

SMD5206xS Step/Dir

Stepper Motor Drive



Models

Model	Control	Peak current (A)	Nominal current (A)	Nominal voltage (Vdc)
SMD5206LS	Step/Dir	8.5	max 6	65
SMD5206HS	Step/Dir	8.5	max 6	120

The SMD5206xS is a microstep drive, working at a maximum resolution of 204800 steps/rev (1/1024th of step).

The high resolution permits to define the operation mode as “Stepless”, and guarantees high smoothness and low noise of the system, also with low speeds.

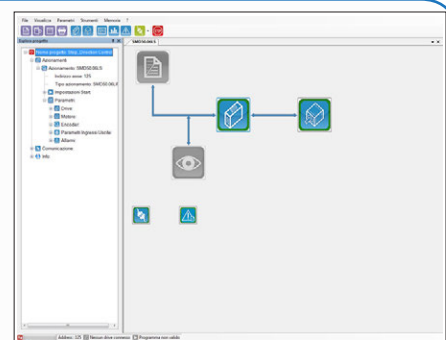


Electric characteristics		U.M.	SMD5206LS	SMD5206HS
Power Supply (HVdc)	Voltage range	Vdc	+24 .. 85	+24 .. 135
	Nominal voltage	Vdc	+65	+120
	Peak current	A	motor current +10%	
Logic Supply (LVdc)	Voltage range	Vdc	+24 .. 85	+24 .. 135
	Current	A	0,7	
Output current	Nominal current (sinusoidal)	A _{RMS}	configurable via software max. 8A	
	Peak current	A	max 8,5A	
	BOOST current	A _{RMS}	max 8,5A	
Auxiliary supply (Input/Output stage)	Voltage range	Vdc	+24Vdc +/- 10%	
	Current	A	1	
Current control	Type		PWM bipolar	
	Frequency	KHz	20 (50 µs)	
	PWM outputs		Dual MOSFET H-bridges, 20 KHz center-weighted PWM field oriented space-vector modulation	
Control digital inputs (Enable, CurRed, AlarmReset)	Number		3	
	Type		PNP TTL compatible until + 30 Vdc	
	“High” / “Low” level threshold	Vdc	+12V default 2,2V threshold configurable through StepControl	
Digital output (Alarm out)	Number		1	
	Type		+24 VDC Push-Pull	
	Current	mA	100	
	Protection		Temperature, short-circuit	
Service digital inputs (ChA, ChB, ChZ encoder motore, StepIN, Dir)	Numero		5	
	Type		PNP TTL compatible until + 30 Vdc	
	Absorbed current	mA	8	
	“High” / “Low” level threshold	Vdc	+12V default 2,5V threshold if connected in differential	
	Characteristics		High speed inputs (max 70Khz, D.C. 50%)	
Communication bus electric characteristics			SMD5206xS	
USB 2.0	Signals		D+, D-, GND	
	Protocol		Modbus RTU	
	Nr. of nodes		1	

Parameterization with StepControl

The setup of the SMD5206xS is very simple using StepControl software. The drive communicates with the PC through a USB connection, and all the operations of setting and parameterization of the unit can be performed through software.

