



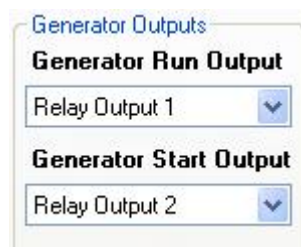
Connecting Two and Three wire Generator Controllers to the SP PRO

The SP PRO can be connected by default to both two and three wire generator controllers. Six different schemes are detailed:

- Two Wire Run
- Two Wire Start / Stop
- Three Wire On / Start
- Three Wire Start / Stop
- Three Wire Preheat / Run
- Three Wire Run / Stop

All of the following examples use the default SP PRO generator controller configuration:

Generator Outputs:



Signal Timing:



The relay outputs are voltage free change-over switches – max 60 V, 500 mA.

The following diagrams illustrate the expansion card connections needed for each control scheme.

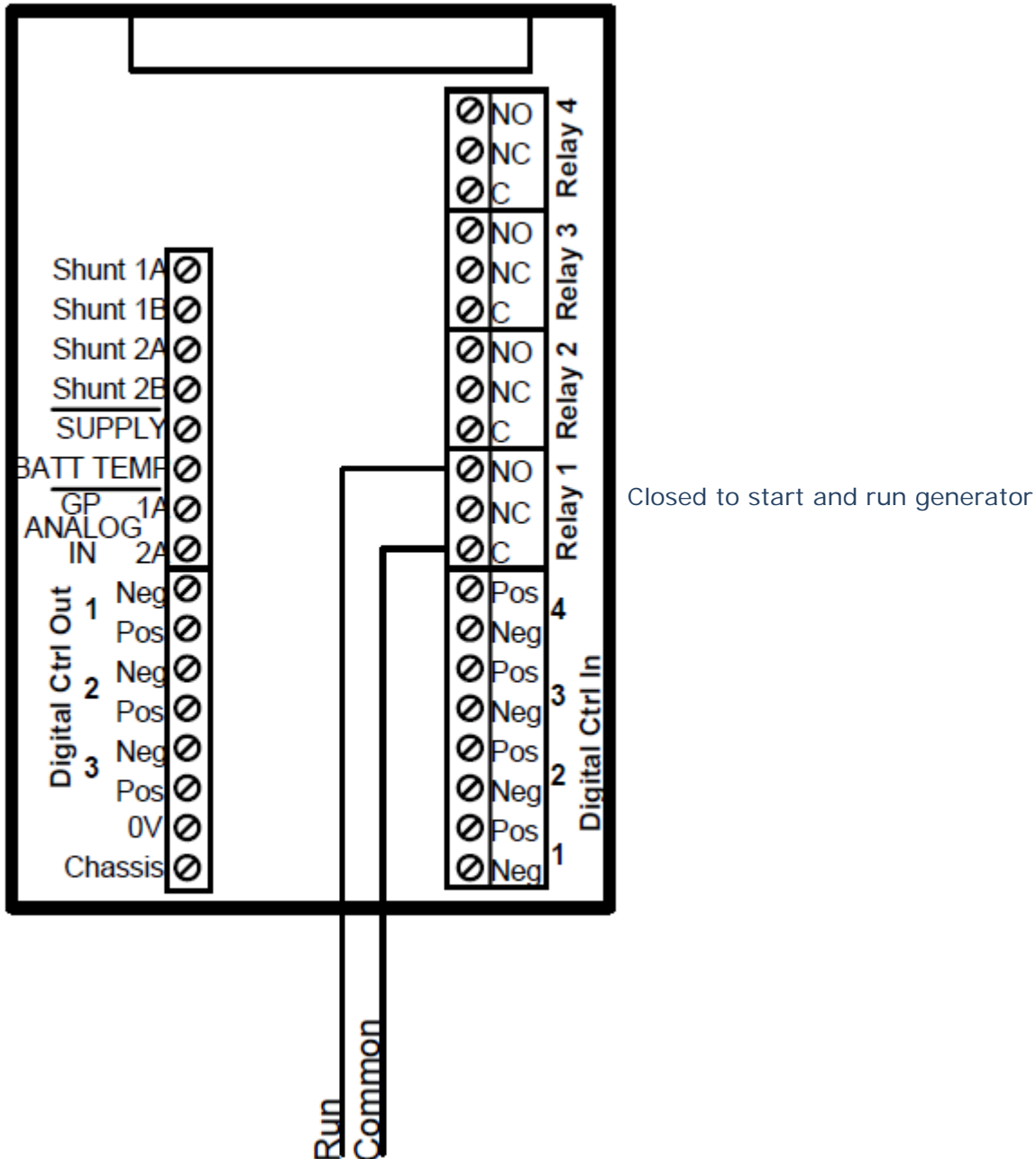
SP PRO Interactive Inverter Charger Technical Note



Two Wire Run

This configuration is used when the generator controller requires two wires to be closed to start and Run and then opened to stop the generator.

