FS90 Simple V8 120vac Basic Wiring Examples.
Use correct connections for each individual system.

STP = terminals = N/O Relay contact (**1A MAX**)
CC terminals = N/O Relay contact (**1A MAX**)

All other connections are 120VAC referenced to 110RT terminal on FS90 Board

On the V8 120vac board, the jumpers act as follows:

FD_KS: This jumper connects the 110FD terminal to the KEY STOP FD Terminal when on the INT side. The other side has no connection. This supplies 110fd voltage to the stop switch. It may be removed if a alternate correct supply is used instead. On some installations, it may make sense to use a 120vac supply that is already hooked up to the IN CAR STOP switch, but care must be taken not to backfeed this alternate feed with the 110FD voltage. Removing this jumper removes the connection.

PHI_CMN: This jumper connects the other side of a relay coil that is connected directly to PHI_INIT on one side to either 110RT or SMKCOM. This is for flexibility when hooking up hat lights that act in different ways.

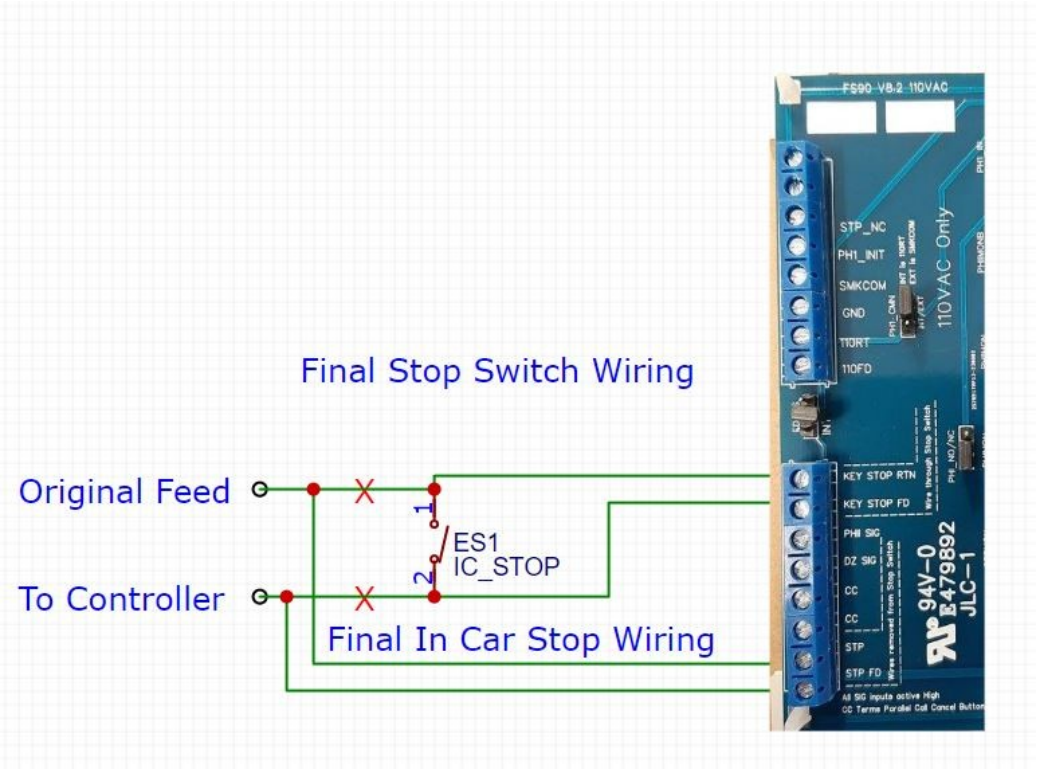
When set it int, you would hook up a hat signal that goes high when on to PHI_INT, and the other side of the coil would complete the circuit to 110RT.

