GLOBAL **EXTEC**HNOLOGY

TERMEX2

Intrinsically safe text and graphics terminals for the hazardous Ex-area Zones 1, 2 and 22
Operator panel for control, monitoring and display in the Ex-area

ATEX 95

TERMEX 2, text and graphics terminals

Optimised operation, control and monitoring of processes
with LC displays in the hazardous Ex-area Zones 1+2 and Zone 22 (II 3 D)

Intrinsically safe operator terminals
for use in chemical, pharmaceutical and petrochemical plants.
Ideal either as machine terminals
or in process applications.

TERMEX 220/320

Exi text terminals
LC display
4 lines x 20 characters
Character height 12 mm
Softkey bar (5 mm)

TERMEX 230/330

Exi graphics terminals
240 x 128 pixels
Freely configurable display
4 standard fonts, optional fonts
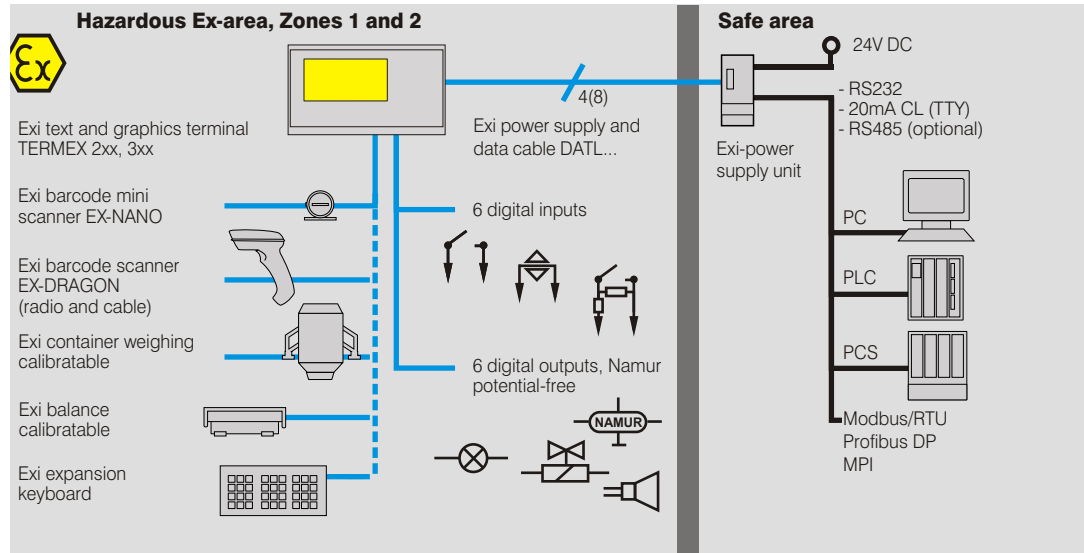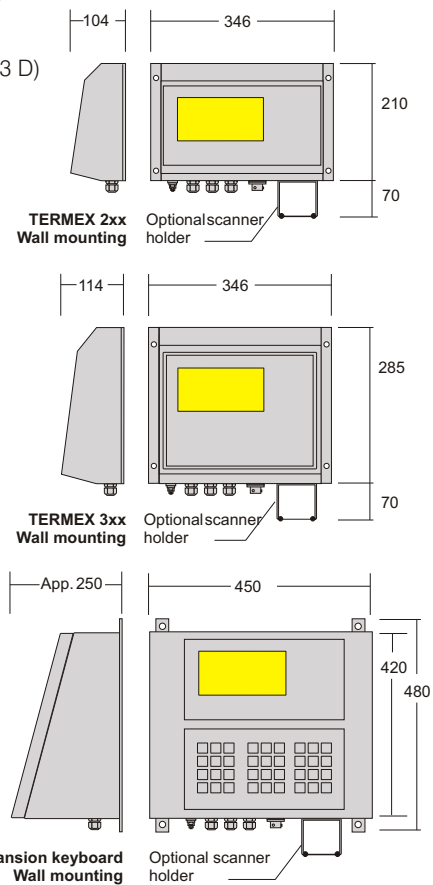can be loaded
Softkey bar (5 mm)

