

◆ Intelligent electrostatic discharging system

iONcontrol FUSION / Ex

TRUE^{DC}® Sensor Technology



Intelligent electrostatic discharging system

System description

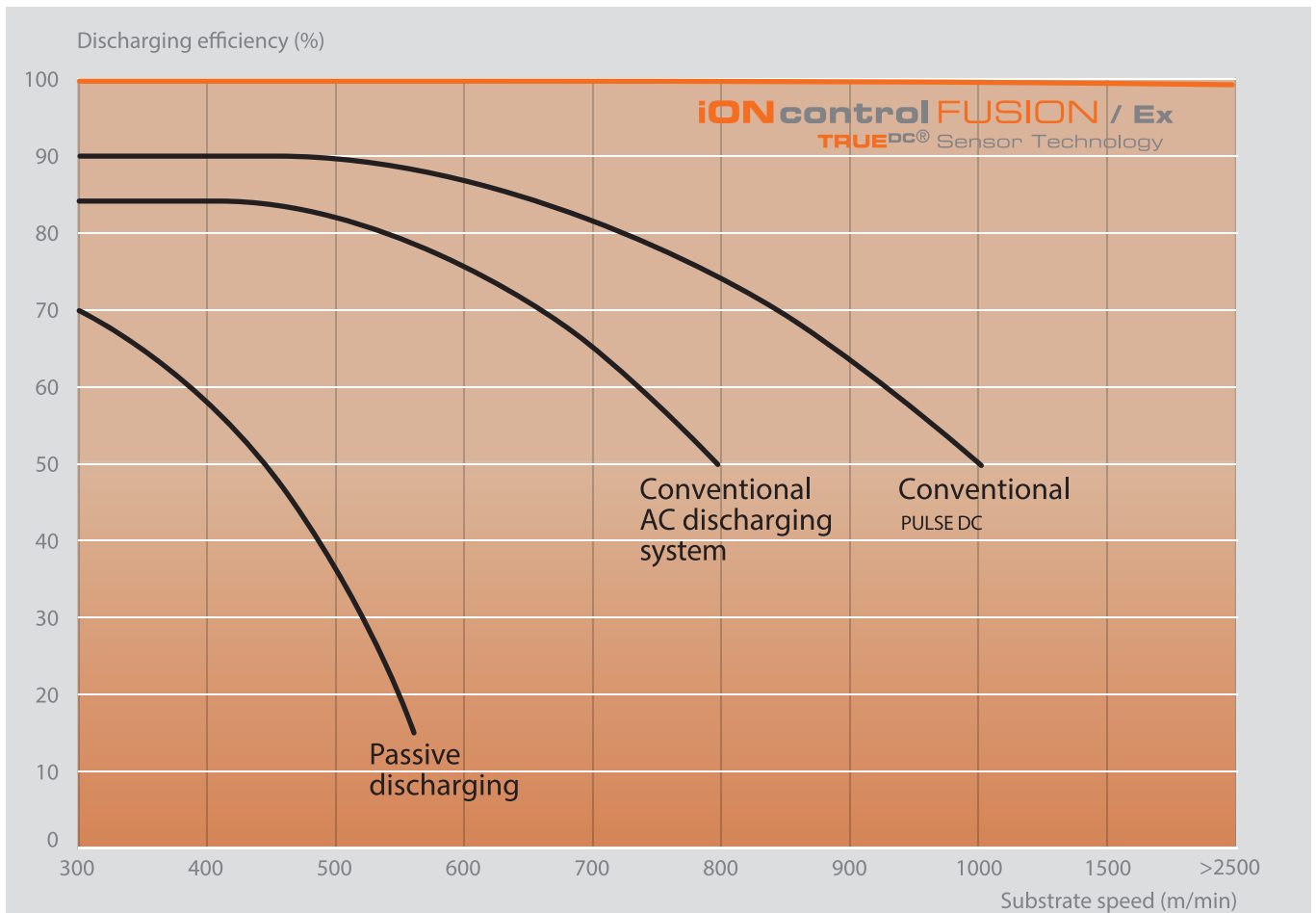
The **iONcontrol FUSION** is a high performance static neutralising system with the capacity to achieve 100% discharging efficiency regardless of web speed or charge value/polarity. It incorporates the latest technological developments and is micro-controller operated with local embedded intelligence. Electrode contamination and emitter pin status, as well as neutralising efficiency, are continuously monitored and visualized. With our **TRUE^{DC}** Sensor Technology the electrode has the capability to detect the field on the substrate as well as its strength and its polarity. Based on this data the micro-controller software decides which discharging mode is the most effective. Due to the fact that in the **TRUE^{DC}** mode the output voltage is not altering (as with AC, PULSE^{DC} or AUTO^{DC}), there are no zero volt passes and therefore no ion emitting pauses. This guarantees 100% discharging, even at the highest machine speeds, down to zero volt residual charge without the

