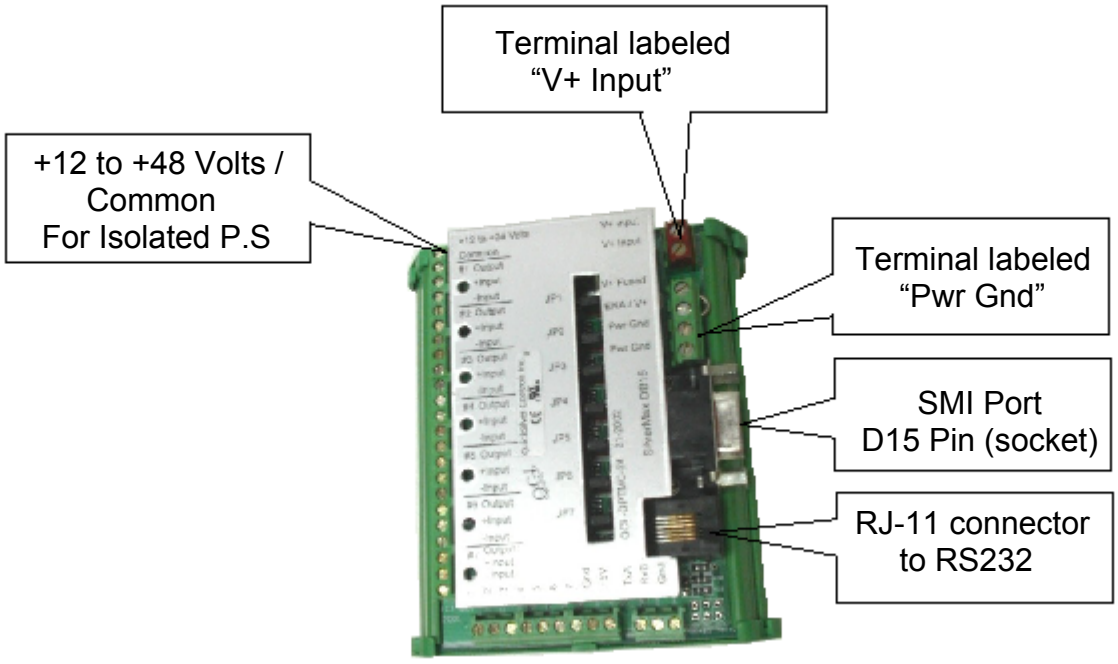
Start-Up Kit QCI-SKOM-N3-EE Setup Instructions

This kit provides a comprehensive solution to test and evaluate an included SilverNugget N3 using a 24V Optical I/O Module. The DB15HD Interface Cable directly connects the SilverLode Multifunction Interface (SMI) port on the 24V Optical I/O Module to the SMI port on the SilverNugget N3 controller/driver. The I/O module provides breakouts for communications, I/O and power.

This kit includes: **Note**: Motor Not Included

- SilverNugget N3 (QCI-N3-E3-04-EE) & Datasheet (QCI-DS006)
- QuickControl Software CD (QCI-QC)
- User Manual & Command Reference (QCI-SLM)
- 24V Optical I/O Module (QCI-OPTMC-24) & Tech Doc (QCI-TD013)
- Optical I/O Module RS232 Cable (QCI-C-OP232-7)
- DB15HD Interface Cable (QCI-EC-SMI-2)
- Clamp Module (QCI-CLCF-04) & Tech Doc (QCI-TD017)
- Clamp Module Resistor Pack (QCI-CLRP-2)
- Line Power cable (QCI-34EC-LP-10)
- 4' DB15HD Motor/Encoder I/F Cable (QCI-C-D15P-D15S-4)
- 4' D5P Motor/Power I/F Cable (QCI-C-D5P-D5S-4)
- Start-Up Kit Setup Instructions (QCI-TD033)

Optical Module (QCI-OPTMC-24)



Technical document QCI-TD013 contains details on the Optical Breakout Module operation and specifications.

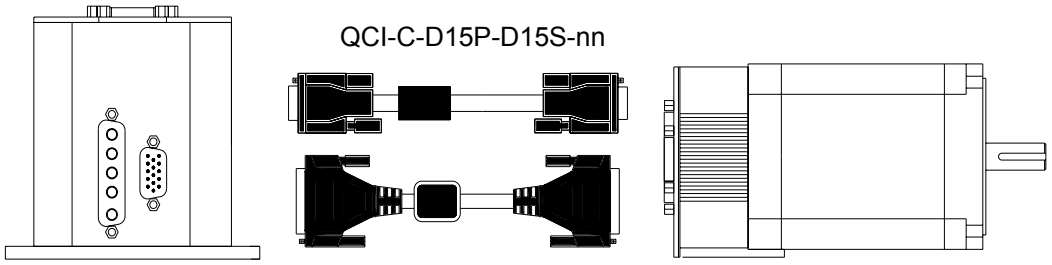
Connections refer to the I-Grade SilverNugget N3 controller / driver - used with NEMA 34 frame motors.

