

SmartPlant[®]
Instrumentation

SPI MOV Profile Wiring Tricks

FLUOR

SmartPlant[®]

Implementation Team

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FLUOR[®]

INTERGRAPH

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SPI MOV Profile Wiring Tricks



- ◆ MOV's (Motor Operated Valves) have always posed a unique problem for wiring in SPI from a signal origination stand point. As a "multiplexed" signal source MOV's require multiple I/O type terminations and cannot be generated by conventional Profile builds in SPI.
- ◆ The following is one method for creating a wiring Profile to overcome this issue.



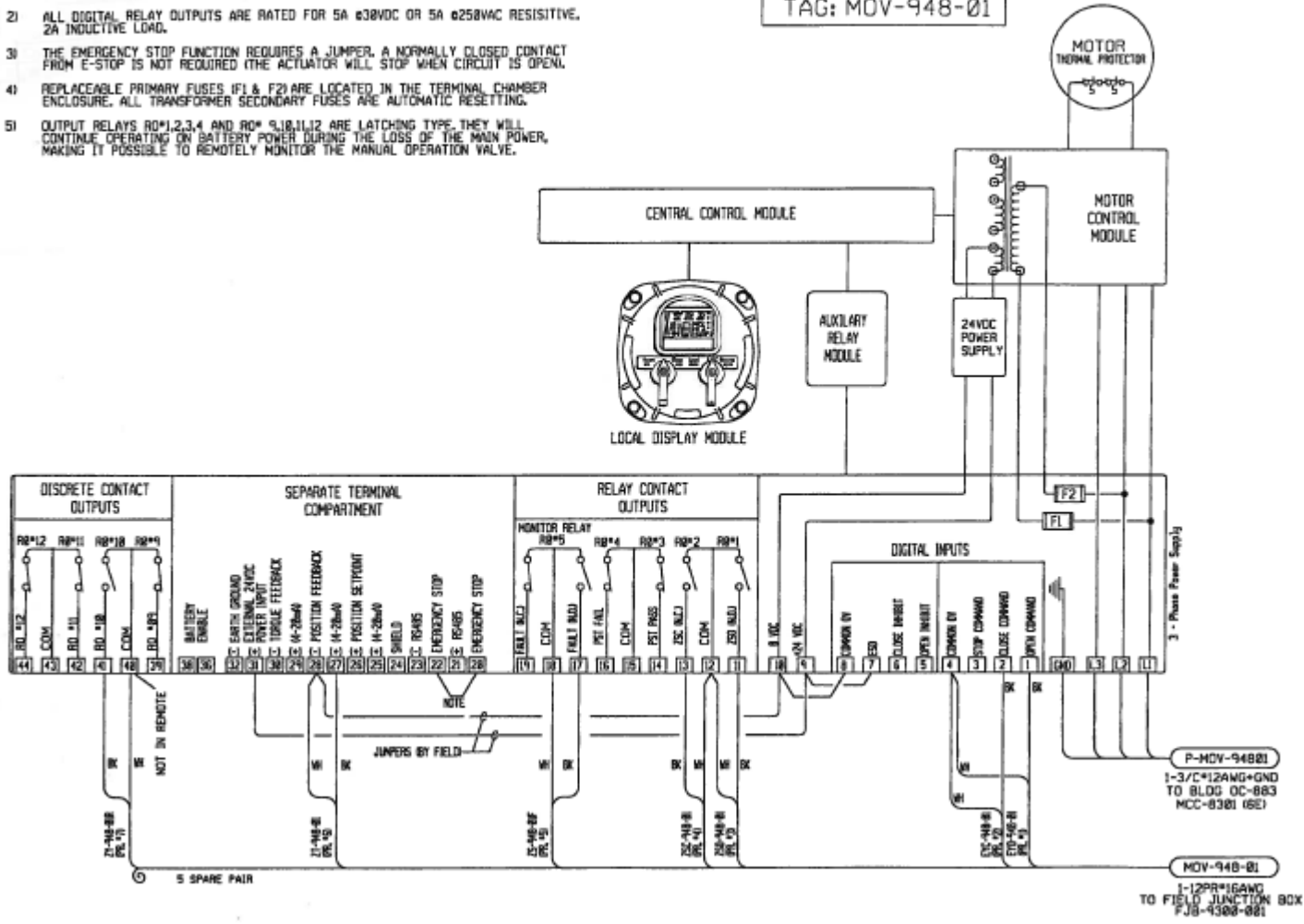


SPI MOV Profile Wiring Tricks

NOTES:

- 1) ALL DIGITAL INPUTS HAVE AN INPUT VOLTAGE RANGE OF 18-150 VDC OR 20-250 VAC.
- 2) ALL DIGITAL RELAY OUTPUTS ARE RATED FOR 5A @30VDC OR 5A @250VAC RESISTIVE, 2A INDUCTIVE LOAD.
- 3) THE EMERGENCY STOP FUNCTION REQUIRES A JUMPER, A NORMALLY CLOSED CONTACT FROM E-STOP IS NOT REQUIRED (THE ACTUATOR WILL STOP WHEN CIRCUIT IS OPEN).
- 4) REPLACEABLE PRIMARY FUSES (F1 & F2) ARE LOCATED IN THE TERMINAL CHAMBER ENCLOSURE. ALL TRANSFORMER SECONDARY FUSES ARE AUTOMATIC RESETTING.
- 5) OUTPUT RELAYS RO*1,2,3,4 AND RO* 5,10,11,12 ARE LATCHING TYPE. THEY WILL CONTINUE OPERATING ON BATTERY POWER DURING THE LOSS OF THE MAIN POWER, MAKING IT POSSIBLE TO REMOTELY MONITOR THE MANUAL OPERATION VALVE.

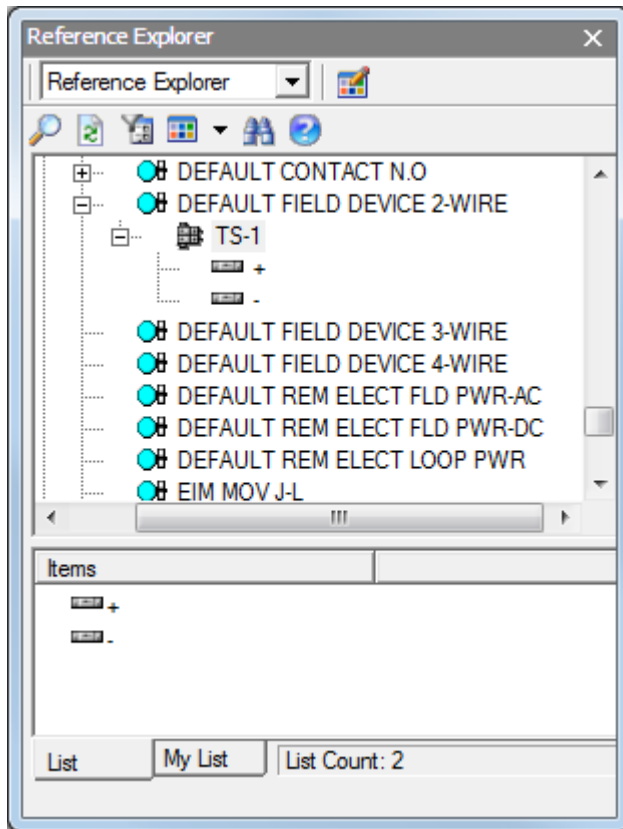
TAG: MOV-948-01





SPI MOV Profile Wiring Tricks

- ◆ This is a default 2-WIRE device panel. And this is the apparatus strip and is the configuration we want to end up with.



