ESA

ESA Europa S.L.U.

ESA Elettronica GmbH

Subsidiares

ESA Electronic Technology (Shanghai) Co. Ltd

ESA Technology, Inc

ESA Elettronica S.p.A.

ESA Software & Automation India Pvt. Ltd.

MISSION: "PUT MORE CONTROL IN YOUR HANDS"

Making processes simple, safe and more productive.
Extending man's capacity through control, offering him the greatest amount of easily manageable information in order to increase his capacity of interaction.

ESA: A SUMMARY OF THE COMPANY

Born in 1975 as System Integrator, during the years '85 to '90 we decided to change course by entering into the growing market of operating panels.
An active, constantly growing company, with 6 sites and 40 distributors in the world, which in over 30 years of activity has always closed its balance with a profit with a turnover which was at first predominantly national and now also has a consistent (greater than 50%) foreign share.
Thanks to a products appreciated above all by packaging, food & beverage, textile and automotive industries, we have been competing successfully with the best players in the field of automation for a long time and this is thanks to our clients who have continued to be loyal to our brand for years.
The research and development is located throughout the world: this is a precise choice to offer a universal product, which has come about from the convergence of different cultures which share intuitions, needs and different technologies. A constant process of development and improvement in which we have always believed and which has encouraged us to invest, collaborating with the world of university in technological research as well as in the more concrete industrial world.

ESA: POINT OF REFERENCE IN HMI

Confident in technological progress, for 20 years we have been devoting ourselves to the research and development of new, ever more well-performing products with the right alliance between progress and demand and to offer proposals which are innovative as well as useful and satisfying.
It is for this reason that today we are considered professionals and specialists in the sector proudly boasting about our very large range.

The history of ESA elettronica

Year	Description
1975	The company is founded with the name Tecno System. Over time excellent results are achieved in electrical automation of the industrial process(System Integrator).
1985	With a view that electronics are the future, ESA elettronica is set up, which works alongside Tecno System to develop custom electronics and industrial machines on order.
1990	It enters the Human Machine Interfaces (HIM) field. It moves from on order production to series production for the market.
1991	ESA elettronica s.r.l. incorporates Tecno System and consolidates its structure.
1992	It creates the foreign distribution network. First step in the internationalization of the company.
1994	It attains ISO 9001 certification.
1996	It enters the industrial PC field to complete the business offer.
1997	ESA elettronica s.r.l. becomes a shareholding company. ESA Europa S.L.U. branch opens in Spain.
1998	ESA elettronica GmbH branch opens in Germany.
2000	Representative office opens in India.
2003	ESA Technology, Inc. branch set up in the USA with the acquisition of EASON Technology working in the HMI motion field, strengthening expansion on the international market.
2004	Representative office opens in China.
2006	ESA Software & Automation India Pvt. Ltd branch opens in India.
2008	ESA Electronic Technology (Shanghai) Co. Ltd branch opens in China.

Quality and Safety are part of our DNA. In 1994 ESA was in fact one of the first Italian companies in the electrotechnical sector to be ISO 9001:1994 certified.

The attention to the client and to the management of company processes became consolidated in 2003 with the transfer to the ISO 9001:2000 (Vision 2000).

ESA does not consider the Quality System an aim but an essential means of giving guarantees to our clients. Improvement is therefore always pursued and carried out in every company area.

Service

The punctuality of delivery originates from a suitable management of suppliers and their qualitative performance. On line assistance is integrated in a modern CRM (Customer Relationship Management) system that allows for rapid consultations of any information regarding the client

Product technology

The product is developed and kept up to date by an R&D department attentive to innovation. A clear demonstration is the continuous collaboration with Universities. The robustness and constructive simplicity are the basics from which we start realising each new product. Product certifications like CE –UL, ALTEX, DNV, RINA etc. are readied fully respecting the standards.

client

Collaboration

Listening to and collecting clients' requirements is of fundamental importance for company growth and client loyalty. The client has the opportunity to write any complaints, suggestions or opinions for any reason directly to the ESA site, certain of receiving a reply in a short time.

Quality/Price Ratio

The good Quality/Price ratio comes from continuous research on various markets into the best solutions and most reliable suppliers. The suppliers, whom operate according to precise specifications, are visited, periodically evaluated and urged to improve continuously.

Field buses

Products Certiification

Functionalities

4"	5"	7"-8"	10,4"	12,1"

PCs

| | | XS585 | XS595 | |

Open CE

| XT104 | XT105T | XT107T | VT585CE | VT595CE |

IT

| IT104T | IT105T | IT105TK | IT107T | IT110T | IT112T |

VT

| VT155W | VT505W | VT515W | VT580W | VT585WB | VT595W |
| VT185W | VT565W | VT560W | | | |

your hands

12,1"	15"	17"	19"

Monitors

DISPTS15

DISPTS19

XS612

XS615

PC221x

PC222x

PC223x

XS619

IT115T

Dimensions

VT50
➤ text 20x2
8 keys

VT170W
➤ text 20x4
36 keys

VT190W
➤ text 40x4
49 keys

VT60
➤ text 20x4
6 keys

VT150W
➤ text 20x4
25 keys

VT160W
➤ text 20x4
43 keys

Touch Screen

VT155W
➤ 4"
240x128
4 tones of gray STN

VT185W
➤ 3,6"
320x240
16 colors TFT

VT505W
➤ 5,7"
320x240
4 blue tones STN

VT515W
➤ 5,7"
320x240
4 blue tones STN
With Alarms

VT525W
➤ 5,7"
320x240
16 colors STN

VT555W
➤ 5,5"
240x128
Monochrome STN

VT560W
➤ 5,7"
320x240
8 blue tones STN
Memory Card

Graphic

VT130W
➤ 3″
160x80
4 blue tones STN
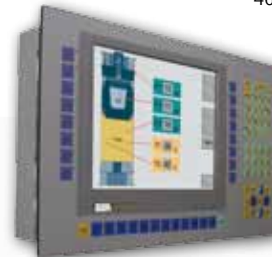25 keys

VT300W
➤ 240x64
Monochrome STN
49 keys

VT310W
➤ 5,5″
240x128
Monochrome STN
46 keys

VT320W
➤ 5,7″
320x240
16 colors STN
52 keys

VT330W
➤ 10,4″
640x480
256 coloris TFT
72 keys

VT565W
➤ 5,7″
320x240
8 tones of gray/
256 colors STN

VT580W
➤ 8,4″
800x600
256 colors TFT

VT585W(B)
➤ 10,4″
640x480
256 colors TFT

VT595W
➤ 12,1″
800x600
256 colors TFT

Hand Held Touch

VT505H
➤ 5,7″
320x240
4 blue tones STN

VT525H
➤ 5,7″
320x240
16 colors STN

VT Terminals are programmable
with these programming software:
Polymath Basic
Polymath Advanced

Flexibility

- Provides complete visibility of the memory in the connected device
- Compatible with many field bus systems: Profibus-DP (up to 127 terminals with one master), Interbus-S, CAN
- Integrated Ethernet 10/100

Customizable

- Logos and front overlays can be customized

Modem

- Projects, recipes and firmware can all be transferred via modem providing remote application development and maintenance capability

Parallel port

- Standard printers are supported
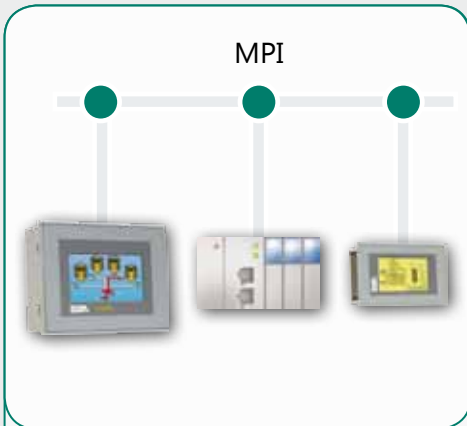
Exportability

- Printed reports
- Files for translation

A wealth of drivers

- Covers 90% of the PLC market as well as other devices such as drives, inverters and temperature controllers, etc.
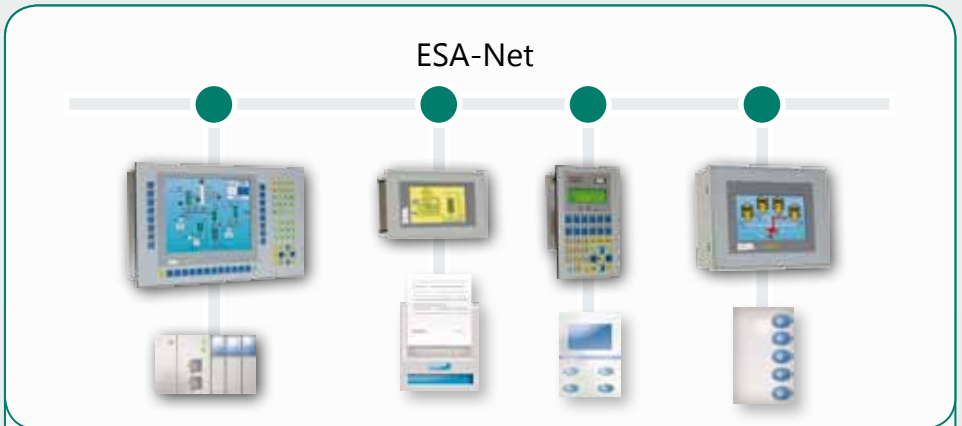
Certifications and Compliance standards

- CE, cULus on all models
- ATEX, DNV, RINA available on some models

MPI

MPI port

You can communicate with MPI devices (e.g. Siemens® S7/300-400) without using a special adapter. Variables can be imported from STEP 7 software.

ESA-Net

ESA-Network

All products contain ESA-Net: up to 32 terminals can be interconnected without additional hardware. Any terminal can read information and capture data from any PLC or other device connected via the network.

ASP

MSP
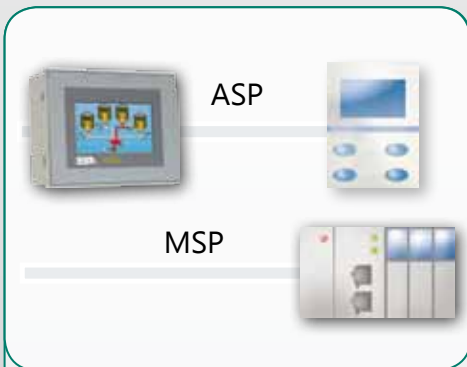
Double Driver

Two devices can be simultaneously connected and exchange data without adapters using the terminal's two serial ports.

Field buses

- Profibus-DP at 12 Mbit/s
  Up to 127 terminals can be connected to a single master, via an integrated port or an external adapter

- Interbus-S at 500 Kbit/s
  Up to 127 terminals can be connected to a single master via a 500 Kbit/s external adapter

- CAN
  Choice of integrated port or external adapter. Full potential can be exploited via customized protocols

- Modbus RTU
  Master and Slave

Ethernet

- Integrated 10/100 Base-T Ethernet port that can be used to load protocols based on TCP/IP such as Modbus TCP

Other devices

ABB	Indax/Triax/Pentax/Bivector 300
AIKE	Domaike Controller
ALLEN-BRADLEY	IMC S-CLASS /Ultra5000 DF1
ASCON	XS/XP/XN/XC/XT/XF
ATLAS COPCO	DMC
BERGER LAHR	Twin Line Series
CMZ CONTROLS	Modbus protocol
CONTROL TECHNIQ.	UNIDRIVE/Commander SE /CTModbusRTU
DANFOSS	VLT-2800/5000/6000
DATALOGIC	DL910
ELECTREX	DEPT
ELAU	MAX-4
EUROTHERM	590/605/631/635/637/650v/690/900
EVER	MPP 14-01
FAGOR	DNC Protocol/Net DNC Protocol
FANUC ROBOTICS	R-J
GALIL	DMC 2x00
GE POWER CONTROLS	VAT 23D/VAT 2000
GEFRAN	Cencal 800/1600/1800
HBM BALANCE	WE 2110/EW22
HENGSTLER	901/906
HITACHI	L-100/SJ100
INDRAMAT	PCCR0-GP1
KEB	Combivert F5/F0/F4C/F4F/F4S/S4
LENZE	93XX CAN/82X/Lecom A-B
LUST	c-line DRIVER
MULTIBA+HETRONIK	HC-NET
OMRON	Sydrive 3G3EV
OSAI	10/Series GP
PANASONIC	MMS*XP
PARKER AUTOMATION	6K/6000 Zeta/GT6/GV6
ROBOX	RBXM/RBXE
S.B.C.	SLVD Protocol/HPD2-5-8-16
SEW-EURODRIVE	Movidyn/Movitrac/Movidrive
SCHNEIDER TELEMEC	Altivar Modbus
SIEI	S Link (AVy/XVy/Typcat/Ampact)
SIEMENS	Simovert VC
STÖBER	FAS/FDS/SDS 4000
TDE MACNO	DBML
TRIO MOTION	Modbus
WEST	6100/6600/MLC9000 Modbus,Intrabus

All of the drivers are included in Polymath. New drivers are being developed constantly. The updated list of drivers is in the web site www.esahmi.com

Drivers for the following makers of PLC

ABB	T200/CS31/COMLI protocol/Modbus
ACS	Modbus RTU
AEG MODICON	A-120/A-250/COMPACT-MICRO 984
ALLEN-BRADLEY	SLC500/PLC5/DH 485/Control Logix 5 /DF1
	MICROLOGIX CPU1000 - 1500
ALTUS	Alnet - 1
ATOS	MPC 1600/2002/4004
B&R	NET 2000
BECKHOFF	BK7300/BC7300/KL60x1/BXxxxx
BERTHEL	ModuCon-S7/ComCon-S7 Industrial Ethernet
BOSCH	CL 150/200/400/500
CROUZET	RPX 10/20/30 /Millenium M3
FESTO	FPC/FST/FEC/IPC/SB202/SF3
FOXBORO	P6008/RTU20 (DNP3 protocol)
FUJI	Micrex-F
GE FANUC	CPU 90-30/CMM311/Versamax
GEFRAN	MPS-NS
HITACHI	COMM H/CPM E3
	EH150/H250/H252B-C/H302/H702
	H1002/H2002/H4002
	Hboard/H200/H300/H700/H1000/H2000
IDEC IZUMI	FA2/FA2J/FA3/FA3S/MICRO 3
JOHNSON CONTROLS	NCM Controller
KEYENCE	KV
KLÖCKNER MOELLER	PS306/PS316/PS416/PS4/PS416-CPU400
KOYO	DIRECTNet
KUHNKE	KUBES
LG	K10...1000S/K10S1/MK
MATSUSHITA-NAIS	FP
MICROLINK	ML14
MITSUBISHI	FX/A/Fx0/Fx0 N/Fx2 N /QnA
MODBUS	RTU Master, Slave/Modbus on TCP-IP
OMRON	H/HOST LINK/CS1/CJ1
SAIA	PCD1,2,4/S-BUS/xx7/S-BUS on TCP-IP
SATT CONTROL	31/90/115 series
SCHLEICHER	P02/P03/FCS5
SCHNEIDER MODICON	COMPACT/A120/A250-MICRO
SCHNEIDER SQUARE-D	50/400/500/600
SCHNEIDER TELEMEC.	TSX07/17/37/47/57/67/87(Reglage/Unitelway),Twido
SIEMENS	S5 AG90...135/S7 200,300,400 PPI/MPI
SIMATIC TI	500/505
SPRECHER+SCHUH	SESTEP 390
TOSHIBA	EX/T1/T2/T3/M20/M40 /S2
VIGOR	M/VB Series
VIPA	CPU 241/242/243/244/214/215/216

Display	VT50	VT60	VT150W
Type	Text LCD		
Backlighting	Led		
Columns by Rows [text]	20x2	20x4	20x4
Display area size (mm h-v)	73,5x11,5	70,4x20,8	70,4x20,8
Text character Matrix (pixels h-v)	5x7		
Character dimensions (mm h-v)	3,2x5,5	2,95x4,75	2,95x4,75
Contrast adjustment	Trimmer		
Character set	Ascii, Katakana		
User memory			
Project (bytes)	256K		
Recipes/Alarm buffer (bytes)[1]	-		
Interfaces			
MSP serial port[2]	RS232/422/485/TTY 20 mA		
ASP serial port[2]	-		
LPT parallel port[2]	-		
Connection with optional keyboard	-		Yes
Networks			
Integrated (option)	CAN		CAN, DP
Optional[3]	Profibus-DP, Interbus-S, CAN		
ESA-Net (variables)	Client		
Dimensions			
External (W x H x D) (mm)	166x86x41		148x188x41
Cut-out (W x H) (mm)	157x77		123x175
Technical data			
Power supply/Power consumed (24 Vdc)	18...32 Vdc/5 W		18...32 Vdc/15 W
Protection level	IP 66 front		IP 65 front
Operating temperature (°C)	0...+50		
Storage/transport temperature (°C)	-20...+60		
Humidity (non-condensing)	<85%		
Weight (kg)	0,5		0,7
Certificates of approval	CE, RINA, cULus, DNV		CE, cULus
Keyboard			
Operative/function/alphanumeric keys	8/5/-	6/4/-	9/5/11

[1] - With battery [2] - See model for availability: check table of codes [3] - Obtainable using VTPROFI/DP, VTINTERBUS and VTCAN or with VT5PROFI/DP [4] - Obtainable using VT5ESABUS

Text terminals codes and descriptions	
VT050 00000	Interfaces: MSP - Project: 256 KB
VT050 000CN	Interfaces: ASP8, CAN network - Project: 256 KB
VT060 00000[1]	Interfaces: MSP - Project: 256 KB
VT060 000CN	Interfaces: ASP8, CAN network - Project: 256 KB
VT150W 00000[1]	Interfaces: MSP - Project: 256 KB
VT150W 000DP	Interfaces: MSP, Profibus-DP network -Project: 256 KB
VT150W A00CN[1]	Interfaces: ASP8, CAN network - Project: 256 KB
[1] - Models without ESA Logo are available	

Text terminals codes and descriptions	
VT160W 00000[1]	Interfaces: MSP - Project: 256 KB
VT160W 000DP[1]	Interfaces: MSP, Profibus-DP network - Project: 256 KB
VT170W A0000[1]	Interfaces: MSP, ASP (9 pin) - Project: 320 KB - Recipes: 32 KB
VT190W A0000[1]	Interfaces: MSP, ASP (9 pin) - Project: 256 KB - Recipes: 105 KB
VT190W AP000[1]	Interfaces: MSP, ASP (9 pin), LPT-Project: 256 KB-Recipes: 105 KB
[1] - Models without ESA Logo are available	

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VT160W	VT170W	VT190W
Text LCD		
Led		
20x4		
70,4x20,8		140,5x23,2
5x7		
2,95x4,75		2,8x4,9
Trimmer		
Ascii, Katakana		
256K	320K	256K
-	32K/8K RAM	105K/8K RAM
RS232/422/485/TTY 20 mA		
-	RS232 (9 pin)	
-		Centronics
Integrated	-	
Profibus-DP	-	
Profibus-DP, Interbus-S, CAN		
Client	Server⁴ (128), Client	
296x188x42	126x196x60	252x196x60
See installation sheet	107x178	232x178
18...32 Vdc/15 W	18...32 Vdc/9 W	
IP 65 front		
0...+50		
-20...+60		
<85%		
0,88	0,9	1,5
CE, cULus		
9/23/11	13/12/11	14/24/11

Main characteristics (model dependant):

- Ideal for all occasions
- Applications quickly executed
- Alarms, passwords, recipes
- Mathematical functions
- Two drivers run simultaneously
- Serial or parallel printing
- Integrated Profibus-DP and CAN

Accessories codes and descriptions

VT100 MT1000	Serial keyboard unit, 20 customizable keys with LEDs (VT150W)
VT100 MT2000	Blank keyboard unit (VT150W)
VT5 BATTERY	3,6V lithium battery for maintaining recipes and clock (VT170W/VT190W)
VT5 PROFI/DP	Unit for connecting in Profibus-DP (VT170W/VT190W)
VT5 ESABUS	RS485 unit for connecting to ESA-Net network (VT170W/VT190W)

Display	VT130W	VT300W
Type	Graphic LCD 4 tones of blue	Graphic LCD monochrome STN
Backlighting	White LED	LED
Min. lamp life at 25°C (h)	50.000	-
Resolution in pixels h-v (inches)	160x80 (3")	240x64
Display area size (mm h-v)	67x37	132x39
Columns by Rows/Character dimensions	Depending on used Font	
Contrast adjustment	Software	
Character set	Programmable fonts/TTF Windows® (also Unicode)	
User memory		
Project (text+graphic) (bytes)	640K	192K+384K
Recipes/Alarm buffer (bytes)[1]	16K / 8K FLASH	128K/8K RAM
Memory card for backup/Expansion (bytes)	-	4M/-
Interfaces		
MSP serial port	RS232/422/485/TTY 20 mA	
ASP serial port[2]	RS232 (8 pin)	RS232/RS485 (15 pin)
LPT parallel port[2]	-	Centronics
Connection with optional keyboard	-	Yes
Networks		
Integrated (option)	Profibus-DP	CAN
Optional[3]	Profibus-DP, Interbus-S, CAN	
ESA-Net (variables)	Client	Server (256), Client
Dimensions		
External (W x H x D) (mm)	166x100x39,6	252x196x60
Cut-out (W x H) (mm)	157x91	232x178
Technical data		
Power supply/Power consumed (24 Vdc)	18...32 Vdc/10 W	18...32 Vdc/11 W
Protection level	IP 66 front	IP 65 front
Operating temperature (°C)	0...+50	
Storage/transport temperature (°C)	-20...+60	
Humidity (non-condensing)	<85%	
Weight (kg)	0,5	1,5
Certificates of approval	CE, cULus, ATEX EX II – 3 G D	CE, cULus
Keyboard		
Operative/function/alphanumeric keys	10/5/10	14/24/11

① - With battery   ② - See model for availability: check table of codes
③ - Obtainable using VTPROFI/DP, VTINTERBUS and VTCAN

Graphic terminals codes and descriptions

VT130W 00000	Ports: MSP, ASP8 - Project: 640 KB - Recipes: 16 KB
VT130W 000DP	Ports: ASP8, Profibus-DPnetwork -Project:640 KB - Recipes:16 KB
VT300W A0000	Ports: MSP, ASP - Project: 512 KB – Recipes: 128 KB
VT300W AP000	Ports: MSP, ASP, LPT - Project: 512 KB - Recipes: 128 KB
VT300W 000CN	Ports: MSP, CAN network - Project: 512 KB - Recipes: 128 KB

