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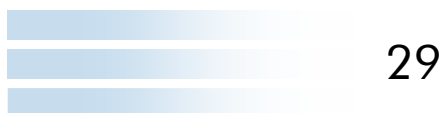
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Operator Terminals



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Display	VT50	VT60	VT150W	VT160W	VT170W	VT190W
Type	Text LCD					
Backlighting	LED					
Columns by Rows [text]	20x2		20x4			40x4
Display area size (mm h-v)	73,5x11,5		70,4x20,8			140,5x23,2
Text character Matrix (pixels h-v)	5x7					
Character dimensions (mm h-v)	3,2x5,5		2,95x4,75			2,8x4,9
Contrast adjustment	Trimmer					
Character set	Ascii, Katakana					

User memory						
Project (bytes)		256K		320K		256K
Recipes/Alarm buffer (bytes) ¹		-		32K/8K RAM		105K/8K RAM

Interfaces						
MSP serial port ²	RS232/422/485/TTY 20 mA					
ASP serial port ²		-			RS232 (9 pin)	
LPT parallel port ²			-			Centronics
Connection with optional keyboard		-	Yes	Integrated		-

Networks						
Integrated (option)		CAN	CAN, DP	Profibus-DP		-
Optional ³	Profibus-DP, Interbus-S, CAN					
ESA-Net (variables)			Client			Server ⁴ (128), Client

Dimensions						
External (W x H x D) (mm)		166x86x41	148x188x41	296x188x42	126x196x60	252x196x60
Cut-out (W x H) (mm)		157x77	123x175	See installation sheet	107x178	232x178

Technical data						
Power supply/Power consumed (24 Vdc)		18...32 Vdc/5 W	18...32 Vdc/15 W		18...32 Vdc/9 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	0,88	0,9	1,5
Certificates of approval		CE, RINA, cULus		CE, cULus		

Main features						
Project Languages		4		6		8
Password levels/Bit passwords		-/8			10/8	
Pages/Fields per page		127/12		1024/32	1024/16	1024/32
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)				-		64/512
Macros (Number/Commands per macro)		-			1024/16	
Print pages (Total/Number of fields per page)			-		1024/64	1024/128
Automatic operations/Timers		20/20		32/32		-
Equations			32			-

Keyboard						
Operative/function/alphanumeric keys		8/5/-	6/4/-	9/5/11	9/23/11	13/12/11 14/24/11

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

Text terminals



VT50
LCD 20 x 2
8 keys



VT150W
LCD 20 x 4
25 keys



VT160W
LCD 20 x 4
43 keys



VT60
LCD 20 x 4
6 keys



VT170W
LCD 20 x 4
36 keys



VT190W
LCD 40 x 4
49 keys

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

Text terminals codes and descriptions

VT050 00000	Interfaces: MSP - Project: 256 KB
VT050 000CN	Interfaces: ASP8, CAN network - Project: 256 KB
VT060 00000	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
VT160W 00000	Interfaces: MSP - Project: 256 KB
VT160W 000DP	Interfaces: MSP, Profibus-DP network - Project: 256 KB
VT170W A0000	Interfaces: MSP, ASP (9 pin) - Project: 320 KB - Recipes: 32 KB
VT190W A0000	Interfaces: MSP, ASP (9 pin) - Project: 256 KB - Recipes: 105 KB
VT190W AP000	Interfaces: MSP, ASP (9 pin), LPT - Project: 256 KB - Recipes: 105 KB

¹ - Models without ESA Logo are available

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	VT300W	VT310W	VT320W	VT330W
Type	Graphic LCD monochrome STN		Graphic LCD 16 colors STN	Graphic LCD 256 colors TFT
Backlighting	LED	CCFL		
Min. lamp life at 25°C (h)	-	10.000	15.000	30.000
Resolution in pixels h-v (inches)	240x64	240x128 (5,5")	320x240 (5,7")	640x480 (10,4")
Display area size (mm h-v)	132x39	123x68	115,6x87	211,2x158
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+384K		192K+832K	640K+1792K
Recipes/Alarm buffer (bytes) ¹	128K/8K RAM		256K/8K RAM	
Memory card for backup/Expansion (bytes)	4M/-			8M/4M (graphic)

Interfaces				
MSP serial port	RS232/422/485/TTY 20 mA			
ASP serial port ²	RS232/RS485 (15 pin)			
LPT parallel port ²	Centronics			
Connection with optional keyboard	Yes			-

Networks				
Integrated (option)	CAN	-		
Optional ³	Profibus-DP, Interbus-S, CAN			
ESA-Net (variables)	Server (256), Client			

Dimensions				
External (W x H x D) (mm)	252x196x60		305x196x60	435x260x74
Cut-out (W x H) (mm)	232x178		275x176	403x240

Technical data				
Power supply/Power consumed (24 Vdc)	18...32 Vdc/11 W		18...32 Vdc/15 W	18...32 Vdc/15 W
Protection level	IP 65 (front)			
Operating temperature (°C)	0...+50			
Storage/transport temperature (°C)	-20...+60			
Humidity (non-condensing)	<85%			
Weight (kg)	1,5	2	4	
Certificates of approval	CE, cULus			

Main features				
Project Languages	8			
Password levels/Bit passwords	10/8			
Pages/Fields per page	1024/80	1024/96	1024/112	1024/304
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	1024/1024			
Help messages (pages/info messages/alarms)	1024/1024/1024			
Alarm history buffer	256			
Recipes (Number/Variables per recipe)	1024/256		2048/512	1024/512
Trends (Memory/Number of samples)	512/240		4096/320	8192/640
Pipelines (Number/Total bytes)	64/512			
Macros (Number/Commands per macro)	1024/16			
Print pages (Total/Number of fields per page)	1024/128			
Automatic operations/Timers/Equations	32/32/32			
Max bargraphs per page (taken together with fields)	80	96	112	304
Indicators,potentiometers,selectors per page	-	-	-	256
Project images	BMP, JPEG, TIFF, PSD, WMF, PNG, EPS, ETC...			
Hardware clock	With battery			

Keyboard				
Operative/function/alphanumeric keys	14/24/11	14/21/11	13/28/11	19/28/27

① - With battery

② - See model for availability: check table of codes on following page

③ - Obtainable using VTPROFI/DP, VTINTERBUS and VTCAN

Graphic terminals



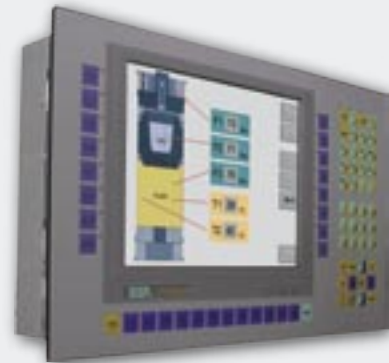
VT300W
Monochrome STN LCD
240 x 64 - 49 keys



VT320W
16-Color STN LCD
320 x 240 (5,7") - 52 keys



VT310W
Monochrome STN LCD
240 x 128 (5,5") - 46 keys



VT330W
256-Color TFT LCD
640 x 480 (10,4") - 72 keys

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

Graphic terminals codes and descriptions

VT300W A0000	Interfaces: MSP, ASP - Project: 512 KB - Recipes: 128 KB
VT300W AP000	Interfaces: MSP, ASP, LPT - Project: 512 KB - Recipes: 128 KB
VT300W 000CN	Interfaces: MSP, CAN network - Project: 512 KB - Recipes: 128 KB
VT310W A0000	Interfaces: MSP, ASP - Project: 512 KB - Recipes: 128 KB
VT310W AP000	Interfaces: MSP, ASP, LPT - Project: 512 KB - Recipes: 128 KB
VT320W A0000	Interfaces: MSP, ASP - Project: 1 MB - Recipes: 256 KB
VT320W AP000	Interfaces: MSP, ASP, LPT - Project: 1 MB - Recipes: 256 KB
VT330W APT00	Interfaces: MSP, ASP, LPT - Project: 2 MB - Recipes: 256 KB

Accessories codes and descriptions

VTBUTONCELL	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	VT185W
Type	Graphic LCD 4 tones of grey STN	Graphic LCD 16 colors TFT
Touch Screen Matrix (cell dimension in pixels h-v)	20x8 (12x16)	20x16 (16x15)
Backlighting	LED	
Min. lamp life at 25°C (h)	-	
Resolution pixels h-v (inches)	240x128 (4")	320x240 (3,6")
Display area size (mm h-v)	94,5x54,5	75,5x57,3
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	960K
Recipes/Alarm buffer (bytes)	16K/8K FLASH	32K/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	

Main features		
Project Languages	4	6
Password levels/Bit passwords	10/8	
Pages/Fields per page	64/32	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
Help messages (pages/info messages/alarms)	64/256/256	150/256/256
Alarm history buffer	220	256
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	
Automatic operations/Timers/Equations	32/32/32	
Max bargraphs per page (taken together with fields)	32	48
Indicators,potentiometers,selectors per page	-	256
Project images	BMP, JPEG, TIFF, PSD, WMF, PNG, EPS, ETC...	
Buttons per page	Number of buttons corresponding to the number of Touch-Screen cells	
Hardware Clock	Supercapacitor 72 hours	

① - See model for availability: check table of codes on following page

② - Obtainable using VTPROFI/DP, VTINTERBUS and VTCAN

Touch screen terminals



VT155W
4 Tones of gray STN LCD
240 x 128 (4")

VT185W
LCD 16-Colors TFT
320 x 240 (3,6")



