

Industrial Automation - Products & Configurations

			LP31 BASIC	POWER [W]	
			Basic configuration > note 1		
Basic configuration			LCD TFT 7" • Touch-Screen • Aluminum front panel • ARM Cortex A8, 800 MHz • 1 GB RAM • 256 MB NAND-Flash • 4GB eMMC PsuedoSLC • 1 optoisolated CAN channel • fanless • 24V DC power supply with MicroUPS • Windows Embedded Compact 7 Pro with Datalight Reliance Nitro file system • SoftPLC CODESYS SP v3.5x WinCE/ARM • Premium HMI WinCE BASIC runtime • ASEM UBIQUITY PRO WinCE runtime • ASEM System Manager • 12 months warranty	11	
SoftPLC	•	•	SoftPLC CODESYS SP v3.5x for WinCE/ARM runtime Protocols: EtherCAT Master, MODBUS TCP Master, MODBUS RTU Master, CANOpen Master Retentive variables: Automatic backup of retentive variables on eMMC at every system switch-off and/or power supply interruption	-	
HMI SOFTWARE	•	•	Premium HMI WinCE BASIC runtime	-	
	•	•	Premium HMI ADVANCED WinCE runtime	-	
REMOTE ASSISTANCE	•	•	ASEM UBIQUITY PRO WinCE runtime	-	
FRONT PANEL	•	•	Aluminum front panel • ASEM logo sticker	-	
PROCESSOR	•	•	ARM Cortex A8 processor • i.MX537 • 800 MHz • 400Mhz memory bus • Soldered on board		
DISPLAY & TOUCH-SCREEN	•	•	7" LCD TFT 15:9 • WVGA, 800x480, 16M colors • backlight LED 500 cd/m2 • Viewing angle L:R/U:L (typ.): 70°:70°/60°:60° 7" WIDE touch-screen • 4 wires resistive technology • Controller integrated on board		
	•	•	8,4" LCD TFT 4:3 • SVGA, 800x600, 256K colors • LED backlight, 400 cd/m2 • Viewing angle L:R/U:L (typ.): 80°:80°/80°:80° 8,4" touch-screen • 5 wires resistive technology • Controller integrated on board	- 0	
	•	•	10,1" W LCD TFT 16:10 • WXGA, 1280x800, 16M colors • LED backlight, 400cd/m2 • Viewing angle L:R/U:L (typ.): 88°:88°/88°:88° 10,1" W Touch-Screen 16:10 • 5 wires resistive technology • Controller integrated on board	+ 2	
	•	•	10,4" LCD TFT 4:3 • SVGA, 800x600, 16M colors • LED backlight , 400 cd/m2 • Viewing angle L:R/U:L (typ): 80°:80°/70°:70° 10,4" Touch-Screen 4:3 • 5 wires resistive technology • Controller integrated on board	+ 2	
	•	•	12,1" LCD TFT 4:3 • SVGA, 800x600, 16M colors • LED backlight, 500 cd/m2 • Viewing angle L:R/U:L (typ.): 80°:80°/80°:60° 12,1" touch-screen • 5 wires resistive technology • Controller integrated on board	+ 6	
	•	•	12,1" LCD TFT 4:3 • XGA, 1024x768, 16M colors • LED backlight, 600 cd/m2 • Viewing angle L:R/U:L (typ.): 80°:80°/70°:70° 12,1" touch-screen • 5 wires resistive technology • Controller integrated on board	+ 11	
	•	•	12,1" W LCD TFT 16:10 • WXGA, 1280x800, 16M colors • LED backlight, 400 cd/m2 • Viewing angle L:R/U:L (typ): 88°:88°/88°:88° 12,1" W Touch-Screen 16:10 • 5 wires resistive technology • Controller integrated on board	+ 7	
	•	•	15" LCD TFT 4:3 • XGA, 1024x768, 16M colors • LED backlight, 500 cd/m2 • Viewing angle L:R/U:L (typ.): 85°:85°/85°:85° 15" Touch-Screen 4:3 • 5 wires resistive technology • Controller integrated on board	+ 13	
	•	•	15,6" W LCD TFT 16:9 • 1366x768 (HD), 16M colors • LED backlight, 400 cd/m2 • Viewing angle L:R/U:L (typ): 85°:85°/80°:80° 15,6" W Touch-Screen 16:9 • 5 wires resistive technology • Controller integrated on board	+ 8	
	WARRANTY	•	•	12 months	-

OPTIONS

WARRANTY EXTENSION	•	•	Warranty extension to 18 month	
	•	•	Warranty extension to 24 months	
	•	•	Warranty extension to 36 months	

NOTES

The power consumption of the configuration takes into consideration the maximum absorbed power of every component and does not include the consumption of the devices connected to the USB ports.

