

---

---

# Clarity Controls

## *Knauer*

LC UNI profile

ENG


---

---

Code/Rev.: M044/24B - 18. October 2007

Phone: +420 - 251 013 400  
Fax: +420 - 251 013 401  
clarity@dataapex.com  
www.dataapex.com

© DataApex Ltd. 2007  
Podohradská 1  
155 00 Prague 5  
The Czech Republic

Clarity<sup>®</sup>, DataApex<sup>®</sup> and <sup>®</sup> are trademarks of DataApex Ltd.  
Microsoft<sup>®</sup> and Windows<sup>™</sup> are trademarks of Microsoft Corporation  
*DataApex reserves the right to make changes to manuals without prior notice.  
Updated manuals can be downloaded from [www.dataapex.com](http://www.dataapex.com).*

---

1	Profile specification .....	4
2	Requirements .....	4
3	Profile Setup .....	4
4	Knauer Pump profile .....	7
4.1	Knauer LPG.....	7
4.1.1	Pump Operation Mode .....	7
4.1.2	LC Control Specifics and Limitations .....	7

# 1 Profile specification

Knauer LC UNI profile can be used with **Smartline 1000** pumps equipped with *low pressure mixing valves* (K1500 solvent organizer or Smartline Manager 5000 LPG). It is intended for pumps equipped with 10 ml/min pump heads and all four solvent valves configured.

**Note:** *Dedicated S1000 Knauer Pump driver which does not use LC UNI was developed by Knauer company for Smartline 1000 pump use in Clarity.*

## 2 Requirements

- Clarity Installation CD ROM with LC Control module (p/n A24).
- Free serial port in the PC.

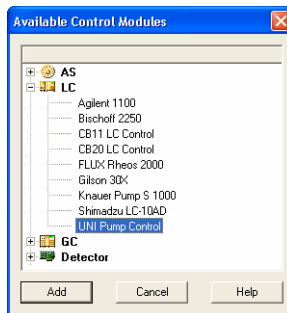
**Note:** *Modern computers usually have only 1 (if any) serial (COM) port installed. To use more devices requiring the port, the **MultiCOM** adapter (p/n MC01) is available.*

- Serial cross DB9F-DB9F cable (p/n SK01).

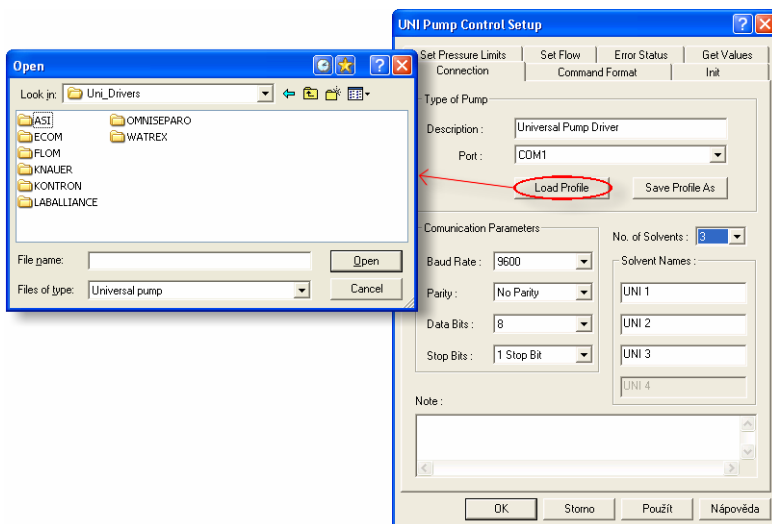
**Note:** *Cables are not part of **Clarity** Control Module. It is strongly recommended to order required cables together with the Control Module.*

## 3 Profile Setup

- Invoke the **System Configuration** dialog accessible from the **Clarity** window using the **System – Configuration** command.
- Press the **Add** button to invoke the **Available Control Modules** dialog.



- Select the **Uni Pump Driver** and press the **Add** button.
- The **Setup - Connection** dialog will appear.



- Use the **Load Profile** button to load the corresponding configuration for your LC pump.

**Note:** Profile is stored in \*.UNI file. You will find profile file for your LC Pump in the C:\CLARITY\UTILS\UNI\_DRIVERS\YOURPUMP folder.

