



MAC141-F3HACA

Int.Servo.AC 134WS1 0.48Nm IP67 Abs

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.Servo.AC 134WS1 0.48Nm IP67 Abs , WxHxL: 59x59x176.5 mm. 2700 RPM @ 48VDC - 1350 RPM @ 24VDC. 0.48 Nm/1.59 Nm, IP67 without brake, Incremental magnetic 8192 CPR + Absolute multiturn encoder 19bit, 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: White, Ø6.35x20.5 mm D-shape

Manufacture	JVL	Motor type	Integr. AC-servo - Rotating
Motor power [W]	134	Power Peak [W]	402
Duty Cycle	S1	Max Duty Cycle [%]	100
Continuous Torque	0.48	Peak torque [Nm]	1.59
Main supply [V]	12-48	Voltage type - Main	DC
Speed [Rpm]	2700	Connectivity: Without module	RS232 - 5VDC, Modbus RTU
Encoder type	Abs. Multiturn 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	NEMA 23 - 58.7x58.7mm	Protection house	IP67
Shaft size - Front [mm]	6.35mm	Protection shaft	IP67
Color	White	Paint type	
Ambient Temperature range:		Max. Amb. Temperature range - Torque derating:	
Maximum Installation Altitude:		Max. Installation Altitude - Power Derating every 1000m:	
Weight net [kg]	1.46	Weight gross [kg]	1.62
Tariff no	85015100	Country Of Origin	DK



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Mechanical information

Motor type	Integr. AC-servo - Rotating	Color	White
Rotor inertia [kgcm²]	0.227	Max inertia factor	20
Encoder type	Abs. Multiturn Encoder	Encoder [Counts/rev]	8192
Precision Motor - Absolute [Deg -/+]	0.065	Precision Motor - Max Load [Deg -/+]	
Precision Motor - Repeatability [Deg -/+]	0.033		
Brake	No	Brake - Go ON time [ms]	-
Brake Holding torque [Nm]	-	Brake - Go OFF time [ms]	-
Radial load [N]	75	Radial load distance [mm]	20
Axial load [N]	15		
Axial play [mm]	+/-0.05	Axial play force [N]	xxx
Front bearing type	608ZZ	Rear bearing type	607ZZ
Integrated gear	No	Gear ratio	-
Gear efficiency [%]	-	Gear backlash [ArcMin]	-
Motor length [mm]	176.5	Motor width [mm]	59.0
Motor height [mm]	59.0	Protection house	IP67
Customer Sealing	Standard		
Flange size	NEMA 23 - 58.7x58.7mm	Mounting holes front [mm]	5.2
Motor diameter center front [mm]	38.1	Bolt circle diameter front [mm]	66.6
Flange material	Stainless Steel	Flange Thickness [mm]	
Shaft Key included	-	Shaft Key Dimension	-
Shaft size - Front [mm]	6.35mm	Protection shaft	IP67
Shaft length Front [mm]	20.5	Shaft material	Stainless 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