1: Price does not include Premium HMI Studio development tool licence that must be purchased one-off at the first order of a license or system that includes the Premium HMI software. See pg.350
Price does not include ASEM UBIQUITY DOMAIN that must be purchased one-off at the first order of a license or system that includes the UBIQUITY runtime. See pg.347

Industrial Automation - Products & Configurations

LP31-TF BASIC			POWER [W]
Basic configuration > note 1			
Basic configuration	LCD TFT 7" • Touch-Screen • Aluminum TrueFlat front panel • ARM Cortex A8, 800 MHz • 1 GB RAM • 256 MB NAND-Flash • 4GB eMMC PsuedoSLC • 1 optoisolated CAN channel • fanless • 24V DC power supply with MicroUPS • Windows Embedded Compact 7 Pro with Datalight Reliance Nitro file system • SoftPLC CODESYS SP v3.5x WinCE/ARM • Premium HMI WinCE BASIC runtime • ASEM UBIQUITY PRO WinCE runtime • ASEM System Manager • 12 months warranty		11
	A	B	
SoftPLC	•	•	SoftPLC CODESYS SP v3.5x for WinCE/ARM runtime
	•	•	Protocols: EtherCAT Master, MODBUS TCP Master, MODBUS RTU Master, CANOpen Master Retentive variables: Automatic backup of retentive variables on eMMC at every system switch-off and/or power supply interruption
HMI SOFTWARE	•	•	Premium HMI WinCE BASIC runtime
	•	•	Premium HMI ADVANCED WinCE runtime
REMOTE ASSISTANCE	•	•	ASEM UBIQUITY PRO WinCE runtime
FRONT PANEL	•	•	Aluminum front panel • ASEM logo sticker
PROCESSOR	•	•	ARM Cortex A8 processor • i.MX537 • 800 MHz • 400Mhz memory bus • Soldered on board
DISPLAY & TOUCH-SCREEN	•	•	7" LCD TFT 15:9 • WVGA, 800x480, 16M colors • backlight LED 500 cd/m2 • Viewing angle L:R/U:L (typ.): 70°:70°/60°:60°
	•	•	7" WIDE touch-screen • 4 wires resistive technology • Controller integrated on board
	•	•	8,4" LCD TFT 4:3 • SVGA, 800x600, 256K colors • LED backlight, 400 cd/m2 • Viewing angle L:R/U:L (typ.): 80°:80°/80°:80°
	•	•	8,4" touch-screen • 5 wires resistive technology • Controller integrated on board
	•	•	10,1" W LCD TFT 16:10 • WXGA, 1280x800, 16M colors • LED backlight, 400cd/m2 • Viewing angle L:R/U:L (typ.): 88°:88°/88°:88°
	•	•	10,1" W Touch-Screen 16:10 • 5 wires resistive technology • Controller integrated on board
	•	•	10,4" LCD TFT 4:3 • SVGA, 800x600, 16M colors • LED backlight , 400 cd/m2 • Viewing angle L:R/U:L (typ): 80°:80°/70°:70°
	•	•	10,4" Touch-Screen 4:3 • 5 wires resistive technology • Controller integrated on board
	•	•	12,1" LCD TFT 4:3 • SVGA, 800x600, 16M colors • LED backlight, 500 cd/m2 • Viewing angle L:R/U:L (typ.): 80°:80°/80°:60°
	•	•	12,1" touch-screen • 5 wires resistive technology • Controller integrated on board
	•	•	12,1" LCD TFT 4:3 • XGA, 1024x768, 16M colors • LED backlight, 600 cd/m2 • Viewing angle L:R/U:L (typ.): 80°:80°/70°:70°
	•	•	12,1" touch-screen • 5 wires resistive technology • Controller integrated on board
•	•	12,1" W LCD TFT 16:10 • WXGA, 1280x800, 16M colors • LED backlight, 400 cd/m2 • Viewing angle L:R/U:L (typ): 88°:88°/88°:88°	
•	•	12,1" W Touch-Screen 16:10 • 5 wires resistive technology • Controller integrated on board	
•	•	15" LCD TFT 4:3 • XGA, 1024x768, 16M colors • LED backlight, 500 cd/m2 • Viewing angle L:R/U:L (typ.): 85°:85°/85°:85°	
•	•	15" Touch-Screen 4:3 • 5 wires resistive technology • Controller integrated on board	
•	•	15,6" W LCD TFT 16:9 • 1366x768 (HD), 16M colors • LED backlight, 400 cd/m2 • Viewing angle L:R/U:L (typ): 85°:85°/80°:80°	
•	•	15,6" W Touch-Screen 16:9 • 5 wires resistive technology • Controller integrated on board	
WARRANTY	•	•	12 months

