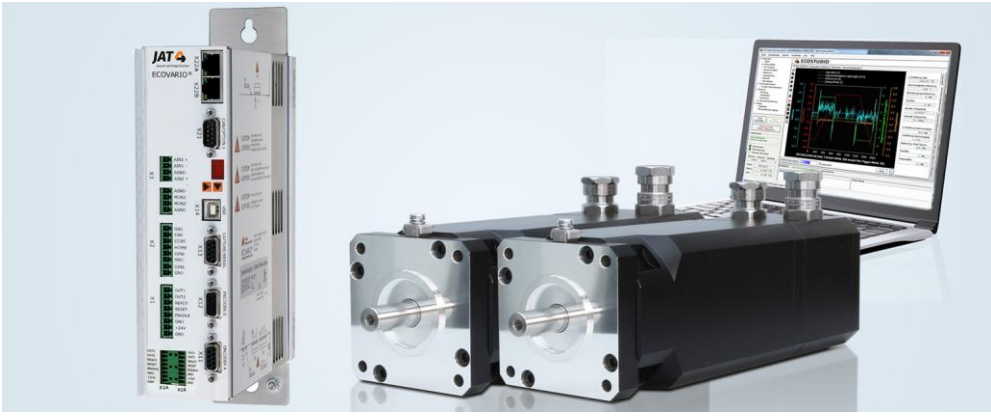
JAT JENAER ANTRIEBSTECHNIK

Servo Amplifier ECOVARIO® 616D

Powerful for 2 axes up to 10 kW



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:
200 ... 528 V_{AC} 3-phase

Control of:
3-phase brushless synchronous motors or synchronous linear motors

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

Fast current control
approx. 62,5 µs

Interpolating operation via EtherCAT or CANopen

I/O:
7 digital inputs per axis
3 digital outputs per axis
2 high speed capture inputs (RS422) for fast event capturing

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→ Technical data

3-phase AC supply		
Rated supply voltage	[V_{AC}]	400
Mains frequency	[Hz]	50 ... 60
Rated installed load	[kVA]	8,2
Rated power loss	[W]	280
Rated output voltage	[V_{AC}]	390

Data of the power stage		
Peak output current (3~) *	[A_{eff}]	16
Max. phase current *	[A_{DC}]	22,5
Rated output current (3~) *	[A_{eff}]	8
	[A_{DC}]	11,25
Max. DC link voltage	[V_{DC}]	850
Rated DC link voltage	[V_{DC}]	560
Overvoltage trip	[V_{DC}]	850
Max. output power *	[kW]	10
Rated output power *	[kW]	5,4
DC link capacity	[µF]	470
Regenerated capacity	[Ws]	96
*) Sum of the currents or powers of both axes. Ratio parameterizable.		

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		
7 digital control signal inputs per axis	[V]	LOW 0...5, HIGH 15...30
	[mA]	5 (@ 24 V)
3 digital control signal outputs per axis	[V]	24
	[A]	0,5
2 fast capture inputs		RS422
	[ns]	40

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 weights		
Dimensions W x H x D	[mm]	82 x 330 x 225
Weight	[kg]	4,0

Standards	
Applied standards for CE certification	EMC according to EN IEC 61800-3, Electrical safety according 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
Standards UL	UL61800-5-1

