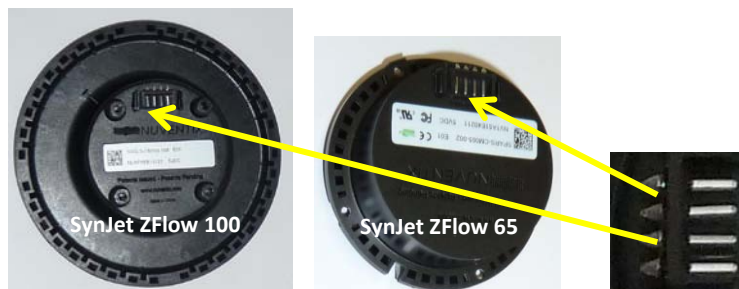# SynJet® ZFlow Level Select Coolers - Cooling Control and Power Wiring

Overview
This app note covers how to wire a Level Select SynJet for different cooling settings.

Details

SynJet ZFlow Coolers - Connection and Pins/Signals & WALLS 4 Wire Cable

SynJet ZFlow 100

SynJet ZFlow 65

Pin 1 – RED Wire - Power (+V)
Connect to "+" SynJet Power Source
Pin 2 – BLACK Wire - Power (-V)
Connect to "–" SynJet Power Source
Pin 3 – Purple Wire – Control 2
Connection for Cooling Control
Pin 4 – Blue Wire – Control 1
Connection for Cooling Control

WALLS 4 Wire Cable – As Shipped, User may modify for Cooling Control Level Selection

Pin 1
Pin 2
Pin 3
Pin 4

The WALLS 4 Wire Cable is available as an option for the User to connect all SynJet ZFlow Coolers to the User's SynJet Power Source. The cable has 2 wires for power, plus 2 wires for the User to select the Cooling Level required for the application. Several cable lengths are available, all have a connector on one end and stripped wires at the other end. The following sections show the required wiring connections. This information is also useful if the User chooses to make a custom cable.
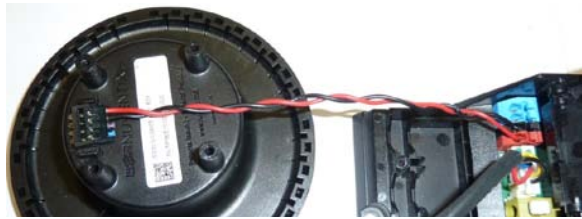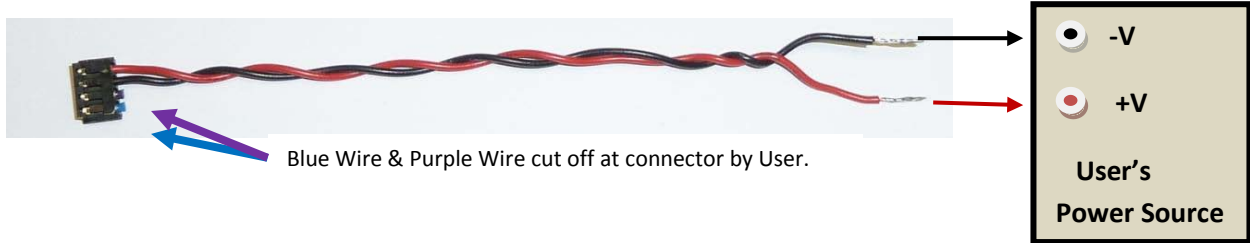
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MKTG-DOC-00124
Revision v1.2

Cooling Level Selection

WALLS 4 Wire Cable –"Standard" Cooling Level Selection
Remove Blue Wire & Purple Wire

-V

+V

User's
Power Source

Blue Wire & Purple Wire cut off at connector by User.

SynJet ZFlow 100
Power Connections

Black Wire stripped end, insert into
"-V" terminal.
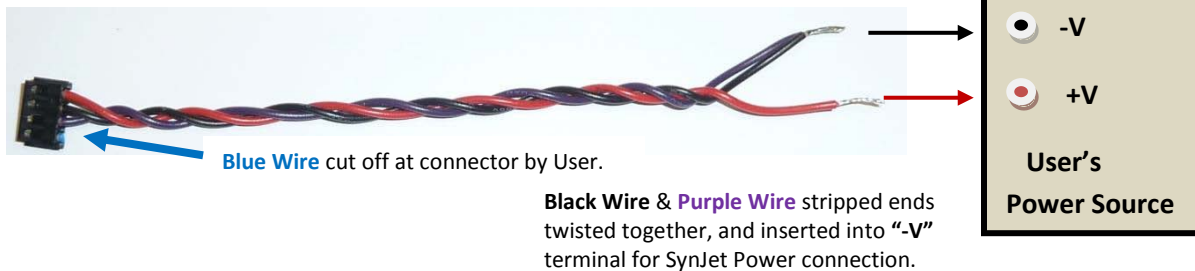**Red Wire** stripped end, insert into
"+V" terminal

WALLS 4 Wire Cable – "High Performance" Cooling Level Selection
Remove Purple Wire and connect Blue Wire to Black Wire (twist together & tin) insert into Power Source Connection

-V

+V

User's
Power Source

Purple Wire cut off at connector by User.

Black Wire & **Blue Wire** stripped ends
twisted together, and inserted into **"-V"**
terminal for SynJet Power connection.

WALLS 4 Wire Cable – "Low Acoustics or Mid Performance" Cooling Level Selection,
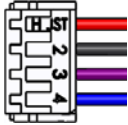Remove Blue Wire and connect Purple Wire to Black Wire (twist together & tin), insert into Power Source Connection

-V

+V

User's
Power Source

Blue Wire cut off at connector by User.

Black Wire & **Purple Wire** stripped ends
twisted together, and inserted into **"-V"**
terminal for SynJet Power connection.

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WALLS 4 Wire Cable and Connector Information

4 Pin Connector Molded into Housing	Manufacturer: JST Part Number: S4B-EH
Mating 4 Pin Connector on End of Cable	Manufacturer: JST Part Number: EHR-4
Wire	24AWG, stranded, Insulation O.D. is 1.9mm
Wire: UL Recognized	Category 7ZPFW2 or VZQC2

Connector Detail: Pin Numbers are molded into the cable connector plastic.

Additional Notes and Suggestions

1. **IMPORTANT -** Connect SynJet to Power Source: Connect the Black Wire (-V) or Black/Blue, or Black/Purple first, & the Red Wire (+V) last. Disconnect in reverse order, the Red Wire (+V) first. Unused wires (Blue & Purple) must not contact a conductive surface.
2. **Refer to Product Specification Sheet and Technical Design Guide for additional details.**
3. Depending upon the attachment mechanism at the Power Source terminal, the User may want to "tin" the ends of the stranded & stripped wires for easier insertion/attachment.
4. If building a custom cable, the User can insert only the needed wires, i.e., 2 or 3 or 4 wires, into the connector, instead of adding wire and cutting it off. The connector has a locking mechanism to hold it in place independent of contact friction.
5. The crimped pins lock into place when inserted into the black connector. Individual pins can be carefully removed from the connector, if desired, instead of cutting the wire off at the edge where it emerges from the connector.
6. Early production of WALLS 4 Wire Cables were built using a white connector, these are the same "form-fit-function" as present standard production which is built with the black connector shown in all Figures in this document.