

Our complete Programme

Switch technology

Mechanical limit switches

Plastic bodied or metal bodied, different actuators, different versions, also ultra flat, small and heavy bodied.

Hinge switches

Metal bodied with integrated actuation

Rope pull switches and safety rope pull switches'

Plastic bodied or metal bodied

Safety relays

Up to control category 4 according to EN 954-1

Safety switches and safety locking mechanisms

Plastic bodied or metal bodied with separate actuators, spring force or magnetic force – locking mechanisms

Foot switches

One to three pedalled with or without guards, foot operated terminals

Sensor technology

Sensors

- Inductive sensors, sensing distance 0,6-40 mm
- Capacitive sensors, sensing distance 2-30 mm
- Photoelectric sensors, sensing distance/operating distance 40 mm-20 m
- Electromechanical or electronic magnetic, sensing distance 5-60 mm
- Standard sensors with fixed cable glands or M8/M12 plugs

Safety technology

- Coded magnet switches MAK
- Magnetic controller MÜZ
- Safety light curtains SOC, protected area height from 200 mm-1800 mm

Float switches

- Stainless steel, brass and plastic versions
- Mini float switches
- Variable switching points

Enclosure technology

Standard enclosures

Aluminium, polycarbonate, ABS and polyester enclosures with individual machining or assembled components optional also Ex-approved versions

Handheld control terminals

With a 3 stage, dual circuit acceptance button with actuator for the right hand or left use. Fulfills requirements up to category 4 according to EN 954-1 and IP65

Modular control panels and suspension systems

Unrestricted size configurable aluminium enclosures to house IPCs and visualisation units, including a wide range of accessories.

Industrial Workstation

Flexible concepts with tailor made solutions, especially for decentralised plants

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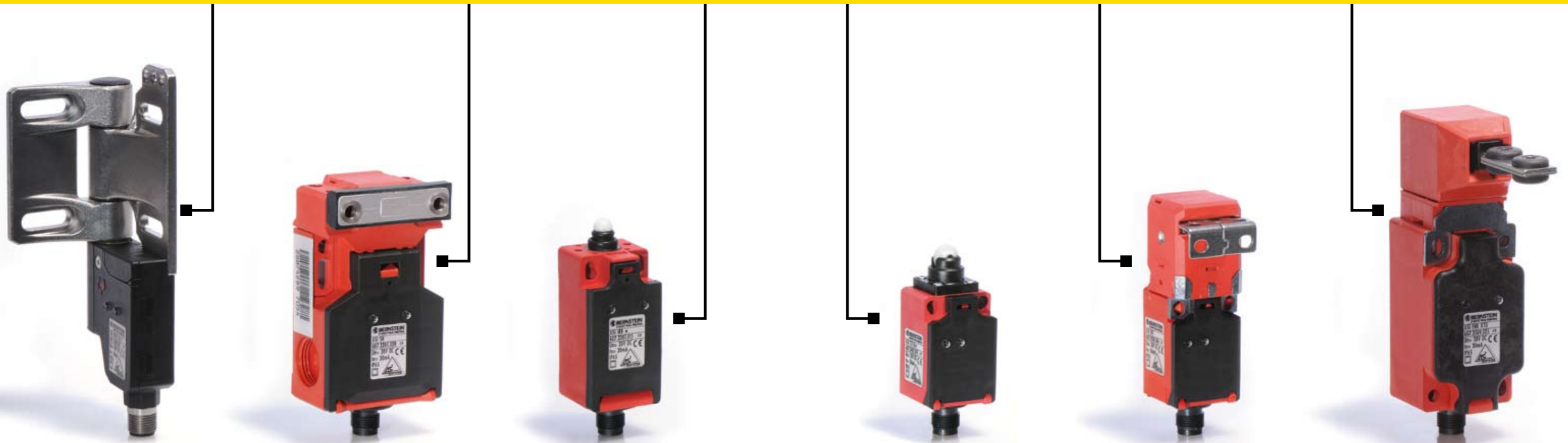
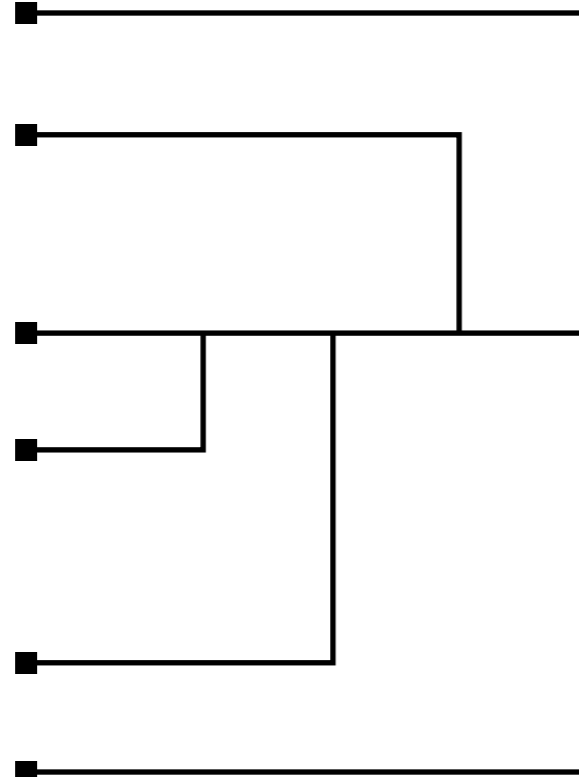
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BERNSTEIN goes
AS-i

