



MAC1500-D2-CAAL

Int.ServoAC 1500WS1 4.78Nm IP55L Inc

MAC motor® is a series of integrated (all-in-one) servo motors with shaft power from 46 W to 4500 W. +400 W and new F-series (50..140 W) are programmable through ePLC (embedded-PLC). Choose between a large number of control modules.

Options include:

- Absolute Multiturn Encoder (incremental encoder is standard)
- Built-in Brake or Brake module (MABxx)
- Ethernet module w/built-in Switch for easy daisy-chaining and all protocols (Profinet, EtherNet/IP, EtherCAT, SERCOS, ModbusTCP/UDP, Powerlink)
- Wireless modules are also available: WLAN or BlueTooth
- CANopen, Devicenet or Profibus or ePLC modules
- Serial communication modules, RS232 and/or RS485
- High IP versions are also available (IP 65..66..67)
- Food or Medico types in Stainless Steel IP69K

Unique Ethernet functionality: use MacTalk® (PC software) to change freely between all the different Ethernet protocols, you don't need several different types on stock – ONE is enough.



General information

Description	Int.ServoAC 1500WS1 4.78Nm IP55L Inc , WxHxL: 134x205x250 mm. 3x 400-480 VAC and 24 VDC. Power cable WP340x. 3000 RPM. 5.0 Nm RMS / 15.0 Nm Peak. 100% Duty Cycle, Pilot debt on front flange may be either 5mm or 6mm. MM0008 1mm may be used for 6mm types., IP55, Incremental Encoder: 8192 CPR, Color: Black, Ø24x58 mm keyway 8x35 mm		
Manufacture	JVL	Motor type	Integr. AC-servo - Rotating
Motor power [W]	1500	Power Peak [W]	4500
Duty Cycle	S1	Max Duty Cycle [%]	100
Continuous Torque	4.78	Peak torque [Nm]	15
Main supply [V]	3x400	Voltage type - Main	AC
Speed [Rpm]	3000	Connectivity: Without module	RS232 - 5VDC, Modbus RTU
Encoder type	Incr. Encoder	Encoder [Counts/rev]	8192
Integrated PLC	Yes	Brake	No
STO connector	No	Fan mounted	No
Integrated gear	No	Gear ratio	-
Approval - UL	No	Approval TÜV - STO	No



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General information

PLC no. of AIN	2	PLC no. of DI	-
PLC no. of DIO	-	PLC no. of DO	2
Multifunction IOs	2		
Flange size	134x134	Protection house	IP55
Shaft size - Front [mm]	24.00mm	Protection shaft	IP55
Color	Black	Paint type	
Ambient Temperature range:		Max. Amb. Temperature range - Torque derating:	
Maximum Installation Altitude:		Max. Installation Altitude - Power Derating every 1000m:	
Weight net [kg]	11.14	Weight gross [kg]	11.89
Tariff no	85015100	Country Of Origin	DK



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Mechanical information

Motor type	Integr. AC-servo - Rotating	Color	Black
Rotor inertia [kgcm²]	13.96	Max inertia factor	20
Encoder type	Incr. Encoder	Encoder [Counts/rev]	8192
Precision Motor - Absolute [Deg -/+]	0.04	Precision Motor - Max Load [Deg -/+]	
Precision Motor - Repeatability [Deg -/+]	0.04		
Brake	No	Brake - Go ON time [ms]	-
Brake Holding torque [Nm]	-	Brake - Go OFF time [ms]	-
Radial load [N]	900	Radial load distance [mm]	
Axial load [N]	450		
Axial play [mm]	+/-0.05	Axial play force [N]	xxx
Front bearing type	xxx	Rear bearing type	xxx
Integrated gear	No	Gear ratio	-
Gear efficiency [%]	-	Gear backlash [ArcMin]	-
Motor length [mm]	250.0	Motor width [mm]	134.0
Motor height [mm]	204.5	Protection house	IP55
Customer Sealing	Standard		
Flange size	134x134	Mounting holes front [mm]	9.0
Motor diameter center front [mm]	110.0	Bolt circle diameter front [mm]	145.0
Flange material	Aluminium	Flange Thickness [mm]	
Shaft Key included	Key included on shaft	Shaft Key Dimension	8x8x35
Shaft size - Front [mm]	24.00mm	Protection shaft	IP55
Shaft length Front [mm]	58.0	Shaft material	Steel
Approval - ROHS-3	Yes	Approval - UL	No
Approval TÜV - STO	No	Approval - ATEX	No
CAD 2D [PDF]	Download	CAD 3D [STEP]	Download
CAD 2D [DWG]	No	CAD 3D [DWG]	No

