

HT5000 Family

New Panel IPCs with Intel® Ivy Bridge platform - 3rd generation Core i processors
entirely designed, engineered and manufactured by ASEM



DIGITAL AUTOMATION TECHNOLOGIES

HT5000 - Highlights



- New high performance panel IPCs family featuring **NEW ASEM STANDARDS**
- Intel® **Ivy Bridge platform** (3rd generation Core platform) up to **45W** processors
- Intel® **HM76** Chipset with fast SATA 3 **mass storage**
- Intel® **QM77** Chipset for **RAID** configurations with 2 SATA 3 **mass storages**
- Up to **4 Gigabit Ethernet** ports (3 on motherboard + 1 optional add-on)
- All common **Fieldbuses** available
- Possibility to have **up to 3 expansion slots** with PCI / PCIe mixed combination (version S1/S3)

HT5000 - Highlights



- **Wide range of 16 mln colors LED backlight TFT LCD displays**
 - 4:3 aspect ratio: 15", 17" (5:4), 19" (5:4)
 - 16:9 aspect ratio: 15,6", 18,5", 21,5"
- **IP66 front panel** available in four different variants
- **Glass Film Glass touchscreen** technology for standard aluminum front panel (optional)
- **115V÷230V AC** power supply or **24V DC** isolated also with **UPS**
- **Operating temperature 0÷50°C** also with 24x7 HDD and **5°C÷45°C** with standard HDD
- **Long term availability** with 10 years production + 5 years for support/repairs

HT5000 - New ASEM Standards

A **unique CUT-OUT** for each different size of LCD to ensure:

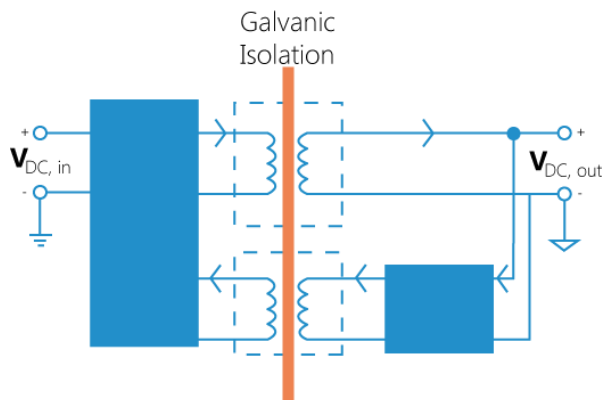
- Interchangeability among different Panel PC and Industrial Monitor families
- Future mechanical compatibility

Front panel available in four different variants for all new families:

- Aluminum with USB port and resistive touchscreen
- Aluminum True Flat with USB port and resistive touchscreen
- Stainless steel True Flat with resistive touchscreen
- Aluminum True Flat with Multi-touch P-CAP touchscreen

Communication add-on boards with:

- Industrial serial or Ethernet fieldbus ports
- Serial RS232 or multistandard also optoisolated ports
- Standard Ethernet ports
- USB ports



**NEW ASEM
STANDARDS**



Isolated Power supply with galvanic isolation to prevent:

- Common mode noise at low/medium frequencies on the power supply line
 - Ground loop noise
 - Extra-voltage caused by lightning
- and to guarantee
- Power supply with grounded positive terminal (e.g. Japan)

UPS integrated in the internal power pack

- With external battery pack - rear of the system mounting
- With external battery pack - standalone wall mounting