so called "Zebra-Effect" on the substrate surface.

All electronic components and high voltage parts are encapsulated inside the bar profile. Up to 127 neutralising bars can be monitored and controlled via a single Master such as our LCD Touch-Screen or via our Gate-Way to the customers interface.



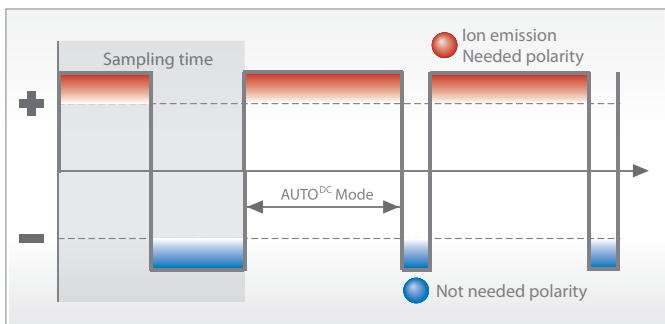
No more emitting pauses / residual charge due to zero volt passes



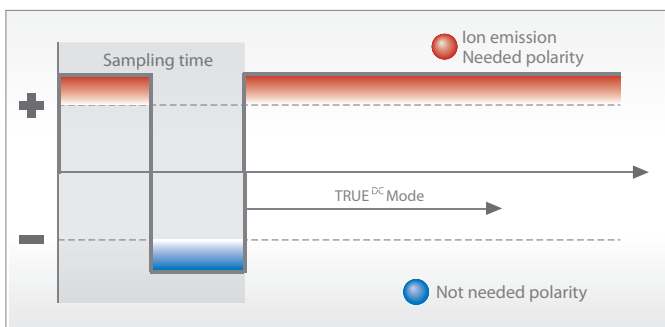
System discharging efficiency comparison (dynamically)

Technology

The patent pending **TRUE^{DC}** Sensor Technology has a sensor emitter row integrated into the bar profile. The systems software continuously measures the charge value and its polarity on the substrate during the diagnostic phase mode. It pulses with DC positive and negative ions and at the same time reads the difference in current between the original electrode current curve stored in its memory and the actual current curve when seeing an electrostatic field. This current and its saturation behaviour is the key to knowing which polarity and which value the charge on the substrate has. Utilising this data the system will automatically run in the mode where the optimum neutralising efficiency can be achieved. This can either be **AUTO^{DC}** or, at higher speeds and greater static amounts, **TRUE^{DC}** mode. The result of this revolutionary technology and intelligence is an effective neutralising range of up to 500mm. The micro-controller also allows easy integration of the system with many of today's communication protocols as well as real time process control and parameters logging.