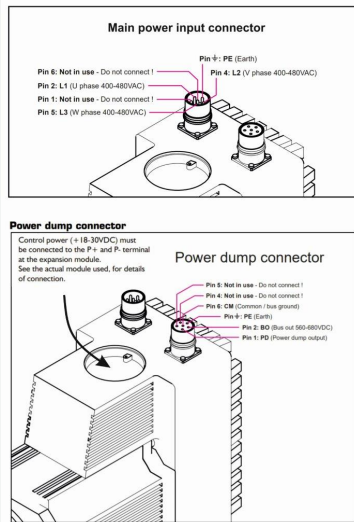


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Connector information

Motor connectors



Expansion connector	Generation 1 and 2		
PLC no. of DI	-	PLC no. of DO	2
PLC no. of DIO	-	PLC no. of AIN	2
Multifunction IOs	2		
Connector Power	M23 6-pin male	Connector Power Supplier	
Connector Power direction	Straight		
Connector PDO	M23 6-pin female	Connector PDO Supplier	
Connector STO	No		
Module connections	Here - Click for module cable connections		



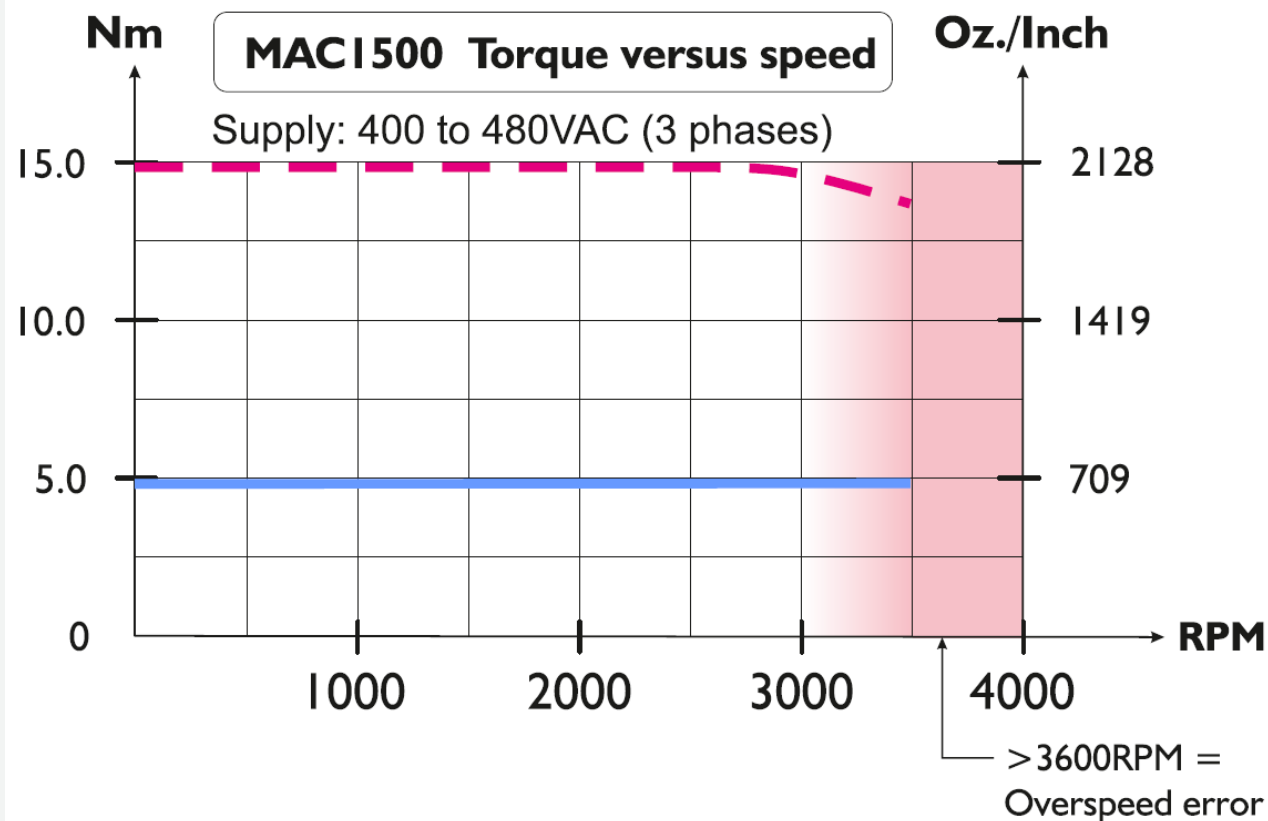
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Torque, force and Power information