DIG-INPUT	
1	OPN CMD
2	CLS CMD
4	COM 0V
7	ESD
8	COM 0V
24VDC PS	
9	+24VDC
10	0 VDC
KEY CON-OUT	
11	LSNO
12	COM
13	LSNO
KEY MON-OUT	
17	FALNO
18	COM
SEP-TRM AREA	
20	E-STOP
22	E-STOP
27	+4-20mA
28	POSFB
31	+24VPS
DSCRT OUT	
40	COM
41	R010 NO



SPI MOV Profile Wiring Tricks

- ◆ First start with a “raw” MOV build to work with in the Domain Explorer.

Apparatus Group

Apparatus profile

Configuration name: MOV raw build

Fieldbus apparatus Internal terminator

Description: MOV baseline for build up

Manufacturer: EIM

Model:

Number of apparatuses: 6

Apparatus numbering

Prefix:

Numbered

Apparatus configuration

Orientation	Terminal Color and Numbering	Terminal Type
Regular	1234567890	
Regular	1	
Regular	2	
Regular	3	
Regular	4	

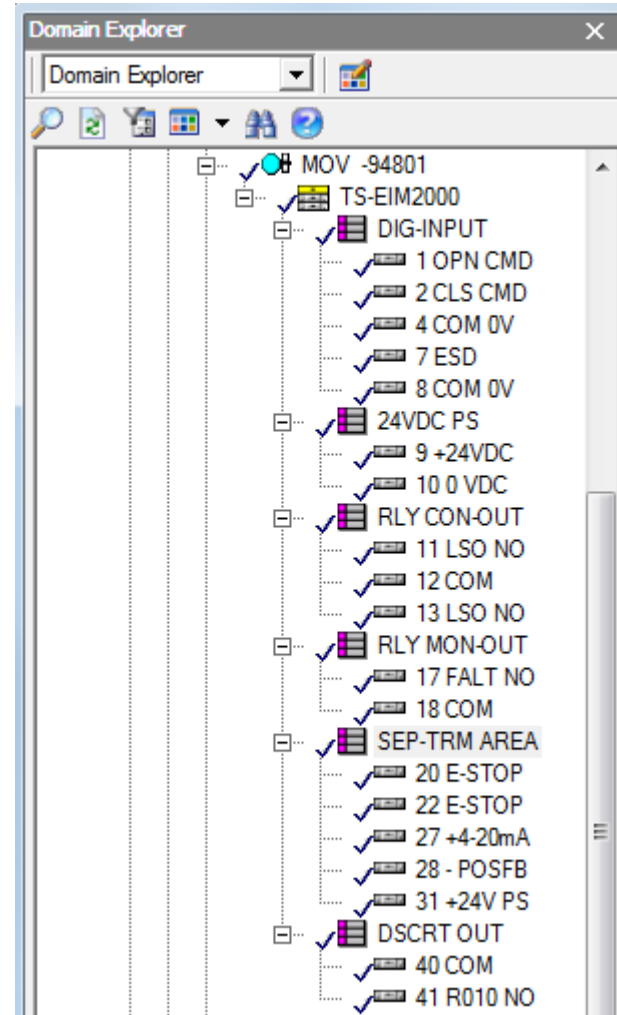
Add Terminal Delete Terminal

OK Close New Edit Delete Create Terminal Type... Help



SPI MOV Profile Wiring Tricks

- ◆ Duplicate apparatus under the Group and add/delete and name terminals and apparatus headers as required.
- ◆ Experiment with the naming and view it in the Connections window to make sure it is legible and fits properly.
- ◆ Apparatus strips have a character limit of about 10 characters before the text starts to overrun the Report Layout. In Connections view the text is truncated.





SPI MOV Profile Wiring Tricks

- ◆ Experiment with the presentation. If dealing with many connections on one apparatus, start small. Here a 4-pr cable was used with miscellaneous terminals configured.

	Wire	Set	Cable
DIGITAL INPUTS			
1XXXXXX	• MOV -34801	PR #1	MOV -34801
2	• MOV -34801	PR #2	
4	• MOV -34801	PR #3	
7	• MOV -34801	PR #4	
8	• MOV -34801	PR #5	
24VDC POWER SUPPLY			
9 +24VDC	• MOV -34801	PR #6	MOV -34801
10	• MOV -34801	PR #7	
RELAY CONTACT OUTPUT			
11	• MOV -34801	PR #8	MOV -34801
12	• MOV -34801	PR #9	
13	• MOV -34801	PR #10	
RELAY MONITOR OUTPUT			
17	• MOV -34801	PR #11	MOV -34801
18	• MOV -34801	PR #12	
SEPERATE TERM AREA			
20	3 Shield	OVERALL SHIELD	MOV -34801
22			
27			
28			
31			
DISCRETE CONT OUTPUT			
40			
41			



SPI MOV Profile Wiring Tricks

Instrument Type Profile

General | Wiring and Control System | Custom Tables | Calibration

Instrument type: **MOV** Instrument type description: MOTORIZED VALVE (12 pr. wired)

Include wiring Control system Automatic CS tags

Reference device panel: EIM MOV

Conventional connections

Reference Cable	Cable Set	Terminal Strip	Starting Terminal	Connection Type	Signal Propagation S	Ca
-EMZ2 4P #20 BK,WH OAS	PR #1	MOV TEST	1 OPN CMD	EIM 1 & 3	No	
	PR #2	MOV TEST	2 CLS CMD	EIM 2 & 3	No	
	PR #3	MOV TEST	1 OPN CMD	EIM 8 & 9	No	
	PR #4	MOV TEST	1 OPN CMD	EIM 10 & 9	No	
OVERALL		MOV TEST	41 R010	EIM 1 & 3	No	

Plug-and-socket connections

Reference Cable	Cable Connector	Panel Port	Signal Propagation S	Ca
1st Pass Test build with 1 (4 pr.) cable.				

