element™
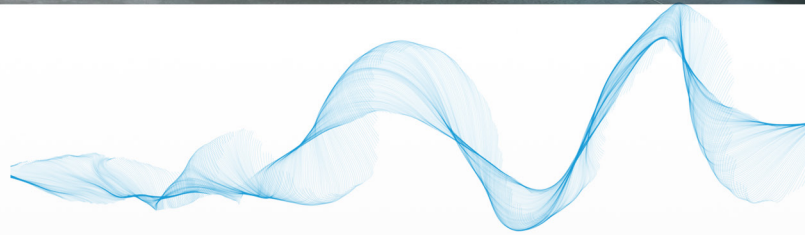
ELEMENT INDUSTRIAL PANEL PC PRODUCT CATALOGUE

DESIGN. QUALITY. PURPOSE

February 2021

ELEMENT INDUSTRIAL GRADE PANEL PC SERIES

1 INDUSTRIAL STAINLESS STEEL WIDE TEMPERATURE PANEL PC

The Element industrial-grade stainless steel panel PC is built to suit the most challenging environments. All units in the series have undergone rigorous testing to ensure safety and top performance. The front glass enclosure offers complete protection from water and dust making the Element industrial stainless steel range the ideal solution for environments with hygienic requirements.

Featuring a full flat resistive touch (or optional PCAP Touch) and chassis mount with downward I.O to save installation space, Element stainless steel panel PCs go beyond that of the standard industrial panel computers. Elegant, rugged construction, powerful performance, and flexible mounting options make it a perfect solution for food, beverage and pharmaceutical industry, including chemical manufacturing and other industrial applications.
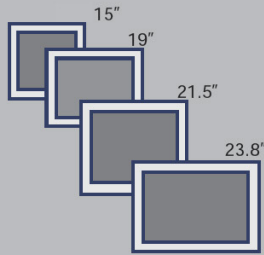
|			
USB 3.0 USB 3.0 Ready	15" 19" 21.5" 23.8"	**IP67 & IP69K** IP67 / IP69K Waterproof	**Touch Lock** Touch on/off for hygienic cleaning	Customisation Service	**CE**
Waterproof speaker Water proof speaker		**24/7** 24/7 Operation without limitation	**Stainless** Stainless steel housing	**WARRANTY** Warranty	**VCI**
COM +power COM+ power 5V/12V for customisation	Size from 10'' to 23.8'' TFT LCD				**FC** Class B
Expandable Design	**Full Range of LCD Sizes**	**Harsh Environment Solution**		**High Quality and Customisable Service**	

STAINLESS STEEL PANEL PC DESIGN BENEFITS

Full IP66/67/69K Rating

With protective glass installed in the front panel, the unit has full ingress protection from water and dust
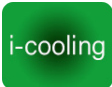
Water/dust proof
100%
Guarantee
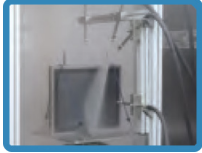
IP69K Tested

IP69K waterproof standard achieved through high pressure and hot steam cleaning test

Intel High Performance CPU

intel Core

Full Flat Touch

i-cooling

i-Cooling Smart Thermal Control

With innovating i-cooling smart thermal control, the CPU is highly effective after continuous long term operation

IP68 Adapter

Waterproof speaker

Waterproof Speaker

Customisable service to integrate 2W and 5W speakers to keep the system dust/waterproof

