

I/O Touch Panel Industrial Computer

Atom E680T Model



Applications

- Driver seat display terminal (construction vehicles ex. cranes, forklifts, outside-use vehicles)
- Gas station control panel display
- EV rapid battery charger voltage control & operation terminal
- Train driver operation instruction display panel
- Measurement control system using I/O interfaces
- Traffic control center console terminal
- Rail inspection equipment display & control terminal
- NC machine tool control display & operation

Overview

The I/O Touch Panel Industrial PC is Touch Panel Industrial Computer with I/O interfaces. Intel Atom E680T model runs in the wide temperature range from -20 degrees C through +80 degrees C boot-up and -20 degrees C to +70 degrees C continuous operation. It can operate in outdoor digital signage terminal, inside refrigerator monitoring system, and other applications under severe conditions. The product achieves low power consumption and low heat dissipation.

Features

- **Intel Atom E680T (1.6 GHz)**
The processor features high efficiency in a compact size and operates in a wide temperature range from -20 degrees C to +80 degrees C (at starting).
- **Small form factor and high durability**
The glass/glass or film/glass resistive touch panel allows the user to control the product with their gloves on. The feature is suitable for instruction terminal in production line. The small and robust computer and flat touch panel are ideal for embedded systems.
- **Variety of Touch Panel Sizes**
8.4", 10.4" 12.1" or 15" can be selected for your application.
- **I/O interface combination**
Rich selections of I/O interface : digital I/O, analog I/O, serial communication, HDLC, High-speed CAN, GP-IB and others.
- **Two Drive Composition**
CFast 2 slots can divide OS and data drives.
- **Operating System**
Windows 7 Professional for Embedded Systems (32 bits), Windows Embedded Standard 7 (32 bits), and Interface Linux System (32 bits) can be selected.
- **Wake On LAN**
The system can be turned on from another computer on the same local area network.
- **Faster Process Speed and Disk Protection**
Windows model incorporates EWF (Enhanced Write Filter) which improves disk speed and disk protection. EWF can be easily configured with utilities provided by Interface Corporation.
- **Quick Boot**
In Windows Embedded Standard and Windows XP Embedded, the operating system boots up quickly with Hibernate Once Resume Many (HORM). In Linux, quick boot is also available with the hibernate function of the operating system.
- **Zero Spindle**
Booting up from CF drive, the fan less design achieves silent operation and low maintenance.
- **Energy Saving**
Intel Atom Processor & LED back-light system achieves low power consumption
- **Key switches**
Frequently used functions can be assigned to the key switches for convenient & faster operations (key switch type only)
- **High brightness display (high-brightness model only)**
Applying the high brightness display, the product improves the level of outdoor visibility. The brightness level is software adjustable on the scale of 0 to 255.

