



GLOBAL EXTECHNOLOGY

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 220/320 Exi text terminal

TERMEX 230/330 Exi graphics terminal

Enclosure variants

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)

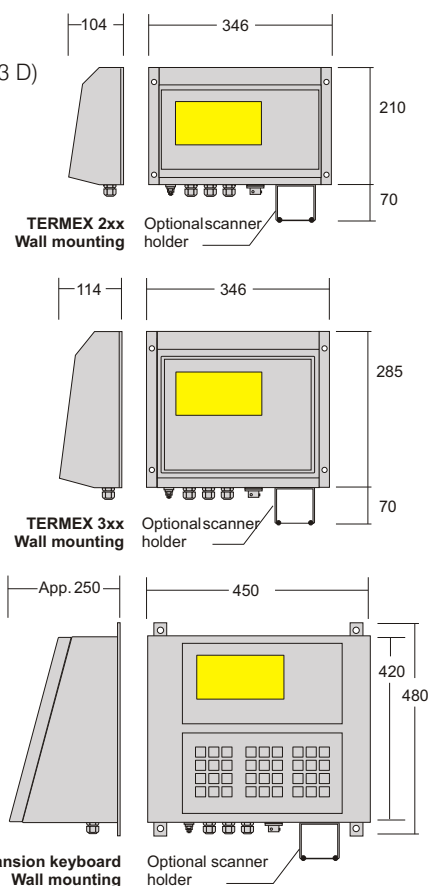
TERMEX K36/KL36

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

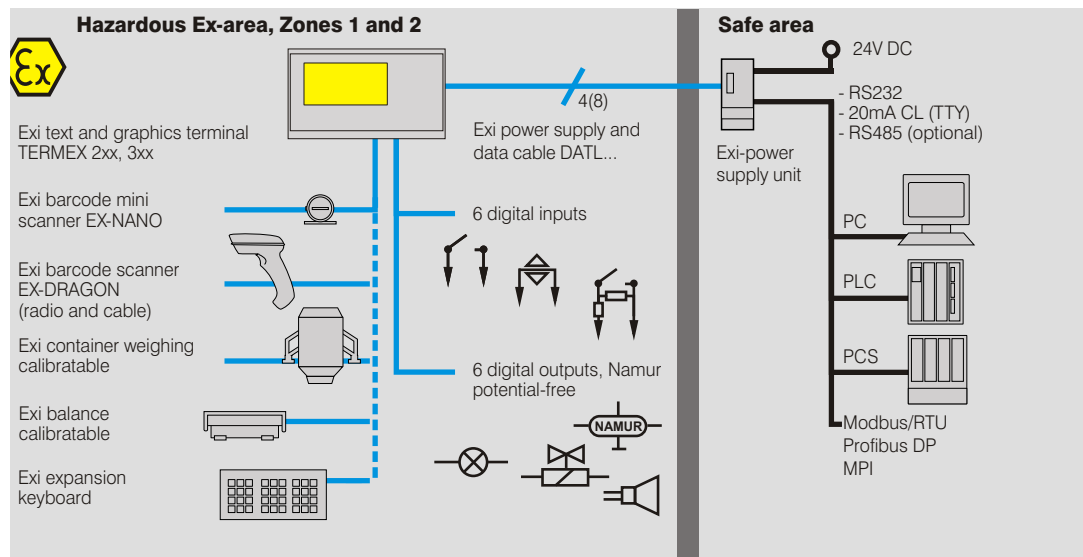
Features of TERMEX 2xx/3xx

- ▶ 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 and expansion keyboard Wall mounting





TERMEX 770

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

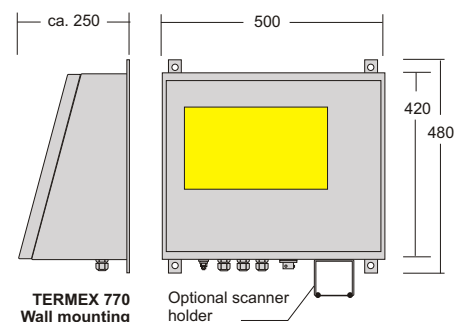
The colour graphics terminal for optimized visualisation of process flows in the hazardous area (Zones 1+2)

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.