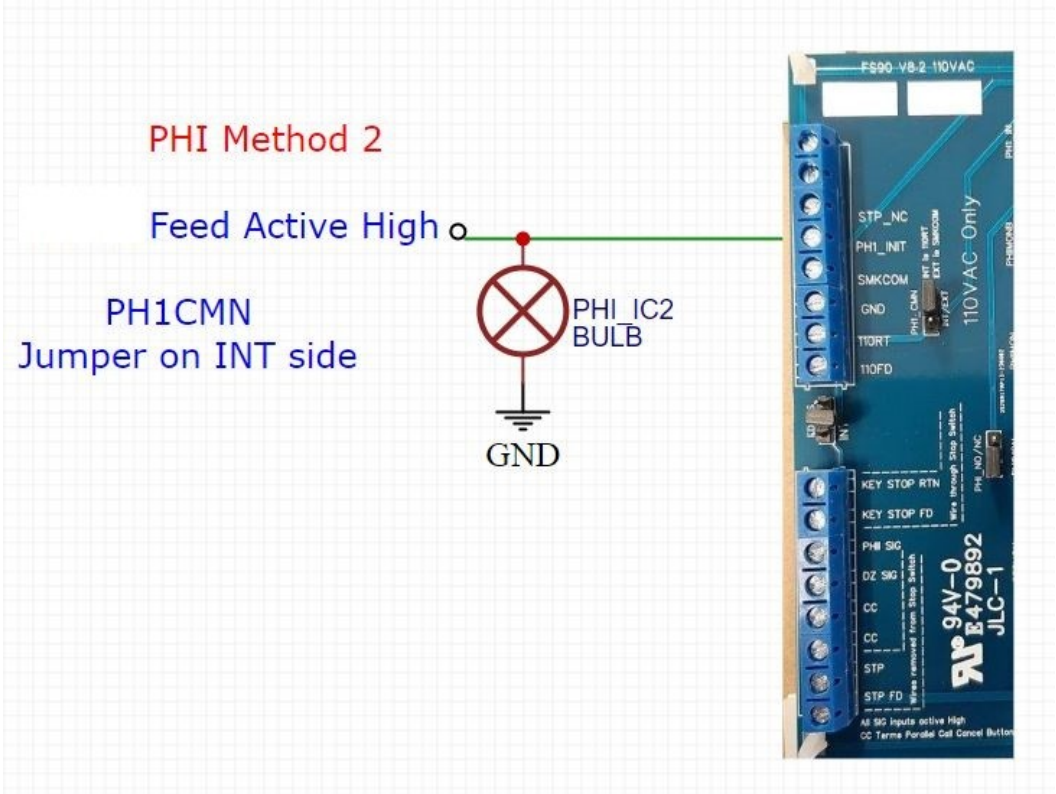
When set to EXT, the SMKCOM terminal is the other side of the coil instead of 110RT. If you had a hat signal where both sides of the bulb read hot until the controller takes one side to ground, you'd supply the same source as feeds the light to SMKCOM, and you'd have a hot feed through the relay in the reverse direction, waiting for the conroller to go to ground and complete the circuit.

You completely isolate the phi signal, and phi return using EXT, so you can have a completely isolated phi loop. This can be useful sometimes.