EXPANSION CARD:003860



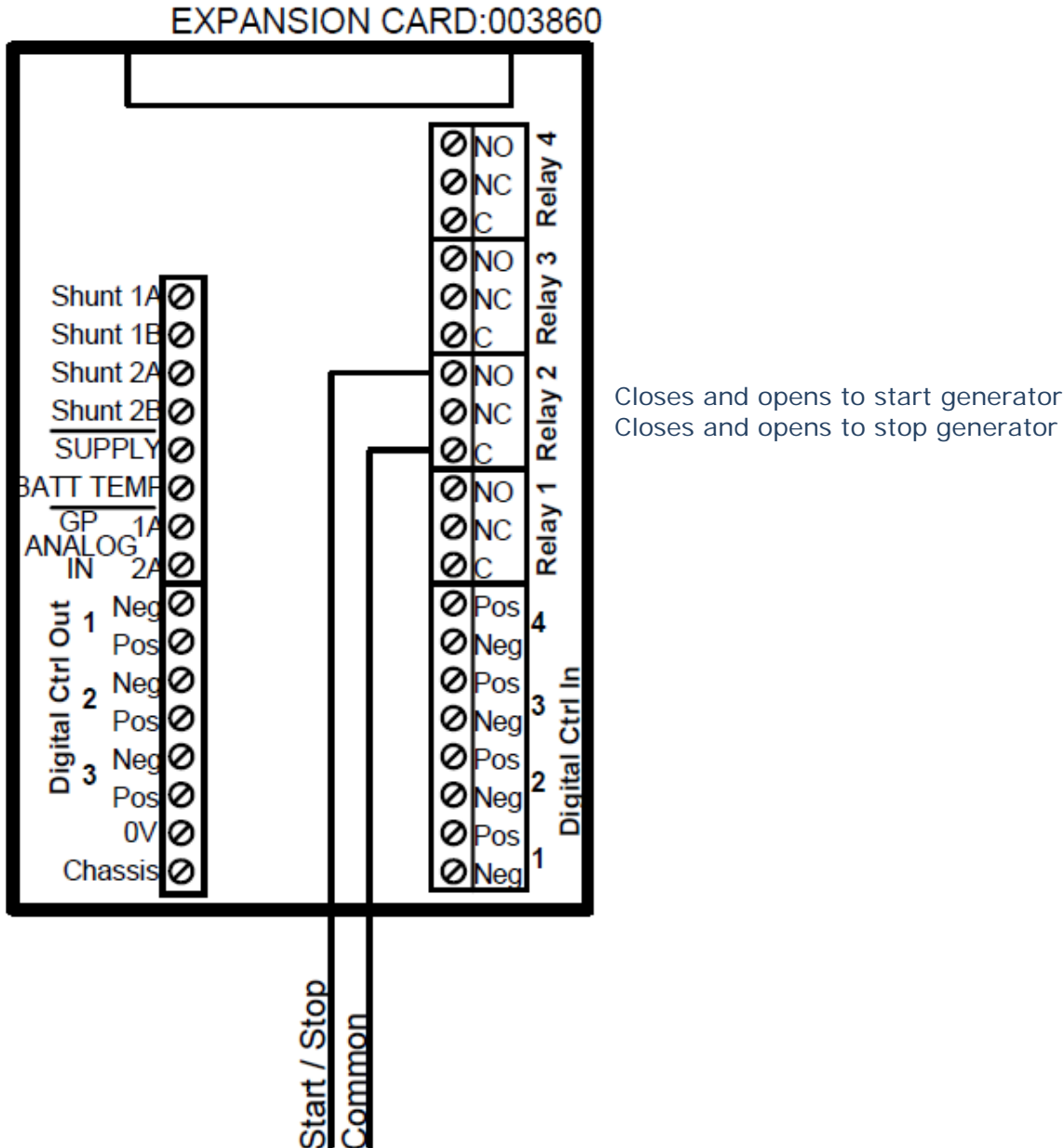
The Start Relay is not used and Start Delay and Start Time settings have no effect in this configuration.

