element™

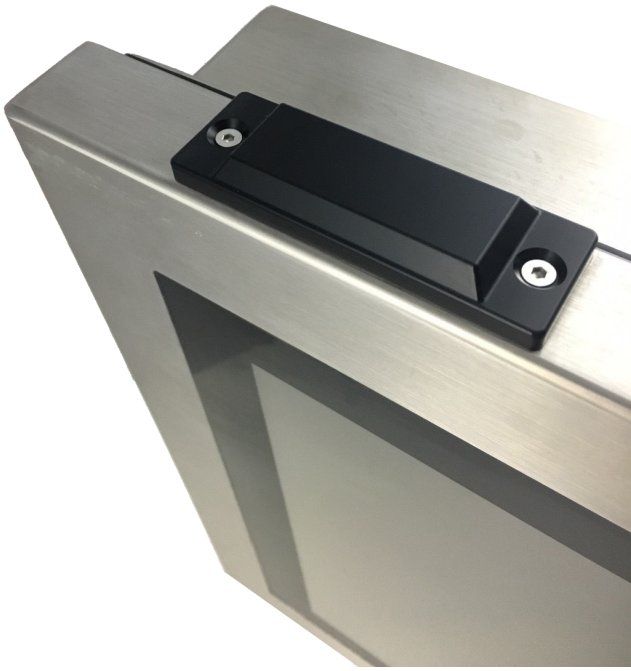
INTRINSICALLY SAFE PANEL PC SERIES

Solution Brief

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.

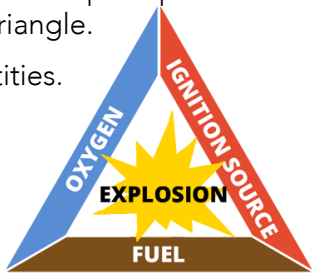
All models in the Intrinsically Safe series are sealed to at least IP66 standards offering the best solution for environments with explosion considerations. The Intrinsically Safe Panel PCs work well in oil & gas industry, chemical manufacturing, power generation, distilleries and other hazardous industrial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

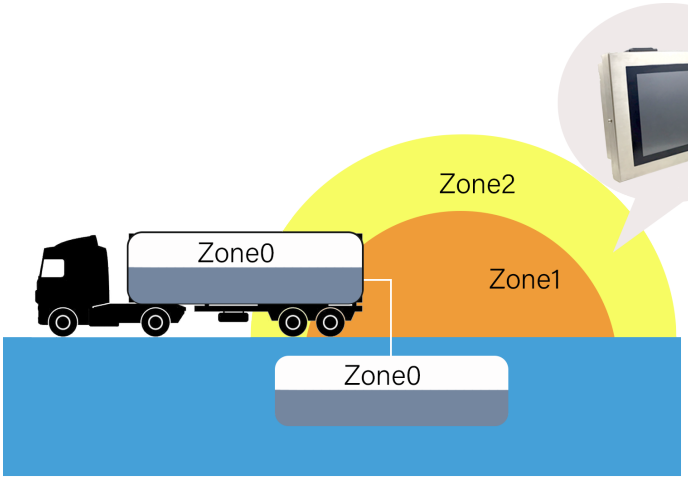


WHEN CAN AN EXPLOSION OCCUR?

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.

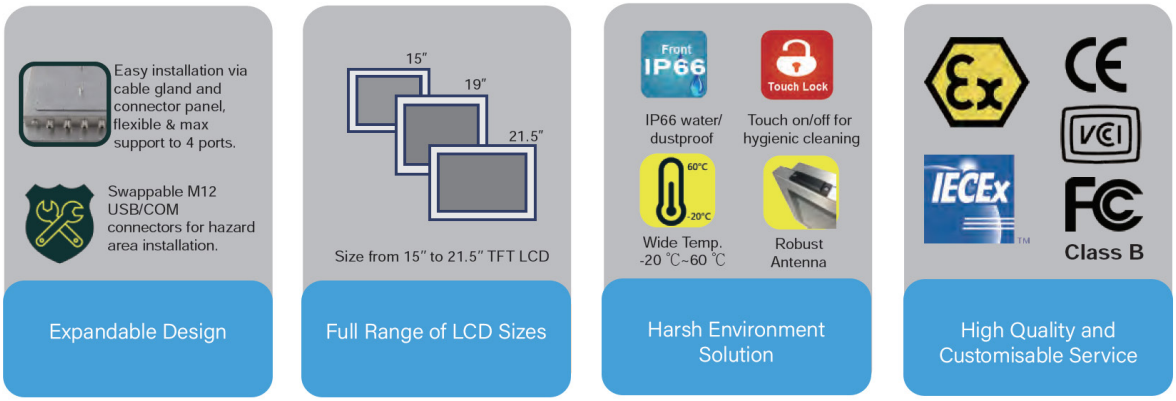
- **Flammable material:** can be a gas, fuel, vapour or dust in sufficient quantities.
- **Source of ignition:** any source of energy, e.g. a spark or high temp etc.
- **Oxygen:** usually present



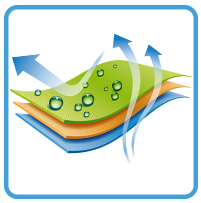


- **Zone0:** Present frequently, continuously, or for long periods (>1000hrs./yr)
- **Zone1:** Occur in normal operation occasionally (<1000 hrs./yr)
- **Zone2:** Occur in normal operation, but if it does occur, will persist for a short period only (less than 10 hrs/yr)
- **C1D2:** In US, it certifies that Element Intrinsically Safe series could secure safe operation in environments when flammable or explosive gases/ vapours are present

WHY INTRINSICALLY SAFE PANEL PC?

