

# TECHNICAL NOTE TN0122

## **Title: The Port Input Function in Crimson 2**

## **Product(s): G3 HMI Series**

Crimson 2 provides a Port Input function. This function, when used in conjunction with the Red Lion's Raw Serial Port driver, will provide the same results as the General ASCII Frame driver. Thus this function will capture all input on a specified port that meets the requirements of the arguments provided.

## **PORT INPUT FUNCTION SEMANTICS**

cstring PortInput(int Port, int Start, int End, int Timeout, int Length)

Where Port is the port that will be used to capture the input. Valid values are as follows:

```
Port 1 - Programming Port
Port 2 - RS232 Port
Port 3 - RS485 Port
Port 4 thru 7 - Ethernet Ports
```

Start and End represent the beginning and ending delimiters, respectively. In the event that no beginning and/or ending delimiters are desired, a value of 0 for the appropriate delimiter should be used.

Timeout should be specified in milliseconds and is used as a character based time-out. If this time-out value expires before all requirements are satisfied, an empty string will be returned. If no time-out is desired, enter a value of zero for this argument.

Length is the maximum length of the string that should be captured. A specified length of 0 will default the maximum length to 256 characters.

## **USING THE PORT INPUT FUNCTION**

### STEP 1 - CREATE A DATA TAG

Double click on the Data Tag icon. Create a new variable of type "string". In the example, the string tag has been renamed "Data" and set to Retentive storage. A length of 20 characters is specified.

Data Tags	15 F J		X
□ (■ Tags AB Data	Data	Variable Data	
		Mapping:	▼ Internal
	Colors Format	Encoding:	Unpacked
	olors	Access:	Read and Write
	<u> </u>	Storage:	Retentive
		Length:	2C characters
		Simulation:	None
		Actions	
		On Write:	None
Close	_		

#### STEP 2 - CREATE A PROGRAM

Enter the programming area by double clicking on the Programming icon.

Create a program and specify the "Return Type" within the "Options" group as "String". In the "Code" area, simply return the Port Input function with the desired arguments. In the example, the program has been renamed as Comms and the Port Input function indicates that the input will be captured on the RS232 port, using a start character of "A" and an end character of "B". A character time-out of 5000 msec is specified and the maximum length of the string to be captured is set to a value of 20.

From the "Program" menu, select "Translate..." to ensure the program is error free.

Programming - Comms		×
Programs	Code	
Comms	return PortInput( 2, 0x41, 0x42, 5000, 20 );	X
	Options	
	Return Type: String Edit Run In Background: No	• •
	External Data: Read When Referenced Data Timeout:	30.0 secs
<u>C</u> lose	Arguments: cstring Comms(void)	Edit

#### **STEP 3 - COMMUNICATIONS SETUP**

Finally, double click on the Communications icon. Highlight the port that corresponds to the Port indicated in the Port Input function in the previous step, then click on the "Edit" button within the "Driver Selection" area. In the "Driver Picker for Raw Serial Port" dialog box, select "System" as the Manufacturer then select "Raw Serial Port" for the Driver. Click "OK".

Communications	to react a second and		×
G3		Driver Selection	
		Driver: No Driver Selected Edit	
	Driver Picker for Serial Por Manufacturer Adam Alen Bradley Alstom Animatics Control Techniques Danfoss Dupline Festo Garmin GE	Port Settings       Baird Rate:       19200       T       Driver       Deriver       No Driver Selected       Generic Program-Thru       Version 1.00       PPP and Modem Clent       Version 1.00       Raw Serial Port       Version 1.00       Wrtual Serial Port       Version 1.00       Virtual Serial Port       Version 1.00       Version 1.00	
		Add Additional Device	
Close			

In the "Driver Settings" group, set the "On Update" field as follows: string data tag := program()

In the example, since the string data tag is named "Data", and the program is named "Comms", Data := Comms() has been entered in this field. This action will call the program with the Port Input function and set the string variable to the input captured.

Port Settings should also be configured as appropriate.

Communications				
Communications	Driver Selection Driver: Raw Serial Port Edit Driver Settings On Update: Data := Comms() Port Settings Baud Rate: 1920			
	Data Bits:     Eight       Stop Bits:     One       Parity:     None       Part Sharing       Share Port:     No       Clear Port Settings			
	Restore Driver Defaults			
	Add Additional Device			
Glose				

#### SUMMARY

Through the string data tag, the input captured by the Port Input function can now be used as any other string data tag for a variety of purposes.