

## Series 2601 Automation Kit

Full Featured, Ultra-compact Controller & Quickstep™SE



The 2601 Series Automation Kit provides virtually everything you need for a small automation project. Designed to introduce you to Control Technology Corporation's family of products, the kit features the following components:

- **2601 Automation Controller.** The 2601 is a high performance discrete automation controller, measuring only 3.25" x 6.0" x 1.0". It provides 16 digital inputs, 16 digital outputs, an integrated RS-232 port, 1000 storage registers, and can execute up to 28 simultaneous tasks using CTC's Quickstep State Language.
- **Quickstep™ for Windows™ SE.** The Quickstep for Windows programming environment allows Quickstep State Language programs to be developed under Microsoft Windows. Programs are developed rapidly using simple point & click mouse operations. The language provides a comprehensive collection of instructions for performing I/O functions, counter/flag management, register manipulations and other controller functions. Quickstep's unique step representation, along with support for symbolic names, greatly enhances program readability and minimizes debug time.

Diagnostics are performed from the MS Windows environment using the CTC Monitor Utility. This utility allows dynamic monitoring and manipulation of controller resources including register values, analog and digital I/O, and program status. The utility also provides DDE access to controller resources from MS Windows applications such as Excel.

This Special Edition version of Quickstep is designed to work only with the 2601 controller, but a coupon is included for a reduced price upgrade to a full Quickstep site license.

- **Distribution Blocks.** For connection to I/O, a pair of screw terminal distribution blocks are supplied with 3 foot ribbon cables.
- **Power Supply Cable.** A 3 foot cable is supplied to connect the controller to an external 24 Volt DC power supply (not included).
- **T-shirt and Golf Ball.** A Titleist golf ball (made with CTC controllers) and complimentary T-shirt have been included to use in the implementation time you'll save!



## Quickstep for Windows Software Requirements

### Recommended System Requirements:

- P75, 8.0 Mbytes RAM, 9.5 Mbytes of free disk space.
- 1024 x 768 or 800 x 600 SVGA display.
- Microsoft Windows 3.1 or higher.

### Minimum System Requirements:

- 486/33 MHz, 4.0 Mbytes RAM, 6.0 Mbytes of free disk space.
- Any Windows compatible display.
- Microsoft Windows 3.1 or higher.

### Additional Requirements:

In addition to the system requirements, you should have a basic knowledge of Microsoft Windows.

### Instructions Supported

Cancel other tasks  
Clear flag  
Count down  
Count up  
Delay  
Disable counter  
Do (multitasking)  
Done  
Enable counter  
Goto  
If  
Monitor (flags, inputs)  
Reset counter  
Rotate flags  
Set flag  
Shift flags  
Start counter  
Stop (controller)  
Store (data movement & math)  
Test and set flag

### For More Information

Further detailed information about the 2601 Automation Kit, Quickstep programming language or any other Control Technology product may be obtained from our staff of Systems Specialists. Call or email for additional information.

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Absolute Maximum Ratings	Min	Typ	Max	
Ambient temperature operating	0		50	°C
storage	-20		80	°C
Applied power supply voltage ( $V_{PS}$ )	18	24	27	VDC
Applied output voltage (Note 2)	0		$V_{PS}$	VDC
Output Current				
Single output			500	mA DC
Total limit (all outputs combined)			5	ADC

Specifications	Min	Typ	Max	
Current requirement ( $V_{PS} = 24 V$ )	50	100	210	mA
User memory capacity (10 year battery backed RAM)			24K	Bytes
Input off voltage ( $I_{in} = 0 mA$ )		$V_{PS}$		VDC
Input on current ( $V_{in} = 0 V$ , with $V_{PS} = 24 V$ )		-5.95	-7.00	mA DC
Input on current threshold ( $V_{PS} = 24 V$ )		-3.0	-3.5	mA DC
Input off current (typical leakage allowed)			-250.0	µA DC
Output on voltage ( $I_o = 500 mA$ )		0.6	1.2	VDC
Output off leakage (applied $V = 24 v$ )		1	100	µA DC

### Notes:

1. Under normal operation, no external input voltage should be applied - inputs should be externally switched to the input common.
2. An onboard protection diode returns to +24 V from each output.
3. All outputs are short circuit and over-current protected.
4. All power requirements are worst case, with all inputs and outputs activated.

### Typical Performance Characteristics

- Sense input, jump to new step, change output - 1 ms
- Perform multiplication (between volatile registers) - 1 ms
- Time delay duration:
  - 10 ms programmed - 11.0 ms
  - 1 sec programmed - 1.002 sec
- Internal count rate:
  - up to 3 inputs being counted - 500 Hz
  - 4 to 6 inputs being counted - 250 Hz
  - 7 to 9 inputs being counted - 166 Hz

**Note:** Performance characteristics shown are with one task running. RS-232 communications may degrade count rate by up to 10%.