G5 Using Safety Quick Start Guide

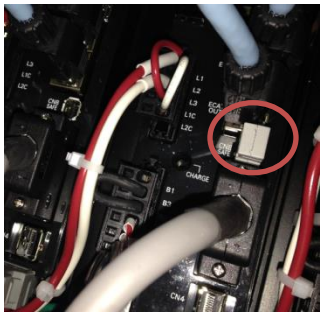
This guide discusses how to connect and program the G5 servo drive to NX safety.

Description

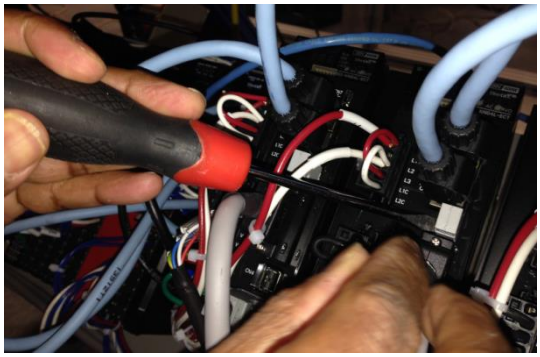
1. Items needed:
    a. Users Manual, found at www.omron247.com.
    b. Safety Control Units User's Manual Z930, found in help section of Sysmac Studio.
2. There are no force guided relays to turn all safety devices on since the Omron G5 servo drive is rated for direct safety connection.

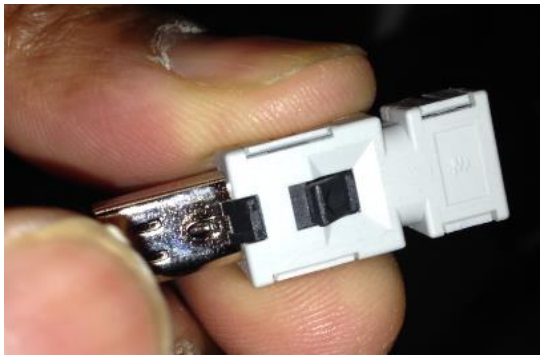
Remove Jumpers

1. Locate jumper, labelled CN8Safe. Remove this on all G5 servo drives.

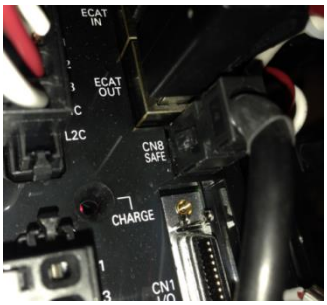


2. Removing jumpers by hand can cause the latch to break. Recommended practice is to use a screw driver. The latch is on the left side.