TERMEX K36/KL36

Exi expansion keyboard
Connects directly to
TERMEX 2xx/3xx
36 short-stroke keys
(KL36 with up to 2 LEDs/key)
All keys freely inscribable
or A...Z

Features of TERMEX 2xx/3xx

▶ Intrinsically safe: ⟨Ex⟩ II 2 G EEx ib IIC T4 for Zones 1, 2 and 22 (II 3 D)
▶ Ex approval: DMT 02 ATEX E 239
▶ LC display (monochrome), non-reflecting glass faceplate
▶ Non-volatile storage of project data
▶ Real-time clock and date
▶ Alphanumeric keyboard
▶ Loadable firmware
▶ Password protection
▶ Alarm signalling administration functionality with 512 messages
▶ Integrated self-test
▶ Actual and Set variables, 17 variable types
▶ Any number of variables per process image
▶ Polyester cover foil (DIN 42115-2)
▶ Panel-mounting case (front plate: IP 65)
▶ Stainless steel wall-mounting or desk case (optional): IP 65
▶ Supply voltage via Exi power supply unit (ENT)
▶ Large number of peripherals in the hazardous area
  (see table)
▶ Certified for applications for which EN 45501 calibration is
  mandatory
▶ PLC and computer interfaces (see table)
▶ Freely configurable in Windows with TERMEX PRO
▶ Freely programmable in 'C' with EPCA
▶ Also available as a non-explosion-protected terminal: 24 V DC
▶ 6 digital I/O (NAMUR)
▶ Four serial ports
  Refer to table for other features/technical data

TERMEX 2xx
Wall mounting   Optional scanner holder
104   346   210   70

TERMEX 3xx
Wall mounting   Optional scanner holder
114   346   285   70

TERMEX 2xx and expansion keyboard
Wall mounting   Optional scanner holder
App. 250   450   420   480

Hazardous Ex-area, Zones 1 and 2

Exi text and graphics terminal
TERMEX 2xx, 3xx

Exi barcode mini
scanner EX-NANO

Exi barcode scanner
EX-DRAGON
(radio and cable)

Exi container weighing
calibratable

Exi balance
calibratable

Exi expansion
keyboard

4(8)

Exi power supply and
data cable DATL...

6 digital inputs

6 digital outputs, Namur
potential-free

NAMUR

Safe area

24V DC

- RS232
- 20mA CL (TTY)
- RS485 (optional)

Exi-power
supply unit

PC

PLC

PCS

Modbus/RTU
Profibus DP
MPI

TERMEX 770

## TERMEX 770, Exi colour graphics terminal for process visualisation in the hazardous area

The colour graphics terminal for optimized visualisation of process
flows in the hazardous area (Zones 1+2)

TERMEX 770 is the outcome of ongoing improvements to the EXTEC terminal family. Its performance is founded on the extensive colour visualisation functionality offered by the 10.4" LC display coupled with an operator interface that can be configured quickly and easily with TERMEX Pro, the TERMEX project design software.

It can be connected to a variety of explosion-protected devices in the hazardous area, such as a SCANEX Exi barcode reader, switches and buttons, etc.

The sophisticated optical fibre technology guarantees reliable, noise-free (EMC) data transmission. State-of-the-art Exi technology, simple configuring and maximum connection flexibility form the backbone of TERMEX 770's operating capability.
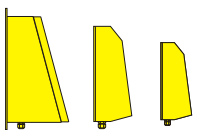
Features of TERMEX 770

▶ Intrinsically safe: ⟨Ex⟩ II 2G EEx ib IIC T4 for Zones 1 and 2
▶ Supply voltage in the hazardous area: 24 V DC
▶ 10.4" colour graphics, 640 x 480 pixels (VGA), 256 colours
▶ Non-reflecting glass faceplate, scratch-resistant
▶ CFL backlighting, interchangeable
▶ 6 standard fonts, optional fonts can be loaded
▶ 50 keys (alphanumeric keyboard, 26 function keys with LEDs)
▶ Function keys freely inscribable and programmable
▶ Numeric pad for entering values
▶ Noise-free transmission on a fibre optic cable up to a distance of 500 m
▶ Freely configurable display
▶ Text and graphics freely combinable
▶ Integrated two-button sensor mouse
▶ Automatic bar graph display
▶ Integrated trend plotter
▶ Non-volatile storage of project data
▶ Real-time clock and date
▶ Alarm signalling administration functionality with 512 messages
▶ Password protection, integrated self-test
▶ PLC and computer interfaces (see table)
▶ Actual and Set variables, 17 variable types
▶ Any number of variables per process image
▶ Switching between several open projects
▶ Freely configurable in Windows with TERMEX Pro
▶ Freely programmable in 'C' with EPCA
  Refer to table for other features/technical data