Graphic terminals codes and descriptions

VT310W A0000	Ports: MSP, ASP - Project: 512 MB - Recipes: 128 KB
VT310W AP000	Ports: MSP, ASP, LPT - Project: 512 MB - Recipes: 128 KB
VT320W A0000	Ports: MSP, ASP, - Project: 1 MB - Recipes: 256 KB
VT320W AP000	Ports: MSP, ASP, LPT - Project: 1 MB - Recipes: 256 KB
VT330W APT00	Ports: MSP, ASP, LPT - Project: 2 MB - Recipes: 256 KB

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VT310W	VT320W	VT330W
Graphic LCD monochrome STN	Graphic LCD 16 colors STN	Graphic LCD 256 colors TFT
CCFL		
10.000	15.000	30.000
240x128 (5,5")	320x240 (5,7")	640x480 (10,4")
123x68	115,6x87	211,2x158
Depending on used Font		
Software		
Programmable fonts/TTF Windows® (also Unicode)		
192K+384K	192K+832K	640K+1792K
128K/8K RAM	256K/8K RAM	
4M/-		8M/4M (graphic)
RS232/422/485/TTY 20 mA		
RS232/RS485 (15 pin)		
Centronics		
Yes		-
-		
Profibus-DP, Interbus-S, CAN		
Server (256), Client		
252x196x60	305x196x60	435x260x74
232x178	275x176	403x240
18...32 Vdc/11 W	18...32 Vdc/15 W	18...32 Vdc/15 W
IP 65 front		
0...+50		
-20...+60		
<85%		
1,5	2	4
CE, cULus		
14/21/11	13/28/11	19/28/27

Main characteristics:
- On-screen graphics
- Alarms, passwords, recipes
- Use of Windows® fonts
- Importation of graphic images in any format
- Moving graphic objects
- Two drivers run simultaneously
- Serial or parallel printing
- Integrated CAN

Accessories codes and descriptions	
VTBUTTONCELL	Lithium 3V cell battery CR2032 for maintaining recipes and clock
FLASH MODULO 04	4MB flash module for backup/expansion (VT330W)
FLASH MODULO 08	8MB flash module for backup (VT330W)

Display	VT155W
Type	Graphic LCD 4 tones of grey STN
Touch Screen Matrix (cell dimension in pixels) h-v)	20x8 (12x16)
Backlighting	LED
Min. lamp life at 25°C (h)	-
Resolution pixels h-v (inches)	240x128 (4")
Display area size (mm h-v)	94,5x54,5
Columns by Rows/Character dimensions	Depending on used Font
Contrast adjustment	Software
Character set	Programmable fonts/TTF Windows® (also Unicode)
User memory	
Project (text+graphic) (bytes)	640K
Recipes/Alarm buffer (bytes)	16K/8K FLASH
Memory card for backup/Extension (bytes)	-
Interfaces	
MSP serial port[1]	RS232/422/485/TTY 20 mA
ASP serial port[1]	RS232 (8 pin)
LPT parallel port	-
Networks	
Integrated (option)	CAN, Profibus-DP, Ethernet
Optional[2]	Profibus-DP, Interbus-S, CAN
ESA-Net (variables)	Client
Dimensions	
External (W x H x D) (mm)	166x100x39,6
Cut-out (W x H) (mm)	157x91
Technical data	
Power supply/Power consumed (24 Vdc)	18...32 Vdc/10 W
Protection level	IP 66 front
Operating temperature (°C)	0...+50
Storage/transport temperature (°C)	-20...+60
Humidity (non-condensing)	<85%
Weight (kg)	0,5
Certificates of approval	CE, cULus, ATEX EX II - 3 G D

[1] - See model for availability: check table of codes [2] - Obtainable using VTPROFI/DP, VTINTERBUS and VTCAN

Touch Terminals codes and descriptions	
VT155W 00000[1]	Interfaces: MSP, ASP8 - Project: 640 KB - Recipes: 16 KB
VT155W 000CN[1]	Interfaces: ASP8, CAN network - Project: 640 KB - Recipes: 16 KB
VT155W 000DP[1]	Interfaces: ASP8, Profibus-DP network - Project: 640 KB - Recipes: 16 KB
VT155W 000ET[1]	Interfaces: ASP8, Ethernet network - Project: 640 KB - Recipes: 16 KB
VT185W 00000	Interfaces: MSP, ASP8 - Project: 960 KB - Recipes: 32 KB
VT185W 000ET	Interfaces: ASP8, Ethernet network - Project: 960 KB - Recipes: 32 KB
[1] - Models without ESA Logo are available	

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VT185W
Graphic LCD 16 colors TFT
20x16 (16x15)
LED
-
320x240 (3,6")
75,5x57,3
Depending on used Font
Software
Programmable fonts/TTF Windows® (also Unicode)
960K
32K/8K FLASH
-
RS232/422/485/TTY 20 mA
RS232 (8 pin)
-
Ethernet
Profibus-DP, Interbus-S, CAN
Client
166x100x39,6
157x91
18...32 Vdc/10 W
IP 66 front
0...+50
-20...+60
<85%
0,5
CE, cULus, ATEX EX II - 3 G D

Main characteristics (model dependant):
- High value solution for many applications
- Can be mounted either horizontally or vertically
- Alarms, passwords, recipes
- Use of Windows® fonts
- Importation of graphic images in any format
- Moving graphic objects
- Serial printing
- Integrated Profibus-DP and CAN
- Integrated Ethernet 10/100

Accessories codes and descriptions

| PROTFILM4 | Transparent adhesive protective foils for 4" Touch Screen (5 pieces) |

Display	VT505W	VT515W
Type	Graphic LCD 4 tones of blue STN	
Touch Screen Matrix (cell dimension in pixels h-v)	20x16 (16x15)	
Backlighting	CCFL	
Min. lamp life at 25°C (h)	45.000	
Resolution pixels h-v (inches)	320x240 (5,7")	
Display area size (mm h-v)	115,17x86,37	
Columns by Rows/Character dimensions	Depending on used Font	
Contrast adjustment	Software	
Character set	Programmable fonts/TTF Windows® (also Unicode)	
User memory		
Project (text+graphic) (bytes)	512K	
Recipes/Alarm buffer (bytes)[1]	16K/- FLASH	16K/8K FLASH
Memory card for backup/Extension (bytes)	-	
Interfaces		
MSP serial port[2]	RS232/422/485/TTY 20 mA	
ASP serial port[2]	RS232 (8 pin)	
LPT parallel port	-	
Networks		
Integrated (option)	CAN, Profibus-DP, Ethernet	
Optional[3]	Profibus-DP, Interbus-S, CAN	
ESA-Net (variables)	Client	
Dimensions		
External (W x H x D) (mm)	210x158x54	
Cut-out (W x H) (mm)	198x148	
Technical data		
Power supply/Power consumed (24 Vdc)	18...32 Vdc/10 W	
Protection level	IP 65 front	
Operating temperature (°C)	0...+50	
Storage/transport temperature (°C)	-20...+60	
Humidity (non-condensing)	<85%	
Weight (kg)	1,4	
Certificates of approval	CE, cULus, ATEX EX II - 3 G D	

[1] - Need battery (VT555W/VT560W) [2] - See model for availability: check table of codes
[3] - Obtainable using VTPROFI/DP, VTINTERBUS and VTCAN

Touch Terminals codes and descriptions

VT505W 00000[1]	Interfaces: MSP - Project: 512 KB - Recipes: 16 KB
VT505W 000CN[1]	Interfaces: MSP*, CAN network - Project: 512 KB - Recipes: 16 KB
VT505W 000DP[1]	Interfaces: MSP*, Profibus-DP network -Project:512 KB-Recipes:16 KB
VT505W 000ET[1]	Interfaces: ASP8*, Ethernet network - Project: 512 KB - Recipes:16KB
VT515W 00000[1]	Interfaces: MSP - Project: 512 KB - Recipes: 16 KB
VT515W 000CN[1]	Interfaces: MSP*, CAN network - Project: 512 KB - Recipes: 16 KB
VT515W 000DP[1]	Interfaces: MSP*, Profibus-DP network - Project:512KB -Recipes:16KB
VT515W 000ET[1]	Interfaces: ASP8*, Ethernet network - Project: 512 KB - Recipes:16KB
VT525W 00000[1]	Interfaces: MSP, ASP8 - Project: 960 KB - Recipes: 32 KB

[1] - Models without ESA Logo are available - * only for programming

Touch Terminals codes and descriptions

VT525W 000ET[1]	Interfaces: ASP8, Ethernet network - Project: 960 KB - Recipes: 32 KB
VT525W 000CN[1]	Interfaces: ASP8, CAN network - Project: 960 KB - Recipes: 32 KB
VT525W 000DP[1]	Interfaces: ASP8, Profibus-DP network - Project: 960 KB - Recipes: 32 KB
VT555W A0000	Interfaces: MSP, ASP - Project: 512 KB - Recipes: 128 KB
VT555W AP000	Interfaces: MSP, ASP, LPT - Project: 512 KB - Recipes: 128 KB
VT555W AP0DP	Interfaces: MSP, LPT, Profibus-DP network - Project: 512 KB - Recipes: 128 KB
VT555W 000CN	Interfaces: MSP, CAN network - Project: 512 KB - Recipes: 128 KB
VT560W A0000	Interfaces: MSP, ASP - Project: 1 MB - Recipes: 128 KB (Color)
VT560W A0M00	Interfaces: MSP, ASP - Project: 1 MB - Recipes: 128 KB (Tones of blue)

[1] - Models without ESA Logo are available - * only for programming

VT525W	VT555W	VT560W
Graphic LCD 16 colors STN	Graphic LCD mono STN	Graphic LCD 8 tones of blue/16 colors STN
20x16 (16x15)	20x8 (12x16)	20x16 (16x15)
CCFL		
50.000	15.000	50.000
320x240 (5,7")	240x128 (5,5")	320x240 (5,7")
115,17x86,37	123x68	115,17x86,37
Depending on used Font		
Software		
Programmable fonts/TTF Windows® (also Unicode)		

960K	192K + 384K	192K + 832K
32K/8K FLASH	128K/8K RAM	
-		4M

RS232/422/485/TTY 20 mA		
RS232 (8 pin)	RS232/RS485 (15 pin)	
-	Centronics	-

CAN, Profibus-DP, Ethernet	CAN, Profibus-DP	-
Profibus-DP, Interbus-S, CAN		
Client	Server (256), Client	

210x158x54
198x148

18...32 Vdc/10 W
IP 65 front
0...+50
-20...+60
<85%
1,4
CE, cULus, ATEX EX II - 3 G D

Main characteristics (model dependant):
- High value solution for many applications - Alarms, passwords, recipes - Use of Windows® fonts
- Importation of graphic images in any format - Moving graphic objects
- Two drivers run simultaneously
- Double driver moves data between two devices - Serial or parallel printing
- Integrated Profibus-DP and CAN
- Integrated Ethernet 10/100

Accessories codes and descriptions

VTBUTTONCELL	Lithium 3V cell battery CR2032 for maintaining recipes and clock (VT555W/VT560W)
PROTFILM6	Transparent adhesive protective foils for 6", 7", 8" Touch Screen (5 pieces)

Display	VT565W	VT580W
Type	Graphic LCD 8 tones of grey/256 colors STN	Graphic LCD 256 colors TFT
Touch Screen Matrix (cell dimension in pixels h-v)	20x16 (16x15)	50x40 (16x15)
Backlighting	CCFL	
Min. lamp life at 25°C (h)	50.000	
Resolution pixels h-v (inches)	320x240 (5,7")	800x600 (8,4")
Display area size (mm h-v)	115,17x86,37	170,4x127,8
Columns by Rows/Character dimensions	Depending on used Font	
Contrast adjustment	Software	
Character set	Programmable fonts/TTF Windows® (also Unicode)	
User memory		
Project (text+graphic) (bytes)	192K + 832K	960K + 6M
Recipes/Alarm buffer (bytes)[1]	128K/8K RAM	128K/8K FLASH
Memory card for backup/Extension (bytes)	4M	8M
Interfaces		
MSP serial port[2]	RS232/422/485/TTY 20 mA	
ASP serial port[2]	RS232/RS485 (15 pin)	
LPT parallel port	Centronics	
Networks		
Integrated (option)	-	CAN, Profibus-DP, Ethernet
Optional[3]	Profibus-DP, Interbus-S, CAN	
ESA-Net (variables)	Server (256), Client	Server (512), Client
Dimensions		
External (W x H x D) (mm)	210x158x61,2	245,9x188,6x37,6
Cut-out (W x H) (mm)	198x148	233X176
Technical data		
Power supply/Power consumed (24 Vdc)	18...32 Vdc/15 W	
Protection level	IP 65 frontal	
Operating temperature (°C)	0...+50	
Storage/transport temperature (°C)	-20...+60	
Humidity (non-condensing)	<85%	
Weight (kg)	1,4	1,5
Certificates of approval	CE, cULus, ATEX EX II - 3 G D	

[1] - Need battery (VT565W)   [2] - See model for availability: check table of codes
[3] - Obtainable using VTPROFI/DP, VTINTERBUS and VTCAN

Touch Terminals codes and descriptions

Code	Description	Code	Description
VT565W A0000	Interfaces: MSP, ASP - Project: 1 MB - Recipes: 128 KB (Color)	VT585W BPTDP[1]	Interfaces: MSP, LPT Profibus-DP network - Project: 7 MB - Recipes: 128 KB
VT565W AP000	Interfaces: MSP, ASP, LPT - Project: 1 MB - Recipes: 128 KB (Color)	VT585W BPTET[1]	Interfaces: MSP, LPT, Ethernet network - Project: 7 MB - Recipes: 128 KB
VT565W A0M00	Interfaces: MSP, ASP - Project: 1 MB - Recipes: 128 KB (Tones of gray)	VT595W APT00[1]	Interfaces: MSP, ASP, LPT - Project: 7 MB - Recipes: 128 KB
VT565W APM00	Interfaces: MSP, ASP, LPT - Project: 1 MB -Recipes: 128 KB(Tones of gray)	VT595W 0PTCN[1]	Interfaces: MSP, LPT CAN network - Project: 7 MB - Recipes: 128 KB
VT580W APT00[1]	Interfaces: MSP, ASP, LPT - Project: 7 MB - Recipes: 128 KB	VT595W 0PTDP[1]	Interfaces: MSP, LPT Profibus-DP network - Project: 7 MB - Recipes: 128 KB
VT580W 0PTCN[1]	Interfaces: MSP, LPT CAN network - Project: 7 MB - Recipes: 128 KB	VT595W 0PTET[1]	Interfaces: MSP, LPT, Ethernet network - Project: 7 MB - Recipes: 128 KB
VT580W 0PTDP[1]	Interfaces: MSP, LPT Profibus-DP network -Project: 7MB -Recipes: 128KB		
VT580W 0PTET[1]	Interfaces: MSP, LPT Ethernet network - Project: 7 MB - Recipes: 128 KB		
VT585W BPT00	Interfaces: MSP, ASP, LPT - Project: 7 MB - Recipes: 128 KB		
VT585W BPTCN[1]	Interfaces: MSP, LPT CAN network - Project: 7 MB - Recipes: 128 KB		

1 - Models without ESA Logo are available - * only for programming

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VT585W(B)	VT595W
Graphic LCD 256 colors TFT	Graphic LCD 256 colors TFT
40x30 (16x16)	50x40 (16x15)
CCFL	
30.000	50.000
640x480 (10,4")	800x600 (12,1")
211,2 x 158	246x185
Depending on used Font	
Software	
Programmable fonts/TTF Windows® (also Unicode)	
960K + 6M	
128K/8K FLASH	
8M	
RS232/422/485/TTY 20 mA	
RS232/RS485 (15 pin)	
Centronics	
CAN, Profibus-DP, Ethernet	
Profibus-DP, Interbus-S, CAN	
Server (512), Client	Server (1024), Client
336,3x256x44	
314X240	
18...32 Vdc/15 W	
IP 65 frontal	
0...+50	
-20...+60	
<85%	
1,9	2,1
CE, cULus, ATEX EX II - G D	

Accessories codes and descriptions

VTBUTTONCELL	Lithium 3V cell battery CR2032 for maintaining recipes and clock (VT565W)
FLASH MODULO 04	4 MB flash module for backup (VT565W)
FLASH MODULO 08	8 MB flash module for backup (VT580W, VT585WB, VT595W)
PROTFILM6	Transparent adhesive protective foils for 6", 7", 8" Touch Screen (5 pieces)
PROTFILM10	Transparent adhesive protective foils for 10" Touch Screen (5 pieces)
PROTFILM12	Transparent adhesive protective foils for 12" Touch Screen (5 pieces)

Main characteristics (model dependant):
- High value solution for many applications - Alarms, passwords, recipes - Use of Windows® fonts - Importation of graphic images in any format - Moving graphic objects - Two drivers run simultaneously
- Double driver moves data between two devices - Serial or parallel printing - Integrated Profibus-DP and CAN - Integrated Ethernet 10/100

Display	VT505H
Type	Graphic LCD 4 tones of blue STN
Touch Screen Matrix (cell dimension in pixels h-v)	20x16 (16x15)
Backlighting	CCFL
Min. lamp life at 25°C (h)	45.000
Resolution pixels h-v (inches)	320x240 (5,7")
Display area size (mm h-v)	115,2x86,37
Columns by Rows/Character dimensions	Depending on used Font
Contrast adjustment	Software
Character set	Programmable fonts/TTF Windows® (also Unicode)
User memory	
Project (text+graphic) (bytes)	640K
Recipes/Alarm buffer (bytes)	16K/- FLASH
Memory card for backup/Expansion (bytes)	-
Interfaces	
MSP serial port	RS232/422/485/TTY 20 mA - on VTHCB (excluded CAN version)
ASP15L serial port	-
LPT parallel port	-
Networks	
Integrated (option)	CAN
Optional	-
ESA-Net	Client
Dimensions	
External (W x H x D) (mm)	250x222x100
Cut-out (W x H) (mm)	-
Technical data	
Power supply/Power consumed (24 Vdc)	18...32 Vdc/10 W
Protection level	IP 65 on all sides
Operating temperature (°C)	0...+50
Storage/transport temperature (°C)	-20...+60
Humidity (non-condensing)	<85%
Weight (kg)	3
Certificates of approval	CE, cULus
Touch keyboard	
Function keys	10

Hand Held Terminals codes and descriptions	
VT505H 00000**	Interface: MSP - Project: 640 KB - Recipes: 16 KB - 10 mt cable
VT505H 000CN*	Interfaces: MSP, CAN network - Project: 640 KB - Recipes: 16 KB - 10 mt cable
VT525H 00000**	Interfaces: MSP, ASP15L - Project: 960 KB - Recipes: 32 KB - 10 mt cable
* Version without VTHCB (Hand Held connection box)	
** To be purchased strictly together with VTHCB000000	

VT525H
Graphic LCD 16 color STN
20x16 (16x15)
CCFL
50.000
320x240 (5,7")
115,2x86,37
Depending on used Font
Software
Programmable fonts/TTF Windows® (also Unicode)
960K
32K/8K FLASH
-
RS232/422/485/TTY 20 mA - on VTHCB (excluded CAN version)
RS232 - on VTHCB (excluded CAN version)
-
-
-
Client
250x222x100
-
18...32 Vdc/10 W
IP 65 on all sides
0...+50
-20...+60
<85%
3
CE, cULus
10

Main characteristics:
- Compatible with all other terminals
- Two way "Operator present" button
- Ten laterally positioned programmable function keys
- Emergency button
- Stop button and start button with light
- IP65 protection

Accessories codes and descriptions	
PROTFILM6H	Transparent adhesive protective foils for 6" Touch Screen (5 pieces)
VTHCB000000	Hand Held connection box with MSP/ASP15L
VTHFIXKIT01	Support for fixing to wall or pulpit

Main features	VT50	VT60	VT150W	VT160W	VT170W
Project Languages	4		6		8
Password levels/Bit passwords	-/8		10/8		
Pages/Fields per page	127/12		1024/32		1024/16
Format of variables	DEC, HEX, BIN, BCD, ASCII, Floating point				
Dynamic texts/Lists of images	Value depends on dimensions of project memory/-				
ISA alarms/Info-messages	-/128		-/1024		1024/1024
Help messages (pages/info messages/alarms)	127/128/-		1024/1024/-		1024/1024/1024
Alarm history buffer	-				256
Recipes (Number/Variables per recipe)	-				1024/256
Pipelines (Number/Total bytes)	-				
Macros (Number/Commands per macro)	-		1024/16		
Print pages (Total/Number of fields per page)	-				1024/64
Automatic operations/Timers/Equations	20/20/32		32/32/32		-
Trends (Memory/Number of samples)	-				
Max bargraphs per page (taken together with fields)	-				
Indicators,potentiometers, selectors per page	-				
Project images	-				
Hardware clock	-				

Main features	VT155W	VT185W	VT505W	VT515W	VT525W
Project Languages	4	6	4		6
Password levels/Bit passwords	10/8				
Pages/Fields per page	64/32	150/48	128/34		150/48
Format of variables	DEC, HEX, BIN, BCD, ASCII, Floating point				
Dynamic texts/Lists of images	Value depends on dimensions of project memory				
ISA alarms/Info-messages	256/256	256/256	-/256	256/256	
Help messages (pages/info messages/alarms)	64/256/256	150/256/256	128/256/-	128/256/256	150/256/256
Alarm history buffer	220	256	-	220	
Recipes (Number/Variables per recipe)	128/256				
Trends (Memory/Number of samples)	-	6144/320	-		
Pipelines (Number/Total bytes)	-		-		
Macros (Number/Commands per macro)	1024/16				
Print pages (Total/Number of fields per page)	64/128		-		64/128
Automatic operations/Timers/Equations	32/32/32				
Max bargraphs per page (taken together with fields)	32	48	34		48
Indicators,potentiometers, selectors per page	-	256	-		
Project images	BMP, JPEG, TIFF, PSD, WMF, PNG, EPS, ECC...				
Buttons per page	Number of buttons corresponding to the number of Touch-Screen cells				
Hardware Clock	Supercapacitor 72h		-	Supercapacitor 72h	