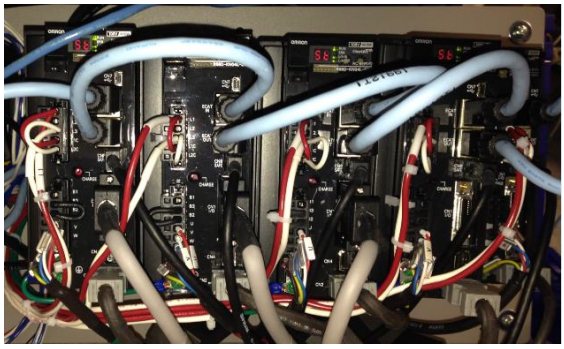




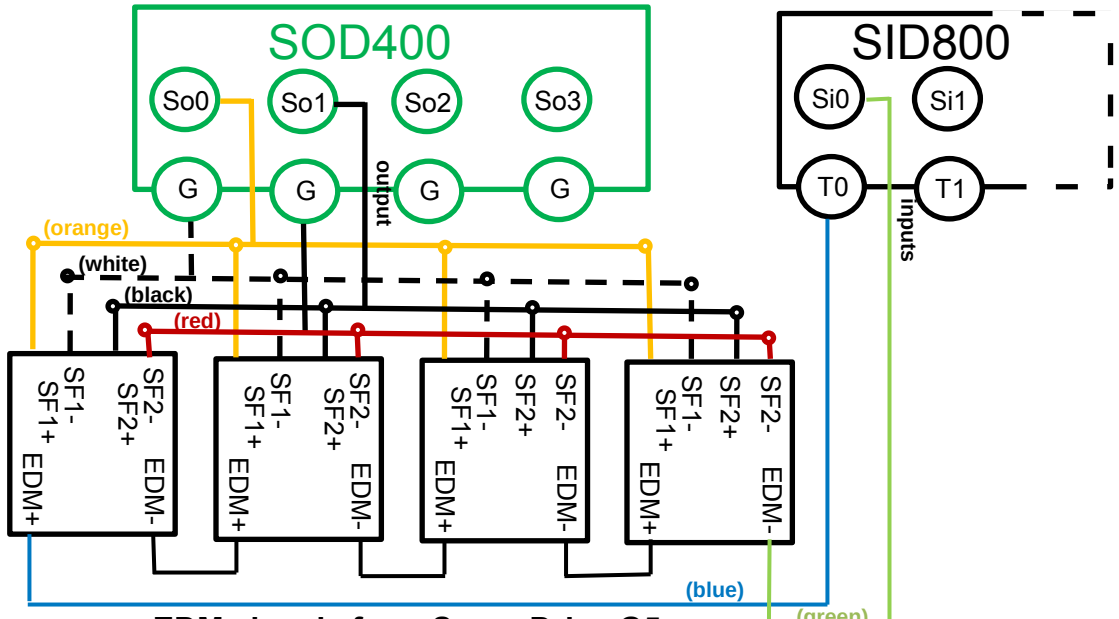
3. Plug in R88A cable(s) – one per servo drive.



4. Up to 4 G5 servos drives can be daisy chained. Add EtherCAT cable to connect.



Wiring

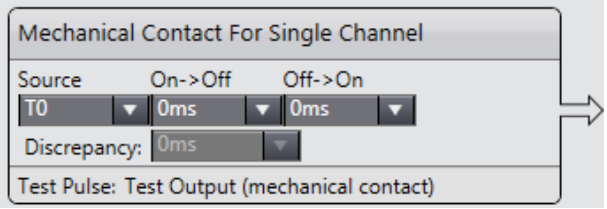


EDM signals from Servo Drive G5
(Safety built in so direct connection)
(Colors using R88A-CSK003S-E cable)

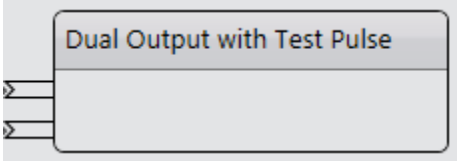
Parameter / Node

Multiview explorer -> Select Safety CPU -> Configuration and setup -> Communications -> Safety -> Safety I/O -> Select a node -> double click on parameters -> click on the white X next to the filter to see all of the nodes -> use **toolbox** to select a safety device (might need to drag right side window to see the toolbox) -> drag and drop parameter to knob -> complete for all nodes. **Note: The fields in the nodes are not used in the program. Could be used to enter part name/type/number.**