- 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

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	

Accessories codes and descriptions

PROTFILM4	Transparent adhesive protective foils for 4" Touch Screen (5 pieces)
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Display	VT505W	VT515W	VT525W	VT555W	VT560W
Type	Graphic LCD 4 tones of blue STN		Graphic LCD 16 colors STN	Graphic LCD mono STN	Graphic LCD 8 tones of blue/16 colors STN
Touch Screen Matrix (cell dimension in pixels h-v)	20x16 (16x15)			20x8 (12x16)	20x16 (16x15)
Backlighting	CCFL				
Min. lamp life at 25°C (h)	45.000		50.000	15.000	50.000
Resolution pixels h-v (inches)	320x240 (5,7")			240x128 (5,5")	320x240 (5,7")
Display area size (mm h-v)	115,17x86,37			123x68	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		960K	192K + 384K	192K + 832K
Recipes/Alarm buffer (bytes) ¹	16K/- FLASH	16K/8K FLASH	32K/8K FLASH	128K/8K RAM	
Memory card for backup/Extension (bytes)					4M

Interfaces					
MSP serial port ²	RS232/422/485/TTY 20 mA				
ASP serial port ²	RS232 (8 pin)			RS232/RS485 (15 pin)	
LPT parallel port	-			Centronics	-

Networks					
Integrated (option)	CAN, Profibus-DP, Ethernet			CAN, Profibus-DP	-
Optional ³	Profibus-DP, Interbus-S, CAN				
ESA-Net (variables)	Client			Server (256), 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				

Main features					
Project Languages	4		6	8	
Password levels/Bit passwords	10/8				
Pages/Fields per page	128/34		150/48	1024/96	1024/112
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		1024/1024	
Help messages (pages/info messages/alarms)	128/256/-	128/256/256	150/256/256	1024/1024/1024	
Alarm history buffer	-	220		256	
Recipes (Number/Variables per recipe)	128/256			1024/256	1024/512
Trends (Memory/Number of samples)	-			512/240	4096/320
Pipelines (Number/Total bytes)	-			64/512	
Macros (Number/Commands per macro)	1024/16				
Print pages (Total/Number of fields per page)	-		64/128	1024/128	
Automatic operations/Timers/Equations	32/32/32				
Max bargraphs per page (taken together with fields)	34		48	96	112
Indicators,potentiometers,selectors per page	-				64
Project images	BMP, JPEG, TIFF, PSD, WMF, PNG, EPS, ETC...				
Buttons per page	Number of buttons corresponding to the number of Touch-Screen cells				
Hardware Clock	-	Supercapacitor 72 hours		With battery	

① - Need battery (VT555W/VT560W)

② - See model for availability: check table of codes on following page

③ - Obtainable using VTPROFI/DP, VTINTERBUS and VTCAN

Touch screen terminals



VT555W
Monochrome STN LCD
240 x 128 (5,5")



VT515W
4 Tones of blue STN LCD
320 x 240 (5,7")



VT560W
8 Tones of blue/
16-Color STN LCD
320 x 240 (5,7")



VT525W
16-Color STN LCD
320 x 240 (5,7")



VT505W
4 Tones of blue STN LCD
320 x 240 (5,7")

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

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

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	VT575W	VT580W	VT585W(B)	VT595W
Type	Graphic LCD 8 tones of grey/256 colors STN	Graphic LCD 256 colors STN	Graphic LCD 256 colors TFT	Graphic LCD 256 colors TFT	Graphic LCD 256 colors TFT
Touch Screen Matrix (cell dimension in pixels h-v)	20x16 (16x15)	40x30 (16x16)	50x40 (16x15)	40x30 (16x16)	50x40 (16x15)
Backlighting	CCFL				
Min. lamp life at 25°C (h)	50.000	20.000	50.000	30.000	50.000
Resolution pixels h-v (inches)	320x240 (5,7")	640x480 (7,5")	800x600 (8,4")	640x480 (10,4")	800x600 (12,1")
Display area size (mm h-v)	115,17x86,37	158x118	170,4x127,8	211,2 x 158	246x185
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 (bytes)	4M	8M

Interfaces		
MSP serial port	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	Server (1024), Client

Dimensions			
External (W x H x D) (mm)	210x158x61,2	245,9x188,6x37,6	336,3x256x44
Cut-out (W x H) (mm)	198x148	233X176	314X240

Technical data				
Power supply/Power consumed (24 Vdc)	18...32 Vdc/15 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	1,5	1,9	2,1
Certificates of approval	CE, cULus			

Main features				
Project Languages	8			
Password levels/Bit passwords	10/8			
Pages/Fields per page	1024/112	1024/256	1024/320	1024/400
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	1024/1024			
Help messages (pages/info messages/alarms)	1024/1024/1024			
Alarm history buffer	256			
Recipes (Number/Variables per recipe)	1024/512			
Trends (Memory/Number of samples)	4096/320	6144/480	8192/640	8192/640
Pipelines (Number/Total bytes)	64/512			
Macros (Number/Commands per macro)	1024/16			
Print pages (Total/Number of fields per page)	1024/128			
Automatic operations/Timers/Equations	32/32/32			
Max bargraphs per page (taken together with fields)	112	256	320	400
Indicators,potentiometers,selectors per page	64	128	256	256
Project images	BMP, JPEG, TIFF, PSD, WMF, PNG, EPS, ETC...			
Buttons per page	Number of buttons corresponding to the number of Touch-Screen cells			
Hardware Clock	With battery	Supercapacitor 72 hours		

① - Need battery (VT565W)

② - See model for availability: check table of codes on following page

③ - Obtainable using VTPROFI/DP, VTINTERBUS and VTCAN

High Performance Touch screen terminals



VT575W
256-Color STN LCD
640 x 480 (7,5")



VT580W
256-Color TFT LCD
800 x 600 (8,4")



VT585W(B)
256-Color TFT LCD
640 x 480 (10,4")



VT565W
8 Tones of gray/256-Color STN LCD
320 x 240 (5,7")



VT595W
256-Color TFT LCD
800 x 600 (12,1")

Main characteristics (model dependant):

- High resolution graphic displays
- 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
- Parallel printing
- Integrated Profibus-DP and CAN
- Integrated Ethernet 10/100

Touch Terminals codes and descriptions

VT565W A0000	Interfaces: MSP, ASP - Project: 1 MB - Recipes: 128 KB (Color)
VT565W AP000	Interfaces: MSP, ASP, LPT - Project: 1 MB - Recipes: 128 KB (Color)
VT565W A0M00	Interfaces: MSP, ASP - Project: 1 MB - Recipes: 128 KB (Tones of gray)
VT565W APM00	Interfaces: MSP, ASP, LPT - Project: 1 MB - Recipes: 128 KB (Tones of gray)
VT575W APS00	Interfaces: MSP, ASP, LPT - Project: 7 MB - Recipes: 128 KB
VT575W OPSCN	Interfaces: MSP, LPT CAN network - Project: 7 MB - Recipes: 128 KB
VT575W OPSDP	Interfaces: MSP, LPT Profibus-DP network - Project: 7 MB - Recipes: 128 KB
VT575W OPSET	Interfaces: MSP, ASP, LPT Ethernet network - Project: 7 MB - Recipes: 128 KB
VT585W BPT00	Interfaces: MSP, ASP, LPT - Project: 7 MB - Recipes: 128 KB
VT585W BPTCN	Interfaces: MSP, LPT CAN network - Project: 7 MB - Recipes: 128 KB
VT585W BPTDP	Interfaces: MSP, LPT Profibus-DP network - Project: 7 MB - Recipes: 128 KB
VT585W BPTET	Interfaces: MSP, LPT, Ethernet network - Project: 7 MB - Recipes: 128 KB
VT580W APT00	Interfaces: MSP, ASP, LPT - Project: 7 MB - Recipes: 128 KB
VT580W OPTCN	Interfaces: MSP, LPT CAN network - Project: 7 MB - Recipes: 128 KB
VT580W OPTDP	Interfaces: MSP, LPT Profibus-DP network - Project: 7 MB - Recipes: 128 KB
VT580W OPTET	Interfaces: MSP, LPT Ethernet network - Project: 7 MB - Recipes: 128 KB
VT595W APT00	Interfaces: MSP, ASP, LPT - Project: 7 MB - Recipes: 128 KB
VT595W OPTCN	Interfaces: MSP, LPT CAN network - Project: 7 MB - Recipes: 128 KB
VT595W OPTDP	Interfaces: MSP, LPT Profibus-DP network - Project: 7 MB - Recipes: 128 KB
VT595W OPTET	Interfaces: MSP, LPT, Ethernet network - Project: 7 MB - Recipes: 128 KB

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 (VT575W, 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)

Display	VT505H	VT525H
Type	Graphic LCD 4 tones of blue STN	Graphic LCD 16 color STN
Touch Screen Matrix (cell dimension in pixels h-v)	20x16 (16x15)	
Backlighting	CCFL	
Min. lamp life at 25°C (h)	45.000	50.000
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	VT505H	VT525H
Project (text+graphic) (bytes)	640K	960K
Recipes/Alarm buffer (bytes)	16K/- FLASH	32K/8K FLASH
Memory card for backup/Expansion (bytes)	-	

Interfaces	VT505H	VT525H
MSP serial port	RS232/422/485/TTY 20 mA - on VTHCB (excluded CAN version)	
ASP15L serial port	-	RS232 - on VTHCB (excluded CAN version)
LPT parallel port	-	

Networks	VT505H	VT525H
Integrated (option)	CAN	-
Optional	-	
ESA-Net	Client	

Dimensions	VT505H	VT525H
External (W x H x D) (mm)	250x222x100	
Cut-out (W x H) (mm)	-	

Technical data	VT505H	VT525H
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	

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 72 hours

Touch keyboard	VT505H	VT525H
Function keys	10	10

Hand Held Touch Screen Terminals



VT525H
 Graphic LCD 16-color STN
 320 x 240 (5,7")
 10 Touches function



VT505H
 Graphic LCD 4 tones of blue STN
 320 x 240 (5,7")
 10 Touches function



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

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

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

* Version without VTHCB (Hand Held connection box)

