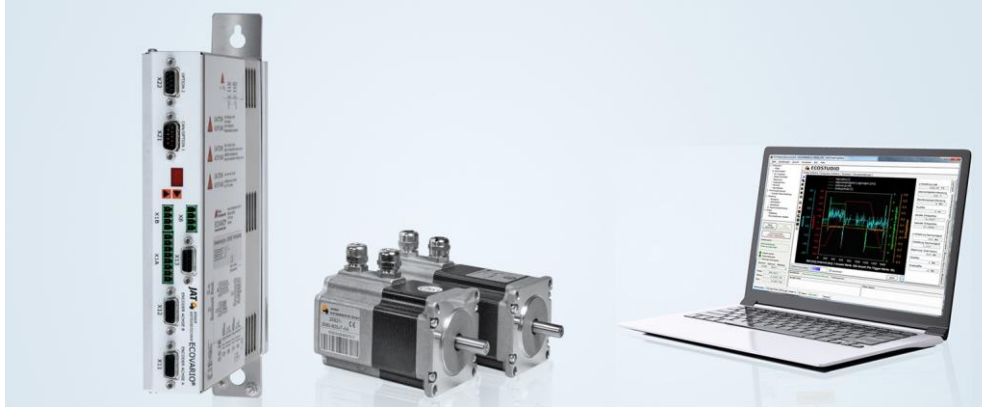


Servo Amplifier ECOVARIO® 114D

The universal 2-axis unit in the power range up to 1.2 kW



CANopen
EtherCAT
PROFI[®]
BUS **PROFI[®]**
NET

UL **US**
LISTED



High connectivity

Multiple interfaces - CANopen, EtherCAT, PROFIBUS, PROFINET, Ethernet, RS485, RS232



Integrated safety

Safety function STO (Safe Torque Off) according to EN 61800-5-2



Cost-efficient solution

Implemented sequences replace smaller controllers



Easy commissioning

Intuitive parameterization and commissioning via JAT engineering software ECOSTUDIO®



Diverse drive applications

Numerous technology functions for application-specific drive solutions, no time-consuming programming

Power supply:

24 ... 70 V_{DC}

Control of:

2- and 3-phase brushless synchronous motors or synchronous linear motors
DC servo motors with brushes

2 encoder interfaces:

Position feedback via incremental encoder: RS422, SINCOS

Position feedback via absolute encoder: BISS® or HIPERFACE® interface

Interpolating operation via EtherCAT or CANopen

Fast current control:

approx. 31 µs

I/O:

8 digital inputs

4 digital outputs

2 high speed capture inputs (RS422) for fast event capturing (approx. 40 ns)

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→ Technical data

DC Supply		
Rated power supply	V _{DC}	70
Rated installed load	W	960
Rated power loss	W	45
DC link capacity	μF	660
Returnable energy	Ws	0,5

Data of output power stage per axis		
Peak output current	A _{RMS}	14
Max. phase current (complete)	A _{DC}	20
Rated output current	A _{RMS}	7,1
Max. DC link voltage	V _{DC}	70
Rated DC link voltage	V _{DC}	60
Overvoltage switch-off	V _{DC}	88
Max. output power (<5 s)	W	1,2
Rated output power with 2-phase AC motor	W	425
Rated output power with 3-phase AC motor	W	522
Rated output power with DC motor	W	600

Ambient conditions		
Class	Operation: 3K3 according to EN 61800-2 Storage, transport: 1K4 according to EN 61800-2	
Storage temperature	°C	-25 ... +55
Ambient temperature during operation	°C	+5 ... +40
Degree of humidity, non-condensing	% rel. F.	85 (maximum)
Installation altitude above sea level	m	< 1500
Mounting position	The technical data refer to a vertical position.	
Protection class	IP20	
Pollution degree	2	
Cooling	In a closed cabinet, sufficient circulating air movement must be provided.	

Logic Supply		
Logic supply	V	24 ± 10 %
Input current (maximum) @ 24 V _{DC}	A	0,8*
*) without external loads, e.g. I/O or encoder		

Digital inputs/outputs		
8 digital control signal inputs	V	LOW 0...5, HIGH 15...30
	mA	5 (@ 24 V)
4 digital control signal outputs	V	24
	A	0,5
2 fast capture inputs	RS422	
	ns	40

Safety function STO		
2 STO inputs per axis		
1 common STO feedback signal (output)		
SIL-3 (according to EN 61800-5-2); PL e (according to ISO EN 13849-1)		

Dimensions and weights		
Dimensions W x H x D	mm	42 x 279 x 167
Weight	kg	1,4

Standards		
Applied standards for CE certification	EMC according to EN IEC 61800-3, Electrical safety acc. to EN 61800-5-1, RoHS according to EN IEC 63000 Devices with the safety function STO: Functional safety according to EN 61800-5-2	
UL	UL508C	