SP PRO Interactive Inverter Charger Technical Note



Two Wire Start / Stop

This configuration is used when the generator controller requires two wires to be momentarily closed then opened to Start and run and the same again to Stop the generator.



Check the generator controller documentation to ensure that the Start Time, which is the time the wires remain closed for, is sufficient to be acted upon. Testing if the generator starts and stops correctly will determine if the default two seconds is suitable.

The Run Relay is not used and the Start Delay time setting has no effect in this configuration.

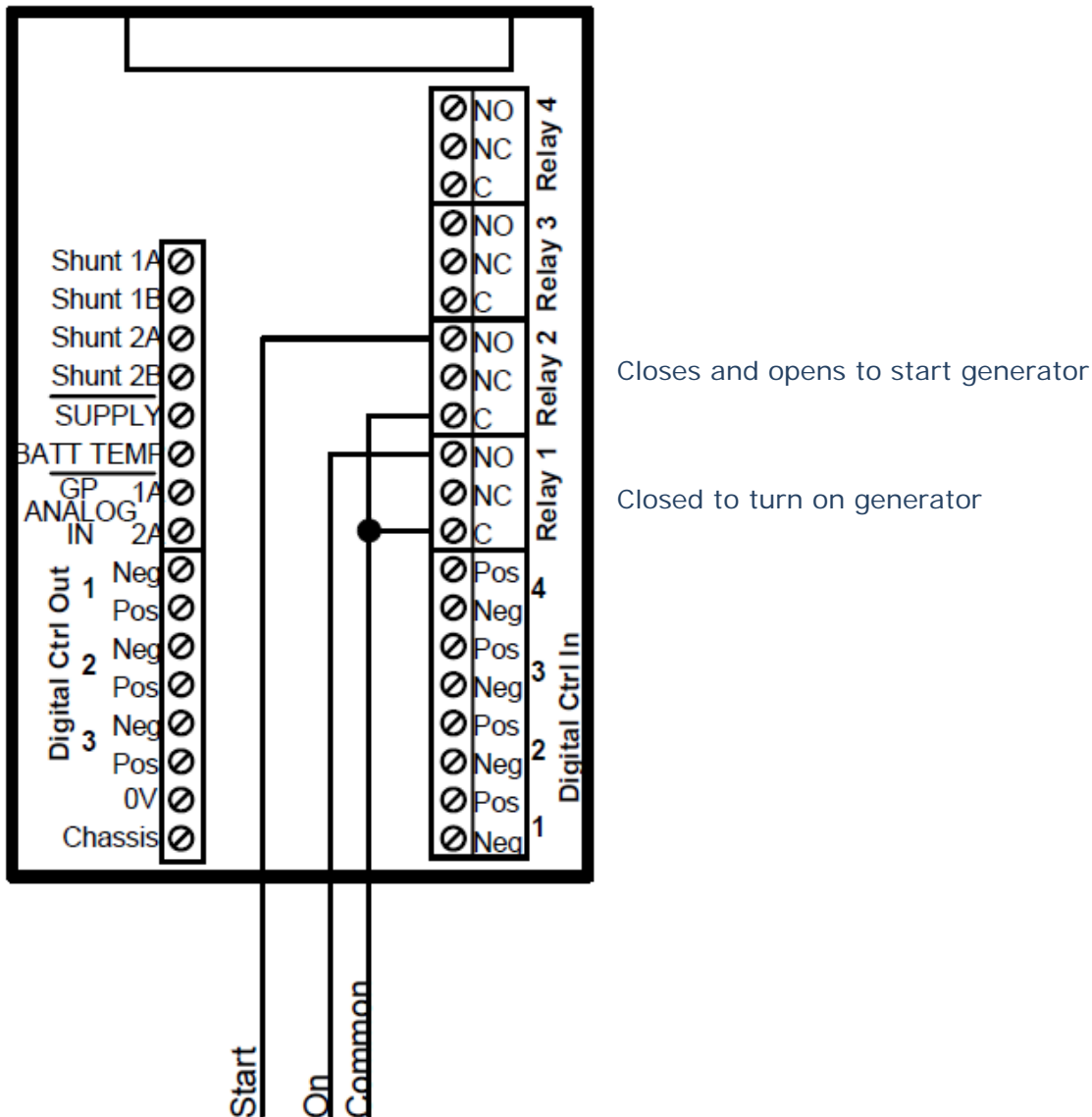
SP PRO Interactive Inverter Charger Technical Note