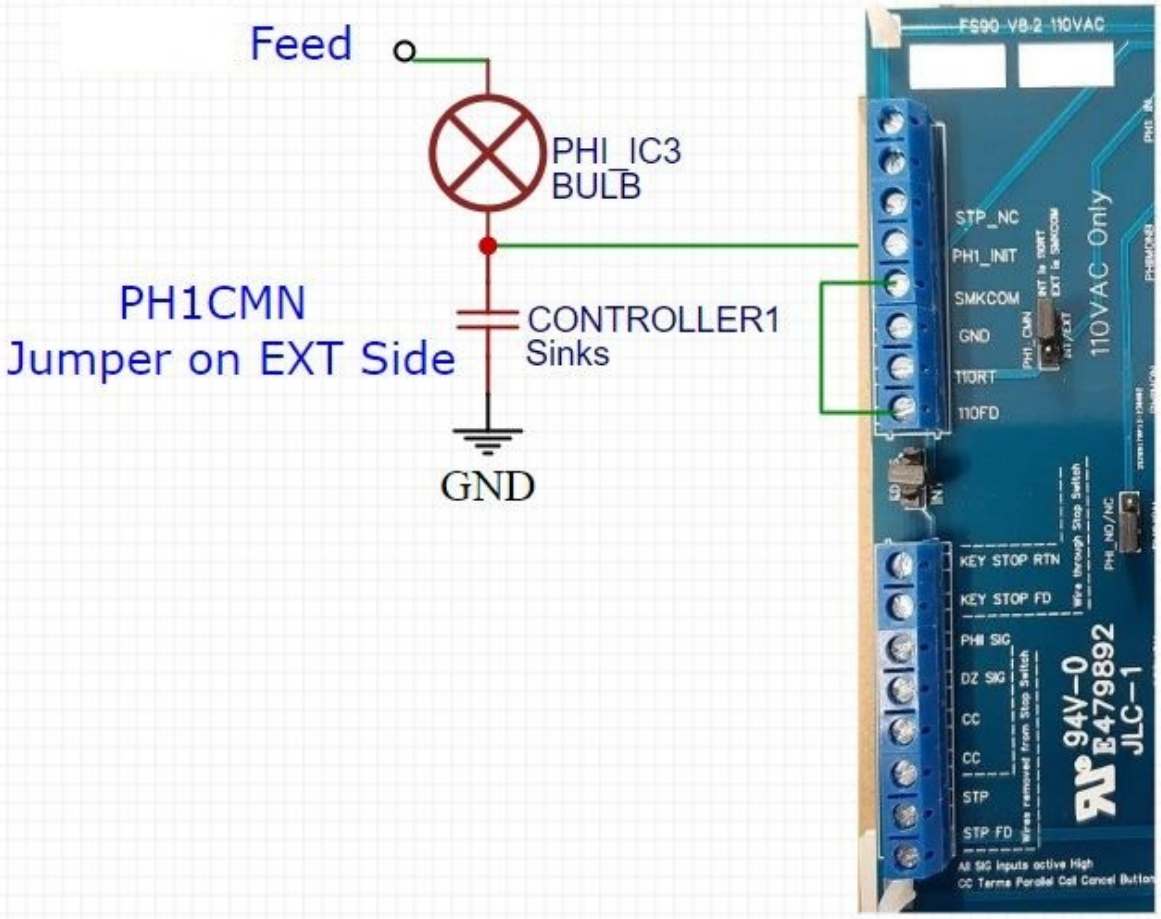
PHIMON: This jumper inverts the signal that tells the board that you have a PH1 signal, and that it's OK to operate. If for some reason (very unlikely) you had to supply a feed that was high when off fire service, but low when on, you could change the jumper to N/C. This will hardly ever be used BUT it is useful as a test to be sure you have your PHI signal correct. If you are troubleshooting and aren't sure PHI is correct, pull the jumper and listen for a relay click, if you hear one you are probably good. Alternately, if you move it to N/C, and the board works, the board isn't seeing PHI. Be sure to put the jumper back on N/O for most situations.

TERMINAL STP_NC: This terminal will only be used on the occasional MCE which uses an IN CAR STOP switch that has a normal position, and a RSTOP position. It is used if there is a redundancy issue because of the second stop position.