Customs tariff number		
Customs tariff number	85371091	

Basic functions

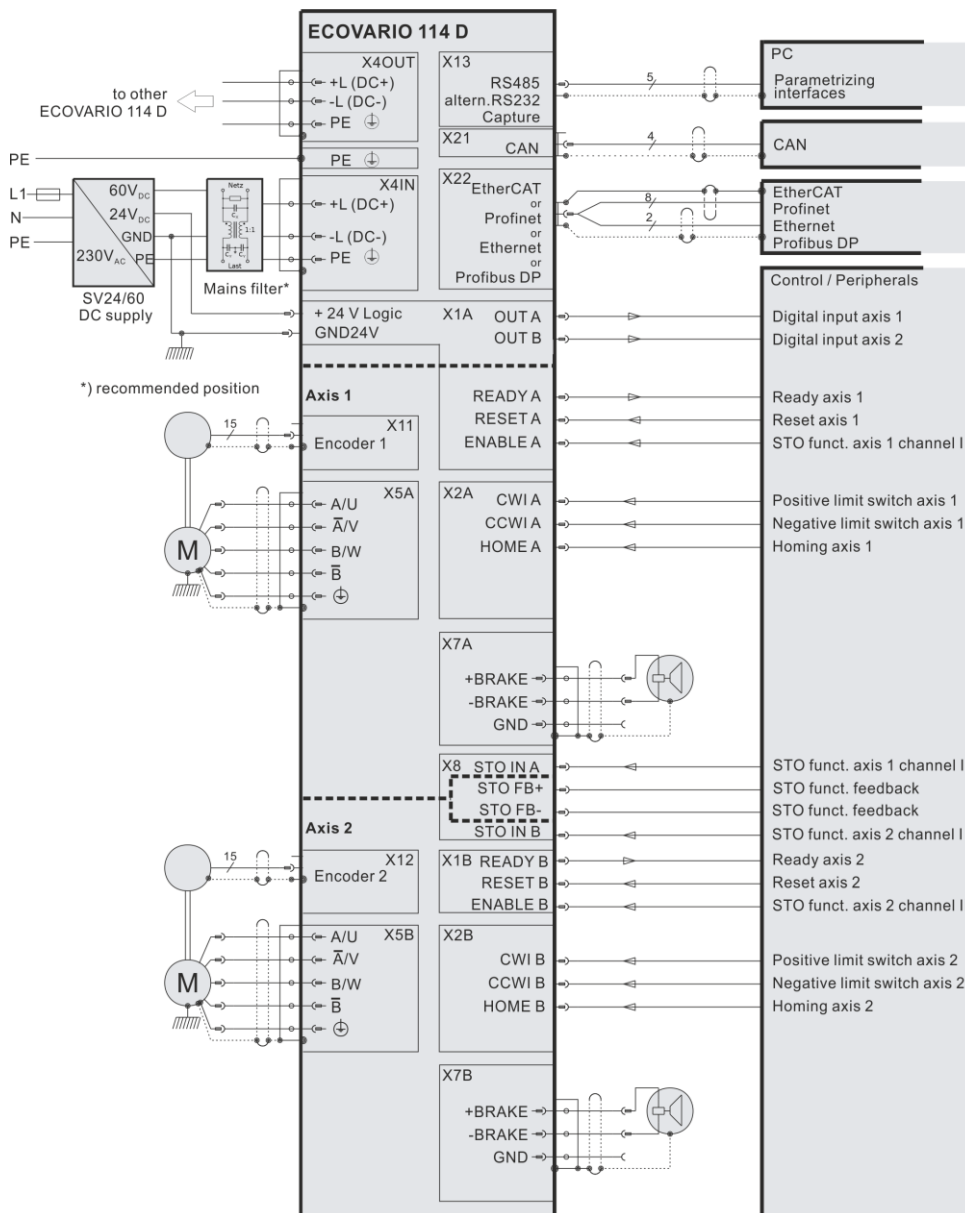
- ✓ Digital current, speed and position control with position, speed and torque limits
- ✓ Digital filtering functions to dampen vibrations in the overall system
- ✓ Parameterizable jerk filters optimize the motion profiles and improve the machine's longevity
- ✓ Short circuit, voltage, temperature, encoder, following error and i²t monitoring
- ✓ Intelligent holding brake control with automatic voltage reduction
- ✓ Evaluation of limit switches and reference sensor, multiple homing modes
- ✓ Status display and configuration of fieldbus node address and baud rate via 7 segment display and 2 keys on the device's front side