Robust Wireless Antenna for Easy Clean

While a traditional wireless dipole antenna can be damaged by the user during cleaning, our wireless PCB type antenna and a heavy-duty cover make it easy to clean and offer extra protection in harsh environments.
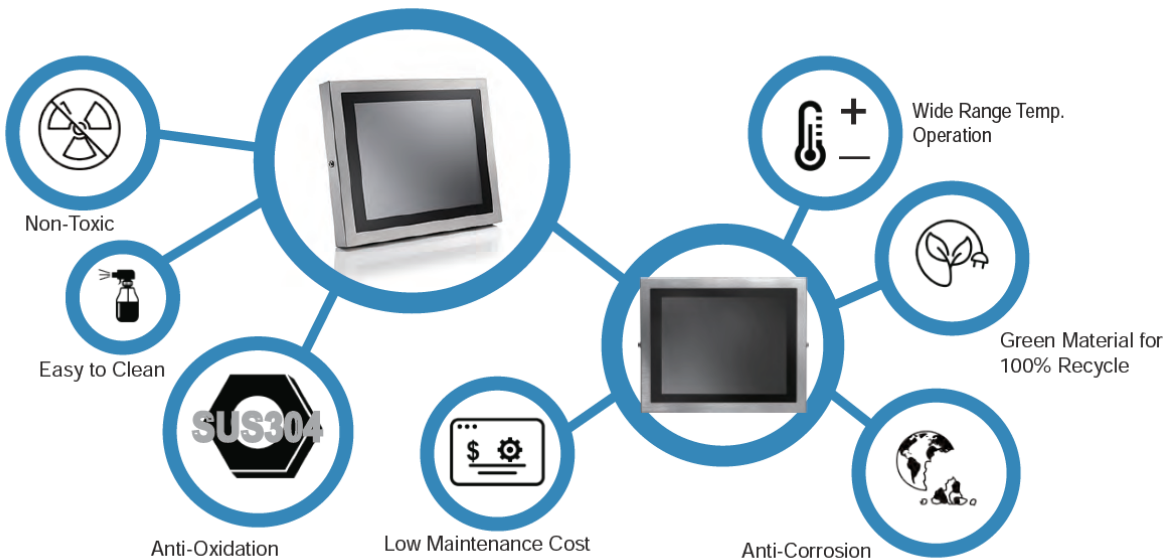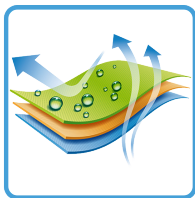
Bottom M12 Metal Connectors

All connectors located at the bottom of a device to meet most food factory requirements

STAINLESS STEEL PANEL PC DESIGN BENEFITS

Non-Toxic

Easy to Clean

SUS304

Anti-Oxidation

Low Maintenance Cost

Anti-Corrosion

Wide Range Temp. Operation

Green Material for 100% Recycle

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FEATURE HIGHLIGHTS

Powerful thermal solution with stable CPU operation

- Fanless cooling by high heat efficiency heat pipe and large heat dissipation heatsink. Optimal MB power design to maximise power efficiency and minimise heat generation.
- PTFE ventilation film helps exhaust hot air for air pressure balance to avoid stainless steel case deformation and ensure enclosure IP grade is still effective.

100% water/ dust proof

With a no-gap housing design and IP66/69K with M12 connector the units are 100% water/dust proof, and all products are 100% vacuum pressure verified before shipping out.
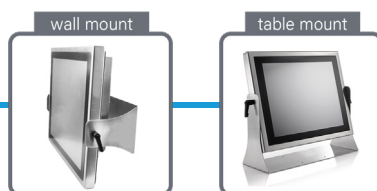
Fit for extreme environments and wide range of temperatures

24/7 operation, and high brightness LCD in temperatures ranging from -20 to 60°C.

Space-saving design

External IO positioned at the bottom. Wall & table mounting options available.

