



Axia

A FAMILY OF DRIVES

 **Bonfiglioli**

AXIA FAMILY

The Bonfiglioli AxiaVert and AxiaAgile series work together to provide the **ideal system for a wide range of applications**. They cover everything from medium- to top-level performance applications and support all major fieldbus systems. Safety features ranges from Safe Torque Off (STO) to high-performance functions, including Safely Limited Position, Safe Brake Control, Safe Stop 1, Safe Stop 2 and more. Offering **complete flexibility**, the package combines extensive parameterization options with advanced motor control enabled by encoder evaluation. Intuitive keypad operation and a user-friendly graphical interface for PC or mobile devices ensure easy commissioning and monitoring.

BENEFITS AND FEATURES



UNIFORM LOOK & FEEL

- Keypad
- AxiaManager
- Axiamanager Mobile



LOGIC OPERATIONS / PLC EXTENSION

- Custom programmable IEC logic
- Logic portability across devices



SAME SOFTWARE STRUCTURE

- Shared parameter structure
- Same behaviour of shared functionalities



FIELDBUS

- Common fieldbus behaviour
- CIA402 compliant control

AxiaAgile

Advanced Inverter



- Sensorless or TTL encoder
- Functional safety with STO

AxiaVert

Premium Drive



- Sensorless resolver, absolute encoders, TTL encoder for closed loop speed and position control
- 2-encoder evaluation for separate speed and position loop
- Functional safety with STO, SSI, SBC or motion functional safety (SLS, SLP, SOS, ...)

AxiaAgile

The **flexibility** of AxiaAgile adapts to **specific applications across different sectors**, with varying levels of complexity, thanks to the available **variants**:

AxiaAgile Basic is the Axia platform entry level inverter. Its economic design features integration into classical IO integrated systems for easy and quick set-up, at the same time offering all the flexibility required for different types of motor control support.

AxiaAgile Standard is the right compromise, adding Safe Torque Off (STO) and CANopen communication to optimize the drive for simple installations that demand these features in a safe working environment.

AxiaAgile Enhanced is the versatile inverter offering extended Functional Safety features including Safe Torque Off and integrated Safe Stop 1 (SS1) combined with multi protocols Industrial Ethernet communication.

AxiaAgile Advanced is the all-round device offering Safe Torque Off (STO), CANopen, Industrial Ethernet protocols and TTL encoder evaluation along with CiA402 positioning capabilities.

Memory:

Indirect firmware update
Fieldbus firmware
PLC-program

Enhanced & advanced: already included.
Basic, standard: optionally extendable

16 pin customer connection (Std. I/O)

4 DC 24 V IN (daisy chain)
4 HTL (GND + A/B/Z)
2 MFI (Motor temp. 0...20mA, 0...10V)
1 GND analog
1 DC 24V OUT
1 GND
2 Dig. IN/OUT (Touchprobe)
1 MFO (Out. PWM, 10V)



Multiprotocol Ethernet
based Fieldbus

Optional interfaces (service)
Keypad (Standard with USB-C)
Keypad (Basic without USB-C)
Bluetooth

Encoder I/O extension
TTL encoder evaluation

CAN
Isolated, daisy chain 6 pin

STO - 4 pin customer connector
2 STOA (daisy chain)
2 STOB (daisy chain)

AxiaAgile multiple variants

Features	Basic	Standard	Enhanced	Advanced
Included IOs	4 digital inputs; 2 digital inputs/outputs; 2 multifunction inputs 1 multifunction output; DC 24 V input; DC 24 output			
CAN included	-	CANopen / Systembus	-	CANopen / Systembus
Industrial Ethernet	-	-	EtherCAT PROFINET Powerlink Modbus/TCP	EtherCAT PROFINET Powerlink Modbus/TCP
Functional Safety	-	STO (SIL 3, PL e, cat.3)	STO SS1 FSOE (SIL 3, PL e, cat.3)	STO (SIL 3, PL e, cat.3)
HTL encoder evaluation	Via digital inputs	Via digital inputs	Via digital inputs	Via digital inputs
TTL encoder evaluation	-	-	-	Yes
Integrated Logic functions	Yes	Yes	Yes	Yes
Integrated IEC61131 PLC	-	-	Yes	Yes
Motor control	Asynchronous, permanent magnet synchronous, synchronous reluctance			
Mechanical mounting	Wall mounting, Feedthrough, ColdPlate, Antivibration			
Power connection	AC mains input; DC terminals Brake chopper for Brake resistor connection			
Accessories	Detachable keypad; Brake resistors Line chokes; EMC filters			