Specifications

Model		CFast Model			
Type	Standard	TIO-CxxxxZE ¹	TIO-CxxxxAE ¹	TIO-CxxxxCE ¹	TIO-CxxxxFE ¹
Panel	LCD Size	8.4 inches	10.4 inches	12.1 inches	15 inches
	Visual Field	Right to left: +/-80° up: +80°, down: +60°	Right to left: +/-80° up: +80°, down: +60°	Right to left: +/-80° Up/down: +/-80°	Right to left: +/-80° Up/down: +/-80°
	Contrast Ratio	1 : 800 (typ.)	1 : 900 (typ.)	1 : 1000 (typ.)	1 : 800 (typ.)
	Touch Sensor Method	4-wire resistive glass/glass method			4-wire resistive film/glass method
	Luminance Level	320 cd/m ² (typ.)	360 cd/m ² (typ.)	400 cd/m ² (typ.)	315 cd/m ² (typ.)
	Surface Finish	Glare			Anti-glare
	Resolutions	10 bits 1024 × 1024			
	Environmental Protection	IP54 or equivalent (screen part only), UV protection sheet			
	Durability	Stylus pen: 100,000 times (min.) Finger: 1,000,000 times (min.)			Stylus pen: 100,000 times (min.) Finger: 10,000,000 times (min.)
Back Light	LED (lifetime: 50,000 hours or longer at 25 degrees C until the brightness decreases to 50 % of the initial value)				
Graphics	Controller	Built into processor			
	Resolution	SVGA 800 × 600 * Resolutions may vary depending on OS and graphic driver.			XGA 1024 × 768
	Display Color	16,200,000 colors (max.)			16,190,000 colors (max.)
	Method	TFT color liquid crystal			
Aspect Ratio	4 : 3				
Dimensions (W x D x H)[mm]	Standard:	242 × 61 × 172.4	Standard: 271.3 × 61 × 208.9	Standard: 306 × 61 × 233.9	Standard: 369 × 61 × 279
	With key switch:	242 × 61 × 172.4	With key switch: 280 × 61 × 208.9	With key switch: 318.2 × 61 × 233.9	With key switch: 388 × 61 × 279
	CPU	Processor Intel Atom Processor E680T 1.6 GHz			
	Chip Set	Intel EG20T			
Main Memory	1 GB/2GB : DDR2-800				
BIOS/Loader	Phoenix Secure Core Tiano				
Calendar Clock Backup Battery	Large capacity battery (typical life time: 4.5 years) BR-1/2AA (Panasonic Corporation)				
OS	Windows Embedded Standard 2009, Windows XP Professional (32 bits), Interface Linux System 6 (32 bits)				
Boot Device	CFast 4 GB/ 8 GB/ 16 GB				
Auxiliary Device	CFast slot × 1 (empty) /4 GB/ 8GB/ 16 GB				
Interfaces	Display	LVDS x 1 (20 pins) (Touch panel connected)			
	Audio	Realtek ALC889 Line output x 1 (stereo φ3.5 mini jack), Line input x 1 (stereo φ3.5 mini jack)			
	LAN	RJ-45 connector x 2, Intel WG82574IT controller, 1000BASE-T, Wake On LAN compatible, Jumbo Frame compatible			
	USB	USB Rev.2.0 Series A connector × 4			
	I/O Part	I/O Interfaces are selectable. See "I/O Interface Combination List" below.			
	CFast Slot	2 slots (One slot is used for the system and the other for data.)			
	Switch	Power switch			
	Speaker	Built-in speaker (option)			
RAS	Watchdog Timer	Software programmable (1 to 255 seconds) Time-up notification is software selectable either reset or interruption			
	Hardware Monitoring	CPU temperature/board temperature/power supply voltage			
	RAS Output	Output format: relay 1a contact output x 1, output condition is software selectable. (watchdog timer, CPU temperature, board temperature, power voltage)			
Power	Rated Voltage	Rated voltage: +7 Vdc to +27 Vdc (continuous operation) Maximum rated voltage: +6 Vdc to +36 Vdc			
	Power Consumption	12.6 W (typ.)	13.6 W (typ.)	14.4 W (typ.)	T.B.D
	Power Supply for External Device	USB I/F: 5 V, maximum supply current 1 A per port, Total amount of all ports: 1A (max.)			
Operating Temperature	Temperature: -20 degrees C to +80 degrees C (at starting), -20 degrees C to +70 degrees C (continuous operation) ² Humidity: 10 % to 85 % (ambient temperature is lower than 40 degrees C.) (non-condensing) ³				
Storage Temperature/ Humidity	Temperature: -30 degrees C to 80 degrees C/ 10 % to 85 % Humidity: 10 % to 85 % (ambient temperature is lower than 40 degrees C.) (non-condensing) ³				
Line Noise	1kVP - P 50 ns to 1μs pulse				
Noise Immunity	Static electricity: in contact: +/-6 kV, in the air: +/-8 kV, radiated electromagnetic field: 10 V/m Conduction: 10 V/m, FTB: signal: 1 kV, power supply: 2 kV				
Shock Resistance	Shock resistance: 10 G (max.) - Duration of activity: 11 ms (not operating)				

¹ Put the four digits of I/O interface's part number in xxxx.