Buttons: New... Properties... Delete

Buttons: New... Properties... Delete

Buttons: OK Cancel Apply Copy From... Function Block... Help



SPI MOV Profile Wiring Tricks

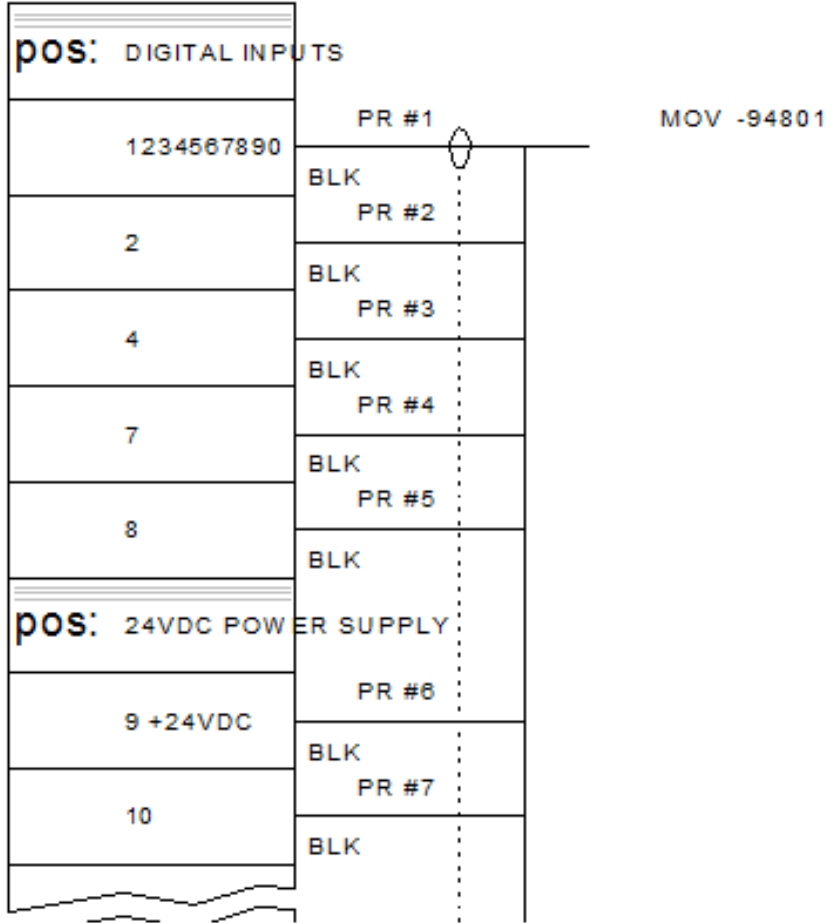
	Wire	Set	Cable
DIG-INPUT			
1 OPEN CMD			
2 CL3 CMD			
4 COM 0V			
7 ESD	J7 ESD/3 +24VDC		JUMPERS
8 COM 0V	J8 COM 0V/10 0 VDC		
24VDC PS			
9 +24VDC	J7 ESD/3 +24VDC		JUMPERS
10 0 VDC	J8 COM 0V/10 0 VDC		
RLY COM-OUT			
11 LSONO			
12 COM			
13 LSONO			
RLY MON-OUT			
17 FALNO			
18 COM			
SEP TERM AREA			
20 E-STOP			
22 E-STOP			
27 +4-20mA			
28 -POSFB	J10 0 VDC/28 - POSFB		JUMPERS
31 +24V PS	J9 +24VDC/31 +24V PS		
DSCRT OUT			
40 COM			

Jumpers were pre-built in DE



SPI MOV Profile Wiring Tricks

TAG: MOV -94801
MOV -94801
MOV TEST



SPI MOV Profile Wiring Tricks



Instrument Type Profile

General | Wiring and Control System | Custom Tables | Calibration

Instrument type: **MOV1** Instrument type description: MOTORIZED VALVE (12 pr. wired) J-L

Include wiring Control system Automatic CS tags

Reference device panel: EIM MOV J-L

Conventional connections

Reference Cable	Cable Set	Terminal Strip	Starting Terminal	Connection Type	Signal Propagation	Cable Set Signal Lev
4P #20 BK,WH OAS	PR #1	MOV TEST	1 OPN CMD	EIM 1 & 3	Yes	1
	PR #2	MOV TEST	1 OPN CMD	EIM 2 & 3	Yes	3
	PR #3	MOV TEST	1 OPN CMD	EIM 8 & 9	Yes	5
	PR #4	MOV TEST	1 OPN CMD	EIM 10 & 9	Yes	7
OVERALL SHIELD		MOV TEST	40 COM	Shield	No	

Plug-and-socket connections

Reference Cable	Cable Connector	Panel Port	Signal Propagation
2nd Pass Test build with 1 (4 pr.) cable.			

OK Cancel Apply Copy From... Function Block... Help



SPI MOV Profile Wiring Tricks

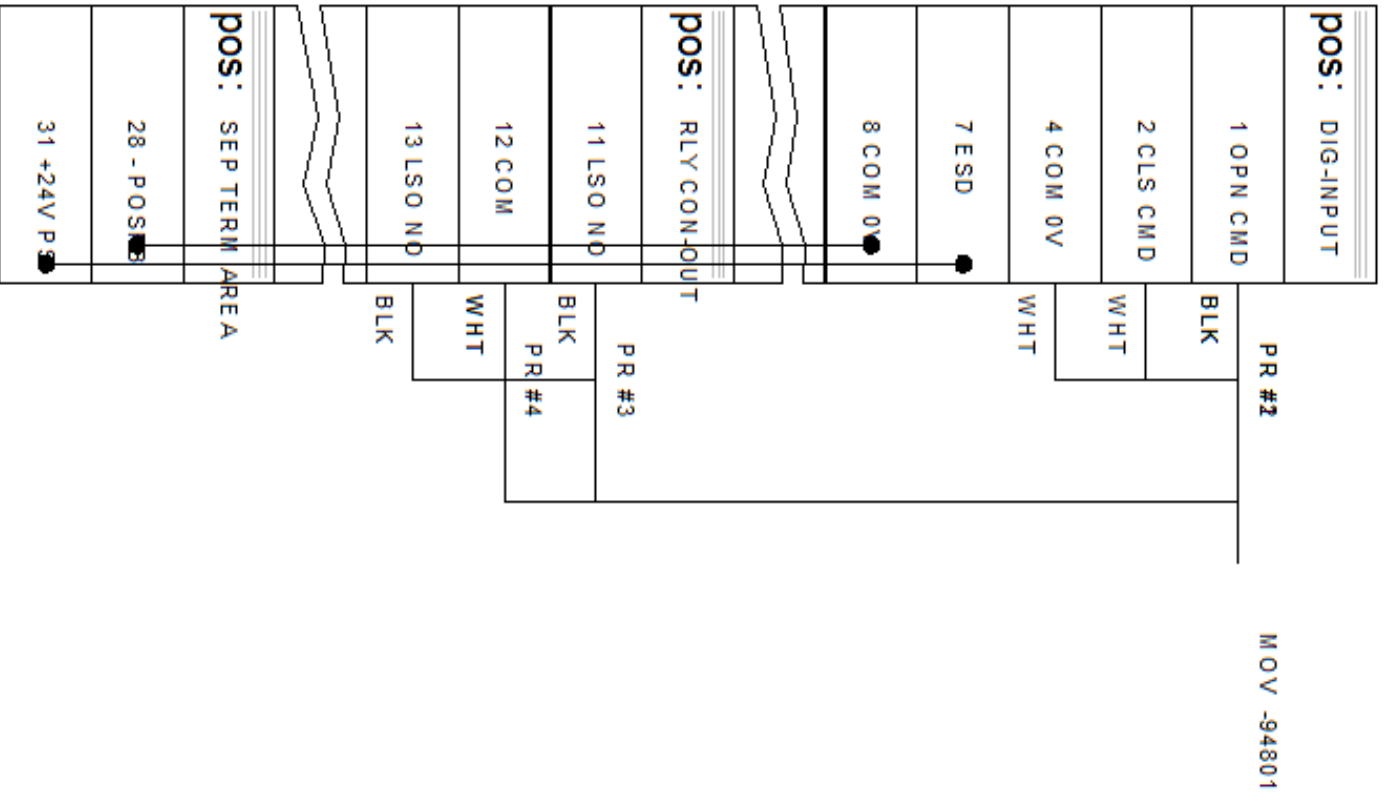
- ◆ Here signal propagation was assigned to all the wires but a device panel only has ONE signal to offer. You cannot assign multiple signals to a single device panel.

