

Main

Range of Product	Altivar 12
Product or Component Type	Variable speed drive
Product Specific Application	Simple machine
Mounting Mode	Cabinet mount
Communication port protocol	Modbus
Supply frequency	50/60 Hz +/- 5 %
[Us] rated supply voltage	100...120 V - 15...10 %
Nominal output current	2.4 A
Maximum Horse Power Rating	0.55 hp
Motor power kW	0.37 kW
Maximum Horse Power Rating	0.55 hp
EMC filter	Without EMC filter
IP degree of protection	IP20

Complementary

Discrete input number	4
Discrete output number	2
Analogue input number	1
Analogue output number	1
Relay output number	1
Physical interface	2-wire RS 485
Connector Type	1 RJ45
Continuous output current	2.4 A 4 kHz
Method of access	Server Modbus serial
Speed drive output frequency	0.5...400 Hz
Speed range	1...20
Sampling duration	20 Ms +/- 1 ms logic input 10 ms analogue input
Linearity error	+/- 0.3 % of maximum value analogue input
Frequency resolution	Analog input converter A/D, 10 bits Display unit 0.1 Hz
Time constant	20 ms +/- 1 ms for reference change
Transmission Rate	9.6 kbit/s 19.2 kbit/s 38.4 kbit/s
Transmission frame	RTU
Number of addresses	1...247
Data format	8 bits, configurable odd, even or no parity
Communication service	Read holding registers (03) 29 words Write single register (06) 29 words Write multiple registers (16) 27 words Read/Write multiple registers (23) 4/4 words Read device identification (43)
Type of polarization	No impedance
4 quadrant operation possible	False

Asynchronous motor control profile	Quadratic voltage/frequency ratio Voltage/Frequency ratio (V/f) Sensorless flux vector control
Maximum output frequency	4 kHz
Transient overtorque	150...170 % of nominal motor torque depending on drive rating and type of motor
Acceleration and deceleration ramps	S Linear from 0 to 999.9 s U
Motor slip compensation	Adjustable Preset in factory
Switching frequency	2...16 kHz adjustable 4...16 kHz with derating factor
Nominal switching frequency	4 kHz
Braking to standstill	By DC injection
Brake chopper integrated	False
Line current	11.4 A 100 V heavy duty) 9.3 A 120 V heavy duty)
Maximum Input Current per Phase	9.3 A
Maximum output voltage	240 V
Apparent power	1.1 kVA 240 V heavy duty)
Maximum transient current	3.6 A 60 s heavy duty) 4.0 A 2 s heavy duty)
Network Frequency	50-60 Hz
Relative symmetric network frequency tolerance	5 %
Prospective line Isc	1 kA
Base load current at high overload	2.4 A
Power dissipation in W	Natural 29.0 W
With safety function Safely Limited Speed (SLS)	False
With safety function Safe brake management (SBC/ SBT)	False
With safety function Safe Operating Stop (SOS)	False
With safety function Safe Position (SP)	False
With safety function Safe programmable logic	False
With safety function Safe Speed Monitor (SSM)	False
With safety function Safe Stop 1 (SS1)	False
With sft fct Safe Stop 2 (SS2)	False
With safety function Safe torque off (STO)	False
With safety function Safely Limited Position (SLP)	False
With safety function Safe Direction (SDI)	False
Protection type	Line supply overvoltage Line supply undervoltage Overcurrent between output phases and earth Overheating protection Short-circuit between motor phases Against input phase loss in three-phase Thermal motor protection via the drive by continuous calculation of I^2t
Tightening torque	7.08 lbf.in (0.8 N.m)
Insulation	Electrical between power and control
Quantity per Set	Set of 1
Width	2.8 in (72 mm)
Height	5.6 in (143 mm)
Depth	4.02 in (102.2 mm)
Net Weight	1.5 lb(US) (0.7 kg)

Environment

Operating altitude	> 3280.84...6561.68 ft (> 1000...2000 m) with current derating 1 % per 100 m <= 3280.84 ft (1000 m) without derating
Operating position	Vertical +/- 10 degree
Product Certifications	NOM[RETURN]CSA[RETURN]C-tick[RETURN]UL[RETURN]GOST[RETURN]RCM[RETURN]KC
Marking	CE
Standards	UL 508C UL 618000-5-1 IEC 61800-5-1 IEC 61800-3
Assembly style	On base plate
Electromagnetic compatibility	Electrical fast transient/burst immunity test level 4 IEC 61000-4-4 Electrostatic discharge immunity test level 3 IEC 61000-4-2 Immunity to conducted disturbances level 3 IEC 61000-4-6 Radiated radio-frequency electromagnetic field immunity test level 3 IEC 61000-4-3 Surge immunity test level 3 IEC 61000-4-5 Voltage dips and interruptions immunity test IEC 61000-4-11
Environmental class (during operation)	Class 3C3 according to IEC 60721-3-3 Class 3S2 according to IEC 60721-3-3
Maximum acceleration under shock impact (during operation)	150 m/s ² at 11 ms
Maximum acceleration under vibrational stress (during operation)	10 m/s ² at 13...200 Hz
Maximum deflection under vibratory load (during operation)	1.5 mm at 2...13 Hz
Overvoltage category	Class III
Regulation loop	Adjustable PID regulator
Electromagnetic emission	Radiated emissions environment 1 category C2 IEC 61800-3 2...16 kHz shielded motor cable Conducted emissions with additional EMC filter environment 1 category C1 IEC 61800-3 4...12 kHz shielded motor cable <16.4 ft (5 m) Conducted emissions with additional EMC filter environment 1 category C2 IEC 61800-3 4...12 kHz shielded motor cable <65.6 ft (20 m) Conducted emissions with additional EMC filter environment 2 category C3 IEC 61800-3 4...12 kHz shielded motor cable <65.6 ft (20 m)
Vibration resistance	1 gn 13...200 Hz)IEC 60068-2-6 1.5 mm peak to peak 3...13 Hz) - drive unmounted on symmetrical DIN rail - IEC 60068-2-6
Shock resistance	15 gn 11 ms IEC 60068-2-27
Relative humidity	5...95 % without condensation IEC 60068-2-3 5...95 % without dripping water IEC 60068-2-3
Noise level	0 dB
Pollution degree	2
Ambient air transport temperature	-13...158 °F (-25...70 °C)
Ambient air temperature for operation	14...104 °F (-10...40 °C) without derating 104...140 °F (40...60 °C) with current derating 2.2 % per °C
Ambient Air Temperature for Storage	-13...158 °F (-25...70 °C)

Ordering and shipping details

Category	US1CP4B22042
Discount Schedule	CP4B
GTIN	3606480071041
Returnability	No
Country of origin	ID

Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	4.528 in (11.500 cm)
Package 1 Width	7.283 in (18.500 cm)
Package 1 Length	7.677 in (19.500 cm)
Package 1 Weight	31.993 oz (907.000 g)
Unit Type of Package 2	S06
Number of Units in Package 2	45
Package 2 Height	29.528 in (75.000 cm)
Package 2 Width	23.622 in (60.000 cm)
Package 2 Length	31.496 in (80.000 cm)
Package 2 Weight	119.932 lb(US) (54.400 kg)

Offer Sustainability

California proposition 65	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov
REACH Regulation	 REACH Declaration
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope)
Mercury free	Yes
RoHS exemption information	 Yes
China RoHS Regulation	 China RoHS Declaration
WEEE	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.

Contractual warranty

Warranty	18 months
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