RMS torque [Nm]	5.0	Peak torque [Nm]	15
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Supply Volt 1 [V]		Supply Volt 2 [V]	
Supply Volt 3 [V]	3x400	Supply Volt 4 [V]	-





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Electrical information

Control voltage (CVI/O+) [VDC]	18-28	Control Voltage (CVI) Min-Max [VDC]	18-30
Main supply [V]	3x400	Main supply Min-Max [V]	400-550
Voltage type - Main	AC	Main Voltage possible	1x230VAC, 3x200VAC, 3x400VAC
PLC no. of DI	-	PLC no. of DO	2
PLC no. of DIO	-		
PLC no. of AIN	2	Analogue voltage	-/+10VDC, -/+11bit
Multifunction IOs	2		
MTBF 30% [Year]	-	MTBF 100% [Year]	-
Internal Power-Dump Resistance [Ohm]	150	Internal Power-Dump Power [W]	200
PD connection - Int/Ext	Int/Ext PD in Parallel		
External Power-Dump Resistance Minimum value [Ohm]	40	External Power-Dump Max Current [A]	25
Inrush current -Main max [A]		Inrush special	No
Recommended fuse	FRN-R-8 Cooper Bussmann inc.	P- isolated from Earth (Low Voltage ground (P-) isolated from housing)	No
Resistance [Ohm]		Induction [mH]	
Analogue Output [V]		Analogue Output [mA]	
Analogue Isolated Output Voltage [V]			



