

Application Note

Touchpoint Pro: Centralised versus distributed topology gas control system



When configured as a distributed topology system, Touchpoint Pro delivers large cable and material cost savings.

Using innovative and cost-effective technology, whilst also taking into consideration sustainability, is the premise for a successful and future-oriented business in today's World.

The Touchpoint Pro system from Honeywell Analytics is designed to specifically meet these requirements and one of its innovations is its easy clip on Input / Output (I/O) Modules, which can be installed to create either a centralised or distributed system topology.

Each Touchpoint Pro system can contain multiple I/O Modules in multiple remote Touchpoint Pro units. Remote I/O Modules can be located up to 1 km (cable length) from the Touchpoint Pro Controller and the maximum cable length for the complete system is 3 km. The only cable required between the Controller and Remote units is the ring network cable, which provides the communication link between a Touchpoint Pro Controller and all remote I/O Modules.

Touchpoint Pro' I/O Modules deliver real value by adapting to meet unique requirements.

For instance, in new build 'greenfield' sites, the distributed I/O Modules can deliver large saving in cabling costs, when compared to the traditional 'home run' cabling approach of a centralised system.

In locations where field devices are situated longer distances away from the Touchpoint Pro Controller, 'point to point' wiring from the field devices to the Touchpoint Pro Controller is no longer needed (as would be the case in most comparable solutions available in today's marketplace). Touchpoint Pro' associated field devices (sensor and actuators) can be wired directly into the plug and socket terminal connectors of each I/O Module.

Easy clip on I/O Modules permit simplified and cost-effective installation and also reduce wiring requirements. The distributed I/O Modules minimise the amount of cabling between clusters of field devices by up to 85%* and deliver large cable cost savings of up to 85%*, when compared to a traditional 'point to point' (centralised) system topology.

The following example compares a centralised and distributed system topology, illustrating these sizeable savings:



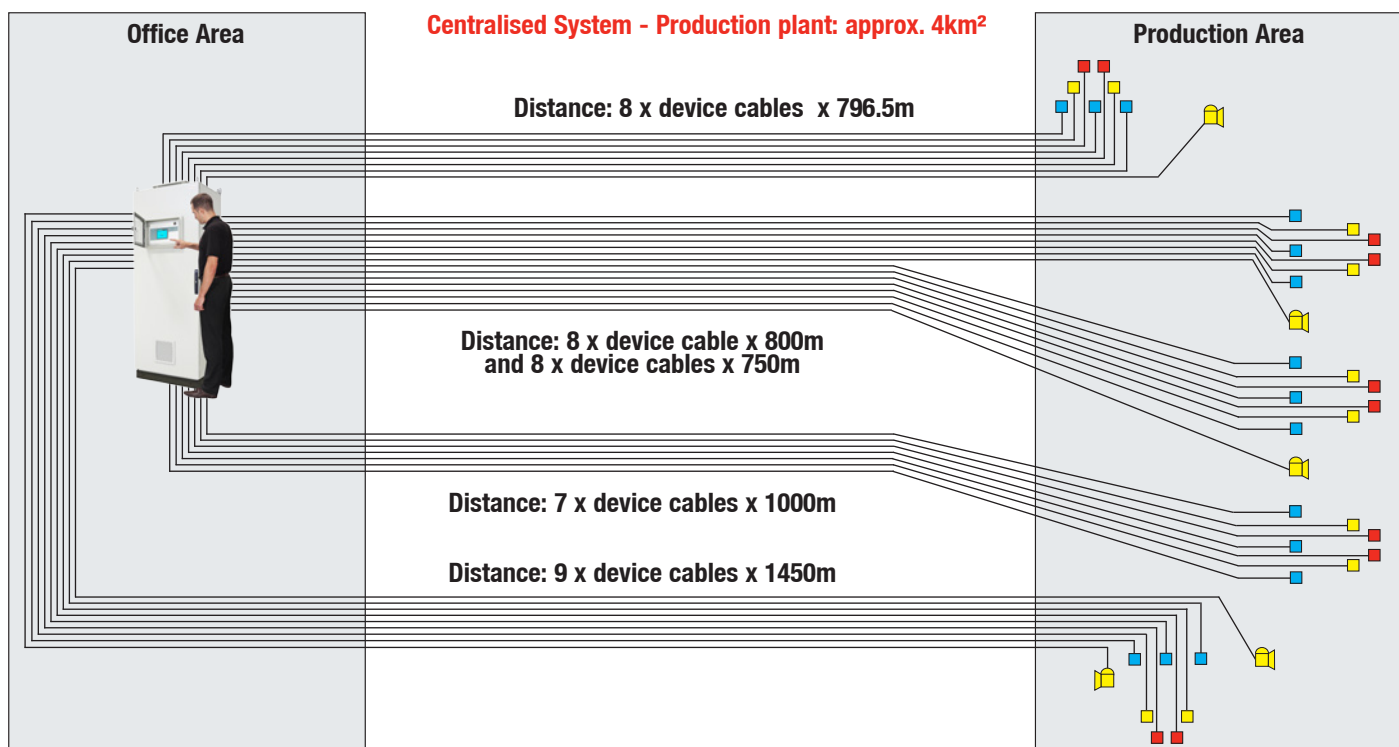
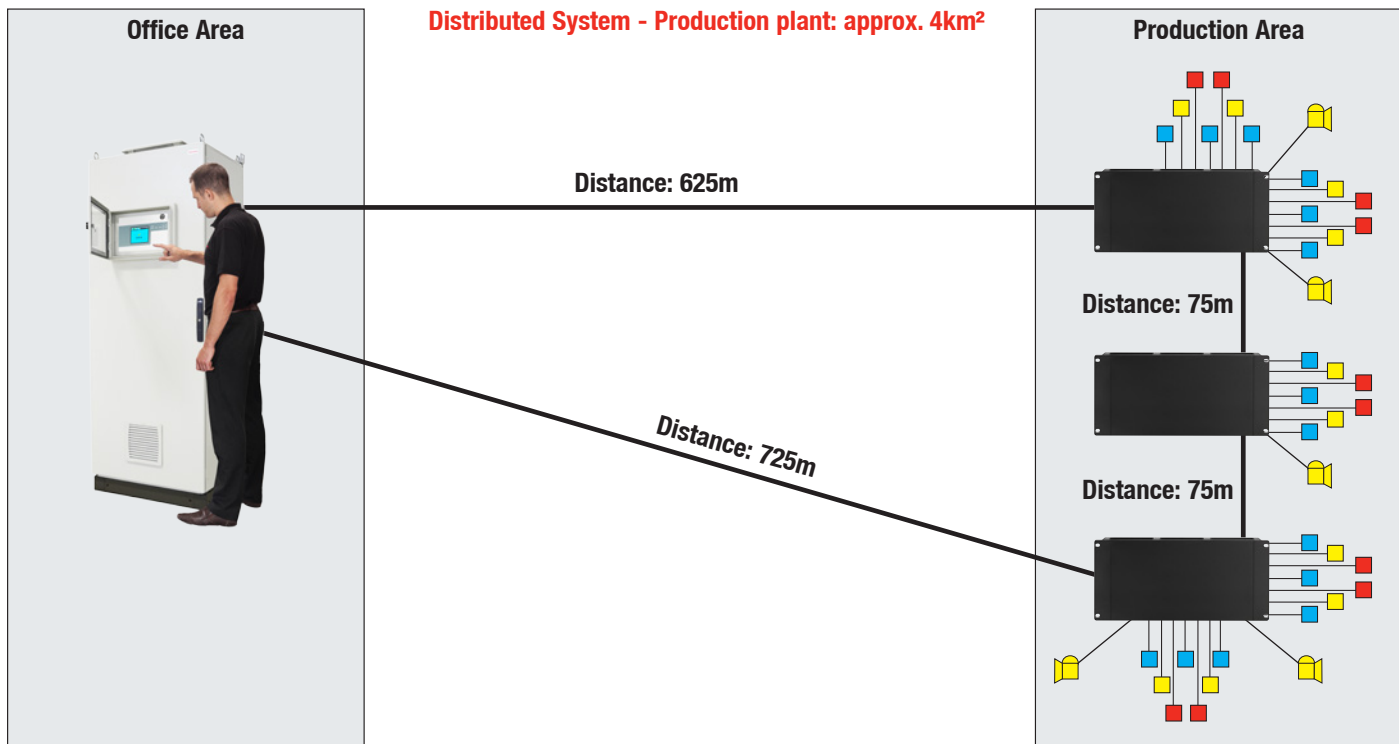
Aspect	Distributed System	Centralised System
Typical plant size	4 km² (average plant size)	4 km² (average plant size)
Field devices in system	25 x gas detectors 10 x flame detectors 5 x audible/visual alarm points	25 x gas detectors 10 x flame detectors 5 x audible/visual alarm points
Topology	1 x Touchpoint Pro Controller 3 x Touchpoint Pro remote units	1 x Touchpoint Pro Controller
Cable requirement	1.5 km ring cable 3.25 km device cables = 4.75 km cable requirement	38.83 km device cables = 38.83 km cable requirement
Cable cost / m	\$ 2.50 / m	\$ 2.50 / m
Total cable cost	\$11,875	\$97,063

Example of potential cable savings: Distributed versus centralised topology

As this example highlights, a distributed I/O topology delivers considerable cable and material savings equating to \$85,000. These projected savings do not include additional costs of cable trays or labour to install the cable, so actual savings will be even higher in reality.

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Touchpoint Pro: Centralised versus distributed topology gas control system continued...



Key:



Touchpoint Pro Controller



Remote Touchpoint Pro Controller

— ■ Flame Detector; distance 125m

— ■ Gas Detector; distance 100m

— ■ Gas Detector; distance 50m

— ■ Audible/Visual Alarm; distance 50m

**All savings calculations are based on our experience in industrial gas detection applications. Actual savings may be greater or less dependent on specific individual applications.*

Honeywell Analytics Gas Detection



Honeywell Analytics is able to provide gas detection solutions to meet the requirements of all applications and industries. Contact us in the following ways:

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Experts in Gas Detection

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