Main features	VT505H	VT525H
Project Languages	4	6
Password levels/Bit passwords	10/8	
Pages/Fields per page	128/34	150/48
Format of variables	DEC, HEX, BIN, BCD, ASCII, Floating point	
Dynamic texts/Lists of images	Value depends on dimensions of project memory	
ISA alarms/Info-messages	-/256	256/256
Help messages (pages/info messages/alarms)	128/256/-	150/256/256
Alarm history buffer	-	220
Recipes (Number/Variables per recipe)	128/256	
Trends (Memory/Number of samples)	-	
Pipelines (Number/Total bytes)	-	
Macros (Number/Commands per macro)	1024/16	
Print pages (Total/Number of fields per page)	-	64/128
Automatic operations/Timers/Equations	32/32/32	
Max bargraphs per page (taken together with fields)	34	48
Indicators,potentiometers,selectors per page	-	
Project images	BMP, JPEG, TIFF, PSD, WMF, PNG, EPS, ECC...	
Buttons per page	Number of buttons corresponding to the number of Touch-Screen cells	
Hardware Clock	-	Supercapacitor 72h

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VT190W	VT130W	VT300W	VT310W	VT320W	VT330W
8	4	8			
10/8					
1024/32	64/22	1024/80	1024/96	1024/112	1024/304
DEC, HEX, BIN, BCD, ASCII, Floating point					
Value depends on dimensions of project memory					
1024/1024	256/256	1024/1024			
1024/1024/1024	64/256/256	1024/1024/1024			
256	220	256			
1024/256	128/256	1024/256		2048/512	1024/512
64/512	-	64/512			
1024/16					
1024/128	64/128	1024/128			
-	32/32/32				
-		512/240		4096/320	8192/640
-	32	80	96	112	304
-	-	-	-	-	256
-	BMP, JPEG, TIFF, PSD, WMF, PNG, EPS, ECC...				
-	Supercapacitor 72h	With battery			

VT555W	VT560W	VT565W	VT580W	VT585W(B)	VT595W
8					
10/8					
1024/96	1024/112	1024/112	1024/256	1024/320	1024/400
DEC, HEX, BIN, BCD, ASCII, Floating point					
Value depends on dimensions of project memory					
1024/1024					
1024/1024/1024					
256					
1024/256	1024/512				
512/240	4096/320	4096/320	6144/480	8192/640	8192/640
64/512					
1024/16					
1024/128					
32/32/32					
96	112	112	256	320	400
-	64		128	256	
BMP, JPEG, TIFF, PSD, WMF, PNG, EPS, ECC...					
Number of buttons corresponding to the number of Touch-Screen cells					
With battery			Supercapacitor 72 h		

VT terminals connection ports:

MSP (25 pin Sub D socket) = RS232, 422, 485(MPI) / TTY
ASP (15 pin Sub D socket) = RS232, 485
ASP (9 pin Sub D socket) (VT170W+VT190W) = RS232
ASP8 (8 pin MiniSub D socket) = RS232
ETH (RJ45 socket) = Ethernet Port 10/100 MBit/s
DP (9 pin Sub D socket) = Profibus DP interface
CAN = CAN Bus interface (DeviceNet)
LPT (25 pin Sub D socket) = Centronics parallel port

Functional features of the VT terminals

- Text(VT50, VT60, VT150W, VT160W, VT170W, VT190W)
- Graphics (VT130W, VT300W, VT310W, VT320W, VT330W)
- Touch-Screen (VT155W, VT185W, VT505W, VT515W, VT525W, VT555W, VT560W, VT565W, VT580W, VT585W(B), VT595W)
- Hand-Held Touch Screen (VT505H, VT525H)

MT20DP

Twenty key, two LED keyboard with buzzer

VT

Profibus-DP

Keyboard

PLC
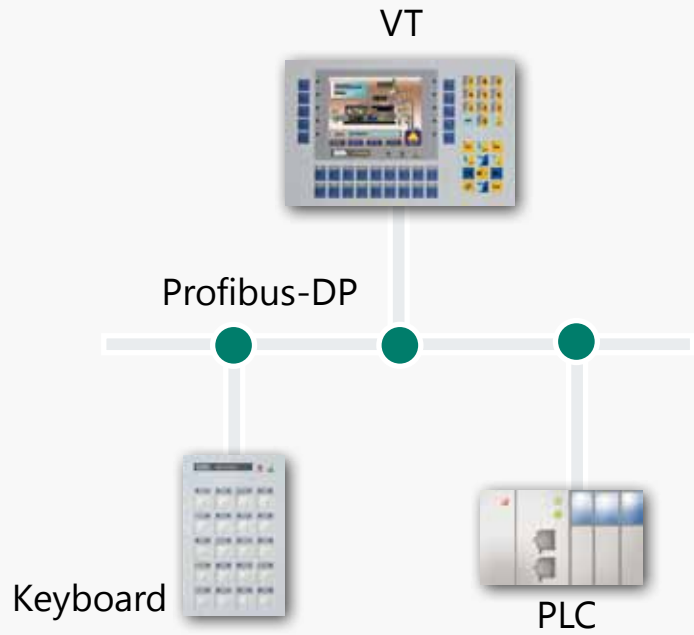
MT20DP

Twenty key, two LED keyboard with buzzer offers direct connection with Profibus-DP at 12Mbit/s. Plug and play – no need to program.

MT20DP codes and descriptions

MT20DP	Keyboard with 20 customizable keys connectable in Profibus-DP
MT20DPMAN	MT20DP manual and configuration disk with GSD file

VTINTERBUS

Interbus-S external network card
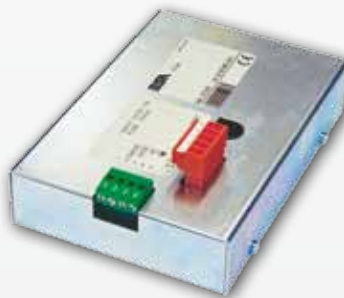
VTCAN

CAN external network card

VTPROFI/DP

Profibus-DP external network card

The Profibus-DP, Interbus-S, and CAN external network cards provide specified Field Bus connectivity for those units not having an integrated network port.

Accessories codes and descriptions

VTPROFI/DP	Profibus-DP network card (for VTs with no integrated networks)
VTINTERBUS	Interbus-S network card (for VTs with no integrated networks)
VTCAN	CAN network card (for VTs with no integrated networks)
PWR220-24A	Universal Power Supply 220VAC-24VDC

Code	PLC description
ABB	
CVPLC 03102	T200 RS232
CVPLC 06402	AC450
CVPLC 14102	CS31 RS232
CVPLC 14202	MODBUS
CVPLC 14302	CS31 07KP92 module R101/RS232
CVPLC 14402	CS31 07KP92 module R101/RS422
CVPLC 14502	CS31 07KP92 module R101/RS485
CVPLC 14602	CS31 40 and 50 series
CVPLC 14802	ACS210
CVPLC 21202	AC70
ALLEN-BRADLEY	
CVPLC 07112	SLC500 RS485
CVPLC 07202	PLC5 RS232
CVPLC 07302	PLC5 RS422
CVPLC 07402	SLC500 RS232 CPU 5/03, 5/04
CVPLC 07502	RS485 SLC500 serial protection device
CVPLC 07602	Micrologix PLC cable adapter
ALTUS	
CVPLC 27102	Alnet - 1 D-Sub/D-Sub - RS232
CVPLC 27202	Alnet - 1 D-Sub/RJ45 - RS232
CVPLC 27302	Alnet - 1 D-Sub/D-Sub - RS485
CVPLC 27402	Alnet - 1 D-Sub/RJ45 - RS485
ATOS	
CVPLC 29102	MPC1600, MPC2002, MPC4004 - RS232
CVPLC 29202	MPC1600, MPC2002, MPC4004 - RS485
B & R	
CVPLC 25102	Net2000
BECKHOFF	
CVPLC 28102	BX3100 - COM1 port - RS232
CVPLC 28202	BX3100 - COM2 port - RS232
CVPLC 28302	BX3100 - COM2 port - RS485
CVPLC 28402	KL6001 - RS232
CVPLC 28502	KL6021 - RS485
CVPLC 28602	BC7300/BK7300 - RS485
BOSCH	
CVPLC 24102	CL series
CONTROL TECHNIQUES	
CVPLC 33102	Commander SE
CROUZET	
CVPLC 20102	Console 88750309 - RS232
CVPLC 20102	M3 - Millenium
FOXBORO	
CVPLC 30102	RTU20
FUJI	
CVPLC 26102	Micrex F
GE-FANUC	
CVPLC 09102	90 RS422 series
CVPLC 09202	CMM311 module, Port 1/2 - RS232
CVPLC 09302	CMM311 module, Port 2 - RS422
CVPLC 09402	Versamax series, Port 1 – RS232
GEFRAN	
CVPLC 23102	MPS-NS series
LG	
CVPLC 21102	K30/K500/K1000
CVPLC 21202	K10
CVPLC 21302	MK series
CVPLC 21402	Master K120S - RS232
CVPLC 21502	Master K120S - RS485
HITACHI	
CVPLC 03102	H series - RS232
CVPLC 03202	EM CPM-E3 series
CVPLC 03302	EC series RS232
CVPLC 03402	H CPU 22-02HC series - RS232
CVPLC 03502	HE150 series
CVPLC 03602	COMMH series
IZUMI	
CVPLC 19102	FA2 - FA2J - FA3 - FA3J
CVPLC 19302	Micro 3 series
KEYENCE	
CVPLC 15102	KV10, 16, 24, 40
KLÖCKNER MOELLER	
CVPLC 12112	PS306
CVPLC 12212	PS316, PS416 CPU 400 - RS485.
CVPLC 12302	PS4-201-MM1 PRG port - RS232
CVPLC 12402	PS416 CPU 400 - RS232
KOYO	
CVPLC 32102	DL240 CPU port
CVPLC 32202	DL340 CPU port

CVPLC

Connection cables between VT operator terminals and the PLC. Professionally made in compliance with EMI standards, saving time and avoiding connection errors.

CVPLC 32302	DL405 CPU Port, DL405 DCM, DL305 DCU - RS232
CVPLC 32402	DL405 DCM, DL305 Rs422 DCU - RS422
CVPLC 32502	DL305 Rs422 DCU - RS232
KUHNKE	
CVPLC 07602	KUBES
MICROLINK	
CVPLC 31102	ML-14 - RS232
CVPLC 31202	ML-14 - RS485
MITSUBISHI	
CVPLC 05102	A series (Computer Link – RS232)
CVPLC 05202	FX series
CVPLC 05302	SC-05 Cable (distance > 15 mt.)
CVPLC 05402	A series (max. length 15 mt.)
CVPLC 05502	FX0 series
CVPLC 05602	FX Link
NAIS MATSUSHITA	
CVPLC 16102	FP1 series – RS422
CVPLC 16202	FP0, FP1, FP3 series - RS232
CVPLC 16302	FP0, FM-M series - CPU port - RS232
CVPLC 16402	FP3 series – RS422
OMRON	
CVPLC 02102	C200H-LK201,3G2A6 LK201-EV1
CVPLC 02202	C20H - 28H – 40H - 60H
CVPLC 02302	C200H-LK202
CVPLC 02402	CQM1 - CVM1 - CPM1 (CIF01) - RS232
CVPLC 02502	CQM1 - CIF02 - RS232
CVPLC 02602	CVM1 - RS422
CVPLC 02702	CQM1 - CPM1 programming port
CVPLC 02802	CJ1G series
SAIA	
CVPLC 04102	PCD2 , PCD4
CVPLC 04202	PCD1, PCD2, PCD4 (S-Bus RS232)
SATT CONTROL	
CVPLC 18102	31-90 series - RS232
CVPLC 18202	115 series - RS232
SCHLEICHER	
CVPLC 08102	P02 - P03 series
CVPLC 08202	FCS5 series - RS232
CVPLC 08302	FCS5 series - RS422
SCHNEIDER Modicon	
CVPLC 17102	Compact RS232
CVPLC 17202	Micro RS232
SCHNEIDER Square D	
CVPLC 13102	Sy/Max 400, 500, 600
CVPLC 19102	Sy/Max 50
SCHNEIDER Telemecanique	
CVPLC 1Q102	PLC TSX17-RS485/VT-TTY adapter
CVPLC 11102	CVPLC 1Q102 – VT cable adapter
CVPLC 11202	TSX 47, 67, 87
CVPLC 11302	TSX 17
CVPLC 11602	TSX 17 (Unitelway).
CVPLC 11702	TSX 07, 37, 57 (Unitelway).
CVPLC 11802	TSX 47 (Unitelway).
CVPLC 11002	TSX SCM21/TSX47 (Unitelway).
SIEMENS	
CVPLC 01202	Simatic S5 (AG)
CVPLC 01402	Simatic S7-200,300,400.
CVPLC 01502	Simatic S5-135U 928B - TTY (6ES5752 0AA1)
SIMATIC TI	
CVPLC 06102	Simatic TI405, TI500 - RS232
CVPLC 06202	Simatic TI500,TI505 CPU 525,535,545-RS422
CVPLC 06302	Simatic TI435 - RS422
CVPLC 06402	Simatic TI505 CPU 545,555 - RS232 ports 1/2
CVPLC 06502	Simatic TI505 CPU 555 - RS422 ports 2
SPRECHER+SCHUH	
CVPLC 03102	290, 390, 490 series
TOSHIBA	
CVPLC 10102	M20, M40, EX
CVPLC 10212	T1 - RS232.
CVPLC 10222	T2, T3 - RS232
VIGOR	
CVPLC 35102	M/VB Series

IT104G
➤ 4.3"
480x272
32 tones of gray TFT

IT104T
➤ 4.3"
480x272
65k colors TFT

IT105B
➤ 5,7"
320x240
16 blue tones STN

IT105S
➤ 5,7"
320x240
65k colors STN

IT105T
➤ 5,7"
320x240
65k colors TFT

IT107T
➤ 7,5"
640x480
65k colors TFT

IT Keyboard

IT105BK

➤ 5,7"
320x240
16 blue tones STN
41 keys

IT105TK

➤ 5,7"
320x240
65k colors TFT
41 keys

IT112T

➤ 12,1"
800x600
65k colors TFT
audio port

IT110T

➤ 10,4"
640x480
65k colors TFT
audio port

IT115T

➤ 15"
1024x768
65k colors TFT
audio port

IT Terminals are programmable
with this programming software

Polymath Advanced

① Power supply

② 2xEthernet 10/100 BASE-T

③ Secure digital / MMC

④ SP1, COM0: PLC serial port, heat regulator, drives, etc.

⑤ USB - Host

⑥ USB - Device

⑦ SP2, CAN, DP: PLC serial port, heat regulator, drives, etc.

Double USB

IT series terminals are equipped with two USB ports (only one for IT104), a device and a host, to which they can be connected:

- Printers, for any reports, data and project screens

- Pen drives for storage or transporting data

- PCs for programming terminals

TFT color display

Special technology permits a very wide viewing angle for the terminal; in addition, the display is able to reduce external light reflection to a minimum such as to guarantee comfortable viewing. High contrast and brightness levels and depth of color combined with various filters give a natural reproduction of colors.All this makes it possible to represent the project and the objects created in Polymath with both realism and precision.

Double Ethernet TCP/IP

Due to the standard series TCP/IP network protocol on terminals of the IT family (double for IT 11x panels) it is possible to interface the panel, therefore exchange data, with production devices, business/office applications and production management tools (SCADA, ERP, MES etc.).

Home

Office

Building
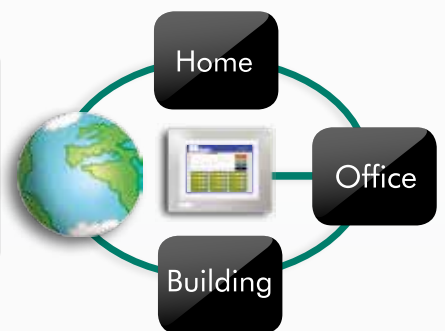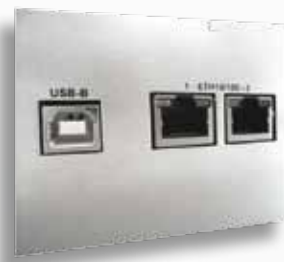
Remote Access to terminal

PC Remote Access you can arrange maintenance or resolve any problems with plants directly even when you are not at the premises, without wasting time and need for travel. You can use PC Remote Access on an ordinary PC to connect to and interact with your plants as you would normally at the IT operator panel, and therefore check them and act accordingly.

PC

1ª ETHERNET

2ª ETHERNET (IT11x)

SLOT

RS232/485/MPI

RS232/485/MPI
CAN/DP/PN/
Codesys

USB

PLC

Codesys

CANopen

PROFI

PROFI NET
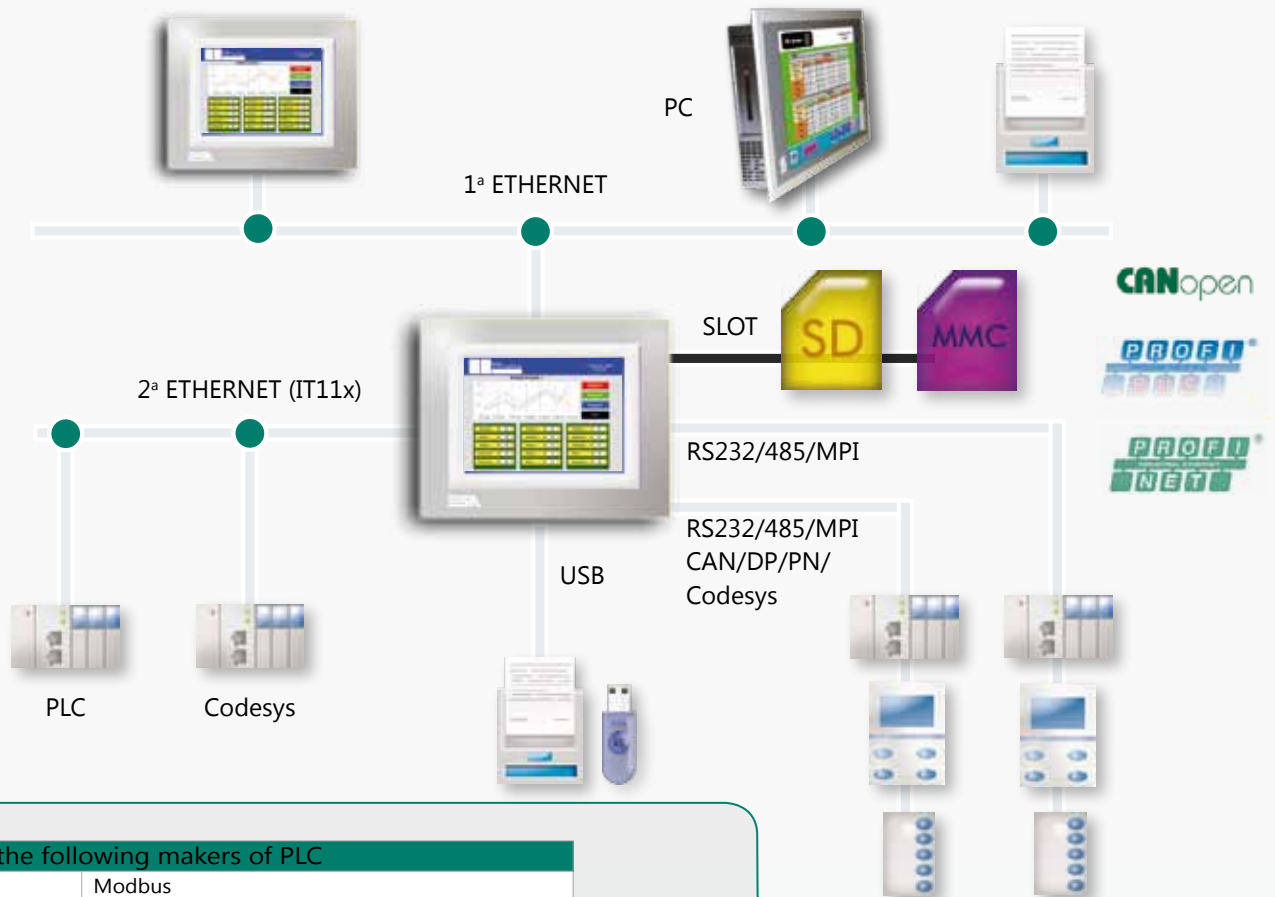
Drivers for the following makers of PLC	
ABB	Modbus
AEG MODICON	COMPACT-MICRO 984
ALLEN-BRADLEY	SLC500 5/03 - 5/04 DF1, DeviceNet Slave (1756-DNB)
	MICROLOGIC 1500/Ethernet IP 1100
	PLC5 / ControlLogix 5 series/ AB Ethernet/ AB Eth IP
ALTUS	Alnet - 1
ATOS	MPC 1600/2002/4004
B&R	NET 2000
BECKHOFF	BK7300/BC7300/BX3100/KL60x1
BERTHEL	ModuCon-S7/ComCon-S7 Industrial Ethernet
ERHARDT+LEIMER	DI G000 ETH (CODESYS)
GE FANUC	CPU 90-30/Versamax
HELMHOLTZ	Tcp-Ip per Siemens S7
HITACHI	COMM H/CPM E3
	EH150/H250/H25B-C/H302/H702
	H1002/H2002/H4002
KEB	Combicontrol C5 ETH (CODESYS)
KLÖCKNER MOELLER	PS306/PS316/PS416-CPU223/PS416-CPU400
	PS4-201-MM1/ PS4-341-MM1
KUHNKE	Ventura Serial (CODESYS), Ventura 110 PLC, Skaleo (TCP/IP)
MATSUSHITA-NAIS	FP/ FP Ethernet
MITSUBISHI	FX/A/Fx2
MODBUS	Master Fast and slow peripherals/ TCP-IP
OMRON	H/HOST LINK/CS1/CJ1/CS1, CJ1 Ethernet
SAIA	Profibus/Profi-S-BUS/S-BuS
SIEMENS	S5 90...115 up to 944/
	S7 200, PPI 9.16-19.2kb/187.5kb/ S7 Profibus
	300,400 MPI/Industrial Ethernet
TELEMECANIQUE	Twido(Modbus port)/ TSX Premiun(Modbus TCP/IP)
	Unitelway 07/37/47/57/57(Prem)/17/Altivas(Modbus)
VIGOR	M/VB series
WAGO	750-841 TCP/IP (CODESYS)

Driver Update

All of the drivers are included in Polymath. New drivers are being developed constantly. The updated list of drivers is in the web site www.esahmi.com

