

How to install a Wyatt Technology DAWN or miniDAWN with a Dionex HPLC system

Part I: UV/DAD detector:

Locate a HELEOS or TREOS auxiliary cable p/n **P4045-19**, and a BNC/Banana adaptor labeled p/n **P3795-04**. One adaptor is provided in the HELEOS/TREOS ship kit. This adaptor's coaxial fitting connects to the UV back panel "Analog" port. Reference the table below for wire color assignments. (Note: Optilab T-rEX and/or ViscoStar aux channels also may be used. Please refer to the "Installation and Setup" section in the instrument's user's guide for wire assignments.)

Auxiliary Connector Wire Colors:

	aux1 (+)	aux1 (-)	aux2 (+)	aux 2 (-)
HELEOS or TREOS	White	Black	Red	Green



*Fig. 1: BNC/Banana adaptor
p/n P3795-04*



*Fig. 2: Wyatt RJ-12 cable
p/n P4045-19*



Fig. 3: Back panel of Dionex DAD

Note: Most Dionex DAD detectors are not equipped with the Analog Out connector port. This is a separate board to be ordered from Dionex, their p/n 6082.0305 that needs to be installed in the DAD.

Refer to the Dionex manual to verify which wires connect to which terminals. Most instruments will use the following configuration:

- Hand tighten (crimp) the BNC/Banana adapter's **red** terminal onto the (+) wire.
- Hand tighten (crimp) the BNC/Banana adapter's **black** terminal onto the (-) wire.

Tape off any other wires with electrical tape – they are ground wires, and are not necessary for this connection.

The other end of the AUX cable will have an RJ-12 connector. Connect that end into an "AUX" port on the back panel of the instrument.



Fig. 4: HELEOS/TREOS back panel

Part II: Autosampler:

Locate the remote contact closure signal terminal on the autosampler, and use an RJ-12 Aux cable p/n **4045-19** to make the connection between the autosampler and the HELEOS or TREOS's back panel Auto Inject In port. Instructions for hard-wiring a Dionex miniDIN cable to an RJ-12 cable can be found in the appendix at the end of this document.



Fig. 5: Back of Dionex Autosampler

***Note:** The autosampler is probably already configured to send an adequate electrical pulse (contact closure) to the Heleos or Treos upon injection; this pulse can be used to initiate ASTRA data collection if ASTRA is properly configured. There is no formal communication between the HPLC and ASTRA beyond this simple pulse, nor does ASTRA control the autosampler in any way.*

Part III: Chromeleon Software Configuration:

You will need to use Chromeleon to set up the auto-inject signal output. Pictured below is the command list for the Chromeleon program being used:

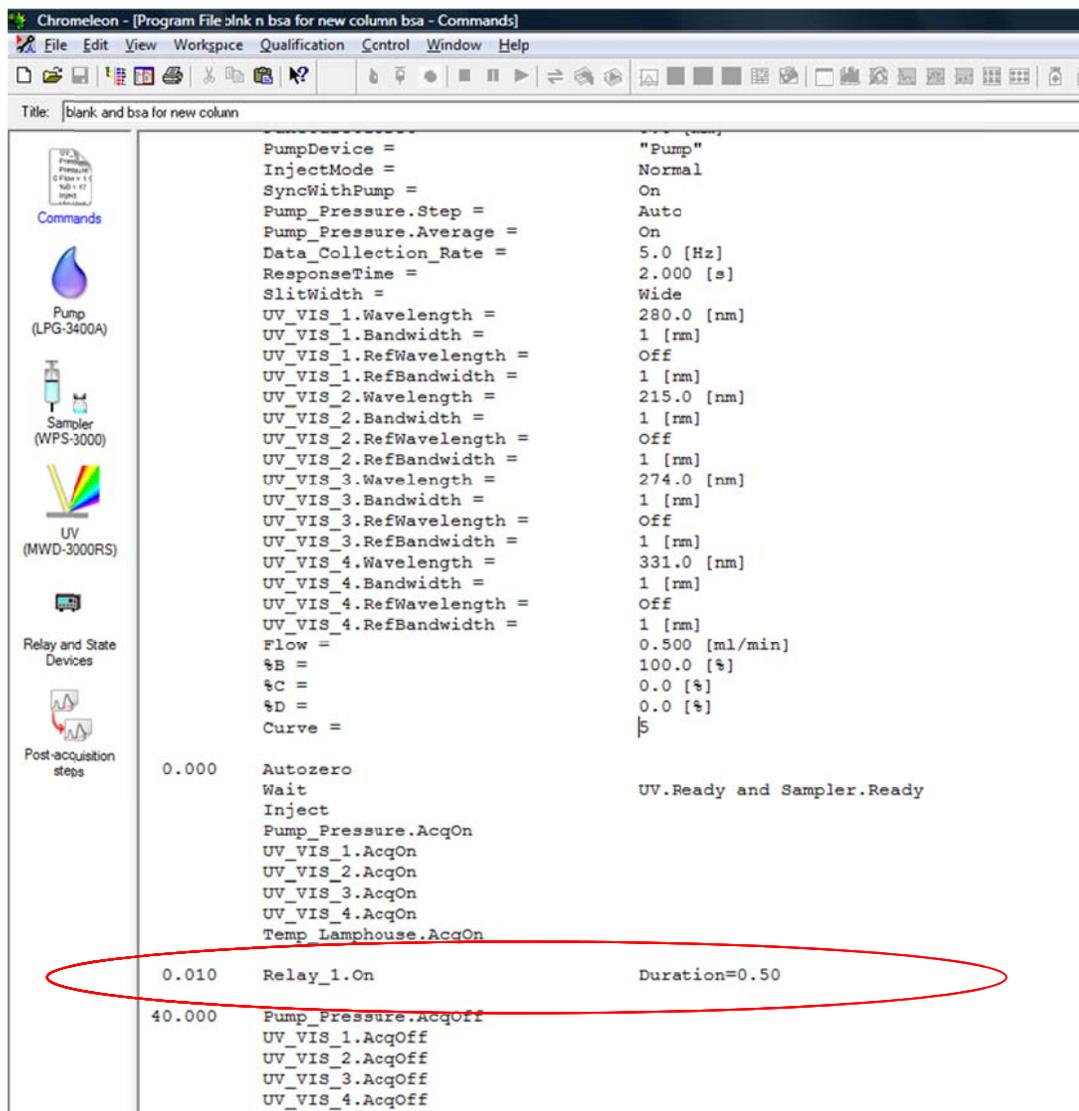


Fig. 6: Chromeleon Command for Autoinject Signal

The line "0.010; Relay_1.On; Duration=0.50" needs to be entered into the commands list to trigger the autoinject signal from Relay 1. This should be placed directly before your sample configuration in the log. Note that this will need to be the same Relay output that you have specified in your cable configuration.

Appendix:

Section 1: MiniDIN Connections for Autoinject Signal

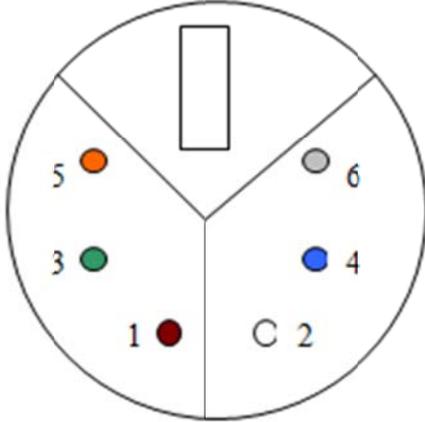


Fig. 7: miniDIN Connector wiring

Wyatt	Din 280
Red (+)	Yellow (5)
Green (-)	Green (3)

According to the Dionex Manual, the RJ-12 cable p/n **4045-19** can be connected to a Dionex miniDIN cable using the following wiring.