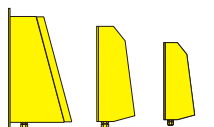
Features of TERMEX 770

- ▶ 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

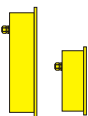


Enclosure variants:

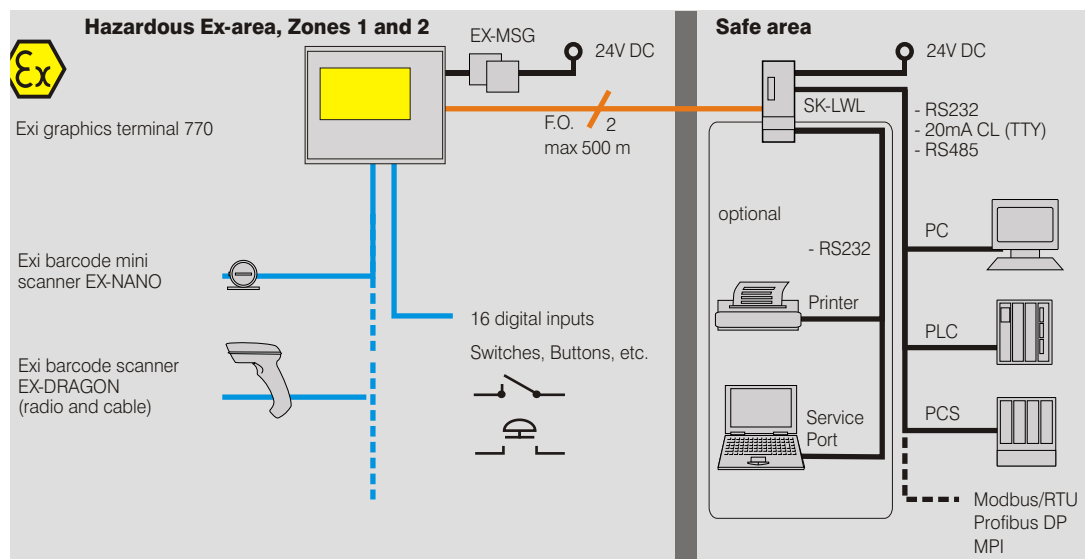
A wide choice of enclosures to suit every possible application is available for the TERMEX product series.



Wall-mounting enclosures (stainless steel)



Panel-mounting





TERMEX 230 | TERMEX 220 | TERMEX 230 with additional keyboard | TERMEX 330 | TERMEX 320 | TERMEX 770

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	●	●	●	●	○

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Peripheral Interface (connection in hazardous Ex-area)

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-----				

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Interface Protocols

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 - the Exi terminal family

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.

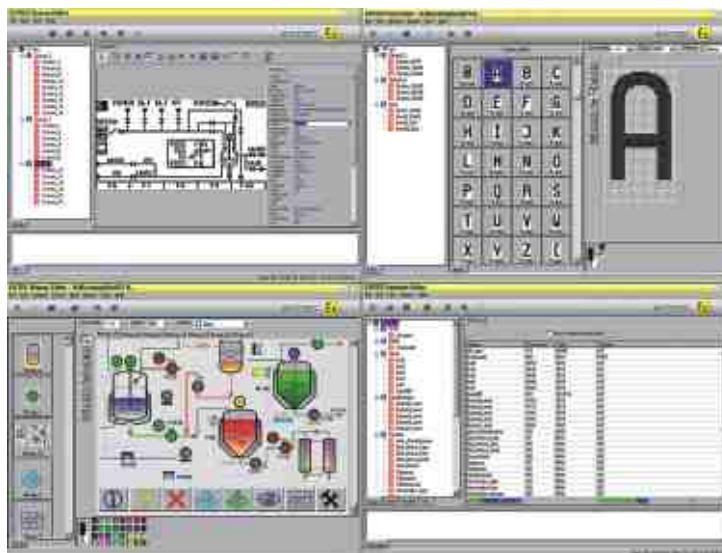
TERMEX
PRO
EPCA

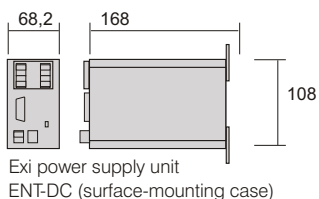


Features of EPCA

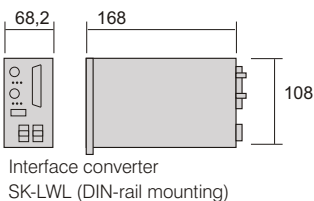
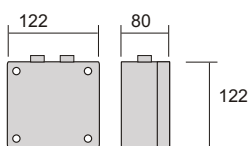
EPCA is a programming environment which is optionally integrated in TERMEX PRO. All programs are written in 'C' - the language most widely used in technical disciplines. EPCA allows you to program your TERMEX terminals freely. As a result, you can either implement stand-alone applications or use the 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.





Exi data cable



F.O. cable, ST-connectors



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

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

Power supply and data link

Cable length: 200m/400 m max.

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

Optical fibre data transmission cable SK-LWL

50/125 μ m gradient fibre

ST plug connector

Max. Cable length: 500 m

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 COMPLEX

Mettler-Toledo, Sartorius, others: see COMPLEX
brochure

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and services**
Innovative and
powerful

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- ▶ 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.)

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ATEX 95
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