514
Ethernet-5	Ethernet - 10 Base 5 - AUI (16-pin socket)	00505928
Ethernet-T	Ethernet - 10 Base T (16-pin socket)	00505708
Ethernet 100-T	Ethernet - 10/100 Base T (16-pin socket)	22002112
Boot-ROM	For Ethernet	00207585
Wireless Network	For wireless data transmission	00507975
Token Ring	5-pin socket	00505906
AUI cable for Ethernet-5	15-pin Sub-D, 5 m 15-pin Sub-D, 20 m	00205683 00207565
Twisted Pair cable for Ethernet-T	8-pin RJ45, 5 m 8-pin RJ45, 20 m	00205247 00208152
VGA output	Only for ID20 with TFT display	00507276
VGA cable	Sub-D 9-pin connector, 3 m Sub-D 15-pin socket, 3 m	00208483 00506797
Serial interface card	Basic support for up to 2 of the modules described below	00505564

		Order no.
Module CL 20 mA Accessories	For serial interface card, 7-pin socket CL cable, 3 m General purpose cable, 3 m LX80/FX85 cable, 3 m Adapter 7-pin	00505565 00503749 00503743 00500410 00503745
Module RS232	For serial interface card, 8-pin socket	00505566
Module RS232-G	As module RS232, electrically isolated	00505956
Module RS232/12	For serial interface card, 8-pin socket, pin 5 carries 12 V, only one RS232/12 or RS232/12-G module possible	 00506795
Module RS232/12-G	As module RS232/12, electrically isolated	00506796
Equipment for the RS232 modules	RS232 cable/DTE, 3 m RS232 cable/DCEE, 3 m RS232 cable/PC, 3 m RS232 cable/9-p, 3 m Adapter, 8-pin	00503754 00503755 00504374 00504376 00503756
Module RS422/485-G	For serial interface card, 6-pin socket, electrically isolated Cable with 6-pin connector and open end, 3 m Cable with 6-pin connector and IP65 terminal box, 3 m Cable with 9-pin D-sub socket, for attachment to cable with terminal box, 3 m Adapter, 6-pin	00505957 00204933 00204862 00204932 00204866
BIU relay interface **RS485-G / ISA module** **Accessories**	8 outputs/8 inputs for RS485 (maximum of 8 BIUs can be connected) Required for connection of BIU relay interface (for ISA weighing interface) 24 VDC power supply for BIU Cable with 6-pin connector and open end, 3 m Cable with 6-pin connector and IP65 terminal box, 3 m Cable with 9-pin D-sub socket, for attachment to cable with terminal box, 3 m Adapter, 6-pin	00505993 22002932 00505544 00204933 00204862 00204932 00204866
Centronics Interface	24-pin socket Centronics cable, 25-pin D-sub, 3 m Centronics cable, 36-pin Centronics, 3 m	00505927 00205682 22002886
Interface 194-ISA Accessories	8 outputs/6 inputs, 19-pin socket GD14 relay interface, 8 outputs/6 inputs GD14 connection cable, 10 m Adapter, 19-pin	22002253 00504371 00504458 00504461

6.2   Mechanical accessories

		Order no.
Alphanumeric keypad AK-MFII	Compact, alphanumeric membrane keypad, for attachment to the 5-pin MFII circular connector, installed as standard Housing chrome-nickel steel throughout, type of protection IP65, dimensions W x D x H approx. 380 x 158 x 30 mm, coiled cable approx. 1 m	00505490
Keypad – terminal adapter	For fastening the alphanumeric keypad to the terminal, all stainless steel	00208047
Strip printer GA46	Strip printer in separate bench housing made of chrome-nickel steel Printout of weighing data and bar codes on thermal paper of width 62 mm Interface RS232, cable of length approx. 2.5 m Type of protection IP21 For detailed technical information, see GA46 specifications bulletin.	00505471
Strip printer GA46-W	As GA46, but with integrated paper winder and transparent PVC cover, type of protection IP65 For detailed technical information, see GA46 specifications bulletin.	00505799
Printer – terminal adapter	for fastening the GA46 Printer to the terminal, all stainless steel	00208264
Wall bracket	black, plastic coated all stainless steel	00504129 00504130
Floor stand	black, plastic coated all stainless steel	00504131 00504132
Stand base	black, plastic coated all stainless steel	00503700 00503701
Bench stand	black, plastic coated all stainless steel	00504127 00504128
Table stand	all stainless steel	00207776