

Sagittarius is a new line of fieldbus vector drives, characterised by innovative performance; these drives allow to command stepper motors also in closed loop of torque speed and position, with a drastic noise reduction, less heating and extremely smooth movements. Suitable for driving 2-phase hybrid stepper motors, they can be coupled mainly with the series of motors from Nema 8 to Nema 34. Completely digital and made using Arm Core M4 technology, Sagittarius drives offer exceptional reliability combined with mechanical compactness and a competitive price. They can be used in many types of machines where there is already a fieldbus master controller to control single or multi-axle systems. Their use is of the 'general purpose' type and they are particularly suitable in labelling machines, laser cutters, pick-place devices, engraving tables, etc. or in any case in all applications in which not only versatility, precision and speed are required, but also smooth and silent movements as in the medical field.



Principal features

- 1 Multiple control modes
- 2 Equipped with advanced safety functionalities: integrated diagnostic separated power supply for logic and power fault monitoring and handling
- 3 Vectorial control: The sinusoidal phase current keep the motor torque constant allowing smooth and noiseless movements.
- 4 Closed loop
- 5 Compact size
- 6 Low heat generation
- 7 High reliability
- 8 Auto tuning of motor control parameters
High efficiency current set up

Functions

Control modes:

- 1 Velocity control mode
- 2 Wide range of Positioning Control Modes (homing, relative, absolute, target)
- 3 Electric Gear with programmable gear ratio to track external master reference (from fieldbus or incremental encoder) of motor Speed and Position
- 4 High speed I/O triggered motor start & stop to event synchronizing for fast response demanding application: labeling, nick_finder, on fly cut., etc ...
- 5 Multi Axis movements synchronization capability
- 6 On fly change among any Motion Module Control Modes
- 7 On fly Electric Gear Enable/Disable capability
- 8 Closed loop of torque, speed and position thanks to the use of an encoder
- 9 Drive control through commands by Master Controller. Suitable for multi axes systems (up to 127 drives). Built in powerful Motion Module functionality assures perfect synchronization among axes and reduces Master Controller workload.

Technical Data

Driver Type

Stepper Motor from Nema 8 up to Nema 34

Interface control mode

CANopen
Serial RS485 Modbus-RTU
EtherCAT CoE (DS402)
Ethernet Modbus TCP
Open Loop
Close Loop

Electrical data

Operating voltage (min.) 18 [Vac] or 24 [Vdc]
Operating voltage (max.) 56 [Vac] or 80 [Vdc]
Separated logic power supply (min.) 24 [Vdc]
Separated logic power supply (max.) 80 [Vdc]
Rated Current up to 7.1 [A/ph rms]
Peak Current 10.0 [A/ph peak]

Operating Mode

Step resolution Stepless Control Technology (65536 emulated positions per turn) Inputs
Digital inputs 4 optoisolated: 2-24 Vdc NPN, PNP or Line-Driver 2 MHz 2 Safe Torque Off inputs 1 interface for incremental encoder 5V differential RS422 or 5V Single -Ended (TTL/CMOS) + output encoder not isolated 5V Differential RS422
Analog inputs 2 inputs for potentiometer or ± 10 Vdc

Output

Digital outputs 2 optoisolated PNP, 24 Vdc - 100 mA

Encoder

Input 5V Differential (RS422) or 5V Single-Ended (TTL/CMOS) incremental encoder
Output 5V Differential (RS422)

Protective functions

Over/UnderVoltage, OverCurrent, OverTemperature, Phase/Phase and Phase/Ground Short

Mechanical Data

Weight 450 g
Dimension (length) 74.0 [mm]
Dimension (width) 30.0 [mm]
Dimension (height) 146.8 [mm]
Protection class IP20
Status monitoring 4 LED (green, blue, yellow and red)

Ambient conditions

Temperature – Operation (min.) 0 [°C]
Temperature – Operation (max.) 40 [°C]
Temperature – Storage (min.) -25 [°C]
Temperature – Storage (max.) 55 [°C]
Humidity (non-condensing) (min.) 5 [%]
Humidity (non-condensing) (max.) 90 [%]