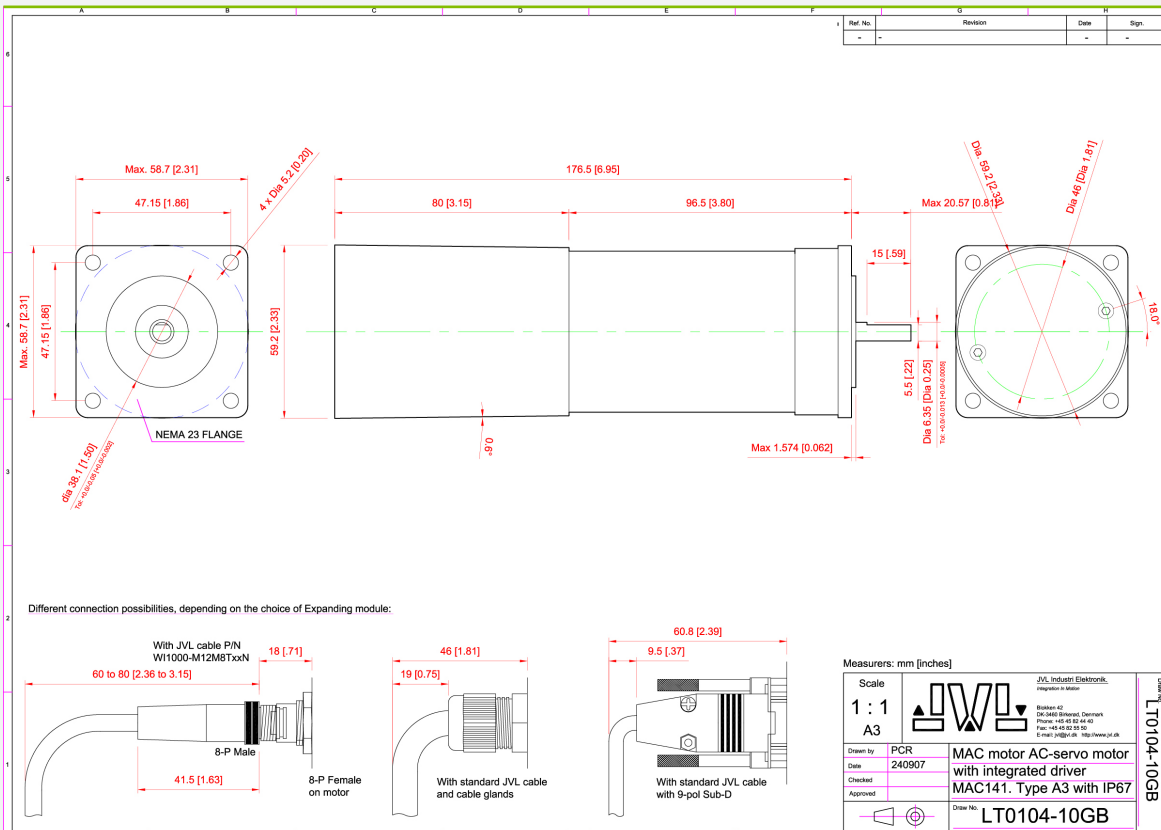


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Mechanical information

CAD 3D [EASM]	No	CAD 3D [IGES]	Download
Datasheet - pdf	Yes	User Manual	Download
REACH SVHC document	Download	Low voltage Directive	EU Declarations of Conformity
No Dual Use	-		