Three Wire On / Start

This configuration is used when the generator controller requires one wire to be closed to a common wire to turn the controller On then another wire to be momentarily closed then opened to the common wire to Start the generator. The generator is stopped when the On wire is opened.

EXPANSION CARD:003860



Closes and opens to start generator

Closed to turn on generator

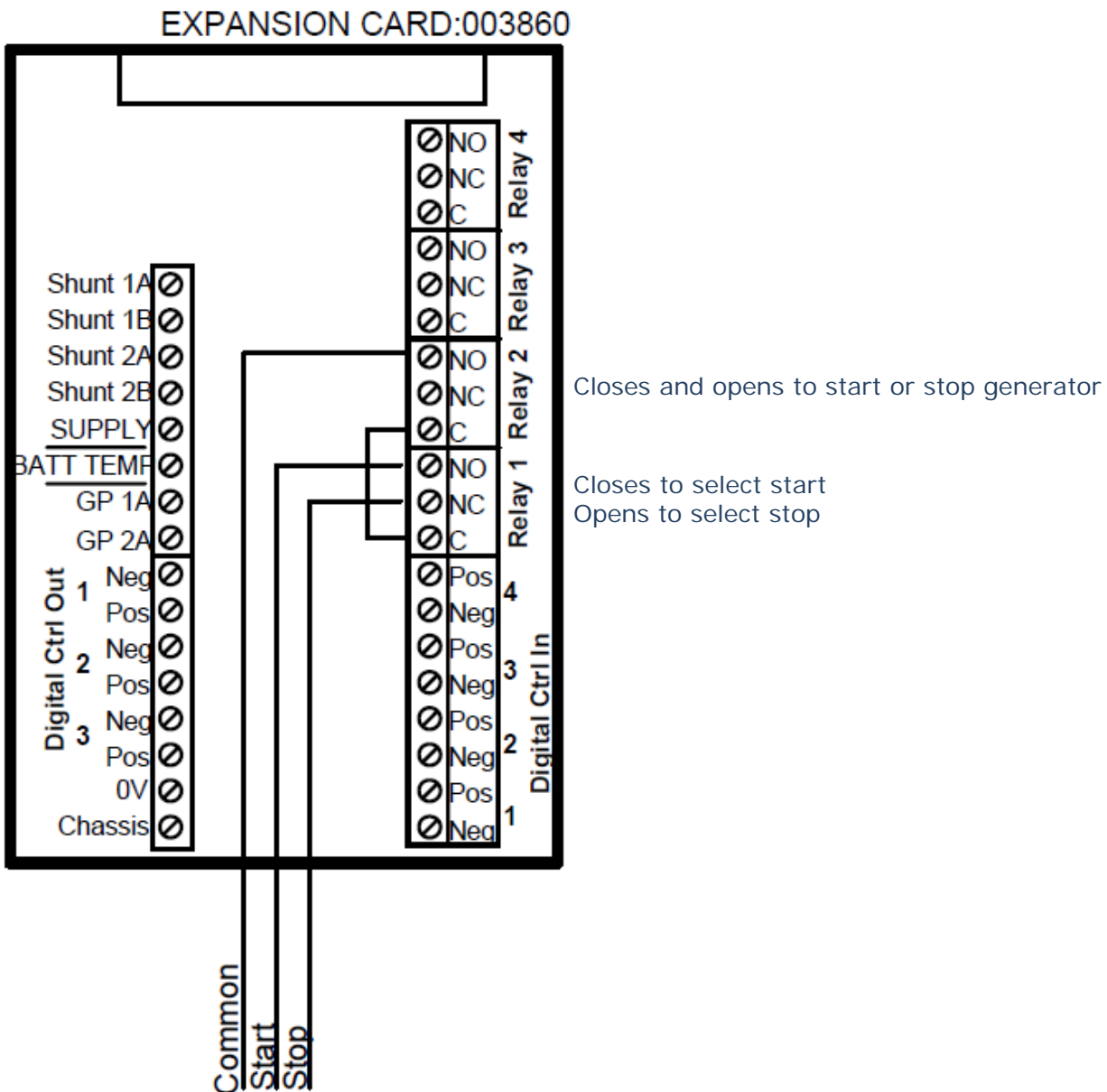
Check the generator controller documentation to ensure that the Start Delay, which is the time between the controller being turned on and when the start relay closes, and the Start Time, which is the time the wires remain closed for, is sufficient to be acted upon. Testing if the generator starts and stops correctly will determine if the default two seconds is suitable.