HT5000 - Features 1/2



NEW ASEM STANDARDS

	HT5000	HT5000-TF	HT5000-TFX	HT5000-TFM
LED backlight TFT LCD	15.0" (4:3) – 1024x768 15.6" (wide 16:9) – 1366x768 17"(5:4) – 1280x1024 18.5"(wide 16:9) – 1366x768 19" (5:4) – 1280x1024 21.5"(wide 16:9) - 1920x1080		15.0" (4:3) – 1024x768 17" (5:4) – 1280x1024 19" (5:4) – 1280x1024	15.6" (wide 16:9) – 1366x768 18.5"(wide 16:9) – 1366x768 21.5" (wide 16:9) - 1920x1080
TOUCH-SCREEN	Resistive 5 wires GFG	Resistive 5 wires	Resistive 5 wires	P-CAP Multitouch 4 fingers
FRONT PANEL	Aluminum	True Flat Aluminum	True Flat Stainless Steel	True Flat Glass
PROTECTION GRADE	IP66 – frontal		IP66K - frontal	IP66K – frontal
PROCESSOR	Intel® Celeron™ 1020E, 2.20GHz, 2 cores / 2 threads, 2MB L2, 35W, 22nm technology Intel® Core™ i3-3120ME, 2.40GHz, 2 cores / 4 threads, 3MB L2, 35W, 22nm technology Intel® Core™ i5-3610ME, 2.70GHz, 2 cores / 4 threads, 3MB L2, 35W, 22nm technology Intel® Core™ i7-3610QE, 2.1GHz, 4 cores / 8 threads, 6MB L2, 45W, 22nm technology			
CHIPSET	Intel® HM76 Express Chipset Intel® QM77 Express Chipset for RAID 0, 1			
VIDEO CONTROLLER	Intel® HD Graphics, 650MHz integrated in Celeron™microprocessor Intel® HD Graphics 4000, 650MHz integrated in Core™microprocessor			
SYSTEM MEMORY - RAM	2GB / 4GB / 8GB / 16GB			
TPM	TPM – Trusted Platform Module			
RAID	0, 1 integrated in Intel® QM77 Express Chipset			
MASS STORAGE	1 bootable CFast SATA 2 3Gb/s embedded on board with external access 1 x SSD mSATA SATA 3 6Gb/s 2 x SSD 2,5" or 2 x HDD 2,5" SATA 3 6Gb/s Up to 2 x 2,5" HDD/SSD extractable drawers			

