

Industrial Automation - Products & Configurations

LP40 BASIC			POWER [W]
Basic configuration > note 1			
Basic configuration	LCD TFT 7" W • Touch-Screen • Aluminum front panel • ARM Cortex A9 i.MX6 DualLite, 1 GHz • 1 GB RAM • 4GB eMMC PseudoSLC • 512kB MRAM • fanless • 24V DC power supply with MicroUPS function • 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		19
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 MRAM at every system switch-off and/or power supply interruption	
		SoftPLC CODESYS SP + SoftMotion v3.5x for WinCE/ARM runtime	-
		SoftPLC CODESYS SP + SoftMotion + CNC v3.5x for WinCE/ARM runtime	-
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 A9 dual core processor • i.MX6 DualLite • 1 GHz • 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°	- 0
		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°	+ 2
		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°	+ 2
		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, 450 cd/m2 • Viewing angle L:R/U:L (typ.): 80°:80°/65°:75°	+ 4
		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°	+ 11
		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°	+ 7	
	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°	+ 13	
	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°	+ 8	
	15,6" W Touch-Screen 16:9 • 5 wires resistive technology • Controller integrated on board		
MICROUPS & MRAM		MicroUPS, with backup function for microinterruptions max 500ms and 512kB MRAM (Magnetic RAM) for retentive variables	
WARRANTY		12 months	-
OPTIONS			POWER [W]
COMMUNICATION PORTS > note 2		1 x RS-485 (DB9M) isolated with terminations • Without MPI protocol support	1
		1 x CAN isolated channel (DB9M) with terminations	1
WARRANTY EXTENSION		Warranty extension to 18 months	
		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			
2: Options signed by note 2 cannot be installed together			

Industrial Automation - Products & Configurations

LP40-TF BASIC			POWER [W]
Basic configuration > note 1			
Basic configuration	LCD TFT 7" W • Touch-Screen • Aluminum TrueFlat front panel • ARM Cortex A9 i.MX6 DualLite, 1 GHz • 1GMB RAM • 4GB eMMC PseudoSLC • 512kB MRAM • fanless • 24V DC power supply with MicroUPS function • Windows Embedded Compact 7 Pro with Datelight 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		19
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 MRAM at every system switch-off and/or power supply interruption	-
		SoftPLC CODESYS SP + SoftMotion v3.5x for WinCE/ARM runtime	-
		SoftPLC CODESYS SP + SoftMotion + CNC v3.5x for WinCE/ARM runtime	-
HMI SOFTWARE		Premium HMI WinCE BASIC runtime	-
		Premium HMI ADVANCED WinCE runtime	-
REMOTE ASSISTANCE		ASEM UBIQUITY PRO WinCE runtime	-
FRONT PANEL		Aluminum TrueFlat front panel with touch-screen overlaminated with OCA (Optical Clear Adhesive) • ASEM logo serigraph printed	-
PROCESSOR		ARM Cortex A9 dual core processor • i.MX6 DualLite • 1 GHz • 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°	- 0
		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°	+ 2
		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°	+ 2
		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, 450 cd/m2 • Viewing angle L:R/U:L (typ.): 80°:80°/65°:75°	+ 4
		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°	+ 11	
	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°	+ 7	
	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°	+ 13	
	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°	+ 8	
	15,6" W Touch-Screen 16:9 • 5 wires resistive technology • Controller integrated on board		
MICROUPS & MRAM		MicroUPS, with backup function for microinterruptions max 500ms and 512kB MRAM (Magnetic RAM) for retentive variables	
WARRANTY		12 months	-
OPTIONS			POWER [W]
COMMUNICATION PORTS > note 2		1 x RS-485 (DB9M) isolated with terminations • Without MPI protocol support	1
		1 x CAN isolated channel (DB9M) with terminations	1
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			
2: Options signed by note 2 cannot be installed together			



Industrial Automation - Products & Configurations

LP40-TFM 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 A9 i.MX6 DualLite, 1 GHz • 1GMB RAM • 4GB eMMC PseudoSLC • 512kB MRAM • fanless • 24V DC power supply with MicroUPS function • Windows Embedded Compact 7 Pro with Datelight 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		19

A	B		POWER [W]	
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 MRAM at every system switch-off and/or power supply interruption	-	
	• •	SoftPLC CODESYS SP + SoftMotion v3.5x for WinCE/ARM runtime	-	
	• •	SoftPLC CODESYS SP +SoftMotion + CNC v3.5x for WinCE/ARM runtime	-	
			↓	
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 A9 dual core processor • i.MX6 DualLite • 1 GHz • 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 multitouch 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° 10,1" W Touch-Screen 16:10 • P-CAP projected capacitive multitouch touchscreen	+ 2	
	•	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 • P-CAP projected capacitive multitouch touchscreen	+ 7	
	•	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 • P-CAP projected capacitive multitouch touchscreen	+ 8	
			↓	
			↓	
MICROUPS & MRAM	• •	MicroUPS, with backup function for microinterruptions max 500ms and 512kB MRAM (Magnetic RAM) for retentive variables		
		↓		
WARRANTY	• •	12 months	-	

