



OTHER SYMBOLS:

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RGB ELEKTRONIKA AGACIAK CIACIEK SPÓŁKA JAWNA

Jana Dlugosza 2-6 Street 51-162 Wrocław Poland

✓ biuro@rgbelektronika.pl
↓ +48 71 325 15 05





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At our premises in Wrocław, we have a fully equipped servicing facility. Here we perform all the repair works and test each later sold unit. Our trained employees, equipped with a wide variety of tools and having several testing stands at their disposal, are a guarantee of the highest quality service.



ACOPOS Intelligent servo drives

Increased production volume, reduced production cycles, and improved quality with greater precision become a reality with ACOPOS servo drives.



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ACOPOS

System characteristics

High-performance servo drive concept

The ACOPOS servo drive family is an important component of the complete automation solutions provided by B&R. Industry-specific functions and intuitive tools form the basis for short development times.

An important criteria for the performance of an automation solution is a fast and precise reaction to events dependent on the application or sudden changes in the production process. Therefore, ACOPOS servo drives work with very short scan times and communication cycles of 400 μ s, which only amount to 50 μ s in the control loop.

More room for innovation

The successful application of ACOPOS servo drives in the following industries demonstrates the impressive innovative power of their pioneering design: performance and function coupled with user-friendliness.

- Packaging industry
- Handling technology
- Plastics processing
- Paper and printing
- Textile industry
 Wood industry
- Motol muustry
- Metal working industrySemiconductor industry



Outstanding quality, robust and secure

The ACOPOS servo family was tested thoroughly during the development phase. Under difficult conditions, such as heavy vibrations or increased temperatures, the devices were subject to loads that greatly exceed the values that occur in normal everyday operation.

EMC was given special attention to facilitate use in a rough industrial environment. Field tests have been carried out under difficult conditions in addition to the tests defined in the standard. The results confirm the excellent values measured by the testing laboratory and during operation. The necessary filters, which meet CE guide-lines, are also integrated in the device. Using computer-aided models, the thermal behavior of the entire system is pre-calculated based on measured currents and temperatures. This results in maximum performance by taking advantage of the system's full capabilities. ACOPOS servo drives use the information on the motor's embedded parameter chip, which contains all relevant mechanical and electronic data. The work-intensive and error-prone task of manually setting parameters is no longer necessary and start-up times are substantially reduced. During service, relevant data can be requested and the cause of problems that may exist can be determined.

The ACOPOS servo family is also available with partially-coated circuit boards. These versions are - with identical specifications - more robust in regard to environmental influences such as dust, aggressive vapors or moisture.



Modular and precise with communication options

The I/O points needed to operate a servo axis are part of the standard equipment for ACOPOS servo drives. The user is provided two trigger inputs for tasks requiring precise measurements or print mark control.

Further configuration of the ACOPOS servo drive to meet the respective applicationspecific demands takes place using plug-in modules. Plug-in modules are available to make network connections with other drives, controllers and visualization devices as well as for the connection of encoders, sensors and actuators. Additionally, CPU modules for controller and drive integration are also available for drive-based automation.

Configuring instead of programming

ACOPOS servo drives can be configured for demanding positioning tasks such as electronic gears or cam profiles. Based on long-term cooperation with customers from all over the world, B&R shares its know-how in the form of compact function blocks for many applications. Industry-specific functionality can be quickly and easily implemented in an application program.



System characteristics





ACOPOS

PLCopen motion control function blocks

Motion control is one of the central themes in automation technology. This is partly due to its high portion of the entire automation expenses and the resulting savings potential.

The PLCopen motion control function blocks (conforming to IEC 61131-3) support the user when implementing these possibilities by providing vendor-independence and reducing development times. The user can choose between the programming languages Ladder Diagram (LD), Structured Text (ST) and the high-level language "C".

The function range of the function blocks is divided into the areas of single and multiaxis movements. In addition to the usual relative and absolute movements, the first of the two areas also includes the possibility of overlapping movements. In the area of multi-axis movements, functions such as gears, cam profile functions, up/down synchronization and differential gear (changing phase angles) are supported.





Higher productivity with smart process technology

Smart process technology meets the customer's need for cost-effective solutions and high production speeds. This freely configurable technology library is seamlessly integrated into the existing motion control product.

Using indirect process parameters makes it possible to eliminate sensors, which are often not fast enough to keep up with high production speeds. Synchronous processing and short response times make it possible to achieve excellent productivity and precision. For example, highly efficient and intelligent decentralized units allow seamless quality control. In the field, this significantly reduces cycle times while improving component quality.

This meets the requirements of modern motion control products such as high product quality, machine productivity along with short maintenance and down times and, to a greater extent, seamless quality control during production.

ACOPOS also perfectly suited for CNC applications

The integrated "Soft" CNC system from B&R unites all of the software components necessary for machine automation on a 64-bit processor platform. It provides sufficient computing power for complex processing machines. The integrated system architecture, together with ACOPOS servo drives, provides many opportunities regarding reaction speed, data throughput and precision, and also allows cost savings to be made.

- Uniformly integrated ACOPOS servo drive technology
- Powerful and fast-reacting
- Unlimited flexibility of PLC and CNC systems provides room for automation ideas
- 8 independent CNC channels
- Up to a total of 100 axes for positioning, CNC, electronic gears
- Individual graphic interface
- Nearly unlimited system memory for programs, diagnostics and process data
- Internet or intranet connection for inspection or remote maintenance

Leading manufacturers of water jet, laser and torch cutting production technologies are already utilizing these technological advantages.

System characteristics





ACOPOS

Quick and easy commissioning

All B&R products are programmed in a uniform manner using B&R Automation Studio with the Windows look and feel. Complex drive solutions can be created after a short orientation period. Adding hardware components and program sections, as well as their configuration, is done in dialog boxes; this reduces project development times considerably.

Axis movements can be checked without programming using NC Test. All types of movements, ranging from point-to-point to gear functions, can be carried out interactively. The reaction of the axis can be seen online in the monitor window. The trace function records relevant drive data for clear evaluation.

Tools for straightforward and efficient diagnostics

The drive is monitored in real-time using the oscilloscope function. Many trigger possibilities generate informative data for analyzing the movement during operation. The graphic display allows the user to make fine adjustments and optimizations of the movement in the microsecond range. The integration of powerful tools, such as the cam editor, reduces programming for complex coupled movements to simple drag-and-drop procedures. The results and effects on speed, acceleration and jolt can be immediately analyzed graphically.

ACOPOS servo drives

Controlling your power transmission system with ACOPOS[™] servo drives from B&R allows you to fully use the advantages of an optimized system architecture. Applications that require additional positioning tasks such as torque limitation or torque control can be created quickly and elegantly. The flexible system concept for B&R servo drives is achieved using matched hardware and software components. You can select the optimal system configuration for your application and increase your competitiveness.

- Perfect integration in all B&R product families
- Object-oriented axis programming minimizes development time and increases reusability
- Integrated technology functions for industry-specific tasks
- Operation of synchronous and induction motors possible
- Current controller scan time up to $50\mu s$
- · Reduced commissioning and service times using "embedded motor parameter chip"
- CAN bus and POWERLINK network connection
- Input voltage range from 400 480 VAC (±10 %) for many areas of use
- Connection possibilities for all standard encoder systems
- Up to two free slots for optional technology modules
 Electronic secure restart inhibit integrated
- Optionally available as version with partially-coated circuit boards more robust in regard to environmental influences

Overview

The ACOPOS servo drive series covers a current range from 1.0 to 128 A and a power range from 0.5 to 64 kW with 11 devices in 4 groups. They offer connection possibilities for all standard encoder systems and modular fieldbus interfaces. ACOPOS servo drives are suitable for both synchronous and induction servo motors and have built-in line filters to meet the limit values for CISPR11, Group 2, Class A.

19 - Carl 19 - C	8V1010.50-2, 8V1010.501-2	8V1022.00-2, 8V1022.001-2	8V1180.00-2, 8V1180.001-2	8V1640.00-2, 8V1640.001-2
	8V1016.50-2, 8V1016.501-2	8V1016.50-2, 8V1016.501-2 8V1045.00-2, 8V1045.001-2 8V1320.00		8V128M.00-2, 8V128M.001-2
	8V1010.00-2, 8V1010.001-2	8V1090.00-2, 8V1090.001-2		
	8V1016.00-2, 8V1016.001-2			
Power connections	Plug connection	Plug connection	Plug connection	Fixed
Integrated line filter	Yes	Yes	Yes	Yes
Mains failure monitoring	Yes	Yes	Yes	Yes
DC bus connection	Yes	Yes	Yes	Yes
24 VDC supply	External 1)	External 1)	External or internal	External or internal
			via DC bus	via DC bus
24 VDC output	No	No	24 V / 0.5 A	24 V / 0.5 A
Integrated brake chopper	Yes	Yes	Yes	Yes
Internal braking resistor	Yes	Yes	Yes	Yes ²⁾
Connection of External Braking Resistor Possible	No	No	Yes	Yes
Monitored output for motor holding brake	Yes	Yes	Yes	Yes
Monitored input for motor temperature sensor	Yes	Yes	Yes	Yes
Max. number of plug-in modules	3	4	4	4

1) External DC bus power supply 0PS320.1 (24V / 20A) can be used.

2) The braking resistor integrated in the ACOPOS servo drives 1640 and 128M is dimensioned so that it is possible to brake to a stop (in a typical drive situation).

24 VDC supply during power failures

In order to be able to provide the stop function for category 1 according to IEC 60204-1 during a power failure, the 24 VDC supply voltage for the servo drives as well as encoders, sensors and the safety circuit must remain active during the entire stopping procedure. The ACOPOS servo drives recognize a power failure and can immediately initiate active braking of the motor. The brake energy that occurs when braking is returned to the DC bus and the DC bus power supply can use it to create the 24 VDC supply voltage. An external DC bus power supply must be used for ACOPOS servo drives 8V1010 to 8V1090. A DC bus power supply is integrated in ACOPOS servo drives 8V1180 to 8V128M. The ACOPOS servo drives with an integrated DC bus power supply provide the 24 VDC supply encoders, sensors and the safety circuit. In may cases, it is not necessary to use an uninterruptible power supply (UPS) which is otherwise needed.

Typical topologies

ACOPOS configurations

ACOPOS servo drives include multiple technology-specific functions with performance, flexibility and capability in the field which has been remarkably proven in countless applications. The ACOPOS functions listed below are basic functions which the user can switch between as needed within 400 μ s. Furthermore, manipulations such as changes in product length, print mark control, overlying torque control, brief process adaptations and quality checks can be carried out at any time.

- Point-to-point
- Electronic gears
- Electronic compensation gears
- Cross cutters
- Electronic cam profilesFlying saws
- Line shaft
- CNC

ACOPOS servo drives can be used in various configurations depending on the network type and the requirements of the application. The functions listed above are available to the user in each of the topology examples shown.

Reaction speeds are not influenced by the network and control system being used if technology functions are processed directly on the ACOPOS servo drive. Additional sensors and actuators must be integrated in the control and adaptation for more complex processes. In these cases, the level of performance depends mostly on the type of network and control system being used.

The topology examples shown on the following pages provide an overview of the bandwidths which are possible with B&R automation components.

ACOPOS in the POWERLINK network

High-performance machine architectures require flexible networks and fieldbuses. With POWERLINK, a network is available to the user that fully meets the high demands of dynamic motion systems. POWER-LINK adapts to the requirements of the machine and the system. The rigid coupling of many axes with controllers, industrial PCs, I/O systems and operator panels allows machines and systems to be created with the highest level of precision. Compatibility to standard Ethernet also reduces the number of networks and fieldbuses on the machine level.

Successful areas of use for these topologies:

- Packaging industry
- Handling technology
- Plastics processing
- Paper and printing
- Textile industry
- Wood industry
- Metal working industry
- Semiconductor industry

- Compact, modular motion control applications
 Modular machine architecture, up to 100 m distance between the individual axes
 Minimal wiring required due to line structure (no ring)
 No additional infrastructure components needed
 Drive control loop synchronized to the PLC program



Control system	Power Panel: Integrat	ted control, operation, and	l visualization		₿ 787	
/isualization and operation	Power Panel: Integrat	ted control, operation, and	l visualization		₿ 787	
Notion control	ACOPOS: Intelligent	servo drives			₿ 1251	
	Synchronous motors	: Dynamic precision drive	s		1459/1585	/1645
Remote I/O systems	X20 System: Slice-ba	ased I/O and control system	m		₿ 37	
Network and fieldbuses	POWERLINK				₿ 611	
25		2	20		ACOPOS	1261

Typical topologies

- Extensive, modular motion control applications with up to 253 axes
 Modular machine architecture, up to 100 m distance between the individual axes
 Optimized wiring, due to mixed star-line structure
 Nodes with fast and slow scan rates can be operated within one network. This eliminates the need to divide the network into fast and slow segments.
 Drive control loop synchronized to the PLC program



Components and technologies				
Control system	X20 System: Slice-based I/O and control system	m		₪ 37
Motion control	ACOPOS: Intelligent servo drives			
	Synchronous motors: Dynamic precision drives	s		1459/1585/1645
Remote I/O systems	X20 System: Slice-based I/O and control system	m		⊞ 37
	X67 System: Remote I/O with IP67 protection			🖹 419
Network and fieldbuses	Inside the machine	POW	ERLINK	🖹 611
	Host/line communication	Ether	rnet TCP/IP	

ACOPOS in a CAN bus network The dynamic requirements for small and mid-sized machines with several axes can be handled efficiently using a CAN bus. The CAN bus is a cost-effective fieldbus for networking ACOPOS servo drives with con-trollers, industrial PCs, I/O systems and operator panels.



Components and technologies	5 A					
Control system	X20 System:	Slice-based I/O and control system	. BX		37	
Motion control	ACOPOS: Int	telligent servo drives			1251	
	Synchronous	s motors: Dynamic precision drives			1459/1585/1645	
Remote I/O systems	X20 System:	Slice-based I/O and control system			🖹 37 🔍 🔍 🔿	
Network and fieldbuses	CAN bus				🖹 611	
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	14	74	20	10	ACOPOS 1263	Ē
					2	×2
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Typical topologies

Drive-based control

The controller is located centrally on an ACOPOS servo drive. The drives are networked and synchronized with each other via the CAN bus. As a result, electronic gear and cam profile applications as well as CNC applications are possible in addition to simple point-to-point movements. Control of the simple operation/ visualization is handled by the controller on the ACOPOS servo drive. I/O signals are connected in the switching cabinet or directly in the machine room. By eliminating the need for an external controller, even very limited space can be used optimally.



Components and technologies	and the second	States and the second	
Control system	ACOPOS: Intelligent servo drives		₪ 1251
Visualization and operation	Panelware: Compact operator panels		₪ 773
Motion control	ACOPOS: Intelligent servo drives		▶ 1251
	Synchronous motors: Dynamic precision drives		1459/1585/1645
Remote I/O systems	X20 System: Slice-based I/O and control system		₿ 37
	X67 System: Remote I/O with IP67 protection		₿ 419
Network and fieldbuses	Inside the machine	CAN bus	
	Host/line communication	Ethernet TCP/IP	



Product overview

ACOPOS servo drives



Model number	Short description				
8V1010.50-2	Servo drive 3x 110-230V / 1x110-230V, 2.	.0A, 0.45kW, line filter, braking resistor and	d electronic secure restart inhibit integrated	1270	
8V1010.501-2	Servo drive 3x 110-230V / 1x110-230V, 2.	.0A, 0.45kW, line filter, braking resistor and	d electronic secure restart inhibit integrated, coated	⊞ 1270	
8V1016.50-2	Servo drive 3x 110-230V / 1x110-230V, 3.	.2A, 0.7kW, line filter, braking resistor and	electronic secure restart inhibit integrated	1270	
8V1016.501-2	Servo drive 3x 110-230V / 1x110-230V, 3.	.2A, 0.7kW, line filter, braking resistor and	electronic secure restart inhibit integrated, coated	⊞ 1270	
8V1010.00-2	Servo drive 3x 400-480V 1.0A 0.45kW, lin	ne filter, braking resistor and electronic se	cure restart inhibit integrated	1274	
8V1010.001-2	Servo drive 3x 400-480V, 1.0A, 0.45kW, li	ine filter, braking resistor and electronic se	ecure restart inhibit integrated, coated	🗎 1274	
8V1016.00-2	Servo drive 3x 400-480V, 1.6A, 0.7kW, lin	e filter, braking resistor and electronic sec	cure restart inhibit integrated	1274	
8V1016.001-2	Servo drive 3x 400-480V, 1.6A, 0.7kW, lin	e filter, braking resistor and electronic sec	cure restart inhibit integrated, coated	⊞ 1274	



model number	Under accomption				
8V1022.00-2	Servo drive 3x 400-480V, 2.2A, 1kW, line f	filter, braking resistor and electronic secure i	restart inhibit integrated	1278	
8V1022.001-2	Servo drive 3x 400-480V, 2.2A, 1kW, line f	filter, braking resistor and electronic secure i	restart inhibit integrated, coated	1278	
8V1045.00-2	Servo drive 3x 400-480V, 4.4A, 2kW, line f	filter, braking resistor and electronic secure i	restart inhibit integrated	1278	
8V1045.001-2	Servo drive 3x 400-480V, 4.4A, 2kW, line f	filter, braking resistor and electronic secure i	restart inhibit integrated, coated	1278	
8V1090.00-2	Servo drive 3x 400-480V, 8.8A, 4kW, line f	filter, braking resistor and electronic secure i	restart inhibit integrated	🖹 1278	
8V1090.001-2	Servo drive 3x 400-480V, 8.8A, 4kW, line f	filter, braking resistor and electronic secure i	restart inhibit integrated, coated	1278	
Model number	Short description				
8V1180.00-2	Servo drive 3x 400-480V, 19A, 9kW, line fi	ilter, braking resistor, DC bus power supply a	and electronic secure restart inhibit integrated	1282	

8V1180.00-2	Servo drive 3x 400-480V, 19A, 9kW, line filter, braking resistor, DC bus power supply and electronic secure restart inhibit integrated	1282
8V1180.001-2	Servo drive 3x 400-480V, 34A, 16kW, line filter, braking resistor, DC bus power supply and electronic secure restart inhibit integrated, coated	⊞ 1282
8V1320.00-2	Servo drive 3x 400-480V, 34A, 16kW, line filter, braking resistor, DC bus power supply and electronic secure restart inhibit integrated	1282
8V1320.001-2	Servo drive 3x 400-480V, 34A, 16kW, line filter, braking resistor, DC bus power supply and electronic secure restart inhibit integrated, coated	₿ 1282



Model num 8V1640.00-2 8V1640.001-2 8V128M.00-2 8V128M.001-2 Short description

Servo drive 3x 400-480V, 64A, 32kW, line filter, braking resistor, DC bus power supply and electronic secure restart inhibit integrated Servo drive 3x 400-480V, 64A, 32kW, line filter, braking resistor, DC bus power supply and electronic secure restart inhibit integrated, coated 👘 1286 Servo drive 3x 400-480V, 128A, 64kW, line filter, braking resistor, DC bus power supply and electronic secure restart inhibit integrated Servo drive 3x 400-480V, 128A, 64kW, line filter, braking resistor, DC bus power supply and electronic secure restart inhibit integrated, coated 🛛 🖹 1286

₿ 1286

₿ 1286

ACOPOS plug-in modules

Network modules



8AC141.61-3

ACOPOS plug-in module, CPU, ARNC0, x86 100 MHz Intel compatible, 32 MB DRAM, 32 kB SRAM, removable application memory: CompactFlash, 2 CAN interfaces, 1 Ethernet interface 100 Base-T, 1 RS232 interface, 1 X2X Link Master interface, 3 digital I/O can be configured as 24 VDC input or output 500 mA, 1 analog input ±10V, order program memory and 0TB704 and 0TB708 terminal blocks separately.

ACOPOS 126

₿ 1310

Product overview

Accessories

Motor cables 1.5 mm²

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Model number	Short description	
8CM005.12-1	Motor cable, length 5 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , motor plug 8-pin Intercontec socket, can be used in drag chains, UL/CSA listed	🗎 1314
8CM007.12-1	Motor cable, length 7 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , motor plug 8-pin Intercontec socket, can be used in drag chains, UL/CSA listed	🗎 1314
8CM010.12-1	Motor cable, length 10 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , motor plug 8-pin Intercontec socket, can be used in drag chains, UL/CSA listed	🗎 1314
8CM015.12-1	Motor cable, length 15 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , motor plug 8-pin Intercontec socket, can be used in drag chains, UL/CSA listed	🗎 1314
8CM020.12-1	Motor cable, length 20 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in drag chains, UL/CSA listed	🗎 1314
8CM025.12-1	Motor cable, length 25 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , motor plug 8-pin Intercontec socket, can be used in drag chains, UL/CSA listed	🗎 1314

Motor cables 4 mm²

~	Model number	Short description	
	8CM005.12-3	Motor cable, length 5 m, 4 x 4 mm² + 2 x 2 x 1 mm², motor plug 8-pin Intercontec socket, can be used in drag chains, UL/CSA listed	1315
	8CM007.12-3	Motor cable, length 7 m, 4 x 4 mm ² + 2 x 2 x 1 mm ² , motor plug 8-pin Intercontec socket, can be used in drag chains, UL/CSA listed	⊞ 1315
	8CM010.12-3	Motor cable, length 10 m, 4 x 4 mm ² + 2 x 2 x 1 mm ² , motor plug 8-pin Intercontec socket, can be used in drag chains, UL/CSA listed	₿ 1315
	8CM015.12-3	Motor cable, length 15 m, 4 x 4 mm ² + 2 x 2 x 1 mm ² , motor plug 8-pin Intercontec socket, can be used in drag chains, UL/CSA listed	1315
	8CM020.12-3	Motor cable, length 20 m, 4 x 4 mm ² + 2 x 2 x 1 mm ² , motor plug 8-pin Intercontec socket, can be used in drag chains, UL/CSA listed	🖹 1315 🔊
	8CM025.12-3	Motor cable, length 25 m, 4 x 4 mm ² + 2 x 2 x 1 mm ² , motor plug 8-pin Intercontec socket, can be used in drag chains, UL/CSA listed	1315

Motor cables 10 mm²

	Model number	Short description	
13	8CM005.12-5	Motor cable, length 5 m, 4 x 10 mm ² + 2 x 2 x 1.5 mm ² , motor plug 8-pin Intercontec socket, can be used in drag chains, UL/CSA listed	⊞ 1316
	8CM007.12-5	Motor cable, length 7 m, 4 x 10 mm ² + 2 x 2 x 1.5 mm ² , motor plug 8-pin Intercontec socket, can be used in drag chains, UL/CSA listed	⊞ 1316
	8CM010.12-5	Motor cable, length 10 m, 4 x 10 mm ² + 2 x 2 x 1.5 mm ² , motor plug 8-pin Intercontec socket, can be used in drag chains, UL/CSA listed	₿ 1316
in the second se	8CM015.12-5	Motor cable, length 15 m, 4 x 10 mm ² + 2 x 2 x 1.5 mm ² , motor plug 8-pin Intercontec socket, can be used in drag chains, UL/CSA listed	₿ 1316
	8CM020.12-5	Motor cable, length 20 m, 4 x 10 mm ² + 2 x 2 x 1.5 mm ² , motor plug 8-pin Intercontec socket, can be used in drag chains, UL/CSA listed	1316
5 ⁰⁷	8CM025.12-5	Motor cable, length 25 m, 4 x 10 mm² + 2 x 2 x 1.5 mm², motor plug 8-pin Intercontec socket, can be used in drag chains, UL/CSA listed	₿ 1316

Motor cables 35 mm²

	Model number	Short description			
	8CM005.12-8	Motor cable, length 5 m, 4 x 35 mm² + 2 x 2 x 1.5 mm², can be used in drag chains, UL/CSA listed	6	⊞ 1317	
100	8CM007.12-8	Motor cable, length 7 m, 4 x 35 mm ² + 2 x 2 x 1.5 mm ² , can be used in drag chains, UL/CSA listed		⊞ 1317	
	8CM010.12-8	Motor cable, length 10 m, 4 x 35 mm ² + 2 x 2 x 1.5 mm ² , can be used in drag chains, UL/CSA listed		⊞ 1317	
10	8CM015.12-8	Motor cable, length 15 m, 4 x 35 mm ² + 2 x 2 x 1.5 mm ² , can be used in drag chains, UL/CSA listed		⊞ 1317	
	8CM020.12-8	Motor cable, length 20 m, 4 x 35 mm ² + 2 x 2 x 1.5 mm ² , can be used in drag chains, UL/CSA listed		🖹 1317 🛛 💉	
<u>s</u>	8CM025.12-8	Motor cable, length 25 m, 4 x 35 mm ² + 2 x 2 x 1.5 mm ² , can be used in drag chains, UL/CSA listed		🖹 1317 🔍 🔗	



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Model number	Short description				
8CE005.12-1	EnDat cable, length 5 m, 10 x 0.14 mm² + 2 x 0.5 mm², EnDat plug 1 can be used in cable drag claims, UL/CSA certified	7-pin Intercontec socket, servo con	nector 15-pin DSUB plug,	■ 1318	
8CE007.12-1	EnDat cable, length 7 m, 10 x 0.14 mm ² + 2 x 0.5 mm ² , EnDat plug 1 can be used in cable drag claims, UL/CSA certified	7-pin Intercontec socket, servo con	nector 15-pin DSUB plug,	₪ 1318	
8CE010.12-1	EnDat cable, length 10 m, 10 x 0.14 mm ² + 2 x 0.5 mm ² , EnDat plug can be used in cable drag claims, UL/CSA certified	17-pin Intercontec socket, servo con	nnector 15-pin DSUB plug,	₿ 1318	
8CE015.12-1	EnDat cable, length 15 m, 10 x 0.14 mm ² + 2 x 0.5 mm ² , EnDat plug can be used in cable drag claims, UL/CSA certified	17-pin Intercontec socket, servo co	nnector 15-pin DSUB plug,	₿ 1318	
8CE020.12-1	EnDat cable, length 20 m, 10 x 0.14 mm ² + 2 x 0.5 mm ² , EnDat plug can be used in cable drag claims, UL/CSA certified	17-pin Intercontec socket, servo con	nnector 15-pin DSUB plug,	₪ 1318	
8CE025.12-1	EnDat cable, length 25 m, 10 x 0.14 mm ² + 2 x 0.5 mm ² , EnDat plug can be used in cable drag claims, UL/CSA certified	17-pin Intercontec socket, servo con	nnector 15-pin DSUB plug,	≞ 1318	

Resolver cables

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		can be used in cable drag claims, UL	_/CSA certified				
1	Model number	Short description	5	- ST	100 M		
	8CR005.12-1	Resolver cable, length 5 m, 3 x 2 x 2 can be used in cable drag chains, UI	4 AWG/19, resolver plug 12-pin Inter L/CSA certified	contec socket, servo plug 9-pin D	ISUB plug,	₪ 1319	180
	8CR007.12-1	Resolver cable, length 7 m, 3 x 2 x 2 can be used in cable drag chains, UI	4 AWG/19, resolver plug 12-pin Inter L/CSA certified	contec socket, servo plug 9-pin D	ISUB plug,	₪ 1319	
Ļ	8CR010.12-1	Resolver cable, length 10 m, 3 x 2 x can be used in cable drag chains, UI	24 AWG/19, resolver plug 12-pin Inte L/CSA certified	ercontec socket, servo plug 9-pin I	DSUB plug,	₿ 1319	
	8CR015.12-1	Resolver cable, length 15 m, 3 x 2 x can be used in cable drag chains, UI	24 AWG/19, resolver plug 12-pin Inte L/CSA certified	ercontec socket, servo plug 9-pin I	DSUB plug,	1319	
	8CR020.12-1	Resolver cable, length 20 m, 3 x 2 x 3 can be used in cable drag chains, UI	24 AWG/19, resolver plug 12-pin Inte L/CSA certified	ercontec socket, servo plug 9-pin I	DSUB plug,	₿ 1319	
	8CR025.12-1	Resolver cable, length 25 m, 3 x 2 x 3 can be used in cable drag chains, UI	24 AWG/19, resolver plug 12-pin Inte L/CSA certified	ercontec socket, servo plug 9-pin I	DSUB plug,	₪ 1319	



Single-phase servo drives 8V1010, 8V1016



starting at 500 m above sea level

frequency values for the respective ACOPOS servo drive are marked in bold.

