

SMC67MON (+ subtypes) layout

20250708 - JVL A/S - BBJ

Top view

«Power» LED Is lit if processor is alive

Optional encoder for high resolution or FuSa purposes

"H5" or "H6" absolute single turn encoder (optional)

J13 16pin FPC Connector
Interface to status LED's

J6 30pin FPC Connector
General user IO1 to IO8
RS485 Main interface
RS485 general interface (only 3.3V levels)

J7 12pin FPC Connector
STO interface (option)
STO = Safe Torque Off

J9 20pin BtoB connector
"H7" or "H8" encoder interface (option)

J2 8pin Connector
Motor output
2 x 6ARMS max.

Motor drive section
Warning can be hot !



Side view



Bottom view

J4 40pin BtoB connector
For FuSa option module
Only for internal signals !

J12 24pin BtoB connector
Ethernet connections (optional)

J1 3(4)pin Solderpads
Main power in 12-72VDC
Control voltage in 24VDC

J11 2pin Board to wire connector
For motor temperature sensor (option)

J105 4pin Board to Wire connector (option)
Brake output. An electro-mechanical motor brake can be automatically controlled from this output.

Motor drive section
Warning can be hot !

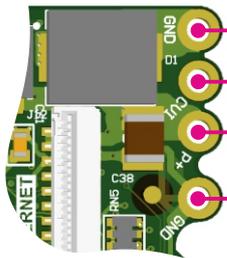


J14 18pin FPC connector
Signals to alternative external motor driver (option)

Outside dimension: (X,Y) 68.3 x 33.4mm

Detailed connector descriptions next pages....

J1 - 3 (4)pin Solderpads - Main power and control voltage input



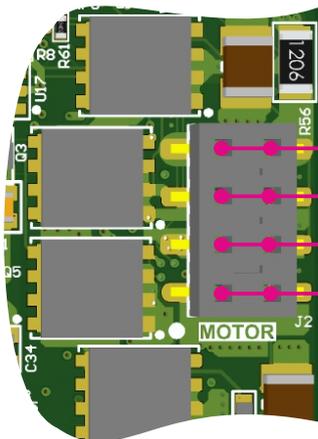
- P-** (GND/common)
- CVI** - Control voltage input 24VDC nom.
- P+** - Main power input 12-72VDC
- P-** (GND/common) - Can be used optionally

Note: Names in bold refers to the pin names in the user manual for the MISxxx motors. Further details can be found in the user manual.

Recommended connection cable:

JVL stock no. **WG0830**
3 wire cable connecting to 5 pin male M12 connector.
See also MIS motor user manual for additional cable options.

J2 - 8 pin Connector for motor output



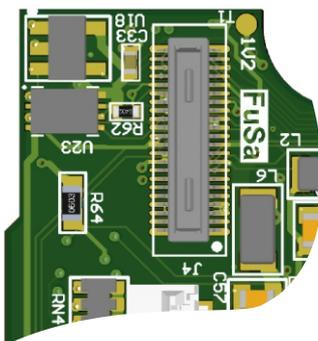
The Stepper or Servo motor is connected to this output

- Phase A+ output (motor phase 1)
- Phase A- output (motor phase 1)
- Phase B+ output (motor phase 2)
- Phase B- output (motor phase 2)

Note: The motor output is current controlled. Each of the connected 2 motor phases are applied a current between 0 and 6.0ARMS which is setup in the current registers in SMC67 using MacTalk or through one of the available communication channels. See also the MIS motor user manual.

Connector used at the SMC67 is Samtec type: [SSM-104-S-DV-LC](http://www.samtec.com) (2.54mm pitch 5.2A per pin)
See also www.samtec.com for further connection options

J4 - 40pin Board to Board connector for Functional Safety module

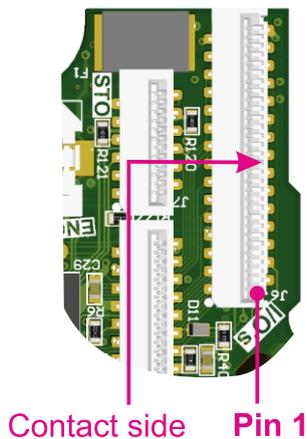


J4 is only to be used with the JVL FuSa module
All relevant signals for handling the available functional safety functions are covered by this connector.