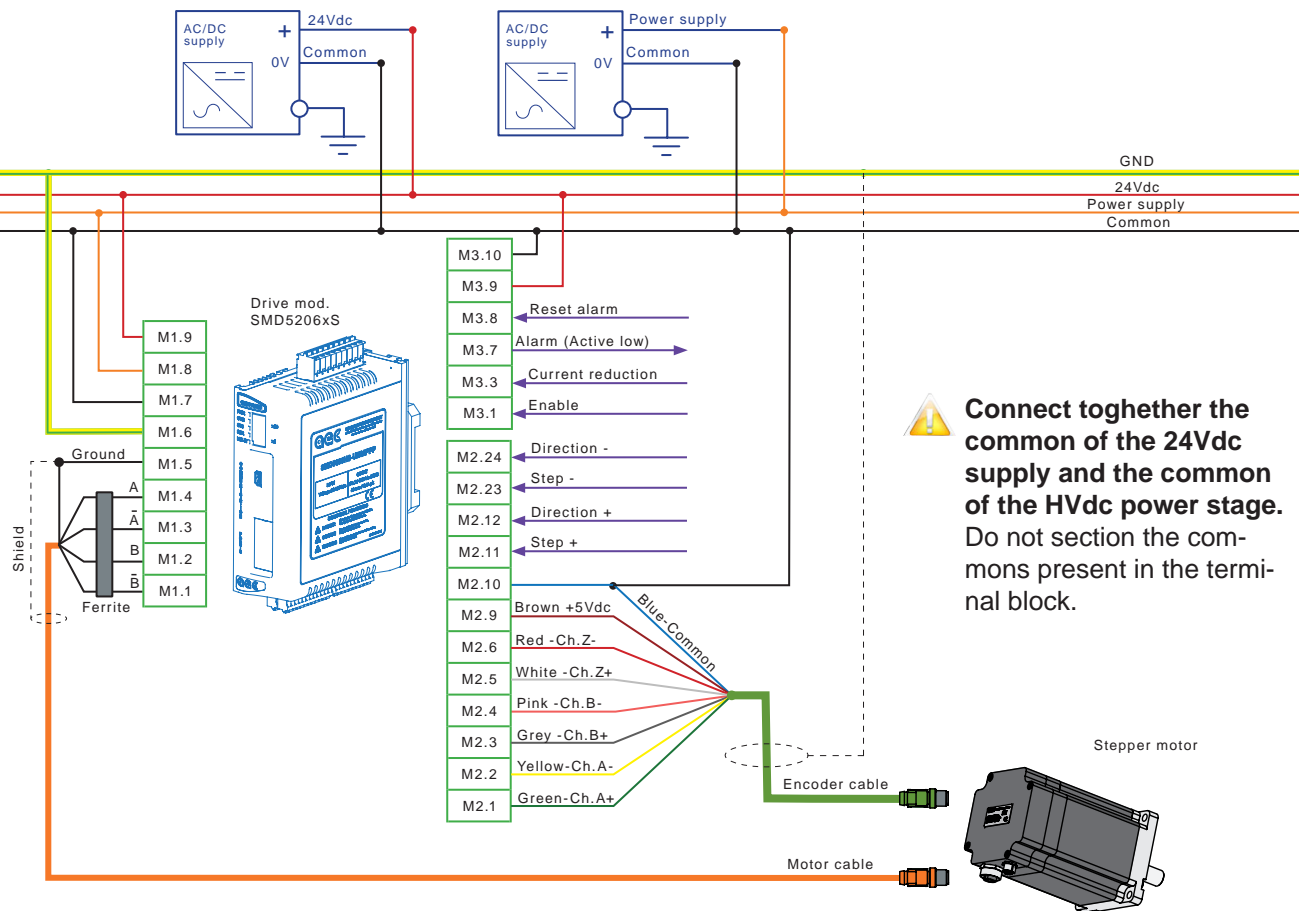
The configuration of the drive can be saved into a file and loaded in other drives, in order to make easier the parameterization of other axes.



SMD5206xS Step/Dir

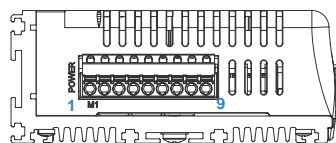
Stepper Motor Drive

Typical wiring scheme



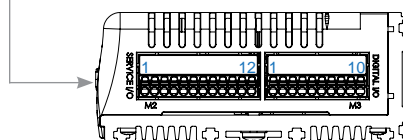
Terminal blocks connection

Pin	Signal name	Description
1	Phase B-	Motor phase B-
2	Phase B	Motor phase B-
3	Phase A-	Motor phase A-
4	Phase A	Motor phase A
5	Ground	Ground
6	Ground	Ground
7	Common	DC supply common ground reference
8	Power supply	DC Power voltage input
9	Logic supply	DC Logic voltage input/output



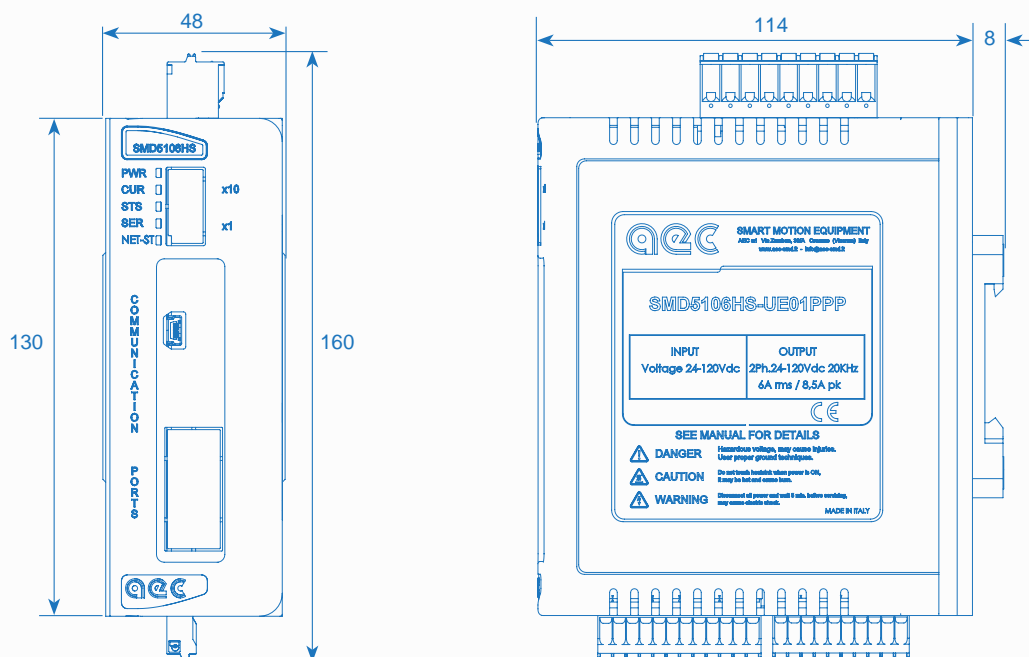
Pin	Signal name	Description
1	Motor encoder A+	Motor encoder channel A+
2	Motor encoder A-	Motor encoder channel A-
3	Motor encoder B+	Motor encoder channel B+
4	Motor encoder B-	Motor encoder channel B-
5	Motor encoder Z+	Motor encoder channel Z+
6	Motor encoder Z-	Motor encoder channel Z-
7	-	Reserved
8	-	Reserved
9	V External supply	5Vdc@100mA encoder supply output
10	External Common	Signals common
11	Step IN +	Step + signal input
12	DIR +	Direction + signal input
13	-	Reserved
14	-	Reserved
15	-	Reserved
16	-	Reserved
17	-	Reserved
18	-	Reserved
19	-	Reserved
20	-	Reserved
21	-	Reserved
22	-	Reserved
23	Step IN -	Step - signal input
24	DIR -	Direction - signal input