Maximum current

Protective measures

Motor holding brake cor

Maximum output current

Braking resistor

Peak power output

Continuous power

Max. number of switching cycles

Rated switching frequency Maximum motor line length



- Designed for operation on a singlephase or three-phase power mains
- Modular mechanical structure plug-in modules
- Integrated power filter
- Integrated braking resistor
- Integrated electronic restart inhibit

General information	8V1010.50-2, 8V1010.501-2	8V1016.50-2, 8V1016.501-2
C-UL-US listed	Yes	Yes
Power mains connection	8V1010.50-2, 8V1010.501-2	8V1016.50-2, 8V1016.501-2
Mains input voltage	3x 110 VAC to 230 VAC ±10% or	3x 110 VAC to 230 VAC ±10% or
	1x 110 VAC to 230 VAC \pm 10%, power filter according	1x 110 VAC to 230 VAC ± 10% power filter accord-
	to EN 61800-3-A11 second environment (limits from	ing to EN 61800-3-A11 second environment (limits
	CISPR11, group 2, class A)	from CISPR11, group 2, class A)
Frequency	50 / 60 Hz ± 4%	50 / 60 Hz ± 4%
Installed load	Max. 1.35 kVA	Max. 2.1 kVA
Starting current	5 A (at 230 VAC)	5 A (at 230 VAC)
Switch-on interval	> 10 sec	> 10 sec
Power loss at max. device power	80 W	110 W
without braking resistor		
24 VDC supply	8V1010.50-2, 8V1010.501-2	8V1016.50-2, 8V1016.501-2
Input voltage 1)	24 VDC +25% / -20%	24 VDC +25% / -20%
Input capacitance	5600 µF	5600 µF
Current consumption 2)	Max. 1.47 A + current for motor holding brake	Max. 1.47 A + current for motor holding brake
2) The current requirements depend on the configuration of the	ACOPOS servo drive.	
DC bus	8V1010.50-2, 8V1010.501-2	8V1016.50-2, 8V1016.501-2
DC bus capacitance	2040 µF	2040 μF
Motor connector	8V1010.50-2, 8V1010.501-2	8V1016.50-2, 8V1016.501-2
Continuous current 1)	2.3 A _{eff}	3.6 A _{eff}
Reduction of continuous current depending on		
ambient temperature ²⁾		
Mains input voltage: 400 VAC		
Switching frequency 20 kHz	No reduction	No reduction
Switching frequency 10 kHz	No reduction	No reduction
Switching frequency 5 kHz	No reduction	No reduction
Mains input voltage: 480 VAC		
Switching frequency 20 kHz	No reduction	No reduction
Switching frequency 10 kHz	No reduction	No reduction
Switching frequency 5 kHz	No reduction	No reduction
Reduction of continuous current		
depending on altitude		

0.23 A_{eff} per 1000 m

Short circuit & overload protection

Unlimited since done electronically

8V1010.50-2, 8V1010.501-2

7.8 A_{eff}

10 kHz

15 m

8V1010

1.3 A

1.9 kW

130 W

1) Valid in the following conditions: Mains input voltage 230 VAC, nominal switching frequency, 40° C ambient temperature,

0.36 A_{eff} per 1000 m

Short circuit & overload protection

Unlimited since done electronically

8V1016.50-2, 8V1016.501-2

8V1016.50-2, 8V1016.501-2

altitudes < 500 m above sea level.2) The nominal switching

 $12 A_{\text{eff}}$

10 kHz

15 m

1.3 A

1.9 kW

130 W

1000	1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	1000	and a series
		Q	S
	Trigger inputs	8V1010.50-2, 8V1010.501-2	8V1016.50-2, 8V1016.501-2
	Number of Inputs	2	2 Cial
	Wiring	SITIK	SINK
		N	Y
	Input ACOPOS	res	No
	Input voltage	NO	NO
	Poted	24.VDC	24.VDC
	Maximum	24 VDC	24 VDC
	Maximum Switching thread and	30 VDC	30 VDC
	Switching threshold	I THE ASSOCIATE	20 ⁰
	LOW	< 5 V	< 5 V
	HIGH	> 15 V	>15 V
	Input current at rated voltage	Approx. 10 mA	Approx. 10 mA
	Switching delay		
	Positive edge	$52 \mu \text{s} \pm 0.5 \mu \text{s}$ (digitally filtered)	$52 \mu \text{s} \pm 0.5 \mu \text{s}$ (digitally filtered)
	Negative edge	$53 \mu \text{s} \pm 0.5 \mu \text{s}$ (digitally filtered)	$53 \mu s \pm 0.5 \mu s$ (digitally filtered)
	Modulation compared to ground potential	Max. ±38 V	Max. ±38 V
	Limit switch and reference inputs	8V1010.50-2, 8V1010.501-2	8V1016.50-2, 8V1016.501-2
	Number of inputs	3	3
	Wiring	Sink	Sink
	Electrical isolation	and the second sec	
	Input - ACOPOS	Yes	Yes
	Input - Input	No	No
	Input voltage		
	Rated	24 VDC	24 VDC
	Maximum	30 VDC	30 VDC
	Switching threshold		
	LOW	< 5 V	< 5 V
	HIGH	> 15 V	>15 V
	Input current at rated voltage	Approx. 4 mA	Approx. 4 mA
	Switching delay	Max. 2.0 ms	Max. 2.0 ms
	Modulation compared to ground potential	Max. ±38 V	Max. ±38 V
	Enable input	8V1010.50-2, 8V1010.501-2	8V1016.50-2, 8V1016.501-2
	Number of inputs	1	<1)
	Wiring	Sink	Sink
	Electrical isolation		
	Input - ACOPOS	Yes	Yes
	Input voltage		
	Rated	24 VDC	24 VDC
	Maximum	30 VDC	30 VDC
	Switching threshold		
	LOW	< 5 V	< 5 V 🖉
	HIGH	>15 V	>15 V
	Input current at rated voltage	Approx. 30 mA	Approx. 30 mA
	Switching delay		
	Enable 1 -> 0, PWM off	Max. 2.0 ms	Max. 2.0 ms
	Enable 0 -> 1, ready for PWM	Max. 100 µs	Max. 100 µs
	Modulation compared to ground potential	Max. ±38 V	Max. ±38 V
		1400 - 1400 - 1400 - 1400 - 1400 - 1400 - 1400 - 1400 - 1400 - 1400 - 1400 - 1400 - 1400 - 1400 - 1400 - 1400 -	. 6 ¹

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Single-phase servo drives 8V1010, 8V1016

ACOPOS

Operational conditions	8V1010.50-2, 8V1010.501-2	and the second sec	8V1016.50-2, 8V1016.501-2	Color and
Ambient temperature during operation	5 to 40°C	200	5 to 40°C	(*
Max. ambient temperature 1)	+55°C		+55°C	
Relative humidity during operation	5 to 85%, non-condensing		5 to 85%, non-condensing	
Installation at altitudes above sea level	0 to 500 m		0 to 500 m	
Maximum installation altitude ²⁾	2000 m		2000 m	
Degree of pollution according to EN 60664-1	2 (non-conductive material)		2 (non-conductive material)	
Overvoltage cat. according to IEC 60364-4-443:1999	II 6		II 200	
EN 60529 protection	IP20		IP20	
1) Continuous operation of ACOPOS servo drives at an ambient t	emperature ranging from 40°C to 55°C is possible	(taking the continuou	s current reductions listed into consider	ation),
 Continuous operation of ACOPUS servo drives at an ambient t but results is a sharter liferance 	emperature ranging from 40°C to 55°C is possible	(taking the continuou	is current reductions listed into consider	ation),

2) Continuous operation of ACOPOS serve drives at altitudes ranging from 500 m to 2000 m above sea level is possible (taking the continuous current reductions listed into consideration). Additional

requirements are to be analiged with burt.			
Storage and transport conditions	8V1010.50-2, 8V1010.501-2	8V1016.50-2, 8V1016.501-2	2
Storage temperature	-25 to +55°C	-25 to +55°C	
Relative humidity during storage	5 to 95%, non-condensing	5 to 95%, non-condensing	
Fransport temperature	-25 to +70°C	-25 to +70°C	
Relative humidity during transport	95% at +40°C	95% at +40°C	
Nechanical characteristics	8V1010.50-2, 8V1010.501-2	8V1016.50-2, 8V1016.501-2	2
Dimensions		*Q,	×0``
Width	58.5 mm	58.5 mm	
Height	257 mm	257 mm	
Depth	220 mm	220 mm	
Veight	2.5 kg	2.5 kg	

8AC110.60-2		ACOPOS plug-in module, CAN interface		₪ 1290	10×
8AC114.60-2		ACOPOS plug-in module, POWERLINK V2 interface		⊞ 1291	1
8AC120.60-1		ACOPOS insert module, EnDat encoder and sine incremental enco	der interface	1292	201
8AC121.60-1		ACOPOS plug-in module, HIPERFACE interface		1294	0
8AC122.60-3		ACOPOS plug-in module, resolver interface		₪ 1296	
8AC123.60-1		ACOPOS plug-in module, incremental encoder and SSI absolute e	ncoder interface	1298	
8AC130.60-1		ACOPOS insert module, 8 digital I/O configurable in pairs as 24V in 400/100 mA output, 2 digital outputs 2A, order TB712 terminal blo	nput or as cks separately.	₿ 1300	
8AC131.60-1		ACOPOS plug-in module, 2 analog inputs $\pm10V$, 2 digital I/O points 45 mA output, order TB712 terminal blocks separately.	which can be configured as a 24V input or as	₿ 1303	
8AC140.60-2		ACOPOS plug-in module, CPU, x86 100 MHz Intel compatible, 16 M tion memory: CompactFlash, 1 CAN interface, 1 Profibus DP slave be configured as 24 VDC input or 500 mA output, 1 analog input ± terminal block separately.	IB DRAM, 32 kB SRAM, removable applica- interface, 1 RS232 interface, 3 digital I/O can 10V, order program memory and 0TB708	₪ 1306	
BAC140.60-3		ACOPOS plug-in module, CPU, x86 100 MHz Intel compatible, 32N memory: CompactFlash, 1 CAN interface, 1 Ethernet interface 100 interface, 3 digital I/O can be configured as 24 VDC input or 500 m memory and 0TB708 terminal block separately.	IB DRAM, 32 kB SRAM, removable application Base-T, 1 Profibus DP slave interface, 1 RS232 A output, 1 analog input \pm 10V, order program	■ 1306	
BAC140.61-3		ACOPOS plug-in module, CPU, ARNC0, x86 100 MHz Intel compati application memory: CompactFlash, 1 CAN interface, 1 Ethernet in face, 1 RS232 interface, 3 digital I/O can be configured as 24 VDC i 1 analog input ±10V, order program memory and 0TB708 terminal	ble, 32 MB DRAM, 32 kB SRAM, removable terface 100 Base-T, 1 Profibus DP slave inter- nput or 500 mA output, block separately.	≣ 1306	
8AC141.60-2		ACOPOS plug-in module, CPU, x86 100 MHz Intel compatible, 16 M memory: CompactFlash, 2 CAN interfaces, 1 Ethernet interface 10 interface, 3 digital I/O can be configured as 24 VDC input or output memory and 0TB704 and 0TB708 terminal blocks separately.	/IB DRAM, 32 kB SRAM, removable application 0 Base-T, 1 RS232 interface, 1 X2X Link Master : 500 mA, 1 analog input ±10V, order program	₪ 1310	
8AC141.61-3		ACOPOS plug-in module, CPU, ARNC0, x86 100 MHz Intel compati application memory: CompactFlash, 2 CAN interfaces, 1 Ethernet in Link Master interface, 3 digital I/O can be configured as 24 VDC inp order program memory and 0TB704 and 0TB708 terminal blocks s	ble, 32 MB DRAM, 32 kB SRAM, removable nterface 100 Base-T, 1 RS232 interface, 1 X2X but or output 500 mA, 1 analog input ±10V, eparately.	■ 1310	
0PS320.1		24 VDC power supply, 3-phase, 20 A, input 400500 VAC (3 phases	s), wide range, DIN rail mounting	₿ 659	
8CM005.12-1		Motor cable, length 5 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , motor p can be used in cable drag claims, UL/CSA certified	lug 8-pin Intercontec socket,	₪ 1314	
8CM007.12-1		Motor cable, length 7 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , motor p can be used in cable drag claims, UL/CSA certified	lug 8-pin Intercontec socket,	⊞ 1314	
8CM010.12-1		Motor cable, length 10 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , motor can be used in cable drag claims, UL/CSA certified	plug 8-pin Intercontec socket,	⊪ 1314	
BCM015.12-1		Motor cable, length 15 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , motor can be used in cable drag claims, UL/CSA certified	plug 8-pin Intercontec socket,	₿ 1314	
	100		and the second se	19 ¹	-

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Manufold

Optional accessories

Marth. 600

Marnight

AND CONTRACTOR

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Servo drives 8V1010, 8V1016



1



- Modular mechanical structure using insert modules
- Integrated power filter
- Integrated braking resistor Integrated electronic restart inhibit •

General information	8V1010.00-2, 8V1010.001-2	8V1016.00-2, 8V1016.001-2
C-UL-US listed	Yes	Yes
Power mains connection	8V1010.00-2, 8V1010.001-2	8V1016.00-2, 8V1016.001-2
Mains input voltage	3x 400 VAC to 480 VAC ±10%, power filter according	3x 400 VAC to 480 VAC \pm 10%, power filter accord-
	to EN 61800-3-A11 second environment (limits	ing to EN 61800-3-A11 second environment (limits
	from CISPR11, group 2, class A)	from CISPR11, group 2, class A)
Frequency	50 / 60 Hz ± 4%	50 / 60 Hz ± 4%
Installed load	Max. 1.35 kVA	Max. 2.1 kVA
Starting current	2 A (at 400 VAC)	2 A (at 400 VAC)
Switch-on interval	> 10 sec	> 10 sec
Power loss at max. device power without	80 W	110 W
Braking resistor		
24 VDC supply	8V1010.00-2, 8V1010.001-2	8V1016.00-2, 8V1016.001-2
Input voltage 1)	24 VDC +25% / -20%	24 VDC +25% / -20%
Input capacitance	5600 µF	5600 µF
Current consumption 2)	Max. 1.47 A + current for motor holding brake	Max. 1.47 A + current for motor holding brake
)When using motor holding brakes, the valid input voltage range	is reduced. The input voltage range should be selected so that the p	roper supply voltage for the
motor holding brake can be maintained.		
) The current requirements depend on the configuration of the A	COPOS servo drive.	
DC bus	8V1010.00-2, 8V1010.001-2	8V1016.00-2, 8V1016.001-2
DC bus capacitance	165 μF	165 μF
Motor connector	8V1010.00-2, 8V1010.001-2	8V1016.00-2, 8V1016.001-2
Continuous current 1)	1 A _{eff}	1.6 A _{eff}
Reduction of continuous current depending on		
the ambient temperature ²⁾		
Mains input voltage: 400 VAC		
Switching frequency 20 kHz	No reduction	No reduction
Switching frequency 10 kHz	No reduction	No reduction
Switching frequency 5 kHz	No reduction	No reduction
Mains input voltage: 480 VAC		
Switching frequency 20 kHz	0.13 A _{eff} per °C (starting at 45° C)	0.13 A _{eff} per °C (starting from 40°C)
Switching frequency 10 kHz	No reduction	No reduction
Switching frequency 5 kHz	No reduction	No reduction
Reduction of continuous current depending on		
Installation altitude greater than 500 m above sea		
level	0.1 A _{eff} per 1000 m	0.16 A _{eff} per 1000 m
Maximum current	2.8 A _{eff}	5 A _{eff}
Rated switching frequency	10 kHz	10 kHz

level Maximum current Rated switching frequency

Maximum motor line length

15 m Protective measures Short circuit and overload protection

1) Valid in the following conditions: Mains input voltage 400 VAC, nominal switching frequency, 40°C ambient temperature,

The nominal switching frequency values for the resp	ective ACOPOS servo drive are marked in bold.		
Notor holding brake connection	8V1010.00-2, 8V1010.001-2	8V1016.00-2, 8V1016.001-2	
Maximum output current	1.3 A	1.3 A	
Max. number of switching cycles	Unlimited since done electronically	Unlimited since done electronically	
Braking resistor	8V1010.00-2, 8V1010.001-2	8V1016.00-2, 8V1016.001-2	
Peak power output	2 kW	2 kW	
Continuous nowor	120 W	130 W/	

altitudes < 500 m above sea level.

Short circuit and overload protection

15 m

installat



1000	2000	10 ⁰⁰	200 200
	Trigger inputs	8V1010.00-2, 8V1010.001-2	801016.00-2, 801016.001-2
	Number of inputs	2 Circle	2 Circle
	Wining Electrical isolation	SINK	SITIK
		Veg	Vez
		No	No
	Input voltage	110	NO
	Pated	24 MDC	24.VDC
	Maximum	24 VDC	24 VDC
	Switching threshold	30 400	30 400
		< 5V	< 5 V
	HIGH	> 15 V	>15 V
		Approx 10 mA	Approx 10 mA
	Input current at rated voltage	Approx. 10 mA	Approx. 10 mA
	Switching delay		
	Positive edge	$52 \ \mu s \pm 0.5 \ \mu s$ (digitally filtered)	$52 \ \mu s \pm 0.5 \ \mu s$ (digitally filtered)
	Negative edge	$p_3 \mu_S \pm 0.5 \mu_S$ (digitally filtered)	$53 \mu s \pm 0.5 \mu s$ (digitally filtered)
	woodulation compared to ground potential	IVIAX. 130 V	IVIAX. 130 V
	Limit switch and reference inputs	av 1010.00-2, 8V 1010.001-2	8V 1010.00-2, 8V 1016.001-2
	Number of Inputs	3	3
	wiring	SINK	SINK
	Electrical isolation		
	Input - ACOPOS	Yes	Yes
	Input - Input	No	No
	Input voltage		
	Rated	24 VDC	24 VDC
	Maximum	30 VDC	30 VDC
	Switching threshold		
	LOW	< 5 V	< 5 V
	HIGH	> 15 V	>15 V
	Input current at rated voltage	Approx. 4 mA	Approx. 4 mA
	Switching delay	Max. 2.0 ms	Max. 2.0 ms
	Modulation compared to ground potential	Max. ±38 V	Max. ±38 V
	Enable input	8V1010.00-2, 8V1010.001-2	8V1016.00-2, 8V1016.001-2
	Number of inputs	1	S10 S2
	Wiring	Sink	Sink
	Electrical isolation		
	Input - ACOPOS	Yes	Yes
	Input voltage		
	Rated	24 VDC	24 VDC
	Maximum	30 VDC	30 VDC
	Switching threshold		
	LOW	< 5 V	< 5 V
	HIGH	>15 V	>15 V
	Input current at rated voltage	Approx. 30 mA	Approx. 30 mA
	Switching delay		
	Enable 1 -> 0, PWM off	Max. 2.0 ms	Max. 2.0 ms
	Enable 0 -> 1, ready for PWM	Max. 100 µs	Max. 100 μs
	Modulation compared to ground potential	Max. ±38 V	Max. ±38 V
Ser.	State -		e state
24	19	1) I	27

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Servo drives 8V1010, 8V1016

ACOPOS

Operational conditions	8V1010.00-2, 8V1010.001-2	8V1016.0	00-2, 8V1016.001-2
Ambient temperature during operation	5 to 40°C	5 to 40°C	:
Max. ambient temperature 1)	+55°C	+55°C	
Relative humidity during operation	5 to 85%, non-condensing	5 to 85%	, non-condensing
Installation at altitudes above sea level	0 to 500 m	0 to 500	m
Maximum installation altitude 2)	2000 m	2000 m	
Degree of pollution according to EN 60664-1	2 (non-conductive material)	2 (non-co	onductive material)
Overvoltage cat. according to IEC 60364-4-443:1999	II 610	II 🔗	
EN 60529 protection	IP20	IP20	
1) Continuous operation of ACOPOS servo drives at an ambient ter	mperature ranging from 40°C to 55°C is possible	(taking the continuous current redu	uctions listed into consideration),
but results in a shorter lifespan.			

2) Continuous operation of ACOPOS servo drives at altitudes ranging from 500 m to 2000 m above sea level is possible (taking the continuous current reductions listed into consideration). Additional requirements are to be arranged with B&R.

