

AXC F 1252 - Controller

1646469

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Controller (SPS), PLCnext Control; Programming: High-level language and IEC 61131-3; Operating system: Yocto/Linux® (real-time); Programming tool: PLCnext Engineer, Eclipse®, Visual Studio®, MATLAB®/ Simulink®; Processor: Arm® Cortex®-A55, 2x 1.7 GHz; IoT connection: PROFICLOUD and every cloud via cloud connectors; Development process certified in accordance with IEC 62443-4-1, The product is being prepared for compliance with the Cyber Resilience Act (CRA).

Product description

The PLCnext Control AXC F 1252 for the Axioline I/O system is fast, robust, and easy to use. This means it is consistently designed for maximum performance, easy handling, and use in harsh industrial environments.

Your advantages

- Real-time-capable Linux operating system for deterministic and reliable execution of time-critical processes
- Supports numerous protocols such as: HTTP, HTTPS, FTP, OPC UA, SNTP, SNMP, SMTP, SQL, MySQL, DCP, etc. – for smooth communication with IT systems
- Direct connection to the Proficloud, the PLCnext Store and any cloud platforms – for seamless IoT integration of your applications
- Support for numerous fieldbus protocols (PROFINET, Modbus TCP/RTU, Ethernet/IP, etc.) for easy integration into existing automation technology systems and installations
- Maximum design freedom thanks to the combination of classic PLC programming with modern high-level languages such as C++, C#, or Python
- Meets the highest security requirements of industrial automation – for the protection of your applications and data



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Commercial data

Item number	1646469
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR09
Product key	DRADAI
GTIN	4067923176423
Weight per piece (including packing)	170.2 g
Weight per piece (excluding packing)	137 g
Customs tariff number	85371091
Country of origin	DE

Technical data

Notes

Note on application	As things stand now, we are preparing the product so that, as of December 11, 2027, it will comply with the requirements of the EU Cyber Resilience Act (CRA) based on the information currently available regarding the CRA.
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Product properties

Product type	Controller
Product family	PLCnext Control
Type	modular
Special properties	Development process certified in accordance with IEC 62443-4-1 The product is being prepared for compliance with the Cyber Resilience Act (CRA)

Insulation characteristics

Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
Overvoltage category	II (IEC 60664-1, EN 60664-1)
Pollution degree	2 (IEC 60664-1, EN 60664-1)

System properties

Trusted Platform Module	TPM 2.0
Flash memory	1.1 GByte (internal flash memory)
Retentive data storage	16 kByte
RAM	1024 Mbyte

IoT capability: PROFICLOUDIoT capability: PROFICLOUD

Supports cloud computing	yes
IoT platform	PROFICLOUD

IoT capabilityIoT capability

Supports cloud computing	yes
IoT platform	every cloud via cloud connectors

IEC 61131 runtime system

Program memory	8 Mbyte
Data storage system	12 Mbyte

Axioline

Amount of process data	max. 1482 Byte (per station (total input and output data)) max. 1024 Byte (Axioline F local bus (input)) max. 1024 Byte (Axioline F local bus (output))
Number of supported devices	max. 63 (per station)
Number of local bus devices that can be connected	max. 63 (observe current consumption)

INTERBUS-Master

AXC F 1252 - Controller



1646469

<https://www.phoenixcontact.com/us/products/1646469>

Amount of process data (Axioline input/output data max.)	max. 1482 Byte (per station (total input and output data))
Amount of process data (Axioline input data max.)	max. 1024 Byte (Axioline F local bus (input))
Amount of process data (Axioline output data max.)	max. 1024 Byte (Axioline F local bus (output))

PROFINET

Device function	PROFINET controller, PROFINET device
Update rate	min. 8 ms (4 devices)
	min. 32 ms (16 devices)
Process data width	2 Byte ... 512 Byte (PROFINET device)
Conformance Class	B
Device ID	0193 _{hex}
Vendor ID	00B0 _{hex}

Function

Industrial cybersecurity	yes
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Programming data

Register length (master)	1482 Byte
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Functionality

Programming tool	PLCnext Engineer
	Eclipse®
	Visual Studio®
	MATLAB®/ Simulink®
Programming languages supported	Symbolic flowchart (SFC)
	Ladder diagram (LD)
	Function block diagram (FBD)
	Structured text (ST)
	C++
	C#
	Java
	Python®
	Simulink®

System requirements

Application interface	OPC UA®
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Electrical properties

Maximum power dissipation for nominal condition	3.2 W (3.2 W = 13.2 W - 10.0 W)
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Real-time clock