	Wire	Set	Cable
DIG-INPUT			
11 OPEN CMD	• MOV -34801	PR #1	MOV -34801
12 CLS CMD	- MOV -34801	PR #2	
14 COM 0V	- MOV -34801	PR #1	
17 ESD	J7 ESD/S +24VDC		JUMPERS
18 COM 0V	J8 COM 0V/10 0 VDC		
24VDC PS			
9 +24VDC	J9 +24VDC/31 +24V PS		JUMPERS
10 0 VDC	J8 COM 0V/10 0 VDC		
RLY CON-OUT			
11 LSO NO	• MOV -34801	PR #3	MOV -34801
12 COM	- MOV -34801	PR #4	
13 LSO NO	• MOV -34801		
RLY MOM-OUT			
17 FAL NO			Alternate method. Signals applied to profile (all MOV)
18 COM			
SEP TERM AREA			
20 E-STOP			JUMPERS
22 E-STOP			
27 +4-20mA			
28 POSFB	J10 0 VDC/28 - POSFB		
31 +24V PS	J9 +24VDC/31 +24V PS		
DSCRT OUT			
40 COM			
41 R010 NO	3 Shield	OVERALL SHIELD	MOV -34801



SPI MOV Profile Wiring Tricks

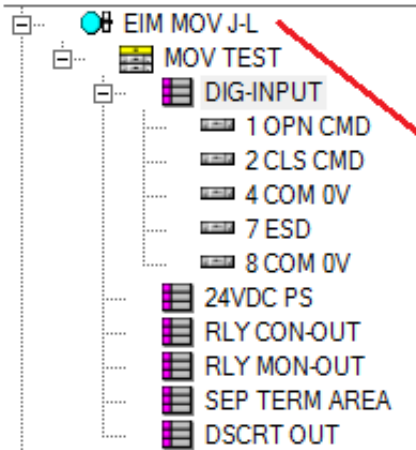
TAG: MOV -94801
MOV -94801
MOVTEST





SPI MOV Profile Wiring Tricks

Created from this Default Panel



Cable	Set	Wire	Wire	Set
DIG-INPUT				
			1 OPN CMD	MOV -34801 PR #1
			2 CLS CMD	MOV -34801 PR #2
			4 COM 0V	MOV -34801
JUMPERS	J7 ESD/9 +24VDC		7 ESD	
	J8 COM 0V/10 0 VDC		8 COM 0V	
24VDC PS				
JUMPERS	J7 ESD/9 +24VDC		9 +24VDC	
	J10 0 VDC/28 - POSFB		10 0 VDC	
RLY CON-OUT				
			11 L3 NO	MOV -34801 PR #3
			12 COM	MOV -34801
			13 L3 NO	MOV -34801 PR #4
RLY MON-OUT				
			17 FALTY NO	
			18 COM	
SEP TERM AREA				
			20 E-STOP	
			22 E-STOP	
			27 +4-20mA	
JUMPERS	J10 0 VDC/28 - POSFB		28 - POSFB	
	J9 +24VDC/31 +24V PS		31 +24V PS	
DSCRT OUT				
			40 COM	Shield OVER
			41 R010 NO	

Jumpers appear on the left side for a clearer loop presentation



SPI MOV Profile Wiring Tricks

- ◆ Getting the cables to land on the correct terminal.

Connection Types

Connection type: EIM 1 & 3

Description: EIM 2000 Term #1 & 4 (

Skip between sets: 1

Wire	Skip	Side	Land
W001	0	<input checked="" type="radio"/> A <input type="radio"/> O	
W002	2	<input checked="" type="radio"/> A <input type="radio"/> O	

Preview

Active side:

	W1	
	W2	

Reference device panel:

EIM MOV

Conventional connections

Reference cable: -EMZ2 4P#20 BK,WH OAS

Cable set: PR #1

Terminal strip: MOV TEST

Starting terminal: 1 OPN CMD

Connection type: EIM 1 & 3

Buttons: Save, Cancel, New..., Edit, Delete, Help



SPI MOV Profile Wiring Tricks

- ◆ Work from the perspective of the first terminal on the strip.

Connection Types

Connection type: EIM 2 & 3

Description: EIM 2000 Term #2 & 4 (actual)

Skip between sets: 1

Wire	Skip	Side	Land
W001	0	<input checked="" type="radio"/> A <input type="radio"/> O	<input checked="" type="checkbox"/>
W002	1	<input checked="" type="radio"/> A <input type="radio"/> O	<input checked="" type="checkbox"/>

Preview

Active side:

	W1	<input checked="" type="checkbox"/>	0
	W2	<input checked="" type="checkbox"/>	1

Conventional connections

Reference cable: -EMZ2 4P #20 BK,WH OAS

Cable set: PR #2

Terminal strip: MOV TEST

Starting terminal: 2 CLS CMD

Connection type: EIM 2 & 3

Save Cancel New... Edit



SPI MOV Profile Wiring Tricks

- ◆ Here the order is flipped so (-) WH connects then (+) BK.