Storage and transport conditions	8V1010.00-2, 8V1010.001-2	8V1016.00-2, 8V1016.001-2
Storage temperature	-25 to +55°C	-25 to +55°C
Relative humidity during storage	5 to 95%, non-condensing	5 to 95%, non-condensing
Transport temperature	-25 to +70°C	-25 to +70°C
Relative humidity during transport	95% at +40°C	95% at +40°C
Mechanical characteristics	8V1010.00-2, 8V1010.001-2	8V1016.00-2, 8V1016.001-2
Dimensions		
Width	58.5 mm	58.5 mm
Height	257 mm	257 mm
Depth	220 mm	220 mm
Weight	2.5 kg	2.5 kg

8AC110.60-2		ACOPOS plug-in module, CAN interface	1290	and a
8AC114.60-2		ACOPOS plug-in module, POWERLINK V2 interface	⊞ 1291	1
8AC120.60-1		ACOPOS insert module, EnDat encoder and sine incremental encoder interface	⊞ 1292	10 C
8AC121.60-1		ACOPOS plug-in module, HIPERFACE interface	₪ 1294	
8AC122.60-3		ACOPOS plug-in module, resolver interface	1296	
8AC123.60-1		ACOPOS plug-in module, incremental encoder and SSI absolute encoder interface	₪ 1298	
8AC130.60-1		ACOPOS insert module, 8 digital I/O configurable in pairs as 24V input or as	₿ 1300	
		400/100 mA output, 2 digital outputs 2A, order TB712 terminal blocks separately	25	
8AC131.60-1		ACOPOS plug-in module, 2 analog inputs \pm 10V, 2 digital I/O points which can be configured as a 24V input or as	⊞ 1303	
		45 mA output, order TB712 terminal blocks separately		
8AC140.60-2		ACOPOS plug-in module, CPU, x86 100 MHz Intel compatible, 16 MB DRAM, 32 kB SRAM, removable application	⊞ 1306	
		memory: CompactFlash, 1 CAN interface, 1 Profibus-DP slave interface, 1 RS232 interface,		
		3 digital I/O can be configured as 24 VDC input or 500 mA output, 1 analog input \pm 10V, order program memory		
		and 0TB708 terminal block separately		
8AC140.60-3		ACOPOS plug-in module, CPU, x86 100 MHz Intel compatible, 32MB DRAM, 32 kB SRAM, removable application	■ 1306	
		memory: CompactFlash, 1 CAN interface, 1 Ethernet interface 100 Base-T, 1 Profibus DP slave interface, 1 RS232		
		interface, 3 digital I/O can be configured as 24 VDC input or 500 mA output, 1 analog input ±10V, order program		
		memory and 0TB708 terminal block separately.		
8AC140.61-3		ACOPOS plug-in module, CPU, ARNC0, x86 100 MHz Intel compatible, 32 MB DRAM, 32 kB SRAM, removable	1306	
		application memory: CompactFlash, 1 CAN interface, 1 Ethernet interface 100 Base-T, 1 Profibus DP slave inter-		
		face, 1 RS232 interface, 3 digital I/O can be configured as 24 VDC input or 500 mA output,		
		1 analog input $\pm 10V$, order program memory and 0TB708 terminal block separately		
8AC141.60-2		ACOPOS plug-in module, CPU, x86 100 MHz Intel compatible, 16 MB DRAM, 32 kB SRAM, removable application	₪ 1310	
		memory: CompactFlash, 2 CAN interfaces, 1 Ethernet interface 100 Base-T, 1 RS232 interface,		
		1 X2X Link master interface, 3 digital I/O points can be configured as a 24 VDC input or 500 mA output,		
		1 analog input \pm 10V, order program memory and 0TB704 and 0TB708 terminal blocks separately	4	
8AC141.61-3		ACOPOS plug-in module, CPU, ARNC0, x86 100 MHz Intel compatible, 32 MB DRAM, 32 kB SRAM, removable	₪ 1310	
		application memory: CompactFlash, 2 CAN interfaces, 1 Ethernet interface 100 Base-T, 1 RS232 interface, 1 X2X		
		Link Master interface, 3 digital I/O can be configured as 24 VDC input or output 500 mA, 1 analog input ±10V,		
		order program memory and 0TB704 and 0TB708 terminal blocks separately.		
0PS320.1		24 VDC power supply, 3-phase, 20 A, input 400500 VAC (3 phases), wide range, DIN rail mounting	⊞ 659	
8CM005.12-1		Motor cable, length 5 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , motor plug 8-pin Intercontec socket,	₿ 1314	
		can be used in cable drag claims, UL/CSA certified		
8CM007.12-1		Motor cable, length 7 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , motor plug 8-pin Intercontec socket,	₿ 1314	
		can be used in cable drag claims, UL/CSA certified		
8CM010.12-1		Motor cable, length 10 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , motor plug 8-pin Intercontec socket,	⊞ 1314	
		can be used in cable drag claims, UL/CSA certified		
8CM015.12-1		Motor cable, length 15 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , motor plug 8-pin Intercontec socket,	₿ 1314	
		can be used in cable drag claims, UL/CSA certified	and the second s	
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Optional accessories

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Servo drives 8V1022, 8V1045, 8V1090





• Modular mechanical structure using insert modules

8V1090.0xx-2

- Integrated power filter
- Integrated braking resistor
- All connections made using plug-in connectors Integrated electronic restart inhibit

General information	8V1022.00-2, 8V1022.001-2	8V1045.00-2, 8V1045.001-2	8V1090.00-2, 8V1090.001-2
C-UL-US listed	Yes	Yes	Yes
Power mains connection	8V1022.00-2, 8V1022.001-2	8V1045.00-2, 8V1045.001-2	8V1090.00-2, 8V1090.001-2
Mains input voltage	3x 400 VAC to 480 VAC \pm 10%	3x 400 VAC to 480 VAC ± 10%	3x 400 VAC to 480 VAC ± 10%
	power filter according to EN 61800-	power filter according to EN 61800-	power filter according to EN 61800-
	3-A11 second environment (limits	3-A11 second environment (limits	3-A11 second environment (limits
	from CISPR11, group 2, class A)	from CISPR11, group 2, class A)	from CISPR11, group 2, class A)
Frequency	50 / 60 Hz ± 4%	50 / 60 Hz ± 4%	50 / 60 Hz ± 4%
Installed load	Max. 3 kVA	Max. 5 kVA	Max. 10 kVA
Starting current at 400 VAC	4 A	7 A	7 A
Switch-on interval	> 10 sec	> 10 sec	> 10 sec
Power loss at max. device power without braking	Approx. 120 W	Approx. 180 W	Approx. 200 W
resistor			
24 VDC supply	8V1022.00-2, 8V1022.001-2	8V1045.00-2, 8V1045.001-2	8V1090.00-2, 8V1090.001-2
Input voltage 1)	24 VDC +25% / -25%	24 VDC +25% / -25%	24 VDC +25% / -25%
Input capacitance	8200 µF	8200 μF	8200 μF
Current consumption 2)	Max. 2.5 A + current for motor	Max. 2.5 A + current for motor	Max. 2.5 A + current for motor
	holding brake	holding brake	holding brake

1) When using motor holding brakes, the valid input voltage range is reduced. The input voltage range should be selected so that the proper supply voltage for the

motor holding brake can be maintained.

DC bus	8V1022.00-2, 8V1022.001-2	8V1045.00-2. 8V1045.001-2	8V1090.00-2. 8V1090.001-2
DC bus capacitance	235 μF	235 µF	470 μF
Motor connector	8V1022.00-2, 8V1022.001-2	8V1045.00-2, 8V1045.001-2	8V1090.00-2, 8V1090.001-2
Continuous current 1)	2.2 A _{eff}	4.4 A _{eff}	8.8 A _{eff}
leduction of continuous current depending on			
ne ambient temperature ²⁾			
Mains input voltage: 400 VAC			
Switching frequency 20 kHz	No reduction	0.13 A _{eff} per °C (from 45°C)	0.18 A _{eff} per °C (from 30°C)
Switching frequency 10 kHz	No reduction	No reduction	0.18 A _{eff} per °C (from 54°C)
Switching frequency 5 kHz	No reduction	No reduction	No reduction
Mains input voltage: 480 VAC			
Switching frequency 20 kHz	0.13 A _{eff} per °C (from 51°C)	0.13 A _{eff} per °C (from 35°C)	0.18 A _{eff} per °C (from 18°C)
Switching frequency 10 kHz	No reduction	No reduction	0.18 A _{eff} per °C (from 48°C)
Switching frequency 5 kHz	No reduction	No reduction	No reduction
eduction of continuous current depending on			
ltitude			
Starting at 500 m above sea level	0.22 A _{eff} per 1000 m	0.44 A _{eff} per 1000 m	0.88 A _{eff} per 1000 m
laximum current	14 A _{eff}	24 A _{eff}	24 A _{eff}
ated switching frequency	20 kHz	20 kHz	10 kHz
laximum motor line length	25 m	25 m	25 m
rotective measures	Short circuit & overload protection	Short circuit & overload protection	Short circuit & overload protection

values for the respective ACOPOS servo drive are marked in bold.

				_
Motor holding brake connection	8V1022.00-2, 8V1022.001-2	8V1045.00-2, 8V1045.001-2	8V1090.00-2, 8V1090.001-2	
Maximum output current	1 A	1 A	1 A	
Max. number of switching cycles	Approx. 240,000	Approx. 240,000	Approx. 240,000	
Braking resistor	8V1022.00-2, 8V1022.001-2	8V1045.00-2, 8V1045.001-2	8V1090.00-2, 8V1090.001-2	
Peak power output	3.5 kW	7 kW	7 kW	
Continuous power	130 W	200 W	200 W	

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	Trigger inputs	8V1022.00-2, 8V1022.001-2	8V1045.00-2, 8V1045.001-2	8V1090.00-2, 8V1090.001-2
	Number of inputs	2	2	2
	wiring	Sink	Sink	Sink
	Electrical isolation			
	Input - ACOPOS	Yes	Yes	Yes
	Input - Input	No	No	No
	Input voltage			
	Hated	24 VDC	24 VDC	24 VDC
	Maximum	30 VDC	30 VDC	30 VDC
	Switching threshold	1000		
	LOW	< 5 V	< 5 V	< 5 V
	HIGH	>15 V	>15 V	>15 V
	Input current at rated voltage	Approx. 10 mA	Approx. 10 mA	Approx. 10 mA
	Switching delay			
	Positive edge	52 μ s ± 0.5 μ s (digitally filtered)	52 μ s ± 0.5 μ s (digitally filtered)	52 μ s ± 0.5 μ s (digitally filtered)
	Negative edge	53 μ s ± 0.5 μ s (digitally filtered)	53 μ s ± 0.5 μ s (digitally filtered)	53 μ s ± 0.5 μ s (digitally filtered)
	Modulation compared to ground potential	Max. ±38 V	Max. ±38 V	Max. ±38 V
	Limit switch and reference inputs	8V1022.00-2, 8V1022.001-2	8V1045.00-2, 8V1045.001-2	8V1090.00-2, 8V1090.001-2
	Number of inputs	3	3	3
	Wiring	Sink	Sink	Sink
	Electrical isolation			
	Input - ACOPOS	Yes	Yes	Yes
	Input - Input	No	No	No
	Input voltage			
	Rated	24 VDC	24 VDC	24 VDC
	Maximum	30 VDC	30 VDC	30 VDC
	Switching threshold			
	LOW	< 5 V	< 5 V	< 5 V
	HIGH	>15 V	>15 V	>15 V
	Input current at rated voltage	Approx. 4 mA	Approx. 4 mA	Approx. 4 mA
	Switching delay	Max. 2.0 ms	Max. 2.0 ms	Max. 2.0 ms
	Modulation compared to ground potential	Max. ±38 V	Max. ±38 V	Max. ±38 V
	Enable input	8V1022.00-2, 8V1022.001-2	8V1045.00-2, 8V1045.001-2	8V1090.00-2, 8V1090.001-2
	Number of inputs	1	1	1
	Wiring	Sink	Sink	Sink
	Electrical isolation			
	Input - ACOPOS	Yes	Yes	Yes
	Input voltage			
	Rated	24 VDC	24 VDC	24 VDC
	Maximum	30 VDC	30 VDC	30 VDC
	Switching threshold			
	LOW	< 5 V	< 5 V	< 5 V
	HIGH	>15 V	>15 V	>15 V
	Input current at rated voltage	Approx. 30 mA	Approx. 30 mA	Approx. 30 mA
	Switching delay			
	Enable 1 -> 0, PWM off	Max. 2.0 ms	Max. 2.0 ms	Max. 2.0 ms
	Enable 0 -> 1, ready for PWM	Max. 100 μs	Max. 100 μs	Max. 100 μs
	Modulation compared to ground potential	Max. ±38 V	Max. ±38 V	Max. ±38 V
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Servo drives 8V1022, 8V1045, 8V1090

Operational conditions	8V1022.00-2, 8V1022.001-2	8V1045.00-2, 8V1045.001-2	8V1090.00-2, 8V1090.001-2
Ambient temperature during operation	5 to 40°C	5 to 40°C	5 to 40°C
Max. ambient temperature 1)	+55°C	+55°C	+55°C
Relative humidity during operation	5 to 85%, non-condensing	5 to 85%, non-condensing	5 to 85%, non-condensing
Installation at altitudes above sea level	0 to 500 m	0 to 500 m	0 to 500 m
Maximum installation altitude 2)	2000 m	2000 m	2000 m
Degree of pollution according to EN 60664-1	2 (non-conductive material)	2 (non-conductive material)	2 (non-conductive material)
Overvoltage cat. according to IEC 60364-4-443:1999		II 6	
EN 60529 protection	IP20	IP20	IP20
1) Continuous operation of ACOPOS servo drives at an ambient to	emperature ranging from 40°C to 55°C is possi	ble (taking the continuous current reduction	s listed into consideration),

Continuous operation of ACOPOS servo drives at altitudes ranging from 500 m to 2000 m above sea level is possible (taking the continuous current reductions listed into consideration)

Additional requirements are to be arranged with B&R.

Auditional requirements are to be analiged with ban.			
Storage and transport conditions	8V1022.00-2, 8V1022.001-2	8V1045.00-2, 8V1045.001-2	8V1090.00-2, 8V1090.001-2
Storage temperature	-25 to +55°C	-25 to +55°C	-25 to +55°C
Relative humidity during storage	5 to 95%, non-condensing	5 to 95%, non-condensing	5 to 95%, non-condensing
Transport temperature	-25 to +70°C	-25 to +70°C	-25 to +70°C
Relative humidity during transport	95% at +40°C	95% at +40°C	95% at +40°C
Mechanical characteristics	8V1022.00-2, 8V1022.001-2	8V1045.00-2, 8V1045.001-2	8V1090.00-2, 8V1090.001-2
Dimensions			
Width	70.5 mm	70.5 mm	70.5 mm
Height	375 mm	375 mm	375 mm
Depth	235.5 mm	235.5 mm	235.5 mm
Weight	4.0 kg	4.1 kg	4.4 kg