Connectivity

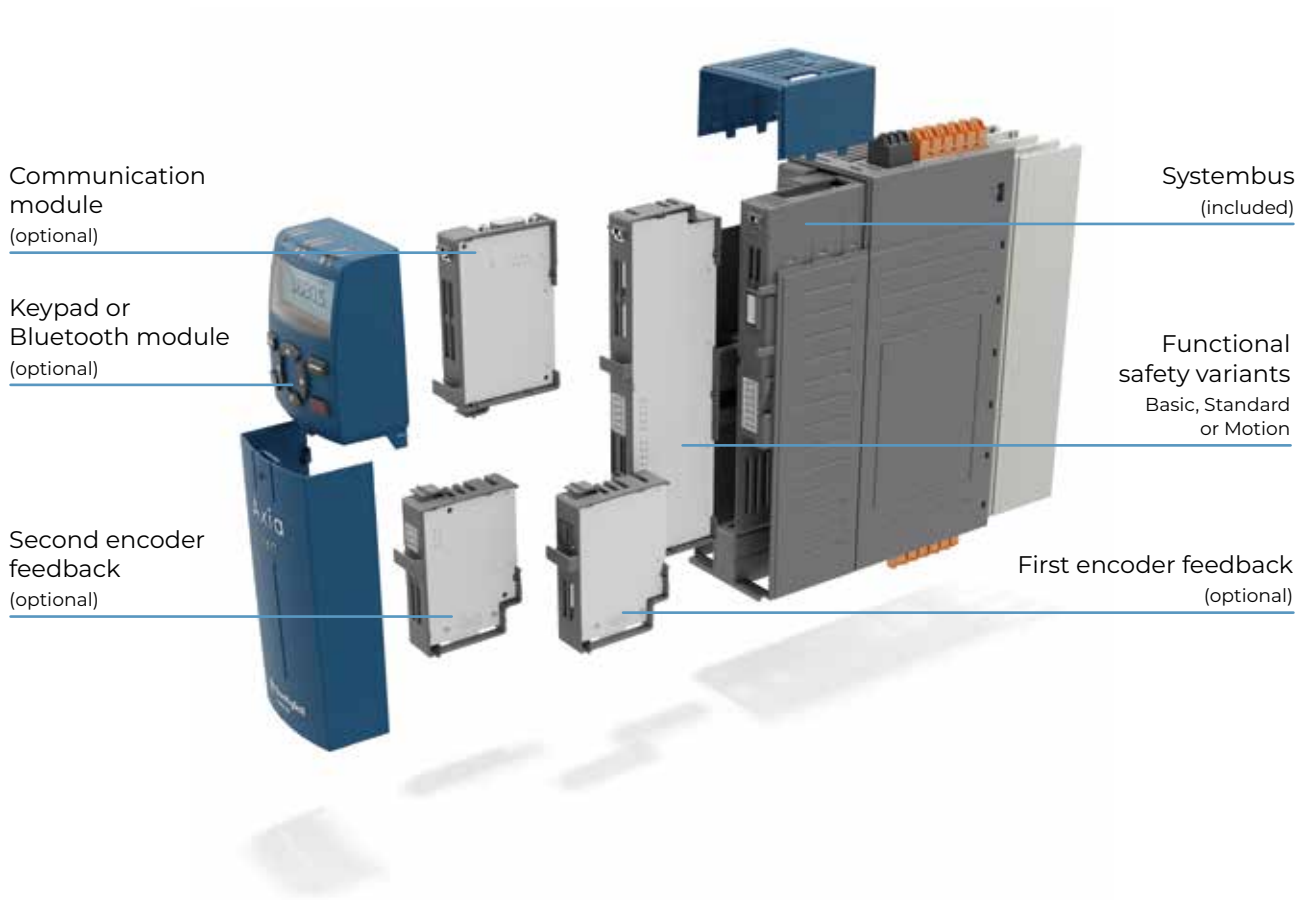
The Axia platform supports a wide variety of commonly used communication systems. For Industrial Ethernet, a multi-protocol solution implements quick and easy protocol change.



AxiaVert

The AxiaVert series is designed to allow **great flexibility** and **top-level performance**, making it suitable for a **wide range of applications** in different sectors.

Thanks to its **modular structure**, the system can be flexibly adapted to meet many different application requirements by selecting the most suitable hardware modules, variants and accessories



