

Step Motor Controllers SMC23, SMC24, SMC25 and SMC26



This series of programmable step motor controllers meets almost all needs for precise control of step motors.

The Controllers are available in a range of models: with ½Kb or 8Kb memory, with integral power supply in a HF cabinet or without power supply and cabinet, and with or without registers with an extended command set and RS485 module interface, and in 3 or 6A/40V models.

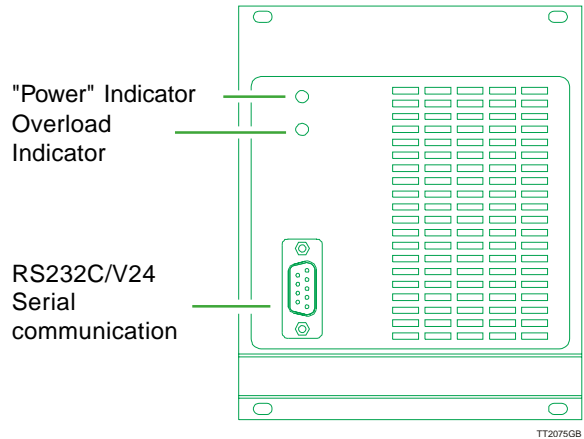
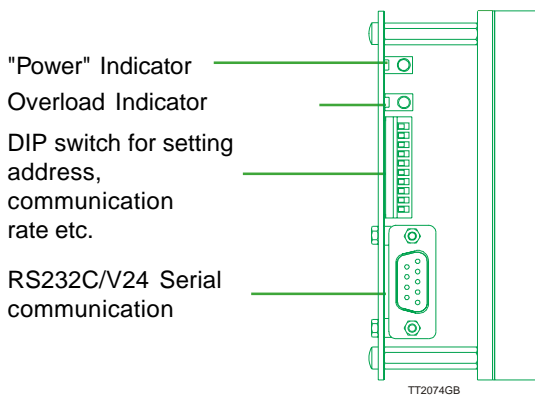
All the Controllers have 3 digital inputs and 3 digital outputs as well as 6 analogue inputs. This provides great flexibility for motor control applications of any kind.

Models that are equipped with the extended command set and registers also include an RS485 module interface which enables

connection of extension modules such as Display/Keyboard Module KDM10, Input/Output Module IOM11, Multi Counter Module CMO10 and Display Modules DIS10, 11 and 12.

- Simple programming
- RS232 Interface with RS232C/V24 communication
- Up to 7 controllers on the same interface bus
- Baud rate 110 - 9600
- Max. operating frequency 15kHz
- Driver stage of 3 and 6 A/40 Volt
- Power supply 15-45VDC or 115/230VAC
- 3 Digital User Inputs
- 3 Digital User Outputs
- 6 Analogue Inputs
- Stop and end-of-travel inputs stop motor operation instantaneously
- 200, 400, 800 or 1600 steps per revolution (full-, half-, 1/4 or 1/8 step operation)
- All in/outputs optically isolated
- Protected against voltage overload and motor output short-circuit
- Mounting either in 19" rack or on a surface via T-flanges (types with power supply in DIN cabinet)