Realtime clock	yes (not buffered)
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Potentials: Communications power U_L feed-in (the supply of the Axioline F local bus U_{BUS} is generated from U_L)

Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple ($\pm 5\%$))
Current draw	max. 640 mA (with 2 A at U_{BUS} for the I/Os and $U_L = 19.2$ V)

AXC F 1252 - Controller



1646469

<https://www.phoenixcontact.com/us/products/1646469>

Current consumption	typ. 63 mA (without I/Os and $U_L = 24\text{ V}$)
Power consumption	max. 13.2 W (with 2 A at U_{Bus} for the I/Os and $U_L = 24\text{ V}$)
Protective circuit	Reverse polarity protection; electronic

Potentials: Axioline F local bus supply (U_{Bus})

Supply voltage	5 V DC (via bus base module)
Power supply unit	2 A

Connection data

Supply of the logic voltage U_L

Connection method	Push-in connection
Conductor cross-section, rigid	0.2 mm ² ... 1.5 mm ²
Conductor cross-section, flexible	0.2 mm ² ... 1.5 mm ²
Conductor cross-section AWG	24 ... 16
Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.2 mm ² ... 1.5 mm ²
Conductor cross-section, flexible, with ferrule, without plastic sleeve	0.2 mm ² ... 1.5 mm ²
	0.2 mm ² ... 1.5 mm ²
Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.2 mm ² ... 1.5 mm ²
Stripping length	10 mm

Interfaces

Supported protocols	HTTP (only for access to the recovery system)
	HTTPS
	PROFINET
	INTERBUS (via the extension module AXC F IL ADAPT)
	Modbus/TCP
	Modbus/RTU (via corresponding library)
	CANopen® (via corresponding library)
	DALI (via corresponding library)
	DALI-2 (via corresponding app)
	HART (via corresponding library)
	IO-Link® (via corresponding library)
	MQTT (via corresponding app)
	OPC UA® Server
	OPC UA® Client (License required)
	DHCP (via corresponding library)
	SFTP
	SMTP (via corresponding library)
	SNTP (via corresponding library)
	SNMP (via corresponding library)
	DNS (via corresponding library)
	DNP3 (via corresponding library)
	IEC 60870-5-1 (via corresponding library)
	IEC 60870-5-104 (via corresponding library)

AXC F 1252 - Controller

1646469

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Web server	IPsec
	syslog
	yes

Axioline F local bus

Number of interfaces	1
Connection method	integrated bus socket
Transmission speed	100 Mbps

Ethernet

Bus system	RJ45
Number of interfaces	1
Connection method	RJ45 jack
Note on the connection method	Auto negotiation and autocrossing
Transmission speed	10/100 Mbps (full duplex)
Transmission physics	Ethernet in RJ45 twisted pair
Transmission length	max. 100 m

Dimensions

Dimensional drawing	
Width	45 mm
Height	122 mm
Depth	75 mm
Note on dimensions	The depth applies when a TH 35-7.5 DIN rail is used (in accordance with EN 60715).

Material specifications

Color (Housing)	gray (RAL 7042)
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Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-25 °C ... 60 °C up to 2000 m above mean sea level Operating altitude > 2000 m above mean sea level: Observe temperature derating
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	5 % ... 95 % (according to DIN EN 61131-2)
Permissible humidity (storage/transport)	5 % ... 95 % (according to DIN EN 61131-2)

AXC F 1252 - Controller



1646469

<https://www.phoenixcontact.com/us/products/1646469>

Shock (operation)	30g (IEC 60068-2-27)
Vibration (operation)	5g (IEC 60068-2-6)
Air pressure (operation)	70 kPa ... 106 kPa (up to 3000 m above sea level)
Air pressure (storage/transport)	58 kPa ... 106 kPa (up to 4500 m above mean sea level)

Approvals

UL, USA/Canada

Identification	cULus
Certificate	E238705

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Conformance with EMC directives	Immunity test in accordance with EN IEC 61000-6-2 Electrostatic discharge (ESD)IEC 61000-4-2 Criterion B, ± 6 kV contact discharge, ± 8 kV air discharge
	Immunity test in accordance with EN IEC 61000-6-2 Electromagnetic fieldsIEC 61000-4-3 Criterion A, Field intensity: 10 V/m
	Immunity test in accordance with EN IEC 61000-6-2 Fast transients (burst)IEC 61000-4-4 Criterion B, ± 2 kV
	Immunity test in accordance with EN IEC 61000-6-2 Transient overvoltage (surge)IEC 61000-4-5 Criterion B; DC supply lines: ± 0.5 kV/ ± 1.0 kV (symmetrical/asymmetrical), fieldbus cable shielding: ± 1.0 kV
	Immunity test in accordance with EN IEC 61000-6-2 Conducted interferenceIEC 61000-4-6 Criterion A, Test voltage 10 V
	Noise emission test in accordance with EN IEC 61000-6-3 Class B