8AC1440-2 AOPORS plug-in module, POWERLINK V2 interface 1291 8AC1240-01 AOPORS plug-in module, resolver interface 1292 8AC12140-1 ACOPORS plug-in module, resolver interface 1294 8AC1240-01 ACOPORS plug-in module, resolver interface 1296 8AC1240-01 ACOPORS plug-in module, resolver interface 1296 8AC1240-01 ACOPORS plug-in module, resolver interface 1296 8AC1240-01 ACOPORS plug-in module, resolver interface 1298 8AC140-00-1 ACOPORS plug-in module, resolver interface 1298 8AC140-00-2 ACOPORS plug-in module, resolver interface 1298 8AC140-00-2 ACOPORS plug-in module, PCU, 386 100 MHz intel compatible, 15M BD PAM, 324 BS RAM, removable application 1306 8AC140-00-3 memory: CompactFlash, 1 CAN interface, 1 F102 CD relator 500 mA output, 1 analog input ± 10V, order program memory and 0TB708 1306 eterninal block separately. 8AC140.00-1 ACOPORS plug-in module, CDU, 386 100 MHz intel compatible, 32MB DRAM, 324 BS RAM, removable application 1306 8AC140.01-3 ACOPORS plug-in module, CDU, 1486 100 MHz intel compatible, 32MB DRAM, 324 BS RAM, removable application 1306 8AC140.02-3 ACOPORS plug-in module, CDU, 1486 100 MHz intel compatible, 2 MB DRAM,	8AC110.60-2		ACOPOS plug-in module, CAN interface		1290	
BAC120.01-1 ACOPOS plug-in module, PERFAGC Interface 1294 BAC121.60-1 ACOPOS plug-in module, PERFAGC Interface 1296 BAC123.60-1 ACOPOS plug-in module, field III Configuration parts as 24 liput or as 400100 mA output, 2 digital liput in parts as 24 liput or as 400100 mA output, 2 digital liput in parts as 24 liput or as 400100 mA output, 2 digital liput in parts as 24 liput or as 400100 mA output, 2 digital liput in the compatible in parts as 24 liput or as 400100 mA output, 2 digital liput in the compatible in parts as 24 liput or as 400100 mA output, 2 digital liput in the compatible in parts as 24 liput or as 400100 mA output, 2 digital liput in the compatible in parts as 24 liput or as 400100 mA output, 2 digital liput in the compatible in parts as 24 liput or as 400100 mA output, 2 digital liput in the compatible in parts as 24 liput or as 400100 mA output, 1 and 0 liput i 100, order program memory and 018708 terminal block separately. 1306 BAC140.60-3 ACOPOS plug-in module, CPU, X88 100 MHz Intel compatible, 32MB DRAM, 32 kB SRAM, removable application memory: CompacFilash, 1 CAN interface, 1 Ensent interface 100 Base-7, 1 Profibus Del save interface, 1 B322 interface, 1 3 digital I/O can be configured as 24 VDC input or 500 mA output, 1 analog input ± 10V, order program memory and 018708 terminal block separately. 1306 BAC140.61-3 ACOPOS plug-in module, CPU, ARBC0, x86 100 MHz Intel compatible, 32 MB DRAM, 32 kB SRAM, removable application memory: CompacFilash, 1 CAN interface, 1 Enterent interface 100 Base-7, 1 Profibus DP slave interface, 1 B322 interface, 1 232, 1 interface, 1 B130 BAC141.61-3 ACOPOS pl	8AC114.60-2		ACOPOS plug-in module, POWERLINK V2 interface		1291	
BAC121.0-1 ACOPOS plug-in module, HIPERFACE Interface ■ 1284 BAC122.0-3 ACOPOS plug-in module, retremental encoder and SSI absolute encoder interface ■ 1286 BAC133.0-1 ACOPOS plug-in module, actingua encoder and SSI absolute secoder interface ■ 1286 BAC133.0-1 ACOPOS plug-in module, actingua encoder interface ■ 1286 BAC13.0-1 ACOPOS plug-in module, actingua encoder interface ■ 1303 BAC13.0-1 ACOPOS plug-in module, 22 and plug plug = 10V, 2 digital UO points which can be configured as 24V input or s ■ 1306 BAC140.0-2 ACOPOS plug-in module, PLU, x88 100 MHz Intel compatible, 15 MB DRAM, 32 kB SRAM, removable application ■ 1306 BAC140.0-3 ACOPOS plug-in module, PLU, x88 100 MHz Intel compatible, 32MB DRAM, 32 kB SRAM, removable application ■ 1306 BAC140.0-3 ACOPOS plug-in module, CPU, x88 100 MHz Intel compatible, 32MB DRAM, 32 kB SRAM, removable application ■ 1306 BAC140.0-3 ACOPOS plug-in module, CPU, x86 100 MHz Intel compatible, 32MB DRAM, 32 kB SRAM, removable application ■ 1306 BAC140.0-3 ACOPOS plug-in module, CPU, x86 100 MHz Intel compatible, 32 MB DRAM, 32 kB SRAM, removable application ■ 1306 BAC140.0-3 ACOPOS plug-in module, CPU, x86 100 MHz Intel compatible, 32 MB DRAM, 32 kB SRAM, removable application memory compatible, 100 worder program memory and 017870 MB OTTO	8AC120.60-1		ACOPOS insert module, EnDat encoder and sine increment	tal encoder interface	1292	
BAC122.60-3 ACOPOS plug-in module, resolver interface B 1296 BAC123.60-1 ACOPOS plug-in module, 8 digital 1/0 configurable in pairs as 24V input or as B 1300 BAC130.60-1 ACOPOS plug-in module, 20 digital outputs 24, order TB712 terminal blocks separately B 1300 BAC140.60-2 ACOPOS plug-in module, 702, 20 digital 1/0 conts which can be configured as a 24V input or as B 1300 BAC140.60-2 ACOPOS plug-in module, 702, 20 digital 1/0 conts which can be configured as a 24V input or as B 1306 BAC140.60-2 ACOPOS plug-in module, 702, 20 digital 1/0 conts which can be configured as a 24V input or as B 1306 BAC140.60-3 ACOPOS plug-in module, 702, 20 digital 1/0 conts be separately B 1306 BAC140.60-3 ACOPOS plug-in module, 702, 20 digital 1/0 conts be separately. B 1306 BAC140.60-3 ACOPOS plug-in module, 702, 20 digital 1/0 conts be separately. B 1306 BAC140.60-3 ACOPOS plug-in module, 702, 20 digital 1/0 conts be configured as 24 VDC input or 500 mA output, 1 analog input 1/0, order program memory and 01B708 terminal block separately. B 1306 BAC140.61-3 ACOPOS plug-in module, CPL, ABNO, X80 100 MHz interface. 1 Bitemet interface 100 Baser, 1 Profitus DF sixee interface. B 1310 BAC141.61-2 ACOPOS plug-in module, CPL, ABNO, X80 100 MHz interface 100 Baser, 1 Profitus DF sixee interface.	8AC121.60-1		ACOPOS plug-in module, HIPERFACE interface		1294	
BAC123.06-1 ACCPPOS plug-in module, incremental encoder and SSI absolute encoder interface III 128 BAC130.60-1 ACCPPOS insert module, 3 edital I/O Configuration parts as 24V input or as III300 BAC130.60-1 ACCPPOS plug-in module, 2 analog inputs = 10V, 2 digital I/O points which can be configured as 24V input or as III303 BAC140.60-2 ACCPPOS plug-in module, CPU, x86 100 MHz intel compatible, 16 MB DRAM, 32 kB SRAM, removable application torin memory: CompactFlash, 1 CAN interface, 1 Porfbus D Psixe interface, 182322 interface, 2 digital I/O and be configured as 24 VDC input or 500 mA output, 1 analog input ± 10V, order program memory and 0TB708 terminal block separately. III 306 BAC140.60-3 ACCPOS plug-in module, CPU, x86 100 MHz intel compatible, 32 MB DRAM, 32 kB SRAM, removable application memory: CompactFlash, 1 CAN interface, 1 Ethernet interface 100 Base-7, 1 Profbus D P sixe interface, 1 R5232 interface, 3 digital I/O can be configured as 24 VDC input or 500 mA output, 1 analog input ± 10V, order program memory and 0TB708 terminal block separately. III 306 BAC140.61-3 ACOPOS plug-in module, CPU, X81 100 MHz intel compatible, 32 MB DRAM, 32 kB SRAM, removable application memory: CompactFlash, 1 CAN interface, 1 Ethernet interface 100 Base-7, 1 Profbus D P sixe interface, 1 B 3100 BAC140.61-3 ACOPOS plug-in module, CPU, X81 100 MHz intel compatible, 32 MB DRAM, 32 kB SRAM, removable application memory: and 0TB708 terminal block separately. III 310 BAC140.61-3 ACOPOS plug-in module, CPU, X81 100 MHz intel compatible, 32 MB DRAM, 32 kB SRA	8AC122.60-3		ACOPOS plug-in module, resolver interface		1296	- A.
8AC130.80-1 ACOPOS inset module, 8 digital I/O configurable in pairs as 24V input or as Image: 100 8AC131.80-1 ACOPOS plug-in module, 2 digital iuputs 2A, order TB712 terminal blocks separately Image: 100 8AC140.80-2 ACOPOS plug-in module, CPU, x86 100 MHz intel compatible, 16 MB DRAM, 32 kB SRAM, removable application Image: 100 8AC140.80-2 ACOPOS plug-in module, CPU, x86 100 MHz intel compatible, 10 MB DRAM, 32 kB SRAM, removable application Image: 100 8AC140.80-3 ACOPOS plug-in module, CPU, x86 100 MHz intel compatible, 32 MB DRAM, 32 kB SRAM, removable application Image: 100 8AC140.80-3 ACOPOS plug-in module, CPU, x86 100 MHz intel compatible, 32 MB DRAM, 32 kB SRAM, removable application Image: 100 8AC140.80-3 ACOPOS plug-in module, CPU, x86 100 MHz intel compatible, 32 MB DRAM, 32 kB SRAM, removable application Image: 100 8AC140.80-3 ACOPOS plug-in module, CPU, x80 100 MHz intel compatible, 32 MB DRAM, 32 kB SRAM, removable application Image: 100 8AC140.81-3 ACOPOS plug-in module, CPU, x80 100 MHz intel compatible, 32 MB DRAM, 32 kB SRAM, removable application Image: 100 8AC141.80-2 ACOPOS plug-in module, CPU, x80 100 MHz intel compatible, 32 MB DRAM, 32 kB SRAM, removable application Image: 100 8AC141.80-3 application memory and OTB708 terminal block separately. Image: 100 Image: 100	8AC123.60-1		ACOPOS plug-in module, incremental encoder and SSI abs	solute encoder interface	1298	
400100 mA output, 2 digital outputs 2A, order T8712 terminal blocks separately 1303 8AC131.60-1 ACOPOS plug-in module, CPU, asso 100 MHz Intel compatible, 16 MB DRAM, 32 kB SRAM, removable application memory. CompactFlash, 1 CAN Interface, 1 Profibus DP lave interface, 1 R5222 interface, 3 digital OC on the configured as 24 VDC (put or 500 mA output, 1 analog input ± 10V, order program memory and 0TB708 terminal block separately. 1306 8AC140.60-3 ACOPOS plug-in module, CPU, x88 100 MHz Intel compatible, 32MB DRAM, 32 kB SRAM, removable application 1306 8AC140.60-3 ACOPOS plug-in module, CPU, x88 100 MHz Intel compatible, 32MB DRAM, 32 kB SRAM, removable application 1306 8AC140.60-3 ACOPOS plug-in module, CPU, x88 100 MHz Intel compatible, 32MB DRAM, 32 kB SRAM, removable application 1306 8AC140.61-3 ACOPOS plug-in module, CPU, ANSO, dB 100 MHz Intel compatible, 32MB DRAM, 32 kB SRAM, removable application 1306 8AC141.60-2 ACOPOS plug-in module, CPU, ANSO, dB 100 MHz Intel compatible, 32 MB DRAM, 32 kB SRAM, removable application 1306 8AC141.60-2 ACOPOS plug-in module, CPU, ANSO, dB 100 MHz Intel compatible, 32 MB DRAM, 32 kB SRAM, removable application 1310 8AC141.60-2 ACOPOS plug-in module, CPU, ANSO, dB 100 MHz Intel compatible, 32 MB DRAM, 32 kB SRAM, removable application 1310 8AC141.60-2 ACOPOS plug-in module, CPU, ANSO, dB 100 MHz Intel compatible, 32 MB DRAM, 32 kB SRAM, removable application 1	8AC130.60-1		ACOPOS insert module, 8 digital I/O configurable in pairs a	s 24V input or as	1300	10°
BAC131.60-1 ACOPOS plug-in module, 2 analog inputs = 10%.2 gittal I/O points which can be configured as a 24V input or as a 1303 1303 BAC140.60-2 ACOPOS plug-in module, CPU, X86 100 MHz Intel compatible, 16 MB DRAM, 32 kB SRAM, removable application memory: CompactFlash, 1 CAN interface, 1 FoS22 interface, 3 digital I/O can be configured as 24 VDC input or 500 mA output, 1 analog input = 10%, order program memory and 0TB708 terminal block separately. 1306 BAC140.60-3 ACOPOS plug-in module, CPU, X86 100 MHz Intel compatible, 32MB DRAM, 32 kB SRAM, removable application module, CPU, ANN interface, 1 Ethernet interface 100 Base-T, 1 Profibus DP slave interface, 1 FS232 timterface, 3 digital I/O can be configured as 24 VDC input or 500 mA output, 1 analog input = 10V, order program memory and 0TB708 terminal block separately. 1306 BAC140.60-3 ACOPOS plug-in module, CPU, ANNO, x88 100 MHz Intel compatible, 32 MB DRAM, 32 kB SRAM, removable application memory and 0TB708 terminal block separately. 1306 BAC140.60-3 ACOPOS plug-in module, CPU, ANNO, x88 100 MHz Intel compatible, 32 MB DRAM, 32 kB SRAM, removable application memory: CompactFlash, 1CAN interface, 1 Ethernet interface 100 Base-T, 1 Profibus DP slave inter-face, 1 R523 interface, 1 Signal I/O can be configured as 24 VDC input or 500 mA output, 1 analog input ± 10V, order program memory and 0TB708 terminal block separately. 1310 1310 1310 1310 1310 1310 1314 1314 1314 1314			400/100 mA output, 2 digital outputs 2A, order TB712 term	inal blocks separately		
BAC140.60-2 ACOPOS plug-in module, CPU, X88 100 MHz Intel compatible, 15 MB DRAM, 32 k8 SRAM, removable application B 1306 BAC140.60-3 ACOPOS plug-in module, CPU, X88 100 MHz Intel compatible, 32MB DRAM, 32 k8 SRAM, removable application B 1306 BAC140.60-3 ACOPOS plug-in module, CPU, X88 100 MHz Intel compatible, 32MB DRAM, 32 k8 SRAM, removable application B 1306 BAC140.60-3 ACOPOS plug-in module, CPU, X88 100 MHz Intel compatible, 32MB DRAM, 32 k8 SRAM, removable application B 1306 BAC140.61-3 ACOPOS plug-in module, CPU, X88 100 MHz Intel compatible, 32 MB DRAM, 32 k8 SRAM, removable application memory: CompactRish, 1 CAN interface, 1 RAVIN, and CMB, CPU, ARNCO, X88 100 MHz Intel compatible, 32 MB DRAM, 32 k8 SRAM, removable application B 1306 BAC140.61-3 ACOPOS plug-in module, CPU, ARNO, X88 100 MHz Intel compatible, 32 MB DRAM, 32 k8 SRAM, removable application memory: compactRish, 1 CAN interface, 1 RAVIN, interface, 1 RAVIN, and the relation remover remover and 0113708 terminal block separately B 1310 BAC141.60-2 ACOPOS plug-in module, CPU, ARNO, X86 100 MHz Intel compatible, 32 MB DRAM, 32 k8 SRAM, removable application memory: compactRish, 2 CAN Interface, 1 RAVIN, and 2 VIC input or stop mAN, 32 k8 SRAM, removable application memory: and 0113708 terminal blocks separately. B 1310 BAC141.61-3 ACOPOS plug-in module, CPU, ARNO, X86 100 MHz Intel compatible, 32 MB DRAM, 32 k8 SRAM, removable application memory: compactRish, 2 CAN Interface, 1 RAVIN Interface, 1 RAVIN Interface, 1 RAVIN INTERCE, 1 RAVIN INTERCE, 1 RAVIN IN	8AC131.60-1		ACOPOS plug-in module, 2 analog inputs \pm 10V, 2 digital I/O 45 mA output, order TB712 terminal blocks separately	D points which can be configured as a 24V input or as	⊞ 1303	
8AC140.60-3 ACOPOS plug-in module, CPU, x86 100 MHz Intel compatible, 32MB DRAM, 32 KB SRAM, removable application ■ 1306 memory: CompactFlash, 1 CAN interface, 1 Ethernet interface 100 Base-T, 1 Profibus DP slave interface, 1 R5232 interface, 3 digital I/O can be configured as 24 VDC input or 500 mA output, 1 analog input ± 10V, order program memory and OTB708 terminal block separately. ■ 1306 8AC140.61-3 ACOPOS plug-in module, CPU, ARNCO, x86 100 MHz Intel compatible, 32 MB DRAM, 32 kB SRAM, removable application memory: CompactFlash, 1 CAN interface, 1 Ethernet interface 100 Base-T, 1 Profibus DP slave interface, 1 analog input ± 10V, order program memory and 0TB708 terminal block separately ■ 1306 8AC141.60-2 ACOPOS plug-in module, CPU, X86 100 MHz Intel compatible, 150 MB DRAM, 32 kB SRAM, removable application application memory: CompactFlash, 2 CAN interface, 1 target application application memory: and 0TB708 terminal block separately. ■ 1310 8AC141.61-2 ACOPOS plug-in module, CPU, ANNCO, x86 100 MHz Intel compatible, 52 MB DRAM, 32 kB SRAM, removable application memory: and 0TB704 and 0TB708 terminal block separately. ■ 1310 8AC141.61-3 ACOPOS plug-in module, CPU, ANNCO, x86 100 MHz Intel compatible, 52 MB DRAM, 32 kB SRAM, removable application memory: and 0TB704 and 0TB708 terminal block separately. ■ 1310 0F320.1 24 VDC power supply, 3-phase, 20 A, input 400.500 VAC (3 phases), wide range, 51, T SS32 interface, 1 X2X Link Master interface, 3 digital I/O can be configured as 24 VDC input or output 500 mA, 1 analog input ± 10V, order program memory and 0TB704 and 0TB708 terminal blocks separat	8AC140.60-2		ACOPOS plug-in module, CPU, x86 100 MHz Intel compatiti tion memory: CompactFlash, 1 CAN interface, 1 Profibus D be configured as 24 VDC input or 500 mA output, 1 analog terminal block separately.	ble, 16 MB DRAM, 32 kB SRAM, removable applica- P slave interface, 1 RS232 interface, 3 digital I/O can input ±10V, order program memory and 0TB708	1306 ₪	
8AC140.61-3 ACOPOS plug-in module, CPU, ARNCO, X86 100 MHz Intel compatible, 32 MB DRAM, 32 KB SRAM, removable application memory: CompactFlash, 1 CAN interface, 1 tehremet interface 100 Base-T, 1 Profibus DP slave interface, 1 RS232 interface, 3 digital (V) Can be configured as 24 VOC input or 500 mA output, 1 analog input ± 10V, order program memory and 0TB708 terminal block separately 8AC141.60-2 ACOPOS plug-in module, CPU, X86 100 MHz Intel compatible, 31 MB DRAM, 32 KB SRAM, removable application memory: compactFlash, 2 CAN interface, 1 Ethernet interface 100 Base-T, 1 RS232 interface, 1 X2X Link Master interface, 3 digital (V) can be configured as 24 VDC input or output 500 mA, 1 analog input ± 10V, order program memory and 0TB708 terminal block separately. 8AC141.61-3 ACOPOS plug-in module, CPU, ARNCO, X86 100 MHz Intel compatible, 32 KB DRAM, 32 KB SRAM, removable B 1310 application memory: CompactFlash, 2 CAN interfaces, 1 Tehrenet interface 100 Base-T, 1 RS232 interface, 1 X2X Link Master interface, 3 digital (V) can be configured as 24 VDC input or output 500 mA, 1 analog input ± 10V, order program memory and 0TB704 and 0TB708 terminal blocks separately. OPS320.1 24 VDC power supply, 3-phase, 20 A, input 400.500 VAC (3 phases), wide range, DIN rail mounting B 1314 cable drag chains, UU/CSA listed 8CM007.12-1 Motor cable, length 7 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UU/CSA listed 8CM010.12-1 Motor cable, length 10 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UU/CSA listed 8CM020.12-1 Motor cable, length 10 m, 4 x 1.5 mm²	8AC140.60-3		ACOPOS plug-in module, CPU, x86 100 MHz Intel compatiti memory: CompactFlash, 1 CAN interface, 1 Ethernet interfa interface, 3 digital I/O can be configured as 24 VDC input of memory and 0TB708 terminal block separately.	ble, 32MB DRAM, 32 kB SRAM, removable application ace 100 Base-T, 1 Profibus DP slave interface, 1 RS232 r 500 mA output, 1 analog input \pm 10V, order program	₪ 1306	adkad
8AC141.60-2 ACOPOS plug-in module, CPU, x86 100 MHz Intel compatible, 16 MB DRAM, 32 kB SRAM, removable application memory: compactFlash, 2 CAN interfaces, 1 Ethernet interface 100 Base-T, 1 R523 interface, 1 X2X Link Master interface, 3 digital I/O can be configured as 24 VDC input or output 500 mA, 1 analog input ±10V, order program memory and OTB704 and OTB708 terminal blocks separately. ■ 1310 8AC141.61-3 ACOPOS plug-in module, CPU, ARNCO, x86 100 MHz Intel compatible, 32 MB DRAM, 32 kB SRAM, removable application memory: compactFlash, 2 CAN interfaces, 1 Ethernet interface 100 Base-T, 1 R523 interface, 1 XZX Link Master interface, 3 digital I/O can be configured as 24 VDC input or output 500 mA, 1 analog input ±10V, order program memory and OTB704 and OTB708 terminal blocks separately. ■ 1310 0PS320.1 24 VDC power supply, 3-phase, 20 A, input 400.500 VAC (3 phases), wide range, DIN rail mounting ■ 659 8CM005.12-1 Motor cable, length 5 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed ■ 1314 8CM010.12-1 Motor cable, length 10 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed ■ 1314 8CM015.12-1 Motor cable, length 10 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed ■ 1314 8CM015.12-1 Motor cable, length 10 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed ■ 1314 <td< td=""><td>8AC140.61-3</td><td></td><td>ACOPOS plug-in module, CPU, ARNC0, x86 100 MHz Intel of application memory: CompactFlash, 1 CAN interface, 1 Eth face, 1 RS232 interface, 3 digital I/O can be configured as 2 order program memory and 0TB708 terminal block separat</td><td>compatible, 32 MB DRAM, 32 kB SRAM, removable ernet interface 100 Base-T, 1 Profibus DP slave inter-4 VDC input or 500 mA output, 1 analog input \pm10V, sely</td><td>■ 1306</td><td>50.</td></td<>	8AC140.61-3		ACOPOS plug-in module, CPU, ARNC0, x86 100 MHz Intel of application memory: CompactFlash, 1 CAN interface, 1 Eth face, 1 RS232 interface, 3 digital I/O can be configured as 2 order program memory and 0TB708 terminal block separat	compatible, 32 MB DRAM, 32 kB SRAM, removable ernet interface 100 Base-T, 1 Profibus DP slave inter-4 VDC input or 500 mA output, 1 analog input \pm 10V, sely	■ 1306	50.
8AC141.61-3 ACOPOS plug-in module, CPU, ARNC0, x86 100 MHz Intel compatible, 32 MB DRAM, 32 kB SRAM, removable application memory: CompactFlash, 2 CAN interfaces, 1 Ethernet interface 100 Base-T, 1 RS232 interface, 1 X2X Link Master interface, 3 digital //O can be configured as 24 VDC input or output 500 mA, 1 analog input ±10V, order program memory and 0TB704 and 0TB708 terminal blocks separately. PS320.1 24 VDC power supply, 3-phase, 20 A, input 400.500 VAC (3 phases), wide range, DIN rail mounting E 659 BCM005.12-1 Motor cable, length 5 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed B 1314 Cable drag chains, UL/CSA listed BCM010.12-1 Motor cable, length 10 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed B 1314 Cable drag chains, UL/CSA listed BCM015.12-1 Motor cable, length 10 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed B 1314 Cable drag chains, UL/CSA list	8AC141.60-2		ACOPOS plug-in module, CPU, x86 100 MHz Intel compatible memory: CompactFlash, 2 CAN interfaces, 1 Ethernet inter- interface, 3 digital I/O can be configured as 24 VDC input of memory and 0TB704 and 0TB708 terminal blocks separatel	sle, 16 MB DRAM, 32 kB SRAM, removable application face 100 Base-T, 1 RS232 interface, 1 X2X Link Master r output 500 mA, 1 analog input \pm 10V, order program ly.	₪ 1310	
0PS320.1 24 VDC power supply, 3-phase, 20 A, input 400500 VAC (3 phases), wide range, DIN rail mounting 659 8CM005.12-1 Motor cable, length 5 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in all 1314 8CM007.12-1 Motor cable, length 7 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , motor plug 8-pin Intercontec socket, can be used in bl 1314 8CM001.12-1 Motor cable, length 10 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , motor plug 8-pin Intercontec socket, can be used in bl 1314 8CM015.12-1 Motor cable, length 10 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , motor plug 8-pin Intercontec socket, can be used in bl 1314 cable drag chains, UL/CSA listed 8CM015.12-1 Motor cable, length 15 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , motor plug 8-pin Intercontec socket, can be used in bl 1314 cable drag chains, UL/CSA listed 8CM020.12-1 Motor cable, length 12 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , motor plug 8-pin Intercontec socket, can be used in bl 1314 cable drag chains, UL/CSA listed 8CM025.12-1 Motor cable, length 25 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , motor plug 8-pin Intercontec socket, can be used in bl 1314	8AC141.61-3		ACOPOS plug-in module, CPU, ARNC0, x86 100 MHz Intel of application memory: CompactFlash, 2 CAN interfaces, 1 Ett Link Master interface, 3 digital I/O can be configured as 24 order program memory and 0TB704 and 0TB708 terminal b	compatible, 32 MB DRAM, 32 kB SRAM, removable hernet interface 100 Base-T, 1 RS232 interface, 1 X2X VDC input or output 500 mA, 1 analog input ±10V, plocks separately.	₪ 1310	Cathland
8CM005.12-1 Motor cable, length 5 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed 1314 8CM007.12-1 Motor cable, length 7 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed 1314 8CM010.12-1 Motor cable, length 10 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed 1314 8CM015.12-1 Motor cable, length 15 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed 1314 8CM015.12-1 Motor cable, length 15 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed 1314 8CM020.12-1 Motor cable, length 20 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed 1314 8CM020.12-1 Motor cable, length 20 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed 1314 8CM025.12-1 Motor cable, length 25 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed 1314	0PS320.1		24 VDC power supply, 3-phase, 20 A, input 400500 VAC (3	9 phases), wide range, DIN rail mounting	₿ 659	
8CM007.12-1 Motor cable, length 7 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed 1314 8CM010.12-1 Motor cable, length 10 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed 1314 8CM015.12-1 Motor cable, length 15 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed 1314 8CM020.12-1 Motor cable, length 10 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed 1314 8CM020.12-1 Motor cable, length 20 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed 1314 8CM025.12-1 Motor cable, length 25 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed 1314 8CM025.12-1 Motor cable, length 25 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed 1314	8CM005.12-1		Motor cable, length 5 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , r cable drag chains, UL/CSA listed	notor plug 8-pin Intercontec socket, can be used in	₿ 1314	
8CM010.12-1 Motor cable, length 10 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed 1314 8CM015.12-1 Motor cable, length 15 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed 1314 8CM020.12-1 Motor cable, length 20 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed 1314 8CM020.12-1 Motor cable, length 20 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed 1314 8CM025.12-1 Motor cable, length 25 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed 1314 8CM025.12-1 Motor cable, length 25 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed 1314	8CM007.12-1		Motor cable, length 7 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , r cable drag chains, UL/CSA listed	notor plug 8-pin Intercontec socket, can be used in	₪ 1314	
8CM015.12-1 Motor cable, length 15 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed ■ 1314 8CM020.12-1 Motor cable, length 20 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed ■ 1314 8CM025.12-1 Motor cable, length 25 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed ■ 1314 8CM025.12-1 Motor cable, length 25 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in cable drag chains, UL/CSA listed ■ 1314	8CM010.12-1		Motor cable, length 10 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , cable drag chains, UL/CSA listed	motor plug 8-pin Intercontec socket, can be used in	₪ 1314	
8CM020.12-1 Motor cable, length 20 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in E 1314 cable drag chains, UL/CSA listed 8CM025.12-1 Motor cable, length 25 m, 4 x 1.5 mm² + 2 x 2 x 0.75 mm², motor plug 8-pin Intercontec socket, can be used in E 1314 cable drag chains, UL/CSA listed	8CM015.12-1		Motor cable, length 15 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , cable drag chains, UL/CSA listed	motor plug 8-pin Intercontec socket, can be used in	₪ 1314	Sec.
8CM025.12-1 Motor cable, length 25 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , motor plug 8-pin Intercontec socket, can be used in a late cable drag chains, UL/CSA listed	8CM020.12-1		Motor cable, length 20 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , cable drag chains, UL/CSA listed	motor plug 8-pin Intercontec socket, can be used in	₿ 1314	and the
AND	8CM025.12-1		Motor cable, length 25 m, 4 x 1.5 mm ² + 2 x 2 x 0.75 mm ² , cable drag chains, UL/CSA listed	motor plug 8-pin Intercontec socket, can be used in	₿ 1314	5
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Servo drives 8V1180, 8V1320



8V1180.0xx-2



- Modular mechanical structure using insert modules

- Integrated power filter
 Integrated or External braking resistor
 All connections made using
- plug-in connectors Integrated electronic restart inhibit

General information	8V1180.00-2, 8V1180.001-2	8V1320.00-2, 8V1320.001-2
C-UL-US listed	Yes	Yes
Power mains connection	8V1180.00-2, 8V1180.001-2	8V1320.00-2, 8V1320.001-2
Mains input voltage	3x 400 VAC to 480 VAC ±10%	3x 400 VAC to 480 VAC ±10%
	Power filter according to EN 61800-3-A11	Power filter according to EN filter 61800-3-A11
	second environment	second environment
	(Limits from CISPR11, Group 2, Class A)	(Limits from CISPR11, Group 2, Class A)
Frequency	50 / 60 Hz ± 4%	50 / 60 Hz ± 4%
Installed load	Max. 17 kVA	Max. 30 kVA
Starting current at 400 VAC	13 A	13 A
Switch-on interval	> 10 sec	> 10 sec
Power loss at max. device power without	Approx. 500 W	Approx. 800 W
Braking resistor		
24 VDC supply	8V1180.00-2, 8V1180.001-2	8V1320.00-2, 8V1320.001-2
nput voltage	24 VDC +25% / -20%	24 VDC +25% / -20%
nput capacitance	40,000 µF	40,000 µF
Current requirements at 24 VDC ¹⁾		
Mains input voltage applied	2)	2)
Mains input voltage not applied	Max. 2.8 A + current for motor holding brake +	Max. 2.8 A + current for motor holding brake +
	current on the 24 VDC output	current on the 24 VDC output
DC bus power supply		
Switch-on voltage	455 VDC	455 VDC
The current requirements depend on the configuration	of the ACOPOS servo drive.	
If the mains input voltage (3x 400 VAC to 480 VAC $\pm 10^{\circ}$	%) is applied, the 24 VDC supply voltage for the ACOPOS servo drive is	s created by the internal DC bus power supply, which reduces the 24 VDC
urrent requirements (I _{24 VDC}) to 0.		
24 VDC output	8V1180.00-2, 8V1180.001-2	8V1320.00-2, 8V1320.001-2

24 VDC output	8V1180.00-2, 8V1180.001-2	8V1320.00-2, 8V1320.001-2	

24 VDO Output	001100.00-2, 001100.001-2	001020.00-2, 001020.001-2
Output voltage	~S. ~S.	2
Mains input voltage applied	22 to 24 VDC	22 to 24 VDC
Mains input voltage not applied	16.7 to 30 VDC ¹⁾	16.7 to 30 VDC ¹⁾
Output current	Max. 0.5 A	Max. 0.5 A
 If the mains input voltage (3x 400 VAC to 480 VAC in this case it is between the maximum allowable 	$\pm10\%)$ is not applied, the voltage is created at the 24 VDC outpand the minimum allowable (reduced by max. 2.5 V) 24 VDC su	ut from the ACOPOS servo drive's 24 VDC supply voltage; pply voltage of the ACOPOS servo drive.
DC hue	9\/1190.00-2.9\/1190.001-2	PV/1220 00-2 PV/1220 001-2

DC bus capacitance	940 μF	220	1645 μF	Sec.
Motor connector	8V1180.00-2, 8V1180.001-2	100	8V1320.00-2, 8V1320.001-2	Sec.
Continuous current 1)	19 A _{eff}		34 A _{eff}	
Reduction of continuous current depending on ambient temperature ²⁾ Mains input voltage: 400 VAC				
Switching frequency 20 kHz	No reduction		0.61 A _{eff} per °C (from 40°C)	
Switching frequency 10 kHz	No reduction		No reduction	
Switching frequency 5 kHz	No reduction		No reduction	
Mains input voltage: 480 VAC				
Switching frequency 20 kHz	No reduction		0.61 A _{eff} per °C (from 25°C)	
Switching frequency 10 kHz	No reduction		No reduction	
Switching frequency 5 kHz	No reduction		No reduction	
Reduction of continuous current depending on installation altitude				
Starting at 500 m above sea level	1.9 A _{eff} per 1000 m		3.4 A _{eff} per 1000 m 入	
Maximum current	50 A _{eff}		80 A _{eff}	
Rated switching frequency	10 kHz		10 kHz	
Maximum motor line length	25 m		25 m	
Protective measures	Short circuit & overload protection		Short circuit & overload protec	tion
1) Valid in the following conditions: Mains input voltage 400	VAC, nominal switching frequency, 40°C ambient temperat	ure, installatio	on altitudes < 500 m above sea level.	

2) The nominal switching frequency values for the respective ACOPOS servo drive are marked in bold.

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Notor holding brake connection	8V1180.00-2, 8V1180.001-2	8V1320.00-2, 8V1320.001-2	
Aaximum output current	1.5 A	1.5 A	
Aax. number of switching cycles	Unlimited since done electronically	Unlimited since done electronically	
Braking resistor	8V1180.00-2, 8V1180.001-2	8V1320.00-2, 8V1320.001-2	
'eak power int. / ext.	14 / 40 kW	14 / 40 kW	
ontinuous power int. / ext.	0.4 / 8 KW "	0.4 / 8 KW "	
Ainimum braking resistance (ext.)		15 0	
lated current of the built-in fuse	10 A (fast-acting)	10 A (fast-acting)	
Continuous power refers to the maximum breaking power t	he ACOPOS servo driver can yield continuously. Depending on	the application, the actual continuous power provided by the external	50
braking resistor is limited by the rated current of fuse I_B (inter-	egrated in the ACOPOS servo driver), and the value of the exter	hal braking resistance R _{BR} .	-
rigger inputs	8V1180.00-2, 8V1180.001-2	8V1320.00-2, 8V1320.001-2	
Number of inputs	2	2	
Viring	Sink	Sink	
lectrical isolation			
Input - ACOPOS	Yes	Yes	
Input - Input	No	No	
nput voltage			
Rated	24 VDC	24 VDC	
Maximum	30 VDC	30 VDC	1.5
Switching threshold			
LOW	< 5 V	< 5 V	
HIGH	>15 V	>15 V	
nput current at rated voltage	Approx. 10 mA	Approx. 10 mA	
Switching delay			
Positive edge	52 μ s ± 0.5 μ s (digitally filtered)	52 μ s ± 0.5 μ s (digitally filtered)	
Negative edge	53 μ s \pm 0.5 μ s (digitally filtered)	53 μ s ± 0.5 μ s (digitally filtered)	
Nodulation compared to ground potential	Max. ±38 V	Max. ±38 V	
imit switch and reference inputs	8V1180.00-2, 8V1180.001-2	8V1320.00-2, 8V1320.001-2	
lumber of inputs	3	3	
Viring	Sink	Sink	
lectrical isolation			
Input - ACOPOS	Yes	Yes	
Input - Input	No	No	
nput voltage			
Rated	24 VDC	24 VDC	
Maximum	30 VDC	30 VDC	
Switching threshold			
LOW	< 5 V	< 5 V	
HIGH	>15 V	>15 V	
nput current at rated voltage	Approx. 4 mA	Approx. 4 mA	
Switching delay	Max. 2.0 ms	Max. 2.0 ms	
Aodulation compared to ground potential	Max. ±38 V	Max. ±38 V	
20			20

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Servo drives 8V1180, 8V1320

nable input	8V1180.00-2, 8V1180.001-2	and the second second	8V1320.00-2, 8V13	20.001-2
umber of inputs	1	5	1	
/iring	Sink		Sink	
lectrical isolation				
Input - ACOPOS	Yes		Yes	
iput voltage				
Rated	24 VDC		24 VDC	
Maximum	30 VDC		30 VDC	
witching threshold				
LOW	< 5 V		< 5 V	
HIGH	>15 V		>15 V	
put current at rated voltage	Approx. 30 mA		Approx. 30 mA	
witching delay		- 54		
Enable 1 -> 0, PWM off	Max. 2.0 ms		Max. 2.0 ms	
Enable 0 -> 1, ready for PWM	Max. 100 μs		Max. 100 µs	
lodulation compared to ground potential	Max. ±38 V		Max. ±38 V	
perational conditions	8V1180.00-2, 8V1180.001-2		8V1320.00-2, 8V13	20.001-2
nvironment temperature during operation ¹⁾	5 to 40°C		5 to 40°C	
Max. ambient temperature	+55°C		+55°C	
elative humidity during operation	5 to 85%, non-condensing		5 to 85%, non-con	densing
istallation at altitudes above sea level	0 to 500 m		0 to 500 m	
Maximum installation altitude ²⁾	2000 m		2000 m	
egree of pollution according to EN 60664-1	2 (non-conductive material)		2 (non-conductive	material)
vervoltage cat. according to	II		11	
C 60364-4-443:1999				
	1020		1000	

but results in a shorter lifespan.

2) Continuous operation of ACOPOS servo drives at altitudes ranging from 500 m to 2000 m above sea level is possible (taking the continuous current reductions listed into consideration). Additional requirements are to be arranged with BBR.