** To be purchased strictly together with VTHCB000000

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
CROUZET	
CVPLC 20102	Console 88750309 - RS232
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 32302	DL405 CPU Port, DL405 DCM, DL305 DCU - RS232

CVPLC

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

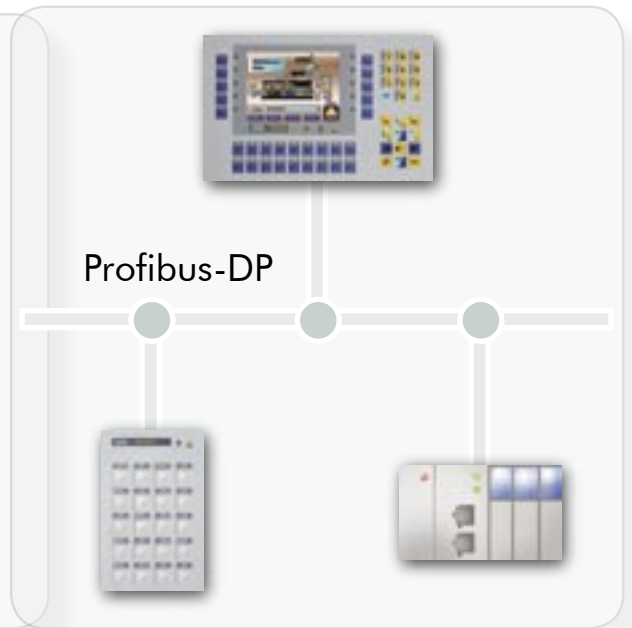
CVPLC 32402	DL405 DCM, DL305 Rs422 DCU - RS422
CVPLC 32502	DL305 Rs422 DCU - RS232
KUHNKE	
CVPLC 07602	KUBES
MICROLINK	
CVPLC 31102	ML-14 - RS232
CVPLC 31202	ML-14 - RS485
MITSUBISHI	
CVPLC 05102	A series (Computer Link - RS232)
CVPLC 05202	FX series
CVPLC 05302	SC-05 Cable (distance > 15 mt.)
CVPLC 05402	A series (max. length 15 mt.)
CVPLC 05502	FX0 series
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

Cables and VT accessories



MT20DP

Twenty key, two LED keyboard with buzzer



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)



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 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
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
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
VIPA	CPU 241/242/243/244/214/215/216

Other devices

ABB	Indax/Triax/Pentax/Bivector 300
AIKE	Domaike Controller
ALLEN-BRADLEY	IMC S-CLASS
ASCON	XS/XP/XN/XC/XT/XF
ATLAS COPCO	DMC
BERGER LAHR	Twin Line Series
CMZ CONTROLS	Modbus protocol
CONTROL TECHNIQ.	UNIDRIVE/Commander SE
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	Cecal 800/1600/1800
HBM BALANCE	WE 2110/EW22
HENGSTLER	901/906
HITACHI	L-100/SJ100
INDRAMAT	PCCRO-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	Simover 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



Driver/Advantages

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

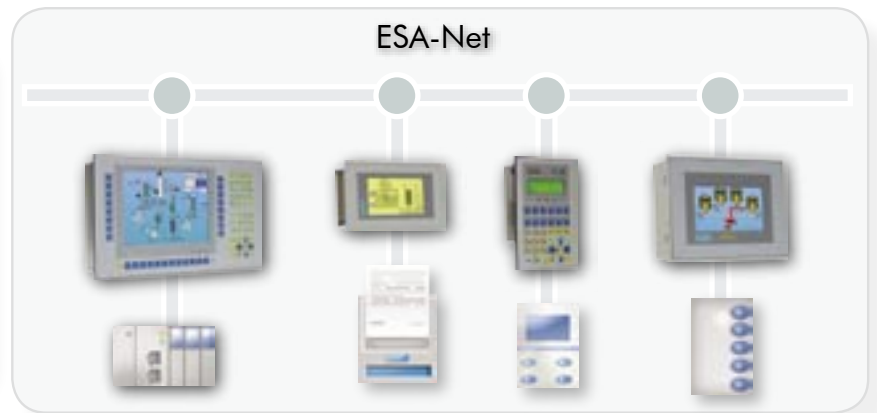
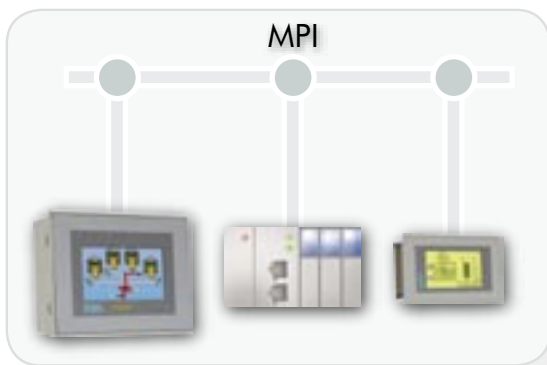
- Printed reports
- Files for translation

A wealth of drivers

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

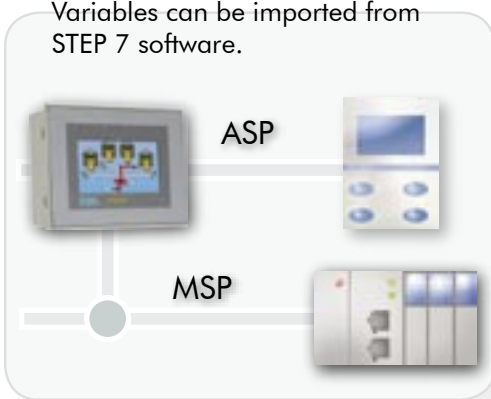
Certifications and Compliance standards

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



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-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.

Field buses

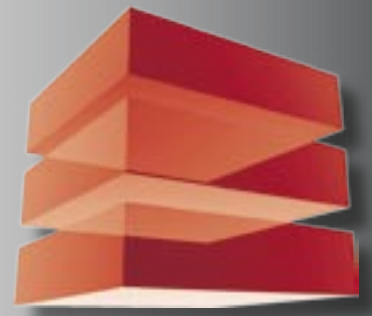
- Profibus-DP at 12 Mbit/s
Up to 127 terminals can be connected to a single master, via an integrated port or an external adapter
- Interbus-S at 500 Kbit/s
Up to 127 terminals can be connected to a single master via a 500 Kbit/s external adapter
- CAN
Choice of integrated port or external adapter. Full potential can be exploited via customized protocols
- Modbus RTU
Master and Slave

Double Driver

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

Ethernet

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



Enhanced Terminals



24 IT Terminals

26 Features

27 Features

Display	IT105B	IT105S	IT105T	IT107T
Graphic type	LCD 16 blue tones	STN Graphic LCD 65k colors	TFT Graphic LCD 65k colors	TFT Graphic LCD 65k colors
Touch Screen	Analog touch screen			
Backlighting	CCFL			
Minimum lamp life at 25°C	45.000	50.000	40.000	40.000
Resolution pixel h-v (inches)	320x240 (5,7")	320x240 (5,7")	320x240 (5,7")	640x480 (7,5")

Processor			
CPU	Intel PXA270 312MHz		Intel PXA270 520MHz

System memory			
RAM (byte)	64M		
Resident flash array (byte)	32M		

Interfaces			
Serial port SP1	RS232/485		
Serial port SP2 (ITxxxxx1x)	RS232/485		
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)		245,9x188,6x37,6 (56,6)
Bore holes (W x H) (mm)	192x140		233x176

Clock			
Supercapacitor Hardware Clock	Supercapacitor 72h		

Technical specifications			
Power supply	18...32 Vdc		
Power consumption (24 Vdc)	~ 10 W		
Protection level	IP 65 frontal		
Working temperature (°C)	0...+50		
Storage/transport temperature (°C)	-20...+65		
Humidity (non-condensing)	85%		
Weight (kg)	~ 1,1		~ 2
Certifications	CE, cULus		

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
IT105S 0101	5,7" 65k color - Port: SP1 - Ethernet - STN
IT105S 0111	5,7" 65k color - Ports: SP1, SP2 - Ethernet - STN
IT105T 0111	5,7" 65k color - Ports: SP1, SP2 - Ethernet - TFT
IT107T 0111	7,5" 65k color - Ports: SP1, SP2 - Ethernet - TFT