Connection Types

Connection type: EIM 19 & 18

Description: EIM 2000 Term 19(B) & 18(W)

Skip between sets: 1

Wire	Skip	Side	Land
W001	18	<input checked="" type="radio"/> A <input type="radio"/> O	<input checked="" type="checkbox"/>
W002	17	<input checked="" type="radio"/> A <input type="radio"/> O	<input checked="" type="checkbox"/>

Preview

Active side:		Opposite side:	
	<input checked="" type="checkbox"/> 15	<input type="checkbox"/>	
	<input checked="" type="checkbox"/> 16	<input type="checkbox"/>	
W2	<input checked="" type="checkbox"/> 17	<input type="checkbox"/>	
W1	<input checked="" type="checkbox"/> 18	<input type="checkbox"/>	

Jumpers

Save Cancel New... Edit Delete Help



SPI MOV Profile Wiring Tricks

- ◆ Here you see the final profile build w/ device panel and 12-pr cable. Note that there is NO signal propagation. Signals will have to be assigned manually.

Instrument Type Profile

General | **Wiring and Control System** | Custom Tables | Calibration

Instrument type: MOV1 Instrument type description: MOTORIZED VALVE (12 pr. wired) J-L

Include wiring Control system Automatic CS tags

Reference device panel: EIM MOV J-L

Conventional connections

Reference Cable	Cable Set	Terminal Strip	Starting Terminal	Connection Type	Signal Propagation
-EMZ4 12P#20 BK,WH OAS	PR #1	MOV TEST	1 OPN CMD	EIM 1 & 3	No
	PR #2	MOV TEST	1 OPN CMD	EIM 2 & 3	No
	PR #3	MOV TEST	1 OPN CMD	EIM 8 & 9	No
	PR #4	MOV TEST	1 OPN CMD	EIM 10 & 9	No
	PR #5	MOV TEST	1 OPN CMD	EIM 11 & 12	No
	PR #6	MOV TEST	1 OPN CMD	EIM 15 & 16	No
	PR #7	MOV TEST	1 OPN CMD	EIM 19 & 18	No
	PR #8	MOV TEST	1 OPN CMD	C & T Spr. Pr.	No
	PR #9	MOV TEST	1 OPN CMD	C & T Spr. Pr.	No
	PR #10	MOV TEST	1 OPN CMD	C & T Spr. Pr.	No
	PR #11	MOV TEST	1 OPN CMD	C & T Spr. Pr.	No
	PR #12	MOV TEST	1 OPN CMD	C & T Spr. Pr.	No
OVERALL	MOV TEST	1 OPN CMD	C & T Spr. Pr.	No	

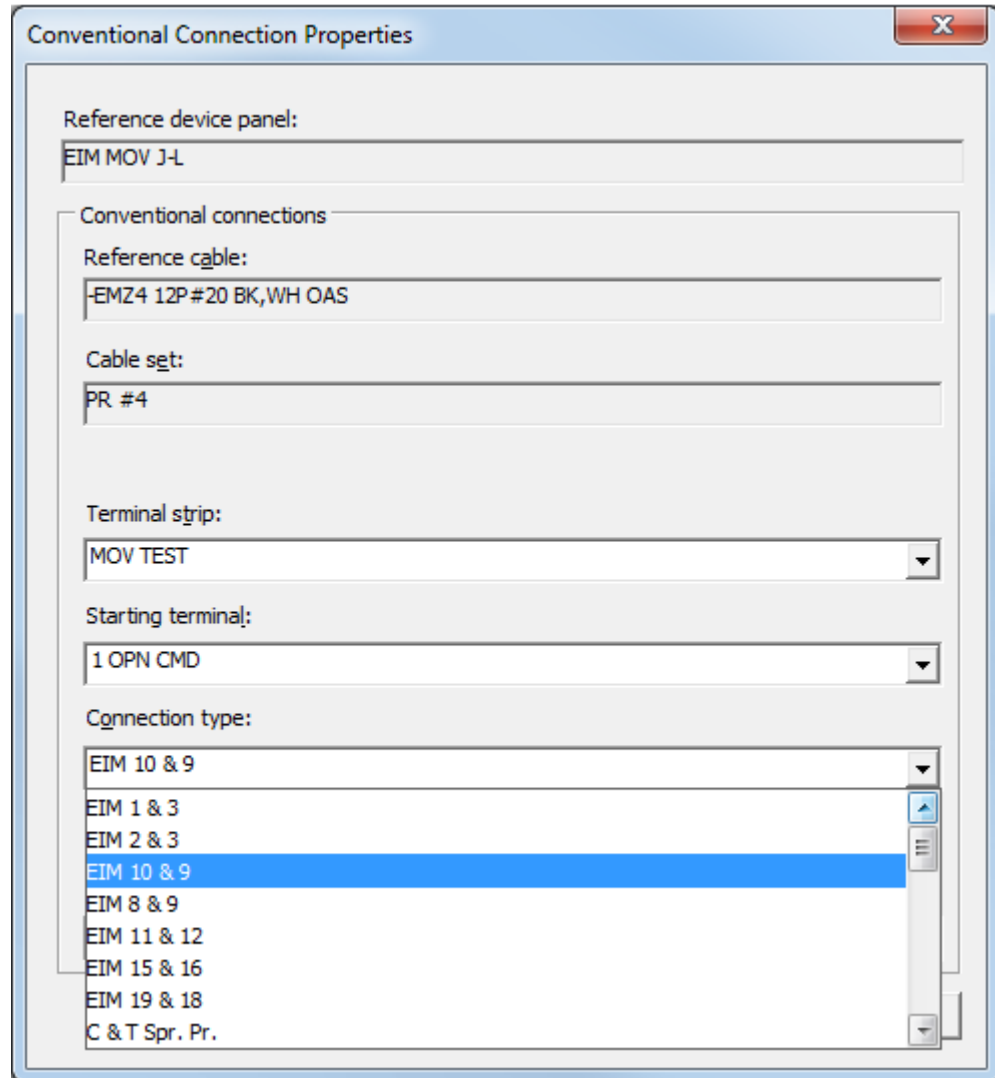
3rd pass final build with 12 pr. cable and completed terminal types configured properly.

Buttons: New..., Properties..., Delete, New..., Properties..., Delete, OK, Cancel, Apply, Copy From..., Function Block..., Help



SPI MOV Profile Wiring Tricks

- ◆ The connection types are shown below. Naming is important because these are unique to EIM actuators.
- ◆ Also not the C & T Spr. Pr.
- ◆ We need 7 pr. From a 12 pr. Cable. What do we do with the other 5 pr. ??