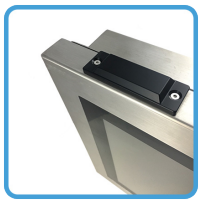


FEATURE HIGHLIGHTS



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.

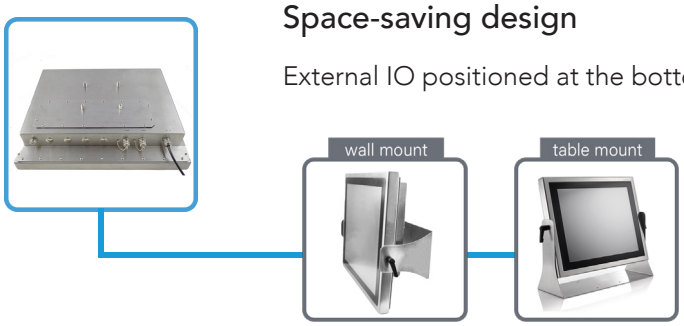


No corrosion after long-term usage

- 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

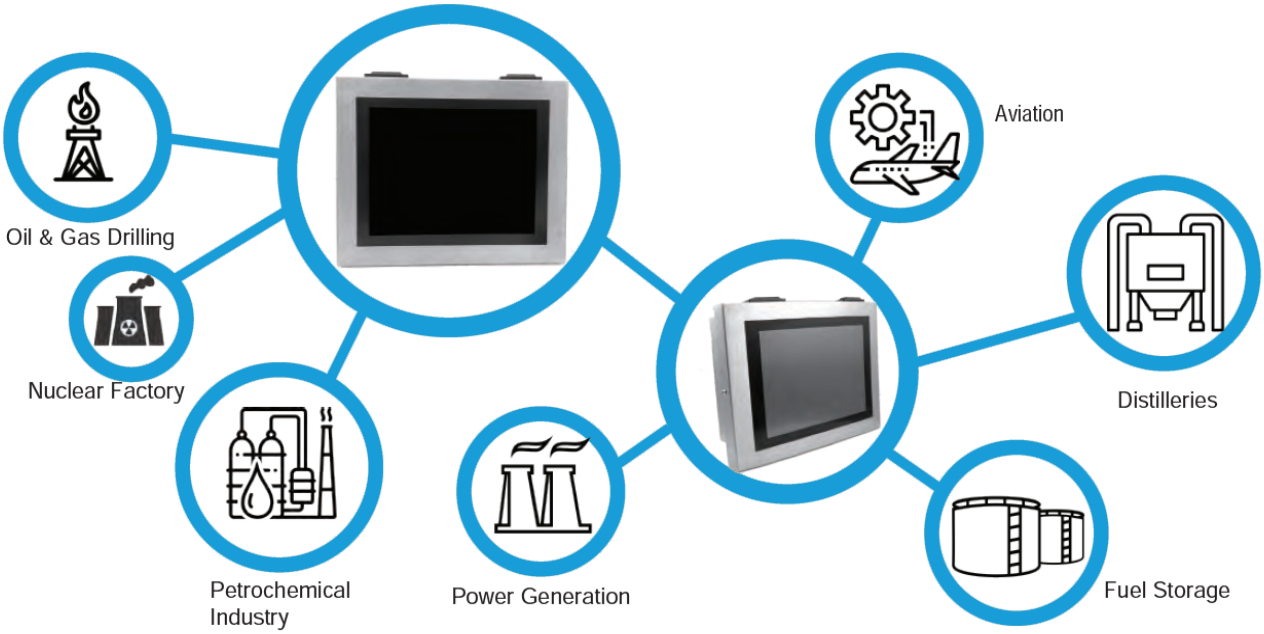
With selected key components (e.g. LCD, RAM, Storage, power module …), large heat dissipation heatsink and "pre-heating control system", Element Intrinsically Safe products can be operational for 24/7 in the following temperatures: -20~60°C.



Space-saving design

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

INTRINSICALLY SAFE PANEL PC APPLICATIONS



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.

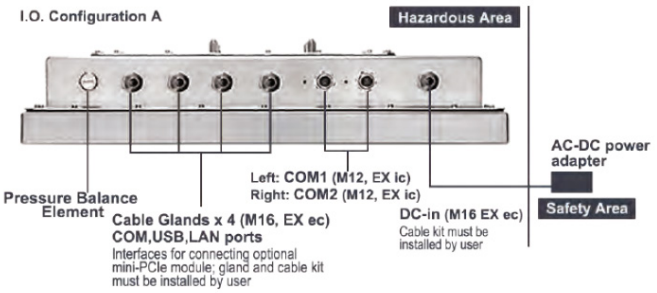
Real-time Control

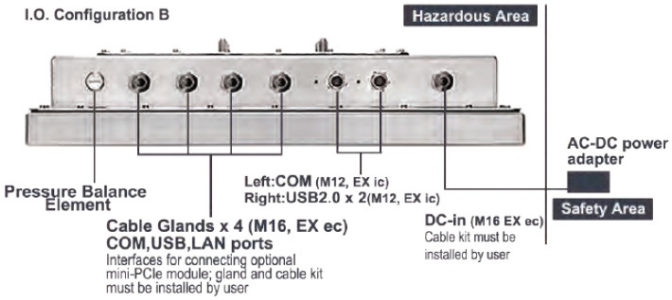
In gas, oil or other hazardous environments, real time control of power status (on/ off) and any other emergency maintenance via explosion proof panel PC is crucial.

Central Control Room

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

ELEMENT IPE INTRINSICALLY SAFE PANEL PANEL PC SELECTION GUIDE





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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