IT TERMINALS



IT105B

5,7" 16 blue tones - Ethernet



IT105S

5,7" 65k Colors - Ethernet - STN



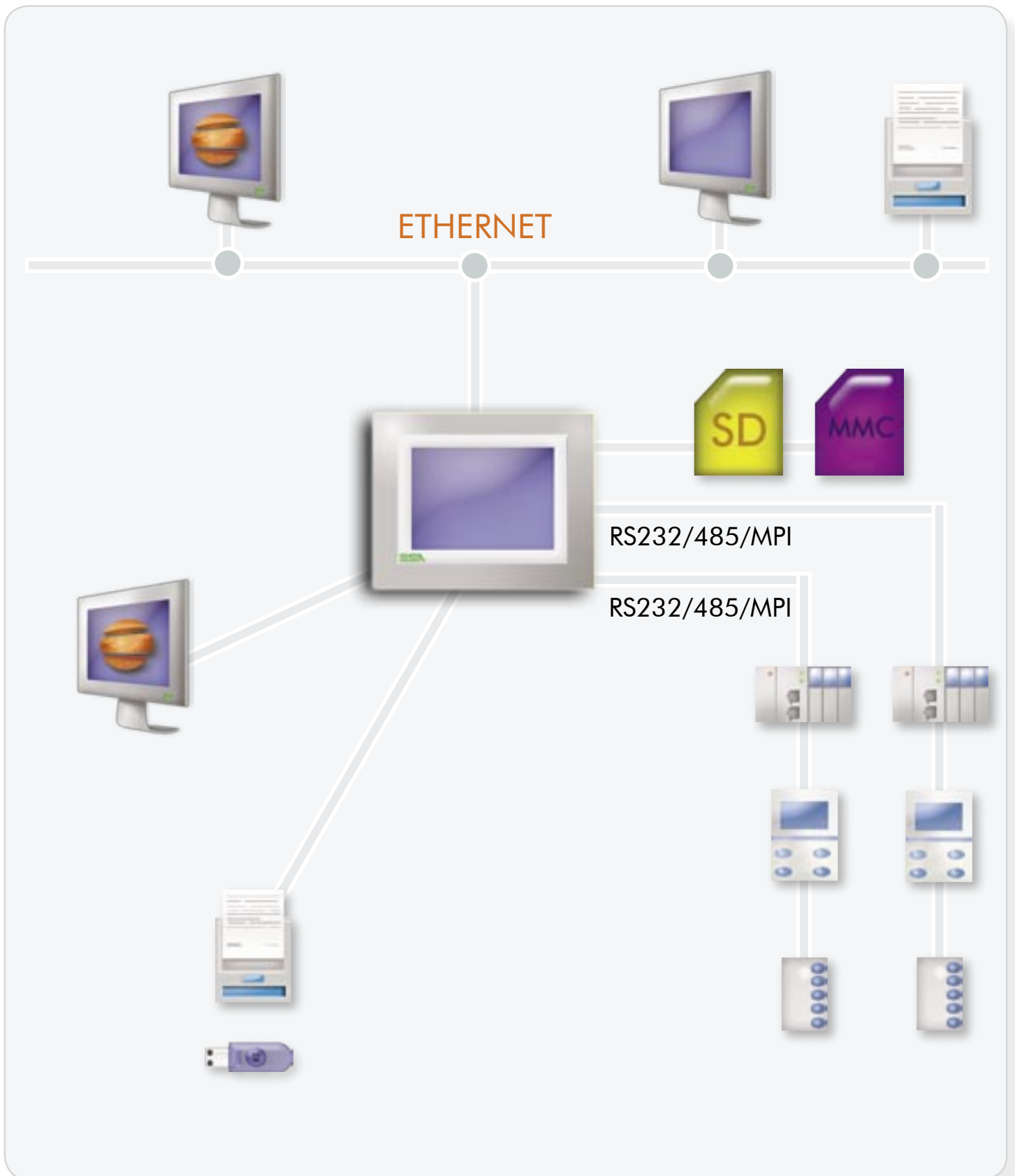
IT105T

5,7" 65k Colors - Ethernet - TFT



IT107T

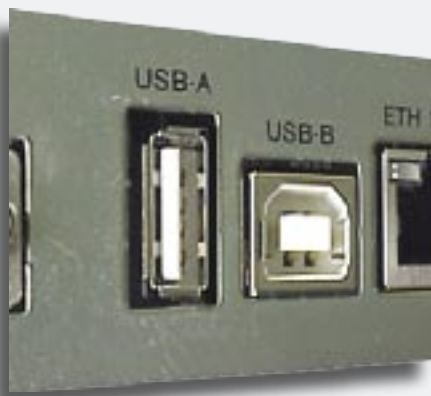
7,5" 65k Colors - Ethernet - TFT



Advantages



- ① Power supply
- ② Ethernet 10/100 BASE-T
- ③ Secure digital / MMC
- ④ SP1: PLC serial port, heat regulator, drives, etc.
- ⑤ USB - Host
- ⑥ USB - Device
- ⑦ SP2: PLC serial port, heat regulator, drives, etc.



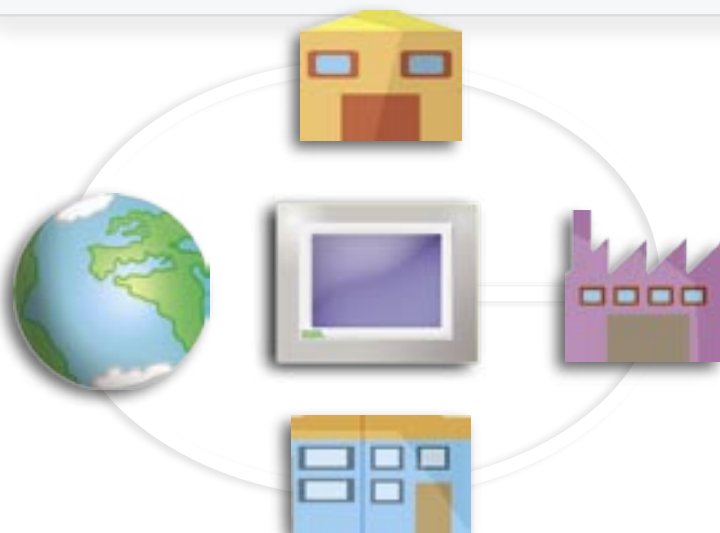
Double USB

IT series terminals are equipped with two USB ports, 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

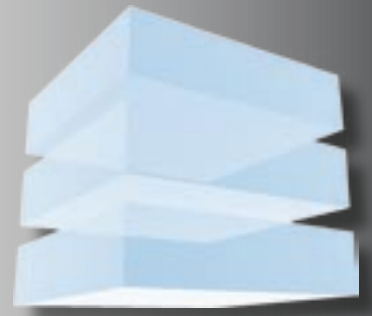
TFT 65000 color display

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.



Ethernet TCP/IP

Thanks to the standard TCP/IP network protocol on all IT family terminals, it is possible to interface the panel, then interchange data, with production devices, business/office applications and production management tools (SCADA, ERP, MES etc.).



Embedded Platforms



30	Terminals CE
32	PC Embedded XS
34	Advantages CE
35	Advantages XS

	VT575CE	VT585CE	VT595CE
Display			
Type	Graphic 256 color STN	Graphic 65k color TFT	
Touch Screen	Analog		
Backlighting	CCFL		
Min. lamp life at 25°C (h)	15.000	30.000	50.000
Resolution pixels h-v (inches)	640x480 (7,5")	640x480 (10,4")	800x600 (12,1")

Processor	
CPU	VIA Eden 400MHz

System memory	
System RAM (bytes)	128M
Resident flash array (bytes)	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 (in all models)	Ethernet 10/100 Mbit - RJ45

Dimensions			
External (W x H x D) (mm)	245,9x188,6x93	336,3x256x93	336,3x256x93
Cut-out (W x H) (mm)	233x176	314x240	314x240

Clock	
Hardware clock	With battery

Technical data	
Power supply	18...32 Vdc
Power consumed (24 Vdc)	~ 25 W
Protection level	IP 65 front
Operating temperature (°C)	0...+50
Storage/transport temperature (°C)	-20...+65
Humidity (non condensing)	85%
Weight (kg)	~ 3,8
Certificates of approval	CE

Installed Software	
Operating System	Microsoft® Windows® CE 4.2 .NET English

CE terminals



VT595CE
65k-Color TFT LCD
800 x 600 (12,1")



VT575CE
256-Color STN LCD
640 x 480 (7,5")



CIBPCIB
CIB board with
MSP and ASP ports



VT585CE
65k-Color TFT LCD
640 x 480 (10,4")

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

Codes and descriptions of CE terminals

VT575CE0S100	7,5" Display - Touch
VT575CE1S100	7,5" Display - Touch - CIB board MSP, ASP (integrated)
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
PROTFILM6	Transparent adhesive protective foils for Touch Screen 7,5" (5 pieces)
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

Display	XS585	XS595	XS615
Type	Graphic LCD 65k color TFT		
Touch Screen	Analog		
Backlighting	CCFL		
Min. lamp life at 25°C (h)	30.000	30.000	50.000
Resolution pixels h-v (inches)	640x480 (10,4")	800x600 (12,1")	1024x768 (15")

Processor		
CPU	Intel® Celeron® 400, 650 MHz	Intel® Celeron®M 600MHz - Pentium®M 1.1/1.6 GHz

System memory		
System RAM (bytes)	128 - 256 - 512 M	256 - 512 M
Resident flash array (bytes)	512 - 1024 M	1024-2048-HD

Disk drive		
CD ROM	-	1 (option)
HDD (byte)*	-	>40 G

Interfaces		
Standard serial port	RS232	3xRS232
Parallel port	Bidirectional	
USB port	v. 1.1	3x v. 2.0
Mouse PS/2 port	1	1 + adapter
Keyboard PS/2 port	1	
CardBus slots (for Compact Flash)	1	-
PCI slots	1	
Video CRT out	-	1

Networks		
Integrated (in all models)	Ethernet 10/100 Mbit - RJ45	

Dimensions			
External (W x H x D) (mm)	336,3x256x93	336,3x256x93	425x300x126.5
Cut-out (W x H) (mm)	314x240	314x240	399x274

Clock		
Hardware clock	With battery	

Technical data		
Power supply	18...32 Vdc	
Power consumed (24 Vdc)	~ 25 W	~ 80 W
Protection level	IP 65 front	
Operating temperature (°C)	0...+50	
Storage/transport temperature (°C)	-20...+65	
Humidity (non condensing)	85%	
Weight (kg)	~ 5,4	~ 7,5
Certificates of approval	CE, cULus	

Installed Software		
Operating System	Microsoft® Windows® XP Embedded English	Microsoft® Windows® XP Embedded English Microsoft® Windows® XP Pro SP2 English

* alternative to Flash Array

ePC XS



XS595
65k-Colors TFT LCD
800 x 600 (12,1")



XS585
65k-Colors TFT LCD
640 x 480 (10,4")

These new products are based on PC technology with Celeron family processors which are powerful, scalable and economical in terms of energy consumption. They offer wide-ranging connectivity thanks to standard PC interfaces, including Ethernet. Furthermore, the Windows® XP Embedded guarantees compatibility with applications used on PCs. The architecture has been specially designed for industrial environments, where critical conditions can subject rotating parts (like hard disks and fans) to great stress. These products, in fact, do not require cooling fans and use an internal Flash as mass memory, thereby minimizing the need for maintenance.