SPI MOV Profile Wiring Tricks

Connection Types

Connection type: Cut & Tape Spare Pr. Description: Forces no connection of pair

Skip between sets: 1

Wires

Wire	Skip	Side	Land
W001	998	<input checked="" type="radio"/> A <input type="radio"/> O	
W002	999	<input checked="" type="radio"/> A <input type="radio"/> O	

Preview

Active side:		Opposite side:	
	996		
	997		
W1	998		
W2	999		

Jumpers

Save Cancel New... Edit Delete Help



SPI MOV Profile Wiring Tricks

Cable Connection Definition

Cable: MOV -96423

Cable end to connect

Location:

End 1

End 2

Panel: FJB-9300-01

Terminal strip: TS - 2

Start at terminal: 1

Cable set connection details

Seq.	Cable Set	Connection Type	Terminal Side	
PR #1	EIM 1 & 3	▼	<input checked="" type="radio"/> L	<input type="radio"/> R
PR #2	EIM 2 & 3	▼	<input checked="" type="radio"/> L	<input type="radio"/> R
PR #3	EIM 8 & 9	▼	<input checked="" type="radio"/> L	<input type="radio"/> R
PR #4	EIM 10 & 9	▼	<input checked="" type="radio"/> L	<input type="radio"/> R
PR #5	EIM 11 & 12	▼	<input checked="" type="radio"/> L	<input type="radio"/> R
PR #6	EIM 15 & 16	▼	<input checked="" type="radio"/> L	<input type="radio"/> R
PR #7	EIM 19 & 18	▼	<input checked="" type="radio"/> L	<input type="radio"/> R
PR #8	C & T Spr. Pr.	▼	<input checked="" type="radio"/> L	<input type="radio"/> R
PR #9	C & T Spr. Pr.	▼	<input checked="" type="radio"/> L	<input type="radio"/> R
PR #10	C & T Spr. Pr.	▼	<input checked="" type="radio"/> L	<input type="radio"/> R
PR #11	C & T Spr. Pr.	▼	<input checked="" type="radio"/> L	<input type="radio"/> R

Select all cable sets

Connect Cancel Help



SPI MOV Profile Wiring Tricks

The screenshot displays a software interface for configuring cable connections. On the left, a tree view lists components including FIT -94814, FIT -96420-EH, FIT -96420-EL, FIT -96420-I, HS -100102, HS -100103, I/P -94802, I/P -94806, I/P -94808, I/P -94812, MOV -94801, MOV -94804, MOV -94807, MOV -94810, and MOV -96423. Below this is a vertical strip of terminal points labeled PR #1 through PR #12, followed by OVERALL SHIELD. The main workspace shows a terminal strip configuration for 'FJB-9300-01, TS - 2'. A table lists connections for wires 1 through 9, all marked as SPARE, with terminal sets PR #1 through PR #5. A 'Cable Connection Definition' dialog box is open, showing 'Cable: MOV -96423' and 'Panel: FJB-9300-01'. It includes fields for 'Terminal strip: TS - 2' and 'Start at terminal: 1'. A sub-dialog 'Assign Connection Type' is also open, asking 'Apply to all sets?' with 'Yes' and 'No' buttons. The sub-dialog contains a table of connection details:

Seq.	Cable Set	Connection Type	Terminal Side
1	PR #1	2 In a row	L R
2	PR #2	EIM 2 & 3	L R
3	PR #3	EIM 8 & 9	L R
4	PR #4		L R
5	PR #5		L R
6	PR #6		L R
7	PR #7		L R
8	PR #8		L R
9	PR #9		L R
10	PR #10		L R
11	PR #11		L R



SPI MOV Profile Wiring Tricks

- ◆ The result of the strip built by the custom Profile

Cable	Set	Wire	Wire	Set	Cable
			DIG-INPUT		
		1 0PN CMD	+	EYO -34801	PR #1
		2 CLS CMD	+	EYC -34801	PR #2
		4 COM 0V	-	EYC -34801	
JUMPERS	J7 ESD/9 +24VDC	7 ESD			
	J8 COM 0V/10 0 VDC	8 COM 0V			
			24VDC PS		
JUMPERS	J7 ESD/9 +24VDC	9 +24VDC			
	J10 0 VDC/28 - POSFB	10 0 VDC			
			KLY COM-OUT		
		11 LSO NO	+	ZSO -34801	PR #3
		12 COM	-	ZSO -34801	
		13 LSO NO	+	ZSC -34801	PR #4
			KLY MON-OUT		
		17 FAL NO	+	ZS -34801-F	PR #5
		18 COM	-	ZS -34801-F	
			SEP-TRM AREA		
JUMPERS	J20 E-STOP/22 E-STOP	20 E-STOP			
	J20 E-STOP/22 E-STOP	22 E-STOP			
		27 +4-20mA	+	ZT -34801	PR #6
JUMPERS	J10 0 VDC/28 - POSFB	28 - POSFB	-	ZT -34801	
	J9 +24VDC/31 +24V PS	31 +24V PS			
			DSCRT OUT		
		40 COM	-	ZY -34801-R	PR #7
		41 R010 NO	+	ZY -34801-R	