Section 2: Connections to Wyatt DAWN EOS or miniDAWN TriStar

To create your own cable connection to an older model Wyatt EOS or TriStar instrument, please use the guide below and a Turck cable p/n **P4045-05** to create the connections mentioned above:

	aux1 (+)	aux1 (-)	aux2 (+)	aux 2 (-)
EOS or TriStar	Brown	Blue	Brown	Blue

Refer to the table and connection guide above to verify which wires connect to which terminals.

Tape off any other wires with electrical tape – they are ground wires, and are not necessary for this connection.

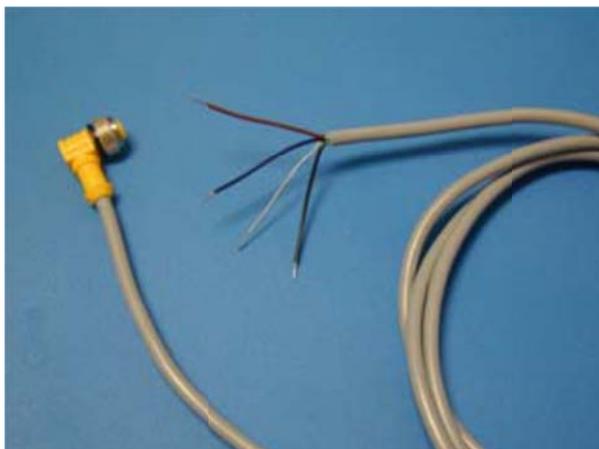


Fig. 8: EOS/TriStar Turck Cable p/n P4045-05

Section 3: Legacy Chromeleon Software Configuration

There are two ways to set up the relays for your ASI 100.

Option A:

The first way is to send a start/stop signal. You can do this through any of the relays, but for simplicity, let us use relay 4.

First ensure that the relay is configured in Server Configuration for the ASI 100. Click on YOUR icon shown below. This can be found on the desktop or under Start>All Programs>Chromeleon.



Server Configuration.Ink

Find your Timebase and double click the Dionex ASI-100 Autosampler.

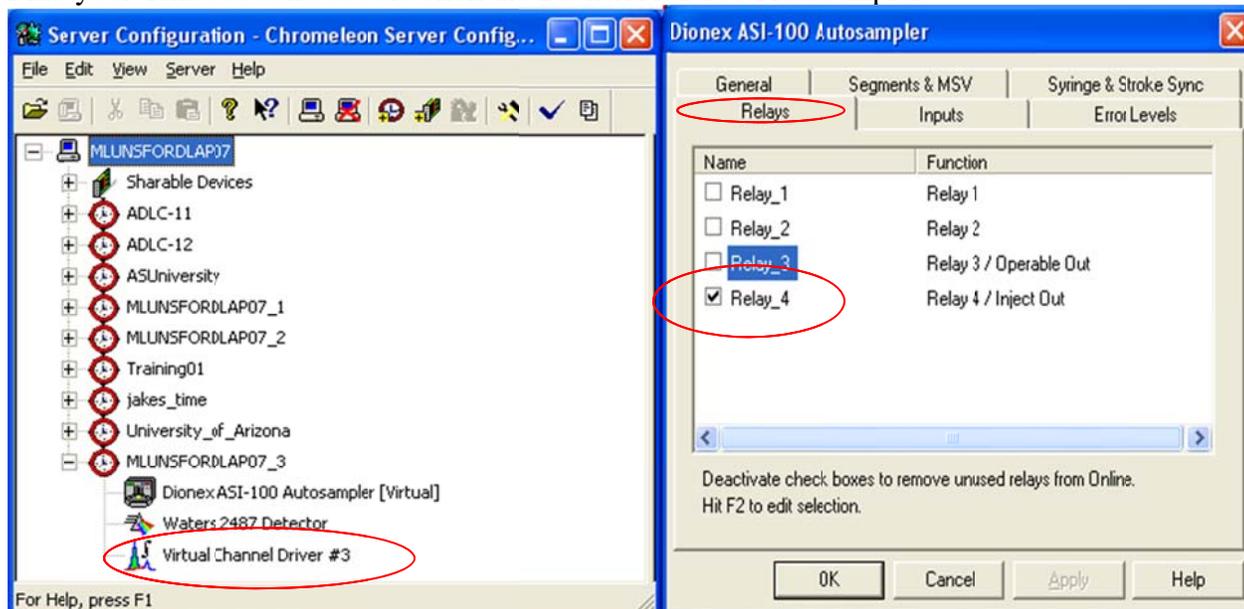


Fig. 9: Legacy Chromeleon Command for Autoinject Signal

Select the relay you want to use on the relay tab, in this case Relay_4. Then click <OK> and save the configuration.