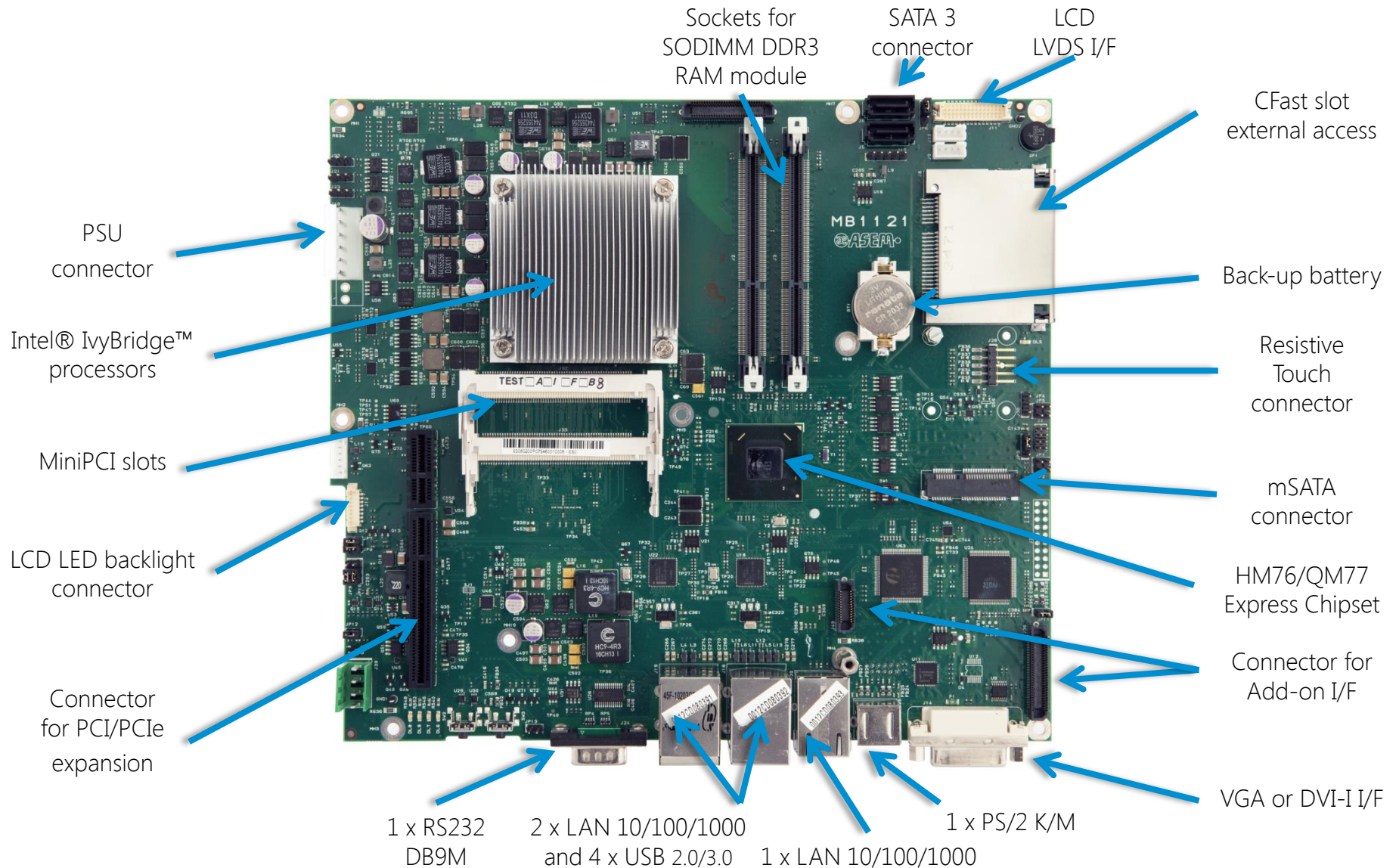
HT5000 - Features 2/2

NEW ASEM
STANDARDS

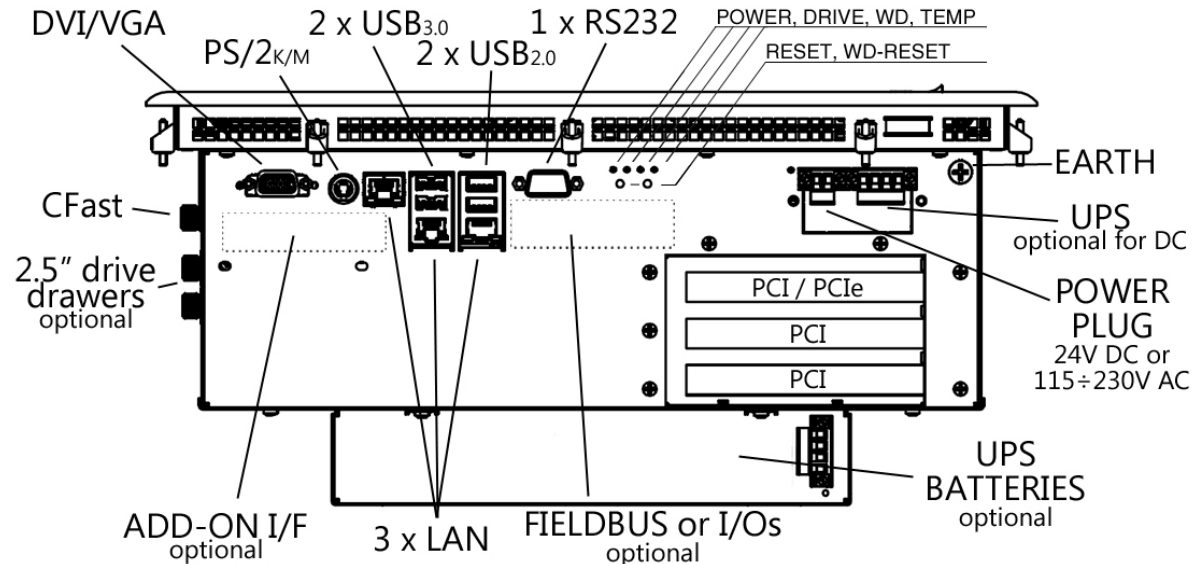


	HT5000	HT5000-TF	HT5000-TFX	HT5000-TFM
LAN	3 x LAN 10/100/1000Mbps (RJ45), 2 x Intel® 82574L, 1 x Intel 82579			
USB	2 x USB 3.0 (Type-A, rear) 2 x USB 2.0 (Type-A, rear) 1 x USB 2.0 (Type-A, front)		2 x USB 3.0 (Type-A, rear) 2 x USB 2.0 (Type-A, rear)	
SERIAL	1 x RS232 (DB9M)			
VIDEO OUTPUT	1 x VGA or 1 x DVI-I			
ADD-ON INTERFACES (optional – max 1)	2 x USB 2.0 (Type-A) 2 x RS232 (DB9M) 1 x RS232/422/485 (DB15M)+ 1 x USB 2.0 1 x RS232/422/485 (DB15M) optoisolated + 1 x USB 2.0 1 x 10/100/1000Mbps Ethernet (RJ45), Intel® 82574L			
EXPANSION SLOTS	S0	2 x MiniPCI dedicated to ASEM fieldbuses, 8DIN+8DOUT and NVRAM boards		
	S1	2 x MiniPCI dedicated to ASEM fieldbuses, 8DIN+8DOUT and NVRAM boards 1 x PCI or 1 x PCIe x4 (5 Gb/s)		
	S3	2 x MiniPCI dedicated to ASEM fieldbuses, 8DIN+8DOUT and NVRAM boards 3 x PCI or 2 x PCI + 1 x PCIe x4 (5 Gb/s)		
FIELDBUS	NETcore X cards (PROFIBUS, PROFINET, EtherCAT, CANOpen, EtherNet/IP, MODBUS TCP)			
POWER SUPPLY UNIT	115-230V AC (S0, S1: 180W; S3: 220W) 24VDC isolated 24VDC with UPS (optional for S0 or S1) with external battery module			
O.S. CERTIFIED	Microsoft Windows 8 Pro/Ultimate 32/64bit; Windows 7 Pro/Ultimate 32/64bit; Windows XP Pro 32bit; Microsoft Windows Embedded Standard 7E/7P 32/64 bit; Windows Embedded Standard 2009 (XPe SP3) 32bit. Other operating systems, such as Linux, VxWorks, QNX, etc., have not been certified by ASEM but they are reasonably supported by the Intel platform after verification of compatibility.			
OPERATING TEMPERATURE	0°- 50°C also with HDD 24x7 5°- 45°C with standard HDD			
APPROVALS	CE, cULus (pending, September 2014)			