Front Panel Indicators and Connectors



Front Panel SMC23 and SMC25, models without cabinet and power supply

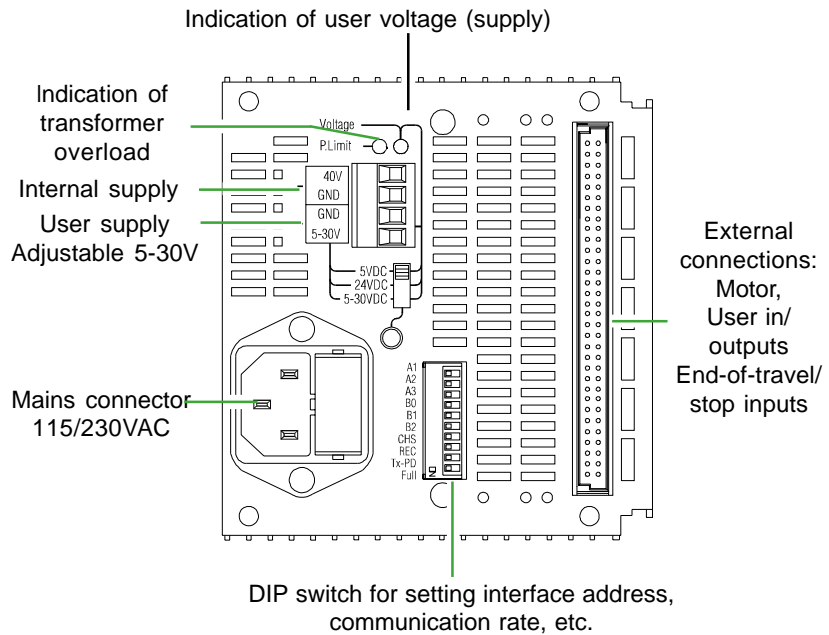
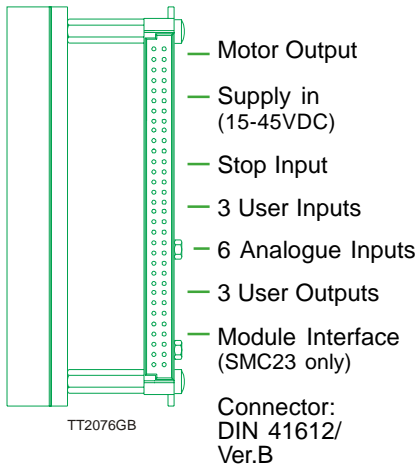
Front Panel SMC24 and SMC26, models in cabinet with 110/230V AC power supply

The front panel of both models (with or without power supply) has LEDs for indicating "Power On" and overload. In addition, the front panel is equipped with the RS232 interface connector

which enables the Controllers to be connected to a computer or terminal. Via this interface, programs are read into the Controller's memory. For models without an integral power

supply, the DIP switches for setting the interface address and communication rate are also located on the front panel.

Rear Panel Indicators and Connections



Rear Panel SMC23 and SMC25, models without cabinet and power supply

Rear Panel SMC24 and SMC26, models with cabinet and 110/230V AC mains voltage power supply

The rear panel of both models is equipped with a DIN connector for connection of all external control signals. Models with cabinet and integral mains voltage power supply

additionally provide a user supply output for powering sensors, magnetic valves, etc. The voltage can be adjusted to 5VDC, 24VDC, or continuously from 5 to 30VDC. The user supply can supply

0.5A at all voltages. The internal supply voltage (40VDC) is available for other controllers.

Controller Types, Selection of Controller

Controller Types

These Controllers represent an entirely new design which offer an improvement in performance by a factor of 4 to 5 compared with earlier models. In addition the Controllers have specifically been designed to provide very high noise immunity. The Controllers are available either on a Euro-card for external powering or in a DIN cabinet with integral 115 or 230V AC mains supply. Depending on the application, models with either 3 or 6 A output current at 40V can be selected. In addition, both types are available with either 1/2Kb or 8 Kb memory and with built-in registers and a module interface. 1/2 Kb types are used for simple applications in which the Controller must only store a small control program. Models with 8 Kb memory are used for larger programs and for applica-

tions that require values (positions, lengths, quantities etc) to be stored for use during program execution. In addition, the Module Interface enables JVL's module units to be connected. Complete control systems can thus be built up, in many cases replacing the need for a PLC system. Modules available are: Keyboard/Display Module KDM10
Input/Output Module IOM11
Multi Counter Module CMO10, and
Display Modules DIS10, 11 and 12

See separate data sheets.

Motor Output:

Either a 2-phase or 4-phase step motor may be connected to the Controllers. The outputs are short-circuit protected and safeguarded against short circuit to ground. The motor can be controlled with full-, half-,

1/4 or 1/8 step resolution, up to 15,000 steps per second.

Power Supply:

Only a single supply is required: 5-45VDC for models SMC23 and SMC25, or 115/230VAC for models SMC24 and SMC26.

Programming:

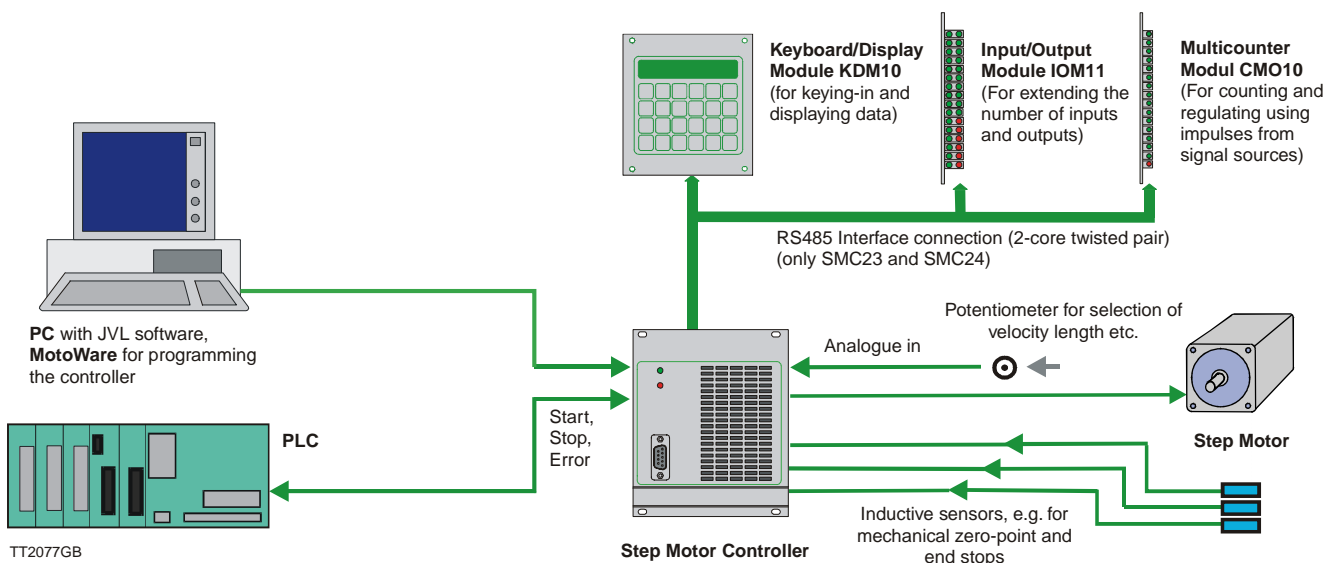
Programming and "on-line" communication with JVL's controllers is readily achieved using the windows-based software MotoWare. Programs are written in a simple, BASIC-like language and easily transferred to the Controller.

System Configurations

The illustration below shows typical configurations for a step motor system using JVL's step motor controllers. The PC or PLC is only necessary for

programming. Thereafter, the Controller normally controls program execution, possibly using a PLC as an overall controller if many different units must

be controlled independently of one another.



Step Motor Controllers SMC23, 24, 25 and 26

Specifications

Controllers on euro-card, without power supply and cabinet

Type	Phase Current (A)		Driver Voltage typ. (VDC)	Supply Voltage (VDC) (Kb)		Memory	Registers Number*	Module Interface
	Min.	Max.		Min.	Max.			
SMC23A	0	3	40	15	45	8	510	RS485
SMC23B	0	6	40	15	45	8	510	RS485
SMC25A	0	3	40	15	45	½	-	-
SMC25B	0	6	40	15	45	½	-	-

Dimensions: (HxWxD) 100x46.5x160 * Each register can store a number from 0 to 65535

Controllers with integral power supply and cabinet

Type	Phase Current (A)		Driver Voltage typ. (VDC)	Supply Voltage (VAC) (Kb)		Memory	Registers Number*	Module Interface
	Min.	Max.		Min.	Max.			
SMC24A	0	3	40	207(100)	242(125)	8	510	RS485
SMC24B	0	6	40	207(100)	242(125)	8	510	RS485
SMC26A	0	3	40	207(100)	242(125)	½	-	-
SMC26B	0	6	40	207(100)	242(125)	½	-	-

All models have an output with adjustable output voltage, 5.1 - 30.2 VDC/500mA

Dimensions: (HxWxD) 111.4x103x171 * Each register can store a number from 0 to 65535

General

Digital Inputs	Min.	Max.	Units
Allowable voltage (Stop, IN 1, 2 and 3)	0	30	VDC
End-of-travel inputs	0	30	VDC
Module Interface (SMC23 and SMC24 only)			
Communication length	0	100	m
Communication rate	-	50	kbit/sec.
Analogue Inputs			
Allowable voltage	0	5.1	VDC
Resolution	-	8	bit
Logic "0"		2.5	VDC
Logic "1"	2.6		VDC
Chopper frequency	-	22	kHz
Ambient temperature			
SMC23/SMC25	0	50	°C
SMC24/SMC26	0	40	°C

Accessories

Software	Motoware
Con. Board w. Phoenix plug	CON10P
RS232 Interface cable	RS232-9-1
Power Supply 40V/200W	PSU40-2
Base plate	Base1
Mains Cable	NETKABEL1



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