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Communication information

Software MacTalk

Connectivity: RS232 - 5VDC, Modbus RTU **e-PLC Files**
Without module

Connectivity: **Gen. Yes**
1 modules

Connectivity: **Gen. Yes**
2 modules

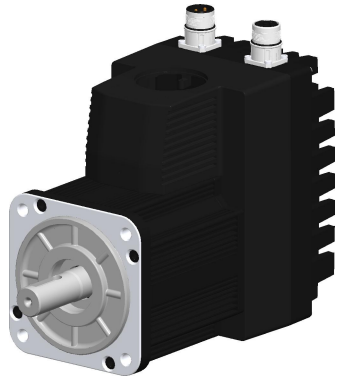
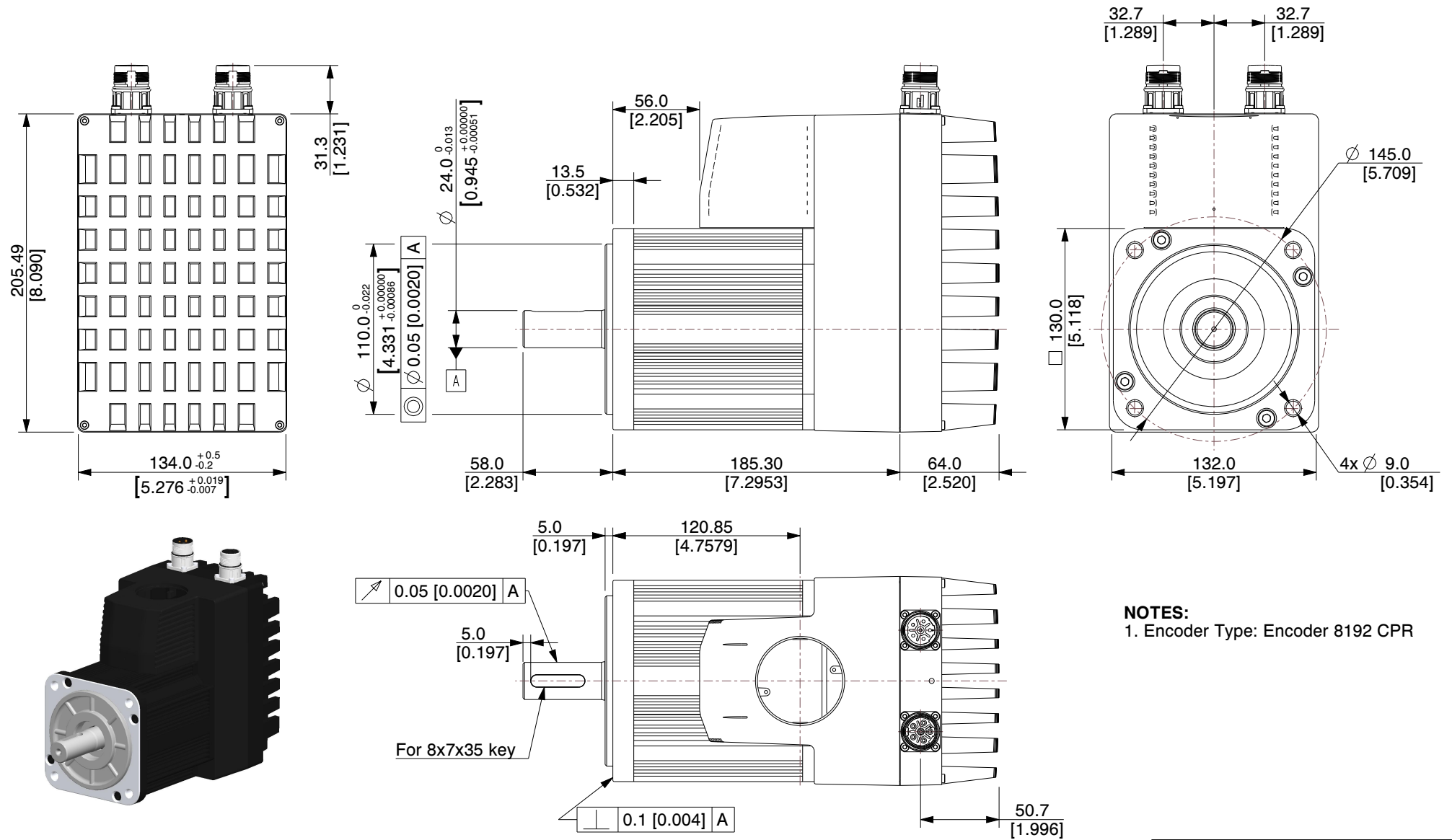