SP PRO Interactive Inverter Charger Technical Note



Three Wire Start / Stop

This configuration is used when the generator controller requires one wire to be momentarily closed then opened to a common wire to Start then another wire to be momentarily closed then opened to the common wire to Stop the generator.



Check the generator controller documentation to ensure that the Start Time, which is the time the wires remain closed for, is sufficient to be acted upon. Testing if the generator starts and stops correctly will determine if the default two seconds is suitable.

The Start Delay setting has no effect in this configuration.

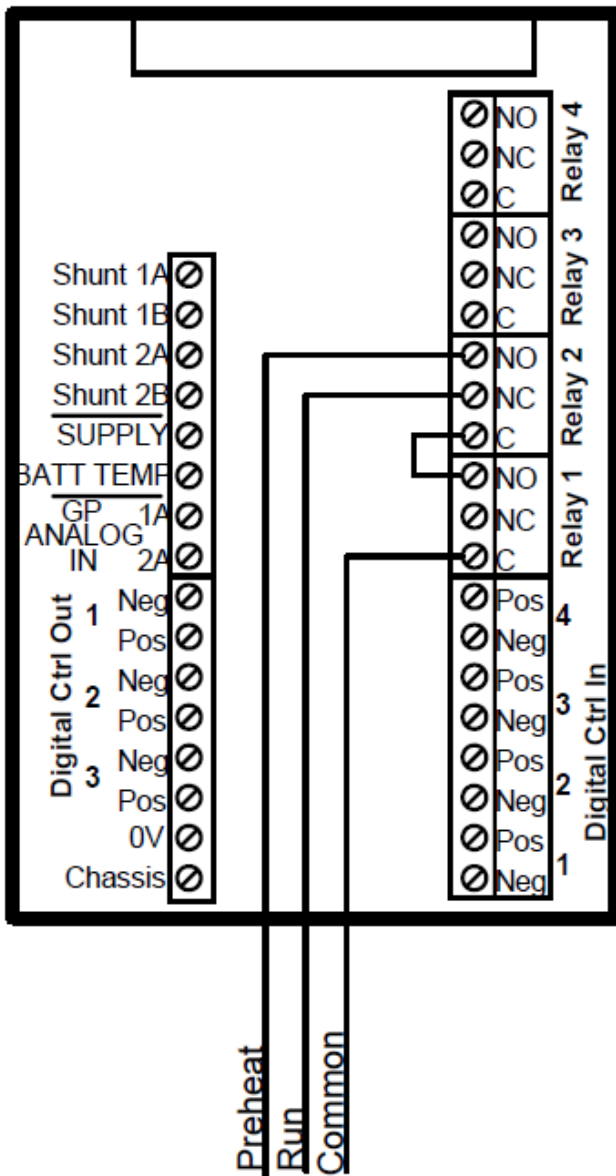
SP PRO Interactive Inverter Charger Technical Note



Three Wire Preheat / Run

This configuration is used when the generator controller requires one wire to be momentarily closed then opened to a common wire to Preheat generator then another wire closed to a common wire to start and Run and then opened to stop the generator.

EXPANSION CARD:003860



Closes and opens to preheat generator
Open connects run signal to generator

Closed to start and run generator

Check the generator documentation to ensure that the Start Time, which is the time the Preheat wire will remain closed for, is sufficient to allow engine starting in all conditions. The default of 2 seconds is unlikely to be suitable.