HT5000 – Motherboard 1121, top



HT5000 - External Connector & Interfaces



Standard

LAN

- 3 x LAN 10/100/1000 (with Jumbo frames and Wake on LAN functionalities, 2 x Intel® 82574L Chipset, 1 x Intel® 82579LM Chipset)

USB

- 2 x USB 3.0, 2 x USB 2.0 with software switch off (rear)
- 1 x USB 2.0 (front, IP66 protection, with Alu e Alu-TF front panel)

SERIAL

- 1 x RS232 (DB9 male) software programmable

EXPANSION SLOTS

- 2 x MiniPCI for ASEM boards

POWER PLUG

- 115V-230V AC, input range 96÷264V, autoranging
- 24V DC isolated, input range 18÷36V

VIDEO OUTPUT

- 1 x VGA or 1 x DVI-I

KEYBOARD & MOUSE

- 1 x PS/2

PCI/PCIe EXPANSION SLOT

- S1 - 1 x PCI or PCIe x4 (5 Gb/s)
- S3 - 3 x PCI or 2 x PCI + 1 x PCIe x4 (5 Gb/s)

Optional

ADDITIONAL INTERFACES

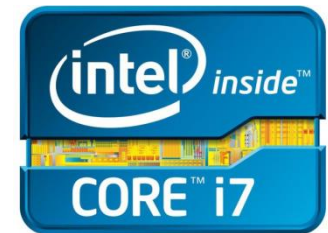
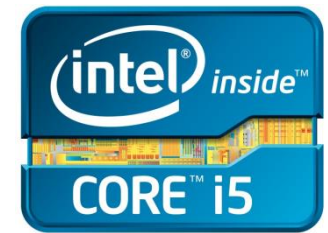
- 1 x connector for ASEM add-on boards

UPS

- Industrial connector for external batteries

HT5000 - Processors

- Intel® **Ivy Bridge platform** (3rd generation Core i processors)
 - 22nm process technology
 - L2 Cache – 2/3/6 MB
 - Fast memory support - DDR3 1600MHz RAM
 - Power consumption - 35W/45W TDP
- Processors
 - 35 W consumption
 - **Celeron 1020E** 2,2 GHz, Dual Core - two Threads - 2MB Smart Cache
 - **Core i3 3120ME** 2,4 GHz, Dual Core - four Threads - 3 MB Smart Cache
 - **Core i5 3610ME** 2,7 GHz, Dual Core - four Threads - 3 MB Smart Cache
 - 45 W consumption
 - **Core i7 3610QE** 2,1 GHz, Quad Core - eight Threads - 6 MB Smart Cache
- HM76/QM77 **Express Chipset**
 - Intel® Rapid Storage Technology
 - With one or multiple hard drives