ca. 250   500

420
480

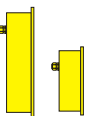**TERMEX 770 Wall mounting**   Optional scanner holder
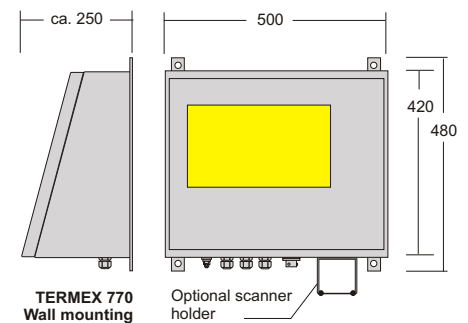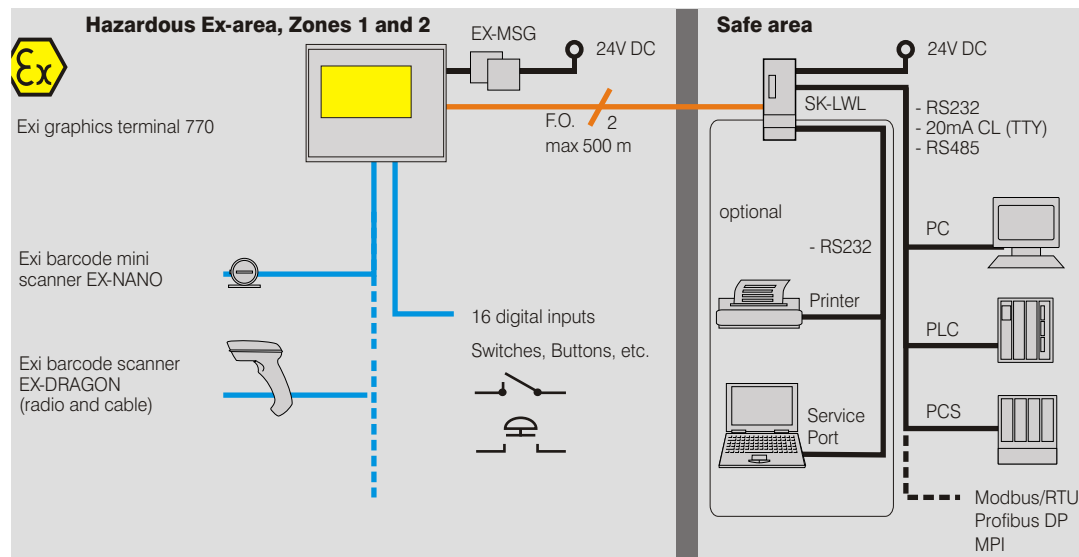
Enclosure variants:

A wide choice of enclosures to suit every possible application is available for the TERMEX product series.

Wall-mounting enclosures (stainless steel)

Panel-mounting

Hazardous Ex-area, Zones 1 and 2

Exi graphics terminal 770

EX-MSG   24V DC

F.O. 2
max 500 m

Exi barcode mini scanner EX-NANO

Exi barcode scanner EX-DRAGON (radio and cable)

16 digital inputs

Switches, Buttons, etc.

