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Ingenuity for life



SIPAPER Safety Integrated

Feel relaxed about addressing increased safety requirements

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The fiber industry involves extremely complex workflows and drive technology must not exhibit any weak points. Every fault or malfunction can have fatal consequences.

As a consequence, the topmost emphasis is placed on minimizing potential risks for humans, plants/systems and the environment using technical resources, without this having a negative impact on the production process.

SIPAPER Safety Integrated stands for seamlessly integrated safety technology embedded in the drive automation.

SIPAPER Safety Integrated – safety for your drive according to EN 1034

In order to reliably eliminate sources of danger and hazards, an efficient safety concept in line with the applicable standards is required that complies with high functional safety requirements.

Using a technique for which a patent has been registered, SIPAPER Safety Integrated provides a solution to fulfill all of the requirements laid down in EN 1034 without requiring any additional hardware.

SIPAPER Safety Integrated is firmly embedded in our well-proven and future-oriented drive solutions SIPAPER Drives APL and SIPAPER Winder APL.

The advantages:

- Integral component of the drive solutions SIPAPER Drives APL and SIPAPER Winder APL
- Velocity monitoring using standard components (without speed monitor)
- Operating modes can be easily selected at operator panels and WinCC stations
- A new diameter for the safety program can be entered via the operating system (without having to recommission the system)
- Integrated diagnostics via the existing operating system
- No additional hardware required

EN 1034 – impact on multi-motor drives

Since 2011/2012 increased safety requirements have been in place for drive systems for

- Slitter-winders (EN 1034-3:2011)
- Paper and board machines (EN 1034-16:2012)
- Tissue machines (EN 1034-17:2012)
- Coating machines (EN 1034-21:2012)

These harmonized standards include requirements relating to

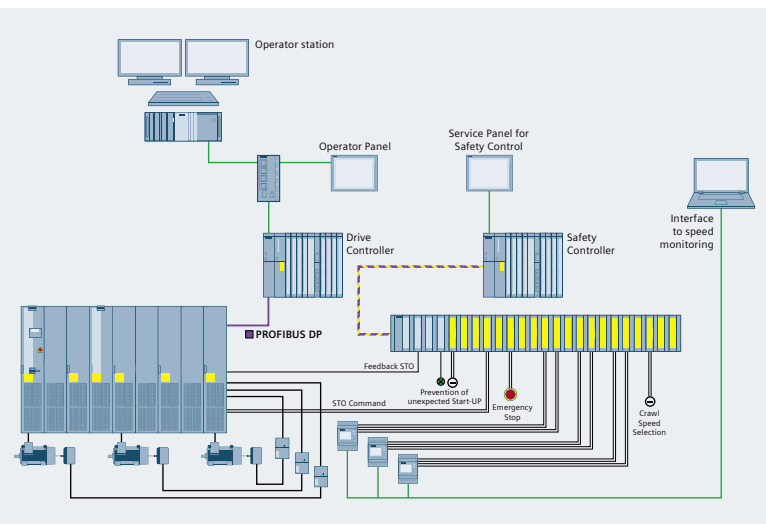
- Emergency Stop
- Protection against unexpected starting (safety switch)
- Alarm when starting
- **Monitoring the drive speed (new!)** – for crawl speed and paper machine design speed

The organization marketing or distributing the machine is generally responsible for ensuring compliance with EN 1034 (and therefore the machinery directive) – which generally is the company operating the plant or system.

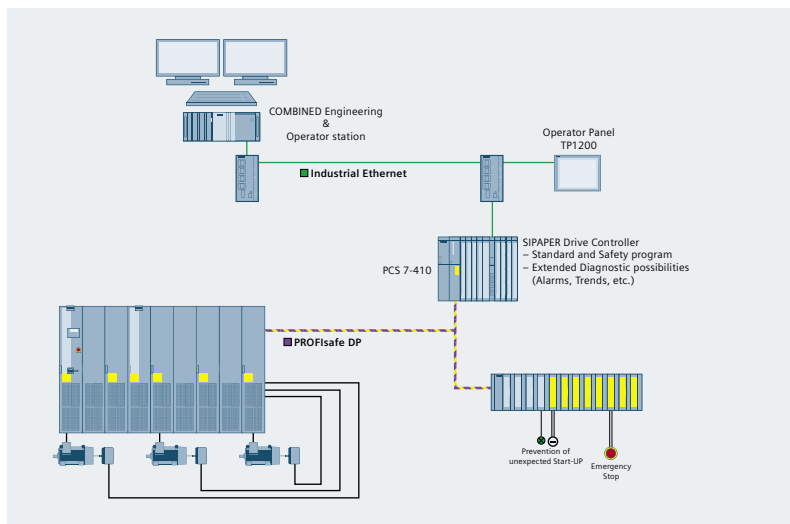
EN 1034 – challenges when implementing

The critical issue when complying with EN 1034 is monitoring drive speeds.

- **The crawl operating mode is now a safety function for which SIL 1 or, on a case for case basis, SIL 2 is specified. This means that also when selecting a higher speed from the crawl operating mode, the same safety level must be complied with!** With the conventional approach, this can only be achieved using additional safety components.
- When conventionally monitoring the speed using a rotary encoder, either special encoders are required, or additional hardware (speed monitor).
- When carrying out maintenance work, which involves changing rolls, then the changed diameter must also be taken into account when monitoring the speed. This can make it necessary to recommission the safety functions.



Monitoring the speed conventionally



Monitoring the speed with SIPAPER Safety Integrated

SIPAPER Safety Integrated provides some decisive advantages: significantly lower engineering costs, higher degree of availability and a seamlessly integrated system.

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