



**MAC141-F1GAAA**

Int.Servo.AC 134WS1 0.48Nm IP42 Inc



**General information**

**Description** Int.Servo.AC 134WS1 0.48Nm IP42 Inc , WxHxL: 59x59x172 mm. 2700 RPM @ 48VDC - 1350 RPM @ 24VDC. 0.48 Nm/1.59 Nm, IP42, Incremental magnetic 8192 CPR , Next Gen MiniMAC: built-in ePLC™ and advanced Ethernet support when using Ex4 and Ex41 modules, 12-48 V nom. Peak 58 V, Ethernet Ready, Color: Black, Ø6.35x20.5 mm D-shape

<b>Manufacture</b>	JVL	<b>Motor type</b>	Integr. AC-servo - Rotating
<b>Motor power [W]</b>	134	<b>Power Peak [W]</b>	402
<b>Duty Cycle</b>	S1	<b>Max Duty Cycle [%]</b>	100
<b>Continuous Torque</b>	0.48	<b>Peak torque [Nm]</b>	1.59
<b>Main supply [V]</b>	12-48	<b>Voltage type - Main</b>	DC
<b>Speed [Rpm]</b>	2700	<b>Connectivity: Without module</b>	RS232
<b>Encoder type</b>	Abs. Singleturn Encoder	<b>Encoder [Counts/rev]</b>	8192
<b>Fan mounted</b>	No	<b>Brake</b>	External brake option
<b>Integrated gear</b>	No	<b>Gear ratio</b>	-
<b>Integrated PLC</b>	Yes	<b>STO connector</b>	No
<b>Approval TÜV - STO</b>	No	<b>Approval - UL</b>	No
<b>PLC no. of AIN</b>	2	<b>PLC no. of DI</b>	-
<b>PLC no. of DIO</b>	-	<b>PLC no. of DO</b>	2
<b>Multifunction IOs</b>	2		
<b>Flange size</b>	59x59	<b>Protection house</b>	IP42
<b>Shaft size - Front [mm]</b>	6.35mm	<b>Protection shaft</b>	IP42
<b>Color</b>	Black	<b>Paint type</b>	



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## General information

**Ambient Temperature range [°C]:**

**Maximum Installation Altitude [m]:**

**Max. Amb. Temperature range - Torque derating:**

- Power Derating every 1000m over 1000m [%]:

**Weight net [kg]** 1.32

**Country Of Origin** DK

**Tariff no US**

**Weight gross [kg]** 1.43

**Tariff no** 85012000



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### Mechanical information

<b>Motor type</b>	Integr. AC-servo - Rotating	<b>Color</b>	Black
<b>Rotor inertia [kgcm<sup>2</sup>]</b>	0.227	<b>Max inertia factor</b>	20
<b>Encoder type</b>	Abs. Singleturn Encoder	<b>Encoder [Counts/rev]</b>	8192
<b>Precision Motor - Absolute [Deg -/+]</b>	0.065	<b>Precision Motor - Max Load [Deg -/+]</b>	
<b>Precision Motor - Repeatability [Deg -/+]</b>	0.033		
<b>Brake</b>	External brake option	<b>Brake - Go ON time [ms]</b>	-
<b>Brake Holding torque [Nm]</b>	-	<b>Brake - Go OFF time [ms]</b>	-
<b>Radial load [N]</b>	75	<b>Radial load distance [mm]</b>	20
<b>Axial load [N]</b>	15		
<b>Axial play [mm]</b>	+/-0.05	<b>Axial play force [N]</b>	xxx
<b>Front bearing type</b>	608ZZ	<b>Rear bearing type</b>	607ZZ
<b>Integrated gear</b>	No	<b>Gear ratio</b>	-
<b>Gear efficiency [%]</b>	< -	<b>Gear backlash [ArcMin]</b>	-
<b>Motor length [mm]</b>	172.0	<b>Motor width [mm]</b>	59.0
<b>Motor height [mm]</b>	59.0	<b>Protection house</b>	IP42
<b>Customer Sealing</b>	Standard		
<b>Flange size</b>	59x59	<b>Mounting holes front [mm]</b>	5.2
<b>Motor diameter center front [mm]</b>	38.1	<b>Bolt circle diameter front [mm]</b>	66.6
<b>Flange material</b>	Aluminium painted Black	<b>Flange Thickness [mm]</b>	
<b>Shaft Key included</b>	-	<b>Shaft Key Dimension</b>	-
<b>Shaft size - Front [mm]</b>	6.35mm	<b>Protection shaft</b>	IP42
<b>Shaft length Front [mm]</b>	20.5	<b>Shaft material</b>	Steel
<b>Approval - ROHS-3</b>	Yes	<b>Approval - UL</b>	No
<b>Approval TÜV - STO</b>	No	<b>Approval - ATEX</b>	No
<b>CAD 2D [PDF]</b>	Download	<b>CAD 3D [STEP]</b>	Download
<b>CAD 2D [DWG]</b>	No	<b>CAD 3D [DWG]</b>	No

