

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
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with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

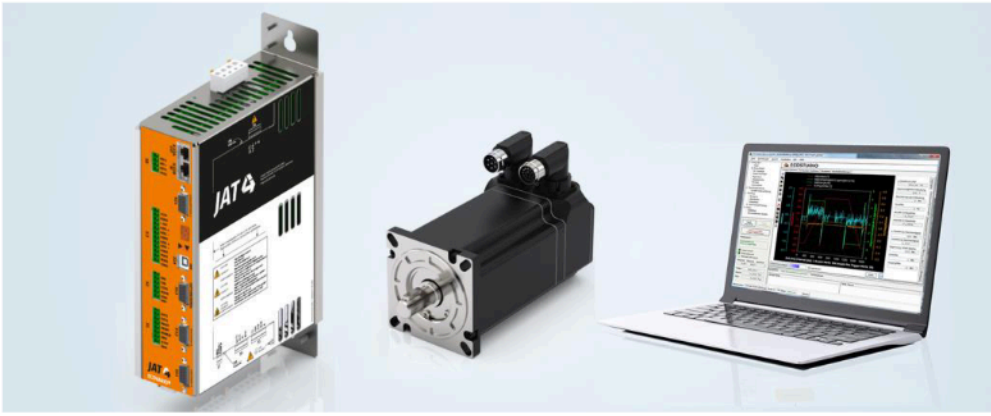
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JENAER ANTRIEBSTECHNIK

Servo Amplifier ECOVARIO® 414

The all-rounder in the power range up to 7,1 kW



High connectivity

Multiple interfaces - CANopen, EtherCAT, PROFIBUS, 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:

48 ... 325 V_{DC} or

48 ... 240 V_{AC}

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

Encoder output for master-slave operation

Concurrent processing of multiple feedback signals

Interpolating operation via EtherCAT or CANopen

I/O:

6 digital inputs

3 digital outputs

2 analog inputs

2 analog monitor outputs

www.jat-gmbh.de/en

JAT JENAER ANTRIEBSTECHNIK

Servo Amplifier ECOVARIO® 414

→ Technical data

1-phase AC supply		
Rated supply voltage	V_{AC}	230
Rated input current	A_{RMS}	8
Mains frequency	Hz	48-62
Rated installed load	kVA	1,84
Rated power loss	W	70
Rated output voltage (AC)	V_{AC}	205

3-phase AC supply		
Rated supply voltage	V_{AC}	230
Rated input current	A_{RMS}	8
Mains frequency	Hz	48-62
Rated installed load	kVA	3,0
Rated power loss	W	106
Rated output voltage (AC)	V_{AC}	205

DC supply		
Rated supply voltage	V_{DC}	325
Rated installed load	kW	3,25
Rated power loss	W	92

Power output stage		
Effective phase current (maximum)	A_{eff}	14
Phase current (maximum)	A_{DC}	20
Rated output current 2-phase motor (with 3-phase AC or DC input)	A_{eff}	5,3
Rated output current 2-phase motor (with 1-phase AC input)	A_{eff}	2,7
Rated output current 3-phase motor (with 3-phase AC or DC input)	A_{eff}	7,1
Rated output current 3-phase motor (with 3-phase AC or DC input)	A_{eff}	3,5
Output voltage (maximum)	V_{DC}	360
Rated output voltage	V_{DC}	325
Overvoltage shutdown	V_{DC}	400
Installed load (maximum)	kW	7,1
Rated installed load	kW	3,5
AC / DC link capacity	µF	660 / 330
AC / DC energy feedback	Ws	13 / 6,5

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	UL 61800-5-1

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		
6 digital control signal inputs	V	LOW 0 .. 5, HIGH 15 .. 30
	mA	5 (@ 24 V)
3 digital control signal outputs	V	24
	A	0,5

Analog inputs/outputs		
2 analog inputs	V	-10 ... +10, 10 Bit
2 analog monitor output	V	-10 ... +10, 10 Bit

Safety function STO
2 STO inputs
1 STO feedback signal (output)
SIL-2 (acc. to EN 61800-5-2); PL d (ISO EN 13849-1)

Dimensions and weight		
Dimensions W x H x D	mm	62 x 279 x 167
Weight	kg	2,1

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.	