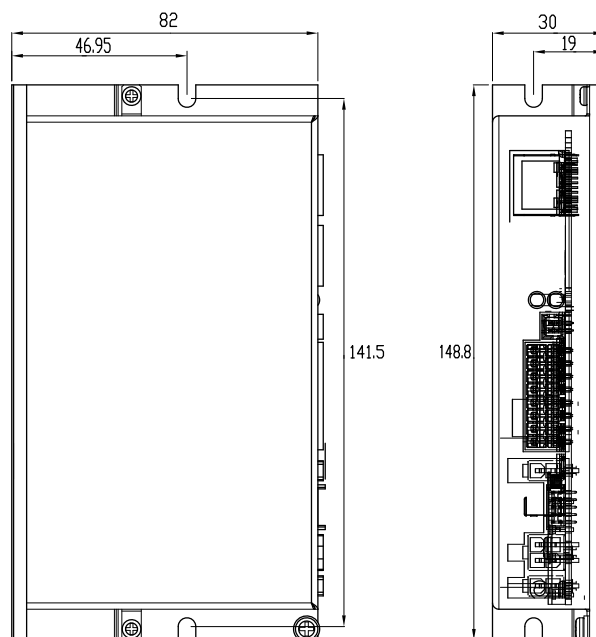
Software

Setup and configuration E&D Studio
Programming E&D Space

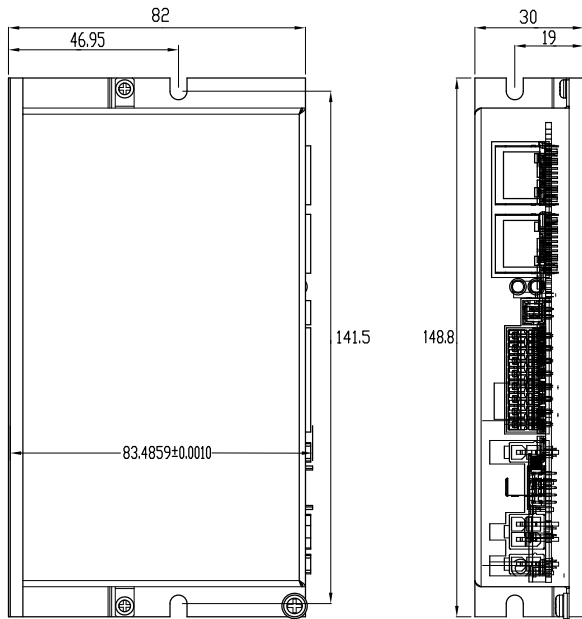
Version

	Power Supply Voltage				Output Current				Interface Control Mode	Open or Close Loop
	Vcc.		Vac.		[A/ph rms]		[A/ph peak]			
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.		
SBA207M001-S200	24	80	18	56	0.0	7.1		10.0	Serial RS485 Modbus-RTU	Open Loop or Closed Loop
SBA207C001-S200	24	80	18	56	0.0	7.1		10.0	CANopen (Programmable)	Open Loop or Closed Loop
SBA207C001-S402	24	80	18	56	0.0	7.1		10.0	CANopen (DS402)	Open Loop or Closed Loop
SBA207E001-S402	24	80	18	56	0.0	7.1		10.0	EtherCAT CoE (DS402)	Open Loop or Closed Loop
SBA207T001-S200	24	80	18	56	0.0	7.1		10.0	Ethernet Modbus TCP	Open Loop or Closed Loop

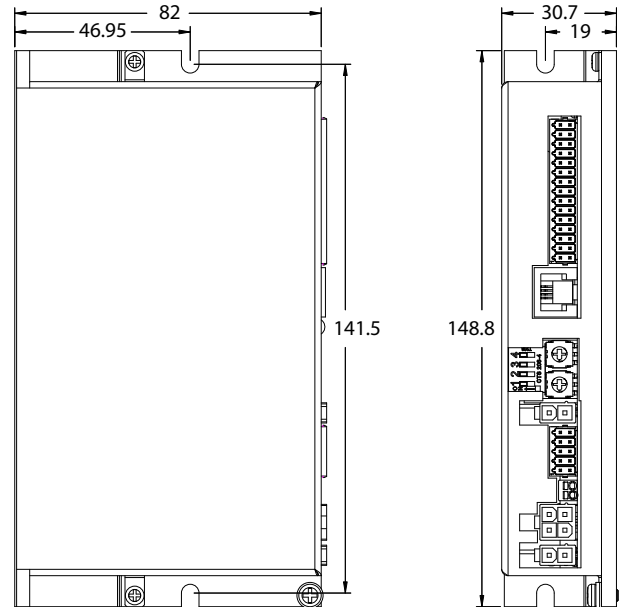
SBA207T001-S200



SBA207E001-S402



SBA207M001 / SBA207C001



Product Combination

Code	Size (mm)	Current Phase (A)	Holding Torque (Nm)	Page
SM42058-13E4F.000	42	1,33	0,22	50
SM42064-16E4F.000	42	1,68	0,36	50
SM42072-16E4F.000	42	1,68	0,44	50
SM42084-30E4F.000	42	3	0,80	50
SM60066-28E4F.000	60	2,80	1,10	53
SM60075-28E4F.000	60	2,80	1,65	53
SM60086-28E4F.000	60	2,80	2,10	53
SM60107-28E4F.000	60	2,80	3,10	53
SM86084-59E4K.000	86	5,90	3,40	56
SM86097-55E4K.000	86	5,50	4,60	56
SM86115-55E4K.000	86	5,50	7	56
SM86133-60E4K.000	86	6	8,70	56
SM86172-62E4K.000	86	6,20	12,1	56