AUTO^{DC} Method



TRUE^{DC} Method

Options:

- Customer interface via „Anybus“ Gate-Way
- 'Ex' hazardous location approved version available



Our experienced application engineers can assess your machine and advise on how to effectively install the **iONcontrol FUSION** into your production process to 'eliminate' your static issues.

iONcontrol FUSION System advantages

Application:

- TRUE^{DC} Sensor Technology, no zero volt passes of ionising output
- 24V DC supply, all electronic components integrated in neutralising bar profile
- Micro-controller operated; Contamination and emitter pin status detection
- 100% discharging efficiency for ionising ranges up to 500 mm
- Network compatible, internal CAN open bus to communicate with touch panel or „Anybus“ Gate-Way

Economical:

- 100% process control with log book of system parameters
- TQM Sensor option to detect and protocol residual charge

Safety:

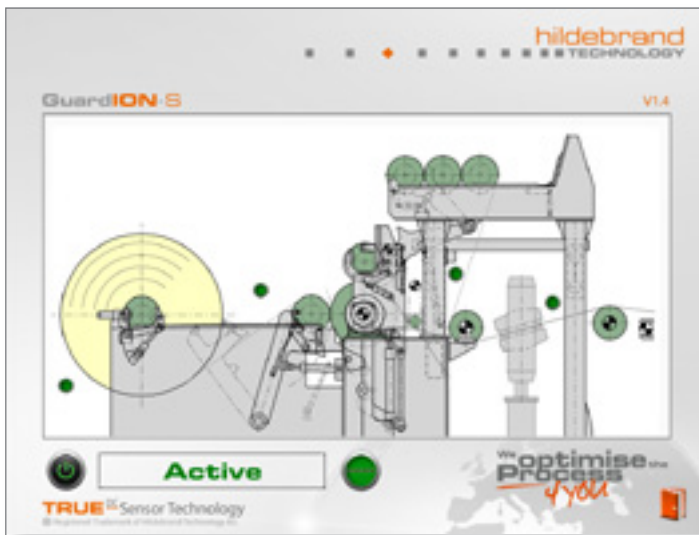
- Shock proof according EN 60335
- II 2G Exi/mb IIA T6 (-20° ≤ Ta ≤ +50° C)
- Fail safe, via 'passive discharging' capability

Ecological:

- Lowest possible energy consumption



Software options



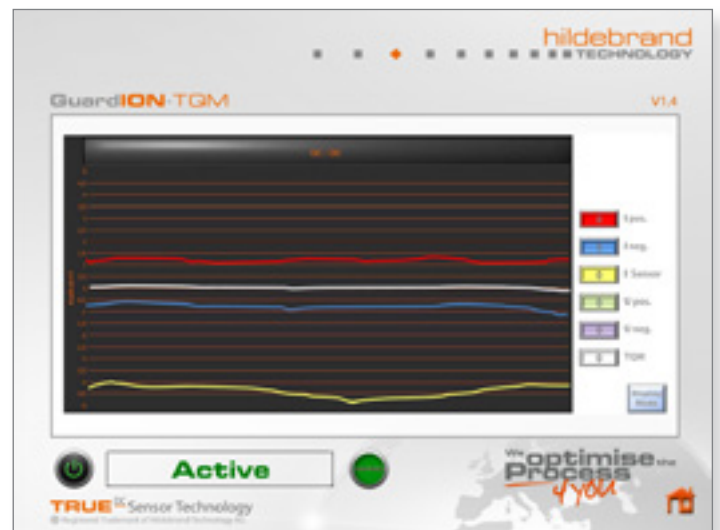
With **Guardion-S** main system display showing neutralising bar position and real time performance status.



Individual ionising current and discharging efficiency for each bar within the system.



Guardion-Pro adds a password protected engineer access screen for the individual adjustment of pulse pause, voltage output & polarity bias.