Pin	Signal name	Description
1	Enable	Drive enable input
2	-	Reserved
3	Cur Red	Current reduction input
4	-	Reserved
5	-	Reserved
6	-	Reserved
7	Alarm out	Alarm output
8	Reset alarm	Alarm reset input
9	Power input	Power input of the output stage
10	Common	Digital inputs common
11	-	Reserved
12	-	Reserved
13	-	Reserved
14	-	Reserved
15	-	Reserved
16	-	Reserved
17	-	Reserved
18	-	Reserved
19	-	Reserved
20	-	Reserved



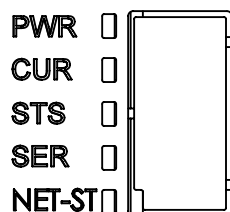
N.B. : “Step IN” and “DIR” inputs are referred to the signals common M2.10

Mechanical dimensions



Dimensions are expressed in mm

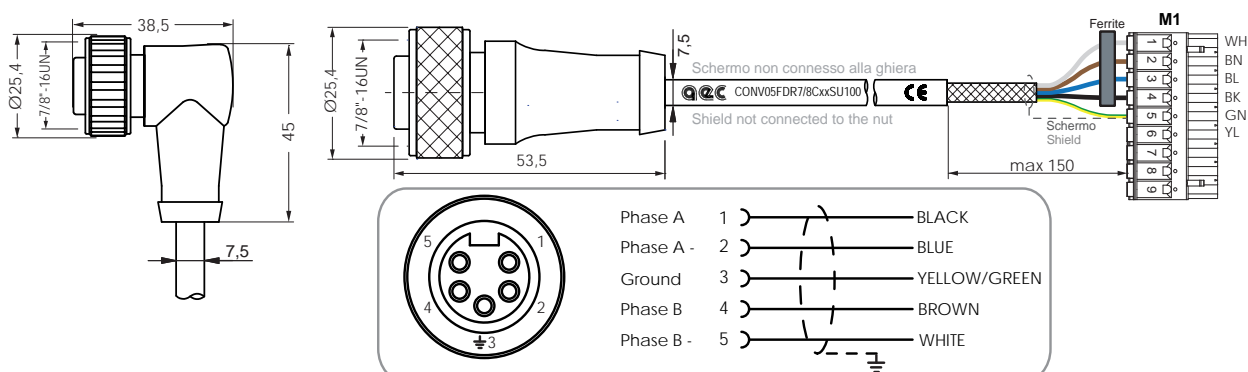
Status LED indicators



LED name	Color	Description
PWR (Power supply)	Off	The drive is not supplied.
	Green	The logic stage of the drive is supplied.
CUR (Current to the motor)	Off	No current to the motor.
	Green	Nominal current to the motor.
	Orange	Reduced current to the motor.
	Red	BOOST current during the ramps.
STS (Drive status)	Off	Logic stage error.
	Green	Drive is OK.
	Orange	Overtemperature alarm.
	Red (fixed)	Active alarm (check the alarm type with StepControl).
	Red (blinking)	Power stage overvoltage or undervoltage alarm.
SER (Comunicazione)	Off	Modbus serial communication in progress through USB port.
	Orange (blinking)	Communication in progress through USB port.
NET-ST (Fieldbus)		Not managed

7/8" MOTOR CONNECTION CABLE: CONV05FDR7/8Cxxx

Shielded dynamic laying cables with 7/8" female connector, for stepper motors series M86SHxx and M110SHxx.



Dimensions are expressed in mm