XS615
LCD 65k Colors TFT
1024 x 768 (15")

Features for CE Terminals

New architecture:

- New family of processors (VIA Eden 400MHz) with increased power
- Same technical characteristics and interfaces for all three models whose only differences lie in their dimensions and display type
- 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

Top-level reliability:

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

Increased flexibility:

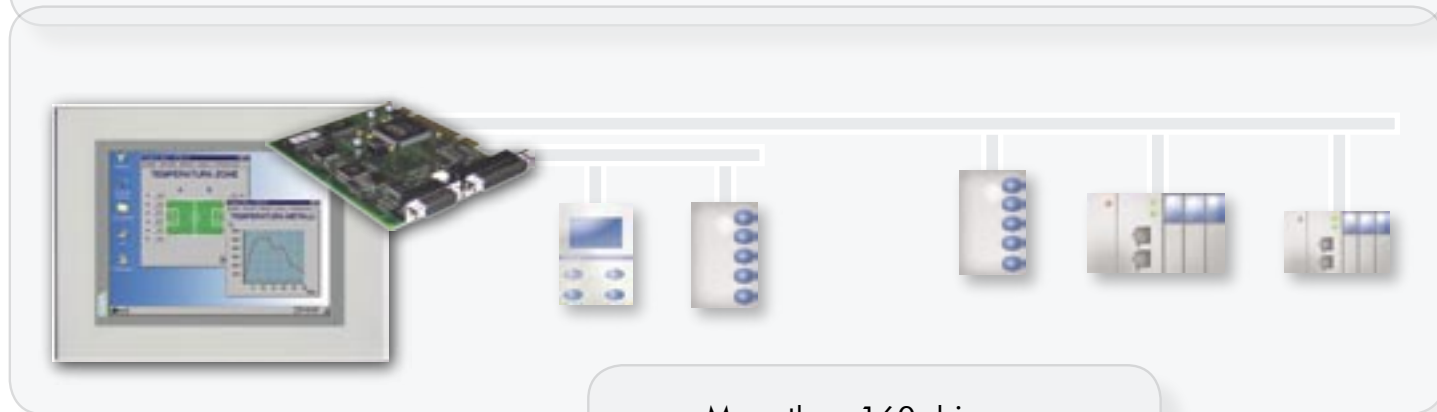
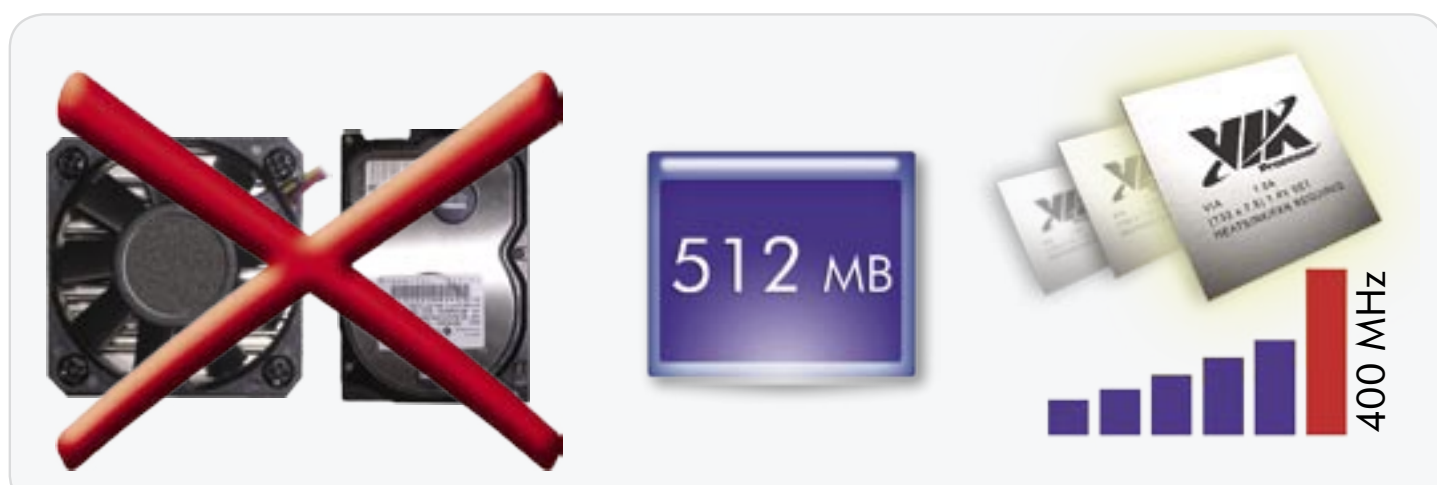
- Can be used both with Scada applications available on the market and with proprietary applications written by the user in the most widely used languages

Autorun

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

Included in the image installed in the terminal:

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



More than 160 drivers
Same cables as Operator Terminals
See pages 18 and 20



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++).

Features for XS Terminals

Architecture:

- New family of processors (Intel® Celeron® 400-650MHz Pentium® M 933MHz) with increased power
- Same technical characteristics and interfaces for all three models whose only differences lie in their dimensions and display type
- PCI bus with 1 slot available for user
- Mass memory expansion on Compact Flash or CardBus slots
- Windows® XPe operating system
- Ethernet 10/100 On-board

Top-level reliability:

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

Autorun

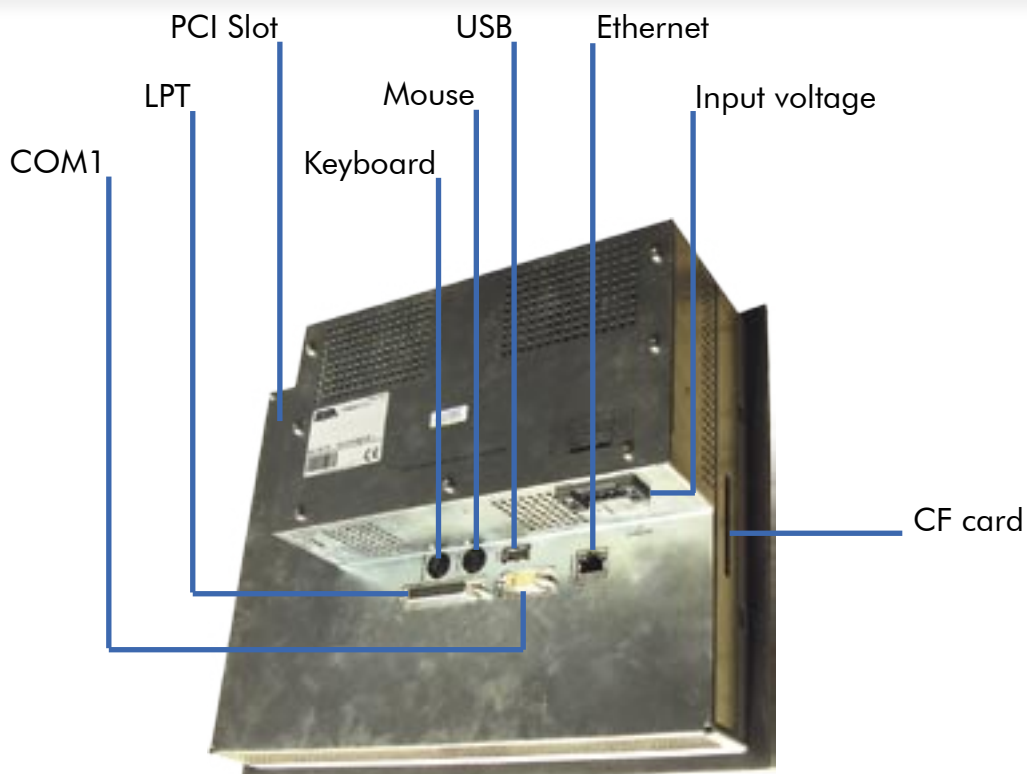
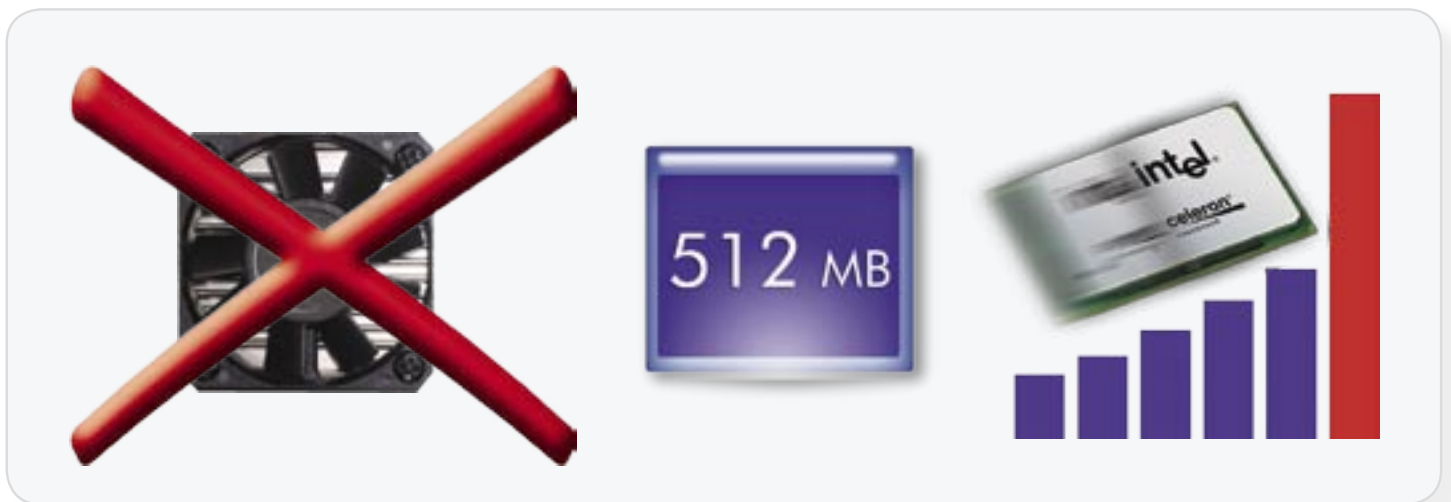
- Autorun function for starting the application automatically the moment the terminal is switched on

