Congratulations on the purchase of your new Digital C-FLUOR Submersible Probe. We are committed to customer satisfaction. If you need assistance, technical specialists are available to answer your questions at 408-749-0994 or toll-free at 877-316-8049. This Quick Start Guide will help you set up your Digital C-FLUOR Submersible Probe and describe how to take measurements so you can start collecting data as quickly as possible.

Your Digital C-FLUOR Probe is configured for the application that correlates with the identification letter stamped on the 6-pin bulkhead connector (see list below). For Digital C-FLUOR Probes that do not have a connector, the identification letter will be etched on the body next to the part number.

"C" = Chlorophyll   "R" = Rhodamine WT
"F" = Fluorescein   "P" = Phycocyanin
"E" = Phycoerythrin   "U" = CDOM / fDOM
"O" = Crude Oil   "B" = Optical Brighteners
"T" = Turbidity   "D" = Red Excitation

"C" = Chlorophyll
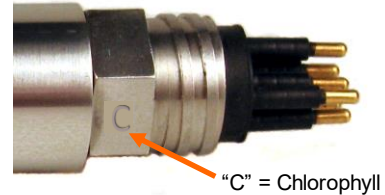
❶ **Initial Connections**

⚠ CAUTION **Note: Supply voltages greater than 15 VDC will damage the probe.**

Use the wiring guide below to connect the Digital C-FLUOR to your data logger or third-party system.

NOTE: If you purchased the Programming Kit P/N 2120-900 and prefer to use software to set up the Digital C-FLUOR, see Section ❸

C-FLUOR Pins/Wires	Pin Number	Function	Connection
Red	1	Supply Voltage 3 – 15 VDC	PSU – Positive Connection
Black	2	Supply Ground, 0VDC	PSU – Ground Connection
Orange	3	Receive Data	RX
Green	4	Transmit Data	TX
Blue	5	Digital Ground	GND
Yellow	6	N/A	-

Use the communication protocol below to set up communication with your Digital C-FLUOR.

Baud Rate: 9600 (default)

NOTE: If the baud rate was manually changed, please use the manually set baud rate for communication.

Data bits: 8
Parity: None
Stop bits: 1
Flow Control: None

After configuring the communication settings, supply power to the instrument and see Section ❷.

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❷ **Using Commands to Communicate with the Digital C-FLUOR**

With the C-FLUOR connected and powered make the following functional tests:

1. Is the LED on?
    Hold a piece of white paper about ½ an inch in front of the optical head to ensure the LED is ON.

Note: This test does not work for Turbidity probes because they use infrared which is not visible.

2. Using the S06! command, set the Streaming Output Rate to 1 reading per second. Do you see values being streamed at once per second rate?

3. Does the output change?
    Move the light source closer to the piece of paper and check if the output value being streamed increases.

Use commands from the command list below to program and set up your Digital C-FLUOR after successfully passing all functional tests..

Command	Name	Note
I!	Sensor Information	For Probe Information
C!	Calibration Information	For Calibration Values
Bxxxx!	Set Baud Rate	"xxxx" refers to baud rate (9600, 14400, 19200, 38400, 57600)
Sxx!	Streaming Output Rate	Puts probe into streaming mode Use table below to determine "xx"
P!	Polling Mode	Puts probe into polling mode
R!	Read Command	Only when in Polling mode
M!	Report the Current Mode	Returns S with rate or P

Use the list below to set Streaming Output Rate

xx	Readings per second	Seconds between readings
01	*Not Available*	
02	16	
03	8	
04	4	
05	2	
06	1	1 (factory default)
07		2
08		5
09		10
10		15
11		30
12		60
13		120
14		300
15		600
16		1800
17		3600

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❸ **Using Software to Communicate with the Digital C-FLUOR**

To program the Digital C-FLUOR Probe using software, connect the probe to your computer using the Digital C-FLUOR RS-232 Programming Cable P/N 2120-160 and connect the 12 volt power supply P/N 7000-941 to the Programming Cable's power jack, then follow the instructions below:

12V Power Supply

RS-232 Programming Cable

1. Once USB drivers have automatically installed, download and install Digital C-FLUOR's Software from www.turnerdesigns.com.
2. After software has successfully installed, double-click the software's icon which should have been automatically added to your desktop.
3. Click "Communicate With C-FLUOR" and wait a few minutes for the software to detect the connected probe.
4. When connected, C-FLUOR Communication Status radio button will change from red to green

With the C-FLUOR connected to your computer and power supply, and communicating with the software, answer questions 1-3 to perform the following functional tests:

1. The LED is on?
   Hold a piece of white paper about ½ an inch in front of the optical head to ensure the LED is ON.

Note: This test does not work for Turbidity probes because they use infrared which is not visible.

2. Is there output?
   Click the "Get Datapoint" button; if a value is displayed in the box then the instrument's output is working.

3. Does the output change?
   Move the light source closer to the piece of paper and again click the "Get Datapoint" button; if the output increases then the instrument's detector is working.

If the instrument passed all functional tests, begin configuring your Digital C-FLUOR Probe using the software.

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