Cables for the following makers of PLC	
CVIT 36102	AEG - Micro
CVIT 07102	ALLEN-BRADLEY - SLC 500, Control Logix
CVIT 07202	ALLEN-BRADLEY – Micrologix 1000/1500 PLC cable adapter(A-B 1761-CBL-PM02,SER,A cable is needed)
CVIT 07302	ALLEN-BRADLEY – Micrologix 100/1500 Microdin
CVIT 07402	ALLEN-BRADLEY – PLC 5
CVIT 33102	CONTROL TECHNIQUES - Commander SE
CVIT 09102	GE-FANUC - Versamax
CVIT 03102	HITACHI – EC RS232
CVIT 03202	HITACHI – EH150
CVIT 34112	KEB – Combivert F5 (RS232)
CVIT 34212	KEB – Combivert F5 (RS485)
CVIT 12102	KLÖCKNER MOELLER – PS306 RS485
CVIT 12202	KLÖCKNER MOELLER – PS316/PS416 CPU400 RS485
CVIT 12302	KLÖCKNER MOELLER - PS4-141-MM1, PS4-201-MM1 ,PS4-341-MM1 RS232
CVIT 12402	KLÖCKNER MOELLER - PS416-CPU400 RS232
CVIT 05102	MITSUBISHI - FX
CVIT 05202	MITSUBISHI – A RS232
CVIT 05302	MITSUBISHI – FX0 – FX0 N – FX2 N
CVIT 16102	NAIS MATSUSHITA - FP-1 / FP-M RS232
CVIT 16202	NAIS MATSUSHITA - FP-M/FP-0/FP-2 RS232
CVIT 02102	OMRON - CS1
CVIT 04102	SAIA - PCD1, PCD2, PCD4 (S-BUS RS485)
CVIT 04202	SAIA - S-Bus RS232 (PGU port)
CVIT 04302	SAIA - PCD2 with PCD7/F210 board
CVIT 11102	Schneider Telemecanique - 07,17,37,47 TWIDO (Unitelway)
CVIT 11202	Schneider Telemecanique - TSX 07-87 (Unitelway)
CVIT 01102	SIEMENS - S7 200/300/400/ MPI
CVIT 01202	SIEMENS - S5
CVIT 35102	VIGOR - M/VB series
CVIT 35202	VIGOR - M/VB series (RS485)

Display	IT104G
Graphic type	TFT Graphic LCD 32 tones of grey
Touch Screen	Analog touch screen
Minimum lamp life at 25°C	50.000
Backlighting	White LED
Resolution pixel h-v (inches)	480x272 (4.3")
Processor	
CPU	Intel® PXA270 312MHz
System memory	
RAM (byte)	64M
Compact Flash (Byte)	32M
Interfaces	
First integrated port	SP1 (RS232/485/MPI)
Second integrated port	SP2 (RS232/485/MPI), CAN, Profibus-DP, Profinet
USB port Host	1 x 1.1
Networks	
Integrated (on all models)	Ethernet 10/100 Mbit - Rj45
Dimensions	
External (W x H x D) (mm)	166x112x31 (50 with 2 serials ports)
Bore holes (W x H) (mm)	157 x 103
Clock	
Supercapacitor Hardware Clock	Supercapacitor 72 h
Technical specifications	
Power supply	18...32 Vdc
Power consumption (24 Vdc)	~ 7 W
Protection level	IP 65 front
Working temperature (°C)	0...+50
Storage/transport temperature (°C)	-20...+65
Humidity (non-condensing)	85%
Weight (kg)	~ 0,6
Certifications	CE, cULus, ATEX EX II - 3 G D

Order codes and descriptions of IT terminals	
IT104G0101	4.3" 32 tones of grey - Port: SP1 - Ethernet - TFT
IT104G0111	4.3" 32 tones of grey - Ports: SP1, SP2 - Ethernet - TFT
IT104G0121	4.3" 32 tones of grey - Ports: SP1, CAN network - Ethernet - TFT
IT104G0131	4.3" 32 tones of grey - Ports: SP1, Profibus-DP network - Ethernet - TFT
IT104G0151	4.3" 32 tones of grey - Ports: SP1, Profinet network - Ethernet - TFT
IT104T0101	4.3" 65k colors - Port: SP1 - Ethernet - TFT
IT104T0111	4.3" 65k colors - Ports: SP1, SP2 - Ethernet - TFT
IT104T0121	4.3" 65k colors - Ports: SP1, CAN network - Ethernet - TFT
IT104T0131	4.3" 65k colors - Ports: SP1, Profibus-DP network - Ethernet - TFT
IT104T0151	4.3" 65k colors - Ports: SP1, Profinet network - Ethernet - TFT

IT104T
TFT Graphic LCD 65k colors
Analog touch screen
50.000
White LED
480x272 (4.3")
Intel® PXA270 312MHz
64M
32M
SP1 (RS232/485/MPI)
SP2 (RS232/485/MPI), CAN, Profibus-DP, Profinet
1 x v. 1.1
Ethernet 10/100 Mbit - Rj45
166x112x31 (50 with 2 serials ports)
157 x 103
Supercapacitor 72 h
18...32 Vdc
~ 7 W
IP 65 front
0...+50
-20...+65
85%
~ 0,6
CE, cULus, ATEX EX II - 3 G D

Main features:
- USB A (Host) to print reports and import/export data to USB key and connect to external peripherals
- Ethernet 10/100 to print and import/export data to PC on the network, display webcam images and manage a maximum of 2 Ethernet drivers
- SP1 and SP2 to communicate, also with double driver, with the most common devices (including MPI)

Accessories codes and descriptions	
PROTFILM4	Transparent adhesive protection foil for Touch Screen 4" . 5 piece pack
PWR220-24A	Universal Power Supply 220VAC-24VDC

Display	IT105B	IT105S
Graphic type	STN Graphic LCD 16 blue tones	STN Graphic LCD 65k colors
Touch Screen	Analog touch screen	
Backlighting	CCFL	
Minimum lamp life at 25°C	45.000	50.000
Resolution pixel h-v (inches)	320x240 (5,7")	320x240 (5,7")
Processor		
CPU	Intel PXA270 312MHz	
System memory		
RAM (byte)	64M	
Compact Flash (Byte)	32M	
Interfaces		
First integrated port	SP1 (RS232/485/MPI), COM0 [1]	SP1 (RS232/485/MPI)
Second integrated port	SP2 (RS232/485/MPI), CAN, Profibus-DP, Profinet	
USB port Host	1 x v. 1.1	
USB port Device	1 x v. 1.1	
CardBus Slot (for Secure Digital/MCC)	1 x Secure Digital	
Networks		
Integrated (on all models)	Ethernet 10/100 Mbit - Rj45	
Dimensions		
External (W x H x D) (mm)	210,9x158,6x42,8 (61,5 with 2 serials ports)	
Bore holes (W x H) (mm)	192x140	
Clock		
Supercapacitor Hardware Clock	Supercapacitor 72h	
Technical specifications		
Power supply	18...32 Vdc	
Power consumption (24 Vdc)	~ 10 W	
Protection level	IP 65 front	
Working temperature (°C)	0...+50	
Storage/transport temperature (°C)	-20...+65	
Humidity (non-condensing)	85%	
Weight (kg)	~ 1,1	
Certifications	CE, cULus, ATEX EX II - 3 G D	

[1] COM0 availability depending on the model: see codes chart below

Order codes and descriptions of IT terminals	
IT105B 0101	5,7" 16 blue tones - Port: SP1 - Ethernet - STN
IT105B 0111	5,7" 16 blue tones - Ports: SP1, SP2 - Ethernet - STN
IT105B 0121	5,7" 16 blue tones - Ports: SP1, CAN network - Ethernet - STN
IT105B 0131	5,7" 16 blue tones - Ports: SP1, Profi-DP network - Ethernet - STN
IT105B 0151	5,7" 16 blue tones - Ports: SP1, Profinet - Ethernet - STN
IT105B 0511	5,7" 16 blue tones - Ports: COM0, SP2 - Ethernet - STN
IT105S 0101	5,7" 65k colors - Port: SP1 - Ethernet - STN
IT105S 0111	5,7" 65k colors - Ports: SP1, SP2 - Ethernet - STN
IT105S 0121	5,7" 65k colors - Ports: SP1, CAN network - Ethernet - STN
IT105S 0131	5,7" 65k colors - Ports: SP1, Profibus-DP network - Ethernet - STN
IT105S 0151	5,7" 65k colors - Ports: SP1, Profinet - Ethernet - STN

Order codes and descriptions of IT terminals	
IT105T 0101	5,7" 65k colors - Port: SP1 - Ethernet - TFT
IT105T 0111	5,7" 65k colors - Ports: SP1, SP2 - Ethernet - TFT
IT105T 0121	5,7" 65k colors - Ports: SP1, CAN network - Ethernet - TFT
IT105T 0131	5,7" 65k colors - Ports: SP1, Profibus-DP network - Ethernet - TFT
IT105T 0151	5,7" 65k colors - Ports: SP1, Profinet - Ethernet - TFT
IT105T 0511	5,7" 65k colors - Ports: COM0, SP2 - Ethernet - TFT
IT107T 0111	7,5" 65k colors - Ports: SP1, SP2 - Ethernet - TFT
IT107T 0121	7,5" 65k colors - Ports: SP1, CAN network - Ethernet - TFT
IT107T 0131	7,5" 65k colors - Ports: SP1, Profibus-DP network - Ethernet - TFT
IT107T 0151	7,5" 65k colors - Ports: SP1, Profinet - Ethernet - TFT
IT107T 0511	7,5" 65k colors - Ports: COM0, SP2 - Ethernet - TFT

IT105T	IT107T
TFT Graphic LCD 65k colors	TFT Graphic LCD 65k colors
Analog touch screen	
White LED	CCFL
50.000	40.000
320x240 (5,7")	640x480 (7,5")
Intel PXA270 312MHz	Intel PXA270 520MHz
64M	
32M	
SP1 (RS232/485/MPI), COM0 [1]	
SP2 (RS232/485/MPI), CAN, Profibus-DP, Profinet	
1 x v. 1.1	
1 x v. 1.1	
1 x Secure Digital	
Ethernet 10/100 Mbit - Rj45	
210,9x158,6x42,8 (61,5 with 2 serials ports)	245,9x188,6x37,6 (56,6 with 2 serials ports)
192x140	233x176
Supercapacitor 72h	
18...32 Vdc	
~ 10 W	
IP 65 front	
0...+50	
-20...+65	
85%	
~ 1,1	~ 2
CE, cULus, ATEX EX II - 3 G D	CE, cULus, ATEX EX II - 3 G D

Main features:
- USB A (Host) to print reports and import/export data to USB key and connect to external peripherals and USB B (Device)for programming - Ethernet 10/100 to print and import/export data to PC on the network, display webcam images and manage a maximum of 2 Ethernet drivers - Secure Digital slot to import/export data to SD - SP1 and SP2 card to communicate, also with double driver, with the most common devices (including MPI)

Accessories codes and descriptions

PROTFILM6	Transparent adhesive protection foil for Touch Screen 6", 7", 8" . 5 piece pack
PWR220-24A	Universal Power Supply 220VAC-24VDC

Display	IT110T
Graphic type	Graphic LCD 65k colors TFT
Touch Screen	Analog touch screen
Backlighting	CCFL
Minimum lamp life at 25°C	30.000
Resolution pixel h-v (inches)	640x480 (10,4")
Processor	
CPU	Intel PXA270 520MHz
System memory	
RAM (byte)	128M
Compact Flash (Byte)	64M
Interfaces	
First integrated port	SP1 (RS232/485)
Second integrated port	SP2 (RS232/485), CAN, Profibus-DP, Profinet
USB port Host	2 x v. 1.1
USB port Device	1 x v. 1.1
CardBus Slot (for Secure Digital/MCC)	1 x Secure Digital
Slot CardBus (for Compact Flash)	1 x Compact Flash
Audio port	Mic-in and Line-out
Networks	
Integrated (on all models)	2 x Ethernet 10/100 Mbit - Rj45
Dimensions	
External (W x H x D) (mm)	336,3x256x43,8 (62,9 with 2 serials ports)
Bore holes (W x H) (mm)	314x240
Clock	
Supercapacitor Hardware Clock	Supercapacitor 72h
Technical specifications	
Power supply	18...32 Vcc
Power consumption (24 Vdc)	~ 15 W
Protection level	IP 65 frontal
Working temperature (°C)	0...+50
Storage/transport temperature (°C)	-20...+65
Humidity (non-condensing)	85%
Weight (kg)	~ 2,8
Certifications	CE, cULus, ATEX EX II - 3 G D

Order codes and descriptions of IT terminals

IT110T 0112	10,4" 65k colors - Ports: SP1, SP2 - 2xEth- TFT
IT110T 0122	10,4" 65k colors - Ports: SP1, CAN - 2xEth - TFT
IT110T 0132	10,4" 65k colors - Ports: SP1, Profibus-DP - 2xEth - TFT
IT110T 0152	10,4" 65k colors - Ports: SP1, Profinet - 2xEth - TFT
IT110T 1112	10,4" 65k colors - Ports: SP1, SP2- 2xEth - TFT - Win CE Pro
IT110T 1122	10,4" 65k colors - Ports: SP1, CAN- 2xEth - TFT - Win CE Pro
IT110T 1132	10,4" 65k colors - Ports: SP1, Profibus-DP- 2xEth -TFT -Win CE Pro
IT112T 0112	12,1" 65k colors - Ports: SP1, SP2 - 2xEth- TFT
IT112T 0122	12,1" 65k colors - Ports: SP1, CAN - 2xEth- TFT
IT112T 0132	12,1" 65k colors - Ports: SP1, Profibus-DP - 2xEth- TFT
IT112T 0152	12,1" 65k colors - Ports: SP1, Profinet - 2xEth- TFT

Order codes and descriptions of IT terminals

IT112T 1112	12,1" 65k colors - Ports: SP1, SP2 - 2xEth- TFT - Win CE Pro
IT112T 1122	12,1" 65k colors - Ports: SP1, CAN - 2xEth- TFT - Win CE Pro
IT112T 1132	12,1" 65k colors - Ports: SP1, Profibus-DP -2xEth- TFT-Win CE Pro
IT115T 0112	15" 65k colors - Ports: SP1, SP2 - 2xEth - TFT
IT115T 0122	15" 65k colors - Ports: SP1, CAN - 2xEth - TFT
IT115T 0132	15" 65k colors - Ports: SP1, Profibus-DP - 2xEth - TFT
IT115T 0152	15" 65k colors - Ports: SP1, Profinet - 2xEth - TFT
IT115T 1112	15" 65k colors - Ports: SP1, SP2 - 2xEth - TFT - Win CE Pro
IT115T 1122	15" 65k colors - Ports: SP1, CAN - 2xEth - TFT - Win CE Pro
IT115T 1132	15" 65k colors - Ports: SP1, Profibus-DP -2xEth - TFT-Win CE Pro

ESA elettronica S.p.A. reserves the right to make modifications without prior notice

IT112T	IT115T
Graphic LCD 65k colors TFT	
Analog touch screen	
CCFL	
50.000	50.000
800x600 (12,1")	1024x768 (15")
Intel PXA270 520MHz	
128M	
64M	
SP1 (RS232/485)	
SP2 (RS232/485), CAN, Profibus-DP, Profinet	
2 x v. 1.1	2 x v. 1.1 (1 frontal)
1 x v. 1.1	
1 x Secure Digital	
1 x Compact Flash	
Mic-in and Line-out	
2 x Ethernet 10/100 Mbit - Rj45	
336,3x256x43,8 (62,9 with 2 serials ports)	425x300x47,8 (66,8 with 2 serials ports)
314x240	399x274
Supercapacitor 72h	
18...32 Vcc	
~ 15 W	~ 20 W
IP 65 frontal	
0...+50	
-20...+65	
85%	
~ 2,8	~ 6
CE, cULus, ATEX EX II - 3 G D	

The **IT110, IT112 and IT115 Professional are equipped with the typical functionality of Office**. Thanks to the Windowws CE Professional licence, the **IT Professional** panels are able to view **EXCEL, WORD and PDF files**, to access internet through **INTERNET EXPLORER**, as well as to view multimedia files

Main features:
- USB A (Host) to print reports and import/export data to USB key and connect to external peripherals
- USB B (Device) for programming - Ethernet 10/100 to print and import/export data to PC on the network, display webcam images and manage a maximum of 4 Ethernet drivers (two for each Ethernet port) - Secure Digital slot to import/export data to SD card - SP1 and SP2 to communicate, also with double driver, with the most common devices (including MPI)

Accessories codes and descriptions

PROTFILM10	Transparent adhesive protection foil for Touch Screen 10" . 5 piece pack
PROTFILM12	Transparent adhesive protection foil for Touch Screen 12" . 5 piece pack
PROTFILM15	Transparent adhesive protection foil for Touch Screen 15" . 5 piece pack
PWR220-24A	Universal Power Supply 220VAC-24VDC

Display	IT105BK
Graphic type	Graphic LCD 16 blue tones STN
Backlighting	White LED
Minimum lamp life at 25°C	35.000
Resolution pixel h-v (inches)	320x240 (5,7")
Processor	
CPU	Intel PXA270 312MHz
System memory	
RAM (byte)	64M
Compact Flash (Byte)	32M
Interfaces	
First integrated port	SP1 (RS232/485/MPI)
Second integrated port	SP2 (RS232/485/MPI), CAN, Profibus-DP
USB Host Port	1x v. 1.1
USB Device Port	1x v. 1.1
CardBus Slot (for Secure Digital/MCC)	1 x Secure Digital
Networks	
Integrated (on all models)	Ethernet 10/100 Mbit - Rj45
Dimensions	
External (W x H x D) (mm)	261,2x172,4x51,6 (70,6 with 2 serial ports)
Bore holes (W x H) (mm)	243,5x147
Clock	
Supercapacitor Hardware Clock	Supercapacitor 72h
Technical specifications	
Power supply	18...32 Vcc
Power consumption (24 Vdc)	~ 10 W
Protection level	IP 65 frontal
Working temperature (°C)	0...+50
Storage/transport temperature (°C)	-20...+60
Humidity (non-condensing)	85%
Weight (kg)	~ 1,5
Certifications	CE, cULus
Keyboard	
Operative/function/alphanumeric keys	18/12/11

Order codes and descriptions of IT terminals keyboards	
IT105BK101	5,7" 16 blue tones - Port: SP1- Ethernet - STN
IT105BK111	5,7" 16 blue tones - Ports: SP1, SP2 - Ethernet - STN
IT105BK121	5,7" 16 blue tones - Ports: SP1, CAN network- Ethernet - STN
IT105BK131	5,7" 16 blue tones - Ports: SP1, Profibus-DP network - Ethernet - STN
IT105TK111	5,7" 65k colors - Ports: SP1, SP2 - Ethernet - TFT
IT105TK121	5,7" 65k colors - Ports: SP1, CAN network - Ethernet - TFT
IT105TK131	5,7" 65k colors - Ports: SP1, Profibus-DP network - Ethernet - TFT

IT105TK
Graphic LCD 65k colors TFT
White LED
50.000
320x240 (5,7")
Intel PXA270 312MHz
64M
32M
SP1 (RS232/485/MPI)
SP2 (RS232/485/MPI), CAN, Profibus-DP
1x v. 1.1
1x v. 1.1
1 x Secure Digital
Ethernet 10/100 Mbit - Rj45
261,2x172,4x51,6 (70,6 with 2 serial ports)
243,5x147
Supercapacitor 72h
18...32 Vcc
~ 10 W
IP 65 frontal
0...+50
-20...+60
85%
~ 1,5
CE, cULus
18/12/11

Accessories codes and descriptions

PWR220-24A	Universal Power Supply 220VAC-24VDC

Main features:
- USB A (Host) to print reports and import/export data to USB key and connect to external peripherals - USB B (Device) for programming
- Ethernet 10/100 to print and import/export data to PC on the network, display webcam images and manage a maximum of 2 Ethernet drivers – Import/export data to SD card (Slot Secure Digital) - Standard SP1 and SP2 to communicate, also with double driver, with the most common devices (including MPI)

Open CE Terminals

XT104
➤ 4,3″
480x272
65k colors TFT

XT105B
➤ 5,7″
320x240
16 blue tones STN

XT105S
➤ 5,7″
320x240
65k colors STN

XT105T
➤ 5,7″
320x240
65k colors TFT

XT107T
➤ 7,5″
640x480
65k colors TFT

VT585CE
➤ 10,4"
640x480
65k colors TFT

VT595CE
➤ 12,1"
800x600
65k colors TFT

VT Open CE Terminals are programmable
with this programming software

Polymath Advanced

ESA elettronica S.p.A. reserves the right to make modifications without prior notice

Processor

Family of processors (Intel Xscale®PXA270) with increate power for embedded applications

312-520 MHz
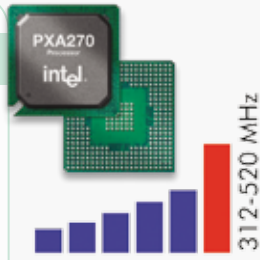
Memory

64 MB RAM memory and 32 MB Compact flash memory

64 MB

Extreme flexibility

Can be used both with scada applications available on the market or with proprietary applications written by the user in the most common languages files compatible with the similar PC application

Diskless

- Fanless and without rotating parts
- No hard disk reliability problems thanks to the use of solid state mass memory
- Requires no maintenance

Tools included on the panel's image

- MS WordPad to edit and create text files compatible with the similar PC application
- Internet Explorer for Windows® CE
- PDF viewer
- Applications and Services for Developers

Other Open CE XT Terminals features

- Double USB port (one only for XT104)
- Expansion of mass memory on cardBus slot for SD/MMC(no available on XT104)
- Windows operating system ® CE 5.0 Professional
- Ethernet 10/100 on-board

Identical technical characteristics and interface for all models that differ only in the dimension and kind of display

Autorun

Autorun function for starting the application automatically the moment the terminal is switched on.