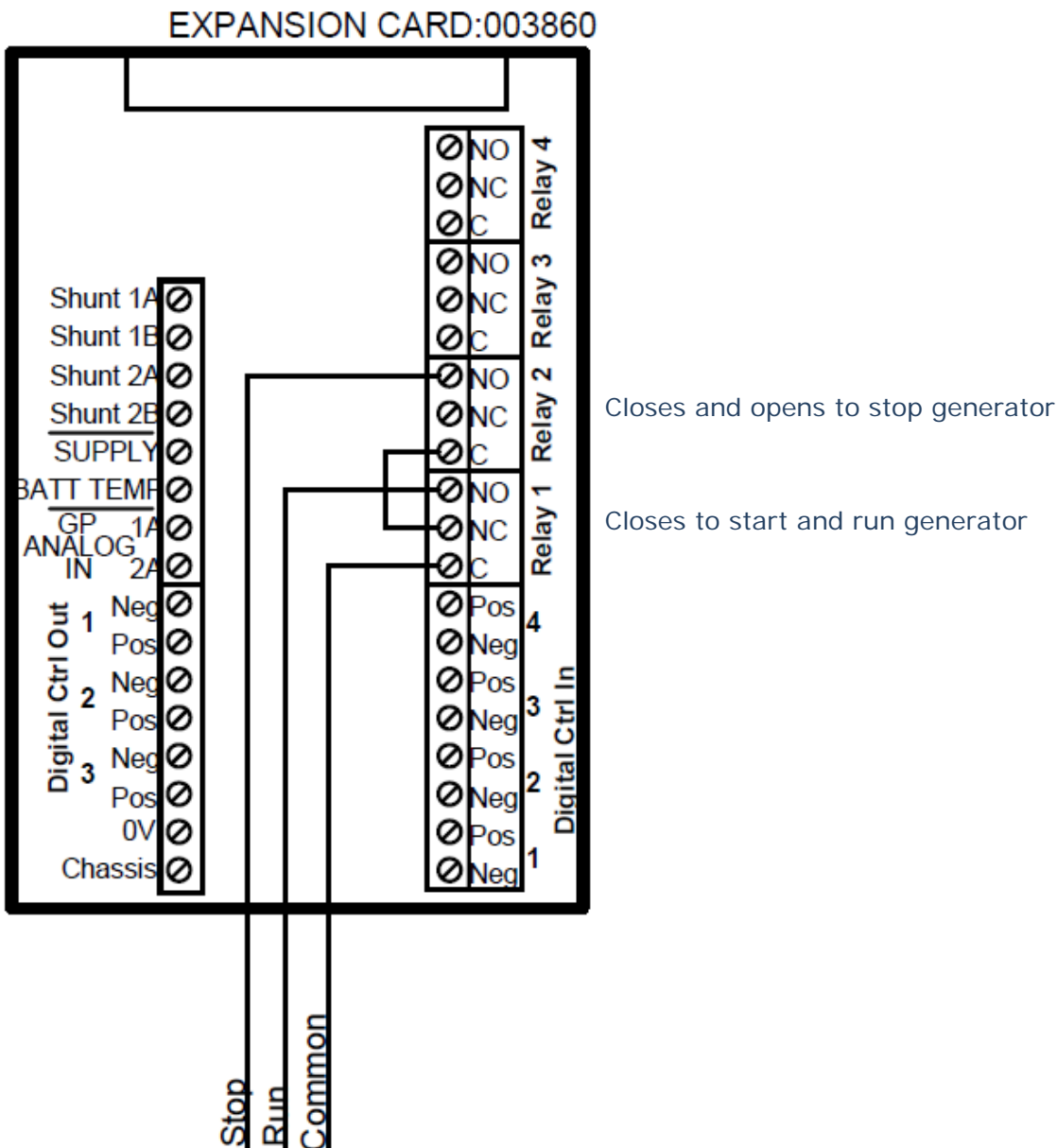
The Start Delay setting must be set to minimum (0.5s) in this configuration.

SP PRO Interactive Inverter Charger Technical Note



Three Wire Run / Stop

This configuration is used when the generator controller requires one wire closed to a common wire start and Run the generator and another wire and momentarily closed then opened to a common wire to Stop the generator.



Check the generator controller documentation to ensure that the Start Time, which is the time the Stop wire will remain closed for, is sufficient to be acted upon. Testing if the generator stops correctly will determine if the default two seconds is suitable.

The Start Delay setting has no effect in this configuration.

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