OPTIONS

WARRANTY EXTENSION	•	•	Warranty extension to 18 month
	•	•	Warranty extension to 24 months
	•	•	Warranty extension to 36 months

NOTES

- The power consumption of the configuration takes into consideration the maximum absorbed power of every component and does not include the consumption of the devices connected to the USB ports.
- 1:** Price does not include Premium HMI Studio development tool licence that must be purchased one-off at the first order of a license or system that includes the Premium HMI software. See pg.350
- Price does not include ASEM UBIQUITY DOMAIN that must be purchased one-off at the first order of a license or system that includes the UBIQUITY runtime. See pg.347


Industrial Automation - Products & Configurations

LP31-TFC BASIC			POWER [W]
Basic configuration > note 1			
Basic configuration	LCD TFT 7" W • P-CAP projected capacitive Touch-Screen • Aluminum and tempered glass TrueFlat front panel • ARM Cortex A8, 800 MHz • 1 GB RAM • 256 MB NAND-Flash • 4GB eMMC PsuedoSLC • 1 optoisolated CAN channel • fanless • 24V DC power supply with MicroUPS • Windows Embedded Compact 7 Pro with Datalight Reliance Nitro file system • SoftPLC CODESYS SP v3.5x WinCE/ARM • Premium HMI WinCE BASIC runtime • ASEM UBIQUITY PRO WinCE runtime • ASEM System Manager • 12 months warranty		11
SoftPLC	A	SoftPLC CODESYS SP v3.5x for WinCE/ARM runtime	-
	B	Protocols: EtherCAT Master, MODBUS TCP Master, MODBUS RTU Master, CANOpen Master Retentive variables: Automatic backup of retentive variables on eMMC at every system switch-off and/or power supply interruption	
HMI SOFTWARE	•	Premium HMI WinCE BASIC runtime	-
	•	Premium HMI ADVANCED WinCE runtime	-
REMOTE ASSISTANCE	•	ASEM UBIQUITY PRO WinCE runtime	-
FRONT PANEL	•	Aluminum and glass TrueFlat front panel with P-CAP projected capacitive touch-screen	-
PROCESSOR	•	ARM Cortex A8 processor • i.MX537 • 800 MHz • 400Mhz memory bus • Soldered on board	
DISPLAY & TOUCH-SCREEN	•	7" LCD TFT 15:9 • WVGA, 800x480, 16M colors • backlight LED 500 cd/m2 • Viewing angle L:R/U:L (typ.): 70°:70°/60°:60°	
	•	7" W Touch-Screen 15:9 • P-CAP projected capacitive touchscreen	
	•	10,1" W LCD TFT 16:10 • WXGA, 1280x800, 16M colors • LED backlight, 400cd/m2 • Viewing angle L:R/U:L (typ.): 88°:88°/88°:88°	+ 2
	•	10,1" W Touch-Screen 16:10 • P-CAP projected capacitive touchscreen	
	•	12,1" W LCD TFT 16:10 • WXGA, 1280x800, 16M colors • LED backlight, 400 cd/m2 • Viewing angle L:R/U:L (typ): 88°:88°/88°:88°	+ 7
	•	12,1" W Touch-Screen 16:10 • P-CAP projected capacitive touchscreen	
WARRANTY	•	12 months	-
	•		
OPTIONS			
WARRANTY EXTENSION	•	Warranty extension to 18 month	
	•	Warranty extension to 24 months	
	•	Warranty extension to 36 months	
NOTES			
The power consumption of the configuration takes into consideration the maximum absorbed power of every component and does not include the consumption of the devices connected to the USB ports.			
1: Price does not include Premium HMI Studio development tool licence that must be purchased one-off at the first order of a license or system that includes the Premium HMI software. See no.350			
Price does not include ASEM UBIQUITY DOMAIN that must be purchased one-off at the first order of a license or system that includes the UBIQUITY runtime. See pg.347			