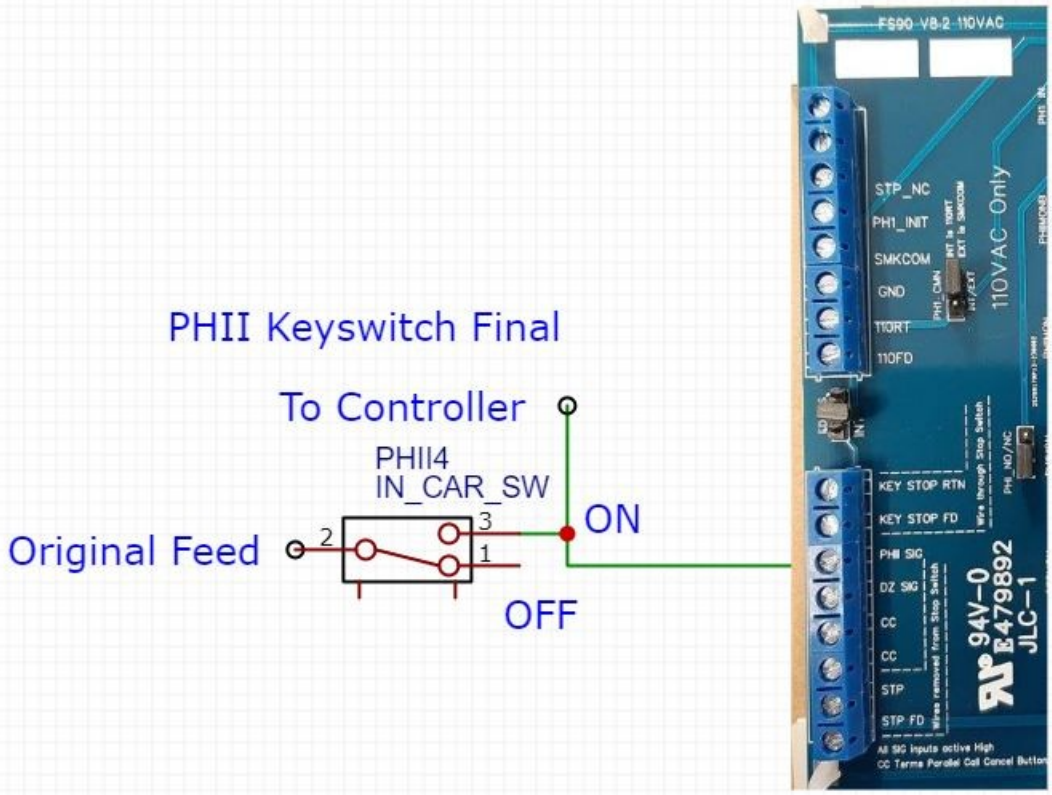

Final Stop Switch Wiring
Original Feed
To Controller
ES1
IC_STOP
Final In Car Stop Wiring
FS90 V8.2 110VAC
STP_NC
PH1_INIT
SMKCOM
GND
T1ORT
110FD
110VAC Only
KEY STOP RTN
KEY STOP FD
PHI SIG
DZ SIG
CC
CC
STP
STP FD
94V-0
E479892
JLC-1