Safe area

24V DC

SK-LWL   - RS232
- 20mA CL (TTY)
- RS485

optional

- RS232   PC

Printer

PLC

Service Port   PCS

Modbus/RTU
Profibus DP
MPI

TERMEX
Technical Data

TERMEX	220	230	320	330	770
Type of Protection	(Ex) II 2G EEx ib IIC T4				
Ex Approval for Zones 1 + 2	------------- DMT 02 ATEX E 239 -------------				
Text/Graphics	Text	Graphics	Text	Graphics	Colour Graphics
Max. Resolution (characters x lines)	20x4	40x14	20x4	40x14	80x32
Resolution (pixels)		240x128		240x128	640x480 VGA
LC Display (colour)	Mono	Mono	Mono	Mono	256 Colours
Backlit Display	○	○	○	○	●
Standard Fonts	1	4	1	4	6
Optional Fonts	○	●	○	●	●
Screens	255	255	255	255	512
Alarms	512	512	512	512	512
Variables	300	300	300	300	500
Project Memory	500KB	500KB	500KB	500KB	3MB
Loadable Firmware	●	●	●	●	●
Integrated/Remote Setup	●/●	●/●	●/●	●/●	●/●
Dimensions (mm)	288x144		288x220		410x280
Cut out Dimensions (mm)	277x137		277x208		394x264
Keys	18	18	37	37	50
LEDs	4	4	22+6	22+6	38+6
Sensor Mouse	○	○	○	○	●
IP 65 degree of protection (front end) acc. to EN 60529/IEC 529	●	●	●	●	●
Enclosure Variants					
Panel-mount./stainless steel/plastic	●/●/●	●/●/●	●/●/○	●/●/○	●/●/○
Data Line Type/max. length (m)	Cu/200	Cu/200	Cu/200	Cu/200	F.O./500
Standard non-ex variant	●	●	●	●	●
Weighing Approval DIN/EN 45501	●	●	●	●	○

TERMEX
Peripheral Interface (connection in hazardous Ex-area)

	220	230	320	330	770
Exi hand-held barcode scanner	●	●	●	●	●
Exi mini scanner EX-NANO	●	●	●	●	●
Exi radio barcode scanner	●	●	●	●	●
Exi keyboard TERMEX K36/KL36	●/●	●/●	●/○	●/○	○/○
Exi container weighing	●	●	●	●	○
Exi weighing platform	●	●	●	●	
Digital Inputs	---------------6(NAMUR) Optional--------------				16 Optional
Digital Outputs	-----------6(potential-free) Optional-----------				

TERMEX
Interface Protocols

	220	230	320	330	770
MPI, Siemens S7	●	●	●	●	●
Profibus-DP, Siemens S5/S7	●	●	●	●	●
3964R/RK512, various	●	●	●	●	●
AS511, Siemens S5	●	●	●	●	●
MODBUS/RTU slave, various	●	●	●	●	●
MODBUS/RTU master, various	●	●	●	●	○
DF1, Allen-Bradley	●	●	●	●	●
EXTEC ASCII protocol	●	●	●	●	●
Host Interface					
RS 232/TTY/RS 485(optional)	●/●/●	●/●/●	●/●/●	●/●/●	●/●/●

● Available   ○ Not available

TERMEX PRO und EPCA 3.0

An integrated, easy-to-use, Windows based, project design software tool for all TERMEX operator terminals. Version 3.0 - a new, enhanced package featuring numerous powerful functions for even faster project design - is now available.
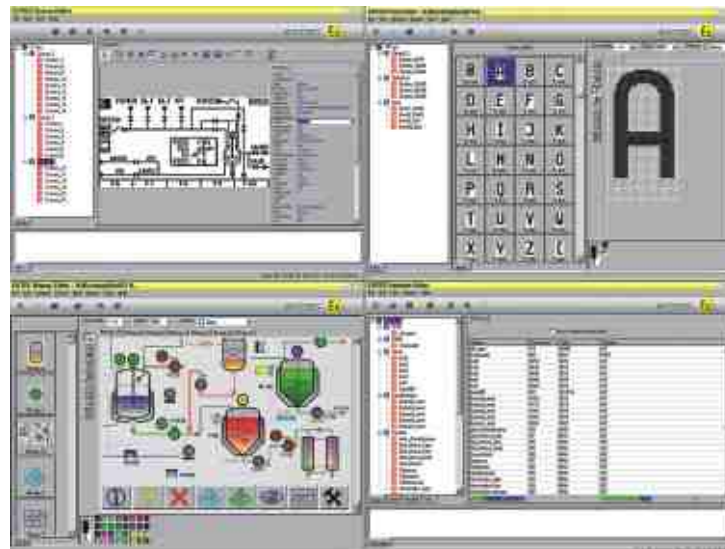
Features of TERMEX PRO

You can use TERMEX PRO, the successful project design software for the TERMEX terminal family, to define input masks, alarms, variables, fonts and bitmaps. You can 'sketch' your pilot applications in a few easy steps without having to bother with the specific details of the system. Your input masks can include a large number of basic objects, such as windows, text, graphics, variables, bargraphs, bars, rectangles, lines and pixels. You can integrate any desired fonts - both existing Windows fonts and new fonts of your own - into your projects. The integrated Project Editor organises your project for you and makes sure you never lose track of what is going on. The standard project design tool for all EXTEC terminals. TERMEX PRO runs under Windows 2000 and Windows XP.