Additional requirements are to be analiged with burt.		
Storage and transport conditions	8V1180.00-2, 8V1180.001-2	8V1320.00-2, 8V1320.001-2
Storage temperature	-25 to +55°C	-25 to +55°C
Relative humidity during storage	5 to 95%, non-condensing	5 to 95%, non-condensing
Transport temperature	-25 to +70°C	-25 to +70°C
Relative humidity during transport	95% at +40°C	95% at +40°C
Mechanical characteristics	8V1180.00-2, 8V1180.001-2	8V1320.00-2, 8V1320.001-2
Dimensions		
Width	200 mm	200 mm
Height	375 mm	375 mm
Depth	234 mm	234 mm
Weight	10.1 kg	10.6 kg

8AC110.60-2	ACOPOS plug-in module, CAN interface	1290
8AC114.60-2	ACOPOS plug-in module, POWERLINK V2 interface	1291
8AC120.60-1	ACOPOS insert module, EnDat encoder and sine incremental encoder interface	1292
8AC121.60-1	ACOPOS plug-in module, HIPERFACE interface	1294
8AC122.60-3	ACOPOS plug-in module, resolver interface	1296
8AC123.60-1	ACOPOS plug-in module, incremental encoder and SSI absolute encoder interface	1298
8AC130.60-1	ACOPOS insert module, 8 digital I/O configurable in pairs as 24V input or as	₿ 1300
	400/100 mA output, 2 digital outputs 2A, order TB712 terminal blocks separately	
8AC131.60-1	ACOPOS plug-in module, 2 analog inputs \pm 10V, 2 digital I/O points which can be configured as a 24V	₿ 1303
	input or as 45 mA output, order TB712 terminal blocks separately	
8AC140.60-2	ACOPOS plug-in module, CPU, x86 100 MHz Intel compatible, 16 MB DRAM, 32 kB SRAM,	₿ 1306
	removable application memory: CompactFlash, 1 CAN interface, 1 Profibus-DP slave interface, 1 RS232 interface,	
	3 digital I/O can be configured as 24 VDC input or 500 mA output, 1 analog input \pm 10V, order	
	program memory and 0TB708 terminal block separately	
8AC140.60-3	ACOPOS plug-in module, CPU, x86 100 MHz Intel compatible, 32MB DRAM, 32 kB SRAM,	₿ 1306
	removable application memory: CompactFlash, 1 CAN interface, 1 Ethernet interface 100 Base-T,	
	1 Profibus DP slave interface, 1 RS232 interface, 3 digital I/O can be configured as 24 VDC input or 500 mA	
S.	output, 1 analog input \pm 10V, order program memory and 0TB708 terminal block separately.	
8AC140.61-3	ACOPOS plug-in module, CPU, ARNC0, x86 100 MHz Intel compatible, 32 MB DRAM, 32 kB SRAM,	₿ 1306
	removable application memory: CompactFlash, 1 CAN interface, 1 Ethernet interface 100 Base-T, 1 Profibus DP	and the second sec
	slave interface, 1 RS232 interface, 3 digital I/O can be configured as 24 VDC input or 500 mA output,	
	1 analog input $\pm 10V$, order program memory and 0TB708 terminal block separately	
8AC141.60-2	ACOPOS plug-in module, CPU, x86 100 MHz Intel compatible, 16 MB DRAM, 32 kB SRAM,	1310
	removable application memory: CompactFlash, 2 CAN interfaces, 1 Ethernet interface 100 Base-T,	
	1 RS232 interface, 1 X2X Link Master interface, 3 digital I/O can be configured as 24 VDC input or output 500 mA,	
	1 analog input $\pm 10V$, order program memory and 0TB704 and 0TB708 terminal blocks separately.	
8AC141.61-3	ACOPOS plug-in module, CPU, ARNC0, x86 100 MHz Intel compatible, 32 MB DRAM, 32 kB SRAM,	₿ 1310
	removable application memory: CompactFlash, 2 CAN interfaces, 1 Ethernet interface 100 Base-T,	
20	1 RS232 interface, 1 X2X Link Master interface, 3 digital I/O can be configured as 24 VDC input or output 500 mA,	
<u></u>	1 analog input $\pm 10V$, order program memory and 0TB704 and 0TB708 terminal blocks separately.	
0PS320.1	24 VDC power supply, 3-phase, 20 A, input 400500 VAC (3 phases), wide range, DIN rail mounting	₿ 659
8CM005.12-3	Motor cable, length 5 m, 4 x 4 mm ² + 2 x 2 x 1 mm ² , motor plug 8-pin Intercontec socket,	1315
	can be used in cable drag chains, UL/CSA listed	
8CM007.12-3	Motor cable, length 7 m, 4 x 4 mm ² + 2 x 2 x 1 mm ² , motor plug 8-pin Intercontec socket,	₪ 1315
all a second	can be used in cable drag chains, UL/CSA listed	and the second s
8CM010.12-3	Motor cable, length 10 m, 4 x 4 mm ² + 2 x 2 x 1 mm ² , motor plug 8-pin Intercontec socket,	1315
	can be used in cable drag chains, UL/CSA listed	
8CM015.12-3	Motor cable, length 15 m, 4 x 4 mm ² + 2 x 2 x 1 mm ² , motor plug 8-pin Intercontec socket,	₿ 1315
(P^*)	can be used in cable drag chains, UL/CSA listed	Sec.
8CM020.12-3	Motor cable, length 20 m, 4 x 4 mm ² + 2 x 2 x 1 mm ² , motor plug 8-pin Intercontec socket,	■ 1315
0014005 40.0	can be used in cable drag chains, UL/CSA listed	B. 4045
8CIVIU25.12-3	wotor cable, length 25 m, 4 x 4 mm ² + 2 x 2 x 1 mm ² , motor plug 8-pin intercontec socket,	iii 1315
	can be used in cable drag chains, OL/CSA listed	100 M
 		640

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Servo drives 8V1640, 8V128M





- Modular mechanical structure using insert modules
 Integrated power filter
 Integrated or optional external braking resistor
 Integrated electronic restart inhibit

General information	8V1640.00-2, 8V1640.001-2	8V128M.00-2, 8V128M.001-2
C-UL-US listed	Yes	Yes
Power mains connection	8V1640.00-2, 8V1640.001-2	8V128M.00-2, 8V128M.001-2
Mains input voltage	3x 400 VAC to 480 VAC ±10%	3x 400 VAC to 480 VAC ±10%
	Power filter according to IEC 61800-3-A11 second	Power filter according to IEC 61800-3-A11 second
	environment	environment
	(Limits from CISPR11, Group 2, Class A)	(Limits from CISPR11, Group 2, Class A)
Frequency	50 / 60 Hz ± 4%	50 / 60 Hz ± 4%
Installed load	Max. 54 kVA	Max. 98 kVA
Starting current at 400 VAC	26 A	26 A
Switch-on interval	> 10 sec	> 10 sec
Power loss at max. device power without braking resistor	Approx. 1600 W	Approx. 3200 W
24 VDC supply	8V1640.00-2, 8V1640.001-2	8V128M.00-2, 8V128M.001-2
Input voltage	24 VDC +25% / -20%	24 VDC +25% / -20%
Input capacitance	32800 µF	32800 µF
Current requirements at 24 VDC ¹⁾		
Mains input voltage applied		2)
Mains input voltage not applied	Max. 4.6 A + 1.4 * (current for motor holding	Max. 5.7 A + 1.4 * (current for the motor holding
100 million (100 million)	brake + current on the 24 VDC output)	brake + current on the 24 VDC output)
DC bus power supply		
Switch-on voltage	455 VDC	455 VDC
The current requirements depend on the configuration of the ACC	IPOS servo drive	N 100
) The current requirements depend on the configuration of the ACC	and the 24 VDC supply voltage for the ACOPOS serve drive is areat	d by the internal DC bus newer supply, which reduces
the 24 VDC surrent requirements (I) to 0	ed, the 24 VDC supply voltage for the ACOPOS servo drive is create	d by the internal DC bus power supply, which reduces
24 VDC current requirements (1 _{24 VDC}) to 0.	9/1640.00.2.9/1640.001.2	01/120M 00 2 01/120M 001 2
	ov 1040.00-2, ov 1040.001-2	6 V 1261VI.00-2, 6 V 1261VI.00 I-2
	00 - 041/50	
Mains input voltage applied		22 to 24 VDC
Mains input voltage not applied	16.7 to 30 VDC "	16.7 to 30 VDC "
Output current	Max. 0.5 A	Max. 0.5 A
If the mains input voltage (3x 400 VAC to 480 VAC ± 10%) is not a	applied, the voltage is created at the 24 VDC output from the ACOP	OS servo drive's 24 VDC supply voltage;
In this case it is between the maximum allowable and the minimi	um allowable (reduced by max. 2.5 V) 24 VDC supply voltage of the	ACOPOS servo arive.
	8V1640.00-2, 8V1640.001-2	8V128M.00-2, 8V128M.001-2
DC bus capacitance	3300 μF	6600 μF
Notor connector	8V1640.00-2, 8V1640.001-2	8V128M.00-2, 8V128M.001-2
Continuous current "	64 A _{eff}	128 A _{eff}
Reduction of continuous current depending on		
the ambient temperature 21		
Mains input voltage: 400 VAC	× 1	
Switching frequency 20 kHz	0.96 A _{eff} per °C (from 25°C)	1.65 A _{eff} per °C (from 12°C)
Switching frequency 10 kHz	No reduction	1.65 A _{eff} per °C (from 52°C)
Switching frequency 5 kHz	No reduction	No reduction
Mains input voltage: 480 VAC		
Switching frequency 20 kHz	0.96 A _{eff} per °C (from 10°C)	1.65 A _{eff} per °C (from 10°C) ³⁾
Switching frequency 10 kHz	0.96 A _{eff} per °C (from 50°C)	1.65 A _{eff} per °C (from 36°C)
Switching frequency 5 kHz	No reduction	No reduction
Reduction of continuous current depending on		
installation altitude		
Starting at 500 m above sea level	6.4 A _{eff} per 1000 m	12.8 A _{eff} per 1000 m
Maximum current	200 A _{eff}	300 A _{eff}
Rated switching frequency	10 kHz	5 kHz
Maximum motor line length	25 m	25 m
Protective measures	Short circuit and overload protection	Short circuit and overload protection
Starting at 500 m above sea level Maximum current Rated switching frequency Maximum motor line length Protective measures	6.4 A _{eff} per 1000 m 200 A _{eff} 10 kHz 25 m Short circuit and overload protection	12.8 A _{eff} per 1000 m 300 A _{eff} 5 kHz 25 m Short circuit and overload protection
) Valid in the following conditions: Mains input voltage 400 VAC, no	minal switching frequency, 40°C ambient temperature, installation	altitudes < 500 m above sea level.
) The nominal switching frequency values for the respective ACOPC	DS servo drive are marked in bold.	

3) For a mains input voltage of 480 VAC and a switching frequency of 20 kHz, a maximum continuous current of 95 Aeff is permitt

At ambient temperatures > 10°C, a reduction of the continuous current of 1.65 Aeff per °C must be taken into consideration.



otor holding brake connection	8V1640.00-2, 8V1640.001-2	8V128M.00-2, 8V128M.001-2	
aximum output current	3 A	3 A	Sec.
ax. number of switching cycles	Approx. 80,000	Approx. 80,000	
raking resistor	8V1640.00-2, 8V1640.001-2	8V128M.00-2, 8V128M.001-2	
eak power int. / ext.	7 / 250 kW	8.5 / 250 kW	
ontinuous power int. / ext.	0.2 / 24 kW ¹⁾	0.24 / 24 kW ¹⁾	
inimum braking resistance (ext.)	2.5 Ω	2.5 Ω	
ated current of the built-in fuse	30 A (fast-acting)	30 A (fast-acting)	
Continuous power refers to the maximum breaking powe	r the ACOPOS servo driver can yield continuously. Depending	on the application, the actual continuous power provid	ed by the external
braking resistor is limited by the rated current of fuse le (in	ntegrated in the ACOPOS servo driver), and the value of the ex	ternal braking resistance Res.	
igger inputs	8V1640.00-2, 8V1640.001-2	8V128M.00-2, 8V128M.001-2	
umber of inputs	2	2	
liring	Sink	Sink	
ectrical isolation	0	No. Comm	
	Ves	Ves	
Input - Input	No	No	
niput voltago		NO	
Rated	24 VDC	24 VDC	
Maximum	24 100	24 400	
withhing threshold	30 100	30 000	
	< EV	< F.V.	
	< 5 V	< 5 V	
11GH	> 15 V	> 15 V	
out current at rated voltage	Approx. 10 mA	Approx. 10 mA	
witching delay			
Positive edge	$52 \mu s \pm 0.5 \mu s$ (digitally filtered)	52 μ s ± 0.5 μ s (digitally filtered)	
Negative edge	53 μ s ± 0.5 μ s (digitally filtered)	53 μ s ± 0.5 μ s (digitally filtered)	
odulation compared to ground potential	Max. ±38 V	Max. ±38 V	
mit switch and reference inputs	8V1640.00-2, 8V1640.001-2	8V128M.00-2, 8V128M.001-2	
umber of inputs	3	3	
iring	Sink	Sink	
ectrical isolation			
nput - ACOPOS	Yes	Yes	
nput - Input	No	No	
put voltage			
Rated	24 VDC	24 VDC	
Vlaximum	30 VDC	30 VDC	
vitching threshold			
LOW	< 5 V	< 5 V	
HIGH 🔿	>15 V	>15 V	
put current at rated voltage	Approx. 4 mA	Approx. 4 mA	
vitching delay	Max. 2.0 ms	Max. 2.0 ms	
odulation compared to ground potential	Max. ±38 V	Max. ±38 V	
0,			

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Servo drives 8V1640, 8V128M

. 30 ²⁰	18 ⁹³	6	300	, 30 ⁰¹
Enable input	8V1640.00-2, 8V1640.001-2	and the second	8V128M.00-2, 8V1	28M.001-2
Number of inputs	1.5	32	1	201
Wiring	Sink		Sink	
Electrical isolation				
Input - ACOPOS	Yes		Yes	
Input voltage				
Rated	24 VDC		24 VDC	
Maximum	30 VDC		30 VDC	
Switching threshold				
LOW	< 5 V		< 5 V	
HIGH	>15 V		>15 V	
Input current at rated voltage	Approx. 30 mA		Approx. 30 mA	
Switching delay				
Enable 1 -> 0, PWM off	Max. 2.0 ms		Max. 2.0 ms	
Enable 0 -> 1, ready for PWM	Max. 100 μs		Max. 100 µs	
Modulation compared to ground potential	Max. ±38 V		Max. ±38 V	
Operational conditions	8V1640.00-2, 8V1640.001-2		8V128M.00-2, 8V1	28M.001-2
Ambient temperature during operation	5 to 40°C		5 to 40°C	A.
Max. ambient temperature 1)	+55°C		+55°C	
Relative humidity during operation	5 to 85%, non-condensing		5 to 85%, non-con	densing
Installation at altitudes above sea level	0 to 500 m		0 to 500 m	
Maximum installation altitude ²⁾	2000 m		2000 m	
Degree of pollution according to EN 60664-1	2 (non-conductive material)		2 (non-conductive	material)
Overvoltage cat. according to	II		Ш	
IEC 60364-4-443:1999				
EN 60529 protection	IP20		IP20	
1) Continuous operation of ACOPOS servo drives at an ambient	temperature ranging from 40°C to 55°C is possible	(taking the continuous	current reductions listed	into consideration),
hand the target hand the second se				

2) Continuous operation of ACOPOS Additional ree to be arranged with B&B.

Storage and transport conditions	8V1640.00-2, 8V	V1640.001-2	8V128	M.00-2, 8V128M.001	-2
Storage temperature	-25 to +55°C		-25 to	+55°C	
Relative humidity during storage	5 to 95%, non-c	condensing	5 to 95	5%, non-condensing	
Transport temperature	-25 to +70°C		-25 to	+70°C	
Relative humidity during transport	95% at +40°C		95% a	t +40°C	
Mechanical characteristics 8V1640.00-2, 8V1640.001-2		V1640.001-2	8V128	M.00-2, 8V128M.001	-2
Dimensions					
Width	276 mm		402 m	m	
Height	460 mm		460 m	.m 🔿	
Depth	295 mm		295 m	.m 📌 🖓	
Weight	24.1 kg		33.8 k	9	

	8AC110.60-2	ACOPOS plug-in module, CAN interface	1290
	8AC114.60-2	ACOPOS plug-in module, POWERLINK V2 interface	1291
	8AC120.60-1	ACOPOS insert module, EnDat encoder and sine incremental encoder interface	1292
	8AC121.60-1	ACOPOS plug-in module, HIPERFACE interface	1294
	8AC122.60-3	ACOPOS plug-in module, resolver interface	1296
	8AC123.60-1	ACOPOS plug-in module, incremental encoder and SSI absolute encoder interface	1298
	8AC130.60-1	ACOPOS insert module, 8 digital I/O configurable in pairs as 24V input or as	₿ 1300
		400/100 mA output, 2 digital outputs 2A, order TB712 terminal blocks separately.	
	8AC131.60-1	ACOPOS plug-in module, 2 analog inputs ±10V, 2 digital I/O points which can be configured as a 24V input or as	1303
		45 mA output, order TB712 terminal blocks separately	
	8AC140.60-2	ACOPOS plug-in module, CPU, x86 100 MHz Intel compatible, 16 MB DRAM, 32 kB SRAM, removable application	₿ 1306
		memory: CompactFlash, 1 CAN interface, 1 Profibus-DP slave interface, 1 RS232 interface,	
		3 digital I/O can be configured as 24 VDC input or 500 mA output, 1 analog input \pm 10V, order program memory	
		and 0TB708 terminal block separately	
	8AC140.60-3	ACOPOS plug-in module, CPU, x86 100 MHz Intel compatible, 32MB DRAM, 32 kB SRAM,	₪ 1306
		removable application memory: CompactFlash, 1 CAN interface, 1 Ethernet interface 100 Base-T, 1 Profibus DP	
		slave interface, 1 RS232 interface, 3 digital I/O can be configured as 24 VDC input or 500 mA output,	
	S. S	1 analog input $\pm 10V$, order program memory and 0TB708 terminal block separately.	
	8AC140.61-3	ACOPOS plug-in module, CPU, ARNC0, x86 100 MHz Intel compatible, 32 MB DRAM, 32 kB SRAM,	₿ 1306
		removable application memory: CompactFlash, 1 CAN interface, 1 Ethernet interface 100 Base-T,	and the second se
		1 Profibus DP slave interface, 1 RS232 interface, 3 digital I/O can be configured as 24 VDC input or 500 mA	
		output, 1 analog input \pm 10V, order program memory and 0TB708 terminal block separately	
	8AC141.60-2	ACOPOS plug-in module, CPU, x86 100 MHz Intel compatible, 16 MB DRAM, 32 kB SRAM,	1310
		removable application memory: CompactFlash, 2 CAN interfaces, 1 Ethernet interface 100 Base-T,	
		1 RS232 interface, 1 X2X Link Master interface, 3 digital I/O can be configured as 24 VDC input or output 500 mA,	
		1 analog input \pm 10V, order program memory and 0TB704 and 0TB708 terminal blocks separately.	
	8AC141.61-3	ACOPOS plug-in module, CPU, ARNC0, x86 100 MHz Intel compatible, 32 MB DRAM, 32 kB SRAM,	■ 1310
		removable application memory: CompactFlash, 2 CAN interfaces, 1 Ethernet interface 100 Base-T,	
	S.	1 RS232 interface, 1 X2X Link Master interface, 3 digital I/O can be configured as 24 VDC input or output 500 mA,	
	N	1 analog input \pm 10V, order program memory and 0TB704 and 0TB708 terminal blocks separately.	
	0PS320.1	24 VDC power supply, 3-phase, 20 A, input 400500 VAC (3 phases), wide range, DIN rail mounting	₿ 659
	8CM005.12-5	Motor cable, length 5 m, 4 x 10 mm ² + 2 x 2 x 1.5 mm ² , motor plug 8-pin Intercontec socket,	1316
		can be used in cable drag claims, UL/CSA certified	
	8CM007.12-5	Motor cable, length 7 m, 4 x 10 mm ² + 2 x 2 x 1.5 mm ² , motor plug 8-pin Intercontec socket,	1316
	0014040405	can be used in cable drag claims, UL/CSA certified	P. 1010
	8CIVI010.12-5	INIOTOR CADIE, length 10 m, 4 x 10 mm² + 2 x 2 x 1.5 mm², motor plug 8-pin intercontec socket,	≡ 1316
	0014045 40 5	can be used in cable drag claims, UL/CSA certified	B 4040
	8CIVI015.12-5	INIOTOR CADIE, length 15 m, 4 x 10 mm² + 2 x 2 x 1.5 mm², motor plug 8-pin intercontec socket,	E 1316
	0CM020 12 5	Can be used in cable drag claims, oL/CSA certified	P. 1010
	0CIVI020.12-5	ean he used in solid drag slaims LII (CCA sortified	= 1310
	90M02E 12 E	Can be used in cable drag claims, oL/CSA certified	■ 1216
	00W020.12-0	can be used in cable drag claims III /CSA certified	= 1010
			100 m
100			

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CAN bus interface 8AC110

General informa C-UL-US listed Module type



- CAN interface for installation in ACOPOS servo drives
- For communication and configuration of the ACOPOS servo drives for standard applications
 Node number can be set using switch

C-UL-US listed	Yes		
Module type	ACOPOS plug-in module		
Slot	Slot 1		
Power consumption	Max. 0.7 W		
CAN bus interface	8AC110.60-2		
Connection, module-side	9-pin DSUB plug	25	65
Indicators	RXD/TXD LEDs		
Electrical isolation			
CAN bus - ACOPOS	Yes		
Maximum distance	60 m		
Baud rate	500 kBit/s		
Network-capable	Yes		
Bus termination resistor	Externally wired		
Operational conditions	8AC110.60-2		
Ambient temperature during operation	1)		
Relative humidity during operation	1)		
1) ACOPOS plug-in modules can be used in an ACOPOS servo d	rive; the corresponding values can be found	I in the technical data of the respective	
ACOPOS servo drive.			
Storage and transport conditions	8AC110.60-2		

8AC110.60-2

Storage and transport conditions	8AC110.60-2	×0°
Storage temperature	-25 to +55°C	
Relative humidity during storage	5 to 95%, non-condensing	
Transport temperature	-25 to +70°C	
Relative humidity during transport	95% at +40°C	



Optional accessorie	S	A	- Ste		
7AC911.9	Bus connector, CAN			₿ 1724	
0AC912.9	Bus adapter, CAN, 1 CAN bus interface			1726	
0AC913.92	Bus adapter, CAN, 2 CAN bus interfaces, including 3	0 cm connection cable (DSUB co	onnector)	₿ 1726	

POWERLINK V2 interface 8AC114



- POWERLINK V2 interface for installation in ACOPOS servo drives
- Integrated 2x hub for easy wiring
 For communication and
- For communication and configuration of ACOPOS servo drives for complex and time-critical applications
 Node number can be set using switch

ethernet **POWERLINK**

.60-2 aration S plug-in module W .60-2 i socket .ED + 2x Link LED	-stere	saladi antoina shari
aration S plug-in module .60-2 i socket .ED + 2x Link LED)	-v ^{er}	-ser.
S plug-in module W .60-2 .socket .ED + 2x Link LED)	unobailon and fail	in the state of th
W socket ED + 2x Link LED	undballomathead	underson advari
W .60-2 : socket .ED + 2x Link LED) it/s	and ballone of the official	undeante native s
. 60-2 socket .ED + 2x Link LED)	and ballone lies	indiantonadia.
socket ED + 2x Link LED) it/s		1. COLOUTO NORTH
.ED + 2x Link LED) it/s		urdballons
) it/s		
) it/s		
) it/s		
it/s		
tree with level 2 hubs		
onous to POWERLINK cycle		
ACOPOS servo drive)		10 A
ACOPOS servo drive)		*0
cable length is 200 m.		
.60-2		
	tree with level 2 hubs onous to POWERLINK cycle a ACOPOS servo drive) a ACOPOS servo drive) (cable length is 200 m. 8.60-2	tree with level 2 hubs onous to POWERLINK cycle n ACOPOS servo drive) n ACOPOS servo drive) cable length is 200 m. 1.60-2





EnDat encoder and sine incremental encoder interface 8AC120



- EnDat encoder interface for installation in ACOPOS servo drives
 Encoder monitoring
- Encoder monitoring Also suitable for evaluating simple incremental encoders with sinusoidal input signal

General information	8AC120.60-1	and the second	State of the second second
C-UL-US listed	Yes	3	A.
Module type	ACOPOS plug-in module		
Slot 1)	Slots 2, 3 and 4		
Power consumption	Depends on the encoder connected		
E0 EnDat single-turn, 512 lines	Max. 2.3 W		
E1 EnDat multi-turn, 512 lines	Max. 3.1 W		
E2 EnDat single-turn, 32 lines (inductive)	Max. 3.1 W		
E3 EnDat multi-turn, 32 lines (inductive)	Max. 3.1 W		
E4 EnDat single-turn, 512 lines	Max. 2.4 W		
E5 EnDat multi-turn, 512 lines	Max. 2.7 W		
1) The AC120 is an encoder module. Several encoder modules	can also be inserted. In this case, the encoder module	in the slot with the lowest number is automatical	ly used for motor feedback.
Encoder input ¹)	8AC120.60-1	18 C	and the second
Connection, module-side	15-pin DSUB socket	11.	1.
Indicators	UP/DN LEDs		
Electrical isolation			
Encoder - ACOPOS	No		
Encoder monitoring	Yes		
Encoder supply			. The second sec
Output voltage	Typ. 5 V		
Ability to work under pressure	250 mA ²⁾		
Sense lines	2, compensation of max. 2x 0.7 V		
Sine-cosine inputs			
Signal transfer	Differential signals, symmetric		
Differential voltage	0.5 to 1.25 V _{ss}		
Common mode voltage	Max. ±7 V		
Terminating resistor	120 Ω		
Signal frequency (-5 dB)	DC up to 400 kHz		
Signal frequency (-3 dB)	DC up to 300 kHz		
Resolution 3)	16384 * number of encoder lines		
Precision 4)			
Reference input			
Signal transfer	Differential signal, symmetric		
Differential voltage for high	≥ +0.2 V		
Differential voltage for low	≤ -0.2 V		
Common mode voltage	Max. ±7 V		
Terminating resistor	120 Ω		
Serial interface	Synchronous		
Signal transfer	RS485		
Baud rate	625 kBaud		
The second se	The second se		

1) The EnDat encoder must be wired using a cable with a single shield.

2) This value only applies to the encoder. The actual load capacity of the encoder supply is approx. 300 mA. The difference of approx. 50 mA is covers the consumption of the terminating resistors the are always present. For longer encoder cables, it is important to note that the maximum voltage drop permitted on the supply wires (there and back) is 1.45 V. This can reduce the permissible load current.

3) Depending on the resolution of the connected encoder, in practical applications only a part of this resolution can be used. The usable resolution can be further reduced by signal interferences from th connected encoder.