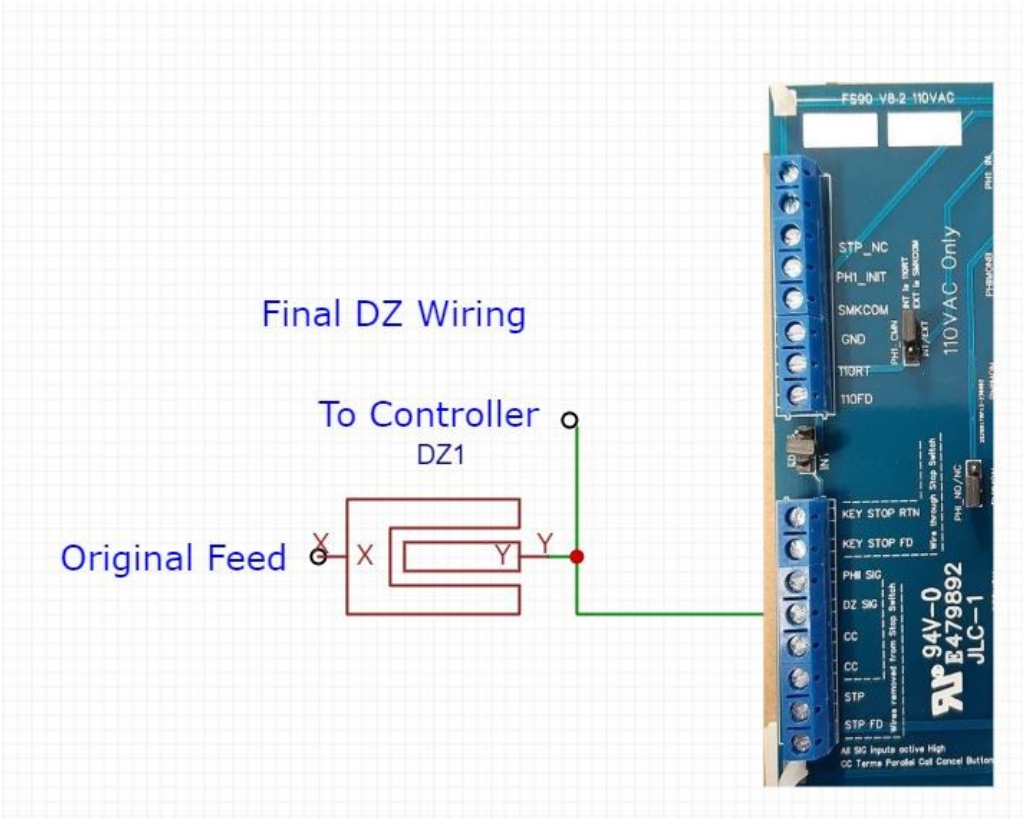

PHI Method 2
Feed Active High
PH1CMN
Jumper on INT side
PHI_IC2
BULB
GND
FS90 V8.2 110VAC
STP_NC
PH1_INIT
SMKCOM
GND
T1ORT
110FD
110VAC Only
KEY STOP RTN
KEY STOP FD
PHI SIG
DZ SIG
CC
CC
STP
STP FD
94V-0
E479892
JLC-1