wall mount   table mount

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ELEMENT INDUSTRIAL STAINLESS STEEL PANEL PC SELECTION GUIDE

	Product	I15P	I19P	I22P	I24P
	Size	15"	19"	21.5"	23.8"
	Resolution	1024 x 768 (XGA)	1280 x 1024 (SXGA)	1920 x 1080 (FHD)	1920 x 1080 (FHD)
	Colour Numbers	16.7M			
	View Angle (H/V)	160/160	170/160	178/178	178/178
	Contrast	600:1	1000:1	1000:1	3000:1
	Brightness (nits)	450	350	350	250
Touch Panel & IO	Type	Full Flat Resistive Touch (Full Flat P-cap Touch for option)			Full Flat Pcap Touch
	USB	1 x M12 8pin for USB 1/2, 1 x M12 8pin for USB 3/4			
	COM	1 x M12 8pin for COM 1/RS-232/422/485 1 x M12 8pin for COM 2/RS-232			
	LAN	1 x M12 8pin			
Main System	CPU	Intel® Skylake / Kaby Lake			
	Memory	up to 32G			
	OS support	Win7 /Win8 / Win10			
Storage & Expansion	HDD	128G SSD			
	Expansion Slot	Mini PCIe x 1, M.2 Type E x 1			
Mechanical & Environmental	Weight (kg)	8.4	11.5	12	14.8
	Operating Temp.	-20~60°C			
	IP rating	IP66 / IP67 / IP69K			
	Cooling	Fanless			
Power	Power Input	DC9~32V			
	Power Adapter	AC100~240V			AC100~277V
	Power Consumption	60.3W	52.9W	52.9W	

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② INTRINSICALLY SAFE PANEL PC SERIES

The Element IPE Intrinsically Safe Panel PC series is built to suit a variety of hazardous environments. The units undergo rigorous testing to ensure safety and top performance. They are capable of withstanding vibration, shock, corrosion and can operate under the condition of exposure to gas and vapour.

All models in the Intrinsically Safe series are sealed to at least IP66 standards offering the best solution for environments with explosion considerations. The Intrinsically Safe Panel PCs work well in oil & gas industry, chemical manufacturing, power generation, distilleries and other hazardous industrial applications.
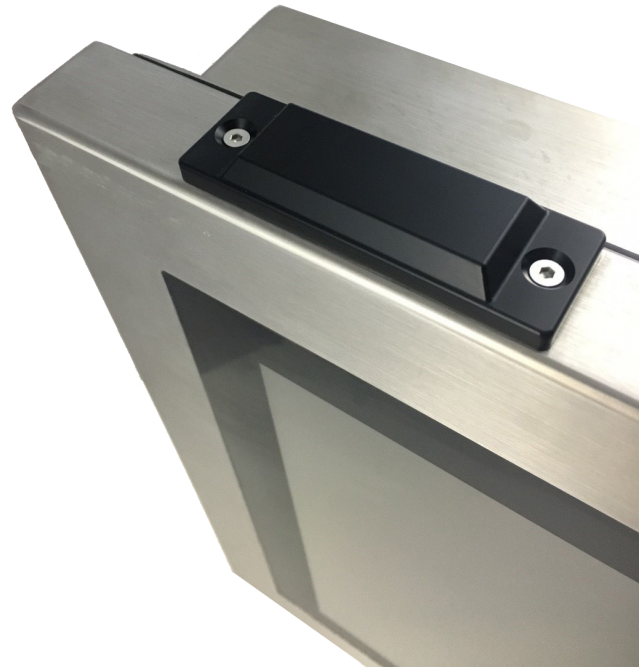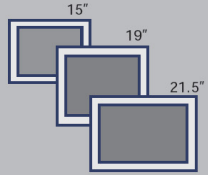
WHEN CAN AN EXPLOSION OCCUR?

As a rule, an explosion can occur when three of the below elements exist. The basic principle for intrinsically safe protection is to eliminate one or more legs of the explosion triangle.