USB Host

USB Device (no available on XT104)

Ethernet

Input voltage

SD/MMC card (no available on XT104)

COM0
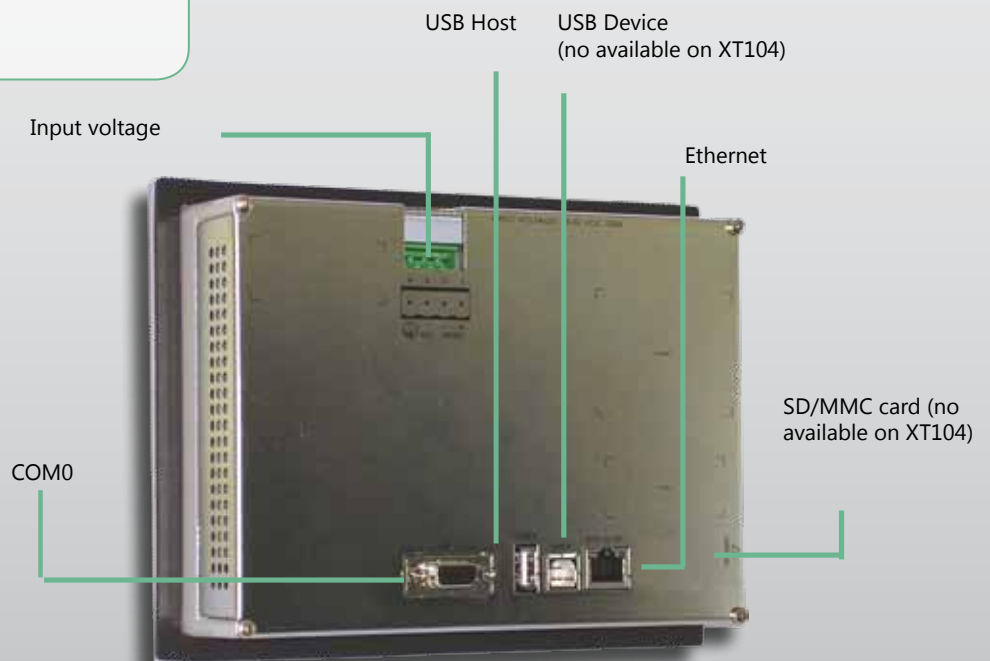
Processor

Family of processors (VIA eden 400Mhz) that guarantee high performance

400 MHz

VT Open CE Terminals are programmable with this programming software

Polymath Advanced

Memory

128 MB RAM memory and 128 MB Compact Flash memory

128 MB

Extreme flexibility

Can be used both with scada applications available on the market or with proprietary applications written by the user in the most common languages files compatible with the similar PC application

Diskless

- Fanless and without rotating parts
- No hard disk reliability problems thanks to the use of solid state mass memory
- Requires no maintenance

Tools included on the panel's image

- WordPad for editing and creating text files compatible with the analogous PC application package
- Internet Explorer for Windows® CE
- Applications and services for developers

Other Open CE VT Terminals features

- PCI bus with 1 slot available for the user
- Mass memory expansion on compact flash or CardBus slots
- Windows® CE 4.2 .NET operating system
- Ethernet 10/100 on-Board

Identical technical characteristics and interface for all models that differ only in the dimension and kind of display

Autorun

Autorun function for starting the application automatically the moment the terminal is switched on.

More than 160 drivers
Same cables as Operator Terminals
See pages 9 and 25

OPC FOUNDATION MEMBER
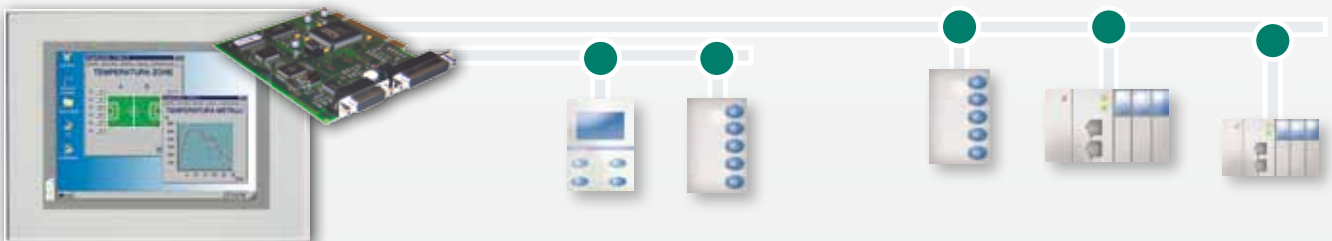
CIB (Communications Interface Board)

The CIB is an intelligent Communications board with its own processor. It is capable of using all of the over 160 Communications protocols developed by ESA including some field buses (e.g. CAN).
It can be installed in any VTxxxCE by using a PCI bus. The CIB can handle two protocols simultaneously (i.e. a system with a PLC and an inverter).
The CIB is fully supported by a compliant OPC server. OPC allows the CIB to work with the overwhelming majority of SCADA software packages on the market. OPC allows the CIB to work well with customer-developed applications written in popular languages (e.g. VisualBasic, C++).

Display	XT104T
Type	Graphic LCD - 65k colors TFT
Touch Screen	Analog
Backlighting	White LED
Minimum lamp life at 25°c (h)	50.000
Resolution in pixels h-v (inches)	480x272 (4.3")
Processor	
CPU	Intel PXA270 312MHz
User Memory	
RAM (byte)	64M
Compact Flash (Byte)	32M
Interfaces	
Integrated serial port	COM0 (RS232)
USB Host port	1 x 1.1
Networks	
Integrated (on all models)	Ethernet 10/100 Mbit - Rj45
Dimensions	
External (W x H x D) (mm)	166 x 112 x 31
Cut - Out (W x H) (mm)	157 x 103
Clock	
Hardware Clock	Supercapacitor 72h
Technical data	
Power supply	18...32 Vcc
Power consumed (24 Vcc)	~ 7 W
Protection level	IP 65 on front
Operating temperature (°C)	0...+50
Storage/ transport temperature (°C)	-20...+60
Humidity (non-condensing)	85%
Weight (Kg.)	~ 0,6
Certificates of approval	CE, cULus, ATEX EX II – 3 G D

Codes and descriptions XT terminals

XT104T0501	4,3" 65K colors - Port: COM0 - Ethernet - TFT

Accessories codes and descriptions

PROTFILM4	Transparent adhesive protection foil for Touch Screen 4" . 5 piece pack
PWR220-24A	Universal Power Supply 220VAC-24VDC

Main features:

- Fully open platform for your embedded application
- Windows Operating System ® CE 5.0 Professional
- Intel XScale® processors
- Thin-Client supported solutions
- Fanless and Diskless

	XT105B	XT105S
Display		
Graphic type	STN Graphic LCD 16 blue tones	STN Graphic LCD 65k colors
Touch Screen	Analog touch screen	
Backlighting	CCFL	
Minimum lamp life at 25°C	45.000	50.000
Resolution pixel h-v (inches)	320x240 (5,7")	320x240 (5,7")
Processor		
CPU	Intel® PXA270 520MHz	
System memory		
RAM (byte)	64M	
Compact Flash (Byte)	32M	
Interfaces		
Integrated serial port	COM0	
USB port Host	1 x v. 1.1	
USB port Device	1 x v. 1.1	
CardBus Slot (for Secure Digital/MCC)	1 x Secure Digital	
Networks		
Integrated (on all models)	Ethernet 10/100 Mbit - Rj45	
Dimensions		
External (W x H x D) (mm)	210,9x158,6x42,8	
Bore holes (W x H) (mm)	192x140	
Clock		
Supercapacitor Hardware Clock	Supercapacitor 72h	
Technical specifications		
Power supply	18...32 Vdc	
Power consumption (24 Vdc)	~ 10 W	
Protection level	IP 65 front	
Working temperature (°C)	0...+50	
Storage/transport temperature (°C)	-20...+65	
Humidity (non-condensing)	85%	
Weight (kg)	~ 1,1	
Certifications	CE, cULus, ATEX EX II - 3 G D	

Codes and descriptions XT terminals	
XT105B 0501	5,7" 16 blue tones - Port: COM0 - Ethernet - STN
XT105S 0501	5,7" 65k colors - Port: COM0 - Ethernet - STN
XT105T 0501	5,7" 65k colors - Port: COM0 - Ethernet - TFT
XT107T 0501	7,5" 65k colors - Port: COM0 - Ethernet - TFT

XT105T	XT107T
TFT Graphic LCD 65k colors	TFT Graphic LCD 65k colors
Analog touch screen	
White LED	CCFL
50.000	40.000
320x240 (5,7")	640x480 (7,5")

Intel® PXA270 520MHz

64M
32M

COM0
1 x v. 1.1
1 x v. 1.1
1 x Secure Digital

Ethernet 10/100 Mbit - Rj45

210,9x158,6x42,8	245,9x188,6x37,6
192x140	233x176

Supercapacitor 72h

18...32 Vdc
~ 10 W
IP 65 front
0...+50
-20...+65
85%

~ 1,1	~ 2
CE, cULus, ATEX EX II - 3 G D	CE, cULus, ATEX EX II - 3 G D

Main features:

- Fully open platform for your embedded application
- Windows Operating System ® CE 5.0 Professional
- XScale® processors
- Thin-Client supported solutions
- Fanless and Diskless

Accessories codes and descriptions

PROTFILM6	Transparent adhesive protection foil for Touch Screen 6", 7", 8". 5 piece pack
PWR220-24A	Universal Power Supply 220VAC-24VDC

Display	VT585CE	VT595CE
Graphic type	Graphic LCD 65k colors TFT	
Touch Screen	Analog	
Backlighting	CCFL	
Minimum lamp life at 25°C	30.000	50.000
Resolution pixel h-v (inches)	640x480 (10,4")	800x600 (12,1")
Processor		
CPU	VIA Eden 400MHz	
System memory		
RAM (byte)	128M	
Compact Flash (Byte)	128M	
Interfaces		
MSP serial port (VTxxxCE 1x100)	RS232/422/485/TTY 20 mA	
ASP serial port (VTxxxCE 1x100)	RS232/485	
Standard serial port	RS232	
Parallel port	Bidirectional	
USB port	v. 1.1	
Mouse PS/2 port	1	
Keyboard PS/2 port	1	
CardBus slots (for Compact Flash)	1	
PCI slots (VTxxxCE 0x100)	1	
Networks		
Integrated (on all models)	Ethernet 10/100 Mbit - Rj45	
Dimensions		
External (W x H x D) (mm)	336,3x256x93	
Bore holes (W x H) (mm)	314x240	
Clock		
Supercapacitor Hardware Clock	With battery	
Technical specifications		
Power supply	18...32 Vcc	
Power consumption (24 Vdc)	~ 25 W	
Protection level	IP 65 frontal	
Working temperature (°C)	0...+50	
Storage/transport temperature (°C)	-20...+65	
Humidity (non-condensing)	85%	
Weight (kg)	~ 3,8	
Certifications	CE, cULus, ATEX EX II - 3 D	
Installed Software		
Operating System	Microsoft® Windows® CE 4.2 .NET English	

Codes and descriptions of CE terminals

VT585CE0T100	10" Display - Touch
VT585CE1T100	10" Display - Touch - CIB board MSP, ASP (integrated)
VT595CE0T100	12" Display - Touch
VT595CE1T100	12" Display - Touch - CIB board MSP, ASP (integrated)

Accessories codes and descriptions

VT5BATTERY	3,6V lithium battery for maintaining clock and system data
PROTFILM10	Transparent adhesive protective foils for Touch Screen 10" (5 pieces)
PROTFILM12	Transparent adhesive protective foils for Touch Screen 12" (5 pieces)
CVNET11002	Ethernet connection cable from PC to VT CE
CVCOM41102	Connection cable 9 pin female PC - 9 pin female VT CE
CIBPCIB	CIB board MSP, ASP (VTxxxCE0Txxx) installable by the user
PWR220-24A	Universal Power Supply 220VAC-24VDC

Main characteristics:

- Ease of use typical of a terminal
- Windows® CE 4.2 .NET operating system
- Processor: VIA Eden 400 MHz
- Performance and scope of industrial PC
- Usable both with Scada and proprietary applications
- The CIB can run all ESA protocols and certain field buses

Panel PCs XS

XS585

➤ 10,4"
640x480
65k colors TFT

XS595

➤ 12,1"
800x600
65k colors TFT

XS612

➤ 12"
800x600
262k colors TFT

XS615
XS615 Dual Core

➤ 15"
1024x768
262k colors TFT

XS619
XS619 Dual Core

➤ 19"
1280x1024
262k colors TFT

Products based on PC's technology, are devised for areas where the conditions of use are articularly critical, for example in presence of dust, strong vibrations and electromagnetic interferences

Processor

Family of FANLESS processors (Intel® Celeron® M 600Mhz-1.0Ghz,Pentium® M 1.1) and family of high perfomance processors (Intel® Pentium® M 1.6 GHz e Intel® Core 2 Duo 2.2 GHz) for all needs
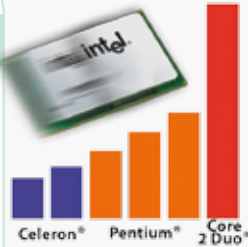
Memory

RAM memories up to 2 GB and mass storage availability among Compact flash, Solid State Disk, Hard Disk (depending on the model)

2 GB

Diskless

- Fanless and without rotating parts
- No hard disk reliability problems thanks to the use of solid state mass memory
- Requires no maintenance

Operating System

The XP embedded and XP Professional operating systems also ensure compatibility with the applications used on Pcs

Windows' logotype and brand are Microsoft's property

Communication interfaces

The rear of the PCs XS provides a series of communication interfaces: RS232/422/485, USB type 2.0, Ethernet 10/100 Mbps (segùn el modelo). There is also the option of WLAN card on the internal PCI bus. Double Ethernet and USB on the front (IP65 protection) are available, depending on the model (see tables at 48-49-50)

Other PC XS features

- 5 wire Touch Screen
- PcI Bus with 1 slot available for the user
- 2x RS232 and ETH 10/100/1000 optional on PCI

PCI Slot   USB   Ethernet
LPT   Mouse   Input voltage
Serial   Keyboard

Autorun

Autorun function for starting the application automatically the moment the terminal is switched on.

CF card

Display	XS585	XS595
Graphic type	Graphic LCD 65k colors TFT	
Touch Screen	Analog	
Backlighting	CCFL	
Minimum lamp life at 25°C	30.000	50.000
Resolution pixel h-v (inches)	640x480 (10,4")	800x600 (12,1")
Processor		
CPU	Intel® Celeron® 400, 650 MHz	
System memory		
RAM (byte)	128 - 256 - 512 M	
Mass storage		
Optical drive (CD ROM/DVD)	-	
HDD*/ Compact Flash (Byte)	- / 512 - 1024 M	
Interfaces		
Standard serial port	RS232	
Parallel port	Bidirectional	
USB port	v. 1.1	
Mouse PS/2 port	1	
Keyboard PS/2 port	1	
CardBus slots (for Compact Flash)	1	
PCI slots	1	
Video CRT out	-	
Audio port	-	
Firewire	-	
Networks		
Integrated (on all models)	Ethernet 10/100 Mbit - Rj45	
Dimensions		
External (W x H x D) (mm)	336,3x256x93	
Bore holes (W x H) (mm)	314x240	
Clock		
Supercapacitor Hardware Clock	With battery	
Technical specifications		
Power supply	18...32 Vdc	
Power consumption (24 Vdc)	~ 25 W	
Protection level	IP 65 front	
Working temperature (°C)	0...+50	
Storage/transport temperature (°C)	-20...+65	
Humidity (non-condensing)	85%	
Weight (kg)	~ 5,4	
Certifications	CE, cULus, ATEX EX II - 3 G D	
Installed Software		
Operating System	Microsoft® Windows® XP Embedded English	

* alternative to Compact Flash

Main features:
- PC based technology
- Celeron family processors
- Windows® XP Embedded operating system which ensures compatibilità with PC applications
- Connectivity through PC interfaces and integrated ethernet port
- No cooling fan and an internal flash memory as mass memory, minimise servicing needs

XSs codes and descriptions

XSxxx	Refer to pages 52 and 53 for configuration

XSs Accessories codes and descriptions

XSxxx	Refer to pages 52 and 53 for configuration

Display	XS612
Graphic type	LCD 12" TFT 262k colors
Touch Screen	Analog (4 wires)
Backlighting	CCFL
Minimum lamp life at 25°C	50.000
Resolution pixel h-v (inches)	800x600 (12")
Processor	
CPU	Intel® Celeron M 1Ghz, Intel® Pentium M - 1.6 GHz
System memory	
RAM (byte)	512 M - 1 G
Mass storage	
Optical drive (CD ROM/DVD)	-
HDD/SSD* /Compact Flash (byte)	160 G SATA / 8 G Solid State / 1 G - 2 G
Interfaces	
Standard serial port	2x RS232 +2xRS232 on PCI (option)
Parallel port	1 x Optional on PCI
USB port	5 x 2.0 (1 frontal)
Mouse PS/2 port	1
Keyboard PS/2 port	1
CardBus slots (for Compact Flash)	-
PCI slots	1
Video CRT out	1
Audio port	MIC IN + Line IN + Line OUT
Firewire	–
Networks	
Integrated (on all models)	Ethernet 10/100 Mbit + Ethernet 10/100/1000 Mbit on PCI (option)
Dimensions	
External (W x H x D) (mm)	366x256x79
Bore holes (W x H) (mm)	320x215
Clock	
Supercapacitor Hardware Clock	With battery
Technical specifications	
Power supply	18...30 Vcc
Power consumption (24 Vdc)	70W
Protection level	IP 65 frontal
Working temperature (°C)	0...+50
Storage/transport temperature (°C)	-20...+65
Humidity (non-condensing)	85%
Weight (kg)	~ 7
Certifications	CE, cULus, ATEX EX II - 3 G D
Installed Software	
Operating System	Microsoft® Windows® XP Embedded EN, Windows® XP Pro Multilanguage SP3

* alternative to Compact Flash

XSs codes and descriptions

XSxxx	Refer to pages 52 and 53 for configuration

XSs Accessories codes and descriptions

XSxxx	Refer to pages 52 and 53 for configuration

XS615	XS615 Core 2 Duo
Graphic LCD 262k colors TFT	
Analog (5 wires)	
CCFL	
50.000	
1024x768 (15")	
Intel® Celeron® M 600 MHz-1.0 GHz - Pentium® M 1.1-1.6 GHz	Intel® Core 2 Duo 2.2GHz
256 M - 512 M - 1 G	512 M -1 G - 2 G
1 x CD ROM(option)	DVD Sata (option)
80 G / 8 G Solid State - 32 G Solid State / 1 G - 2 G	160 G SATA / 8 G Solid State / 1 G - 2 G - 4G
1xRS232 + 2xRS232 on PCI (option)	1xRS232 + 1xRS232/422/485 + 2xRS232 on PCI (option)
1 (Bidirectional)	1 x Optional on PCI
3 x v. 2.0(1 front)	5 x v 2.0 (1 front)
1 + adapter	1
	1
-	
2	1
-	1
-	Mic IN+Line IN+Line Out(Std,Surround,S.Back,Center)+SPDIF OUT
-	1
Ethernet 10/100 Mbit + Ethernet 10/100/1000 Mbit on PCI (option)	2 x Ethernet 10/100/1000 Mbit
425x300x126.5	425x300x91.5
399x274	
With battery	
18...30 Vdc	
~ 80 W	~ 90 W
IP 65 front	
0...+50	
-20...+65	
85%	
~ 7,5	
CE, cULus, ATEX EX II - 3 D	
Microsoft® Windows® XP Embedded EN, Windows® XP Pro Multilanguage SP3	

Main features:
- PC based technology
- Devised for areas where the conditions of use are particularly critical, for example in presence of dust, strong vibrations and electromagnetic interferences
- Family processors and RAM memories for all needs
- Windows® XP embedded and Professional operating system which ensures compatibilità with standard PC applications
- Connectivity through Pc interfaces and integrated ethernet port
- No cooling fan and an internal flash memory as mass memory, minimise servicing needs

Display	XS619	XS619 Core 2 Duo
Graphic type	Graphic LCD 262k colors TFT	
Touch Screen	Analog (5 wires)	
Backlighting	CCFL	
Minimum lamp life at 25°C	50.000	
Resolution pixel h-v (inches)	1280x1024 (19")	
Processor		
CPU	Intel® Celeron M 1.0GHz	Intel® Core 2 Duo 2.2GHz
System memory		
RAM (byte)	512 M - 1G	512 M - 1G - 2G
Mass storage		
Optical drive (CD ROM/DVD)	DVD Sata (option)	
HDD/SSD* /Compact Flash (Byte)	160 G SATA / 8 G Solid State / 1G - 2G	160 G SATA / 8 G Solid State/ 1G - 2G - 4G
Interfaces		
Standard serial port	1xRS232 + 2xRS232 on PCI (option)	1xRS232 + 1xRS232/422/485 + 2xRS232 on PCI (option)
Parallel port	1 x Optional on PCI	
USB port	5x v 2.0 (1 front)	
Mouse PS/2 port	1	
Keyboard PS/2 port	1	
CardBus slots (for Compact Flash)	-	
PCI slots	1	
Video CRT out	1	
Audio port	Mic IN + Line IN + Line Out (Std, Surround, S. Back, Center) + SPDIF OUT	
Firewire	1	
Networks		
Integrated (on all models)	Ethernet 10/100 Mbit + Ethernet 10/100/1000 Mbit on PCI (option)	2 x Ethernet 10/100/1000 Mbit
Dimensions		
External (W x H x D) (mm)	508x384x98	
Bore holes (W x H) (mm)	480x360	
Clock		
Supercapacitor Hardware Clock	With battery	
Technical specifications		
Power supply	18..30 Vdc	
Power consumption (24 Vdc)	~ 100 W	
Protection level	IP 65 front	
Working temperature (°C)	0...+50	
Storage/transport temperature (°C)	-20...+65	
Humidity (non-condensing)	85%	
Weight (kg)	~ 10	
Certifications	CE, cULus, ATEX EX II - 3 D	
Installed Software		
Operating System	Microsoft® Windows® XP Embedded EN, Windows® XP Pro Multilanguage SP3	

* alternative to Compact Flash

XSs codes and descriptions

XSxxx	Refer to pages 52 and 53 for configuration

XSs Accessories codes and descriptions

XSxxx	Refer to pages 52 and 53 for configuration

PC Adaptors

The PC-USB cards are not merely adaptors, they are true and proper interface cards equipped with a **dedicated microprocessor** that, in a completely independent way, manages communications towards the field of use in a manner that totally relieves the master PC from this task, and guarantees that communication time with various protocols is respected, independently from the PC load. Choosing the USB interface as a standard means of communication towards the PC also guarantees compatibility with any PC present on the market (Industrial, Office and Notebook).