Do not connect any signals to this connector !

J6 - 30pin FPC flex cable connector with I/O, Interface etc.



Recommended connection cables:

- **WF0836** - M12 - 17pin female with 8 fast IO's, RS485, RS422 and CVO
- **WF0851** (MAC) M12 - 17 pin female w/8 fast IO's, RS485, RS422 and CVO
- **WF0855** (MAC) M12 - 8 pin female w/3 fast IN and 1 OUT, RS485, and CVO

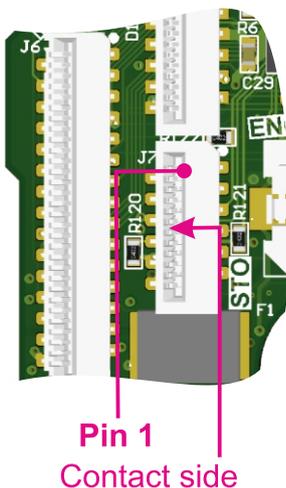
- Pin 1 **IN8** - 3.3V digital input
- Pin 2 **IN7** - 3.3V digital input
- Pin 3 **IN6** - 3.3V digital input
- Pin 4 **IN5** - 3.3V digital input
- Pin 5 **IN4** - 3.3V digital or analogue input
- Pin 6 **IN3** - 3.3V digital or analogue input
- Pin 7 **IN2** - 3.3V digital or analogue input
- Pin 8 **IN1** - 3.3V digital or analogue input
- Pin 9 **RS485DE** – Driver Enable for RS485 COM to for example MacTalk
- Pin 10 **UART0 Rx** – Main async. RS485 COM to for example MacTalk
- Pin 11 **UART0 Tx** – Main async. RS485 COM to for example MacTalk
- Pin 12 **MIO1ADI** - Multifunction IO1A Data Input (3.3V)
- Pin 13 **MIO1ADIR** - Multifunction IO1A Direction (3.3V)
- Pin 14 **MIO1ADO** - Multifunction IO1A Data Output (3.3V)
- Pin 15 **MIO1BDI** - Multifunction IO1B Data Input (3.3V)
- Pin 16 **MIO1BDIR** - Multifunction IO1B Direction (3.3V)
- Pin 17 **MIO1BDO** - Multifunction IO1B Data Output (3.3V)
- Pin 18 **3.3V** – Output to flex cable supply (max. 50mA)
- Pin 19 **OUT8** - 3.3V digital output
- Pin 20 **OUT7** - 3.3V digital output
- Pin 21 **OUT6** - 3.3V digital output
- Pin 22 **OUT5** - 3.3V digital output
- Pin 23 **OUT4** - 3.3V digital output
- Pin 24 **OUT3** - 3.3V digital output
- Pin 25 **OUT2** - 3.3V digital output
- Pin 26 **OUT1** - 3.3V digital output
- Pin 27 **CVO** - Control Voltage Output (Max. 800mA if paralleled with pin 28)
- Pin 28 **CVO** - Control Voltage Output (Max. 800mA if paralleled with pin 27)
- Pin 29 **GND** - (Max. 1000mA if paralleled with pin 30)
- Pin 30 **GND** - (Max. 1000mA if paralleled with pin 29)

RS485 only with specified flex cables (added circuitry)

Note: Names in bold refers to the pin names in the user manual for the MISxxx motors. Further details can be found in the user manual.

Connector used at the SMC67 is Molex type: 78119-3020 (0.5mm pitch 500mA per contact)
See also www.mouser.com for further connection options

J7 - 12pin FPC flex cable connector with STO (Safe Torque Off)



J7 is only to be used with the JVL STO control board type PM-STO1MON.

All relevant signals for handling the STO function is covered by this connector.