- **Flammable material:** can be a gas, fuel, vapour or dust in sufficient quantities.
- **Source of ignition:** any source of energy, e.g. a spark or high temp etc.
- **Oxygen:** usually present
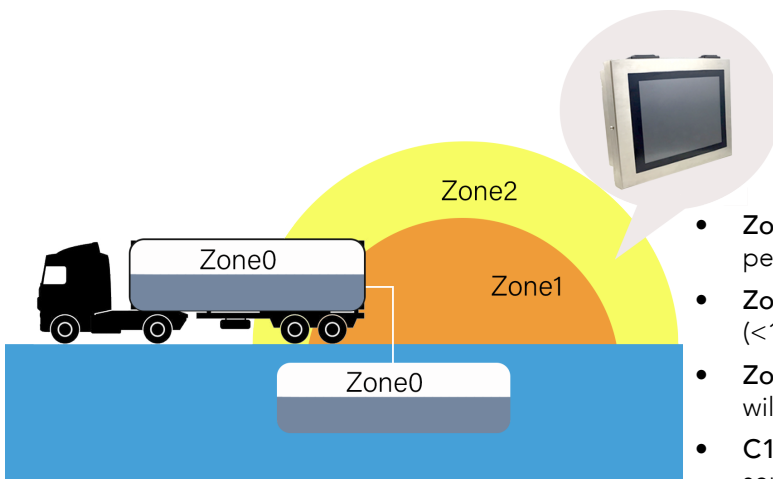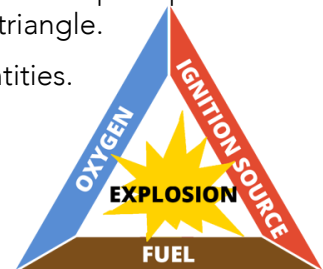
- **Zone0:** Present frequently, continuously, or for long periods (>1000hrs./yr)
- **Zone1:** Occur in normal operation occasionally (<1000 hrs./yr)
- **Zone2:** Occur in normal operation, but if it does occur, will persist for a short period only (less than 10 hrs/yr)
- **C1D2:** In US, it certifies that Element Intrinsically Safe series could secure safe operation in environments when flammable or explosive gases/ vapours are present

WHY INTRINSICALLY SAFE PANEL PC?

Expandable Design	Full Range of LCD Sizes	Harsh Environment Solution	High Quality and Customisable Service
Easy installation via cable gland and connector panel, flexible & max support to 4 ports. Swappable M12 USB/COM connectors for hazard area installation.	15" 19" 21.5" Size from 15" to 21.5" TFT LCD	Front IP66 — IP66 water/ dustproof; Touch Lock — Touch on/off for hygienic cleaning; Wide Temp. -20 ℃~60 ℃; Robust Antenna	Ex CE VCI IECEx FC Class B

FEATURE HIGHLIGHTS

Powerful thermal solution with stable CPU operation

- Fanless cooling by high thermal efficiency heat pipe and large heat dissipation heatsink. Optimal MB power design to maximise power efficiency and minimise heat generation.
- PTFE ventilation film helps exhaust hot air for air pressure balance to avoid stainless steel case deformation and ensure enclosure IP grade is still effective.
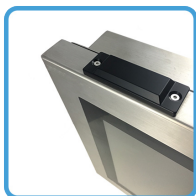
No corrosion after long-term usage

- Stainless steel covers, glands and screws
- Robust connectors, seals, antenna covers
- Touch screen bonded with LCD
- Low power circuit in COM and touch screen

Fit for extreme environments, wide range of temperatures & water/dust proof

With selected key components (e.g. LCD, RAM, Storage, power module …), large heat dissipation heatsink and "pre-heating control system", Element Intrinsically Safe products can be operational for 24/7 in the following temperatures: -20~60°C.
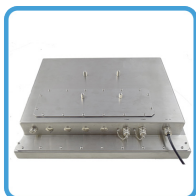
Space-saving design

External IO positioned at the bottom. Wall & table mounting options available.