Warning: Make sure power supply is OFF before make any connections.

The SilverNugget N3 has separate driver and processor power, allowing for the use of more than one power supply. In addition to driver power, driver enable requires +10 to 48VDC to active the servo's driver circuitry. When using more than one power supply, connect the grounds of the power supplies together.

1. Connecting the SilverNugget N3 controller/driver to a 34 frame motor/encoder using the motor interface cables (QCI-C-D15P-D15S-nn : encoder power/feedback) and (QCI-D5P-D5S-nn : motor winding power).

    a. Attach the pin side of the motor IF cable DB15 to the SilverNugget N3 DB15.
    b. Attach the other side of the motor IF cable to the motor/encoder DB15.
    c. Attach the pin side of the motor IF cable DB5 to the SilverNugget N3 DB5.
    d. Attach the other side of the motor IF cable to the motor/encoder DB5.



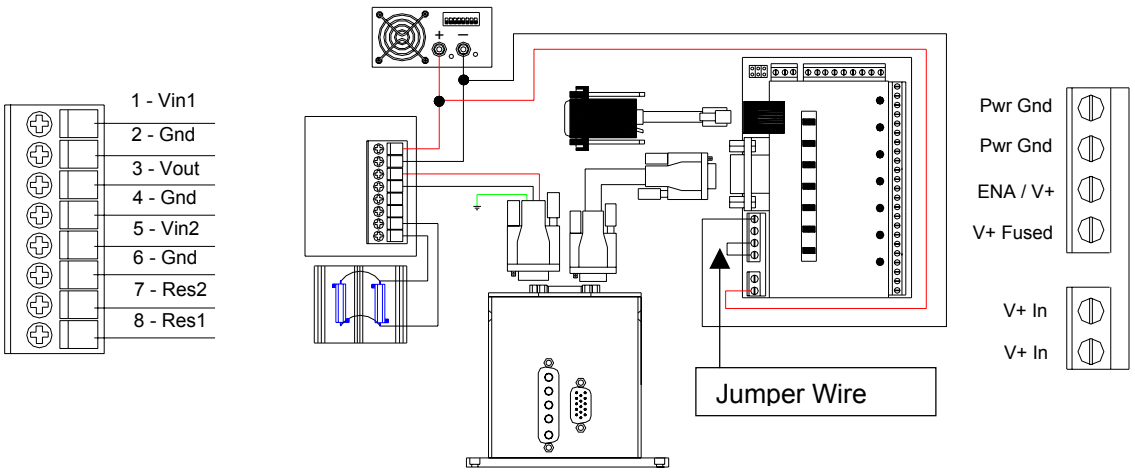
2. Connecting the power supply, Clamp Module, Resistor Pack and Optical Breakout to the SilverNugget N3 and PC COM Port using the Power Cable (QCI-34EC-LP-nn), SilverLode Multi-Function Interface (QCI-EC-SMI-nn) and the Optical I/O Module RS232 Cable (QCI-C-OP232-7).

    a. Attach the pin side of the SMI cable to the Optical Breakout DB15.
    b. Attach the socket side of the SMI cable to the SilverNugget N3 SMI port.
    c. Attach the RJ-11 of the communication cable to the Optical Breakout RJ-11 port.
    d. Attach the DB9 of the communication cable to the PC COM port.
    e. Attach the pin side of the Line Power Cable to the SilverNugget N3 DB3.
    f. The other end of the Line Power Cable has exposed wires. Wire the red wire to the Clamp Module terminal 3, black to terminal 4 and white to earth ground. (White wire is represented by the green wire / ground symbol in diagram)
    g. Wire one end of the resister pack to the clamp terminal 7 and the other end of the resistor pack to clamp terminal 8.

    *Power supply wires not provided. The jumper wire on the Optical Module (from V+ Fused to ENA/V+) is required for the SilverNugget N3 driver to operate as indicated in the diagram below.

        i. Processor must be +12 to 48 VDC.
        ii. Driver Enable must be +10 to 48 VDC.

    h. Wire the positive terminal of the power supply to the Optical Breakout V+ In and to the Clamp Module Vin1, terminal 1.
    i. Wire the negative terminal of the power supply to the Optical Breakout Pwr Gnd and to the Clamp Module Gnd, terminal 2.



DO NOT make any other connections to the outputs on the Voltage Clamp other than the Power Cable (QCI-34EC-LP-nn). When regenerating, any added circuitry connected to Clamp's outputs is not protected and could be damaged by the back EMF.

3. Install QuickControl® and initialize servo (see Getting Started in the User Manual).

Finished Setup