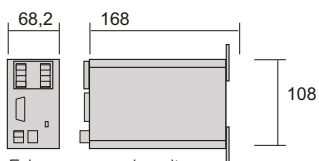**TERMEX**
PRO
EPCA

Features of EPCA

EPCA is a programming environment which is optionally integrated in TERMEX PRO. All programs are written in 'C' - the language most widely used in technical disciplines. EPCA allows you to program your TERMEX terminals freely. As a result, you can either implement stand-alone applications or use the terminal as a data concentrator in order to effectively relieve the load on your host computer or the PLC. TERMEX PRO and EPCA - an unbeatable team. EPCA is seamlessly integrated into the TERMEX PRO project design environment. TERMEX PRO allows you to create all static elements, such as input masks, messages, texts and variables. EPCA then takes care of the processing. Both systems access a common database.

Measurement, open and closed-loop control, operator control and monitoring... All this with just one software package and one family of terminals. A one-stop, integrated solution. All created projects can be loaded onto TERMEX operator terminals via the serial port.
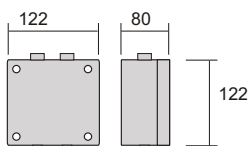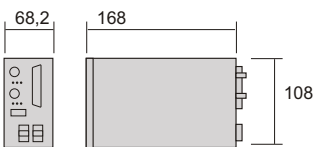
TERMEX 2xx, 3xx components

Exi power supply unit ENT-DC-30...

For installation in the safe area
Power supply: 24 V DC
Interfaces: RS 232, TTY, RS 485 (optional)
Case: Surface-mounting case for DIN rails,
19" (modular width 14 TE, 3 HE height modules)
Degree of protection: IP 20

68,2   168

108

Exi power supply unit
ENT-DC (surface-mounting case)

Exi data/power supply cable DATL -A4 or -A8

Power supply and data link
Cable length: 200m/400 m max.

Exi data cable

122   80

122

Exi power supply unit
EX-MSG (surface-mounting case)

TERMEX 770 components

Ex power supply unit EX-MSG-30

Power supply: 24 V DC
Surface-mounting case, degree of
protection: IP 65
Installed in the hazardous Ex-area

Interface converter SK-LWL

Transmission from an optical fibre cable to
RS 232, RS 485, 20 m CL (TTY)
Power supply: 24 V DC
Case: Surface-mounting case for DIN rails,
19" (modular width 14 TE, 3 HE height modules)
Degree of protection: IP 20

68,2   168

108

Interface converter
SK-LWL (DIN-rail mounting)

Optical fibre data transmission cable SK-LWL

50/125 μm gradient fibre
ST plug connector
Max. Cable length: 500 m

F.O.cable, ST-connectors

Peripheral interface for:

Exi barcode reading systems SCANEX

For direct connection of Exi barcode hand-held scanners,
radio scanners and miniature scanners.
See www.extec.de for details of SCANEX barcode readers

Ex weighing systems COMPEX

Mettler-Toledo, Sartorius, others: see COMPEX
broschure

- ▶ iPC-EX
- ▶ Exi graphics terminals
- ▶ Exi text terminals
  (4 x 20 characters)
- ▶ Exi keyboards
- ▶ Exi weighing terminals
  (W&M approved)
- ▶ Exi load cell amplifier
  unit
- ▶ Exi barcode data
  acquisition systems
- ▶ Exp printers
- ▶ Customizable software
  that adapts to any
  existing system
  (PLC, PC, PCS etc.)

**EXTEC explosion
protection technology**
Electrical equipment,
controls and apparatus
components production
and sales

**EXTEC electronic
product development**
Development and pro-
duction of electronic
equipment, microproces-
sor systems, hardware
and software

ATEX 95
EXTEC quality system
based on the require-
ments of EC directive
94/9/EC.

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