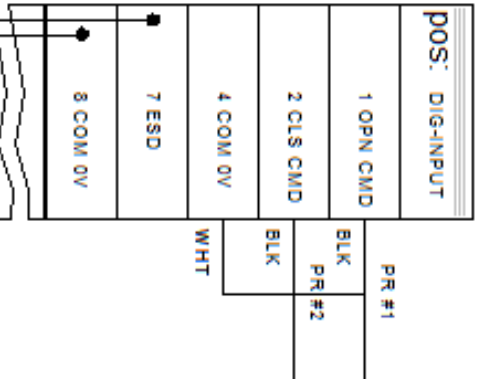


SPI MOV Profile Wiring Tricks

MOV -94801
TS-EIM2000

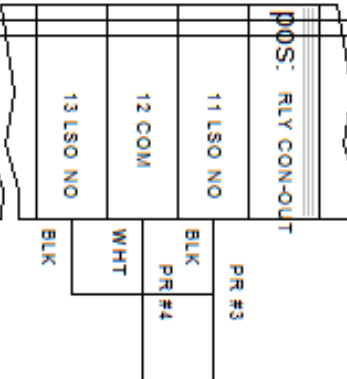
TAG: EYO -94801

TAG: EYC -94801

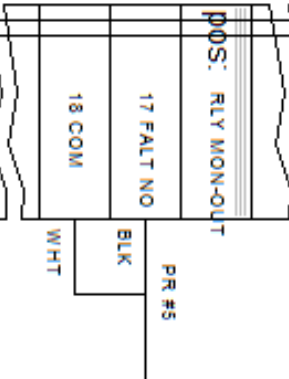


TAG: ZSO -94801

TAG: ZSC -94801

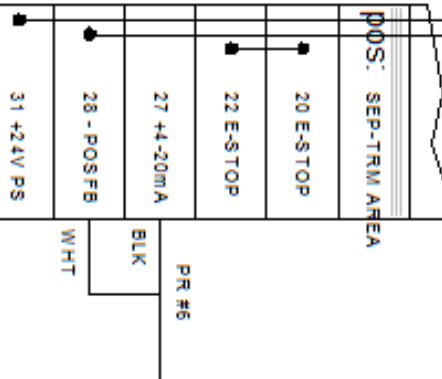


TAG: ZS -94801 -F

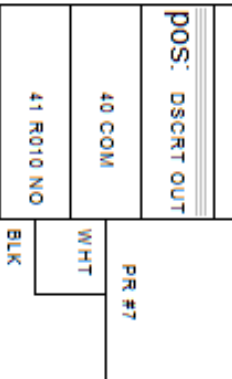


MOV -94801

TAG: ZT -94801



TAG: ZY -94801 -R





SPI MOV Profile Wiring Tricks

- ◆ Connecting the 12-pr cable from the device panel to a JB.

Terminal strip:		Cable:			
FJB-9300-01, TS - 2		MOV -96423			
Cable	Set	Wire	Wire	Set	Cable
MOV -96423	PR #1	EY -96423 -A	1	EY -96423 -A	PR #1
		EY -96423 -A	2	EY -96423 -A	
	PR #2	EY -96423 -B	3	EY -96423 -B	PR #2
		EY -96423 -B	4	EY -96423 -B	
	PR #3	ZSD -96423	5	ZSD -96423	PR #3
		ZSD -96423	6	ZSD -96423	
	PR #4	ZSC -96423	7	ZSC -96423	PR #4
		ZSC -96423	8	ZSC -96423	
	PR #5	ZS -96423	9	ZS -96423	PR #5
		ZS -96423	10	ZS -96423	
	PR #6	ZT -96423	11	ZT -96423	PR #6
		ZT -96423	12	ZT -96423	
	PR #7	ZY -96423	13	ZY -96423	PR #7
		ZY -96423	14	ZY -96423	
	PR #8	SPARE	15	SPARE	PR #8
		SPARE	16	SPARE	
	PR #9	SPARE	17	SPARE	PR #9
		SPARE	18	SPARE	
	PR #10	SPARE	19	SPARE	PR #10
		SPARE	20	SPARE	
	PR #11	SPARE	21	SPARE	PR #11
		SPARE	22	SPARE	
	PR #12	SPARE	23	SPARE	PR #12
		SPARE	24	SPARE	
FIT -96420 -I	PR #1	FIT -96420 -I	25	SPARE	PR #1
		FIT -96420 -I	26	SPARE	
PT -96421 -B	PR #1	PT -96421 -B	27	SPARE	PR #2
		PT -96421 -B	28	SPARE	
TT -96422 -B	PR #1	TT -96422 -B	29	TT -96422 -B	PR #3
		TT -96422 -B	30	TT -96422 -B	
			31	SPARE	PR #4



SPI MOV Profile Wiring Tricks

- ◆ Connection types have to be changed to 2 in a row.

Cable Connection Definition

Cable: MOV -96423

Cable end to connect

Location:

End 1

End 2

Panel: FJB-9300-01

Terminal strip: TS - 2

Start at terminal: 1

Cable set connection details

Seq.	Cable Set	Connection Type	Terminal Side
3	PR #3	2 In a row	L R
4	PR #4	2 In a row	L R
5	PR #5	2 In a row	L R
6	PR #6	2 In a row	L R
7	PR #7	2 In a row	L R
8	PR #8	2 In a row	L R
9	PR #9	2 In a row	L R
10	PR #10	2 In a row	L R
11	PR #11	2 In a row	L R
12	PR #12	2 In a row	L R
13	OVERALL SHIELD	2 In a row	L R

Select all cable sets

Connect Cancel Help



SPI MOV Profile Wiring Tricks

2. In the Domain Explorer, right click the MOV tag and create the Device Panel and Cable. It should look like this in the Connections window when completed.

Cable	Set	Wire	Wire	Set	Cable
			DIG-INPUT		
			1 OPEN CMD	* SPARE	PR #1
			2 CLS CMD	* SPARE	PR #2
			4 COM 0V	- SPARE	
JUMPERS	J7 ESD/9 +24VDC		7 ESD		
	J8 COM 0V/10 0 VDC		8 COM 0V		
			24VDC PS		
JUMPERS	J7 ESD/9 +24VDC		9 +24VDC		
	J10 0 VDC/28 - POSFB		10 0 VDC		
			RLY COM-OUT		
			11 NO NO	* SPARE	PR #3
			12 COM	- SPARE	
			13 NO NO	* SPARE	PR #4
			RLY MON-OUT		
			17 FAL NO	* SPARE	PR #5
			18 COM	- SPARE	
			SEP-TRM AREA		
JUMPERS	J20 E-STOP/22 E-STOP		20 E-STOP		
	J20 E-STOP/22 E-STOP		22 E-STOP		
			27 +4-20mA	* SPARE	PR #6
JUMPERS	J10 0 VDC/28 - POSFB		28 - POSFB	- SPARE	
	J9 +24VDC/31 +24V PS		31 +24V PS		
			DISCRT OUT		
			40 COM	- SPARE	PR #7
			41 NO NO	* SPARE	MOV -348

3. DO NOT CREATE ANY DEVICE PANELS OR CABLES FOR ANY OTHER TAGS IN THE LOOP (ZSO, EYC, ETC). IF THEY EXIST DELETE THEM.

NOTE: In the Wiring Module you can click on the button at the bottom called **Device Panel** to view tags associated with device panels. Below you can see MOV -94801 is complete and all the loop tags are associated with one device panel (MOV -94801)



SPI MOV Profile Wiring Tricks

Instrument	Device Panel	
ABV -94805	ABV -94805	
EV -94805	ABV -94805	
ZSC -94805	ABV -94805	
ZSO -94805	ABV -94805	
ABV -94811	ABV -94811	
EV -94811	ABV -94811	
ZSC -94811	ABV -94811	
ZSO -94811	ABV -94811	
HS -100102	HS -100102	
HS -100103	HS -100103	
I/P -94802	I/P -94802	
I/P -94806	I/P -94806	
I/P -94808	I/P -94808	
I/P -94812	I/P -94812	
EYC -94801	MOV -94801	
EYO -94801	MOV -94801	
MOV -94801	MOV -94801	
ZS -94801 -F	MOV -94801	
ZSC -94801	MOV -94801	
ZSO -94801	MOV -94801	
ZT -94801	MOV -94801	
ZY -94801 -R	MOV -94801	
MOV -94804	MOV -94804	