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
- Parametrizable velocity profiles with jerk limiting
- Short circuit, voltage, temperature, encoder, following error and i^2t 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
- Internal ballast resistor (continuous power: 30 W), 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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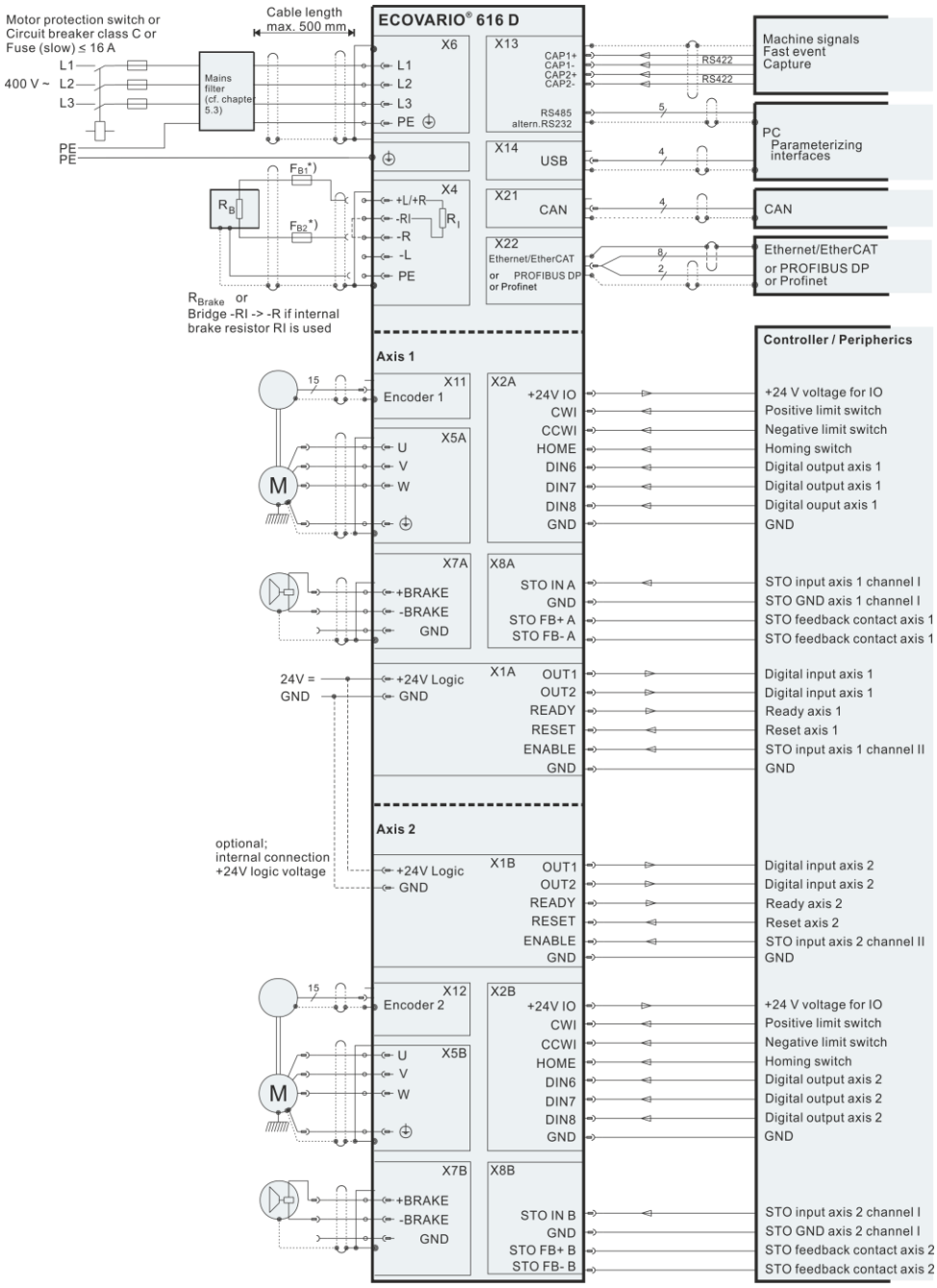
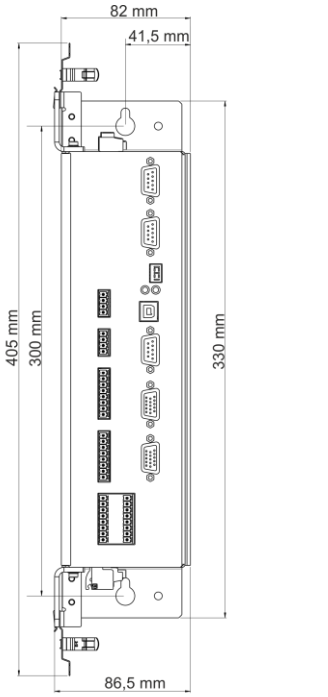
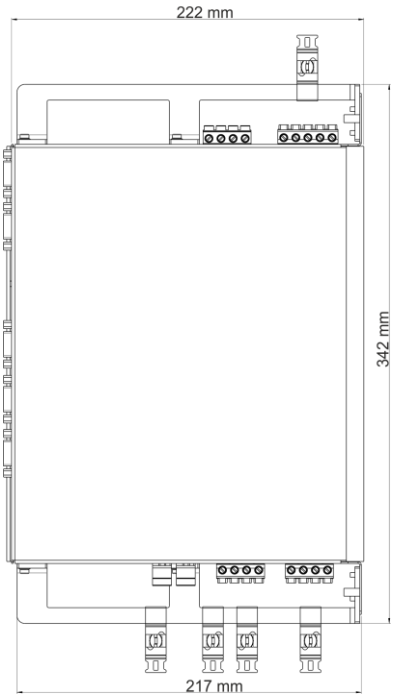
→ Connection diagram



→ Dimensions





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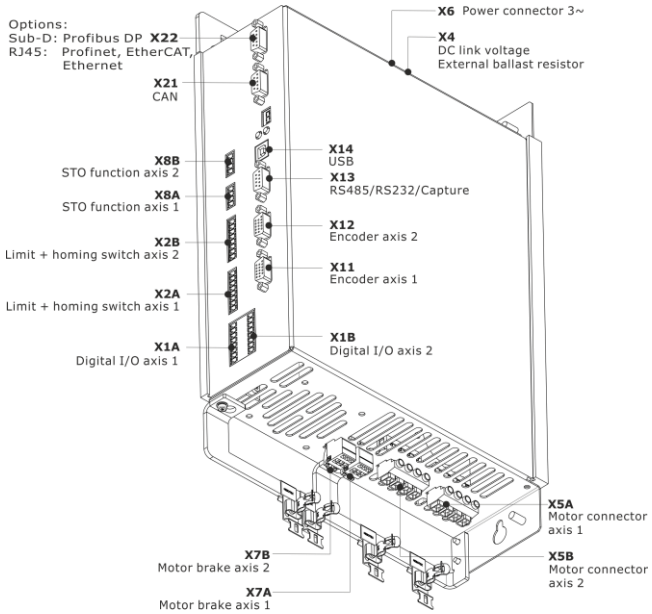
→ Interfaces



→ Ordering key

ECOVARIO® 616 Dv - wx - yyy - zzz

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® DP-V0
G	CAN + RS232 + PROFIbus® DP-V0
H	CAN* + PROFInet® + RS485*
I	CAN* + PROFInet® + RS232*
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 (UL approval)
K-Z	CE, UL, custom design (UL approval)

yyy: Firmware number (three digits)

zzz: Parameter set number (three digits)

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

→ Accessories

External ballast resistor	
DPR40-200	Ballast resistor 40 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*.	

Mains filter	
HLD 110-500/12	3-phase mains filter 500 V_{AC} / 12 A

Accessories	
DHZ20	Shield set ECOVARIO® 616D
DHK10	Mating connector set ECOVARIO® 616D
DDK21	Encoder splitter 1x INK, 1x ABS an X11 / X12
DDK22	Encoder splitter 2x INK an X11 / X12

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