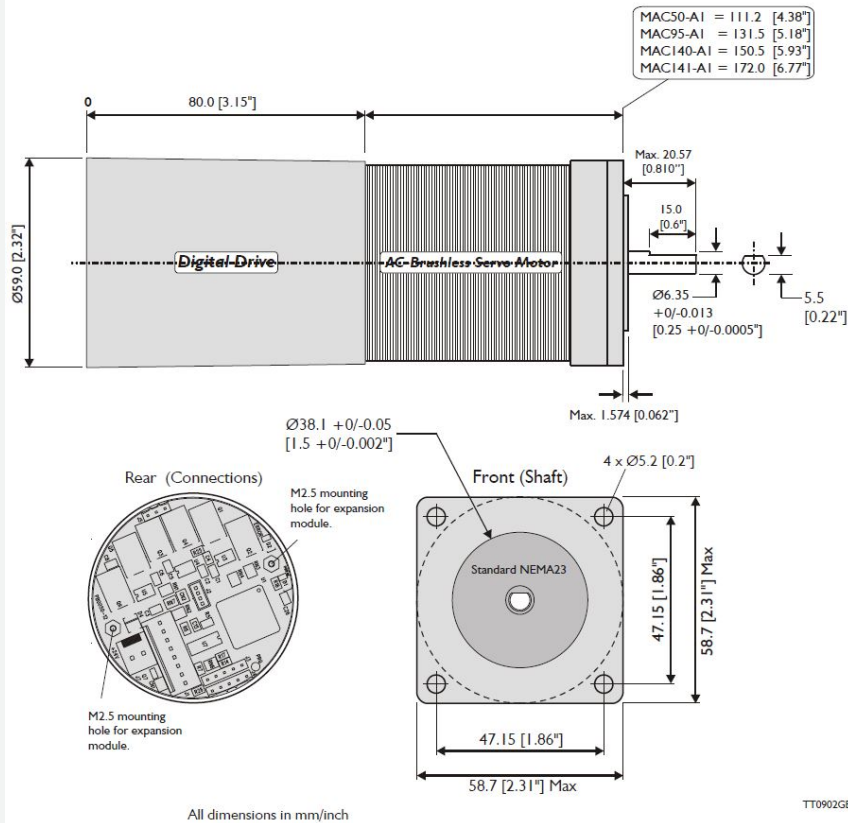


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### Mechanical information

<b>CAD 3D [EASM]</b>	No	<b>CAD 3D [IGES]</b>	Download
<b>Datasheet - pdf</b>	Yes	<b>User Manual</b>	Download
<b>REACH SVHC document</b>	Download	<b>Low voltage Directive</b>	EU Declarations of Conformity
<b>No Dual Use</b>	Read more here		