4) In the field, the precision is limited by the encod



8AC120.60-1		and the second
1)	39	Ser.
1)		
servo drive; the corresponding values can be found	d in the technical data of the respective	
	8AC120.60-1 1) 1) servo drive; the corresponding values can be four	8AC120.60-1 1) 1) servo drive; the corresponding values can be found in the technical data of the respective

Storage and transport conditions	8AC120.60-1	
Storage temperature	-25 to +55°C	
Relative humidity during storage	5 to 95%, non-condensing	
Transport temperature	-25 to +70°C	
Relative humidity during transport	95% at +40°C	

Optional accessories
8CE005.12-1

8CE007.12-1
8CE010.12-1
8CE015.12-1
8CE020.12-1
8CE025.12-1

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EnDat cable, length 5 m, 10 x 0.14 mm ² + 2 x 0.5 mm ² , EnDat plug 17-pin Intercontec socket,	🗎 1318
15-pin servo connector DSUB plug, can be used in cable drag chains, UL/CSA listed	
EnDat cable, length 7 m, 10 x 0.14 mm ² + 2 x 0.5 mm ² , EnDat plug 17-pin Intercontec socket,	₿ 1318
15-pin servo connector DSUB plug, can be used in cable drag chains, UL/CSA listed	
EnDat cable, length 10 m, 10 x 0.14 mm ² + 2 x 0.5 mm ² , EnDat plug 17-pin Intercontec socket,	₿ 1318
15-pin servo connector DSUB plug, can be used in cable drag chains, UL/CSA listed	
EnDat cable, length 15 m, 10 x 0.14 mm ² + 2 x 0.5 mm ² , EnDat plug 17-pin Intercontec socket,	₿ 1318
15-pin servo connector DSUB plug, can be used in cable drag chains, UL/CSA listed	
EnDat cable, length 20 m, 10 x 0.14 mm ² + 2 x 0.5 mm ² , EnDat plug 17-pin Intercontec socket,	₿ 1318
15-pin servo connector DSUB plug, can be used in cable drag chains, UL/CSA listed	
EnDat cable, length 25 m, 10 x 0.14 mm ² + 2 x 0.5 mm ² , EnDat plug 17-pin Intercontec socket,	₿ 1318
15-pin servo connector DSUB plug, can be used in cable drag chains, UL/CSA listed	

ACOPOS

10.9

HIPERFACE interface 8AC121



 HIPERFACE interface for installation in ACOPOS servo drives Encoder monitoring

Storage temperature Relative humidity during storage

Transport temperature Relative humidity during transport

		Q	<u></u>
General information	8AC121.60-1		and the second
C-UL-US listed	Yes		
Module type	ACOPOS plug-in module		
Slot 1)	Slots 2, 3 and 4		
Power consumption			
With encoder current requirement of 0 mA	0.35 W		
With encoder current requirement of 100 mA	1.4 W		
With encoder current requirement of 170 mA	2.1 W		
1) The AC121 is an encoder module. Several encoder modules c	an also be inserted. In this case, the module in th	ne slot with the lowest number is automati	cally used for motor feedback.
Encoder input ¹)	8AC121.60-1		
Connection, module-side	15-pin DSUB socket, 2 pins closed	.87	- S
Indicators	UP/DN LEDs		
Electrical isolation			
Encoder - ACOPOS	No		
Encoder monitoring	Yes		
Encoder supply			
Output voltage	8 - 9 V		
Ability to work under pressure	170 mA		
Sense lines			
Sine-cosine inputs			
Signal transfer	Differential signal, asymmetric		
Differential voltage	0.5 1.25 Vss		
Common mode voltage	Max. ±7 V		
Terminating resistor	120 Ω		
Signal frequency	DC 200 kHz		
Resolution 3)	16384 * number of encoder lines		
Precision 4)			
Serial interface	Asynchronous		
Signal transfer	RS485		
Baud rate	9600 baud		
1) The HIPERFACE encoder must be wired using a cable with a s	single shield.		
 No sense lines are present because the supply voltage for the 	HIPERFACE encoder is permitted to lie between	1 7 and 12 V.	
3) Noise on the encoder signal reduces the practical resolution h	by approx. 5 bits (a factor of 32).		
 In the field, the precision is limited by the encoder. 			
Operational conditions	8AC121.60-1		
Ambient temperature during operation	0.4- 1.50%	1997	12
Relative humidity during operation	010 + 50 C		
neiative numbury during operation	5 to 95%, non-condensing		
Storage and transport conditions	5 to 95%, non-condensing 8AC121.60-1	2.	

-25 to +55 C 5 to 95%, non-condensing -25 to +70°C 95% at +40°C



Resolver interface 8AC122



- Resolver interface for installation in ACOPOS servo drives
 Monitoring the encoder input sign.
- Monitoring the encoder input signals
 Resolver type BRX

General information	8AC122.60-3	and the second	and the second
C-UL-US listed	Yes	2	- Bar
Module type	ACOPOS plug-in module		
Slot 1)	Slots 2, 3 and 4		
Power consumption	Max. 2.5 W		
1) The AC122 is an encoder module. Several encoder modules	can also be inserted. In this case, the encoder m	nodule in the slot with the lowest number is au	tomatically used for motor feedback.
Resolver input ¹⁾	8AC122.60-3		10 C
Resolver type	BRX 2)	L'	×°
Number of poles	2-pin		
Rated voltage ratio	0.5 ± 10%		
Input frequency	10 kHz		
Input voltage	3 to 7 V _{rms}		
Max. phase shift	± 45°		
Max. elec. angular error	± 10 angular minutes		
Connection, module-side	9-pin DSUB socket		
Indicators	UP/DN LEDs		
Electrical isolation			
Resolver - ACOPOS	No		
Encoder monitoring	Yes		
Resolution	14 bits/rev ⁴⁾		
Bandwidth	2.5 kHz		
Accuracy	± 8 angular minutes		
Reference output			
Signal transfer	Differential signals		
Differential voltage	Typically 3.4 V _{eff}		
Output current	Max. 50 mA _{eff}		
Frequency	10 kHz		
Sine-cosine inputs			
Signal transfer	Differential signals		
Input impedance at 10 kHz (per pin)	10.4 kΩ - j 11.1 kΩ		
Electrical isolation encoder-ACOPOS	No, common-mode voltage on the	e sine cosine inputs max \pm 20 V	
1) The resolver must be wired using a cable with a single shield	and twisted pair signal lines.		

- 2) BRX resolvers are fed with a sine signal (reference signal) from the module and return two sine signals with a 90° phase shift as a result. The amplitudes of these signals change with the angular position of the resolver. Unlike BRX resolvers, BRT resolvers can be fed with two sine signals which are offset by 90°. A single sine signal with constant amplitude is returned. The phase
- position of this signal changes with the angular position of the resolver. Starting with firmware V2.040, BRT resolvers can be basically evaluated with 8AC122.60-3. However, resolution and precision are limited because the resolver is run in inverse mode. Additionally, the rated voltage ratio is different to 0.5 (default value) and has to be set appropriately.
- 3) Starting with firmware V2.040, the rated voltage ratio can be set in a range of 0.3 ... 0.5 (default value).
- 4) 12 bits/rev is set as default, but this can be changed to 14 bits/rev.

Operational conditions	8AC122.60-3		and the second
Ambient temperature during operation	1)	39	Sec.
Relative humidity during operation	1)		
ACOPOS plug-in modules can be used in an ACOPOS se	rvo drive; the corresponding values can be for	und in the technical data of the	
respective ACOPOS servo drives.			

Storage and transport conditions	8AC122.60-3		10 S. C.
Storage temperature	-25 to +55°C	2	65
Relative humidity during storage	5 to 95%, non-condensing		
Transport temperature	-25 to +70°C		
Relative humidity during transport	95% at +40°C		

Optional accessories
8CR005.12-1
8CR007.12-1
8CR010.12-1
8CR015.12-1
8CR020.12-1
8CR025.12-1

Resolver cable, length 5 m, 3 x 2 x 24 AWG/19, resolver plug 12-pin Intercontec socket, servo plug 9-pin DSUB plug, can be used in cable drag chains, UL/CSA listed Resolver cable, length 7 m, 3 x 2 x 24 AWG/19, resolver plug 12-pin Intercontec socket, servo plug 9-pin DSUB plug, can be used in cable drag chains, UL/CSA listed Resolver cable, length 10 m, 3 x 2 x 24 AWG/19, resolver plug 12-pin Intercontec socket, servo plug 9-pin DSUB plug, can be used in cable drag chains, UL/CSA listed Resolver cable, length 15 m, 3 x 2 x 24 AWG/19, resolver plug 12-pin Intercontec socket, servo plug 9-pin DSUB plug, can be used in cable drag chains, UL/CSA listed Resolver cable, length 15 m, 3 x 2 x 24 AWG/19, resolver plug 12-pin Intercontec socket, servo plug 9-pin DSUB plug, can be used in cable drag chains, UL/CSA listed Resolver cable, length 20 m, 3 x 2 x 24 AWG/19, resolver plug 12-pin Intercontec socket, servo plug 9-pin DSUB plug, can be used in cable drag chains, UL/CSA listed Resolver cable, length 25 m, 3 x 2 x 24 AWG/19, resolver plug 12-pin Intercontec socket, servo plug 9-pin DSUB plug, can be used in cable drag chains, UL/CSA listed Resolver cable, length 25 m, 3 x 2 x 24 AWG/19, resolver plug 12-pin Intercontec socket, servo plug 9-pin DSUB plug, can be used in cable drag chains, UL/CSA listed

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ACOPOS 129

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Incremental encoder and SSI absolute value encoder interface 8AC123



Incremental encoder and • SSI absolute encoder interface for Sol absolute encoder interface for installing ACOPOS servo drives Monitoring the encoder input signals Encoder supply voltage of 5V or 15V Compensation for a voltage drop at 5 V encoder supply voltage

•

General information		8AC123.60-1		State of the second second
C-UL-US listed		Yes		
Module type		ACOPOS plug-in module		
Slot 1)		Slots 2, 3 and 4		
Power consumption		Max. 7.5 W		
		Depends on the current requirement	nts for the encoder connected 2)	
The AC123 is an encoder module. Severa	I encoder modules ca	an also be inserted. In this case, the encoder mo	dule in the slot with the lowest number is a	automatically used for motor feedback.
The power consumption of the plug-in m	odule can be approxi	mated using the following formula:		
P_{Module} [W] = PEncoder [W] . k + 0.6 W				
The power consumed by the encoder $P_{_{En}}$	coder is calculated from	the selected encoder supply voltage (5 V / 15 V) and the current required:	
PEncoder [W] = UEncoder [V] . IEncoder [A]				
The following values must be used for k:				
k = 1.2 (for 15 V encoder supply)				
k = 1.75 (for 5 V encoder supply)				
Encoder input ¹⁾		8AC123.60-1		
Connection, module-side	~	15-pin DSUB socket		~
Indicators		UP/DN LEDs		
Electrical isolation				
Encoder - ACOPOS		Yes		
Encoder monitoring		Yes		
Signal transfer		Differential signal transfer		
Cable length 2)		Max. 50 m		
The encoder must be wired using a cable	with a single shield a	and twisted pair signal lines (e.g. 4 x 2 x 0 14 mm	n ² + 2 x 0.5 mm ²).	
A cable with at least 4 x 2 x 0.14 mm ² + 2	2 x 0.5 mm ² is require	d for the maximum cable length. The sense line	s must be used.	
Encoder supply		8AC123.60-1	19 miles	and the second s
Supply voltages		Internal, select between 5 V/15 V		
Sense lines				
For 5 V		Yes. 2. compensation of max 2 V		
For 15 V		No		
Ability to work under pressure		and the second s		
5 V		350 mA		
15 V		350 mA		
Short circuit protection, overload p	rotection	Yes		
Incremental encoder		8AC123.60-1	and the second sec	100 million (100 m
Signal form		Square wave pulse	500	8°.
Evaluation		4x		
Input frequency		Max. 200 kHz		
Counter frequency		Max. 800 kHz		
Reference frequency		Max 200 kHz		
Distance between edges		Min 0.6 us		
Counter size		32-bit		
Inputs		A, A B, B B, B\		
Differential voltage inputs A B B				
Minimum		2.5 V		
Maximum		6 V		

Spar.	Source and the second s	Sol.	S
SSI absolute encoder	8AC123.60-1		and the second sec
Coding	Gray, binary	S.	20
Baud rate	200 kBit/s		
Word size	Max. 31-bit		
Differential voltage clock output - 120 Ω Minimum Maximum	2.5 V 5 V		
Differential voltage data input			
Minimum	2.5 V		
Maximum	6 V		
Operational conditions	8AC123.60-1		10 × 10 × 10
Ambient temperature during operation	1)		
Relative humidity during operation	1)		
1) ACOPOS plug-in modules can be used in an ACOPOS servo drive ACOPOS servo drive.	the corresponding values can be found in the technic	al data of the respective	
Storage and transport conditions	8AC123.60-1		
Storage temperature	-25 to +55°C		
Relative humidity during storage	5 to 95%, non-condensing		
Transport temperature	-25 to +70°C		
Relative humidity during transport	95% at +40°C		

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Digital mixed module 8AC130



- Digital mixed module for installation in ACOPOS servo drives
 Maximum of 8 digital inputs or 10 digital outputs
 The I/O points can be configured in pairs as inputs or outputs
 Incremental encoder functionality (A, B, R)
 Incremental encoder emulation

General information	8AC130 60-1	and the second se	and the second se
	Vas		
Medule type	ACOPOS plug in modulo		
Slot 1)	Slote 2, 2 and 4		
Slot "	Slots 2, 3 and 4		
Power consumption	Max. U.8 W		
 The AC130 can also be used as an encoder module. Seve 	ral encoder modules can also be inserted. In this case, the	encoder module in the slot with the lowest num	iber
is automatically used for motor feedback.			
Inputs/outputs	8AC130.60-1		
Connection, module-side	12-pin connector		
Configuration of the inputs/outputs	Configured in pairs as input or output		
Display	24 V LED		
Supply voltage	8AC130.60-1	and the second	and the second
Supply voltage			
Minimum	18 VDC		
Rated	24 VDC		
Maximum	30 VDC		
Reverse polarity protection	Yes		
Voltage monitoring (24 V - LED)	Yes, supply voltage > 18 V		
Digital inputs ¹⁾	8AC130.60-1		10 A
Number of inputs	Max. 8	- 6	- 6
Wiring	Sink		
Electrical isolation			
Input - ACOPOS	Ves		
Input - Input	No		
Input voltage	110		
Rated	24 VDC		
Maximum	24 VDC		
Wideking thread and	30 000		
Switching threshold	10×		
LOW	< 5 V		
HIGH	>15 V		
Input current at rated voltage	10 x 0		
Inputs 1 - 4	Approx. 10 mA		
Inputs 5 - 8	Approx. 5.5 mA		
Switching delay			
Inputs 1 - 4	Max. 5 µs		
Inputs 5 - 8	Max. 35 μs		
Modulation compared to ground potential			
1) Shielded cables must be used for inputs 1 - 4.			
Event counter	8AC130.60-1	10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	
Signal form	Square wave pulse		
Input frequency	Max. 100 kHz		
Counter size	16-bit		
Inputs			
Input 1	Counter 1		
Input 2	Counter 2		
AL AND A A A A A A A A A A A A A A A A A A			

10 ²⁰	10 ²⁰	.4D ²⁰	1000
Incremental encoder	840120 60 1	S. S	S
Signal form	Square wave pulse		
Signation	Square wave puise		
Evaluation Encoder monitoring	4x		
Input frequency	May 62 E kHz		
Counter frequency			
Peteropee frequency	Max. 230 Kilz		
Distance between edges	Min. 2 F un		
Counter size	16 hit		
lopute	10-bit		
Input 1	Channel A		
Input 2	Channel R		
Input 2	Reference pulse R		
Outputs	8AC120 60-1	and the second se	
Number of outputs	Max 10		
	Transistor outputs		
Outputs 1 - 4	Push-null		S.
Outputs 5 - 10	High-side		
Electrical isolation	Tigriside		5
	Ves		all a
	No		
Switching voltage	NO		
Minimum	18 VDC		
Bated	24 VDC		
Maximum	30 VDC		
Continuous current			
Outputs 1 - 4	Max. 100 mA		
Outputs 5 - 8	Max. 400 mA		
Outputs 9 - 10	Max. 2 A		
Switching delay 0 -> 1 and 1 -> 0			
Outputs 1 - 4	Max. 5 µs		
Outputs 5 - 8	Max. 50 μs		
Outputs 9 - 10	Max. 500 µs		
Switching frequency (resistive load)			
Outputs 1 - 2	Max. 10 kHz		
Outputs 3 - 4	Max. 10 kHz		
Outputs 5 - 8	Max. 5 kHz		
Outputs 9 - 10	Max. 100 Hz		
Protection			
Short circuit protection	Yes		
Overload protection	Yes		
Short circuit current at 24 V (until cut-off)			
Outputs 1 - 4	Approx. 1 A		
Outputs 5 - 8	Approx. 1.2 A		
Outputs 9 - 10	Approx. 24 A		
Readable outputs	Yes		

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Digital mixed module 8AC130

Operational conditions	8AC130.60-1		State of the second sec	
Ambient temperature during operation	1)	19	Sec.	
Relative humidity during operation	1)			
1) ACOPOS plug-in modules can be used in an ACOPOS se	ervo drive; the corresponding values can be for	und in the technical data of the respective		
ACOPOS servo drive.				
Storage and transport conditions	8AC130.60-1			1911 (M. 1917)
Storage temperature	-25 to +55°C			
Relative humidity during storage	5 to 95%, non-condensing			

Relative humidity during storage	5 to 95%, non-condensing	
Transport temperature	-25 to +70°C	
Relative humidity during transport	95% at +40°C	

cessories	
	Terminal block, 12-pin, screw clamp
	Terminal block 12-pin cage clamps

Required accessori	ies	S. C.	a second s		2
7TB712.9	Terminal block, 12-pin, screw clamps			🗎 1721	
7TB712.91	Terminal block, 12-pin, cage clamps			🗎 1721	
	18° 18°				8

Mixed module 8AC131



- Mixed module for installation in ACOPOS servo drives
 2 analog inputs with 12-bit resolution and up to 2 digital inputs/outputs
 Digital inputs/outputs can be switched individually
 Counter function
 All digital outputs can be read

General information	8AC131.60-1	and the second	and the second
C-UL-US listed	Yes		500
Module type	ACOPOS plug-in module		
Slot	Slots 2, 2 and 4		
Bower consumption	May 1W		
Power consumption	NIGX. 1 W		
Concention medulo side	10 min annantan		and the second sec
Connection, module-side	12-pin connector	an a	
Configuration of the digital inputs/outputs	Can be configured individually as digr	tal input or output	
Display	24 V LED		
Supply voltage	8AC131.60-1		
Supply voltage			
Minimum	18 VDC		
Rated	24 VDC		
Maximum	30 VDC		
Reverse polarity protection	Yes		
Voltage monitoring (24 V - LED)	Yes, supply voltage > 18 V		
Digital inputs	8AC131.60-1		and the second se
Number of inputs	Max. 2	"Ar	
Wiring	Sink		10 m
Electrical isolation			
Input - ACOPOS	Yes		
Input - Input	No		
	No.		
Bated	24 VDC		
Maximum	24 VDC		
Waximum Cruitaking thread ald	30 000		
Switching threshold	- 14		
LOW	< 5 V		
HIGH	>15 V		
Input current at rated voltage	Approx. 8 mA		
Switching delay			
Counter	Max. 5 μs		
Digital input	Max. 55 μ s (digitally filtered)		
Modulation compared to ground potential	Max. ±50 V	200	200
Event counter	8AC131.60-1		
Signal form	Square wave pulse		
Input frequency	Max. 100 kHz		
Counter size	16-bit		
Inputs			
Input 1	Counter 1		
Input 2	Counter 2		
	ocumer 2		
Star.	520.	220.	Str.
and the second sec		100	1
			ACOPOS 1303

Mixed module 8AC131

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Digital outputs	8AC131.60-1	and the second se	and the second sec
Number of outputs	Max. 2	5	-St
Туре	Transistor outputs push-pull		
Electrical isolation			
Output - ACOPOS	Yes		
Output - Output	No		
Switching voltage			
Minimum	18 VDC		
Rated	24 VDC		
Maximum	30 VDC		
Continuous current	Max. 45 mA		
Switching delay 0 -> 1 and 1 -> 0	Max. 5 µs		
Switching frequency (resistive load)	Max. 100 kHz		
Protection			
Short circuit protection	Yes		
Overload protection	Yes		
Short circuit current at 24 V (until cut-off)	Approx. 0.3 A		
Readable outputs	Yes	- A	
Analog inputs	8AC131.60-1		
Number of inputs	Max. 2		
Design	Differential input or single ended input		
Electrical isolation			
Input - ACOPOS	Yes		
Input - Input	No		
Input signal			
Rated	-10 V to +10 V		
Maximum	-15 V to +15 V		
Operating mode	Cyclic measurement synchronous to 50) μs ACOPOS clock	
Digital converter resolution	12-bit		
Non-linearity	±1 LSB		
Output format	INT16 \$8000 - \$7FF0		
and the second se	LSB = \$0010 = 4.883 mV		
Conversion procedure	Successive approximation		
Conversion time for both inputs	<50 µs		
Differential input impedance	> 10 MΩ	Sim	
Input filter	Analog low pass 3rd order / cut-off freq	juency: 10 kHz	
Basic Accuracy at 25°C	Hefers to the measurement range limit. $\pm 0.05\%$ ¹⁾		
Offset drift	Max. ±0.0005% / °C 1)		
Gain drift	Max. ±0.006% / °C 1)		
Cross-talk between the analog inputs	Min90 dB at 1kHz		
Common-mode rejection			
DC	Min73 dB		
50 Hz	Min73 dB		
Modulation compared to ground potential	Max. ±50 V		
Modulation between the analog input channels	Max. ±5 V		
1) Refers to the measurement range limit.			

Operational conditions	8AC131.60-1	and the second	1997 - C.
Ambient temperature during operation	1)		Sec.
Relative humidity during operation	1)		
) ACOPOS plug-in modules can be used in an ACOPOS se	rvo drive; the corresponding values can be fo	und in the technical data of the respective	
ACOPOS servo drive.			
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Storage and transport conditions	8AC131.60-1		
Storage temperature	-25 to +55°C	8	10%
Relative humidity during storage	5 to 95%, non-condensing		
Transport temperature	-25 to +70°C		
Relative humidity during transport	95% at +40°C		

	Required accessories	s	100 m	10 m		
	7TB712.9	Terminal block, 12-pin, screw clam	os		🖹 1721	
	7TB712.91	Terminal block, 12-pin, cage clamp	s S		🖹 1721	
		and the second s	Ser. Con	and Br.	Star 10	
29		1 ²	12°	20	ACOPOS 1305	

CPU module 8AC140





- Complete PLC for installation in ACOPOS servo drives
- Removable application memory (CompactFlash)¹⁾ .
- . Interfaces for connecting to CAN bus, Profibus or Ethernet networks²⁾ •
- Integrated analog input and up to three digital inputs/outputs (can be configured individually as input/output)
- Can be delivered with built-in CNC function (ARNC0, only on 8AC140.61-3)

1) Application memory must be ordered separately. 2) Ethernet interface only on 8AC140.60-3 and 8AC140.61-3.