PCUSBADP0SP2

External module to connect PC in RS232/485/MPI serial port

PCUSBADP0CAN

External module to connect PC in CAN/DeviceNet interface

PCUSBADP0DP

External module to connect PC in Profibus-DP network

ESA offers **three different USB interface models**:

PC-USB SP: serial version with RS232/RS485/MPI (at both 187.500 KBit/s and 1.5Mbit/s) interface towards the field of use and ESA pinout, capable of supporting all serial drivers present in Polymath.
PC-USB DP: version capable of supporting Profibus DP-Slave
PC-USB CAN: version capable of supporting CANOpen, Devicenet protocols, as well as any other CAN based driver

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PC-USB interface cards allow the use of **PC Machine Edition** on any PC (for further information, see page 67), with the possibility of using all Polymath drivers
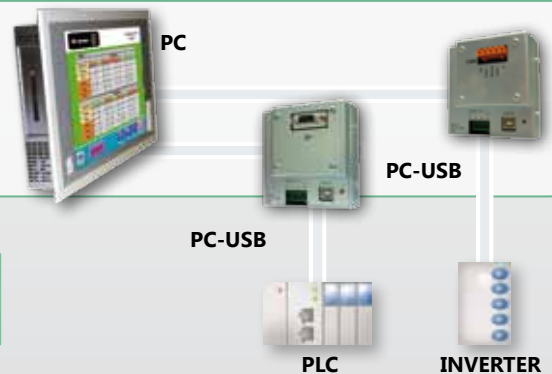
PC

PC-USB

PC-USB

PLC   INVERTER

Accessories codes and descriptions

PCUSBADP0SP2	External module to connect PC in RS232/485 serial port
PCUSBADP0CAN	External module to connect PC in CAN interface
PCUSBADP0DP	External module to connect PC in Profibus-DP network

Wi-FI card

Wireless communication is provided with a **Wireless network card** connected on PCI interface, designed around the **IEEE 802.11 standard**. The Wireless network card supports 54 MBps data rate and is equipped with a removable antenna (cable length 2 meters).

Accessories codes and descriptions

PCIWIFICARD	PCI Wifi card AIR-PI21AG-E-K9

Accessories codes and descriptions

PROTFILM10	Transparent adhesive protection foil for Touch Screen 10". 5 piece pack
PROTFILM12	Transparent adhesive protection foil for Touch Screen 12". 5 piece pack
PROTFILM15	Transparent adhesive protection foil for Touch Screen 15". 5 piece pack
PROTFILM19	Transparent adhesive protection foil for Touch Screen 19". 5 piece pack
PWR220-24A	Universal Power Supply 220VAC-24VDC
DISPAD015RK019	Support for Rack from 19" to 15"

Protfilm

PROTFILM a 0.2 mm thick transparent Pet foil that can be applied to a touch-screen for protective purposes: it is adhesive, treatable and removable.

XS585-XS595

X	S	5	n	n	X	P	0	T	n	n	n

Display	585: LCD 10,4" 65K colors
	595: LCD 12,1" 65K colors
CPU	2: Intel® Celeron® 400MHz
	3: Intel® Celeron® 650MHz
RAM	0: 128 MB RAM
	1: 256 MB RAM
	2: 512 MB RAM
HD/Compact Flash	3: 512 MB Flash
	4: 1024 MB Flash

Operating System codes and descriptions XS585-XS595

XSSYSWINXPEEN01	Windows® XP Embedded English Basic (256MB) Operating System
XSSYSWINXPEEN02	Windows® XP Embedded English Extended (512MB) Operating System

Accessories codes and descriptions

VT5BATTERY	3,6V lithium battery for maintaining clock and system data

XS612

X	S	6	1	2	X	P	0	T	n	n	n	0	n

Display	612: LCD 12,1" 262k colors TFT
CPU	6: Intel® Pentium® M1.6GHz
	7: Intel® Celeron® M1.0GHz
RAM	2: 512 MB
	3: 1 GB
HD/Compact Flash	4: CF 1024 MB
	5: CF 2048 MB
	H: Hard Disk 160 GB
	7: Solid State Disk 8 GB
PCI board	0: No additional port /Free slot
	1: Add. 2 x RS232
	2: Add. Ethernet 10/100/1000
	3: Additional LPT parallel port

XS615

X	S	6	1	5	X	P	0	T	n	n	n	n	n

Display	615: LCD 15" 262k colors TFT
CPU	4: Intel® Celeron® M600MHz
	5: Intel® Pentium® M1.1GHz
	6: Intel® Pentium® M1.6GHz+fan
	7: Intel® Celeron® M1.0GHz
RAM	1: 256 MB (CPU Pent. or Cel.)
	2: 512 MB (CPU Pent. or Cel.)
	3: 1 GB (CPU Pent. or Cel.)
HD/Compact Flash	4: CF 1024 MB
	5: CF 2048 MB
	H: Hard Disk 80 GB
	7: Solid State Disk 8 GB
	9: Solid State Disk 32 GB
Disk drive	0: No Disk Drive
	1: CDROM
PCI board	0: No additional port /Free slot
	1: Additional 2 x RS232
	2: Add. Ethernet 10/100/1000

XS619

X	S	6	1	9	X	P	0	T	n	n	n	n	n

Display	619: LCD 19″ 262k colors TFT

CPU	7: Intel® Celeron® M1.0GHz

RAM	2: 512 MB
	3: 1 GB

HD/Compact Flash	4: CF 1024 MB
	5: CF 2048 MB
	H: Hard Disk 160 GB
	7: Solid State Disk 8 GB

Disk drive	0: No
	1: DVD-ROM

PCI board	0: No additional port /Free slot
	1: Additional 2 x RS232
	2: Additional Ethernet 10/100/1000
	3: Additional LPT parallel port

XS615-XS619 Core 2 Duo

X	S	6	1	n	X	P	0	T	8	n	n	n	n

Display	615: LCD 15″ 262k colors TFT
	619: LCD 19″ 262k colors TFT

CPU	8: Intel Core 2 Duo 2.2 GHz

RAM	2: 512 MB
	3: 1 GB
	4: 2 GB

HD/Compact Flash	4: CF 1024 MB
	5: CF 2048 MB
	6: CF 4016 MB
	H: Hard Disk 160 GB
	7: Solid State Disk 8 GB

Disk drive	0: No
	2: DVD-ROM

PCI board	0: No additional port /Free slot
	1: Additional 2 x RS232
	3: Additional LPT parallel port

Operating System codes and descriptions XS612-XS615-XS619-XS615/XS619 Core 2 Duo	
XSSYSWINXPEEN03	XP Embedded Operating System Basic Version (512 MB flash), English (XS with CF and SSD)
XSSYSWINXPEML00	Windows® XP Professional Multilanguage operating system (XS with HDD and SSD)

ESA

Panel PCs 22xx and Wallmount PCs

PC221x

➤ 12,1"
800x600
256k colors TFT

PC222X

➤ 15"
1024x768
256k colors TFT

PC223X

➤ 17"
1280x1024
256k colors TFT

PC2000

➤ COM1-2-3/LPT
2xUSB/ETH/VGA/PS2
Sound/ 4xPCI o 3xISA slot
HDD, FDD, CD-Rom
24VDC o 230VAC

ESA elettronica S.p.A. reserves the right to make modifications without prior notice

5 in 1 Card Reader

The Panel PCs of the 22xx series include an interface, protected by a hinged flap on the side of the chassis, that supports six different memory card formats: Compact Flash, Secure Digital, Multi Media Card, Memory Stick (PRO). In this way the customer can transfer or backup data using this type of support, standard and static, thus safe and reliable.

USB on front face

The Panel PCs of the 22xx series have no less than five USB ports in the 2.0 version. One of these ports is frontally accessible to the PC installed: it can thus be used to connect peripheral devices of various types, like USB keys or pens for transferring data. The port can be protected against undesired access by the BIOS. To connect, just remove a plug, which, when closed, ensures IP65 front face protection.

USB

General information	PC221x	PC222x
Chassis	Heavy-duty steel & aluminium front frame - IP65	
Mounting	Panel mount	
Architecture		
CPU	Intel® Celeron™ 2GHz - Intel® Pentium® 4 2.4, 2.8GHz	
RAM Memory	128...1024 MB DDR	
LCD/CRT controller	Intel i845GV, AGP 4X	
Ethernet Network (LAN)	10/100 Base-T	
Disk Drives	HDD, FDD, CD-ROM/Combo	
Storage	Card Reader 5 in 1 CF I/II, SD, MMC, MS (PRO)	
Free expansion slots	2 PCI	
LCD Display specifications		
Type	12,1″ SVGA color TFT	15″ XGA color TFT
Max. Resolution h-v (pixels)	800x600	1024x768
Max. Colors	256k	
Dot size (mm h-v)	0,3075x0,3075	0,297x0,297
Luminance (cd/m^2)	350	250
Viewing angle (°)	140 (H) - 120 (V)	150 (H) - 145 (V)
Operating temperature (°C)	0...+50	
LCD/Back Light MTBF (h)	50.000	30.000
I/O ports		
Serial ports 120x/1301 series	2 x RS232 - 1 x RS232/422/485	
Parallel port (supports ECP/EPP)	1	
Keyboard PS/2 port	1	
Mouse PS/2 interface	1	
USB connectors	5	
VGA connectors	1	
Soundcard connectors	MIC, Line-in, Speaker-out, S/P DIF-out	
Digital I/O	up to 16 in or 16 out	
Power supply		
Universal switching power supply	100...240Vac/250 W, 19...32 Vcc/200 W (250 W PC2120)	
Safety	UL, CUL, TUV	
Technical data		
Dimensions (W x H x D) (mm)	366x291x149	444x336x144
Cut-out (W x H) (mm)	333x260	405x299
Weight (kg)	12	15
Operating temperature (°C)	0...+50	
Storage temperature (°C)	-20...+60	
Storage humidity	10...90%, non condensing	
Vibration	5...500 Hz, 1.5G random operation	
Shock	15G peak acceleration (11 msec. duration)	
EMI	CE/FCC	
Touchscreen (120x only)		
Type	Analog resistive	
Resolution (pixel)	2048x2048	
Light transmission	75%	
Lifetime (millions of operations)	1	
OS support	Windows® 98SE/2000/XP	

Accessories codes and descriptions

PCUSBADP0SP2	External module to connect PC in RS232/485 serial port
PCUSBADP0CAN	External module to connect PC in CAN interface
PCUSBADP0DP	External module to connect PC in Profibus-DP network

PCs codes and descriptions

PC2xxx	Refer to pages 58 and 59 for configuration

PC223x	PC2000
Heavy-duty steel & aluminium front frame - IP65	Heavy-duty stainless steel - IP65
Rack	Panel mount
Intel® Celeron™ 2GHz - Intel® Pentium® 4 2.4, 2.8GHz	up to Intel® Pentium® 4 2.8GHz
128...1024 MB DDR	128...2048 MB DDR
Intel i845GV, AGP 4X	Intel 82845GV
10/100 Base-T	2x10/100 Base-T
HDD, FDD, CD-ROM/Combo	HDD, FDD, CD-ROM
Card Reader 5 in 1 CF I/II, SD, MMC, MS (PRO)	-
2 PCI	up to 4 PCI and 3 ISA
17" SXGA color TFT	-
1280x1024	-
256k	-
0,264x0,264	-
300	-
140 (H) - 140 (V)	-
0...+50	-
50.000	-
2 x RS232 - 1 x RS232/422/485	2 x RS232
1	1
1	1
1	1
5	2
1	1
MIC, Line-in, Speaker-out, S/P DIF-out	MIC, Line-in, Speaker
up to 16 in or 16 out	-
100...240Vac/250 W, 19...32 Vcc/200 W (250 W PC2120)	18...30 Vdc/250 W
UL, CUL, TUV	UL, CUL, TUV
483x399x145	330x406x172
449x367	-
18	10
0...+50	0...+50
-20...+60	-20...+60
10...90%, non condensing	10...90%, non condensing
5...500 Hz, 1.5G random operation	5...17 Hz, 0,1" double-amplitude displacement -17...500 Hz, 1,5G peak to peak
15G peak acceleration (11 msec. duration)	15G peak acceleration (11 msec. Duration)
CE/FCC	CE/FCC
Analog resistive	-
2048x2048	-
75%	-
1	-
Windows® 98SE/2000/XP	-

Main characteristics (depending on model):
- Completely configurable - 5 in 1 Card Reader - USB on front face - IP65 front face - Hard disk on anti-shock support
- Intel® Celeron® and Pentium® 4 processors - 12", 15" or 17" TFT display
- Touch Screen - from 128 to 2048 MB of RAM - Expandable using ISA bus and PCI

Features of wallmounted iPCs: Installable in cabinets - Can be combined with panel monitor

Main Board	PC221x	PC222x	PC223x	PC2000
Standard	√	√	√	-
SBC860	-	-	-	√

CPU				
Intel® Celeron™ 2GHz	√	√	√	√
Intel® Pentium® 4 2.4GHz	√	√	√	√
Intel® Pentium® 4 2.8GHz	√	√	√	√

RAM				
128 MB	√	√	√	√
256 MB	√	√	√	√
512 MB	√	√	√	√
1024 MB	√	√	√	√
2048 MB	-	-	-	√

HDD				
40 GB 2,5"	√	√	√	-
60 GB 2,5"	√	√	√	-
40 GB 3,5"	-	-	-	√
80 GB 3,5"	-	-	-	√

Disk				
FDD	-	-	-	√
CD-ROM	-	-	-	√
Slim FDD	-	√	√	-
Slim CD-ROM	√	√	√	-
Slim combo DVD	√	√	√	-

Optional				
Touch-Screen	√	√	√	-

Power Supply				
24 VDC	√	√	√	√
220 VAC	√	√	√	-
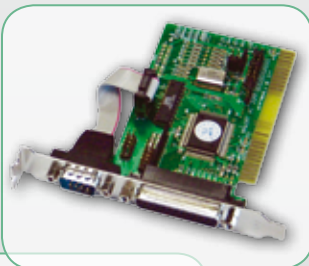
PCPAR ISA(B)

Centronics parallel port for ISA bus
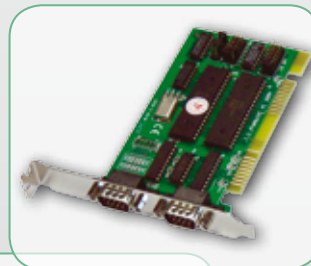
PCSER ISA(B)

Serial port for ISA bus (two RS232 ports)

PCSYSWINxxx

Operating System: Windows® XP Professional

PC accessories include:

- Most widespread operating systems supplied preinstalled on the PC and with backup CD-ROM.
- Additional serial and parallel cards that can be supplied already installed on the PC or acquired separately and installed later on.

Accessories codes and descriptions	
PCSYSWINXPPxx (xx=IT,EN,FR,GE,SP)	Windows® XP Professional SP3 operating system Available in Italian, English, French, German and Spanish
PCSER ISA	Serial port for ISA bus (2 RS232 ports) supplied installed on PC
PCPAR ISA	Centronics parallel port for ISA bus supplied installed on the PC
PCSER ISAB	Serial port for ISA bus (2 RS232 ports) installable by the user
PCPAR ISAB	Centronics parallel port for ISA bus installable by the user

| P | C | 2 | n | n | n | - | n | n | n | n | n | n |

Category
| 0: Control Box |
| 2: Panel PC |

Display
| 0: No |
| 1: 12" |
| 2: 15" |
| 3: 17" |

Touch Screen
| 0: No |
| 1: Yes |

CPU
| 1: Intel® Celeron™ 2GHz |
| 2: Intel® Pentium® 4 2.4GHz |
| 3: Intel® Pentium® 4 2.8GHz |

RAM
| 1: 128 MB |
| 2: 256 MB |
| 3: 512 MB |
| 4: 1024 MB |
| 5: 2048 MB |

Hard Disk
| 1: 40 GB |
| 2: 60 GB |
| 3: 80 GB |

Floppy
| 0: No |
| 1: Yes |

CD/DVD Drive
| 0: No |
| 1: CD-ROM |
| 2: Combo DVD |

Power Supply
| 1: 24 VDC |
| 2: 220 VAC |

Example:

Codes and descriptions PCs	
PC 2211-231021	Panel PC, Display: 12", Touch, CPU: Intel® Pentium® 4 2.4GHz, RAM: 512 MB, HDD: 40GB, Combo CD-ROM, 24 VDC
PC 2000-111111	Control Box, CPU: Intel® Celeron™ 2GHz, RAM: 128 MB, HDD: 40GB, Floppy, CD-ROM, 24 VDC

LCD Monitors

DISPTS015A00

➤ 15"
1024x768
262k colors TFT

DISPTS019A00

➤ 19"
1280x1024
262k colors TFT
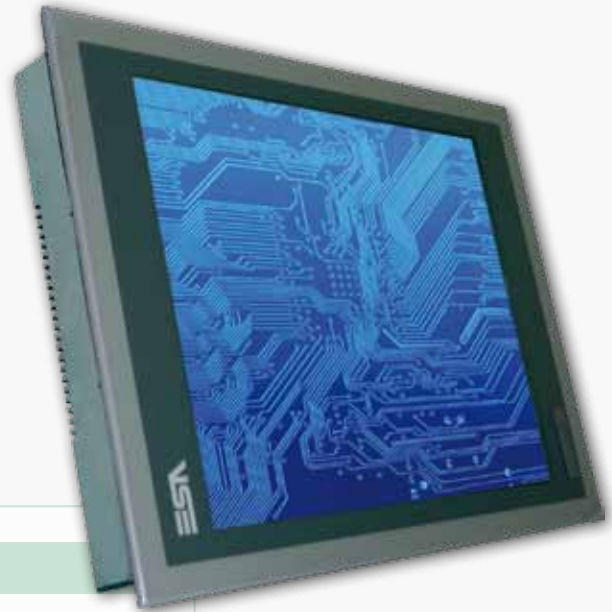
Architecture

- 262.000 color Touch Screen TFT

- CCFL back-lighting with two lamps having a minimum duration of 50,000 hours, able to guarantee extremely bright and clear images

- High precision thanks to the 5-wire resistive touch-screen

- VGA, DVI, Composite, S-Video inputs supported

- Possibility of connecting the touch screen by means of a USB port or a RS232 serial port which allows connecting to a PC as far as 15 metres away

- Host 2.0 USB port on the front, with a removable cover guaranteeing the IP65, which allows reading a USB Pen drive as well as additional peripheral connections (such as a mouse and keyboard) directly from the front of the monitor

- VESA 75/100 wall mounting device support

- Front IP65 protection rating
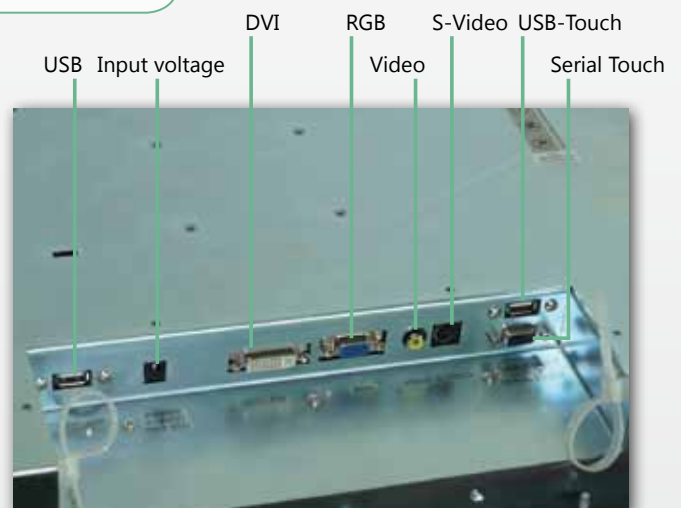
Features of monitor:
- LCD display of 15" or 19"
- Touch Screen - VGA, DVI input
- Analog video (composite and S-video) input

General information	DISPTS015A00	DISPTS019A00
Chassis	Aluminum - IP65	Aluminum - IP65
Mounting	Panel-Rear mount-VESA 75/100	Panel-Rear mount-VESA 75/100
LCD Display specifications		
Type	15" TFT	19" TFT
Resolution h-v (pixels)	1024 x 768	1280 x 1024
Colors	262.000	262.000
Dot size (mm h-v)	0,297 x 0,297	0,294 x 0,294
Luminance (cd/m^2)	350	300
Viewing angle (°)	140 (H) - 125 (V)	180 (H) - 180 (V)
Minimum lamp life at 25°C	50.000	50.000
Back Light	CCFL	CCFL
I/O ports		
Serial ports	1	1
USB connectors	1	1
VGA connectors	1	1
Video input connectors	VGA, DVI, Composite, S-Video	VGA, DVI, Composite, S-Video
Power supply		
Universal switching power supply	220VAC External Power Adapter	220VAC External Power Adapter
Technical data		
Dimensions (W x H x D) (mm)	425 x 300 x 61	508 x 384 x 64
Cut-out (W x H) (mm)	399 x 274	480 x 360
Weight (kg)	7	11
Operating temperature (°C)	0 .. +50	0 .. +50
Storage temperature (°C)	-20...+65	-20...+65
Humidity (non-condensing)	85%	85%
Certification	CE, cULus	
Touch screen (TS models)		
Type	Analog resistive 5 wires	Analog resistive 5 wires
Resolution (px)	1024 x 768	1280 x 1024
OS support	Windows 2000 SP4, Windows XP, Windows Vista	

Monitors codes and descriptions	
DISPTS015A00	15" Touch Screen Monitor
DISPTS019A00	19" Touch Screen Monitor
All monitors are equipped with VGA cable ,USB cable , external power adapter and power cable	

Accessories codes and descriptions	
PWR220-24A	Universal Power Supply 220VAC-24VDC
DISPAD015RK019	Support for Rack from 19" to 15"

PROTFILM - Protecting your display

What is PROTFILM ?
PROTFILM a 0.2 mm thick transparent PET foil that can be applied to a Touch-Screen for protective purposes: it is adhesive, treatable and removable.

When to use PROTFILM ?
When the Touch-Screen panel needs to be used in conditions where it might be damaged, in work areas typical of industrial situations.

What are the advantages of PROTFILM ?
-Total Touch-Screen protection
- Increased resistance to scratches and denting that compromise proper functioning
- Complete reliability and long life for your Touch-Screen

Protfilm Code and description	
PROTFILM4	Transparent adhesive protection foil for Touch Screen 4" (VT155W, VT185W, IT104, XT104). 5 piece pack
PROTFILM6	Transparent adhesive protection foil for Touch Screen 6",7",8" (VT505W, VT515W, VT525W, VT555W, VT560W, VT565W, VT575W,VT580W, VT575CE, IT105, IT107, XT105, XT107). 5 piece pack
PROTFILM6H	Transparent adhesive protection foil for Touch Screen 6" (VT1505H, VT525H). 5 piece pack
PROTFILM10	Transparent adhesive protection foil for Touch Screen 10" (VT585W, VT585WB, VT585CE, IT110, XS585). 5 piece pack
PROTFILM12	Transparent adhesive protection foil for Touch Screen 12" (VT595W, VT595CE, IT112, XS595, XS612). 5 piece pack
PROTFILM15	Transparent adhesive protection foil for Touch Screen 15" (IT115, XS615). 5 piece pack
PROTFILM19	Transparent adhesive protection foil for Touch Screen 19" (XS619). 5 piece pack

Spare Parts

Spare parts manual code and description	
SPARE PARTS CD	CD with Spare Parts manual and Price List in Italian and English

Spare Parts CD

The manual provides hundreds of photographs and explanatory drawings providing repair and replacement for more common parts of the VT operator terminals. This is an extremely useful tool providing customers a considerable added value.

