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Data sheet 6AU1455-2AD00-0AA0



SIMOTION Drive-based Control Unit D455-2 DP/PN; programmable motion controller; ULTRA-HIGH performance; interfaces: 12 DI, 16 DI/DO, 6 DRIVE-CLiQ, 2 PROFIBUS, 3 PROFINET ports, 2 ethernet, 2 USB, 1 option slot; incl. dual fan / battery module and battery

Article number	
Product brand name	SIMOTION
Product type designation	D455-2 DP/PN
Performance class for motion control system	ULTRA-HIGH Performance
Version of the motion control system	Multiple-axis system

PLC and motion control performance	
Number of axes / maximum	128
Minimum PROFIBUS cycle clock	1 ms
Minimum PROFINET send cycle clock	0.25 ms
Minimum interpolator cycle clock	0.25 ms
Minimum servo cycle clock	0.25 ms
• note	0.125 ms (only with ET 200SP, SCOUT TIA V4.5 or higher and SERVO-FAST)

Integrated drive control	
Maximum number of axes for integrated drive control	
• servo	6
• vector	6
• V/f	12

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• note	Alternative control modes; drive control based on SINAMICS S120 CU320-2, firmware version V4.x/V5.x

Memory	
RAM (work memory)	380 Mbyte
Additional RAM work memory for Java applications	20 Mbyte
RAM disk (load memory)	90 Mbyte
Retentive memory	512 kbyte
Persistent memory (user data on CF)	300 Mbyte

Communication	
Interfaces	
• DRIVE-CLiQ	6
• USB	2
• Industrial Ethernet	2
• PROFIBUS	2
— note	Equidistant and isochronous; Can be configured as master or slave
• PROFINET	1
— note	1 interface with 3 ports onboard 1 interface with 4 ports optional via CBE30-2 functionality: - supports PROFINET / EtherNet/IP IO with IRT and RT - configurable as PROFINET / EtherNet/IP IO Control and/or device - supports media redundancy (MRP and MRPD)

General technical data	
Fan	Double fan/battery module included in scope of delivery
DC supply voltage	
• rated value	24 V
• minimum	20.4 V
• maximum	28.8 V
Consumed current / typical	1 900 mA
• Note	with no load on inputs/outputs, no 24 V supply via DRIVE-CLiQ and PROFIBUS interface
Making current, typ.	5 A
Power loss, typ.	46 W
Ambient temperature, during	
• long-term storage	-25 ... +55 °C
• transport	-40 ... +70 °C
• operation	0 ... 55 °C
— note	Maximum installation altitude 4000 m (13124 ft) above sea level. Above an altitude of 2000 m (6562 ft), the maximum ambient temperature decreases by 7 °C (12.6 °F) per 1000 m (3281 ft).
Relative humidity	
• during operation	5 ... 95 %

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• without condensation, tested acc. to IEC 60068-2-38	Wert fehlt
Product property / Conformal coating	No
Resistance	
• to biologically active substances, / conformity acc. to EN 60721-3-3	No
• to chemically active substances, / conformity acc. to EN 60721-3-3	No
Air pressure	620 ... 1 060 hPa
Degree of protection	IP20 / UL open type
Height	380 mm
Width	50 mm
Depth	270 mm
• Note	When the spacer is removed 230 mm (9.05 in) deep
Net weight	4 300 g

Digital inputs	
Number of digital inputs	12
DC input voltage	
• rated value	24 V
• for signal "1"	15 ... 30 V
• for signal "0"	-3 ... +5 V
Electrical isolation	Yes
• note	Yes, in groups of 6
Current consumption for "1" signal level, typ.	9 mA
Input delay time for	
• signal "0" → "1", typ.	50 µs
• signal "1" → "0", typ.	150 µs

Digital inputs/outputs	
Number of digital I/Os	16
Parameterization possibility of the digital I/Os	can be parameterized - as DI - as DO - as probe input (max. 16) - as cam output (max. 8)

If used as an input	
DC input voltage	
• rated value	24 V
• for signal "1"	15 ... 30 V
• for signal "0"	-3 ... +5 V
Electrical isolation	No
Current consumption for "1" signal level, typ.	9 mA
Input delay time for	
• signal "0" → "1", typ.	5 µs
• signal "1" → "0", typ.	50 µs
Measuring input / reproducibility	5 µs

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Measuring input / resolution	1 µs

If used as an output	
Load voltage	
• rated value	24 V
• minimum	20.4 V
• maximum	28.8 V
Electrical isolation	No
Current carrying capacity for each output, max.	500 mA
Leakage current, max.	2 mA
Output delay for	
• signal "0" → "1", typ.	150 µs
• signal "0" → "1", max.	400 µs
• signal "1" → "0", typ.	75 µs
• signal "1" → "0", max.	150 µs
— note	Data for Vcc = 24 V; load 48 Ohm; "1" = 90 % VOut, "0" = 10 % VOut
Cam output	
• reproducibility	10 µs
• resolution	1 µs
Switching frequency of the outputs for	
• resistive load, max.	4 kHz
• inductive load, max.	2 Hz
• lamp load, max.	11 Hz
Short-circuit protection	Yes

Additional technical data	
Back-up of non-volatile data	
• of retentive data	unlimited buffer duration
• of real-time clock, min.	4 d
• note	longer buffer duration of the real-time clock using a battery inserted in the double fan/battery module
Approvals	
• USA	cULus
• Canada	cULus
• Australia	RCM (formerly C-Tick)
• Korea	KCC
• Russia, Belarus and Kazakhstan	EAC

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