General information	8AC140.60-2	8AC140.60-3	8AC140.61-3
C-UL-US listed	Yes	Yes	Yes
Module type	ACOPOS plug-in module double- width	ACOPOS plug-in module double- width	ACOPOS plug-in module double- width
Slot 1)	Slots 1 + 2	Slots 1 + 2	Slots 1 + 2
Power consumption	Max, 4.5 W	Max. 4.5 W	Max. 4.5 W
Visual Components capability	Yes	Yes	Yes
ACOPOS capability	Yes		Yes
The AC140 is a module with double-width and occupies	slots 1 and 2.		
CPU	8AC140.60-2	8AC140.60-3	8AC140.61-3
Processor clock	100 MHz	100 MHz	100 MHz
SRAM	32 kB	32 kB	32 kB
DRAM	16 MB	32 MB	32 MB
Operating system	AC140 (version V2.67 and higher)	AC140 (version V2.67 and higher)	AC140 (version V2.67 and higher)
F1 application interface	8AC140.60-2	8AC140.60-3	8AC140.61-3
nterface type	RS232	RS232	RS232
Electrical isolation	No	No	No
Design	9-pin DSUB plug	9-pin DSUB plug	9-pin DSUB plug
Max. distance	15 m / 19,200 baud	15 m / 19,200 baud	15 m / 19,200 baud
Max. baud rate	115.2 kBaud	115.2 kBaud	115.2 kBaud
Display	X1 LED	X1 LED	X1 LED
F2 application interface	8AC140.60-2	8AC140.60-3	8AC140.61-3
nterface type	CAN bus	CAN bus	CAN bus
Electrical isolation	Yes	Yes	Yes
Design	9-pin DSUB plug	9-pin DSUB plug	9-pin DSUB plug
Max. distance	1000 m	1000 m	1000 m
Max. baud rate			
Bus lengths up to 60 m	500 kBit/s	500 kBit/s	500 kBit/s
Bus lengths up to 200 m	250 kBit/s	250 kBit/s	250 kBit/s
Bus lengths up to 1,000 m	50 kBit/s	50 kBit/s	50 kBit/s
ndicators	RX / TX LEDs	RX / TX LEDs	RX / TX LEDs
Network-capable	Yes	Yes	Yes
Bus termination resistor	Externally wired	Externally wired	Externally wired
F3 application interface	8AC140.60-2	8AC140.60-3	8AC140.61-3
nterface type	RS485	RS485	RS485
Fransfer protocol	Profibus DP	Profibus DP	Profibus DP
Electrical isolation	Yes	Yes	Yes
Design	9-pin DSUB socket	9-pin DSUB socket	9-pin DSUB socket
Controller	ASIC SPC3	ASIC SPC3	ASIC SPC3
RAM	1.5 kByte	1.5 kByte	1.5 kByte
Max. distance	1000 m	1000 m	1000 m
Max. baud rate			
Bus lengths up to 100 m	12 MBit/s	12 MBit/s	12 MBit/s
Bus lengths up to 200 m	1.5 MBit/s	1.5 MBit/s	1.5 MBit/s
Bus lengths up to 400 m	500 kBit/s	500 kBit/s	500 kBit/s
Bus lengths up to 1,000 m	187.5 kBit/s	187.5 kBit/s	187.5 kBit/s
Indicators	RX / TX LEDs	PB LED	PB LED
Network-capable	Yes	Yes	Yes
Bus termination resistor	External T-connector	External T-connector	External T-connector
2			<u></u>

pplication interface IF5	8AC140.60-2	8AC140.60-3	8AC140.61-3
terface type		Ethernet	Ethernet
lectrical isolation		Yes	Yes
esign		RJ45 socket	RJ45 socket
lax. distance	ð	100 m	100 m
aud rate	×	10/100 MBit/s	10/100 MBit/s
isplay		ACT LED	ACT LED
etwork-canable		Yes	Yes
	800140 60-2	80.0140.60-2	800140.61.2
opportion module side	8 pin connector	8 pin connector	8 pin connector
onfiguration of the digital inputs/outputs	Can be configured individually as	Can be configured individually as	Can be configured individually as
	input or output	Input or output	Input or output
igital inputs ¹⁾	8AC140.60-2	8AC140.60-3	8AC140.61-3
umber of inputs	Max. 3	Max. 3	Max. 3
/iring	Sink	Sink	Sink
ectrical isolation			8
Input - ACOPOS	Yes	Yes	Yes
Input - Input	No	No	No
put voltage			
Rated	24 VDC	24 VDC	24 VDC
Maximum	30 VDC	30 VDC	30 VDC
witching threshold			
LOW	< 5 V	< 5 V	< 5 V
HIGH	>15 V	>15 V	>15 V
put current at rated voltage	Approx, 4.2 mA	Approx, 4.2 mA	Approx, 4.2 mA
out delay	<5.0	<5.0	<5.08
dulation compared to ground potential	Max +20 V	Max +20 V	Nax + 20 V
	Max. ±30 V	Max. ±30 V	Wax. ±30 V
nielded cables must be used for inputs 1 - 3.			
/ent counter	8AC140.60-2	8AC140.60-3	8AC140.61-3
Ignal form	Square wave pulse	Square wave pulse	Square wave pulse
put frequency	Max. 100 kHz	Max. 100 kHz	Max. 100 kHz
ulse length	Min. 5 µs	Min. 5 µs	Min. 5 µs
ounter size	32-bit	32-bit	32-bit
iputs			
Input 1	Counter 1	Counter 1	Counter 1
Input 2	32		32
Input 3			
cremental counter	8AC140.60-2	8AC140.60-3	8AC140.61-3
gnal form	Square wave pulse	Square wave pulse	Square wave pulse
valuation	4x	4x	4x
ncoder monitoring	No	No	No
put frequency	Max. 20 kHz	Max. 20 kHz	Max. 20 kHz
ounter frequency	Max. 80 kHz	Max. 80 kHz	Max. 80 kHz
ference frequency	Max, 20 kHz	Max. 20 kHz	Max. 20 kHz
stance between edges	Min 5 //s	Min 5 us	Min 5 //s
nunter size	16-bit	16-bit	16-bit
	10-bit	10-01	10-51
puis	Channel A	Changed A	Channel A
nput i	Channel A	Channel A	Channel A
nput 2	Channel B		
nput 3	Reference pulse R	Reference pulse R	Reference pulse R

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ACOPOS 1307

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CPU module 8AC140

ate measurement	8AC140.60-2	8AC140.60-3	8AC140.61-3
ignal form	Square wave pulse	Square wave pulse	Square wave pulse
ate frequency	Max. 100 kHz	Max. 100 kHz	Max. 100 kHz
ulse length	Min. 5 µs	Min. 5 µs	Min. 5 µs
ounter frequency			
Internal	31.25 kHz or 4 MHz	31.25 kHz or 4 MHz	31.25 kHz or 4 MHz
External	Max. 100 kHz	Max. 100 kHz	Max. 100 kHz
eriod measurement	8AC140.60-2	8AC140.60-3	8AC140.61-3
gnal form	Square wave pulse	Square wave pulse	Square wave pulse
	Max 100 kHz	Max 100 kHz	Max 100 kHz
lse length	Min 5 //s	Min 5 //s	Min 5 //s
unter frequency	Wint. 9 µ3	Wint: 5 µ3	Will: 0 µ3
nternal	31 25 kHz or 4 MHz	21 25 kHz or 4 MHz	21 25 kHz or 4 MHz
External			
	NIAX. 100 KHZ	NIAX. 100 KHZ	Max. 100 KH2
	6AC 140.00-2	Max: 2	8AC 140.81-5
mber of outputs	IVIAX. 3	Wax. 3	Wax. 3
	nign-side transistor outputs	righ-side transistor outputs	rign-side transistor outputs
Setrical Isolation	125	100	
Jutput - ACOPOS	Yes	Yes	Yes
Jutput - Output	No	No	No
/itching voltage			
Ainimum	18 VDC	18 VDC	18 VDC
Rated	24 VDC	24 VDC	24 VDC
/laximum	30 VDC	30 VDC	30 VDC
ntinuous current	Max. 500 mA	Max. 500 mA	Max. 500 mA
vitching delay 0 -> 1 and 1 -> 0	Max. 500 μs (typ. 250 μs)	Max. 500 μs (typ. 250 μs)	Max. 500 μs (typ. 250 μs)
vitching frequency (resistive load)	Max. 100 Hz	Max. 100 Hz	Max. 100 Hz
otection			
Short circuit protection	Yes	Yes	Yes
Overload protection	Yes	Yes	Yes
ntinuous short circuit current at 24 V	Typ. 4 A	Typ. 4 A	Typ. 4 A
adable outputs	Yes	Yes	Yes
alog input	8AC140.60-2	8AC140.60-3	8AC140.61-3
sign	Differential input	Differential input	Differential input
ectrical isolation			
out - ACOPOS 1)	No, max. modulation: ±13 V	No, max. modulation: ±13 V	No, max. modulation: ±13 V
put signal			
Rated	-10 V to +10 V	-10 V to +10 V	-10 V to +10 V
Maximum	-13 V to +13 V	-13 V to +13 V	-13 V to +13 V
erating mode	Cyclic measurement non-synchro-	Cyclic measurement non-synchro-	Cyclic measurement non-synchro-
Br	nous to 50 µs ACOPOS clock	nous to 50 µs ACOPOS clock	nous to 50 µs ACOPOS clock
aital converter resolution	12-bit	12-bit	12-bit
on-linearity	±2 LSB	±2 LSB	±2 LSB
itput format	INT 16 \$8001 - \$7FFF	INT 16 \$8001 - \$7FFF	INT 16 \$8001 - \$7FFF
	LSB = \$0010 = 4.88 mV	LSB = \$0010 = 4.88 mV	LSB = \$0010 = 4.88 mV
nversion procedure	Successive approximation	Successive approximation	Successive approximation
nversion time	<50 //s	< 50 //s	<50.05
ferential input impedance	20 MO	20 MO	20 MO
nerennar mput impedance	Analog low pass and order	Apalog low pass 3rd order	Analog low pass 3rd order
Jul Inter	Analog low pass 3rd-order	Analog low pass 3rd-order	Analog low pass 3rd-order
0	cut-off frequency: 10 kHz	cut-on frequency: 10 kHz	cut-on requency: 10 kHz
mmon-mode rejection	M. 70 10	Mi 70 ID	
JC	Min. 73 dB	Min. 73 dB	Min. 73 dB
40 Uz	Min 72 dB	Min 72 dB	Min 73 dB

Operational conditions	8AC140.60-2	8AC140.60-3	8AC140.61-3
Ambient temperature during operation	1)	1)	1)
Relative humidity during operation	1)	1)	1)
1) ACOPOS plug-in modules can be used in an ACOPOS	servo drive; the corresponding values ca	an be found in the technical data of the respective	
for a list of exclusive actions			

Storage and transport conditions	8AC140.60-2	8AC140.60-3	8AC140.61-3
Storage temperature	-25 to +55°C	-25 to +55°C	-25 to +55°C
Relative humidity during storage	5 to 95%, non-condensing	5 to 95%, non-condensing	5 to 95%, non-condensing
Transport temperature	-25 to +70°C	-25 to +70°C	-25 to +70°C
Relative humidity during transport	95% at +40°C	95% at +40°C	95% at +40°C

Requireu accessories				
5CFCRD.0064-03	CompactFlash 64 MB ATA/IDE SiliconSystems		LS B 17	706
5CFCRD.0128-03	CompactFlash 128 MB ATA/IDE SiliconSystems		₿ 17	706
5CFCRD.0256-03	CompactFlash 256 MB ATA/IDE SiliconSystems		₿ 17	706
5CFCRD.0512-03	CompactFlash 512 MB ATA/IDE SiliconSystems		₿ 17	706
5CFCRD.1024-03	CompactFlash 1024 MB ATA/IDE SiliconSystems		₿ 17	706
5CFCRD.2048-03	CompactFlash 2048 MB ATA/IDE SiliconSystems		₿ 17	706
5CFCRD.4096-03	CompactFlash 4096 MB ATA/IDE SiliconSystems		₿ 17	706
5CFCRD.8092-03	CompactFlash 8092 MB ATA/IDE SiliconSystems		₿ 17	706
0TB708.91	Accessory terminal block, 8-pin, cage clamps 1.5 mm ²		₿ 17	716
Optional accessories				
0G0001.00-090	Cable PC <-> PLC/PW, RS232, online cable			708
7AC911.9	Bus connector, CAN		() B 17	724
0AC912.9	Bus connector, CAN, 1 CAN interface		₿ 17	726
0AC913.92	Bus connecter, CAN, 2 CAN interfaces, including 30 cm	connection cable (DSUB connector)	₿ 17	726

ACOPOS 1309 Ka.g

CPU module 8AC141



- Complete PLC for installation in ACOPOS servo drives
 Removable application memory (CompactFlash)¹⁾
 Interfaces for connecting to CAN bus or Ethernet networks
 X2X Link interface
 Up to three digital inputs/outputs (can be configured individually as input / output)
 With built-in CNC function (ARNC0, only on 8AC141.61-3)

1

1) Application memory must be ordered separate

Sellerar mormation	0AC141.00-2		0AC 141.01-3	
C-UL-US listed	Yes	- Par	Yes	-6
Nodule type	ACOPOS plug-in module double-width		ACOPOS plug-in module	e double-width
Slot 1)	Slots 1 + 2		Slots 1 + 2	
Power consumption	Max. 4.5 W		Max. 4.5 W	
/isual Components capability	Yes		Yes	
ACOPOS capability	Yes		Yes	
The AC141 is a module with double-width and occupies slots 1	I and 2.			
CPU	8AC141.60-2		8AC141.61-3	
Processor clock	100 MHz		100 MHz	
SRAM	32 kB		32 kB	
DRAM	16 MB		32 MB	
Operating system	AC140 (version V2.80 and higher)		AC140 (version V2.80 ar	nd higher)
F1 application interface	8AC141.60-2	100	8AC141.61-3	
nterface type	RS232		RS232	
Electrical isolation	No		No	
Design	9-pin DSUB plug		9-pin DSUB plug	
Max. distance	15 m / 19,200 baud		15 m / 19,200 baud	
Max. baud rate	115.2 kBaud		115.2 kBaud	10 m
Display	232 LED		232 LED	
Application interfaces IF2, IF3	8AC141.60-2		8AC141.61-3	
nterface type	CAN bus	X	CAN bus	201
Electrical isolation	Yes		Yes	
Design	9-pin DSUB plug		9-pin DSUB plug	
Max. distance	1000 m		1000 m	
Max. baud rate				
Bus lengths up to 60 m	500 kBit/s		500 kBit/s	
Bus lengths up to 200 m	250 kBit/s		250 kBit/s	
Bus lengths up to 1.000 m	50 kBit/s		50 kBit/s	
ndicators				and the second se
IF2	CAN1 LED		CAN1 LED	
IF3	CAN2 LED		CAN2 LED	
Network-capable	Yes		Yes	
Bus termination resistor	Externally wired		Externally wired	
F4 application interface	8AC141.60-2	100	8AC141.61-3	and the second sec
nterface type	X2X	24	X2X	-10
Electrical isolation	Yes		Yes	
Design	4-pin connector		4-pin connector	
Max. distance	100 m		100 m	
ndicators	X2X LED		X2X LED	
Application interface IF6	8AC141.60-2		8AC141.61-3	28
nterface type	Ethernet		Ethernet	100 C
Electrical isolation	Yes		Yes	
Design	RJ45 socket		RJ45 socket	
Max. distance	100 m		100 m	
Baud rate	10/100 MBit/s		10/100 MBit/s	
Display	ACT LED		ACT LED	
Network-capable	Yes		Yes	

Inputs/outputs	8AC141.60-2	8AC141.61-3	
Connection, module-side	8-pin connector	8-pin connector	
Configuration of the digital inputs/outputs	Can be configured individually as input or output	Can be configured individually as input or output	
Digital inputs ¹⁾	8AC141.60-2	8AC141.61-3	
Number of inputs	Max. 3	Max. 3	
Wiring	Sink	Sink	
Electrical isolation			
Input - ACOPOS	Yes	Yes	
Input - Input	No	No	
Input voltage			
Rated	24 VDC	24 VDC	
Maximum	30 VDC	30 VDC	
Switching threshold			
LOW	< 5 V	< 5 V	
HIGH	>15 V	>15 V	
Input current at rated voltage	Approx. 4.2 mA	Approx. 4.2 mA	
Input delay	<5 µs	<5 µs	0
Modulation compared to ground potential	Max. ±30 V	Max. ±30 V	2
1) Shielded cables must be used for inputs 1 - 3.			
Event counter	8AC141.60-2	8AC141.61-3	
Signal form	Square wave pulse	Square wave pulse	
Input frequency	Max. 100 kHz	Max. 100 kHz	
Pulse length	Min. 5 µs	Min. 5 μs	
Counter size	32-bit	32-bit	
Inputs			
Input 1	Counter 1	Counter 1	
Input 2	Count direction (only in stepper motor mode)	Count direction (only in stepper motor mode)	
Input 3			
Incremental counter	8AC141.60-2	8AC141.61-3	
Signal form	Square wave pulse	Square wave pulse	
Evaluation	4x	4x	
Encoder monitoring	No	No	
Input frequency	Max. 20 kHz	Max. 20 kHz	
Counter frequency	Max. 80 kHz	Max. 80 kHz	
Beference frequency	Max 20 kHz	Max 20 kHz	
Distance between edges	Min 5 us	Min 5 us	
Counter size	16-bit	16-bit	
Inputs			
Input 1	Channel A	Channel A	
Input 2	Channel B	Channel B	
Input 3	Beference pulse B	Reference pulse B	
Gate measurement	8AC141.60-2	8AC141.61-3	
Signal form	Square wave pulse	Square wave pulse	
Gate frequency	Max. 100 kHz	Max. 100 kHz	
Pulse length	Min. 5 us	Min. 5 us	
Counter frequency		Commo pao	
Internal	31 25 kHz or 4 MHz	31 25 kHz or 4 MHz	
External	Max. 100 kHz	Max. 100 kHz	
Period measurement	8AC141.60-2	8AC141.61-3	
Signal form	Square wave pulse	Square wave pulse	
Input frequency	May 100 kHz	May 100 kHz	
Pulse length	Min 5 //s	Min 5 //s	
Counter frequency	winit. 5 µ3	iiiii. σ μο	
Internel	21 25 kHz or 4 MHz	21.25 kHz or 4 MHz	
External			
LACTION			

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ACOPOS 1311

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CPU module 8AC141

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Digital outputs	8AC141.60-2	8AC141.61-3
lumber of outputs	Max. 3	Max. 3
ype	High-side transistor outputs	High-side transistor outputs
lectrical isolation		
Output - ACOPOS	Yes	Yes
Output - Output	No	No
witching voltage		
Minimum	18 VDC	18 VDC
Rated	24 VDC	24 VDC
Maximum	30 VDC	30 VDC
Continuous current	Max. 500 mA	Max. 500 mA
witching delay 0 -> 1 and 1 -> 0	Max. 500 µs (typ. 250 µs)	Max. 500 µs (typ. 250 µs)
witching frequency (resistive load)	Max. 100 Hz	Max. 100 Hz
rotection		
Short circuit protection	Yes	Yes
Overload protection	Yes	Yes
ontinuous short circuit current at 24 V	Typ 4 A	Typ 4 A
leadable outputs	Yes	Yes
	840141 60-2	840141 61-3
losign	Differential input	Differential input
	and the second sec	And the second second
Input - ACOPOS "	No, max. modulation: ±13 V	No, max. modulation: ±13 V
nput signal	all	all in the second se
Rated	-10 V to +10 V	-10 V to +10 V
Maximum	-13 V to +13 V	-13 V to +13 V
)perating mode	Cyclic measurement, non-synchronous to	Cyclic measurement, non-synchronous to
	50 µs ACOPOS clock	50 µs ACOPOS clock
Digital converter resolution	12-bit	12-bit
Ion-linearity	±2 LSB	±2 LSB
Output format	INT 16 \$8001 - \$7FFF	INT 16 \$8001 - \$7FFF
	LSB = \$0010 = 4.88 mV	LSB = \$0010 = 4.88 mV
onversion procedure	Successive approximation	Successive approximation
conversion time	<50 µs	<50 µs
lifferential input impedance	20 ΜΩ	20 ΜΩ
nput filter	Analog low pass 3rd-order	Analog low pass 3rd-order
	cut-off frequency: 10 kHz	cut-off frequency: 10 kHz
common-mode rejection		
DC	Min. 73 dB	Min. 73 dB
50 Hz	Min. 73 dB	Min. 73 dB
External electrical isolation for the connected sensors is recon	mended because the analog input is not electrically isolated.	
perational conditions	8AC141.60-2	8AC141.61-3
mbient temperature during operation	1)	"\C
elative humidity during operation	1)	(<u>)</u>
ACOPOS plug-in modules can be used in an ACOPOS servo d	rive; the corresponding values can be found in the technical data of th	e respective
or a list of exclusive actions.		
torage and transport conditions	8AC141.60-2	8AC141.61-3
	-25 to +55°C	-25 to +55°C
torage temperature		
torage temperature lelative humidity during storage	5 to 95%, non-condensing	5 to 95%, non-condensing
itorage temperature Ielative humidity during storage ransport temperature	5 to 95%, non-condensing -25 to +70°C	5 to 95%, non-condensing -25 to +70°C
itorage temperature lelative humidity during storage ransport temperature lelative humidity during transport	5 to 95%, non-condensing -25 to +70°C 95% at +40°C	5 to 95%, non-condensing -25 to +70°C 95% at +40°C

	Required accessories					
	5CFCRD.0064-03	CompactFlash 64 MB ATA/IDE SiliconSystem	s 🔿		1706	0
	5CFCRD.0128-03	CompactFlash 128 MB ATA/IDE SiliconSystem	ns		1706	N.C.
	5CFCRD.0256-03	CompactFlash 256 MB ATA/IDE SiliconSystem	ns		1706	125
	5CFCRD.0512-03	CompactFlash 512 MB ATA/IDE SiliconSystem	ns		1706	60
	5CFCRD.1024-03	CompactFlash 1024 MB ATA/IDE SiliconSyste	ems		₿ 1706	
	5CFCRD.2048-03	CompactFlash 2048 MB ATA/IDE SiliconSyste	ems		₿ 1706	
	5CFCRD.4096-03	CompactFlash 4096 MB ATA/IDE SiliconSyste	ems		1706	
	5CFCRD.8092-03	CompactFlash 8092 MB ATA/IDE SiliconSyste	ems		1706	
	0TB708.91	Accessory terminal block, 8-pin, cage clamps	s 1.5 mm²		🖹 1716	
	0TB704.9	Accessory terminal block, 4-pin, screw clamp	0 1.5 mm²		₪ 1714	
	0TB704.91	Accessory terminal block, 4-pin, cage clamps	2.5 mm ²		₿ 1714	
	Optional accessories					10 ⁻²
	0G0001.00-090	Cable PC <-> PLC/PW, RS232, online cable			1708	12
	7AC911.9	Bus connector, CAN			🖹 1724	1997 - A.
	0AC912.9	Bus connector, CAN, 1 CAN interface			🗎 1726	1
	0AC913.92	Bus connecter, CAN, 2 CAN interfaces, includ	ing 30 cm connection cable		1726	
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					14	
					ACOPOS 1313	

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Motor cables 1.5 mm² 8CM



- UL/CSA listed
 Can be used in cable drag chains
 Optimally produced for use with ACOPOS servo drives 1010/1016/1022/1045/1090 and B&R servo motors with size 1 motor plugs

Available from production in six different lengths: ¹⁾

Cable length	Model number	
5 m 🔬	8CM005.12-1	
7 m 🔊	8CM007.12-1	
10 m	8CM010.12-1	
15 m	8CM015.12-1	
20 m	8CM020.12-1	
25 m	8CM025.12-1	

1) Custom fabrications are available upon request.

General information	8СМххх.12-1	and the second se
Cable cross section	4 x 1.5 mm ² + 2 x 2 x 0.75 mm ²	-6 [°]
Durability	Oil resistant according to VDE 0472 part 803, as well as standard hydraulic oil	
Certification	UL AWM Style 20234, 80°C, 1000 V, E63216 and CSA AWM I/II A/B, 90°C, 1000 V, FT	2 LL46064
Lines	8CMxxx.12-1	0
Power lines	1.5 mm², tinned Cu wire	10°
Wire insulation	Special thermoplastic material	
Wire colors	Black, brown, blue, yellow/green	
Signal lines	0.75 mm ² , tinned Cu wire	
Wire insulation	Special thermoplastic material	
Wire colors	White, white/red, white/blue, white/green	
Cable structure	8CMxxx.12-1	and the second sec
Power lines	. d'	Sec.
Stranding	No	
Shield	No	
Signal lines		
Stranding	White with white/red and white/blue with white/green	
Shield	Separate shielding for pairs, tinned Cu mesh, optical coverage 85% > and foil band	ling
Cable stranding	With filler elements and foil banding	- -
Cable shielding	Tinned Cu mesh, optical coverage 85% and wrapped in isolating fabric	
Outer sheathing		
Material	PUR	
Color	Orange, similar to RAL 2003 flat	
Labeling	BERNECKER & RAINER 4x1.5+2x2x0.75 FLEX	
Electrical characteristics	8CMxxx.12-1	and the second sec
Conductor resistance		
Power lines	≤ 14 Ω/km	
Signal lines	≤ 19 Ω/km	
Insulation resistance	> 200 Ω/km	
Test voltage		
Wire/wire	3 kV	
Wire/shield	3 kV	
Operating voltage	Max. 1000 V	
Mechanical characteristics	8CMxxx.12-1	
Temperature range		
Moving	-10°C to +70°C	
Static	-20°C to +90°C	
Outer diameter	12.8 mm ± 0.4 mm	
Flex radius	>96 mm	
Speed	≤ 4 m/s	
Acceleration	< 60 m/s ²	
Flex cycles	≥ 3,000,000	
Weight	0.26 kg/m	

Motor cables 4 mm² 8CM



- UL/CSA certified
- •
- Can be used in cable drag chains Produced for optimal use with ACOPOS servo drives 1180/1320 and B&R servo motors with size 1 motor plugs

Available from production in six different lengths: ¹⁾

Cable length	Model number	
5 m	8CM005.12-3	
7 m	8CM007.12-3	
10 m 💦	8CM010.12-3	
15 m	8CM015.12-3	
20 m 💉	8CM020.12-3	
25 m	8CM025.12-3	

1) Custom fabrications are available upon request.