Polymath

Polymath is the programming software of ESA elettronica, developed in .NET technology with **latest generation features**. Equipped with a modern and complete interface, it offers a wide functionality range in step with the new requirements on the HMI market.

The architecture of **Polymath is extremely flexible** as it allows to program all operator panels in the ESA range, as well as develop supervision solutions for small and medium plants. In this way, the user can pass easily from an application developed on **HMI platform** to one developed on **PC platform** and vice versa.

Thanks to a **very high number of communication protocols supported**, with Polymath there are no longer limits to connectivity, both in industrial environments and towards the world of PCs. All of the most important communication buses in the industrial world are also available: **Profibus, DeviceNet, Can and Profinet.**

Polymath allows easy and intuitive programming, which allows optimisation in terms of time and effectiveness both in the development phase and in the execution of the project. Among the advantages offered by Polymath there is, for example, the possibility to **import the variables directly from the PLC database**, thus avoiding useless time-loss for filling in the project variable table. Within Polymath the user can also make use of **import and export of recipes, alarms, translations and variables in standard Excel format** tools. In the case of applications developed in several languages, Polymath integrates a **dictionary for automatic translation** of the terms.

Software Comparison Table

	Polymath Basic	Polymath Advanced
Product programming		
IT	-	√
VTCE	-	√
VT	√	√
PC	-	√
Alarms		
ISA	√	√
Banner	-	√
Recipes		
Multi-structure	-	√
Single-structure	√	√
Trend		
Base	√	√
Interactive	-	√
Export of data		
CSV	-	√
XML	-	√
Pendrive, SD, LAN	-	√
Import/Export Excel		
Alarms	-	√
Recipes	-	√
Tags	√	√
Texts	√	√
Security		
User management	-	√
Password	√	√

	Polymath Basic	Polymath Advanced
Script/Macro		
VBScript with Intellisense	-	√
Macro	√	-
Graphics		
Font Windows	√	√
Personalised keyboards	-	√
Complex controls	-	√
Library Objects	√	√
Pages		
Popup	-	√
Frame	-	√
Project simulator		
Off line base	√	√
Off line complete	-	√
On line complete	-	√
Project		
Compatibility old projects	√	√
Guided creation	√	√
Automatic validation	√	√
Multilingual	√	√
Backup/Restore	-	√
Documentation	√	√
Conversion	√	√
Report		
Report on file	-	√
Report of graphic print	-	√
Report of printed text	√	√

Polymath running on the Microsoft operating systems:

Windows 2000 SP4
Windows XP
Windows Vista

POLYMATH BASIC

Polymath Basic is the configuration software studied especially for the development of applications for **ESA terminals in the VT range**.
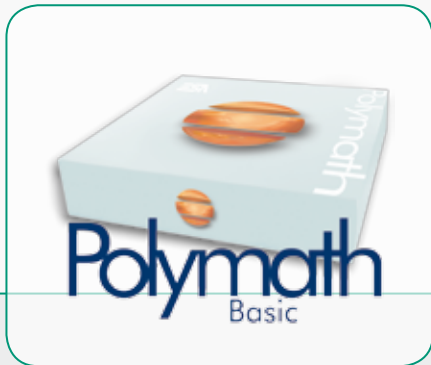
Order codes of Polymath Basic	
POLYMATHBASIC	Polymath Software kit - Basic Version
The kit includes the following products:	
CVUSB11202	Programming cable: USB-A PC --> VT 9 pin
CVAD9F25M	9 pin female --> 25 pin male adapter
CVCOM25F8M	PC 25 pin --> VT 8 pin male adapter

POLYMATH PREMIUM

Polymath Premium is the Polymath license, which allows owners of a Polymath Basic license to upgrade to the Advanced version. Installation of the Polymath Premium package permits use of all Polymath Advanced functions.

Order codes of Polymath Premium	
POLYMATHPREMIUM	Polymath Software kit - Premium Version
The kit includes the following products:	
CVUSB11102	Programming cable: USB-A PC --> USB-B IT
CVADUSBB9M	USB-B --> 9 pin male adapter

POLYMATH ADVANCED

Polymath Advanced offers a system of integrated programming that allows development of applications for **the entire range of ESA industrial products**: from the VT textual terminals, passing to the high performance IT Touch Screen, **to the advanced supervision projects on PC**.

Order codes of Polymath Advanced	
POLYMATHKIT	Polymath Software kit - Advanced Version
The kit includes the following products:	
CVUSB11102	Programming cable: USB-A PC --> USB-B IT
CVADUSBB9M	USB-B --> 9 pin male adapter
CVAD9F25M	9 pin female --> 25 pin male adapter

PC MACHINE EDITION

PC MACHINE EDITION is **the runtime license by Polymath** ideal for those who need to exploit Polymath potentials on PCs. Any project developed using the Polymath Advanced programmino software can therefore be performed on any PC with *Microsoft Windows 2000 SP4, XP and Vista* operating system and on ESA Panel PCs.

PC Machine Edition can transform an ordinary PC into a **powerful supervision and control station** able to **connect directly to the system** (via a serial connection, Ethernet, Profibus-DP, CanOpen and DeviceNet) as well as **recover any data or information from one or more IT panels installed in remote mode** on a system.

PC Machine Edition also makes it possible to **check correct progress of a remote system** via a **simple Internet connection** courtesy of a tested system **compatible with company firewalls.**

Order codes of PC Machine edition	
PCMACHINEBASE	Runtime Polymath License without modules
The kit includes the following products:	
USB key for license activation + Installation sheet	

PC REMOTE ACCESS

Malfunctions and temporary downtime can cause considerable production loss. **Machinery often needs to be serviced as soon as possible** to avoid vast expense: with PC Remote Access you can arrange **maintenance or resolve any problems with plants directly even when you are not at the premises**, without wasting time and need for travel

You can use **PC Remote Access** on an ordinary PC to connect to and interact with your plants **as you would normally at the operator panel**, and therefore check them and act accordingly.

It is possible, for example, **to view trends, production data and alarms** at several production sites, upload or amend **recipes, run scripts**, view **images from cameras** connected to the panel and much more besides.

Full support for connection to **Virtual Private Networks** (VPNs), **company LANs** and the **Web** ensures PC **Remote Access can be used in any situation**, meeting your every need.

Codes and descriptions PC Remote Access	
PCREMOTEACCESS	PC Remote Access licence

TOOLBAR

The customisable toolbar allows the user to access the Polymath functions quickly. Simple and intuitive, it permits fast navigability of the Polymath functions

PROJECT EXPLORER

The Explore resources window allows the user to easily navigate the project structure, from device configurations to data archive management, giving fast access to the multiple items of the libraries provided

PREVIEW SCREEN

The preview function allows the user to preview the item selected immediately, considerably reducing project realization times.

WORKSPACE

Workspace to create and edit the project. The Polymath items can be easily positioned in the workspace with a simple drag and drop as well as resized, aligned, grouped, etc. directly in the workspace, to suit the user's needs.
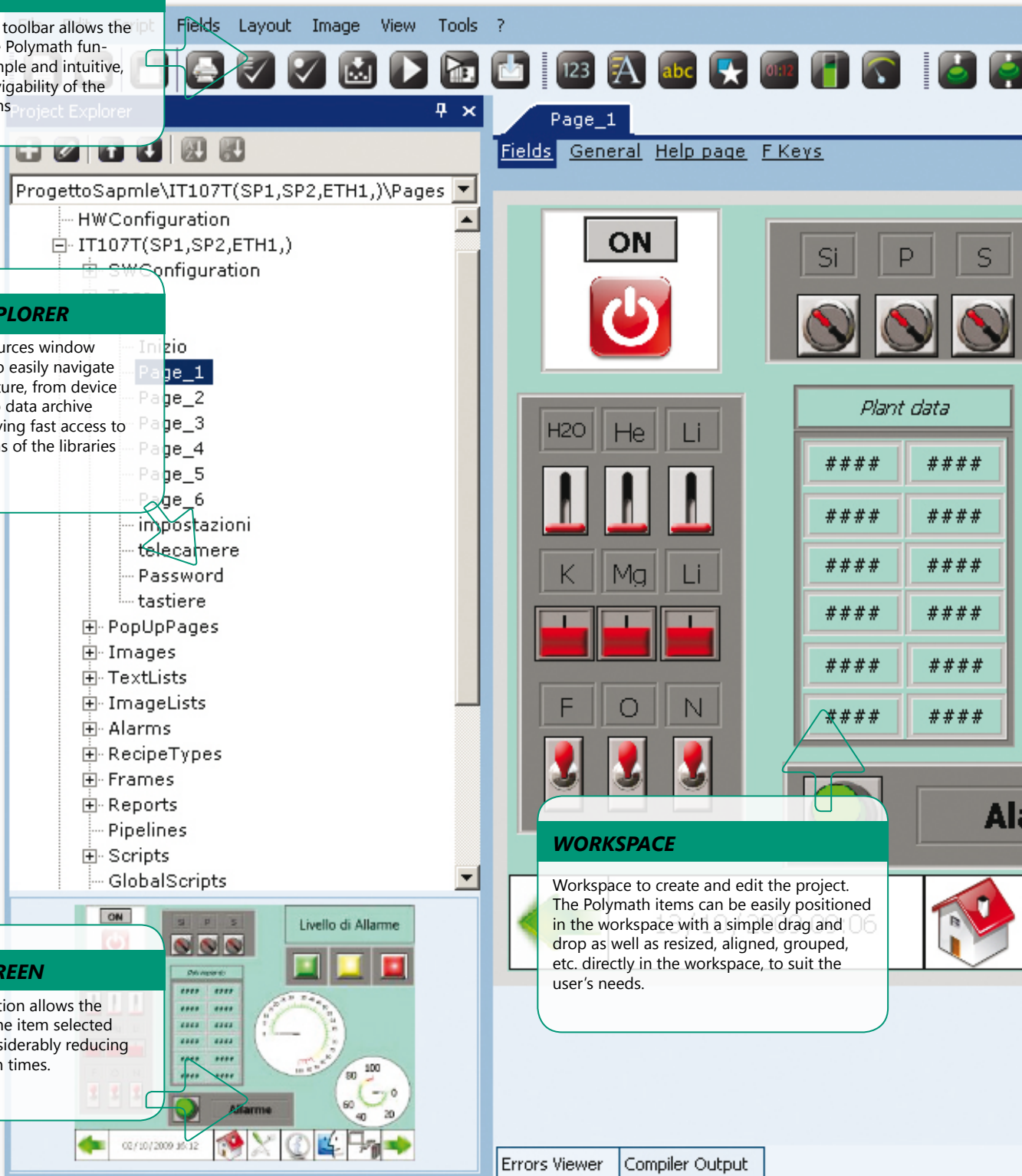
POLYMATH ICONS

Simple, original and intuitive icons. They facilitate the user in accessing the Polymath project development functions

Mouse pointer:(464,480)

Alarm Level

Library Explorer

Tank

Tank2
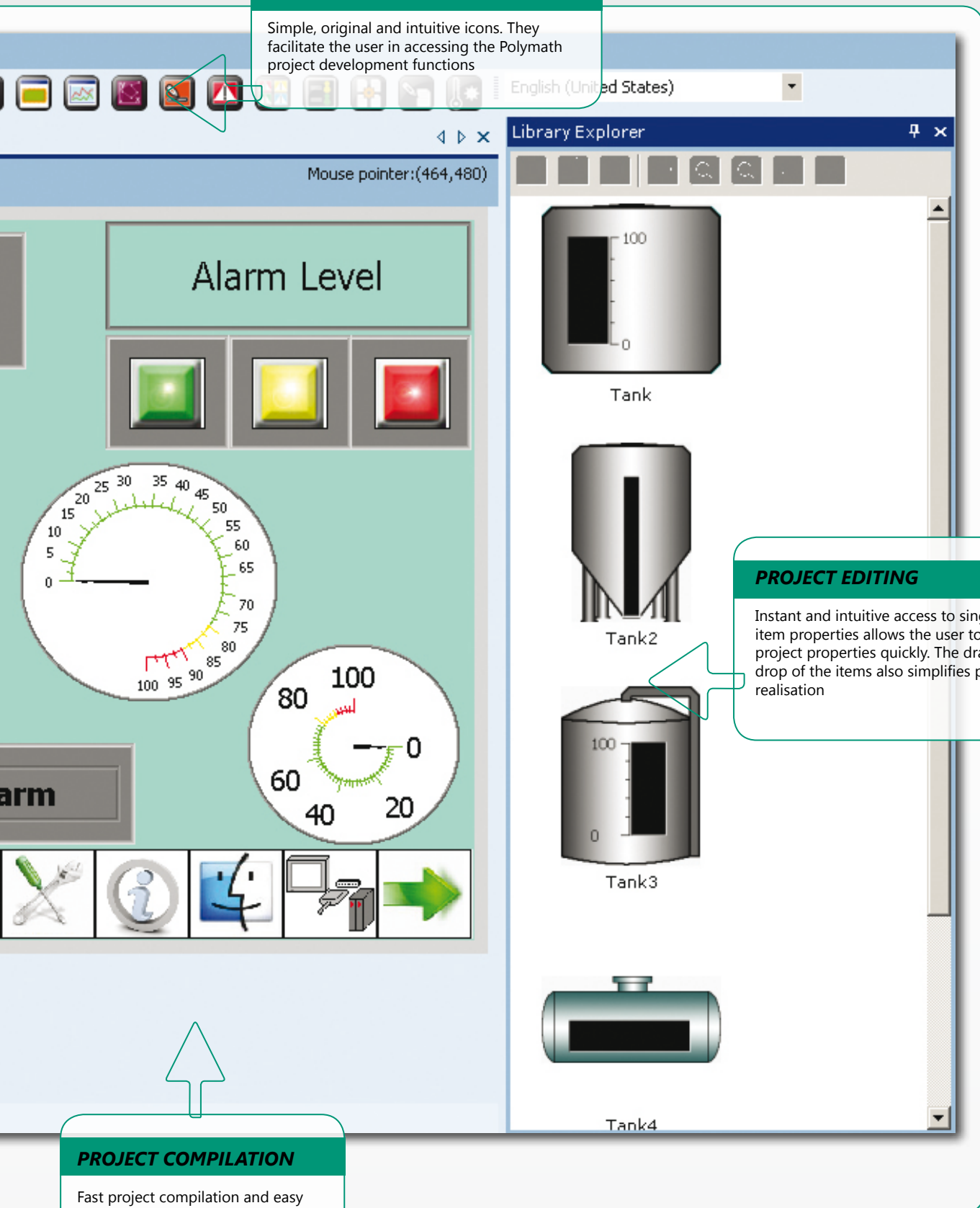
PROJECT EDITING

Instant and intuitive access to single item properties allows the user to define project properties quickly. The drag and drop of the items also simplifies project realisation

Tank3

Tank4

PROJECT COMPILATION

Fast project compilation and easy error and warning management. Warnings and project errors can be easily traced with a simple click and corrected immediately.

The complex controls allow to manage data structures such as **Data Log Recipes and Trends, Active and Historical Alarms, User Management** very quickly. By simply selecting the favourite control, it can be positioned inside the project page and configured easily.

MULTI-STRUCTURE RECIPES

It is possible to configure recipe structures each containing a different variable number. In this way **it is possible to prepare different sets of data for different production methods**.

ACTIVE AND HISTORICAL ALARMS

From within Polymath it is possible to configure two different grids for alarms management, one for the active alarms and one for historical alarms. **The alarms have a dual functioning mode**, one responding to the ISA Standard and a second as management of simple events. **The alarms can be divided into groups or by priority**.

PRINTING REPORT

Reports are useful for printing data related to the state or to the history of an application (e.g. Weekly production). They can contain all the graphic objects that can be added to the pages and project data. In addition, they can be saved and archived, avoiding waste of space and paper.

USERS MANAGEMENT

Polymath allows to **manage up to 10 hierarchy levels for access to the application.** Any element or function can therefore be protected by a password.
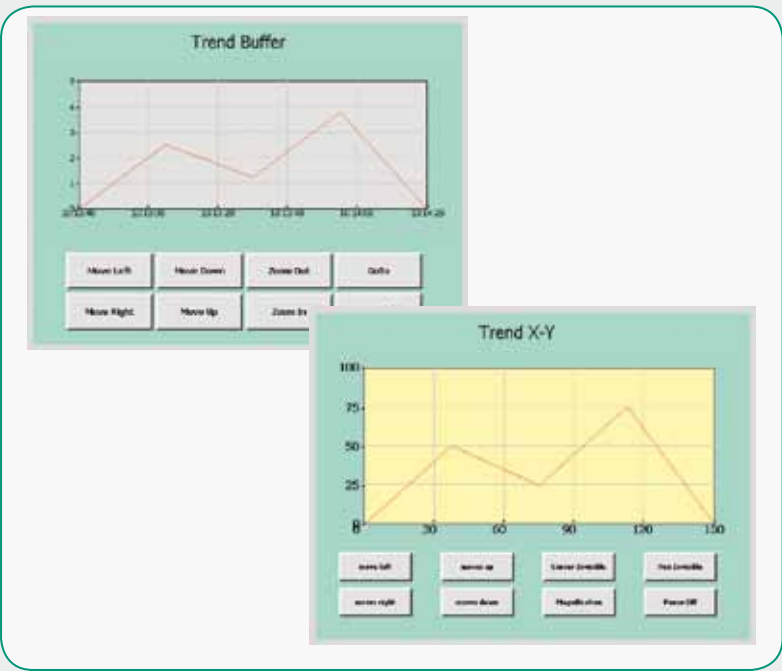
TREND

Polymath allows the configuration **of two types of different Trend: Buffer and XY**. With the classical Trend Buffer, it is possible to monitor the trend of a variable through time, while with the Trend X-Y it is possible to relate the trend of the values of two different variables. Both Trends integrate useful navigation tools.

DATA LOG

Polymath also allows **to monitor the value of a variable** through the Data Log function. Using this function, **table form can be used to represent** the trend of a variable value through time.
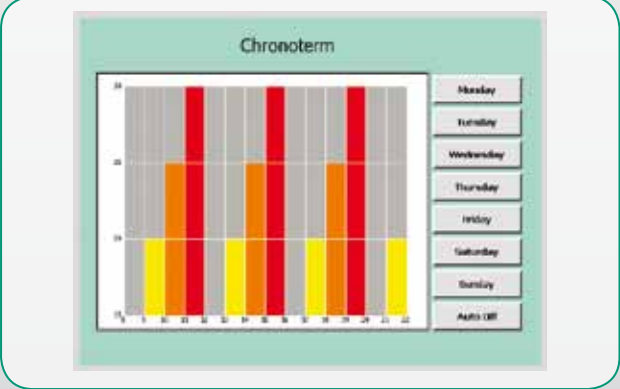
CHRONO-THERM

With Polymath there is the possibility to manage **the control of heating and refrigerating system**, programmable to **specific time periods by day or by week**, in order to have the favourite temperature at a specific moment

BANNER

The configuration of a Banner in Polymath, allows to **show the information regarding the plant or the machine**. The Banner has a dual functioning mode: one responding to the ISA Standard and another as a simple event.
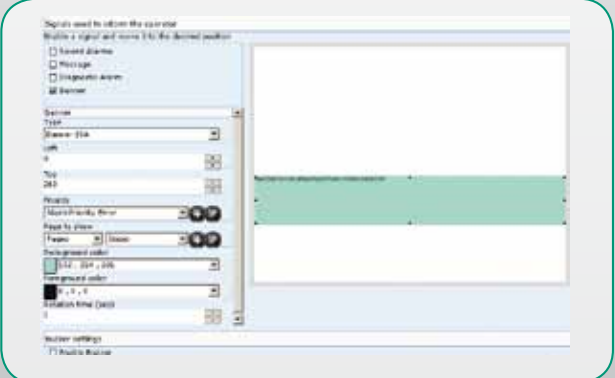
OBJECTS LIBRARY

Polymath has a **rich library of objects with great graphical impact**. The objects available, such as indicators, valves, are divided by category and can be easily positioned in the pages with a simple drag&drop. The objects library can also be customised on the basis of customer requirements.
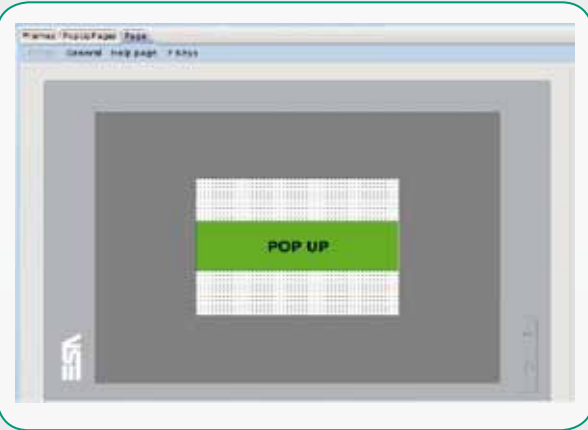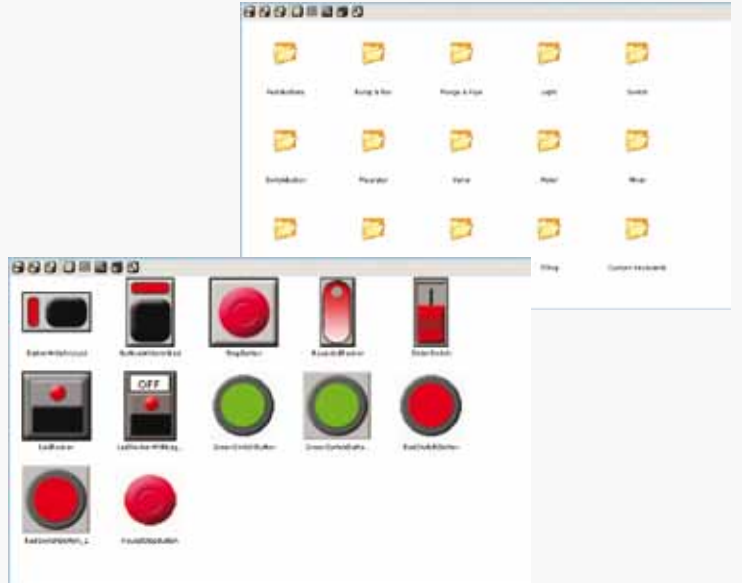
POPUP

Popup pages are smaller than the project pages, in relation to which they can be superimposed, thereby making it possible to manage information and messages on more than one level.
In this way advice or indications relating to events and operations can be supplied immediately without changing context and without this being necessarily dependent on which page is being displayed.