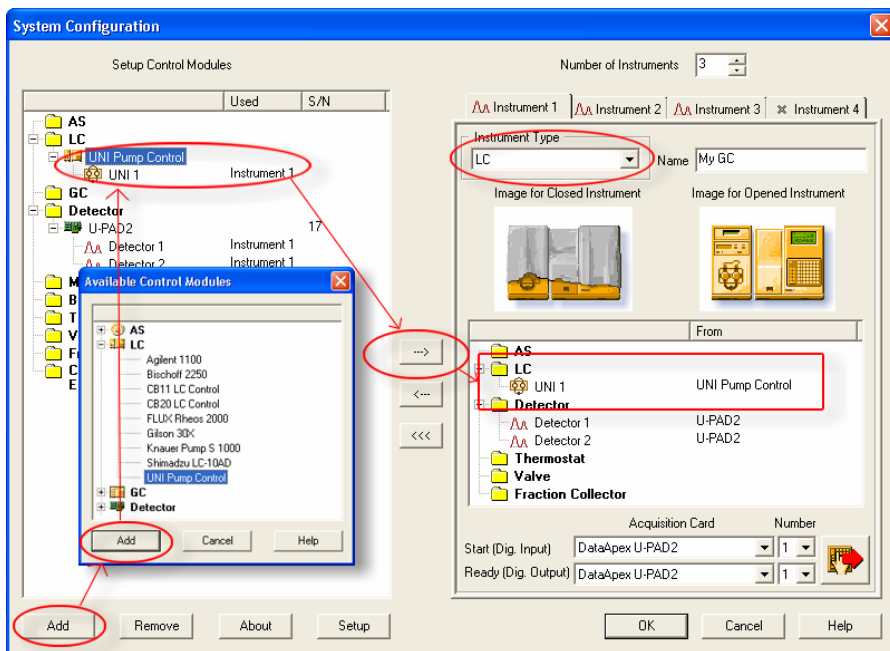
- Select the number of controlled solvents in the **No. of Solvents** field.
- Fill in the communication parameters and solvent names.

**Caution!** The values from **Com Port** and **Baud Rate** fields are not stored in the profile. These values must be set according to the actual configuration. Using an incorrect **Baud Rate** may cause the program to hang-up during opening the Clarity **Instrument** window.

- Press the **OK** button.

**Note:** Advanced users may create a new profile or customize existing one. Detailed description can be found in the **Universal Pump Control Module** manual

- Switch to the desired instrument tab in the right part of the **System Configuration** dialog.



**Fig. 1. System Configuration**

- Drag and drop the **UNI Pump Driver** from the **Setup Control Modules** in the left to the instrument on the right.

**Caution!** All defined solvents must be assigned on the same instrument.

## 4 Knauer Pump profile

**Knauer** pumps **Smartline 1000** can be operated both in *Low Pressure Gradient* mode (with low pressure mixing valves) or *High Pressure Gradient* mode (more pumps connected together).

### 4.1 Knauer LPG

#### Communication parameters

<b>Baud rate</b>	selectable on pump, 9600 default
<b>Parity</b>	No parity
<b>Data bits</b>	8
<b>Stop Bits</b>	1 Stop bit

#### 4.1.1 Pump Operation Mode

- The **RS232** communication must be selected in pump setup. The baud rate selected in pump setup must be set also in the Universal Pump control module **Setup - Communication** dialog.
- The pump must be configured for LPG mode, with all four valves ON.
- During controlled operation, the pump shows a SLAVE mode on display. After closing the instrument, the standard STDBY mode is displayed

**Note:** *To restore the Stand by mode manually on the pump, power it **Off** and then **On** again.*

#### 4.1.2 LC Control Specifics and Limitations

- The LC control module uses only commands for **direct flow** and **composition settings**.
- The **Pump Display** will indicate the “Slave” mode status, show currently set flowrate, composition and pressure. Run time is not displayed even during the gradient run.

**Caution!** *The pump does not indicate if it is running or not – please observe the pressure indicator to see the pumping state!*

- Any errors in communication are reported in **Clarity** as a "*Pump communication error*".

**Caution!** *This message will be invoked also when the pump does not accept the sent values – please check the pressure limits and flowrates set in the Method Setup - LC Control part of the method first.*

- Pump error state will be reported in **Clarity** as "*Pump Error*". Check the **Pump Display** for the specific error message.

**Note:** *Most commonly the exceeded pressure limits are the cause of receiving "**Pump Error**" message box.*