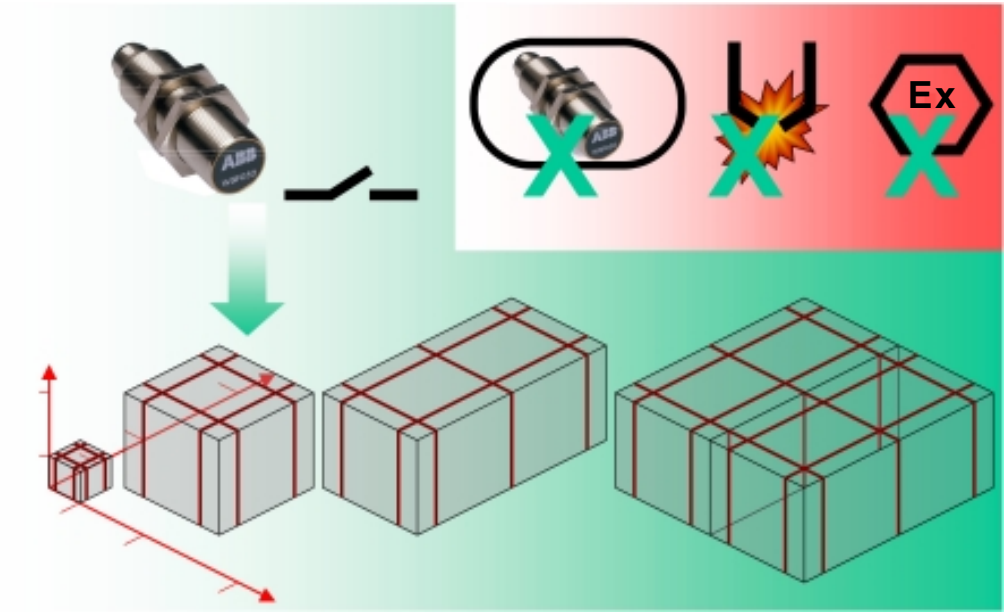
Technical Description

Wireless Proximity Switches

V3

Checking the application possibilities



Checking the application possibilities

Since they do not require any sensor cabling, wireless proximity switches provide a wide range of application and even enable the implementation of those applications which could not be implemented using cable sensors or which would require high constructive efforts when using cable sensors. However, the use of wireless proximity switches requires some boundary conditions to be met for correct function.

Below, some fundamental criteria are listed in short to be considered for the use of wireless proximity switches.

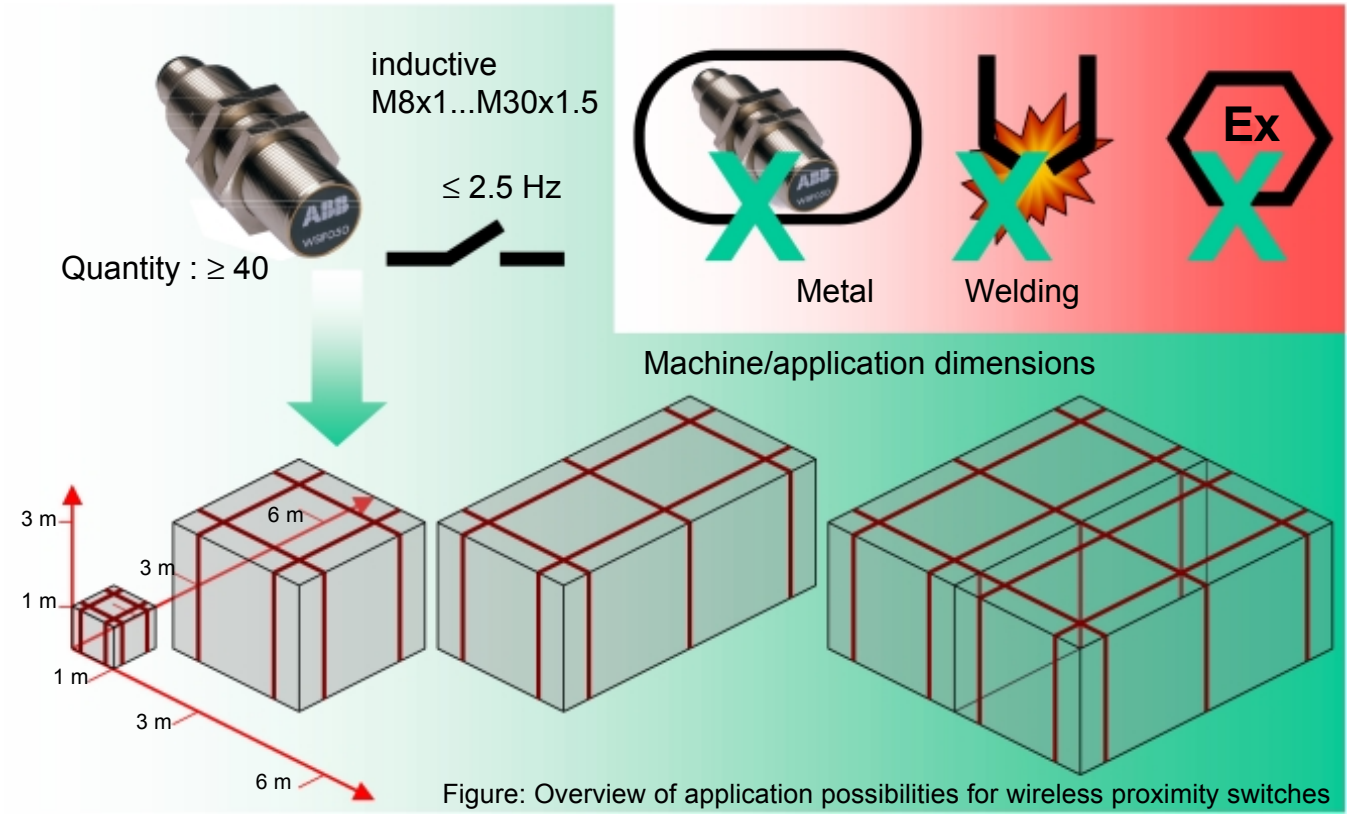


Figure: Overview of application possibilities for wireless proximity switches

- Wireless proximity switches are available as flush mountable and not flush mountable types with sensor heads M8x1 up to M30x1.5. For these sensor heads the standardized nominal switching distances are applicable.
- Wireless proximity switches are able to detect object change events and to transmit them to the machine control via the input module up to a switching frequency of 2.5 Hz. The information transmission via the input module from the sensor to the field bus takes only between 10 and 15 ms. This value is considerably shorter than the usually applying reciprocal of the switching frequency.
- In many applications the installation of the primary loops and their power supplies is economical if at least 40 wireless proximity switches are used.
- Wireless proximity switches are particularly suitable for applications which allow easy installation of primary loops by their design (e.g. surrounding frames, grilles or similar).
- For an optimum transmission of information and energy, the overall design of the machine/application should be open. On no account communication modules may be completely encapsulated in metal when mounted.
- Wireless proximity switches are not welding-proof.
- Wireless proximity switches are not suitable for use in explosion-endangered areas.
- The energy distribution using the primary loops as well as the communication range are designed for machine volumes of 1 x 1 x 1 m^3 up to 3 x 3 x 3 m^3 or 3 x 3 x 6 m^3 respectively. These dimensions can be expanded modular.
- Further information for detailed testing can be found in the Planning and Installation Guide in volume V6.

Checking the application possibilities

for wireless proximity switches **V 3**

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