Greater flexibility

- The architecture provides for the possibility of extending the RAM memory and the mass memory and increasing the power of the processor to make the product comparable with a PC

Complete compatibility with PCs

- The XP Embedded operating system also ensures compatibility with the applications used on PCs



XS Configurator

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

585: LCD 10,4" 65K-Colors
595: LCD 12,1" 65K-Colors

2: Intel® Celeron® 400MHz
3: Intel® Celeron® 650MHz

0: 128 MB RAM
1: 256 MB RAM
2: 512 MB RAM

3: 512 MB Flash
4: 1024 MB Flash

Operating System codes and descriptions

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
PROTFILM10	Transparent adhesive protective foils for Touch Screen 10" (5 pieces)
PROTFILM12	Transparent adhesive protective foils for Touch Screen 12" (5 pieces)

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

615: LCD 15"

4: Intel® Celeron® M600MHz
5: Intel® Pentium® M1.1MHz
6: Intel® Pentium® M1.6MHz+fan

1: 256 MB RAM
2: 512 MB RAM

4: 1024 MB Flash
5: 2048 MB Flash
H: Hard Disk > 40 GB

0: No Disk Drive
1: CDROM

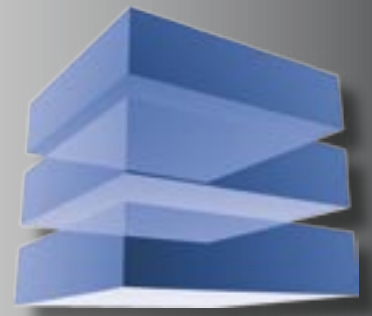
1: 2 x RS232

Operating System codes and descriptions

XSSYSWINXPEEN03	XP Embedded Operating System Basic Version (512 MB flash), English
XSSYSWINXPEEN00	Windows® XP professional, English (XS615 with HDD)

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)



Industrial PC



- 38 Panel PC and Workstation
- 40 Wallmount iPCs and LCD Monitors
- 42 Options and iPC accessories
- 44 Advantages of iPCs

General information	PC221x	PC222x	PC223x	PC2120
Chassis	Heavy-duty steel & aluminium front frame - IP65			Heavy-duty steel & aluminium front frame - IP65
Mounting	Panel mount		Rack	Rack, 8U height

Architecture				
CPU	Intel® Celeron™ 2GHz - Intel® Pentium® 4 2.4, 2.8GHz			
RAM Memory	128...1024 MB DDR			128...2048 MB DDR
LCD/CRT controller	Intel i845GV, AGP 4X			Intel 82845GV
Ethernet Network (LAN)	10/100 Base-T			
Disk Drives	HDD, FDD, CD-ROM/Combo			
Storage	Card Reader 6 in 1 CF I/II, SD, MMC, MS (PRO), SM			-
Free expansion slots	2 PCI			5 (up to 4 PCI or 5 ISA)

LCD Display specifications				
Type	12,1" SVGA color TFT	15" XGA color TFT	17" SXGA color TFT	15" XGA color TFT
Max. Resolution h-v (pixels)	800x600	1024x768	1280x1024	1024x768
Max. Colors	256k			
Dot size (mm h-v)	0,3075x0,3075	0,297x0,297	0,264x0,264	0,297x0,297
Luminance (cd/m ²)	350	260	260	250
Viewing angle (°)	140 (H) - 120 (V)	150 (H) - 145 (V)	140 (H) - 140 (V)	150 (H) - 125 (V)
Operating temperature (°C)	0...+50			
LCD/Back Light MTBF (h)	50.000	30.000	50.000	50.000

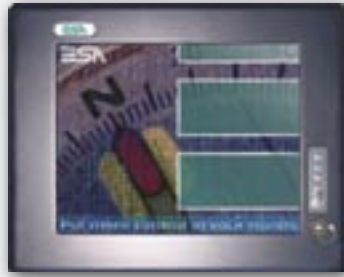
I/O ports				
Serial ports 120x/1301 series	2 x RS232 - 1 x RS232/422/485			1 x RS232 - 1 x RS232/422/485
Parallel port (supports ECP/EPP)	1			
Keyboard PS/2 port	1			
Mouse PS/2 interface	1			
USB connectors	5			2
VGA connectors	1			-
Soundcard connectors	MIC, Line-in, Speaker-out, S/P DIF-out			MIC, Line-in, Speaker
Digital I/O	up to 16 in or 16 out			-

Power supply				
Universal switching power supply	100...240Vac/250 W, 19...32 Vdc/200 W (250 W PC2120)			
Safety	UL, CUL, TUV			

Technical data				
Dimensions (W x H x D) (mm)	407x310,5x65	444x336x144	483x399x145	483x355x235
Cut-out (W x H) (mm)	333x297	405x299	449x367	437x342
Weight (kg)	12	15	18	26
Operating temperature (°C)	0...+50			
Storage temperature (°C)	-20...+60			
Storage humidity	10...90%, non condensing			
Vibration	5...500 Hz, 1G 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			-

Panel iPCs and Workstation



PC221x
256k-Color TFT LCD
800 x 600 (12,1")



PC223x
256k-Color TFT LCD
1280 x 1024 (17")



PC222x
256k-Color TFT LCD
1024 x 768 (15")

Main characteristics (depending on model):

- Completely configurable
- 6 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



PC2120
256k-Color TFT LCD
1024 x 768 (15")

PC codes and descriptions

PC2xxx	Refer to pages 42 and 43 for configuration
--------	--

General information	PC2000	PCDISPLAY12(TS)	PCDISPLAY15(TS)	PCDISPLAY17(TS)
Chassis	Heavy-duty stainless steel - IP65	Heavy-duty stainless steel & aluminium		front frame - IP65
Mounting	Panel mount	Panel mount/Rear mount		Panel mount/Rear mount/Rack 9U

Architecture				
CPU	up to Intel® Pentium® 4 2.8GHz		-	
RAM Memory	128...2048 MB DDR		-	
LCD/CRT controller	Intel 82845GV		-	
Ethernet Network (LAN)	10/100 Base-T		-	
Disk Drives	HDD, FDD, CD-ROM		-	
Free expansion slots	5 (upto 4 PCI or 3 ISA)		-	

LCD Display specifications				
Type	-	12,1" SVGA color TFT	15" XGA color TFT	17" SXGA color TFT
Max. Resolution h-v (pixels)	-	800x600	1024x768	1280x1024
Max. Colors	-	262K		16.2M
Dot size (mm h-v)	-	0,3075x0,3075	0,297x0,297	0,264x0,264
Luminance (cd/m ²)	-	350	250	300
Viewing angle (°)	-	140 (H) - 120 (V)	150 (H) - 145 (V)	160 (H) - 160 (V)
Operating temperature (°C)	-	0...+45		
Back Light MTBF (h)	-	50.000		40.000

I/O ports			
Serial ports	2 x RS232	RS232 for touch screen	
Parallel port (supports ECP/EPP)	1	-	
Keyboard PS/2 port	1	-	
Mouse PS/2 interface	1	-	
USB connectors	2	-	
VGA connectors	1	1 (for PC connection)	
Soundcard connectors	MIC, Line-in, Speaker	-	
Video input connectors	-	Composite, S-Video	

Power supply		
Universal switching power supply	18...30 Vdc/250 W	Input:100...240 Vac, output: 12 Vdc (external)
Safety	UL, CUL, TUV	UL, CUL, TUV

Technical data				
Dimensions (W x H x D) (mm)	330x408x172	366x291x85,7 ¹	444x336x90,3 ¹	483x399x94,2 ¹
Cut-out (W x H) (mm)	-	333x258	405x299	449x365
Weight (kg)	10	5,5	6,5	15,3
Operating temperature (°C)	0...+50	0...+45		
Storage temperature (°C)	-20...+60			
Storage humidity	10...90%, non condensing			
Vibration	5...17 Hz, 0,1" double-amplitude displacement -17...500 Hz, 1,5G peak to peak			
Shock	15G peak acceleration (11 msec. Duration)			
EMI	CE/FCC			

Touch screen (TS models)			
Type	-	Analog resistive	
Resolution (px)	-	1024x1024	4096x4096
Light transmission	-	75%	
Lifetime (millions of operations)	-	1	35
Operating pressure (g)	-	50	<113
Response time (ms)	-	<10	
OS support	-	MS DOS®, Windows® 3.1/95/98/NT/ME/2000/XP	

① - The total depth includes the rear-mounted power supply (37 mm)

Wallmount iPCs and LCD Monitors



PCDISPLAY12(TS)
262k-Color TFT LCD
800 x 600 (12,1")



PCDISPLAY15(TS)
262k-Color TFT LCD
1024 x 768 (15")



PC2000
Intel® Celeron™ Processor, P4



PCDISPLAY17(TS)
16M-Color TFT LCD
1280 x 1024 (17")

Features of wallmounted iPCs:

- Installable in cabinets
- Can be combined with panel monitor

Features of monitor:

- LCD display of 12", 15" or 17"
- Touch Screen
- VGA input
- Analog video (composite and S-video) input

PC/Monitor codes and descriptions

PC2000	Refer to pages 42 and 43 for configuration
PCDISPLAY12TS	12" LCD Monitor - Touch
PCDISPLAY12	12" LCD Monitor
PCDISPLAY15TS	15" LCD Monitor - Touch
PCDISPLAY15	15" LCD Monitor
PCDISPLAY17TS	17" LCD Monitor - Touch
PCDISPLAY17	17" LCD Monitor

A 1.5 m VGA connection cable is included with all monitors; a 1.5 m serial cable is also included with touch screen models

Options and iPC accessories

	PC221x	PC222x	PC223x	PC2120	PC2000
Main Board					
Standard	√	√	√	-	-
SBC860	-	-	-	√	√
CPU					
Intel® Celeron™ 566MHz	-	-	-	-	-
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					
20 GB 2,5"	-	-	-	-	-
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,

Accessories codes and descriptions

PCSYSWINPPPxx (xx=IT,EN,FR,GE,SP)	Windows® XP Professional SP2 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

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.

iPC Configurator

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

Category
0: Control Box
1: Workstation
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

Advantages of IPCs



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.