Miscellaneous	
Mean Time to Failure (MTTF, typ. operation)	134 years
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 i^2t monitoring
- Scalable analog inputs for arbitrary target values
- Scalable analog monitor outputs for arbitrary actual values
- 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
- Connector for external ballast resistor

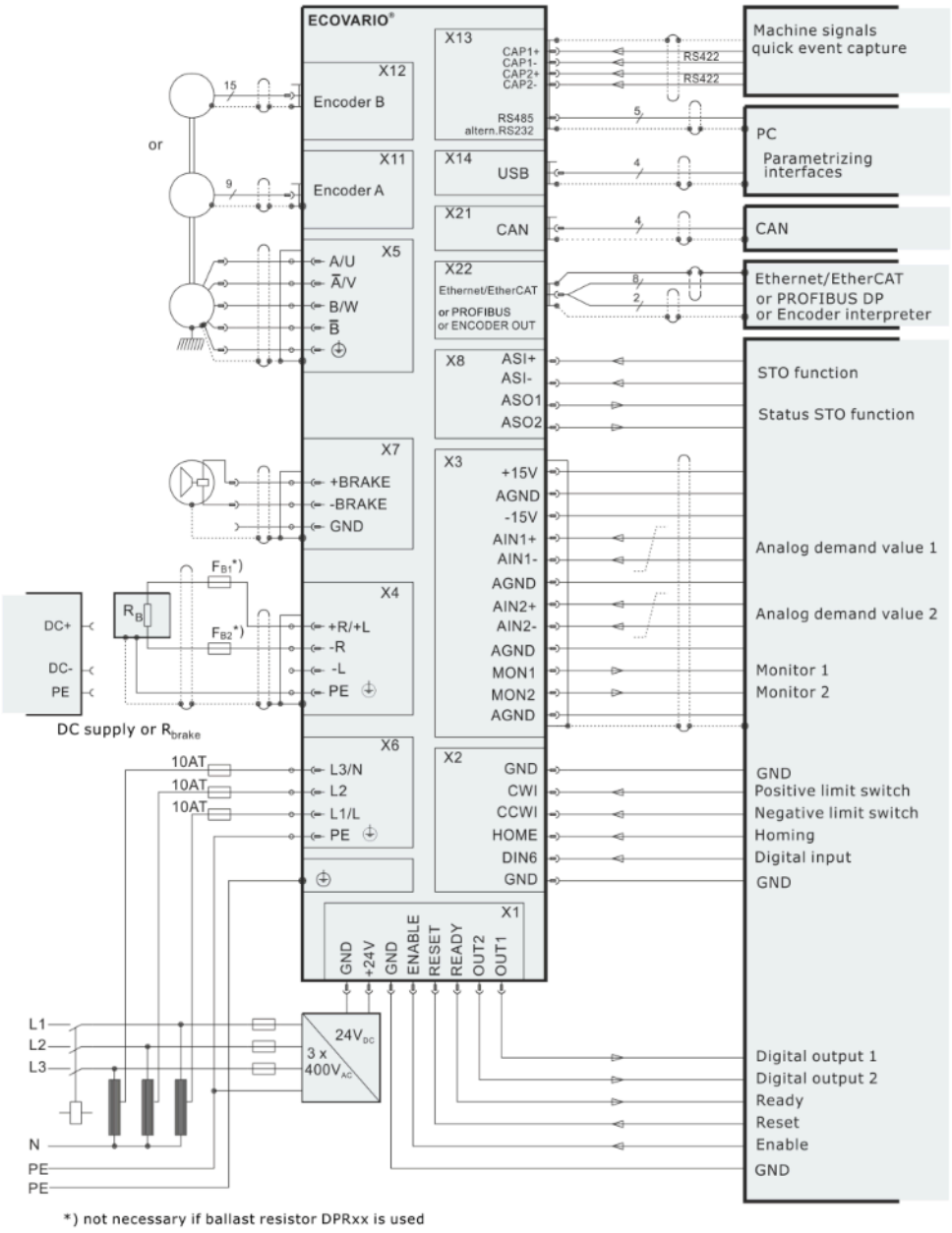
ECOSTUDIO® - Easy commissioning

- 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

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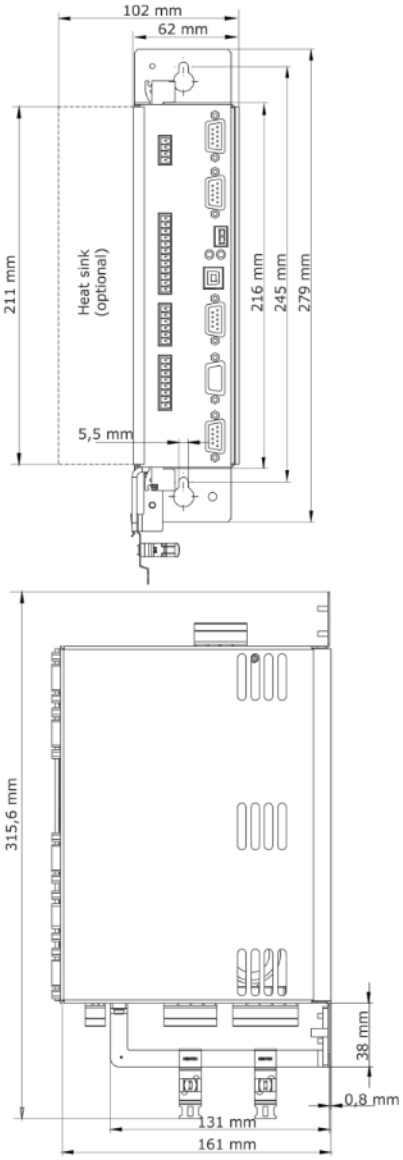
Servo Amplifier ECOVARIO® 414

→ Connection diagram



*) not necessary if ballast resistor DPRxx is used

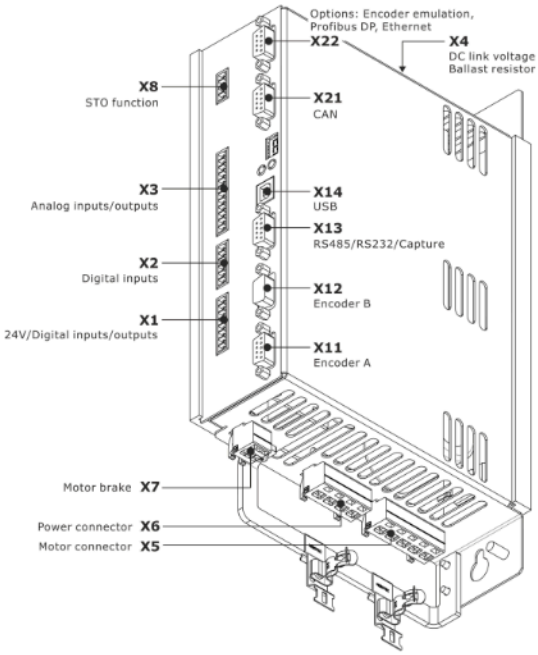
→ Dimensions



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Servo Amplifier ECOVARIO® 414

→ Interfaces



→ Ordering key

ECOVARIO® 414 uv - wx - yyy - zzz

u

Supply	
A	1- or 3-phase, AC or DC

v

Option	
R	Safety function "Safe Torque Off" (STO)
N	No option

w

Field bus	
A	CAN + RS485 + encoder emulation
B	CAN + RS232 + encoder emulation
F	CAN + RS485 + PROFIbus®
G	CAN + RS232 + PROFIbus®
K	CAN + Ethernet + RS485
L	CAN + Ethernet + RS232
P	CAN + EtherCAT® + RS485
Q	CAN + EtherCAT® + RS232

x

Approval	
A	CE, standard design
B-I	CE, custom design
J	CE, UL, standard design
K-R	CE, UL, custom design
S, T	CE, UL, custom design without USB interface
U	CE, UL, standard design without USB interface
V-Z	CE, UL, custom design

yyy

Firmware number (three digits)

zzz

Parameter set number (three digits)

→ Accessories

Accessories	
DPZ20	Standard shield set (1 shield bracket, 2 cable clamps, mounting parts)
DPK10	Mating connector set ECOVARIO® 214/414

External ballast resistors	
DPR24-100	Ballast resistor 24 Ω/100 W (250 W cooled)
DPR22-200	Ballast resistor 22 Ω/200 W (500 W cooled)

Power supply	
SV24	1-phase power supply 24 V_{DC} / 5 A

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

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We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

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