

TechNote #11: CTC EasyBuilder Quick Reference Guide

Setting up a 4XXX touchscreen for use with CTC controllers.

Start by opening System Parameters form the Edit Pull down Menu. The recommended settings are as follows for any BlueFusion Products (5XXX Controllers). The same settings with a Baud rate of 9600 are recommended for all other CTC controllers. Note that CTC Binary V1.01d is currently the most recent driver. If a newer driver is available select that one as the PLC type:

Set System Parameter

PLC | **General** | Indicator | Security | Editor | Hardware | Auxiliary Port

PLC type : **CTC Binary [PDS V1.01d]**

HMI model : **MMI4272 (320 x 240)**

PLC I/F port : **RS-232** Baud rate : **9600**
Data bits : **8 Bits** Parity : **None**
Stop bits : **1 Bit**

Parameter 1 : **0** Comm. delay (10msec) : **10**
Parameter 3 : **0** Parameter 4 : **0**
Parameter 5 : **0** Parameter 6 : **0**

HMI station No. : **0** PLC station No. : **1**

Multiple HMI : **Disable** HMI-HMI link speed : **115200**
Connect I/F : **Serial**

Local IP address : **0** . **0** . **0** . **0**
Server IP address : **0** . **0** . **0** . **0**
Subnetwork Mask : **0** . **0** . **0** . **0**
Default Route IP address : **0** . **0** . **0** . **0**

PLC time out constant (sec) : **3.0** PLC block pack : **0**

OK Cancel Apply Help

Device Types

Bit References (These are references that can only be a 1 or a 0 value)

LB – Local memory – BIT. This is an internal bit used by the touchscreen and is not used to communicate to the controller. See the EasyBuilder manual for more information.

Input* – Controller Input – BIT. This defines an input in the controller and is addressed to match the input number referenced in the controller.

Output - Controller Output – BIT. This defines an output in the controller and is addressed to match the output number referenced in the controller.

Flag – Controller Flag – BIT. This defines a flag in the controller and is addressed to match the flag numbers in the controller. When using a flag as a device type, specify the flag number starting with 1 as the first flag number.

NR/LoBit – Controller Numeric Register – Low BIT. This defines a specific bit (0-15) of a 32 bit register in the controller. The register and bit number is used to define the device address. For example to reference bit 2 of register 100 a device address of 10002 or 100,02 would be used.

NR/HiBit – Controller Numeric Register – High BIT. This defines a specific bit (16-31) of a 32 bit register in the controller. The register and bit number is used to define the device address. For example to reference bit 18 of register 100 a device address of 10018 or 100,18 would be used.

RBI, RB, Ms_RB and Ms_LB - These are all internal bits used by the touchscreen. Defined as Recipe Bit Index, Recipe Bit, Master Recipe memory Bit, and Master Local Memory Bit respectively. See the EasyBuilder manual for more information.

Word References Include

LW – Local memory – WORD This is an internal word used by the touchscreen and is not used to communicate to the controller. See the EasyBuilder manual for more information.

Numeric Register - DOUBLE WORD This defines a 32bit register within the controller.

NR/LoWord - Controller Numeric Register – WORD This defines only the lower 16bits of a register within the controller. The upper 16 bits are ignored.

NR/Hi Word – Controller Numeric Register – WORD This defines only the upper 16bits of a register within the controller. The lower 16 bits are ignored

DATA TABLE = Controller Data Table – WORD This defines a DataTable within the controller. Enter the data table location in format *rrrccc* Valid row (rrr) 1 to 255, column (ccc) 1 to 255. 16 bit values only.

AnalogIn* - Controller Analog Input – WORD This defines an analog input on the controller and is addressed to match the analog input number in the controller.

AnalogOut - Controller Analog Output – WORD This defines an analog output on the controller and is addressed to match the analog output number in the controller.

Servo Posn – Controller Servo Position – WORD This defines the servo position of the servo in the controller and is addressed to match the servo number in the controller.

Servo Err* - Controller Servo Error – WORD This defines the servo error of the servo in the controller and is addressed to match the servo number in the controller.

RWI, RW, Ms_RW and Ms_LW - These are all internal bits used by the touchscreen. Defined as Recipe Word Index, Recipe Word, Master Recipe memory Word, and Master Local Memory Word respectively. See the EasyBuilder manual for more information

*** Means these references must be set-up for read-only**

Using a Numeric Input Object with a NR/W Device type.