Connectivity

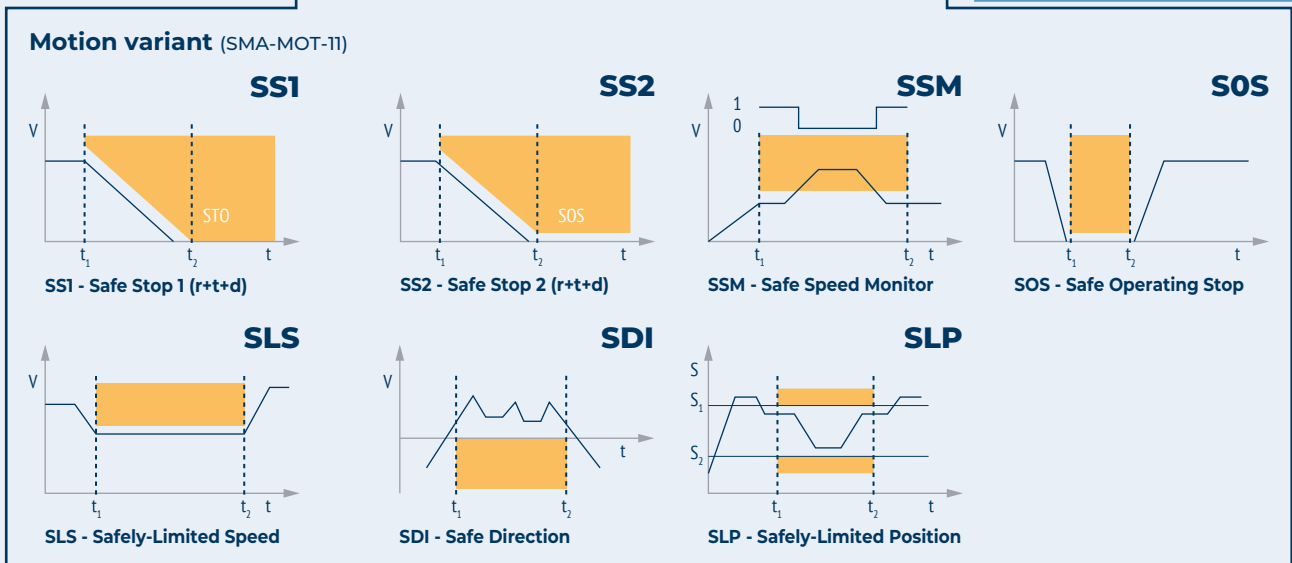
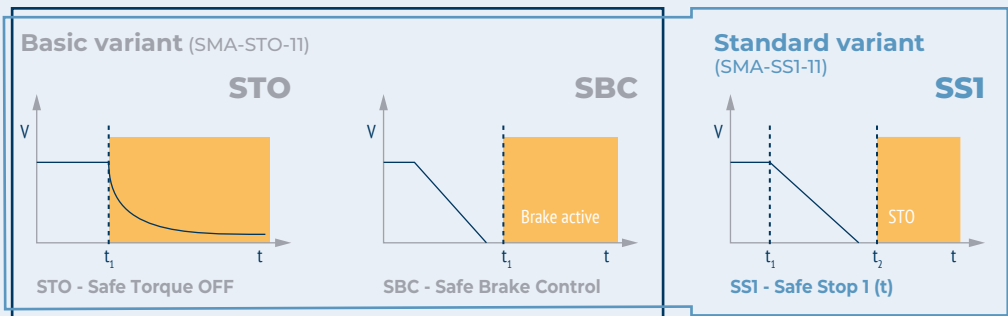
The advanced digital and open communication protocols complying with automation and Industry 4.0 standards allow a smooth integration into automation networks thanks to the compatibility with a wide range of fieldbus protocols and the possibility to extend the AxiaVert series with the OPC-UA protocol.



Functional Safety

The AxiaVert series offers integrated Functional Safety according to SIL 3 (EN 61508) and PL e (EN 13849-1), organized into different variants, which can be selected to best suit the application's requirements, optimizing price and performance to match the machine functions.

AXIAVERT FUNCTIONAL SAFETY VARIANTS



The **Basic variant** (SMA-STO-11) includes Safe Torque Off (STO) and Safe Brake Control (SBC), while the **Standard variant** (SMA-SS1-11) also introduces SS1-t (Safe Stop 1 with time monitoring), reducing the need for an external Functional Safety switch.

The **Motion variant** (SMA-MOT-11) adds optional advanced Functional Safety features typically required in motion applications according to ISO13849-1 PL e/Cat.4 and IEC61508 SIL3, product standard 61800-5-2.

Among these, the speed functions SLS, SLS-SL and SSM are available both sensorless and in closed loop, with the possibility to dynamically set several different safe speed thresholds directly via safety fieldbus. These additional sensorless speed supervision features comply with SIL 2 (EN 61508) and PL d (EN 13849-1). The closed loop safety functionalities are made available with Hiperface DSL safety encoder.

The FSoE (Fail Safe over EtherCAT) included in the Motion variant, in combination with the EtherCAT communication module, allows easy integration into Functional Safety communication environments.

The AxiaVert series also offers cost effective product configurations without any Functional Safety features.





We have a relentless commitment to excellence, innovation & sustainability. Our team creates, distributes and services world-class power transmission & drive solutions to keep the world in motion.

HEADQUARTERS

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