Mounting

Mounting type	DIN rail mounting
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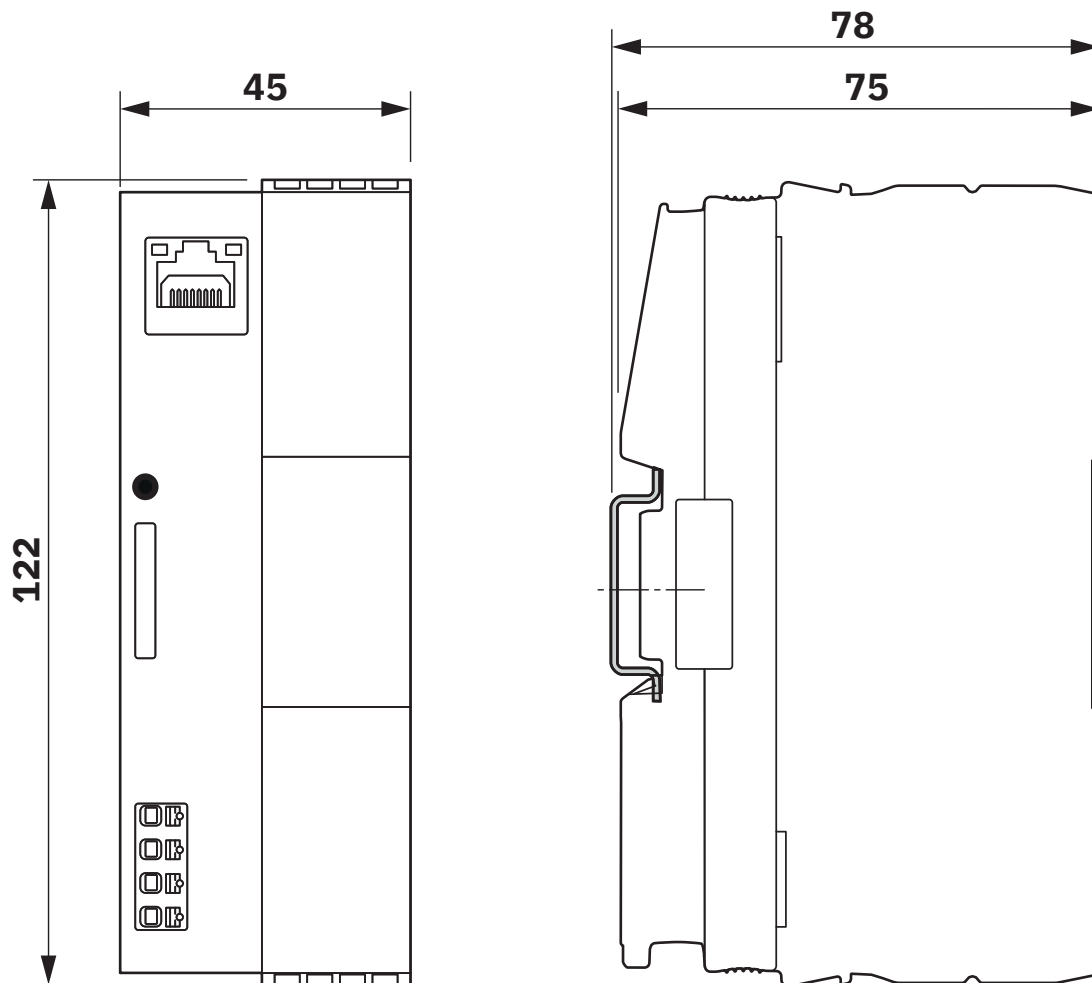
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Drawings

Dimensional drawing



AXC F 1252 - Controller

1646469

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Approvals

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cULus Listed

Approval ID: E238705

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1646469

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Classifications

ECLASS

ECLASS-13.0	27242207
ECLASS-15.0	27242207

ETIM

ETIM 10.0	EC000236
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c), 7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Diboron trioxide(CAS: 1303-86-2)
	Lead(CAS: 7439-92-1)

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