Under the *General Tab / No. of words*; When this is set to 1 the 16 bit word is a signed number. That is, storing a 65535 will display -1 and storing 32767 will display 32767. If this is set up for 2 words storing a 65535 will display 65535, however, if the limits on the Numeric Tab are set higher than 65535 and the number entered is larger than 65535 the data is sent in a 2 word format so that the MS 16 bit word is stored in the next register up and the remainder is stored in the initially defined register.

Using a Numeric Input Object with a Numeric Register Device type.

Under the *General Tab / No. of words*; When this is set to 1 the 16 bit word is a signed number. That is, storing a 65535 will display -1 and storing 32767 will display 32767. If this is set up for 2 words a 32 bit number can be created and will be stored in the same register.

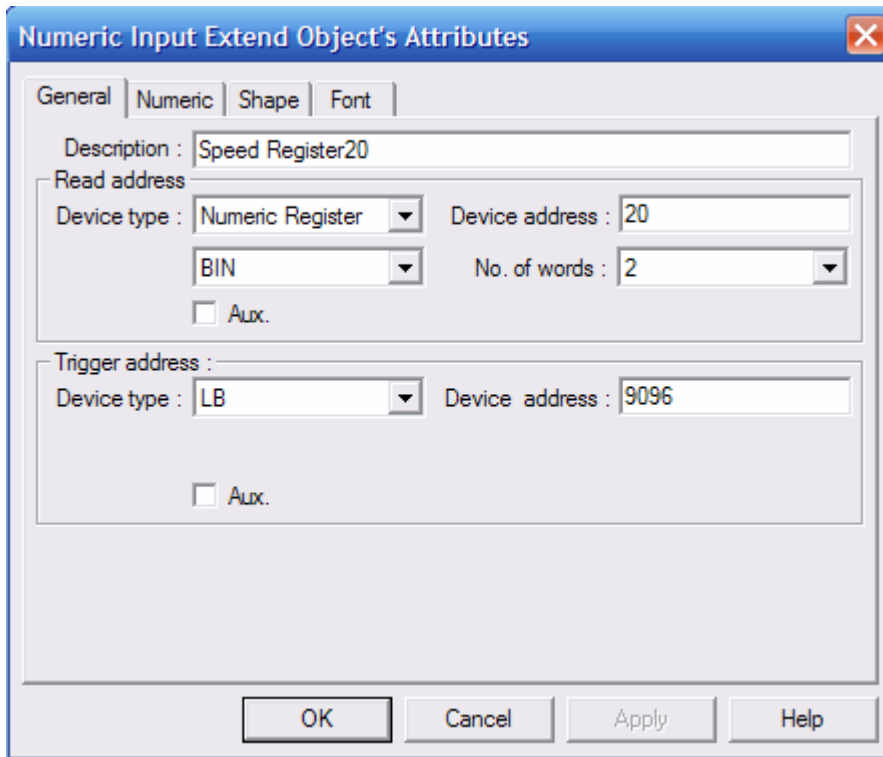
Using a Numeric Input Object with a Data Table Device type.

Under the *General Tab / No. of words*; When this is set to 1 the 16 bit word is a signed number. That is, storing a 65535 will display -1 and storing 32767 will display 32767. If this is set up for 2 words storing a 65535 will display 65536, however, if the limits on the Numeric Tab are set higher than 65535 and the number entered is larger than 65535 the data is sent in a 2 word format so that the MS 16 bit word is stored in the next column over and the remainder is stored in the initial device address (row/col)

To use the default keypad “popup” (screen 50 shown here):



- 1) The read address Device type should be set to Numeric Register. The Device address should be set to the register number you want to access in the CTC controller. This example is using the CTC Register number 20.
- 2) The Trigger address type should be set to LB. Use a device address of 9096 as shown on the next page.



To make a custom keypad “popup”, create a new base window from the “open window” selection in the “window” dropdown and place a keypad on the window from the “group” library. Then go back to the window the popup needs to show up on and create a “direct window” area and select the window number containing the keypad. Under device type select LB and under device address enter 9069. This local bit turns on when a data entry field is touched.

To make a numeric entry item visible select the trigger item to be an LB 9000. This is a system bit that is always set on.