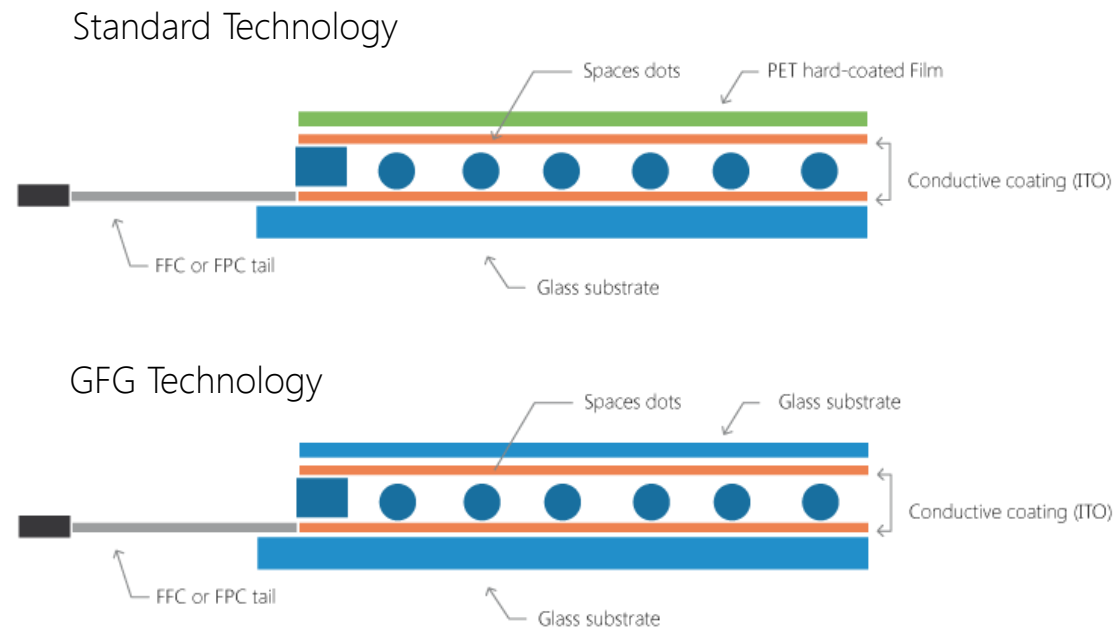
HT5000 – O.S. Compatibility

- Intel® **Ivy Bridge™ platform** does not support:
 - Win 2000/ 98/ NT
 - Win CE 5.0 Pro/Pro Plus
 - Win CE 6.0 Pro
- O.S. **certified by ASEM**
 - Win 8.x 32/64bit
 - Win 7 Pro/Ultimate 32/64bit
 - Win XP Pro 32bit
 - Win Embedded Standard 7E/7P 32/64Bit
 - Windows Embedded Standard 2009 (XPe SP3) 32bit
- O.S. supported by Intel® Ivy Bridge™ platform but not certified by ASEM yet
 - Linux
 - VxWorks
 - QNX

HT5000 - Glass Film Glass (option)

The **Glass-Film-Glass technology** adds an additional thin (0,1mm) glass on the surface

- Greater **resistance** to scratches
- Better products **cleaning**
- Available for standard Aluminum front panel in 12", 15" and 17" sizes



HT5000 - Integrated UPS (option)

UPS integrated in the internal power supply unit (24V DC)

- With external battery pack - rear of the system mounting
- With external battery pack - standalone wall mounting

UPS features

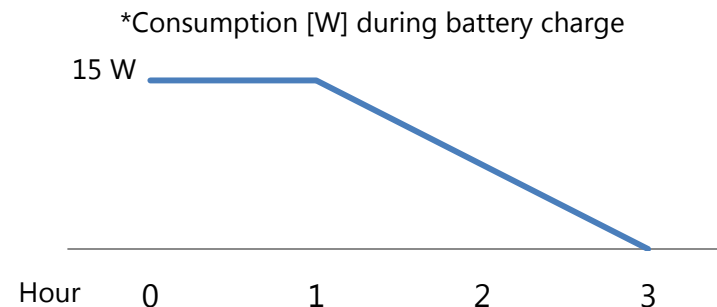
- 12V DC UPS battery backup system
- Input voltage intervention threshold 18V DC
- 5' nominal duration time at 25°C, full charge, 10A load (estimated value)
- 15W max consumption during battery charge*

External battery pack

- 2500mAh 12V/13A max lead battery (Pb)
- Full charge in 3 hours
- Lifetime 10y at 25°C, full charge

Software Management Tools

- Smart battery management to extend lifetime
- Battery estimated duration for individual system configuration



HT5000 - Mass Storage

Cfast SLC or MLC

- 1 x bootable CFast embedded on board with external access



CFast card

Internal mSATA SSD MLC

- 1 x mSATA SATA 3 internal connector for direct insertion of mSATA SSD



mSATA SSD

Internal 2,5" SSD MLC / HDD

- 2 x SATA 3 connector for:
 - SSD 2,5" with installation kit
 - HDD 2,5" with installation kit (also 24x7)



HDD/SSD 2,5"

2,5" extractable drawers for HDD/SSD

ASEM recommends SSD memory due to its **industrial reliability** and high thermal and vibration shock resistance

ASEM S.p.A.
Via Buia 4
33011 Artegnà (UD)
Italy
Tel. +39/0432-9671

industrialautomation@asem.it
www.asem.it