ECOSTUDIO® - Easy commissioning

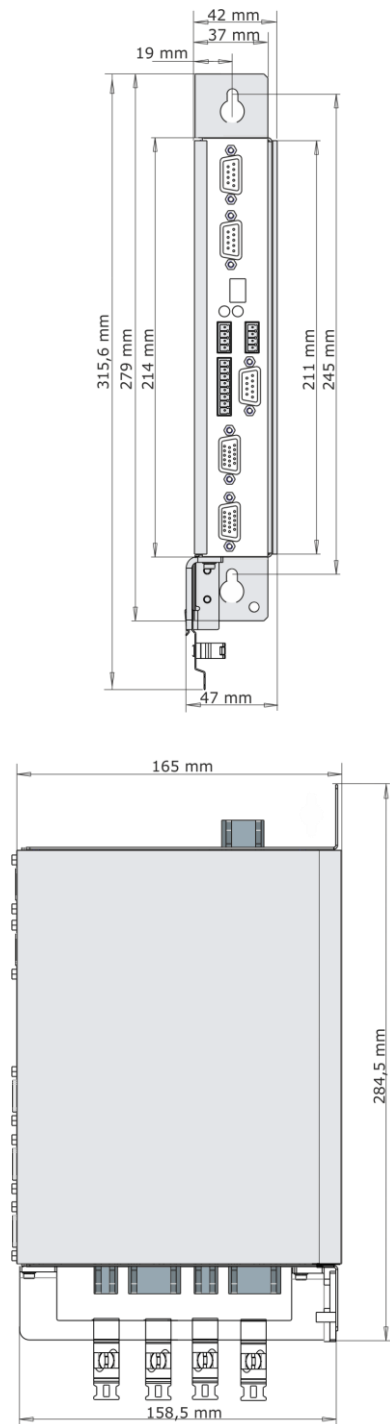
- ✓ Intuitive user interface, parameter setting via wizards
- ✓ Displays actual performance parameters
- ✓ Integrated motor, encoder and axis database
- ✓ Extensive oscilloscope function for analysis and diagnosis
- ✓ Easy graphical sequence programming

Servo Amplifier ECOVARIO® 114D

→ Connection diagram

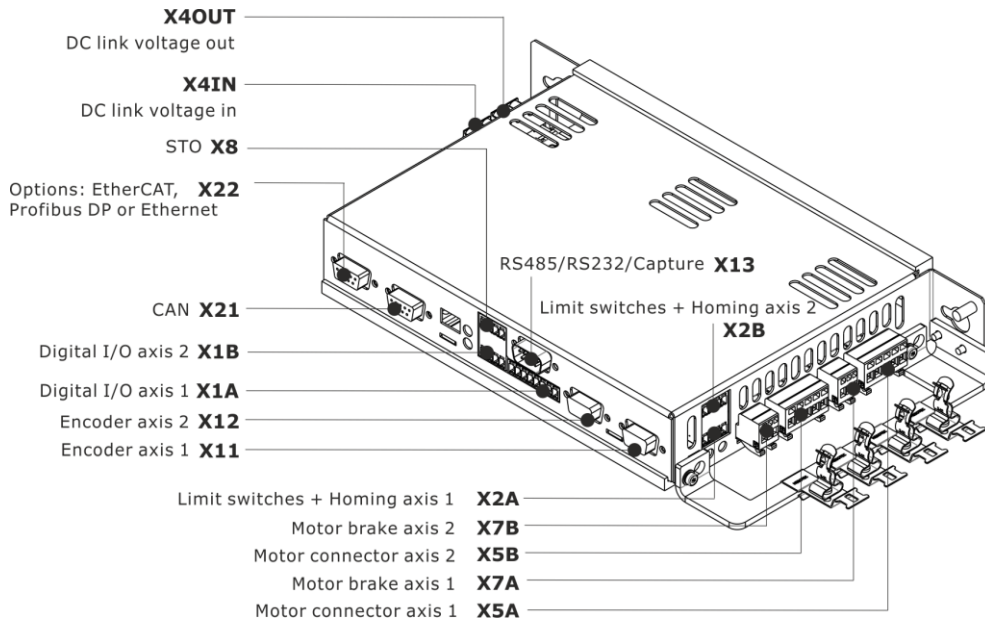


→ Dimensions



Servo Amplifier ECOVARIO® 114D

→ Interfaces



→ Ordering key

ECOVARIO® 114 Dv - wx - yyy - zzz

v	w	x	yyy	zzz
Option	Field Bus	Approval	Firmware number (3 digits)	Parameter set number (3 digits)
R Safety function "Safe Torque Off" (STO)	A CAN + RS485	J CE, UL, standard design		
	B CAN + RS232	K CE, UL, custom design		
	F CAN + RS485 + PROFibus® DP-V0	L CE, UL, encoder interface with 9-pole D Sub connectors		
	G CAN + RS232 + PROFibus® DP-V0	M-Z CE, UL, custom design		
	H CAN* + PROFINet® + RS485*			
	I CAN* + PROFINet® + RS232*			
	K CAN + Ethernet + RS485			
	L CAN + Ethernet + RS232			
	P CAN + EtherCAT® + RS485			
	Q CAN + EtherCAT® + RS232			

*) CAN/RS232/RS485 as service interface for ECOSTUDIO® only; no object dictionary acc. to CANopen DS402

→ Accessories

Accessories

DDZ20	Standard shield set (1 shield bracket, 4 EMC shield clamps, 5 cable ties)
DDK10	Mating connector set ECOVARIO® 114D

Power supply

SV24	1-phase power supply 24 V _{DC} / 5 A
SV24/60	1-phase power supply 24 V _{DC} / 2 A, 60 V _{DC} / 5 A
SV60	1-phase power supply 60 V _{DC} / 5 A

Further details regarding the power supplies can be found in the separate data sheet *Power supplies*.