ABB offers a wide selection of all-compatible drives with the same user interface and tools for various power ranges and requirements. By integrating the FSPS-21 module into the drive it is possible to employ safety functions through PROFIsafe and control the drive through PROFINET.

Seamless safety functionality and communication

Maximized safety and conformity
ABB drives with the integrated TÜV certified PROFIsafe safety functions module make your machines and processes safe. The module can be used in the most demanding applications (SIL3 / PL e) without compromising safety.

Seamless integration
With the FSPS-21 you can seamlessly combine different types and sizes of drives with any safety PLC which supports PROFIsafe over PROFINET IO. Safety communication, drive control and PC tool communication can be established using only one Ethernet cable.

Cost effectiveness through simplicity
The total cost of the system is minimized by the reduced component costs, simplified engineering and space requirements. This is achieved by the integrated FSPS-21 inside the drive, eliminating the need for external components like safety relays and contactors. Also, the ready-made safety functions make safety configuration in the drive unnecessary.
Key features

Integrated PROFIsafe controlled STO & SS1-t
Functional safety, PROFIsafe and PROFINET IO built-in inside the drive.

For most demanding applications
SIL 3 and PL e (TÜV-certified)

One module supporting several drive types
ACS380, ACS580 & ACS880. Same tools and user interface for all the supported drives.

“One wire” for safety, control and PC tool
Safety communication, drive control, and PC tool communication can be done through the same Ethernet cable.

Ready-made safety functions
No need for separate safety configuration in the drive.

Other advanced PROFINET IO features
Support for Shared Device, enabling use of several controllers for one drive. Supports ring topology – Media Redundancy Protocol (MRP).

Engineering tools to support PLC integration
Drive manager for various PLCs. Ready made function blocks for the PLC program for easy integration.

Safe Torque Off (STO)
ACS880 industrial drive
ACS580 general purpose drive
ACS380 machinery drive

Safe stop 1, time controlled (SS1-t)

Technical data

PROFIsafe safety functions module, FSPS-21

<table>
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<th>Safety functions</th>
<th>Safe torque off (STO)</th>
<th>Safe stop 1, time controlled (SS1-t)</th>
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<td>Safety data ⁴¹</td>
<td>Performance level, PL e / cat. 3 (EN ISO 13849-1)</td>
<td>Safety integrity level, SIL 3 (IEC 61508, 62061, 61511, 61800-5-2)</td>
</tr>
</tbody>
</table>

Communication protocol
PROFINET IO
PROFIsafe over PROFINET

Control profiles
ABB Drive and PROFIdrive

Connectors for communication
Integrated switch with two ports (RJ45)

Certificates
PROFINET (conformance class B (CC B))
PROFIsafe certified
TÜV-certifications for safety

Configuration tools
Drive control panel, Drive composer
PC tool or Drive Manager for PLC

Supported ABB drives
ACS380, ACS580 and ACS880 series drives

⁴¹ Safety data can be found in ABB Drives VDMA safety data library file (in ABB Library) or in the user manual of FSPS-21. ABB has Functional safety design tool (FSdT-01) for SIL and PL verification.