General information	8CMxxx.12-3	and the second
able cross section	4 x 4 mm ² + 2 x 2 x 1 mm ²	18 ¹⁰
urability	Oil resistant according to VDE 0472 part 803, as well as standard hyd	raulic oil
ertification	UL AWM Style 20234, 80°C, 1000 V, E63216 and CSA AWM I/II A/B, 90	0°C, 1000 V, FT2 LL46064
ines 🔗	8CMxxx.12-3	1
ower lines	4 mm², tinned Cu wire	10°
Wire insulation	Special thermoplastic material	
Wire colors	Black, brown, blue, yellow/green	
ignal lines	1 mm ² , tinned Cu wire	
- Wire insulation	Special thermoplastic material	
Wire colors	White, white/red, white/blue, white/green	
able structure	8CMxxx.12-3	and the second
ower lines	8 8	3
Stranding	No	
Shield	No	
anal lines		
Stranding	White with white/red and white/blue with white/green	
Shield	Separate shielding for pairs tipped Cumesh optical coverage 95%	and foil banding
able stranding	With filler elements and foil handing	and for burning
	Tipped Cu mech optical coverage 95% and wrapped in in-1-time febr	in a state of the
uter shorthing	mineu cu mesh, optical coverage 65% and wrapped in Isolating fabr	
uter sneathing		
Inviaterial		
Loior	Urange, similar to KAL 2003 flat	
Labeling	BERNECKER & RAINER 4x4.0+2x2x1.0 FLEX	
Labeling lectrical characteristics	BERNECKER & RAINER 4x4.0+2x2x1.0 FLEX 8CMxxx.12-3	and the second se
Labeling ectrical characteristics onductor resistance	BERNECKER & RAINER 4x4.0+2x2x1.0 FLEX 8CMxxx.12-3	and the second sec
Labeling ectrical characteristics onductor resistance Power lines	BERNECKER & RAINER 4x4.0+2x2x1.0 FLEX 8CMxxx.12-3 ≤ 5.2 Ω/km	20 ¹⁰
Labeling ectrical characteristics onductor resistance Power lines Signal lines	BERNECKER & RAINER $4\times4.0 + 2\times2\times1.0$ FLEX 8CMxxx.12-3 $\leq 5.2 \Omega/km$ $\leq 19 \Omega/km$	
Labeling lectrical characteristics onductor resistance Power lines Signal lines Isgual ines	BERNECKER & RAINER 4x4.0+2x2x1.0 FLEX 8CMxxx.12-3 ≤ 5.2 Ω/km ≤ 19 Ω/km > 200 MΩ/km	and and a second se
Labeling lectrical characteristics onductor resistance Power lines Signal lines usulation resistance est voltage	BERNECKER & RAINER 4x4.0+2x2x1.0 FLEX 8CMxxx.12-3 ≤ 5.2 Ω/km ≤ 19 Ω/km > 200 MΩ/km	and
Labeling lectrical characteristics onductor resistance Power lines Signal lines sulation resistance est voltage Wire/wire	BERNECKER & RAINER 4x4.0+2x2x1.0 FLEX 8CMxxx.12-3 ≤ 5.2 Ω/km ≤ 19 Ω/km > 200 MΩ/km 3 kV	and and a second
Labeling ectrical characteristics onductor resistance Power lines Signal lines sulation resistance est voltage Wire/wire Wire/shield	BERNECKER & RAINER 4x4.0+2x2x1.0 FLEX 8CMxxx.12-3 ≤ 5.2 Ω/km ≤ 19 Ω/km > 200 MQ/km 3 kV 3 kV	in the state of th
Labeling ectrical characteristics onductor resistance Power lines Signal lines sulation resistance stat voltage Wire/wire Wire/wire perating voltage	BERNECKER & RAINER 4x4.0+2x2x1.0 FLEX BCMxxx.12-3 ≤ 5.2 Ω/km ≤ 19 Ω/km > 200 MΩ/km 3 kV 3 kV 3 kV Max. 1000 V	asheant
Labeling ectrical characteristics onductor resistance Power lines Signal lines sulation resistance st voltage Wire/wire Wire/wire ectanig voltage echanical characteristics	BERNECKER & RAINER 4x4.0+2x2x1.0 FLEX 8CMxxx.12-3 ≤ 5.2 Ω/km ≤ 19 Ω/km > 200 MΩ/km 3 kV 3 kV 3 kV 3 kV Max. 1000 V 8CMxxx.12-3	ante de la constante de la con
Labeling ectrical characteristics poductor resistance Power lines Signal lines sulation resistance st voltage Wire/wire Wire/wire Wire/shield perating voltage echanical characteristics mperature range	BERNECKER & RAINER 4x4.0+2x2x1.0 FLEX 8CMxxx.12-3 ≤ 5.2 Ω/km ≤ 19 Ω/km > 200 MΩ/km 3 kV 3 kV Max. 1000 V 8CMxxx.12-3	ante di ante di ante di ante di
Labeling ectrical characteristics onductor resistance Power lines Signal lines sulation resistance st voltage Wire/wire Wire/shield operating voltage echanical characteristics mperature range Moving	BERNECKER & RAINER 4x4.0+2x2x1.0 FLEX 8CMxxx.12-3 ≤ 5.2 Ω/km ≤ 19 Ω/km > 200 MΩ/km 3 kV 3 kV 3 kV Max. 1000 V 8CMxxx.12-3 -10°C to +70°C	and and a second and a second
Labeling ectrical characteristics onductor resistance Power lines Signal lines sulation resistance ust voltage Wire/wire Wire/shield perating voltage echanical characteristics mperature range Moving Static	BERNECKER & RAINER 4x4.0+2x2x1.0 FLEX 8CMxxx.12-3 ≤ 5.2 Ω/km ≤ 19 Ω/km > 200 MΩ/km 3 kV 3 kV 3 kV Max. 1000 V 8CMxxx.12-3 -10°C to +70°C -20°C to +90°C	and all and al
Labeling ectrical characteristics anductor resistance Power lines Signal lines sulation resistance st voltage Wire/wire Wire/wire Wire/shield perating voltage echanical characteristics emperature range Moving Static uter diameter	BERNECKER & RAINER 4x4.0+2x2x1.0 FLEX 8CMxxx.12-3 ≤ 5.2 Ω/km ≤ 19 Ω/km > 200 MΩ/km 3 kV 3 kV 3 kV Max. 1000 V 8CMxxx.12-3 -10°C to +70°C -20°C to +90°C 15.8 mm ± 0.5 mm	and and a second
Labeling ectrical characteristics onductor resistance Power lines Signal lines sulation resistance st voltage Wire/wire Wire/wire Wire/wire wire/shield perating voltage echanical characteristics mperature range Moving Static uter diameter ex radius	BERNECKER & RAINER 4x4.0+2x2x1.0 FLEX 8CMxxx.12-3 ≤ 5.2 Ω/km ≤ 19 Ω/km > 200 MΩ/km 3 kV 3 kV 3 kV 3 kV Max. 1000 V 8CMxxx.12-3 -10°C to +70°C -20°C to +90°C 15.8 mm ± 0.5 mm > 118.5 mm	and and a series of the series
Labeling lectrical characteristics onductor resistance Power lines Signal lines sudation resistance st voltage Wire/wire Wire/wire Wire/shield perating voltage lechanical characteristics emperature range Moving Static uter diameter ex radius peed	BERNECKER & RAINER 4x4.0+2x2x1.0 FLEX 8CMxxx.12-3 ≤ 5.2 Ω/km ≤ 19 Ω/km > 200 MΩ/km 3 kV 3 kV Max. 1000 V 8CMxxx.12-3 -10°C to +70°C -20°C to +90°C 15.8 mm ± 0.5 mm > 118.5 mm ≤ 4 m/s	non naskadi sommeten sommeten som
Labeling ectrical characteristics onductor resistance Power lines Signal lines sulation resistance st voltage Wire/wire Wire/shield perating voltage lechanical characteristics emperature range Moving Static uter diameter ex radius peed cceleration	BERNECKER & RAINER 4x4.0+2x2x1.0 FLEX 8CMxxx.12-3 $\leq 5.2 \Omega/km$ $\leq 19 \Omega/km$ $> 200 M\Omega/km$ 3 kV 3 kV Max. 1000 V 8CMxxx.12-3 -10°C to +70°C -20°C to +90°C 15.8 mm ± 0.5 mm > 118.5 mm $\leq 4 m/s$ $\leq 60 m/s^2$	asked asked www.aster www.aster
Labeling Labeling lectrical characteristics onductor resistance Power lines Signal lines sublation resistance est voltage Wire/wire Wire/shield uperating voltage lechanical characteristics emperature range Moving Static uter diameter lex radius peed cceleration lex cycles	BERNECKER & RAINER 4x4.0+2x2x1.0 FLEX 8CMxxx.12-3 ≤ 5.2 Ω/km ≤ 19 Ω/km > 200 MΩ/km 3 kV 3 kV 3 kV Max. 1000 V 8CMxxx.12-3 -10°C to +70°C -20°C to +90°C 15.8 mm ± 0.5 mm > 118.5 mm ≤ 4 m/s < 60 m/s ² ≥ 3,000,000	instead www.mateurona www.mateurona
Labeling lectrical characteristics onductor resistance Power lines Signal lines Signal lines sudation resistance est voltage Wire/wire Wire/wire Wire/wire Wire/shield perating voltage lechanical characteristics extatic uter diameter ex radius peed cceleration ex cycles // sight	BERNECKER & RAINER 4x4.0+2x2x1.0 FLEX 8CMxxx.12-3 ≤ 5.2 Ω/km ≤ 19 Ω/km > 200 MQ/km 3 kV 3 kV 3 kV Max. 1000 V 8CMxxx.12-3 -10°C to +70°C -20°C to +90°C 15.8 mm ± 0.5 mm > 118.5 mm ≤ 4 m/s < 60 m/s ² ≥ 3,000,000 0.45 kg/m	and and a second
Labeling lectrical characteristics onductor resistance Power lines Signal lines Isulation resistance st voltage Wire/wire Wire/wire Wire/wire Wore/shield perating voltage lechanical characteristics amperature range Moving Static uter diameter ex radius peed cceleration ex cycles leight	BERNECKER & RAINER 4x4.0+2x2x1.0 FLEX 8CMxxx.12-3 $\leq 5.2 \Omega/km$ $\leq 19 \Omega/km$ 3 kV 3 kV Max. 1000 V 8CMxxx.12-3 -10°C to +70°C -20°C to +70°C -20°C to +90°C 15.8 mm \pm 0.5 mm >118.5 mm $\leq 4 m/s$ $\leq 60 m/s^2$ $\geq 3,000,000$ 0.45 kg/m	non other and a second and a second a s
Labeling Lab	BERNECKER & RAINER 4x4.0+2x2x1.0 FLEX 8CMxxx.12-3 $\leq 5.2 \Omega/km$ $\leq 19 \Omega/km$ $> 200 M\Omega/km$ 3 kV 3 kV Max. 1000 V 8CMxxx.12-3 $-10^{\circ}C \text{ to } +70^{\circ}C$ $-20^{\circ}C \text{ to } +90^{\circ}C$ $15.8 mm \pm 0.5 mm$ > 118.5 mm $\leq 4 m/s$ $\leq 60 m/s^2$ $\geq 3,000,000$ 0.45 kg/m	esteal swaatercond swaatercond swaatercond swaatercond swaatercond
Labeling lectrical characteristics onductor resistance Power lines Signal lines sulation resistance st voltage Wire/wire Wire/shield perating voltage echanical characteristics mperature range Moving Static uter diameter ex radius peed cceleration ex cycles 'eight	BERNECKER & RAINER 4x4.0+2x2x1.0 FLEX 8CMxxx.12-3 $\leq 5.2 \Omega/km$ $\leq 19 \Omega/km$ $> 200 M\Omega/km$ 3 kV 3 kV 3 kV Max. 1000 V 8CMxxx.12-3 $-10^{\circ}C to +70^{\circ}C$ $-20^{\circ}C to +90^{\circ}C$ $15.8 mm \pm 0.5 mm$ > 118.5 mm $\leq 4 m/s$ $\leq 60 m/s^2$ $\geq 3,000,000$ 0.45 kg/m	estenti suurantatationat suurantatationat suurantatationat

Motor cables 10 mm² 8CM



- UL/CSA certified
- Can be used in cable drag chains
 Optimally produced for use with ACOPOS servo drives 1640/128M and B&R servo motors with size 1.5 motor plugs

Available from production in six different lengths: ¹⁾

Cable length	Model number
5 m 🔿	8CM005.12-5
7 m	8CM007.12-5
10 m	8CM010.12-5
15 m	8CM015.12-5
20 m	8CM020.12-5
25 m	8CM025.12-5

1) Custom fabrications are available upon request.

10 ¹⁰	2007	1000	2000
General information	8CMxxx.12-5		
Cable cross section	4 x 10 mm ² + 2 x 2 x 1.5 mm ²		
Durability	Oil resistant according to VDE 0472 part 80	3, as well as standard hydraulic oil	
Certification	UL AWM Style 20234, 80°C, 1000 V, E63216	and CSA AWM I/II A/B, 90°C, 1000 V, F12 L	.L46064
Lines	8CMxxx.12-5		2. S.
Power lines	10 mm², tinned Cu wire		
Wire insulation	Special thermoplastic material		
Wire colors	Black, brown, blue, yellow/green		
Signal lines	1.5 mm ² , tinned Cu wire		
Wire insulation	Special thermoplastic material		
Wire colors	White, white/red, white/blue, white/green	Q*	- C)*
Cable structure	8CMxxx.12-5	120	and the second
Power lines	18 - C C C C C C C C		
Stranding	No		
Shield	No		
Signal lines			
Stranding	White with white/red and white/blue with w	/hite/green	
Shield	Separate shielding for pairs, tinned Cu mes	h, optical coverage 85% > and foil banding	a second
Cable stranding	With filler elements and foil banding		
Cable shielding	Tinned Cu mesh, optical coverage 85% and	l wrapped in isolating fabric	
Outer sheathing			
Material	PUR		
Color	Orange, similar to RAL 2003 flat		
Labeling	BERNECKER & RAINER 4x10.0+2x2x1.5 FLI	EX	3 ¹⁷
Electrical characteristics	8CMxxx.12-5	\$*************************************	
Conductor resistance			
Power lines	≤ 2.1 Ω/km		
Signal lines	≤ 14 Ω/km		
Insulation resistance	> 200 MΩ/km		
Test voltage			
Wire/wire	3 kV		
Wire/shield	3 kV		
Operating voltage	Max. 1000 V		200
Mechanical characteristics	8CMxxx.12-5		
Temperature range			
Moving	-10°C to +70°C		
Static	-20°C to +90°C		
Outer diameter	20.1 mm ± 0.7 mm		
Flex radius	>150.8 mm		
Speed	≤ 4 m/s		
Acceleration	< 60 m/s ²		and the second sec
Flex cycles	≥ 3,000,000		
Weight	0.77 kg/m		



Motor cables 35 mm² 8CM



UL/CSA certifiedCan be used in cable drag chains

Available from production in six different lengths: $^{1)}$

Cable length	Model number
5 m	8CM005.12-8
7 m	8CM007.12-8
10 m	8CM010.12-8
15 m	8CM015.12-8
20 m	8CM020.12-8
25 m	8CM025.12-8

available upon i

O LL C LL C			
General Information	8CMxxx.12-8	Star Star	State of the second
Cable cross section	4 x 35 mm ² + 2 x 2 x 1.5 mm ²	1 ²	100
Durability	Oil resistant according to VDE 0472 part 803, as	well as standard hydraulic oil	
Certification	UL AWM Style 20669, 90°C, 600 V, E63216 and C	SA AWM I/II A/B, 90°C, 600 V, F	T1 LL46064
Lines	8CMxxx.12-8		St
Power lines	35 mm², tinned Cu wire	. P	`
Wire insulation	Special thermoplastic material		
Wire colors	Black, brown, blue, yellow/green		
Signal lines	1.5 mm ² , tinned Cu wire		
Wire insulation	Special thermoplastic material		
Wire colors	White, white/red, white/blue, white/green		
Cable structure	8CMxxx.12-8	A.	and the second se
Power lines	3	120	100
Stranding	No		
Shield	No		
Signal lines			
Stranding	White with white/red and white/blue with white/	reen	S.
Shield	Separate shielding for pairs tinned Cu mesh on	tical coverage $85\% > and foil h$	anding
Cable stranding	With filler elements and foil banding		all all a general a g
Cable shielding	Tinned Cu mesh, optical coverage 85% and wrat	oped in isolating fabric	
Outer sheathing		spea in looidting labite	
Material	PLIB		
Color	Orange, similar to BAL 2003 flat		
Labeling	BERNECKER & RAINER 4x25 0+2x2x1 5 ELEX		
Electrical characteristics	PCMmm 12.9	A. C.	100
Conductor resistance	0CWXXX.12-0		
Power lines	< 0.6 O/km		
Signal lines	< 14 O//m		
Signal lines	≤ 14 \$2/KIII		
In a shattan and start as	> 200 MO//		
Insulation resistance	> 200 MΩ/km		
Insulation resistance Test voltage	> 200 MΩ/km		
Insulation resistance Test voltage Wire/wire	> 200 MΩ/km 3 kV		
Insulation resistance Test voltage Wire/wire Wire/shield	> 200 MQ/km 3 kV 1 kV		
Insulation resistance Test voltage Wire/wire Wire/shield Operating voltage	> 200 MΩ/km 3 kV 1 kV Max. 600 V	itellonethe	atomasi ana si
Insulation resistance Test voltage Wire/wire Wire/shield Operating voltage Mechanical characteristics	> 200 MΩ/km 3 kV 1 kV Max. 600 V 8CMxxx.12-8	and content of the state	and alternation
Insulation resistance Test voltage Wire/wire Wire/shield Operating voltage Mechanical characteristics Temperature range	> 200 MΩ/km 3 kV 1 kV Max. 600 V 8CMxxx.12-8	-sector the sector of the sect	
Insulation resistance Test voltage Wire/vire Wire/shield Operating voltage Mechanical characteristics Temperature range Moving	> 200 MQ/km 3 kV 1 kV Max. 600 V 8CMxxx.12-8 -10°C to +70°C	www.cballonable	anna start contact
Insulation resistance Test voltage Wire/wire Wire/shield Operating voltage Mechanical characteristics Temperature range Moving Static	> 200 MQ/km 3 kV 1 kV Max. 600 V 8CMxxx.12-8 -10°C to +70°C -20°C to +90°C	www.contenade	stand and a stand
Insulation resistance Test voltage Wire/wire Wire/shield Operating voltage Mechanical characteristics Temperature range Moving Static Outer diameter	> 200 MQ/km 3 kV 1 kV Max. 600 V 8CMxxx.12-8 -10°C to +70°C -20°C to +90°C 32.5 mm ± 1 mm	and the second sec	state and a state of the state
Insulation resistance Test voltage Wire/wire Wire/wire Operating voltage Mechanical characteristics Temperature range Moving Static Outer diameter Flex radius	> 200 MQ/km 3 kV 1 kV Max. 600 V 8CMxxx 12-8 -10°C to +70°C -20°C to +90°C 32.5 mm ± 1 mm >243.8 mm	and the state of the second	stern Contraction
Insulation resistance Test voltage Wire/wire Wire/shield Operating voltage Mechanical characteristics Temperature range Moving Static Outer diameter Flex radius Speed	> 200 MQ/km 3 kV 1 kV Max. 600 V 8CMxxx.12-8 -10°C to +70°C -20°C to +90°C 32.5 mm ± 1 mm >243.8 mm ≤ 4 m/s	and a state of the	www.contractic
Insulation resistance Test voltage Wire/wire Wire/shield Operating voltage Mechanical characteristics Temperature range Moving Static Outer diameter Flex radius Speed Acceleration	> 200 MΩ/km 3 kV 1 kV Max. 600 V 8CMxxx.12-8 -10°C to +70°C -20°C to +90°C 32.5 mm ± 1 mm >243.8 mm ≤ 4 m/s < 60 m/s²	stanting to marke	www.constant
Insulation resistance Test voltage Wire/wire Wire/shield Operating voltage Mechanical characteristics Temperature range Moving Static Outer diameter Flex radius Speed Acceleration Flex cycles	> 200 MQ/km 3 kV 1 kV Max. 600 V 8CMxxx.12-8 -10°C to $+70°C$ -20°C to $+90°C$ 32.5 mm \pm 1 mm > 243.8 mm \leq 4 m/s \leq 4 m/s \leq 60 m/s ² \geq 3,000,000	www.coolornable	save and a second
Insulation resistance Test voltage Wire/wire Wire/shield Operating voltage Mechanical characteristics Temperature range Moving Static Outer diameter Flex radius Speed Acceleration Flex cycles Weight	> 200 MQ/km 3 kV 1 kV Max. 600 V 8CMxxx.12-8 -10°C to +70°C -20°C to +90°C 32.5 mm \pm 1 mm > 243.8 mm \leq 4 m/s \leq 60 m/s ² \geq 3,000,000 2.2 kg/m	www.concentration	save and a second
Insulation resistance Test voltage Wire/wire Wire/shield Operating voltage Mechanical characteristics Temperature range Moving Static Outer diameter Flex radius Speed Acceleration Flex cycles Weight	> 200 MQ/km 3 kV 1 kV Max. 600 V 8CMxxx.12-8 -10°C to $+70°C$ -20°C to $+90°C$ 32.5 mm \pm 1 mm > 243.8 mm \leq 4 m/s < 60 m/s ² \geq 3,000,000 2.2 kg/m	www.conconcette	some and a second
Insulation resistance Test voltage Wire/wire Wire/shield Operating voltage Mechanical characteristics Temperature range Moving Static Outer diameter Flex radius Speed Acceleration Flex cycles Weight	> 200 MQ/km 3 kV 1 kV Max. 600 V 8CMxxx.12-8 -10°C to +70°C -20°C to +90°C 32.5 mm ± 1 mm >243.8 mm ≤ 4 m/s < 60 m/s ² ≥ 3,000,000 2.2 kg/m	and a tomat of the second s	seene and a seene and
Insulation resistance Test voltage Wire/wire Wire/shield Operating voltage Mechanical characteristics Temperature range Moving Static Outer diameter Flex radius Speed Acceleration Flex cycles Weight	> 200 MQ/km 3 kV 1 kV Max. 600 V 8CMxxx 12-8 -10°C to +70°C -20°C to +90°C 32.5 mm ± 1 mm >243.8 mm ≤ 4 m/s < 60 m/s ² ≥ 3,000,000 2.2 kg/m	www.shantonasha	www.cocatecrast
Insulation resistance Test voltage Wire/wire Wire/shield Operating voltage Mechanical characteristics Temperature range Moving Static Outer diameter Flex radius Speed Acceleration Flex cycles Weight	> 200 MQ/km 3 kV 1 kV Max. 600 V 8CMxxx 12-8 -10°C to $+70°C$ -20°C to $+90°C$ 32.5 mm \pm 1 mm >243.8 mm \leq 4 m/s \leq 60 m/s ² \geq 3,000,000 2.2 kg/m	Read and the second sec	www.constanter
Insulation resistance Test voltage Wire/wire Wire/shield Operating voltage Mechanical characteristics Temperature range Moving Static Outer diameter Flex radius Speed Acceleration Flex cycles Weight	> 200 MQ/km 3 kV 1 kV Max. 600 V 8CMxxx.12-8 -10°C to $+70°C$ -20°C to $+90°C$ 32.5 mm ± 1 mm > 243.8 mm ≤ 4 m/s ≤ 60 m/s ² $\geq 3,000,000$ 2.2 kg/m	And the second sec	www.cbasenaad

EnDat cables 8CE



- UL/CSA certified
 Can be used in cable drag chains
 Produced for optimal use with ACOPOS servo drives and B&R servo motors

Available from production in six different lengths: ¹⁾

Cable length	Model number
5 m	8CE005.12-1
7 m 🔿	8CE007.12-1
10 m	8CE010.12-1
15 m	8CE015.12-1
20 m	8CE020.12-1
25 m	8CE025.12-1

1) Custom fabrications are available upon request.

100 No.	1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -	1997 - 1977 - 19	S.
General information	8CExxx.12-1	and the second	Sec. 1
Cable cross section	10 x 0.14 mm ² + 2 x 0.50 mm ²	a. B.	<i>d</i> .,
Durability	Oil resistant according to VDE 0472 part 8	03, as well as standard hydraulic oil	
Certification	UL AWM Style 20963, 80°C, 30 V, E63216 a	and CSA AWM I/II A/B, 90°C, 30 V, FT1 LL46064	1
Lines	8CExxx.12-1		(A)
Signal lines	0.14 mm², tinned Cu wire	100	10
Wire insulation	Special thermoplastic material		
Wire colors	Blue, brown, yellow, gray, green, pink, red	, black, violet, white	
Supply lines	0.5 mm ² , tinned Cu wire		
Wire insulation	Special thermoplastic material		
Wire colors	White/green, white/red		
Cable structure	8CExxx.12-1	and the second	and the second sec
Signal lines	3	8	10 C
Stranding	Green with brown, gray with yellow, white	with violet, black with red, pink with blue	
Shield	No		
Supply lines			
Stranding	White/red with white/green and filler elem	ents	
Shield	No		
Cable stranding	With foil banding		
Cable shielding	Cu mesh, optical coverage 85% and wrap	ped in isolating fabric	
Outer sheathing			
Material	PUB		
Color	BAL 6018		
Labeling	BERNECKER & RAINER 10x0.14+2x0.50 F	LEX	
Electrical characteristics	8CExxx.12-1	1	
Conductor resistance			
Signal lines	≤ 140 Ω/km		
Supply lines	≤ 40 Ω/km		
Insulation resistance	> 200 MΩ/km		
Test voltage			
Wire/wire	1.5 kV		
Wire/shield	0.8 kV		
Operating voltage	Max. 30 V		
Mechanical characteristics	8CExxx.12-1		0
Temperature range			. A.
Moving	-10°C to +70°C		
Static	-20°C to +90°C		
Outer diameter	7.3 mm ± 0.25 mm		
Flex radius	>55 mm		
Speed	≤ 4 m/s		
Acceleration	< 60 m/s ²		
Flex cycles	≥ 3,000,000		
Weight	0.08 kg/m		
	and the second sec		

Resolver cables 8CR



- UL/CSA certified
 Can be used in cable drag chains
 Optimally produced for use with ACOPOS servo drives and B&R servo motors

Available from production in six different lengths: ¹⁾

Cable length	Model number	
5 m	8CR005.12-1	
7 m	8CR007.12-1	
10 m	8CR010.12-1	
15 m 🚫	8CR015.12-1	
20 m	8CR020.12-1	
25 m	8CR025.12-1	

1) Custom fabrications are available upon i

General information	8CRxxx.12-1		1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -		
Cable cross section	3 x 2 x 24 AWG/19	36	St		
Durability	Oil resistant according to VDE 0472 part 803	3, as well as standard hydraulic oil			
Certification	UL AWM Style 20671, 90°C, 30 V, E63216 an	UL AWM Style 20671, 90°C, 30 V, E63216 and CSA AWM, 90°C, 30 V, I/II A/B FT1 LL46064			
Lines	8CRxxx.12-1	c c			
Signal lines	24 AWG/19, tinned Cu wire	10 M			
Wire insulation	Special thermoplastic material				
Wire colors	White, brown, green, yellow, gray, pink				
Cable structure	8CRxxx.12-1	10 m -	9x		
Signal lines					
Stranding	White with brown, green with yellow, gray v	vith pink			
Shield	No				
Cable stranding	The 3 pairs together covered by foil banding				
Cable shielding	Cu mesh, optical coverage ≥ 90% and wrap	Cu mesh, optical coverage ≥ 90% and wrapped in isolating fabric			
Outer sheathing					
Material	PUR				
Color	RAL 6018				
Labeling	BERNECKER & RAINER 3x2x24 AWG FLEX				
Electrical characteristics	8CRxxx.12-1		and the second		
Conductor resistance 24 AWG	≤ 86 Ω/km	<i>.</i> 6.	· 6		
Insulation resistance	> 200 MΩ/km				
Test voltage					
Wire/wire	1.5 kV				
Wire/shield	0.8 kV				
Operating voltage	Max. 30 V				
Mechanical characteristics	8CRxxx.12-1				
Temperature range					
Moving	-10°C to +80°C				
Static	-40°C to +90°C				
Outer diameter	6.5 mm ± 0.2 mm				
Flex radius	≥ 50 mm				
Speed	≤ 4 m/s	10			
Acceleration	< 60 m/s ²				
Flex cycles	≥ 3,000,000				
Weight	0.07 kg/m				