wall mount   table mount
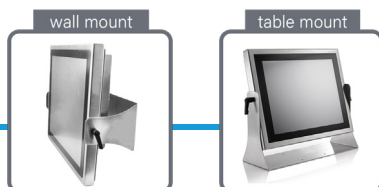
INTRINSICALLY SAFE PANEL PC APPLICATIONS
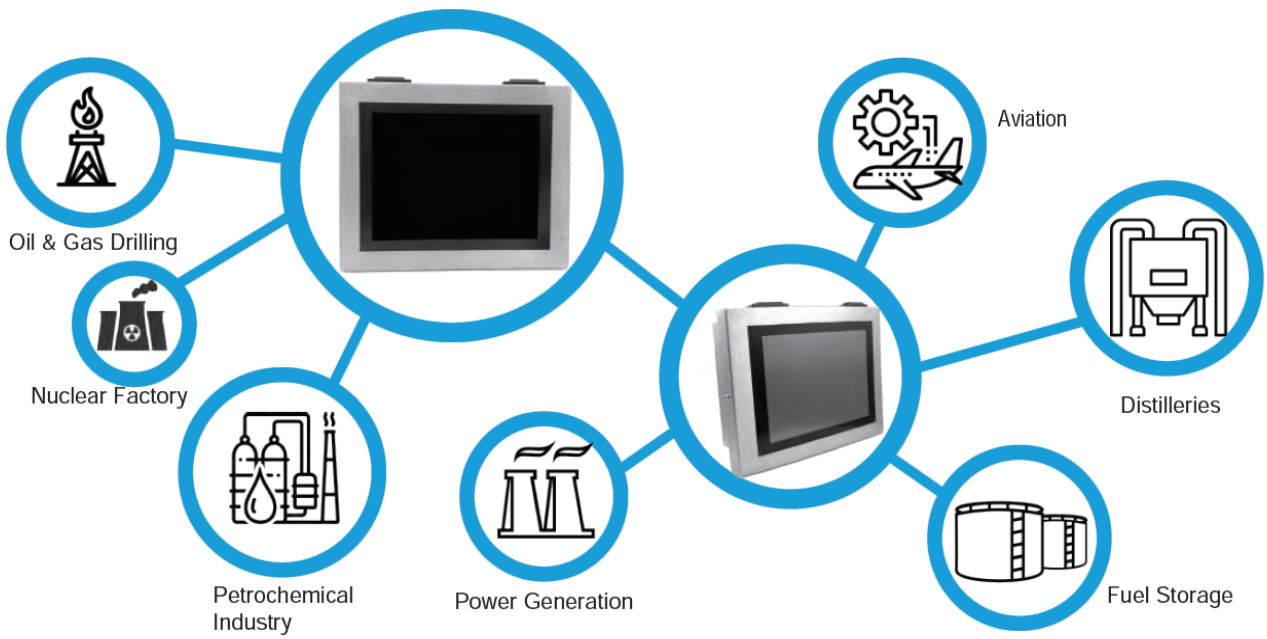

Oil & Gas Drilling

Nuclear Factory

Petrochemical Industry

Power Generation

Aviation

Distilleries

Fuel Storage

Equipment Monitoring

All data from pipe/ tank or other equipment need to be inspected or monitored and the information collected for adjustment or maintenance.

Data Exchange & Collection

Various types of data e.g. equipment temperature, air pollution rate etc. can be collected from a dangerous field and exchanged with another field when necessary.

Real-time Control

In gas, oil or other hazardous environments, real time control of power status (on/ off) and any other emergency maintenance via explosion proof panel PC is crucial.
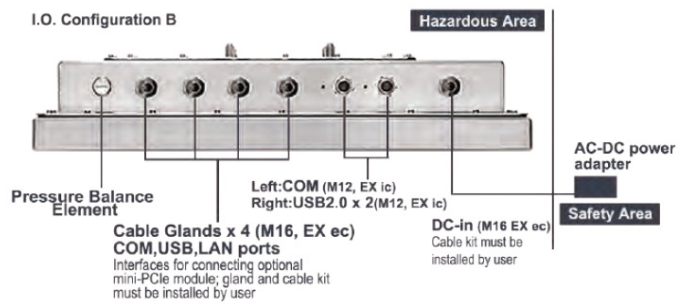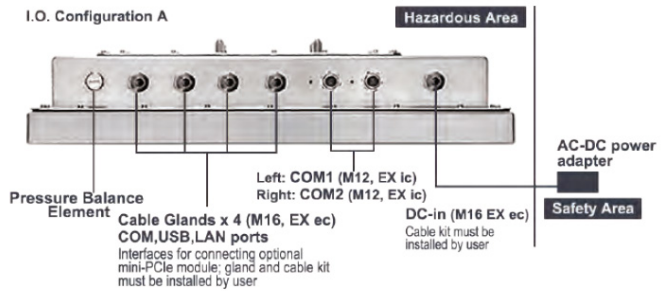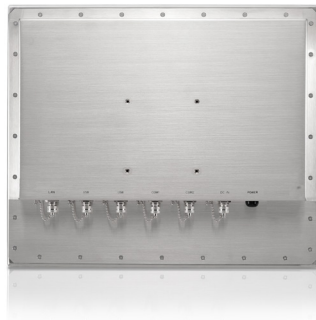
Central Control Room

With 24/7 operation and high performance CPU, central control room is fully equipped to deal with any situation.