Sort by
 Instruments
 Device panels
 Manual configuration



SPI MOV Profile Wiring Tricks

4. Filter on the tag number you are working with and create (associate) signals with tags for the loop.

Local Signal

Find tag number:

Sort by
 Tag number Signal

Tag Number	Signal
ABV -OC2705	
AIT -OC2701	
AIT -OC2702	
CV -80724	
EV -OC2705-A	
EV -OC2705-B	
EV -OC2705-C	
EV -OC2705-D	
EY -100102	
EY -100103	

Tag signal

General signal



SPI MOV Profile Wiring Tricks

Filter

Filter for:
Wiring signals

Definition

Property	Operator	Value	Logic
Tag Number	like	%-9480%	

Add
Delete
Verify
Reset

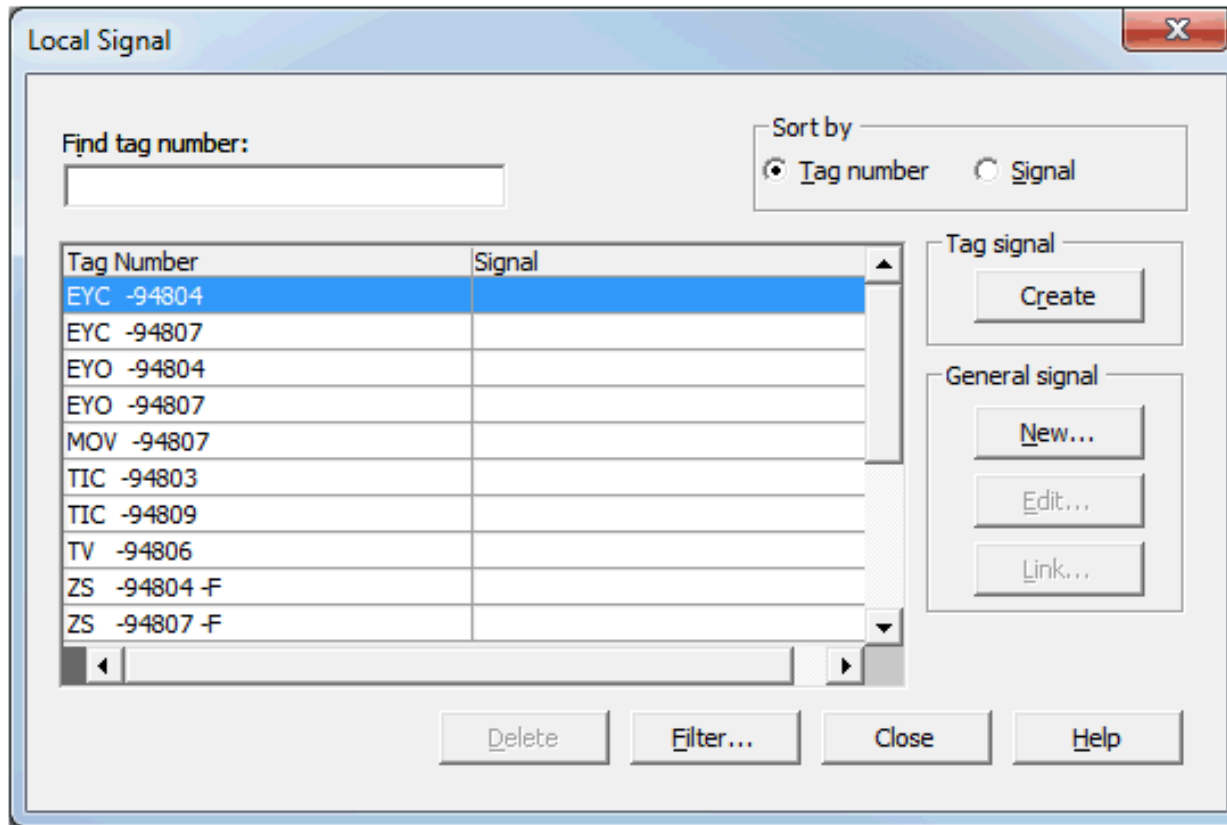
Apply filter settings in all sessions
 Pre-assigned signals only
 SmartPlant Electrical tags only

OK Cancel Help



SPI MOV Profile Wiring Tricks

(Below) Local Signal dialog box AFTER you have applied the filter. Notice the M-94801 loop tags are not shown. They have already been assigned. If you don't see available tags, they may already have device panels created (individually). Go to Device Panel window (Noted above under step 3) and see if a tag and device panel (and therefore a signal) are already associated. To free up a signal you have to delete the device panel and cable.





SPI MOV Profile Wiring Tricks

5. To create a Tag signal highlight a tag in the list and click on the **Create** button. You can create all the signals for all your tags at once if you want at this point.

6. In the terminal connections window assign your Signal (first) then set the Sequence and Signal Level for each wire pair. Jumpers do not carry signals and need no assignment. Use the **MOV Terminations For Device Panel Build** spread sheet and the **B6-MOV94801-53900.pdf** as a go-by. See attached files.

Polarity	Wire	Cable Set	Cable	On Top
Sequence	Signal Level	Signal		
+	SPARE	PR #1	MOV -94804	
0	0			

Signal name	Source
MOV -94804	



SPI MOV Profile Wiring Tricks

When you are done the connections window. Should look like this.

Cable	Set	Wire	Wire	Set	Cable
			DIG-INPUT		
		1 OPN CMD	• EYO -34801	PR #1	MOV -34801
		2 CLS CMD	• EYC -34801	PR #2	
		4 COM 0V	- EYC -34801		
JUMPERS	J7 ESD/3 +24VDC	7 ESD			
	J8 COM 0V/10 0 VDC	8 COM 0V			
			24VDC PS		
JUMPERS	J7 ESD/3 +24VDC	9 +24VDC			
	J10 0 VDC/28 - POSFB	10 0 VDC			
			RLY CON-OUT		
		11 LSONO	• ZSO -34801	PR #3	MOV -34801
		12 COM	- ZSO -34801		
		13 LSONO	• ZSC -34801	PR #4	
			RLY MON-OUT		
		17 FALNO	• ZS -34801-F	PR #5	MOV -34801
		18 COM	- ZS -34801-F		
			SEP-TRM AREA		
JUMPERS	J20 E-STOP/22 E-STOP	20 E-STOP			
	J20 E-STOP/22 E-STOP	22 E-STOP			
		27 +4-20mA	• ZT -34801	PR #6	MOV -34801
JUMPERS	J10 0 VDC/28 - POSFB	28 - POSFB	- ZT -34801		
	J9 +24VDC/31 +24V PS	31 +24V PS			
			DSCRT OUT		
		40 COM	- ZY -34801-R	PR #7	MOV -34801
		41 R010NO	• ZY -34801-R		

SPI MOV Profile Wiring Tricks



- ◆ Questions??