² If you select GPIB for the I/O interface, the continuous operating temperature is 0 degrees C to +50 degrees C.

³ If an ambient temperature is 40 degrees C or higher, use the product under the following conditions for an absolute humidity.
Ambient temperature: less than or equal to 40 degrees C
Relative humidity: Less than or equal to 85%

Configuration Selections

System configurations are selectable depending on your requirement.

Model	I/O Touch Panel Industrial Computer Atom E680T Model
CPU	Atom E680T 1.6GHz
I/O Type	See "I/O Interface Combination List" below.
Memory	<input type="checkbox"/> 1 GB <input type="checkbox"/> 2 GB
Display	<input checked="" type="checkbox"/> Touch panel
Boot Device	<input type="checkbox"/> CFast (4 GB) <input type="checkbox"/> CFast (8 GB) <input type="checkbox"/> CFast (16 GB)
Auxiliary Device	<input type="checkbox"/> None (CFast slot) <input type="checkbox"/> CFast (4 GB) <input type="checkbox"/> CFast (8 GB) <input type="checkbox"/> CFast (16 GB)
OS	<input type="checkbox"/> Interface Linux System 6 (L6) (32 bits) <input type="checkbox"/> Interface Linux System 6 (K6) (32 bits) <input type="checkbox"/> Windows Embedded Standard 7 (32bit) <input type="checkbox"/> Windows Embedded Standard 2009 (32 bits) <input type="checkbox"/> Windows XP Professional (32 bits)
Touch Panel Size	<input type="checkbox"/> 8.4 inch <input type="checkbox"/> 10.4 inch <input type="checkbox"/> 12.1 inch <input type="checkbox"/> 15 inch
Key Switches	<input type="checkbox"/> Yes <input type="checkbox"/> No

I/O Interface Combination List

Category	Part No. ¹	I/O Functions
Composite	2934	[Top side] Digital input/output, CMOS-gated high-voltage input, High-current drive open collector output, RS-485 [Under side] Analog input, Analog output, RS-232C
Digital input/output	2937	[Top side] Digital input/output, CMOS-gated high-voltage input, High-current drive open collector output [Under side] —
Digital input/output	2980	[Top side] Digital input/output, CMOS-gated high-voltage input, High-current drive open collector output, RS-485 [Under side] Digital input/output, CMOS-gated high-voltage input, High-current drive open collector output, RS-232C
Analog input	3615	[Top side] Analog input 16bit D16/S32 (isolation), RS-485 [Under side] Analog output, Digital input/output, RS-232C
GPIB ²	4326	[Top side] GP-IB, RS-485 [Under side] Digital input/output, CMOS-gated high-voltage input, High-current drive open collector output, RS-232C
HDLC	4676	[Top side] HDLC(RS-485) [Under side] Digital input/output, CMOS-gated high-voltage input, High-current drive open collector output, RS-232C
Serial	4668	[Top side] RS-232C [Under side] Digital input/output, CMOS-gated high-voltage input, High-current drive open collector output, RS-232C
CAN	4855	[Top side] High-speed CAN 3 ch (isolation) [Under side] Digital input/output shared, CMOS-gated high-voltage input, High-current drive open collector output, RS-232C
DeviceNet	4873	[Top side] DeviceNet, RS-485 [Under side] Digital input/output, CMOS-gated high-voltage input, High-current drive open collector output, RS-232C

¹ Put the four digits of the part number in the table above instead of xxxx in the product type.

Example: TIO-C2934ZE for composite type.

² The operating temperature of GPIB type is from 0 degrees C to +50 degrees C.



Interface Amita Solutions, Inc.

Phone: 1-408-879-2387

Fax: 1-408-879-6205

E-mail: sales@amitasol.com

Website: <http://www.interface-amita.com>

All product specifications are subject to change without prior notice.

©2014, 2015 Interface Corporation