AS-Interface – The basis of automation

- Modbus/TCP
- Ethernet IP
- Device Net
- PROFINET
- PROFIBUS
- CANopen
- EtherCAT
- CC-Link



BERNSTEIN Switches –
Now also AS-i compatible

■ In the nineties, as the first AS-i systems came into use, no one could imagine how fast the AS-interface, as a bus system would conquer the first line automation level and existing bus systems in addition to many industrial application fields. The triumphant advancement after the master-slave principle working AS-i has been defined as a multifunctional alternative to the traditional parallel connections by its users, tailor made features of the simplest elements in the machine and plant construction as well as through a large number of exceptional application advantages: The unshielded two-con-ductor cable, where data and energy flow (up to 8 A) doesn't need to have a complex parallel

connection between the sensor and the controls. The minimum implementation expenditure is impressive: Trouble free planning, simple assembly (Penetration technology: Push through channels, no polarity reversal of the flat cable). High diagnostic possibilities with more exact error localisation and simple maintenance, characterises this outstanding technology as also its great degree of freedom regarding network topology, its resistivity also in rough working conditions, its modularity and its perfect connectable possibilities for high level bus-systems. The AS-i master controls the bus-system (e.g. to profibus) in the form of a card for SPS or PCs or as an independent Gateway to higher level bus-

systems and cyclically polls all participants. The two-conductor cable makes it possible to attach up to 62 components. AS-i guarantees a high operational standard of compatibility and a significant price advantage:
Not only the minimum installation investment of time is noticeable when compared to the conventional wiring, but also disappearance of the conventional cables, plugs, terminal blocks and I/O cards leads to essential savings.
Additional safety comes with the AS-interface safety at work.

■ **The R & D department of the BERNSTEIN Switch Division have realised,** among the normal field busses where sensory data is communicated, that the inexpensive AS-i technology is practically unbeatable. That is why the first elements of the BERNSTEIN switch portfolio are available



in AS-i compatible versions, other options will be offered in a short space of time. BERNSTEIN SHS3 offers the first hinge switch that is bus compatible and has a direct linkage that doesn't need a connection box. BERNSTEIN integrated components AS-i guarantee the preservation of the smallest type of design. The smallest switch of its class on the market which is AS-i compatible is the TI2.