OPTIONS			POWER [W]
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COMMUNICATION PORTS > note 2	• •	1 x RS-485 (DB9M) isolated with terminations • Without MPI protocol support	1
	• •	1 x CAN isolated channel (DB9M) with terminations	1
		↓	
WARRANTY EXTENSION	• •	Warranty extension to 18 month	
	• •	Warranty extension to 24 months	
	• •	Warranty extension to 36 months	

NOTES			
1	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			
2: Options signed by note 2 cannot be installed together			



CODESYS SoftPLC WinCE/ARM for LP40 main features	
PLC programming	IEC61131-3, CODESYS SP v3.5x
Supported protocols	EtherCAT Master, MODBUS TCP Master, MODBUS RTU Master
Variables backup	Retentive 64kByte Persistent 64kByte Management Automatic backup of retentive variables on MRAM at every system switch-off and/or power supply interruption
Main performances	Cycle time $\geq 2ms$ Jitter $\pm 600\mu s$ 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 - Allows to change the scrollbars sizes
System reboot - Reboot the system without switching off the power supply

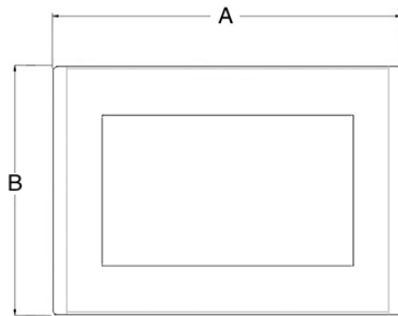
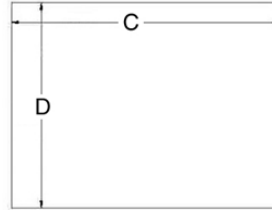
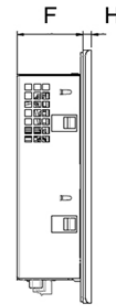
TECHNICAL SPECIFICATIONS	
Case	Panel mount
Overall dimensions & weight	See details on the related section
Front Panel	LP40 Aluminum • ASEM logo sticker LP40-TF Aluminum TrueFlat • Polycarbonate Pantone Cool Grey 4C color • ASEM logo serigraph printed LP40-TFM Aluminum and tempered glass TrueFlat
Touchscreen	LP40 4/5 wires resistive technology LP40-TF 4/5 wires resistive technology • overlaminated with OCA (Optical Clear Adhesive) LP40-TFM 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
Power supply	Input voltage 18÷36V DC • Power supply section integrated on board MicroUPS: backup function for microinterruption with supercapacitors • Max interruption: 500ms • First load: 30" • Rearm time: 15"
Motherboard	"All-In-One" type • ASEM R231
Processor	ARM Cortex A9 dual core • i.MX6 Duallite • 1 GHz, 400 MHz system memory bus • GPU (Graphic Processor Unit) integrated
RAM memory	1GB DDR3-800 • Soldered on board
Mass storage	eMMC (Solid State Disk) 4GB PseudoSLC, 8bit, file system organization • for projects and applications
Retentive memory	512kB MRAM (Magnetic RAM) for backup of retentive and persistent variables
SD slot	1 x Slot MicroSD integrated on board • external access
Rear access interfaces	2 x Ethernet 10/100/1000 Mbps (RJ45) • 2 x USB 2.0 (Type-A / host)
Rear access serial interfaces	1 x RS-232/422/485 (DB15M) with MPI protocol support up to 187,5Kbit/s optional 1 x RS-485 isolated (DB9M), without MPI protocol support, or 1 x CAN isolated channel (DB9M)
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) • cULus LISTED (61010) • LP40: ATEX 2014/34/UE Zone 22 II 3 D LP40-TF, LP40-TFM: ATEX 2014/34/UE Zone 2/22 II 3 G D
Standard warranty	12 months • Warranty management by ASEM headquarters



LP40 family

Technical Specifications

DIMENSIONS (mm)

FRONT VIEW

CUT OUT

SIDE VIEW


LP40 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	48	1,2
8,4"	255	190	243	179	-	-	-	-	5	57	1,4
10,1"W	293	201,5	285	193,5	-	-	-	-	5	57	1,6
10,4"	295	230	283	219	-	-	-	-	5	57	1,8
12,1"	325	260	313	249	-	-	-	-	5	57	2,1
12,1"W	321	222,5	313	215	-	-	-	-	5	57	2,0
15"	390	305	378	294	-	-	-	-	6	57	3,3
15,6"W	420	265	410	255	-	-	-	-	6	57	3,3

LP40-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	48	1,2
8,4"	255	190	243	179	-	-	-	-	5	57	1,4
10,1"W	293	201,5	285	193,5	-	-	-	-	5	57	1,6
10,4"	295	230	283	219	-	-	-	-	5	57	1,8
12,1"	325	260	313	249	-	-	-	-	5	57	2,1
12,1"W	321	222,5	313	215	-	-	-	-	5	57	2,0
15"	390	305	378	294	-	-	-	-	6	57	3,3
15,6"W	420	265	410	255	-	-	-	-	6	57	3,3

LP40-TFM 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	48	1,2
10,1"W	293	201,5	285	193,5	-	-	-	-	5	56	1,6
12,1"W	331	222,5	313	215	-	-	-	-	5	59	2,0
15,6"W	433	267	410	255	-	-	-	-	6	57	3,3

CONNECTORS VIEW