LP31 family

Technical Specifications

CODESYS SoftPLC WinCE/ARM for LP31 main features	
PLC programming	IEC61131-3, CODESYS SP v3.5x
Supported protocols	EtherCAT Master, MODBUS TCP Master, MODBUS RTU Master, CANOpen Master
Variables backup	Retentive 64kByte Persistent 64kByte Management Automatic backup of retentive variables on eMMC at every system switch-off and/or power supply interruption
Features	Cycle time \geq 10ms Jitter \pm 2ms Fieldbus Only one, no gateway admitted

For CODESYS SP details, see pg.354

Premium HMI runtimes differences	BASIC	ADVANCED
RealTime DB (max, byte)	1.024	8.192
Alarms (max)	1.024	4.096
Recipes / Data Logger (ODBC)	Max 2	Unlimited
Communication drivers	Max 2	Max 4
Alarm notification (SMS, E-Mail)		✓
SMS notification via SMPP protocol		SMS using Internet gateway
Web Clients		Max 4 clients connected
Premium HMI Mobile		✓

For Premium HMI details, see pg.350

ASEM UBIQUITY PRO main features
Control Center application to access the service with intuitive and ergonomic user interface for a comprehensive machine park management
Optimized VPN with access limited to the remote device with Ubiquity Runtime
Optimized VPN with entire access to the complete remote device sub-network and serial passthrough

For ASEM UBIQUITY details, see pg.347

ASM (ASEM System Manager). Control Panel utilities
Backup&Restore - Complete system cloning or selective backup and restore of the installed softwares
Antialiasing - Softens the characters matrix
Screensaver - Display brightness control or display switch off after an inactivity period
Touch Buzzer - Enable touch sound-feedback
eMMC Usage - Check the eMMC memory usage and evaluate the expected endurance
Kiosk Mode - Hide the O.S. explorer interface and run PHMI runtime in 'kiosk' mode
Language Settings - Easy installation of not european languages characters in HMI applications
Scrollbar - Consente di cambiare le dimensioni delle barre di scorrimento
System reboot - Reboot the system without switching off the power supply