### Shaft Seal

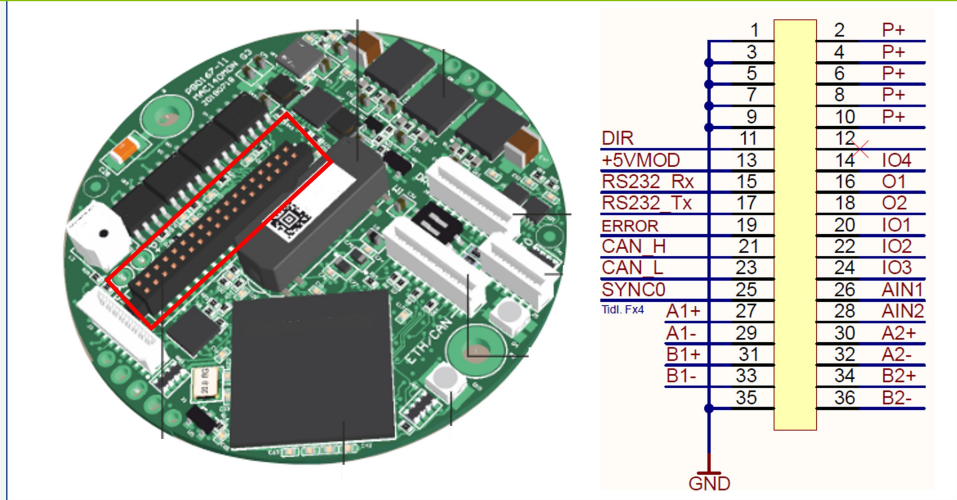


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**Connector information**

**Motor connectors**



<b>Connector Power</b>	Molex 2-pin Power	<b>Connector Power Supplier</b>
<b>Connector Power direction</b>	Straight	
<b>PDO Connector Type</b>	No	<b>Connector PDO Supplier</b>
<b>Connector STO</b>	No	
<b>Expansion connector</b>	Generation 2	

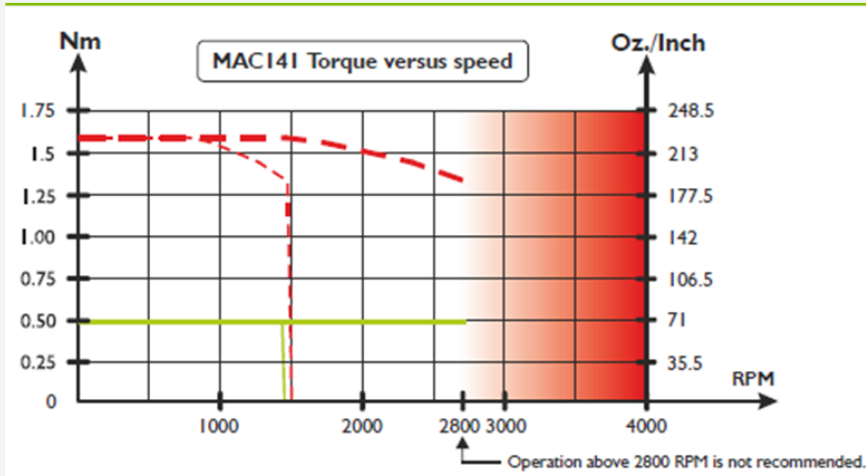


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**Torque, force and Power information**

<b>RMS torque [Nm]</b>	0.48	<b>Peak torque [Nm]</b>	1.59
<b>Supply Volt 1 [V]</b>	12	<b>Velocity max 1 [Rpm]</b>	700
<b>Supply Volt 2 [V]</b>	24	<b>Velocity max 2 [Rpm]</b>	1400
<b>Supply Volt 3 [V]</b>	48	<b>Velocity max 3 [Rpm]</b>	2800
<b>Supply Volt 4 [V]</b>		<b>Velocity max 4 [Rpm]</b>	



Conditions:  
Supply voltage = 24 or 48VDC  
Ambient temperature = 20°C  
Torque setting = 100%  
Load setting = 1.0

- = Peak Torque @48V
- = Average Torque @48V
- = Peak Torque @24V
- = Average Torque @24V