(Input) Mechanical contact for single channel

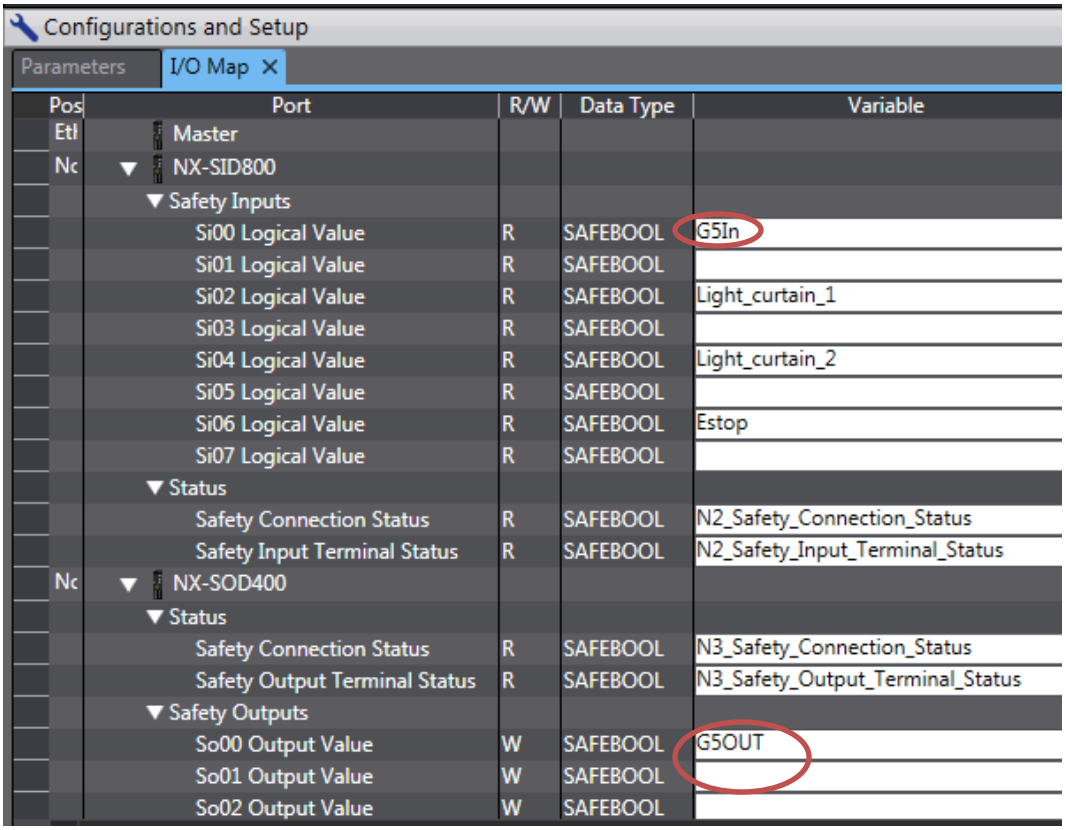


(Output) Dual output with test pulse



I/O Map

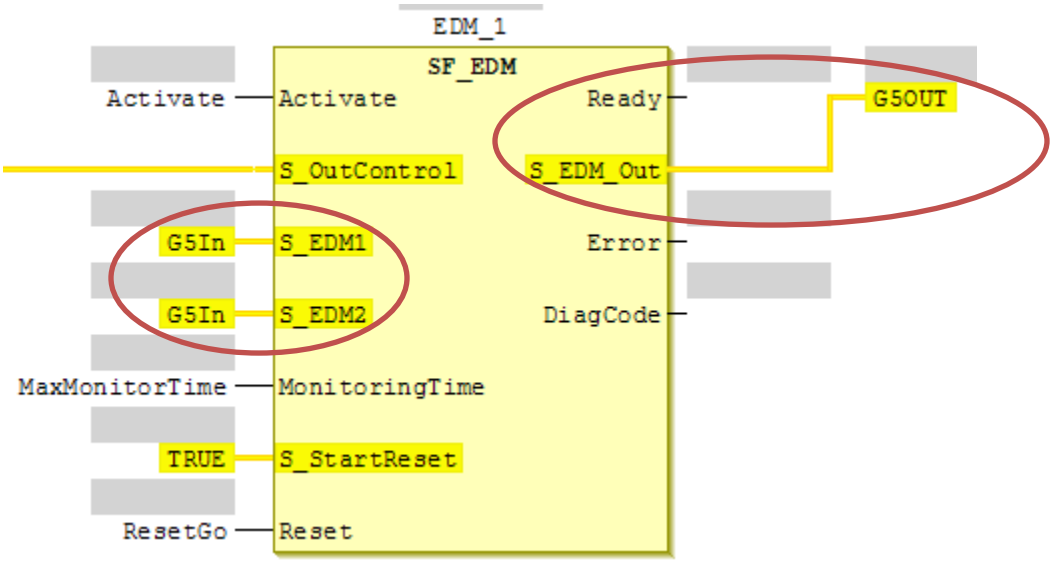
Multiview Explorer -> select Safety CPU -> Configurations and Setup -> double click on I/O Map -> make sure arrown buttons are all pointing down -> use variable template to paste **(Note: It will not paste if there is an empty field. Can only do groups when no empty fields.)** **OR** manually enter with right click **OR** scroll down to highlight all variables -> right click -> select variable. **(Note: Do not enter a variable name for the second input or output of dual channel devices.)**



Program

Use the EDM safety function block.

Multiview Explorer -> select new_safetyCPU -> Programming -> POU -> Programs -> Program0



Power Supply Best Practice

Servo brake and I/O should be on separate power supplies. Sharing can cause noise on the I/O lines when the brake is applied.

Use separate power supplies for the coupler and the I/O devices.