6 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) and Smart Media. In this way the customer can transfer or backup data using this type of support, standard and static, thus safe and reliable.

Front access

The Workstations (PCs with keyboard) have a system for opening the front that gives access to the CD-ROM and Floppy Disk drives without having to open the cabinet in which the PC is housed. The advantage is that of being able to access to the two drives without cutting off power to the machine. IP65 front protection is obtained when the PC is closed.



46	Polymath
48	Advantages of Polymath

POLYMATH

- What is Polymath? Polymath is ESA elettronica's new programming software for terminals based on Windows CE. It is developed by .NET technology and is aligned with the latest generation of configurators.

- Who should use Polymath? Users who want to continue using panels belonging to the VTWIN family with a more powerful editor offering a greater range of functions, and users who want to use the new IT family of panels (based on Windows CE), benefiting from its single development environment.

- What are Polymath's advantages? It has an interface that is both more modern and more complete and offers functions that keep abreast of the new requirements of HMIs. Polymath allows the user to use the editing and running phases of the project to their utmost both in terms of time and in terms of effectiveness. Among the many advantages offered by the standard operative system there stands out the fact that there are no longer limits to storage of data, of recipes and of alarms which are managed on the panels simply like files and storable in the integrated compact flash, on a removable support or in the network.

- Two versions: Basic which allows users to program only the VT product family, Advanced with all uses and for all product families.



Order codes of Polymath	
POLYMATHKIT	Polymath Software kit - Advanced Version
POLYMATHBASIC	Polymath Software kit - Basic Version
The kit includes the following products:	
CVUSB11102	Programming cable: USB-A PC --> USB-B IT
CVADUSB9M	USB-B --> 9 pin male adapter
CVAD9F25M	9 pin female --> 25 pin male adapter



All the terminals belonging to the Esa product range (VT, VTCE, IT) are configurable with a single software: Polymath.

VT Terminals

Text: VT50, VT60, VT150, VT160, VT170, VT190

Graphic: VT300, VT310, VT320, VT330

Touch: VT155, VT185, VT505, VT515, VT525, VT555, VT560

High performance Touch: VT565, VT575, VT580, VT585, VT595

Hand Held: VT505H, VT525H

Adapters: VTINTERBUS, VTCAN, VTPROFI/DP

VTCE Terminals

VT575CE, VT585CE, VT595CE

IT Terminals

IT105, IT107

Advantages of POLYMATH

Complex controls

Complex controls make it easy to manage data structures like trends, user groups, alarms and recipes. A single click allows you to add to the page an object that includes the complete control table and all the predefined keys for control.



Library of objects

Polymath has a rich library of objects that make a big graphic impact. The objects available, like buttons, indicators, valves, are divided into categories and are easy to position in the pages by drag&drop, making page layout extremely efficient. In addition, every object is configurable so that it can be adapted to the user's needs.

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.





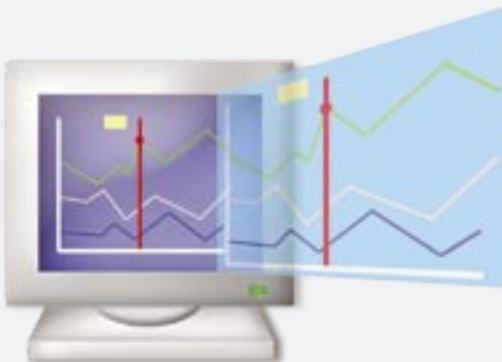
Frame

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.

Multistructural recipes

Different recipe structures, each containing a different variable number, can be managed.

The flexibility of this function means that sets of data can be prepared for different production sections managed by the same terminal, for product variants with different parameters, or for plant/machine variants.



Trends

Trends allow the user to monitor the variable progress by having graphics displayed and updated in real time. The analysis of the trend is made easier by Polymath which integrates useful navigation tools: zoom, interactive cursors and value fields.

Advantages of POLYMATH

Exporting data

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 too thanks to the LAN connection.



Reports

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.



User library

Management of projects and their components reaches maximum versatility thanks to the library: in it users can save any project component that has been personalized by them (pages, scripts, alarms, push-buttons etc...), to be reused later within the same project. In addition, the user library file can be copied to other PCs and used on them.





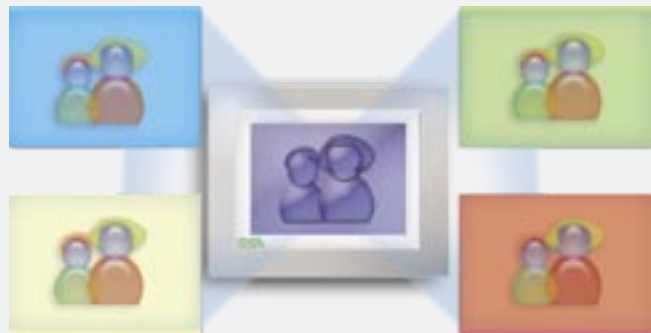
Copy/Paste

Every element of the project can be duplicated or copied and pasted into other parts of it. This function saves a lot of time in project creation.

User management

The aim of this function is to distinguish and to control the degree of operational freedom for each user in the course of any given work session.

Each project can be configured so as to control different users spread over 10 levels of authority. Any element or function can be protected by a password. It is also possible to trace users in a log file.



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.

Advantages of POLYMATH

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

Over and above the already considerable configuration possibilities, Polymath offers a further level of personalization using VBScript. VBScript is a standard language which allows users to create their own routines for managing the various elements of the project using simple functions and typical programming cycles.

Intellisense

It is thanks to Intellisense that Polymath makes it easier and quicker to create scripts showing the user at any given moment all the options available for each function or object property. The software with Intellisense is able to suggest a given function's or object's next option without the user explicitly declaring it.





Object properties

Users can define all the graphic properties, like color, dimensions, font... as well as functional properties like password level and associated functions... of all the elements in the project. In addition the scripting motor means that users can associate a script to any property, giving dynamic behavior to the to an object, for example disabling push buttons, coloring objects, displaying pages and exporting recipes...

Script execution

The execution of scripts can be associated with any anticipated or intentional event: change of value, exceeding a threshold, striking a key, elapsing of a timer, etc... Alternatively tasks can be executed in the background when the application starts up.



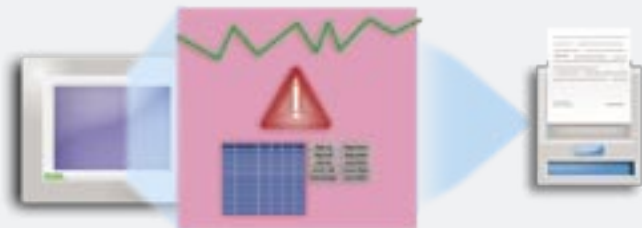
Windows fonts

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.

Advantages of POLYMATH

Import/Export of translations

The projects can be displayed as runtime in different languages. The texts in each language can be exported and saved in standard CSV format to be more easily edited by any future translator using standard packages.



Print

Project reports containing key data of the application or the entire displayed page can be printed at any given moment by connecting a local (USB, LPT) or network printer to the terminal.

Alarms

The alarms that are available correspond to the ISA standards. In addition, alarm recognition can be configured in accordance with personalized approaches directed at groups of alarms or individual alarms. These can be catalogued into groups, each with its own priority level.



Basic graphics

There is a vast range of standard graphic elements (potentiometers, indicators, geometrical figures) that allow users to draw their pages better and represent data.



Multilanguage function

The text elements of the project can be configured in various languages (including Oriental, Cyrillic, Greek 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 with old projects

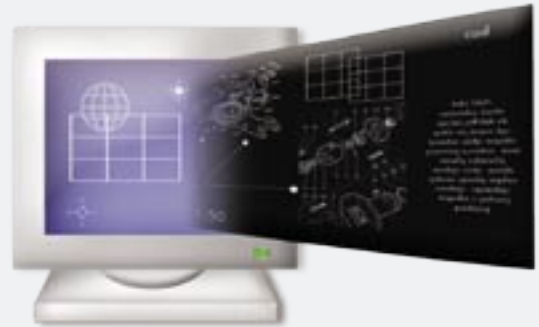
With Polymath all ESA family panels based on Windows CE can be managed; in addition, the software makes it possible to edit and compile projects created with earlier types of ESA software ESA (e.g.VTWIN), while at the same time not losing the use of the new functions that Polymath puts at the user's disposal, like Copy/Paste and User library.





DVG DXF format support

It is possible to import designs from AUTOCAD® or any other software that exports DWG or DXF formats.



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.



Personalized keyboards

Keyboards can be personalized for data inputting in shape, colour and contents in order to be used for projects in every language (Cyrillic, Greek, German, American English, Asian languages). It is possible to save the keyboards created in the library to be used for other projects.





VTCE and IT project conversion

It is possible to convert a project developed for a VTCE terminal into a project for IT and vice versa. This allows users to save time during programming.