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**Electrical information**

<b>Main supply [V]</b>	12-48	<b>Main supply Min-Max [V]</b>	10-58
<b>Voltage type - Main</b>	DC	<b>Main Voltage possible</b>	
<b>Input Voltage Frequency</b>			
<b>Inrush current -Main max [A]</b>		<b>Inrush special</b>	No
<b>Recommended fuse</b>	T10A	<b>P- isolated from Earth ( Low Voltage ground (P-) isolated from housing)</b>	No
<b>Bus Supply Voltage Min [V]</b>		<b>Busvoltage Overvoltage limit [VDC]</b>	60V
<b>Power Dump Voltage Active Level [V]</b>		<b>Internal Power-Dump Resistance [Ohm]</b>	
<b>Internal Power-Dump Power [W]</b>		<b>PD connection - Int/Ext</b>	None
<b>External Power-Dump Resistance Minimum value [Ohm]</b>		<b>External Power-Dump Max Current [A]</b>	
<b>Control voltage (CVI/O+) [VDC]</b>	12-28	<b>Control Voltage (CVI) Min-Max [VDC]</b>	12-30
<b>PLC no. of DI</b>	-	<b>PLC no. of DO</b>	2
<b>PLC no. of DIO</b>	-	<b>PLC no. of AIN</b>	2
<b>Analogue voltage</b>	-/+10VDC, -/+11bit	<b>Multifunction IOs</b>	2
<b>Multifunction Nom. level [V]</b>		<b>Multifunction Maximum level [V]</b>	
<b>Multifunction Low trigger level [V]</b>		<b>Multifunction High trigger level [V]</b>	
<b>Resistance [Ohm]</b>		<b>Induction [mH]</b>	
<b>MTBF 100% [Year]</b>	-	<b>MTBF 30% [Year]</b>	-
<b>Temperature Error [°C]</b>			