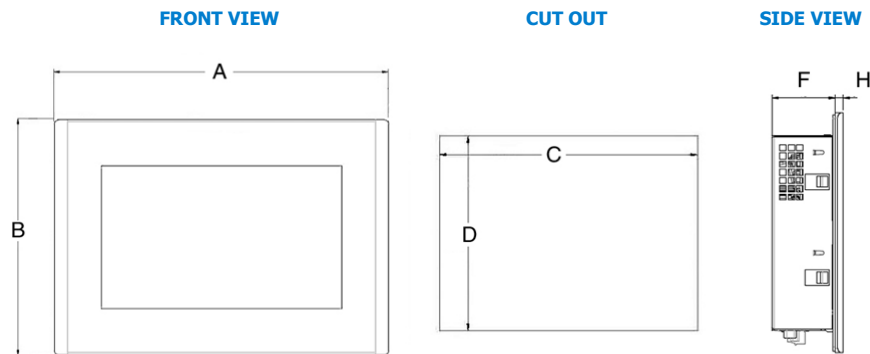
TECHNICAL SPECIFICATIONS	
Case	Panel mount
Overall dimensions & weight	See details on the related section
Front Panel	LP31 Aluminum • ASEM logo sticker
	LP31-TF Aluminum TrueFlat • Polycarbonate Pantone Cool Grey 4C color • ASEM logo serigraph printed
	LP31-TFC Aluminum and tempered glass TrueFlat
Touchscreen	LP31 4/5 wires resistive technology
	LP31-TF 4/5 wires resistive technology • overlaminated with OCA (Optical Clear Adhesive)
	LP31-TFC projective capacitive touch-screen
Frontal protection	IP66, Enclosure type 4X (Indoor use only)
Operating System	Microsoft Windows Embedded Compact 7 Pro license with Datalight Reliance Nitro file system • Microsoft olographic sticker
Software	HMI Premium HMI WinCE BASIC / ADVANCED runtime license with ASEM sticker
	Control SoftPLC CODESYS SP v3.5x for WinCE/ARM runtime • license with 3S sticker
	Remote assistance ASEM UBIQUITY WinCE PRO runtime license with ASEM sticker
Utility	ASEM System Manager • Backup&Restore, Screensaver, Antialiasing
Power supply	Input voltage 18÷36V DC • Isolated • Power supply section integrated on board
	optional MicroUPS: backup for microinterruption with supercapacitors • Max interruption: 500ms • First load: 6' • Rearm time: 90"
Motherboard	"All-In-One" type • ASEM R133
Processor	ARM Cortex A8 • i.MX537 • 800 MHz, 400 MHz system memory bus • Soldered on board • GPU (Graphic Processor Unit) integrated
CAN controller	FlexCAN controller integrated into processor
RAM memory	1GB DDR3-800 • Soldered on board
Mass storage	NAND-Flash 256MB Read-Only • for operating system and runtime
	eMMC (Solid State Disk) 4GB PseudoSLC, 8bit, file system organization • for projects and applications
SD slot	1 x Slot SD/SDHC v2.0 integrated on board • external access
Rear access interfaces	LAN1 Ethernet 100 Mbps (RJ45) • LAN2 Ethernet 10/100 Mbps (RJ45) • 2 x USB 2.0 (Type-A / host) • 1 x CAN channel optoisolated (DB9M)
Rear access serial interfaces	1 x RS-232/422/485 (DB15M)
Environmental specifications	Operating temperature: 0° ÷ +50°C • Storage temperature: -20° ÷ +60°C • Humidity: 80% (non-condensing)
Approvals	CE (EN 55022, EN 61000-3-2/3, EN 55024, EN 60950-1)
Standard warranty	12 months • Warranty management by ASEM headquarters



LP31 family

Technical Specifications

DIMENSIONS (mm)



LP31 LCD TFT	CUT OUT "A"				CUT OUT "B"				H	F	Weight (Kg)
	A	B	C	D	A	B	C	D			
7"W	215	155	204	144	204	147,6	197	140,5	5	40	1,2
8,4"	255	190	243	179	-	-	-	-	5	48,5	1,4
10,1"W	293	201,5	285	193,5	-	-	-	-	5	48,5	1,6
10,4"	295	230	283	219	-	-	-	-	5	48,5	1,8
12,1"	325	260	313	249	-	-	-	-	5	48,5	2,1
12,1"W	321	222,5	313	215	-	-	-	-	5	48,5	2,0
15"	390	305	378	294	-	-	-	-	6	48,5	3,3
15,6"W	420	265	410	255	-	-	-	-	6	48,5	3,3

LP31-TF LCD TFT	CUT OUT "A"				CUT OUT "B"				H	F	Weight (Kg)
	A	B	C	D	A	B	C	D			
7"W	215	155	204	144	204	147,6	197	140,5	4	40	1,2
8,4"	255	190	243	179	-	-	-	-	5	48,5	1,4
10,1"W	293	201,5	285	193,5	-	-	-	-	5	48,5	1,6
10,4"	295	230	283	219	-	-	-	-	5	48,5	1,8
12,1"	325	260	313	249	-	-	-	-	5	48,5	2,1
12,1"W	321	222,5	313	215	-	-	-	-	5	48,5	2,0
15"	390	305	378	294	-	-	-	-	6	48,5	3,3
15,6"W	420	265	410	255	-	-	-	-	6	48,5	3,3

LP31-TFC LCD TFT	CUT OUT "A"				CUT OUT "B"				H	F	Weight (Kg)
	A	B	C	D	A	B	C	D			
7"W	-	-	-	-	204	147,6	197	140,5	4	40	1,2
10,1"W	293	201,5	285	193,5	-	-	-	-	5	48,5	1,6
12,1"W	331	222,5	313	215	-	-	-	-	5	48,5	2,0
15,6"W	433	267	410	255	-	-	-	-	6	48,5	3,3

CONNECTORS VIEW (7")

