

Developed by Luke P Frash Los Alamos National Laboratory 2016



Overview

Disco is PC software for dynamically operating Teledyne Isco D-Series syringe pumps. Core features of Disco include interfacing with multiple pumps and pump controllers, real-time data plotting, continuous data acquisition and storage, advanced pump routine programming, and external data referencing. This software was developed for research and process control applications ranging from basic data acquisition to advanced automated hydraulic control systems. Pump routines developed for Disco can be imported and exported for easy sharing between users. A basic command and routine library is included.

STOP ALL			
Select Pump			
Index Letter Call ID Type			
	0	65DM	
Setpoint		Actual Value	
Pump Name Charlie			Charlie
Pressure (kPa)	4999	SP	-16.5474
Flow Rate (mL/min)	1E-5	SQ	-3.71284
Volume (mL) Pump Status			
	F: Filling		
	R: Remote Control		
	-: OK (No Problem)		
	CF: Independent Flow		
22.3858 Routine stopped ERR			
CCP CP Remote Run			Run
CCF CF Z		ero Pre	s Stop

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Basic Features:

- Automatic pump detection for serial communication
- Continuous pump data and status acquisition
- Remotely control multiple pumps and multiple pump controllers
- View real time pump status with plotting and matrix views
- Name pumps for easy identification
- Date stamp in output file
- Emergency STOP ALL function
- Compatible with most Teledyne ISCO syringe pumps

System Requirements:

- Windows operating system
- RS-232 serial
- Teledyne Isco D-Series syringe pumps

Advanced Features:

- Embedded pump routine editor for customized applications
 - o Scheduling
 - o Conditional programming
 - Loop programming
 - o Variable math
 - o Access to DASNET serial commands
 - Sharable routines (import/export using CSV files)
- External CSV (comma separated value) file query
 - Reference external measurements such as displacement, temperature, and strain
 - Useful for advanced pump control
- Simplified serial commands
 - Easily change pump mode
 - o Easily reposition remote controlled valves
 - Easily switch from outflow (+) to refill (-) mode
 - o Command library included

VARIABLE=,,,FlowRange=5.0, VARIABLE=,,,FlowPeriod=0.5, VARIABLE=,,,Pi=4*atan(1), STOP,0,1000,, CF MODE,0,,, VARIABLE=,,,StartTime=Time, VARIABLE=,,,SinFlow=FlowRan SQ=,0,,SinFlow, RUN,0,,, VARIABLE=,,,SinFlow=FlowRan SQ=,0,,SinFlow, GOTO,,100,-003|Time|>=|0,