Multiple Component Selection

It is possible to select more than one object at the same time: thus facilitating movement within the page reducing the project development time. The common options of the selected objects are also grouped together, so they can be varied with one click.



Page object lock

This function allows users to block the position of the object on the page, avoiding accidental movements and facilitating the positioning of the other objects within the page. Using multiple selection, only the non-blocked objects will be selected.





Software Comparison Table

	Polymath Basic	Polymath Advanced
Terminal Programming		
IT	-	√
VTCE	-	√
VT	√	√
Allarms		
ISA	√	√
Recipes		
Multistructure	-	√
Multiform	√	√
Trend		
Base	√	√
Interactive	-	√
Data export		
CSV	√	√
XML	-	√
Pendrive, SD, LAN	-	√
Translation import/export		
CSV	√	√
XML	-	√
Pendrive, SD, LAN	-	√
Security		
User management	-	√
Password	√	√
Script		
VBScript	-	√
Intellisense	-	√
Macro	√	√
Script Execution	-	√
Graphics		
Object ownership	√	√
Font Windows	√	√
Personalized keyboards	-	√
Multiple Component Selection	√	√
Object Lock	√	√
Complex Controls	-	√
Object Library	√	√
Copy/Paste	√	√
Pages		
Popup	-	√
Frame	-	√
Project simulator		
Navigator	√	√
Interactive navigator	-	√
Project		
User library	-	√
Old project compatibility	√	√
Guided creation	√	√
Automatic validation	-	√
Multi-language	√	√
Project conversion		
VTCE-IT	-	√
IT-IT	-	√
VT-IT	-	√
VT-VT	√	√
Report		
Saving	-	√
Graphics	-	√
Text	√	√
Print		
Project	√	√
Runtime	√	√

Accessories and Spare Parts



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.

Spare parts manual code and description

SPARE PARTS CD	CD with Spare Parts manual and Price List in Italian and English
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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.

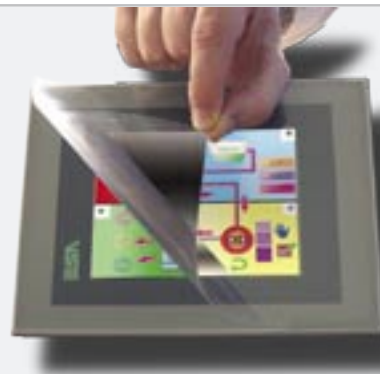
When to use PROTFILM?

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

Kits for 4", 6", 10" and 12" displays and for 6" hand-held terminals. 5 foils per kit.





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.

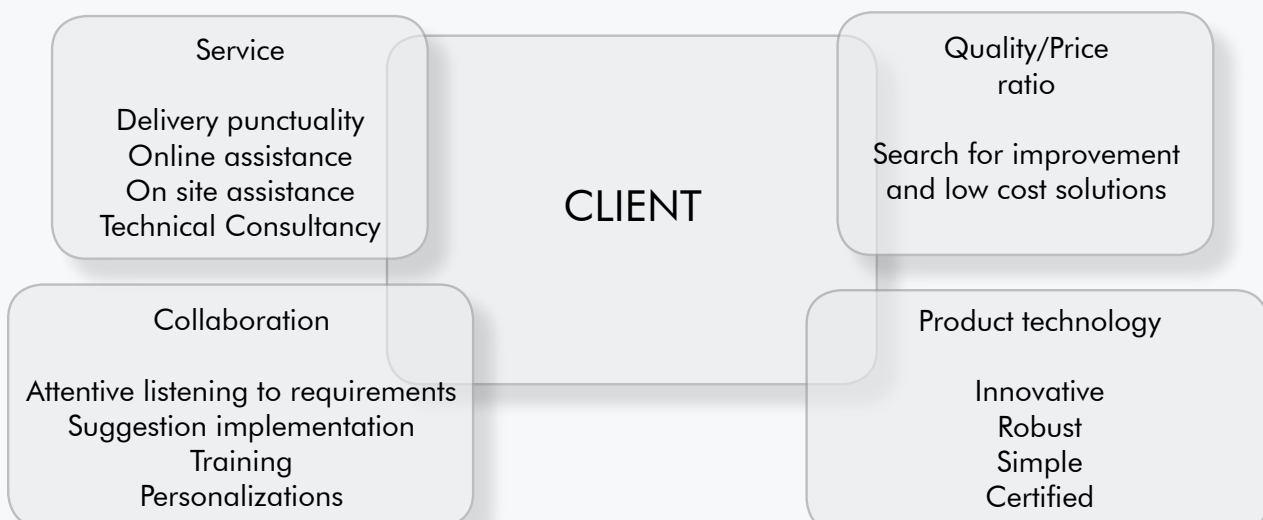
The attention to the client and to the management of company processes became consolidated in 2003 with the transfer to the ISO 9001:2000 (Vision 2000).

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.

The Management periodically verifies a series of measurable indicators which help us to set more and more ambitious objectives, in particular those expected by the client.

A DSS (Decision Support System) and various data collection databases allow users to have up-to-date statistics in real time which translate into rapid and precise responses.

The Client at the centre



How does the Quality System acknowledge the 4 company values of ESA Policy?

Product technology

Both HW and SW products are developed and kept up-to-date by an R&D department which pays attention to innovation. Permanent collaboration with the Universities is a clear example of this.

MKT specifications and the Project are monitored during Design Review meetings until the validation of the product which takes place both on its release and after a few months on sale on the market.

The robustness and constructive simplicity are highly regarded and are the starting basis for the manufacture of each new product.

Product certifications such as CE-UL, ATEX, DNV; RINA etc. are prepared in keeping with the regulations.

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, who operate according to precise specifications, are visited, periodically evaluated and urged to improve continuously.

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.

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.

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



www.esahmi.com

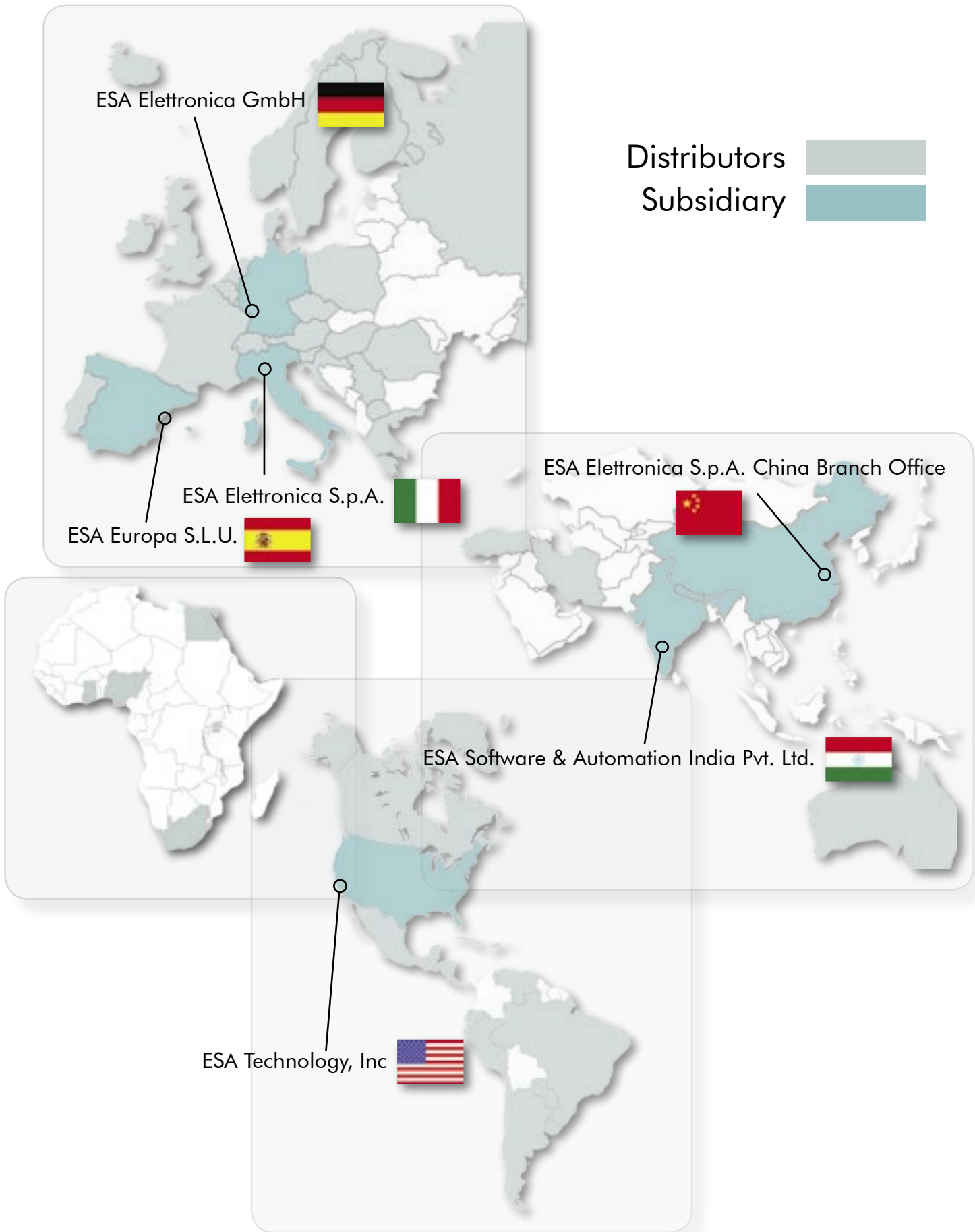
The use of new channels of communication, like Internet and the web-site, allow us to be in closer touch with customers, making it easier to offer them timely information and up-to-date news.



Training courses

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

ESA in the World



Mission: "Putting greater 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 15 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.



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