Shaft Seal

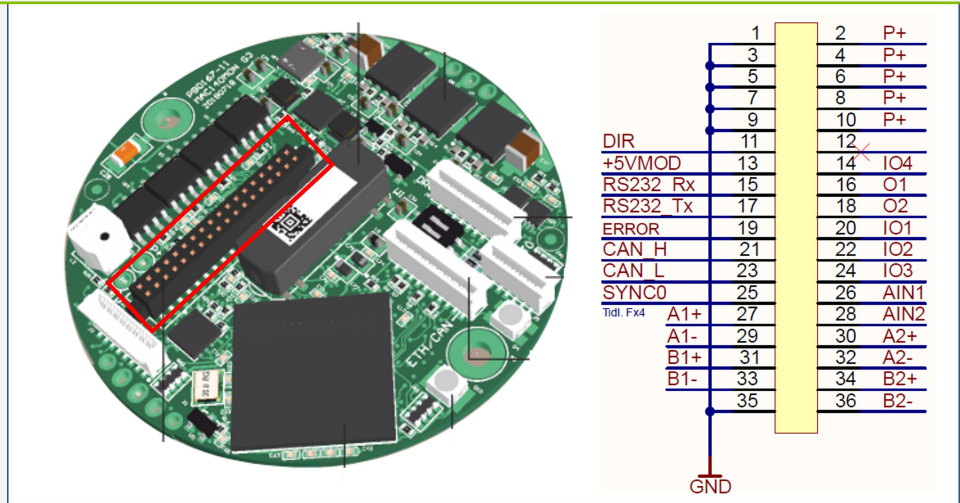


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Connector information

Motor connectors



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

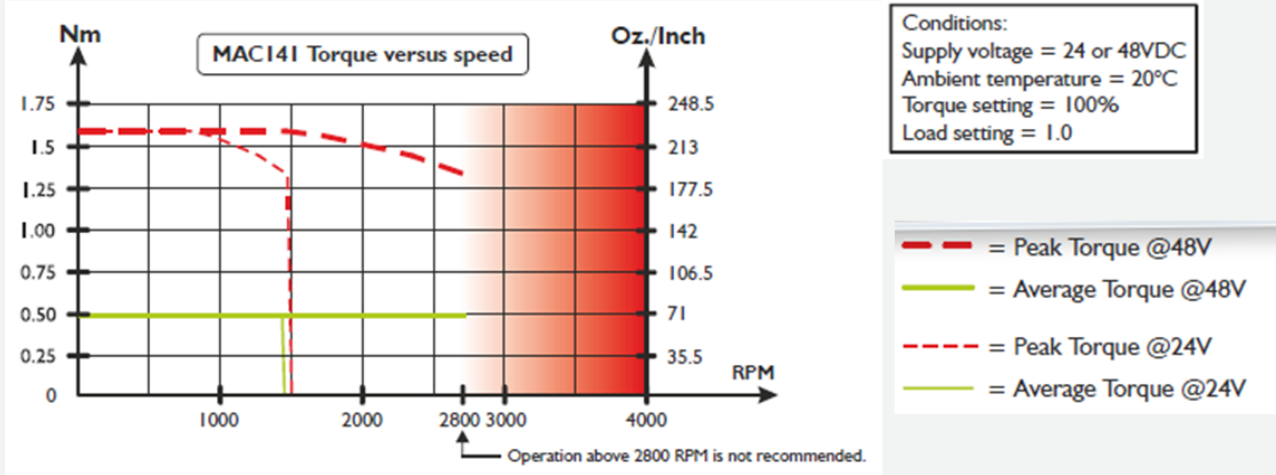


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Torque, force and Power information

RMS torque [Nm]	0.48	Peak torque [Nm]	1.59
Supply Volt 1 [V]	12	Supply Volt 2 [V]	24
Supply Volt 3 [V]	48	Supply Volt 4 [V]	-





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Electrical information

Control voltage (CVI/O+) [VDC]	12-28	Control Voltage (CVI) Min-Max [VDC]	12-30
Main supply [V]	12-48	Main supply Min-Max [V]	10-58
Voltage type - Main	DC	Main Voltage possible	
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]		Internal Power-Dump Power [W]	
PD connection - Int/Ext	None		
External Power-Dump Resistance Minimum value [Ohm]		External Power-Dump Max Current [A]	
Inrush current -Main max [A]		Inrush special	No
Recommended fuse	T10A	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:
Without module** RS232 - 5VDC, Modbus RTU **e-PLC Files**

**Connectivity:
2 modules** **Gen.** Yes

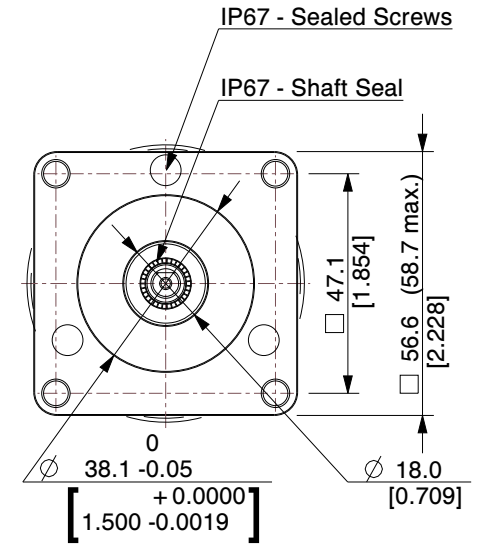
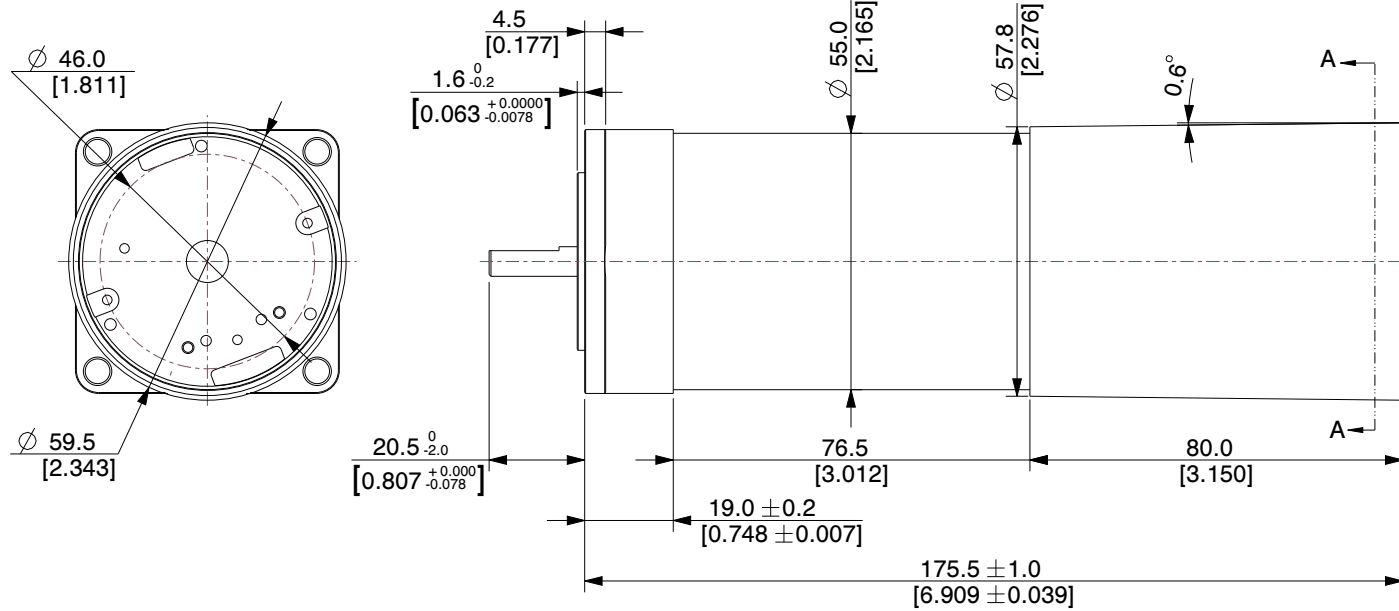
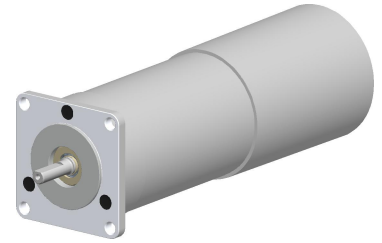
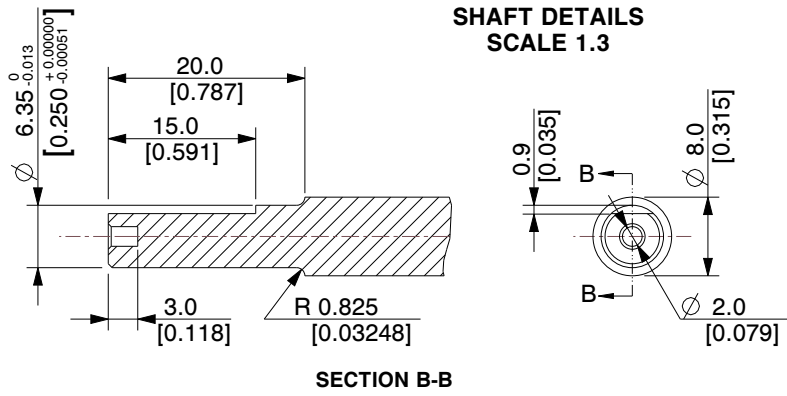
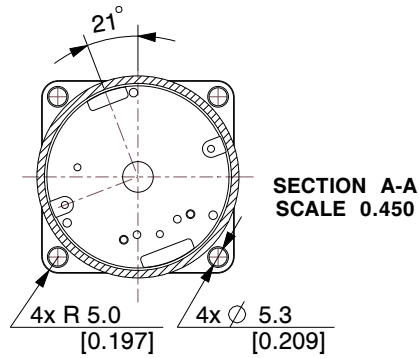