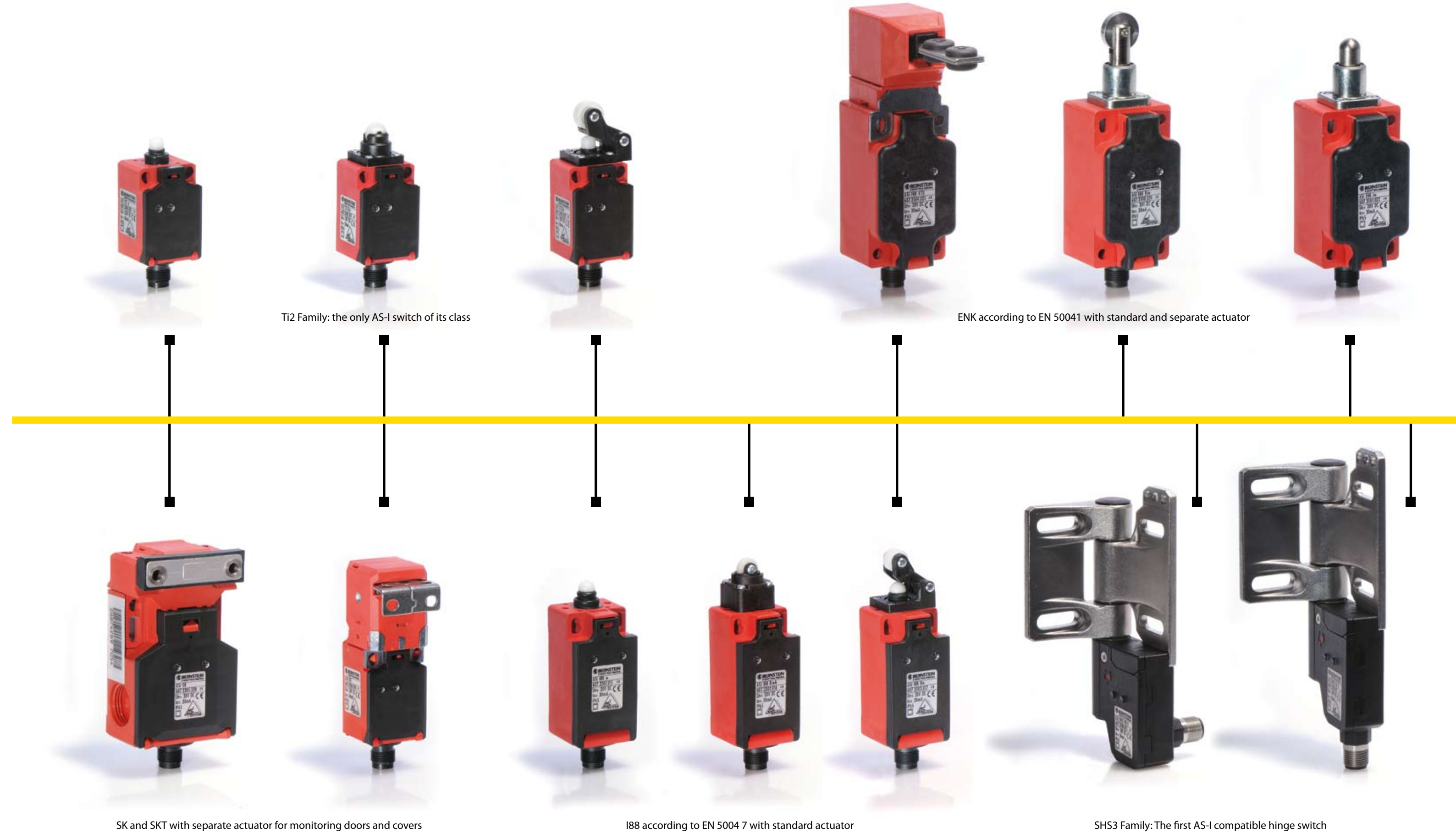
Included in the BERNSTEIN programme are the limit switches I88 and the safety switches SKT and ENK with integrated AS-i connectivity and are now available. All of the new versions are safety products ("Safety at work")

BERNSTEIN offers switches and all accessories to the master, the complete spectrum and also complete systems.

BERNSTEIN portfolio includes not only just AS-i profibus-gateways, connection boxes and power supply units but

also safety monitors, hand programmable apparatus and other accessories.

Product line AS-i compatible switches



TI2 Family: the only AS-I switch of its class

ENK according to EN 50041 with standard and separate actuator

SK and SKT with separate actuator for monitoring doors and covers

I88 according to EN 5004 7 with standard actuator

SHS3 Family: The first AS-I compatible hinge switch

AS-i connection technology:



- Two-core cable, profiled flat cable
- No shielding necessary
- Protection against polarity reversal by profile coding



- M12 version with plug connector and for the self assembled connector



- Compatible flat cable clamp with penetration technology for AS-i cable



- M12 connection cable from the flat cable clamp to BERNSTEIN AS-i switch



- Angled and straight plug versions



- One sided plug version



Direct connection to the AS-i-profibus cable and BERNSTEIN AS-i switches
The combination of the AS-i cable and flat cable clamp plus M12 interconnection, can offer enormous savings potential by using this method of installation and connection. This is further enhanced by the direct connection of the BERNSTEIN AS-i switches. The BERNSTEIN AS-i switches are connected to the AS-i cable by means of the integrated flat cable clamp. Using AS-i cables in combination with penetration technology makes it possible to use the flat cable clamp and still retain the protection classification of the cable.