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Cable information

Item number	Mount on	Cable con 1 +Con 1 angle	Cable application	Wires no totally	Cable length [m]
Item description		Cable con 2 +Con 2 angle	Cable flexibility	Wire [mm2]	Connector 1 LED
MAC1530-CONKIT1-DCPD	Connector PDO	- 0° Straight			Connector
DCbus+PD connector kit M23 for MAC1k5/3k		- n/a			n/a
WP4102	Connector PDO	M23 6-pin male - 0° Straight	Power Dump	4	2
MAC1500/3000 DC-bus/PD 2m 0°		Open Ended - n/a	Standard	0.75	n/a
WP4102-S	Connector PDO	M23 6-pin male - 0° Straight	Power Dump	4	2
MAC1500/3000 DC-bus/PD 2m 0°, 2D+UL		Open Ended - n/a	Cable chains - 2D	0.75	n/a
WP4105	Connector PDO	M23 6-pin male - 0° Straight	Power Dump	4	5
MAC1500/3000 DC-bus/PD 5m 0°		Open Ended - n/a	Standard	0.75	n/a
WP4105-S	Connector PDO	M23 6-pin male - 0° Straight	Power Dump	4	5
MAC1500/3000 DC-bus/PD 5m 0°, 2D+UL		Open Ended - n/a	Cable chains - 2D	0.75	n/a
WP4120	Connector PDO	M23 6-pin male - 0° Straight	Power Dump	4	20
MAC1500/3000 DC-bus/PD 20m 0°		Open Ended - n/a	Standard	0.75	n/a
WP4120-S	Connector PDO	M23 6-pin male - 0° Straight	Power Dump	4	20
MAC1500/3000 DC-bus/PD 20m 0°, 2D+UL		Open Ended - n/a	Cable chains - 2D	0.75	n/a
MAC1530-CONKIT1-PWR	Connector Power	- 0° Straight			Connector
Power supply con kit M23 for MAC1k5/3k		- n/a			n/a
WP3402	Connector Power	M23 6-pin female - 0° Straight	Power	4	2
MAC1K5/3k0 3x400 VAC Power 2m 0°		Open Ended - n/a	Standard	1.50	n/a
WP3405	Connector Power	M23 6-pin female - 0° Straight	Power	4	5
MAC1K5/3k0 3x400 VAC Power 5m 0°		Open Ended - n/a	Standard	1.50	n/a
WP3405-W	Connector Power	M23 6-pin female - 0° Straight	Power	4	5
MAC1K5/3k0 3x400VAC Power 5m 0°, 3D+UL Robot		Open Ended - n/a	Robotic - 3D	1.50	n/a
WP3410	Connector Power	M23 6-pin female - 0° Straight	Power	4	10
MAC1K5/3k0 3x400VAC Power 10m 0°		Open Ended - n/a	Standard	1.50	n/a
WP3410-W	Connector Power	M23 6-pin female - 0° Straight	Power	4	10
MAC1K5/3k0 3x400VAC Power 10m 0°, 3D+UL Robot		Open Ended - n/a	Robotic - 3D	1.50	n/a
WP3420	Connector Power	M23 6-pin female - 0° Straight	Power	4	20
MAC1K5/3k0 3x400VAC Power 20m 0°		Open Ended - n/a	Standard	1.50	n/a
WP3420-W	Connector Power	M23 6-pin female - 0° Straight	Power	4	20
MAC1K5/3k0 3x400VAC Power 20m 0°, 3D+UL Robot		Open Ended - n/a	Robotic - 3D	1.50	n/a



NOTES:
1. Encoder Type: Encoder 8192 CPR

MOTOR SPECIFICATIONS

Running Torque	4.78 Nm	Supply Voltage	3 phase supply 400 to 480AC	Standards	CE approved / UL recognized - Pending (file number E254947)	Motor Color	BLACK
Peak Torque	14.33 Nm	Control circuit voltage	18-32VDC	Acceleration range	250 - 444.675 RPM/sec	Operating Temperature	Ambient 0 to +40°C (32-104°F)
Rated Power (watt)	1500 W	Electrical time constant (motor)	-	Inertia	13.96 kgcm ²	Housing & Flange	Square flange
Leakage current to earth	Less than 3 mA @ 50 Hz	Mechanical time constant (motor)	-	Max. axial shaft force	-	Protection	IP55
Speed (range)	0-3000RPM	Weight	10.95 kg	Max. radial shaft force	-	Special Configuration	-

JVL A/S
Bregnerødvej 127
DK-3460 Birkerød
Denmark

PART NUMBER:
MAC1500-D2-CAAL

PART DESCRIPTION:
Integrated Servo Motor

	A4	SCALE	NTS
		UNIT	MM [Inch]

Unless specifically stated otherwise, this drawing is the property of JVL A/S and no feature embodied herein may be disclosed except as previously authorized