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Cable information

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
WI1000-M12F5V05R	Connector PDO	M12 5-pin female A-coded - 90° Angled	Power/Motor/com		5
M12 Shl Cable 5m 5 pin Fem 90°, Power, 3D		- n/a			No
WI1000-M12M8T20R	Connector PDO	M12 8-pin male A-coded - 180° Straight	Power/Motor/com		20
M12 Shl Cable 20m 8 p Male 0° 2D cable chain		- n/a			No
WI1010-M08M4T1.5P	Connector PDO	M8 4-pin male A-coded - 180° Straight	STO		1.5
M8 STO 4Pin Male 0° Con Shl Yel 1.5 m 1xcon, PA014		- n/a	Standard		No



NOTES:
1. Encoder Type: Incremental magnetic 8192 CPR + Absolute multiturn encoder 19 bit

MOTOR SPECIFICATIONS

Rated Torque	0.48 Nm	Supply Voltage	12-48 VDC	Standards	CE approved / UL Pending	Motor Color	White IP67
Peak Torque	1.59 Nm	Control circuit voltage	-	Maximum angular acceleration	85300rad/sec ²	Usage / Storage Temperature	Ambient 0 to +40°C (32-104°F)
Rated Power (watt)	134 W	Electric time constant (motor)	-	Inertia	0.227 kgcm ²	Housing & Flange	Square flange
Rated power rate. (motor)	-	Peak supply current (worst case)	16A peak	Max. axial shaft load	15N	Protection	IP67 without brake
Speed Range (nominal)	0-2700 RPM	Weight	1.32 kg	Max. radial shaft load	75 N (20mm from flange)	Special Configuration	2. Gen. Connector for Ethernet modules

JVL A/S
Bregnerødvej 127
DK-3460 Birkerød
Denmark

PART NUMBER:
MAC141-F3HACA

PART DESCRIPTION:
Integrated Stepper 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