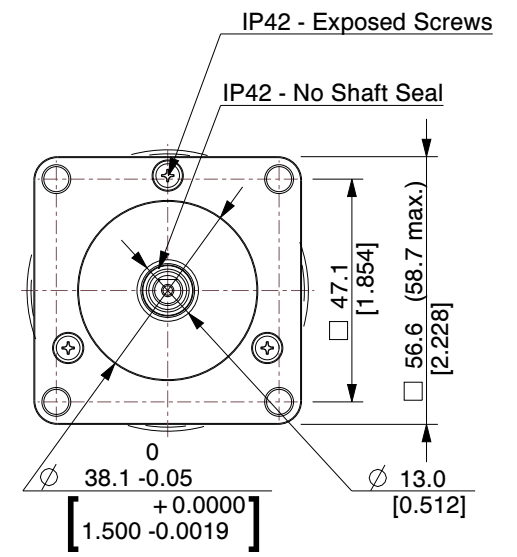
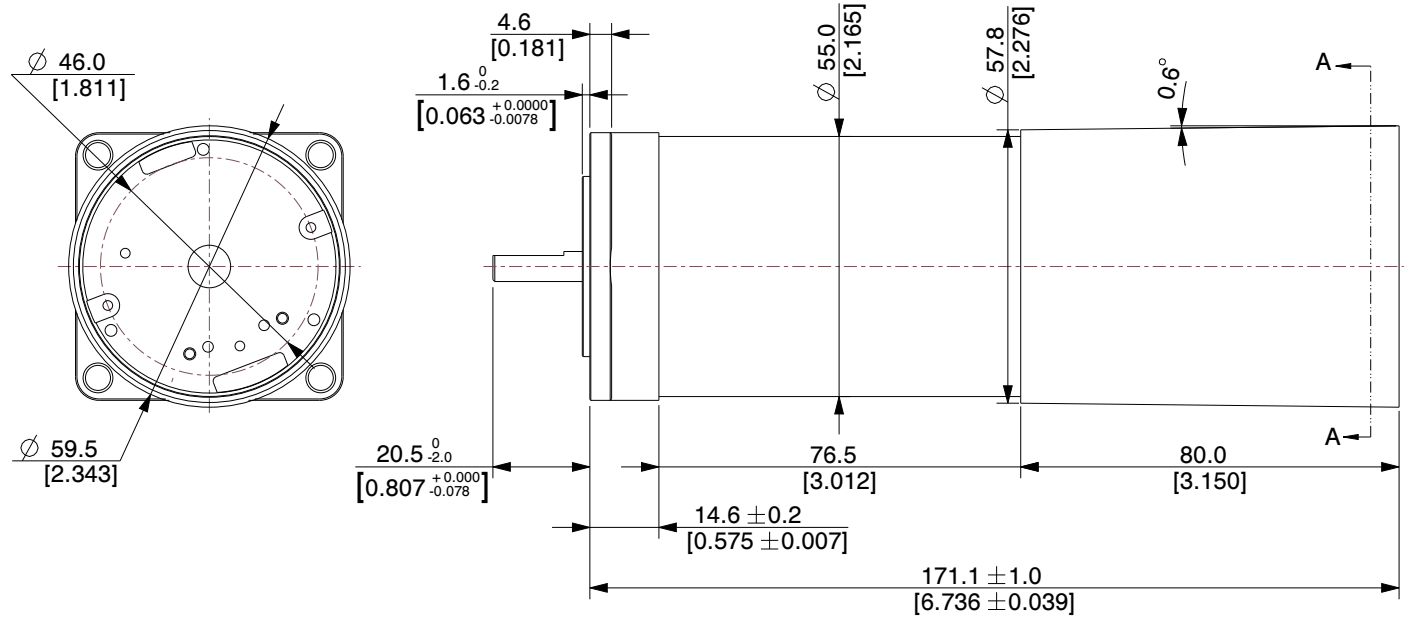
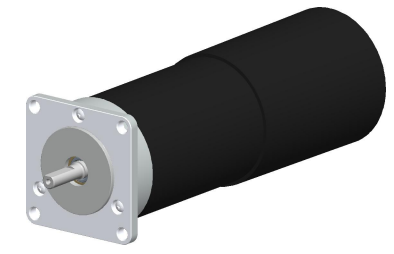
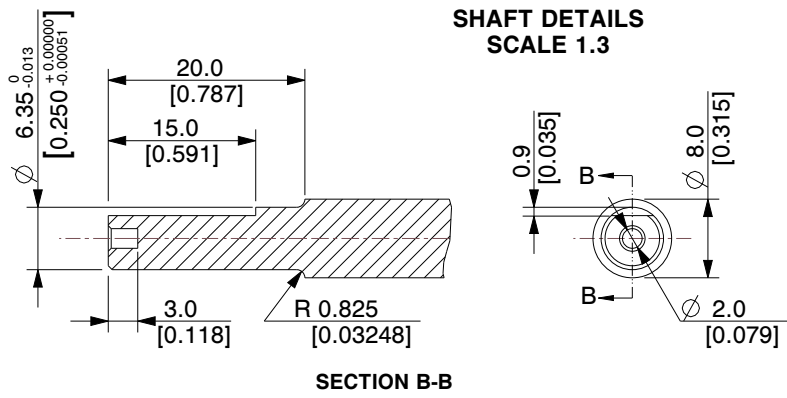
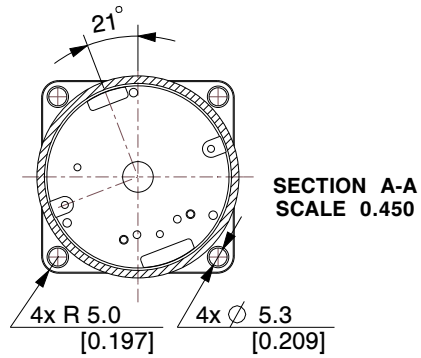


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

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### Communication information

<b>Software</b>	MacTalk	
<b>Connectivity: Without module</b>	RS232	<b>e-PLC Files</b>
<b>Connectivity: Gen. 2 modules</b>	Yes	



**NOTES:**  
1. Encoder Type: Incremental magnetic 8192 CPR

<b>JVL A/S</b> Bregnerødvej 127 DK-3460 Birkerød Denmark				 	
<b>PART NUMBER:</b> <p style="text-align: center;"><b>MAC141-F1GAAA</b></p>					
<b>PART DESCRIPTION:</b> <p style="text-align: center;"><b>Integrated Stepper Motor</b></p>					
		<b>A4</b>	SCALE	NTS	
			UNIT	MM [Inch]	
<small>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</small>					