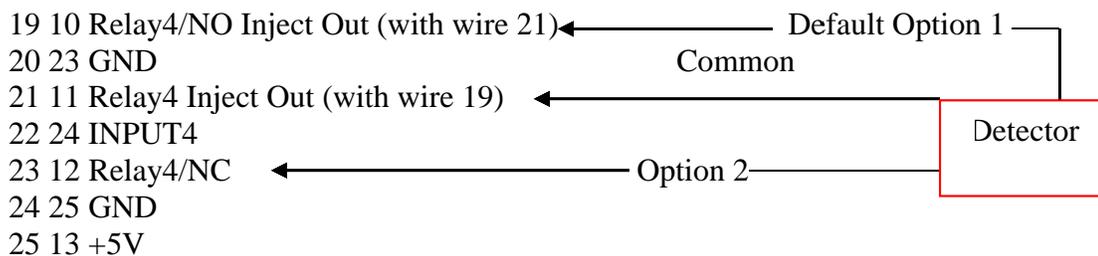
Next, apply the wiring to the proper pin. You can order the ribbon cable, Dionex part #8025.9001. The pin configurations are listed below:

Wire	Pin	Signal	Remark
1	1	Relay1/NO*	Marked wire
2	14	GND	
3	2	Relay1	
4	15	GND	
5	3	Relay1/NC*	
6	16	GND	
7	4	Relay2/NO	
8	17	GND	
9	5	Relay2	
10	18	INPUT1	
11	6	Relay2/NC	
12	19	GND	
13	7	Relay3/NO	Operable Out
14	20	INPUT2	
15	8	Relay3	
16	21	GND	
17	9	Relay3/NC	
18	22	INPUT3	
19	10	Relay4/NO	Inject Out
20	23	GND	
21	11	Relay4	
22	24	INPUT4	
23	12	Relay4/NC	
24	25	GND	
25	13	+5V	

* NO = normal open, NC = normal close

Fig. 12: Wire- and pin assignments of the ribbon cable (digital I/O interface)

Fig. 10: Dionex Manual for ribbon cable connection



NC is “normally closed” and NO in “normally open”. You must determine what type you want to use depending on your detector requirements.

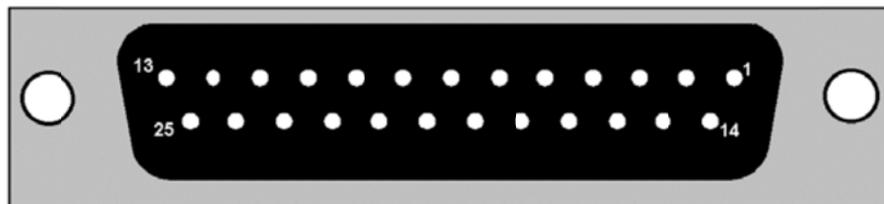


Fig. 11: Dionex Ribbon Cable

In your program file you must command the relay on or off.

```
0.000          Wait          Sampler.Ready
              Inject
              Relay_4.On      Duration=60.00 ;duration is in seconds.

30.000        Relay_4.Off    Duration=40.00 ;duration is in seconds.

          End
```

Option B:

The other option is to have a contact closure directly from the auto sampler. You can do this by entering the line

```
Relay4Enabled = No
```

Enter this line prior to the 0.000

You do not use the Relay_4.On command or the Relay_4.Off commands in your program file if you use the Relay4Enabled command.

For additional information, please refer to the DAWN or miniDAWN hardware manual or contact Wyatt Technology Support at support@wyatt.com