FRAME

Frames are objects which offer the advantage of being able to create individual portions of pages to be inserted more than once in different project pages. Examples of use of frames are the lateral menus or the navigation bars, which once created can be used anywhere in the project.
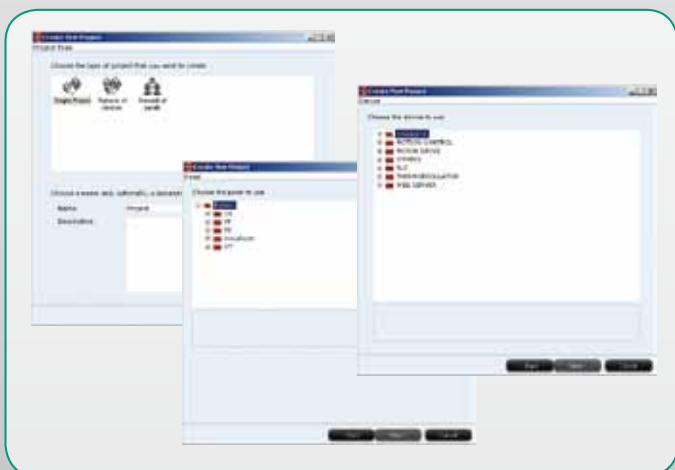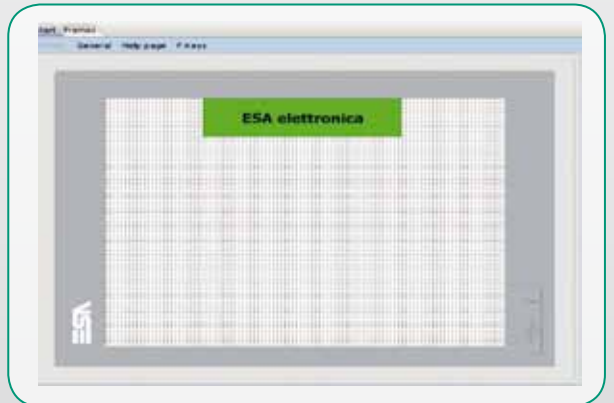
GUIDED PROJECT CREATION

Creating a project in Wizard mode enables users to configure their project with just a few clicks: simply choose the panels and the devices you want to interface with and the application will automatically be configured.
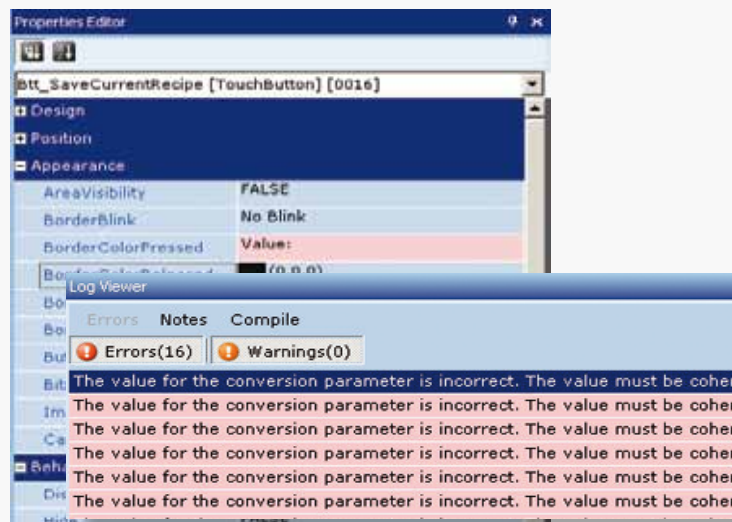
AUTOMATIC VALIDATION

Validation is debugging tool that gives a real time display of the list of anomalies in the project subdivided into errors and warnings; just by clicking on the corresponding line, the application will place itself at the point the correction must be made.

VBSCRIPT WITH INTELLISENSE

Polymath offers a further level of **customisation of the applications thanks to VBScript**. VBScript is a standard programming language that allows to create your own routines with which to manage the project elements in an easy and intuitive manner. Thanks also to the **Intellisense of Polymath, the user can access a library of specific and powerful functions** developed by ESA for its own operator terminals.
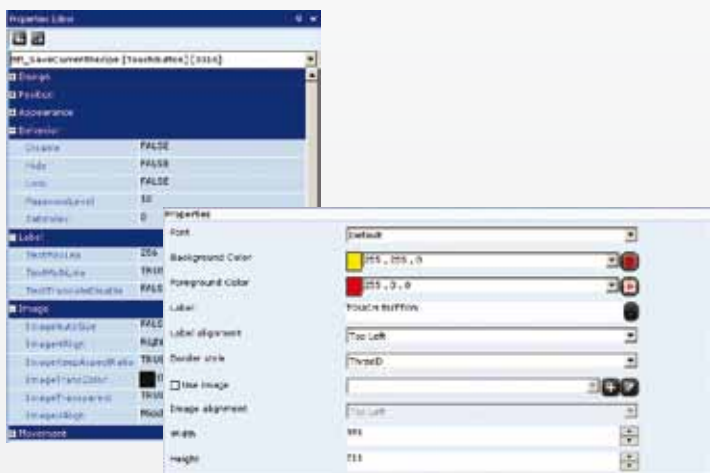
OBJECTS EDITING MODE

The user can select two different modes (one basic and one advanced) to edit all graphical properties (such as colour, dimensions, font) and functional properties (such as password level, associated functions) of the project elements. In the basic mode, the user can **configure the elements by double clicking on them**, while in the advanced mode he can **configure the objects through the configuration tree**.

WINDOWS FONTS

All Fonts that are usable in a Windows environment can be inserted into projects, making it possible to personalize and to make the graphics of the projects more comprehensible.

ORIENTATION OF THE TERMINAL

For all terminals in the IT range, Polymath allows to **directly define the horizontal or vertical orientation of the terminal from the Polymath programming editor**. The product can therefore be configured better, to adapt it to the different installation requirements.

IMPORT/EXPORT OF DATA IN CSV-XML

At any moment, all data can be exported onto removable supports, like pen drives and memory cards (secure digital), and onto local or network disks. In just a few seconds Alarms, recipes and Variable logs can be accessed and modified thanks to the LAN or FTP connection.
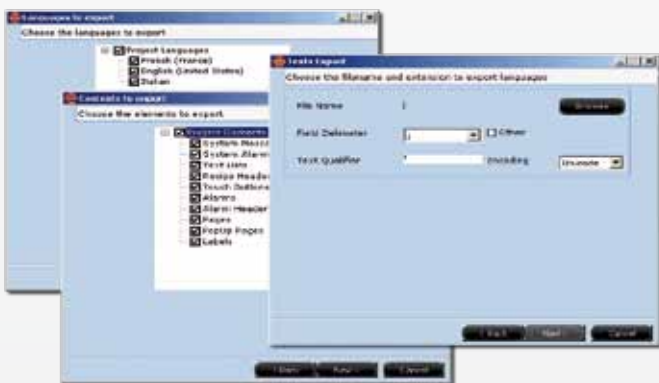
IMPORT/EXPORT XLS

The project elements such as **recipes, alarms, variables and texts, can be easily imported and exported** thanks to the standard Excel format. Moreover, it is possible to manage the import of the variables **from DB owners for Siemens, Allen-Bradley and Codesys devices.**

PROJECT DOCUMENTATION

Polymath allows to **generate detailed documentation of the project** in the formats supported **PDF, RTF or HTML**

ESA elettronica S.p.A. reserves the right to make modifications without prior notice
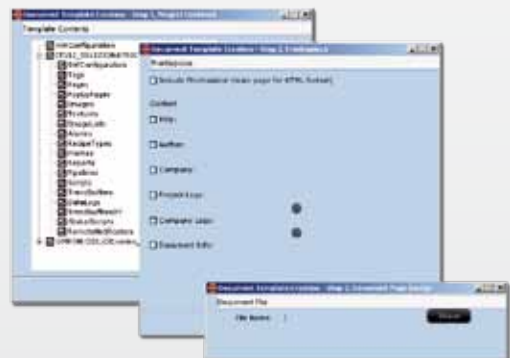
MULTILANGUAGE FUNCTION

The text elements of the project can be configured in various languages (including Oriental, Cyrillic, characters, etc.) with the possibility of either an immediate or deferred translation. Polymath also makes it possible to commute from the language configured during the project creation phase thereby giving the user a way of evaluating the representation of the string before transferring it to the terminal.

COMPATIBILITY OF OLD PROJECTS

Polymath manages all ESA panels of the **VT Open CE series.** It also edits and compiles projects created using preceding ESA **software**.

GRAPHICAL FORMATS SUPPORT

It is possible **to import drawings from AUTOCAD into the project** or any other software that supports the **DWG or DXF** formats. Polymath can also support different image formats.
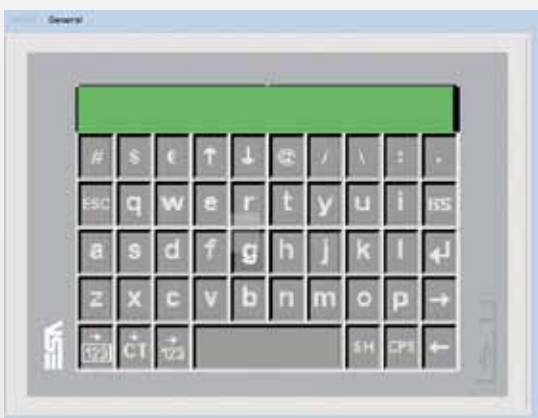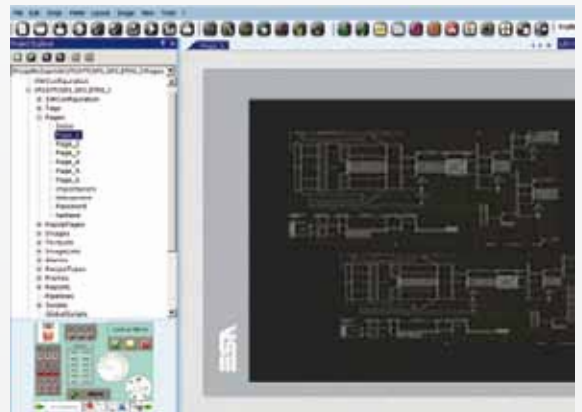
CUSTOMISED KEYBOARD

It is possible **to customise the keyboards used for editing** the data at will regarding shape, colour and content. The keyboards created can be saved in the objects library in order to be re-used in other projects. Also available in the library, **keyboards in cirillic characters** and keyboards of different dimensions, according to the type of operator panel used.

OFF-LINE PROJECT SIMULATOR

It is possible to simulate the project directly on the PC without transferring it onto the terminal; all the variables of the device and the correct functioning of the project can be verified without having any device connected.
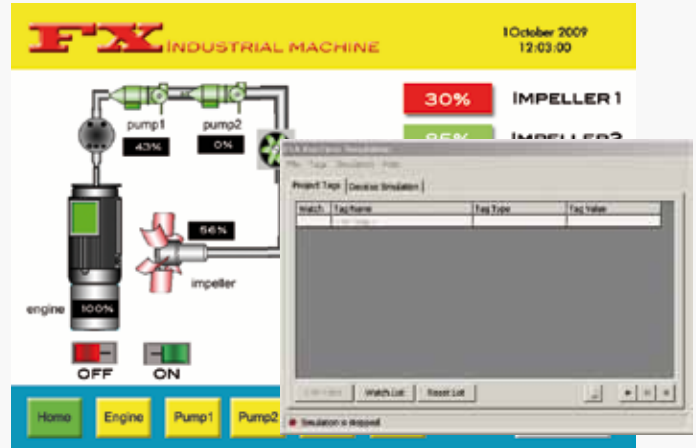

ON LINE SIMULATOR

The functionality of the On-line Simulator allows the user to **test the project developed, by connecting the devices to be inspected directly**, e.g. a PLC, **to its own PC**, therefore allowing to check the perfect functioning of the project, without having to have a panel available in this situation.

BACK-UP AND RESTORE OF A PROJECT

Using the Backup Offline utility, Polymath permits to **update the application via USB pen drive or SD card** directly onto the panel.
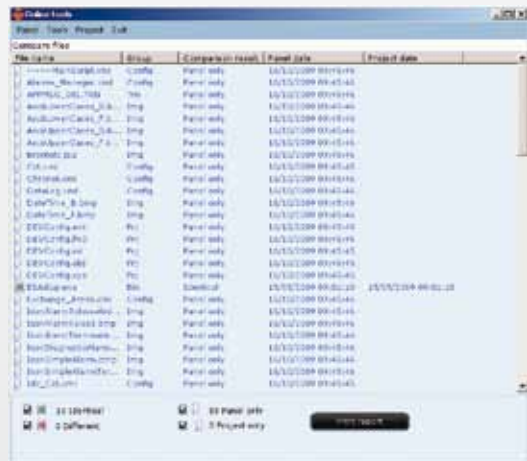
ON-LINE PROJECT COMPARISON

This utility means that it is possible to **compare** a project available on a PC, **with a project installed on the operator panel**.
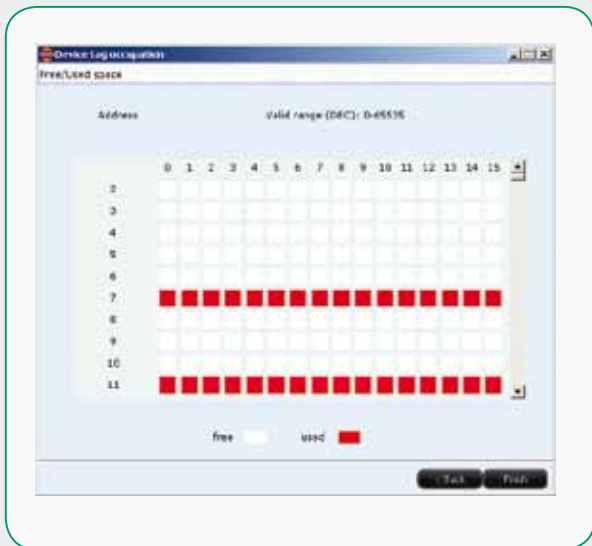
DEVICE MEMORY OCCUPATION

With Polymath there is the possibility of **having the occupation state of the device memory in real time**. Using a graphical interface that has been especially studied, the user can immediately identify the areas that have been allocated or that are free.

INDIRECT ADDRESSING

Thanks to indirect addressing it is possible to **greatly reduce the project development time.** The value of the variables is determined dynamically at run time, on the basis of the configuration selected by the user in the Polymath table.
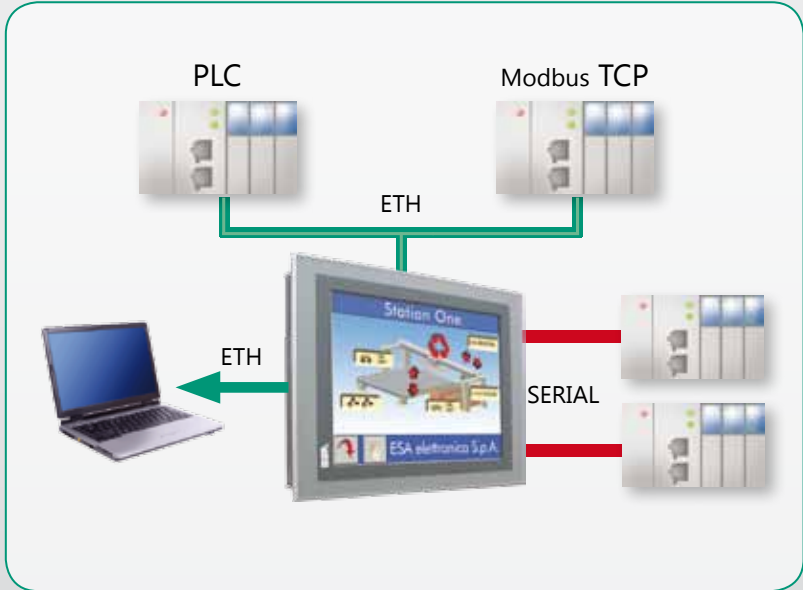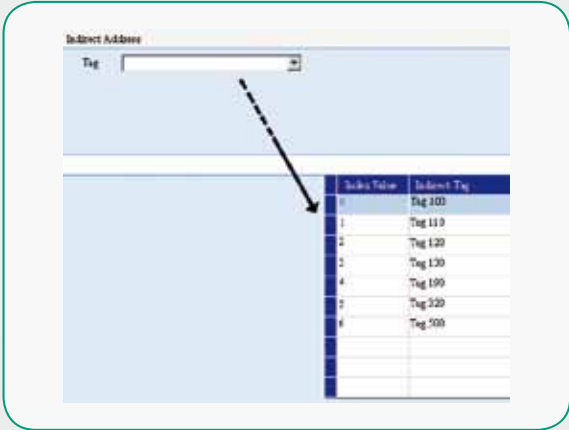
CONNECTIONS MANAGEMENT

The IT platform allows the **management of two different devices connected simultaneously to the same Ethernet port**, thus also allowing the exchange of data between themselves. Polymath allows to manage the **communication with two different devices connected onto the single serial ports**. For the IT11x products, it is also possible to make use of the second Ethernet port, e.g. for connection towards the world of PCs.
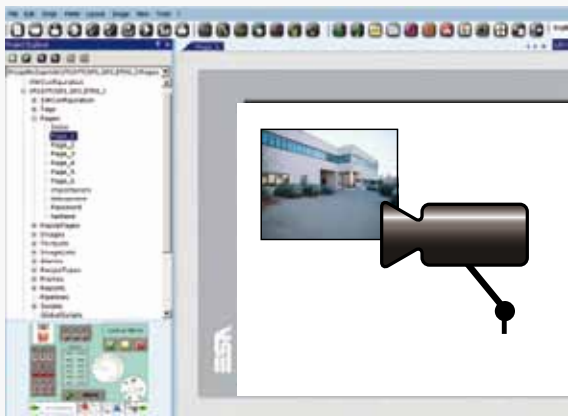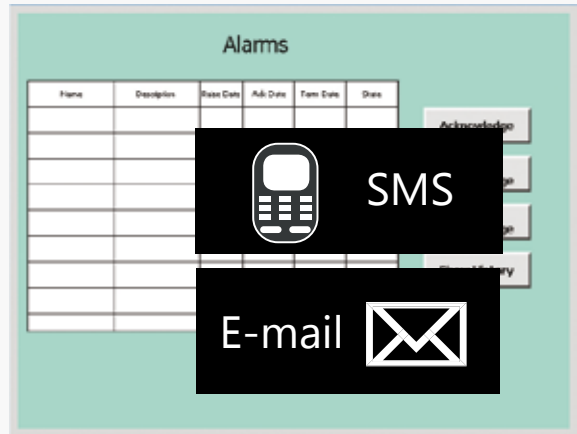

PANEL MEMORY BALANCE

With Polymath there is the possibility of **having the memory balance of the terminal in real time**.

ALARMS AND EVENTS NOTIFICATION VIA SMS AND E-MAIL

Polymath allows **to send notification of alarms and events via SMS and E-mail.** Every notification can be configured by groups or individual users, by day of the week and specific time periods.


MANAGEMENT OF IP VIDEO CAMERAS

This function makes it possible to display the images from an IP video camera in the project pages.

REALIZATION OF NETWORK PROJECTS

The creation of network projects allows the user to share and distribute data from one device to another within a business network. The data can be accessed and displayed by exploiting the business Internet and Intranet architectures with client-server type connections between panels. Thanks to the realization of an efficient network between panels it is possible, for example, to easily display and control each station of a system from one's own PC at the office.

IT Client   IT Client   PC Client

IT Server

PLC   Web

PC Client
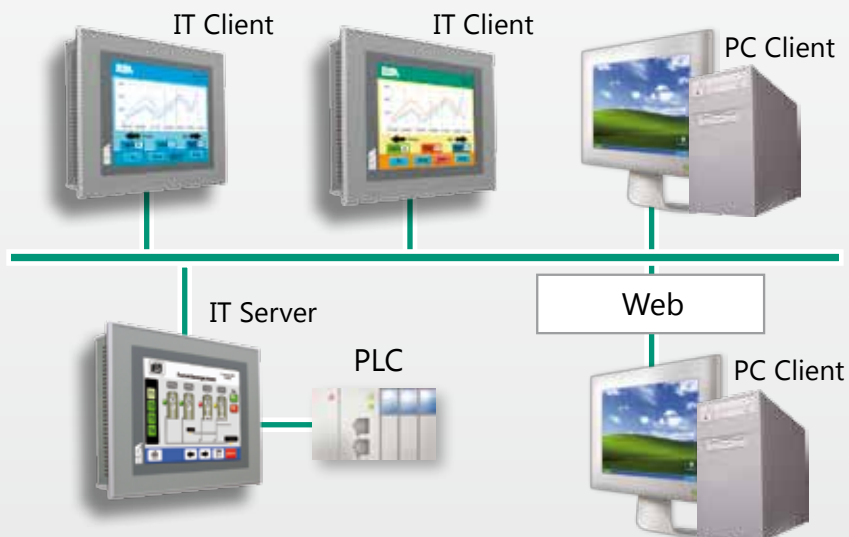
Newsletter

The use of new channels of communication, like Internet and the web-site, allow us to be in closer touch with customers, making it easier to offer them timely information and up-to-date news.

Customer Care

- High level of expertise
- Many years of experience
- Rapid response to customer needs and questions
- Completely free service
- Test laboratory
- Software and hardware testing

ESA web site: www.esahmi.com

- Direct contact with all ESA subsidiaries worldwide
- Fast interaction with the ESA world
- Simple and comprehensive products catalogue
- Guided search of the products
- News and downloads always up to date
- Quality Desk and new reserved Area
- Online shop

Training courses

- Highly qualified trainers
- Basic courses
- Advanced courses
- Practical tests on PCs, terminals and PLCs

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