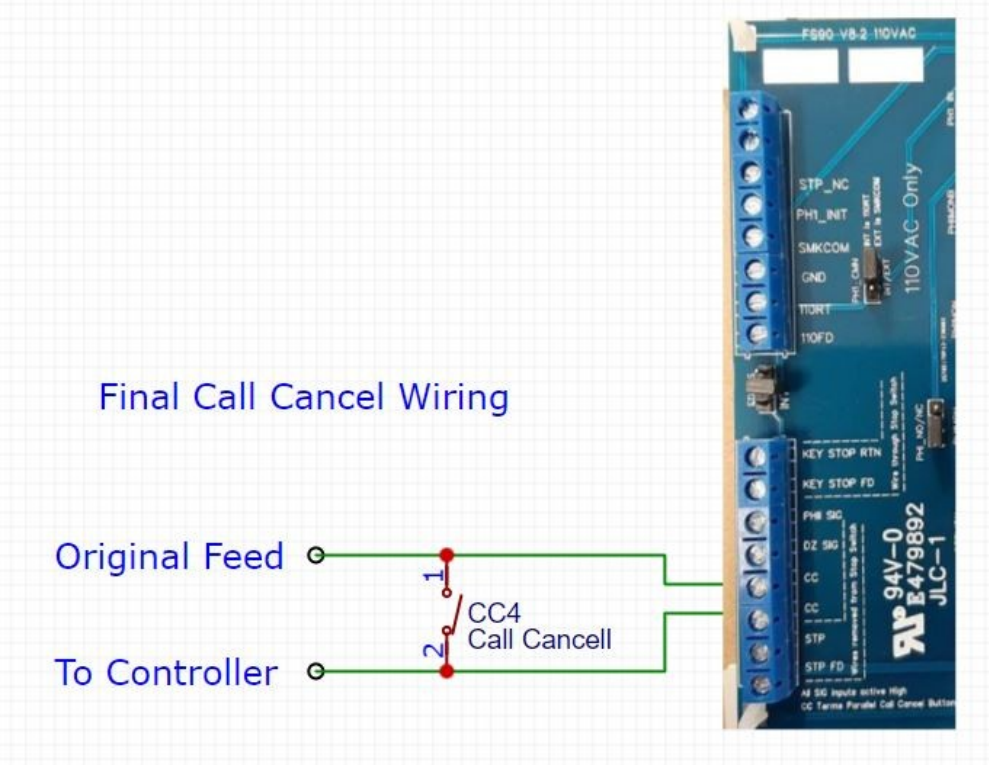
PHI Method 3

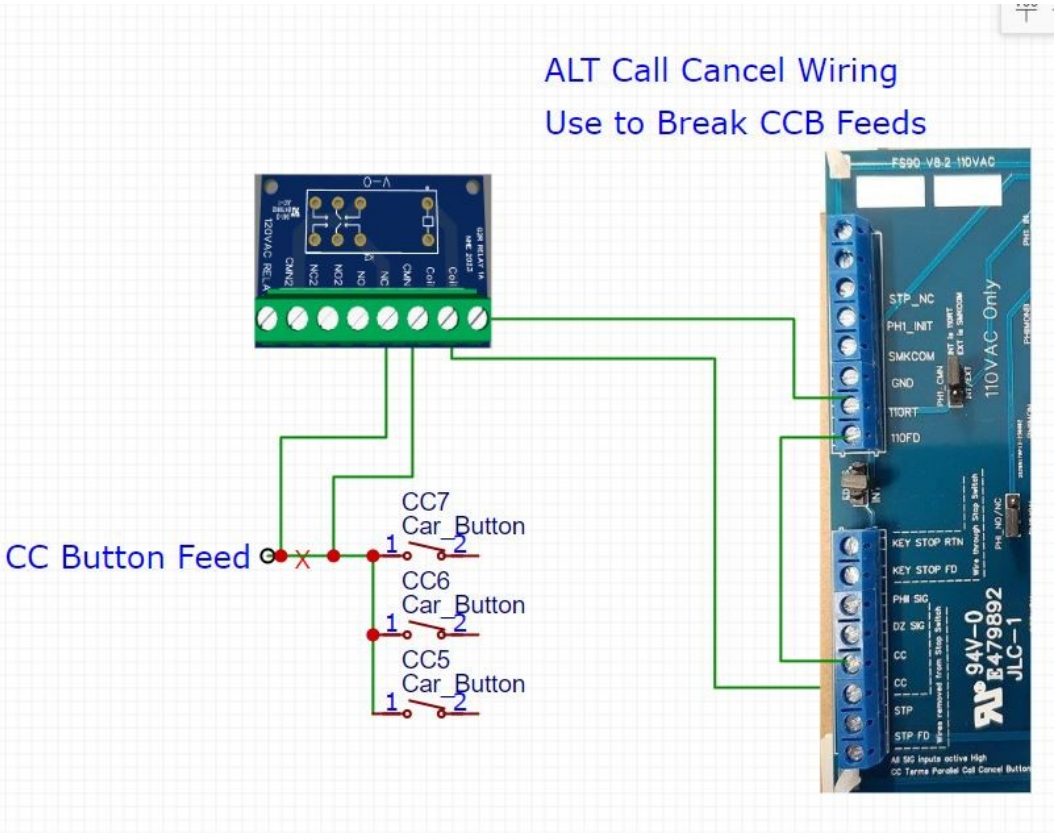


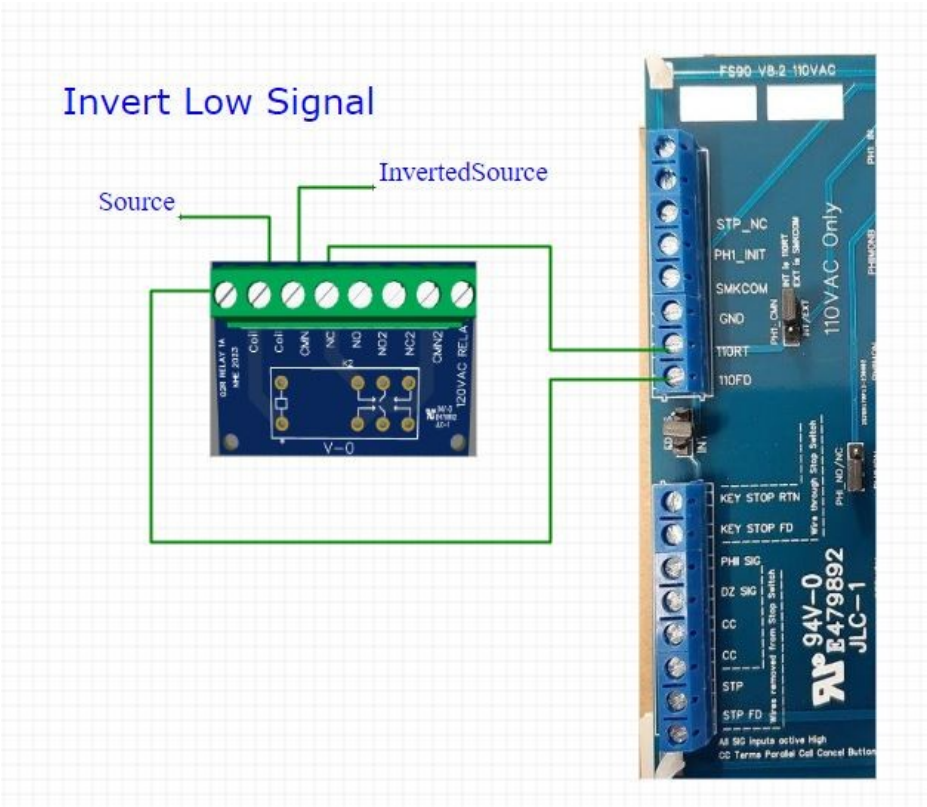
PHII Keyswitch Final




Final DZ Wiring
To Controller
DZ1
Original Feed
X
X
Y
Y
FS90 V8.2 110VAC
STP_NC
PH1_INIT
SMKCOM
GND
T10RT
110FD
110VAC Only
KEY STOP RTN
KEY STOP FD
PHI SIG
DZ SIG
CC
CC
STP
STP FD
94V-0
E479892
JLC-1


Final Call Cancel Wiring
Original Feed
To Controller
1
2
CC4
Call Cancell
FS90 V8.2 110VAC
STP_NC
PH1_INIT
SMKCOM
GND
T10RT
110FD
110VAC Only
KEY STOP RTN
KEY STOP FD
PHI SIG
DZ SIG
CC
CC
STP
STP FD
94V-0
E479892
JLC-1


ALT Call Cancel Wiring
Use to Break CCB Feeds
CC Button Feed
CC7
Car_Button
CC6
Car_Button
CC5
Car_Button
FS90-V8.2 110VAC
STP_NC
PH1_INIT
SMKCOM
GND
110RT
110FD
KEY STOP RTN
KEY STOP FD
PHI SIG
DZ SIG
CC
CC
STP
STP FD
110VAC Only
94V-0
E479892
JLC-1


Invert Low Signal
Source
InvertedSource
FS90-V8.2 110VAC
STP_NC
PH1_INIT
SMKCOM
GND
110RT
110FD
KEY STOP RTN
KEY STOP FD
PHI SIG
DZ SIG
CC
CC
STP
STP FD
110VAC Only
94V-0
E479892
JLC-1