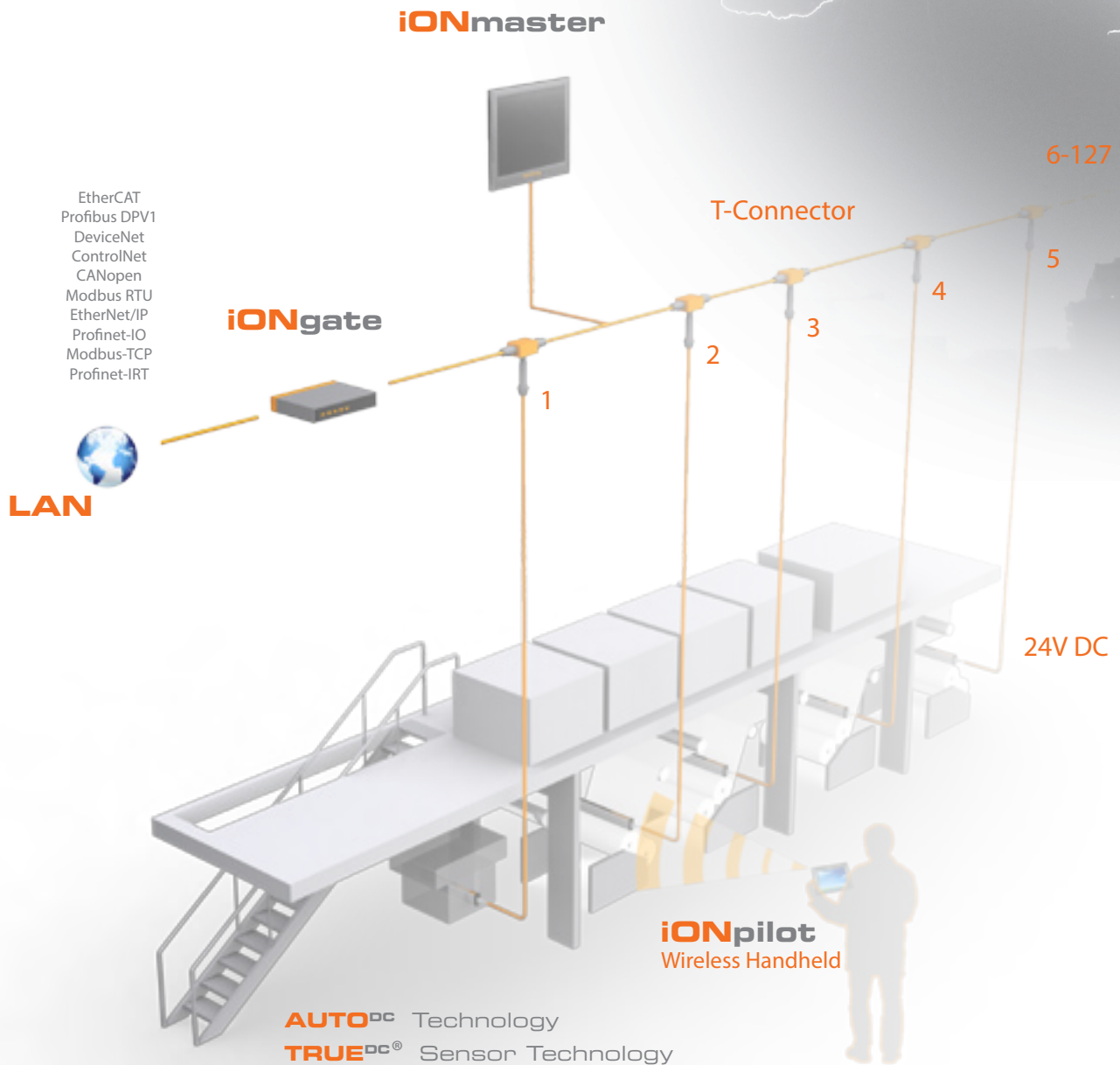


Guardion-TQM is our full function software package adding the facility to log and graphically display production run performance data including the measurement and recording of residual charge for **100%** process control / TQM.



Network capability

iONcontrol FUSION can be quickly and easily integrated into a process control system over an industrial network. Our „An-ybus“ Gate-Way seamlessly adapts to all common fieldbus systems with plug-and-play functionality.





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