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I.O. Configuration A

Hazardous Area

Pressure Balance Element
Cable Glands x 4 (M16, EX ec)
COM,USB,LAN ports
Interfaces for connecting optional mini-PCIe module; gland and cable kit must be installed by user

Left: COM1 (M12, EX ic)
Right: COM2 (M12, EX ic)

DC-in (M16 EX ec)
Cable kit must be installed by user

AC-DC power adapter

Safety Area

I.O. Configuration B

Hazardous Area

Pressure Balance Element
Cable Glands x 4 (M16, EX ec)
COM,USB,LAN ports
Interfaces for connecting optional mini-PCIe module; gland and cable kit must be installed by user

Left:COM (M12, EX ic)
Right:USB2.0 x 2(M12, EX ic)

DC-in (M16 EX ec)
Cable kit must be installed by user

AC-DC power adapter

Safety Area

Product	IPE-15W	IPE-19W	IPE-22W
CPU		Intel® Skylake	
Size	15"	19"	21.5"
Resolution	1024 x 768 (XGA)	1280 x 1024 (SXGA)	1920 x 1080 (Full HD)
Colour Numbers		16.7M	
View Angle (H/V)	160/160	170/160	178/178
Contrast	600:1	1000:1	5000:1
Brightness (nits)	450	350	300
Touch screen	Full flat resistive touch screen		
Operating Temperature	-20 ~ 60°C		-10 ~ 55°C
External IO	**Configuration A** **Cable Gland M16 (Max. Output x 4, Must be Installed by User)** USB 2.0 X 2 (EX ec) LAN X 2 (EX ec, i219LM for Vpro) COM X 1 for RS232/422/485 (EX ec) Optional Mini-PICe Module for Cable Connection X 1 (EX ec) **Swappable M12, 8pin (I.S. Output)** COM X 2 for RS232(EX ic, Extension Cable to Ex ic Devices) **Power DC-In x 1, M16 (Ex ec, Must be Installed by User)** **Configuration B** **Cable Gland M16 (Max. Output x 4, Must be Installed by User)** USB 2.0 X 2 (EX ec) LAN X 2 (EX ec, i219LM for Vpro) COM X 1 for RS232/422/485 (EX ec) Optional Mini-PICe Module for Cable Connection X 1 (EX ec) **Swappable M12, 8pin (I.S. Output)** USB X 1 for 2 (EX ic, Extension Y Cable to Ex ic Devices) COM X 1 for RS232(EX ic, Extension Cable to Ex ic Devices) **Power DC-In x 1, M16 (Ex ec, Must be Installed by User)**		
Power Adapter	AC 100 ~ 240V / 47 ~ 63 Hz / DC output 24V, 100W, with 1.2M cable, PSE		
OS Support	Win10 Embedded 32/64-bit / Windows 10 Professional 32/64-bit		
Certification	EMC: FCC, CE (EMC), VCCI Class B, Safety: IEC-62368, IECEx, Class 1 Division 2 Group A, B, C, D T5 ATEX Zone2 EX II 3G Ex ic ec IIC T4 Gc IP66, TS Mark (Taiwan) Ex ic ec	EMC: FCC, CE (EMC), VCCI Class B, Safety: IEC-62368 IECEx, Class 1 Division 2 Group A, B, C, D T5 (Coming Soon) ATEX Zone2 EX II 3G Ex ic ec IIC T4 Gc IP66 (Coming Soon)	EMC: FCC, CE (EMC), VCCI Class B, Safety: IEC-62368 IECEx, Class 1 Division 2 Group A, B, C, D T5, ATEX Zone2 EX II 3G Ex ic ec IIC T4 Gc IP66

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