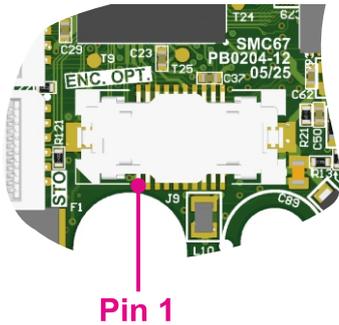


Do not connect any signals to this connector !

Recommended hardware to connect:

- **PB0168-10** - Flex cable between SMC67 and STO control board
- **PM-STO1MON** - STO control board with M8 female 4 pin connector

J9 - 20pin Board to Board connector for absolut multiturn encoder option.

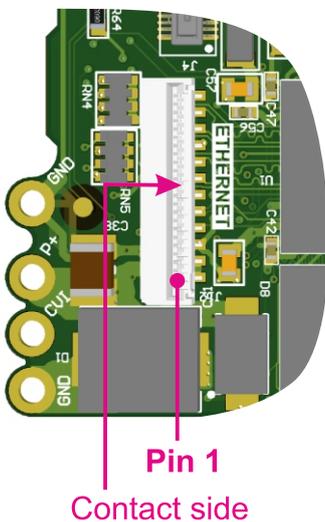


J9 is only to be used with the JVL absolute multi turn encoder control board type PM-ENCH8MON.
All relevant signals for handling the Abs. Mult. encoder function is covered by this connector.



Do not connect any signals to this connector !

J12 - 24pin FPC flex cable connector for master PLC communication.



J12 is only to be used with the JVL flex cables and support signals for dual industrial Ethernet and the future options PoE, CAN-open, WIFI, IO-Link.

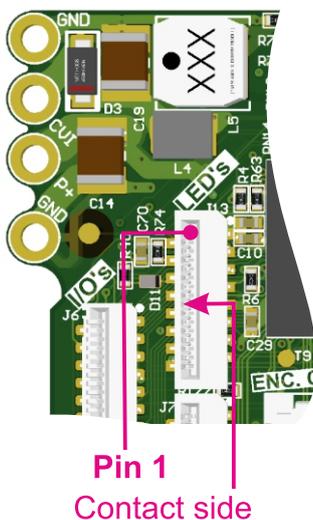


Do not connect any signals to this connector !

Recommended connection cables:

- **WF0832** - 2 x M12 D - 4pin female dual Ethernet
- **WF0835** - Power over Ethernet (Not available yet)
- **WF08xx** – CANopen (Not available yet)
- **WF08xx** – WiFi (Not available yet)
- **WF08xx** - IO-Link (Not available yet)
- **WF0852** (MAC) 2 x M12 D - 4pin female dual Ethernet

J13 - 16pin FPC flex cable connector for LEDs or debug.



J13 is only to be used with the JVL flex cable with LEDs for indicating actual status for the SMC67 including Ethernet and others

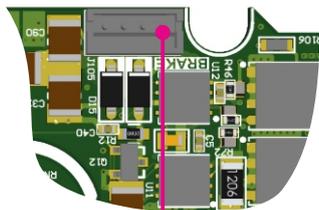


Do not connect any signals to this connector !

Recommended connection cables:

- **WF0833** – LED flex cable module
- **WF0853** (MAC) - LED flex cable module

J105 - 4pin Board to wire connector for motor brake.



Pin 1

- Pin 1 Brake armature output 1 - open collector (primary output)
- Pin 2 Brake armature output 1 - Nom. 24V - supplied by CVI
- Pin 3 Brake armature output 2 - open collector (secondary output)
- Pin 4 Brake armature output 2 - Nom. 24V - supplied by CVI

Output 1 is the primary output normally used.

Output 2 is the secondary output used for special FuSa brakes

Connector used at the SMC67 is JST «ZR» series type: B2B-ZR-SM4-TF (1.5mm pitch 1000mA per contact)

Wire part (housing with crimp terminals): JST type: **04ZR-8M-P**.

See also www.digikey.com for further connection options. Digikey partno.: **455-3034-ND**
