Distech Controls’ EC-Program, a powerful line-by-line programming tool, simplifies BAS programming by providing users the tools necessary to complete the job. EC-Program is distinct in the controls industry because it combines a user-friendly interface with the power and flexibility of a code editor and compiler.

**EC-Program** is designed to program all Distech Controls’ programmable controllers.

EC-Program can be used by any LNS-based software such as Distech Controls’ Lonwatcher 3 or by a multi-protocol platform software supporting LonWORKS® devices such as Distech Controls’ EC-NetAX Pro powered by the Niagara AX® Framework.

EC-Program uses a unique and simplified version of BASIC that has been developed in-house and that is custom made to suit controls requirements. EC-Program uses several menu windows to help users stay organized and program their systems efficiently. The Basic Programming window is a standard code editor where users can enter their program aided by such tools as color-coded components and a reserved words list. The Internal Points window displays data holders (variables, constants, inputs and outputs) that are used in coding. The Built-In Functions window features important utilities (PID loops, logs, timers and optimum starts) that are often required in increasingly complex codes. The Network Variables window presents the NVIs and NVOs that can be used to monitor and create bindings to and from other controllers on the network. Finally, the Hardware Configuration window allows users to configure the sensors and equipment that are physically attached to a controller.

Furthermore, EC-Program possesses a code analyzer and compiler that allow users to troubleshoot syntax errors and execute their codes.

EC-Program supports powerful features that allow for lean, efficient and cost effective system design. Fan-in bindings help to reduce programming time by comparing several variables at once. Schedules can be used to save energy and resources. Many other features including a real-time clock, PID loops, logs, timers and optimum starts, make the EC-Program a complete BAS programming package.

Distech Controls’ quality management system is ISO 9001:2000 certified.

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1. See relevant controller datasheets for further details on which controllers support these features.
## General Product Specifications

### Inputs - Hardware

<table>
<thead>
<tr>
<th>Supported Types</th>
<th>Outputs - Hardware</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermistors: 10K Type II &amp; III, RTD 1K, PT100</td>
<td>Supported Types</td>
</tr>
<tr>
<td>Potentiometer: 10K, 100K</td>
<td>Voltage: 0-10VDC</td>
</tr>
<tr>
<td>Current: 0-20mA</td>
<td>Digital: Relay, Triac, 0-12VDC</td>
</tr>
<tr>
<td>Voltage: 0-10VDC</td>
<td>PWM</td>
</tr>
<tr>
<td>Digital: Maintained Contact, Pulse</td>
<td></td>
</tr>
</tbody>
</table>

### Constants & Variables

<table>
<thead>
<tr>
<th>Constants (Quantity)</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables (Quantity)</td>
<td>50</td>
</tr>
</tbody>
</table>

### Network Variables

<table>
<thead>
<tr>
<th>Quantity</th>
<th>18 NVI &amp; 18 NVO (Changeable type and length)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>Support all SNVTs and UNVTs of 1 and 2 bytes</td>
</tr>
<tr>
<td>Fan-In</td>
<td>2 (1 High &amp; Low Selection, 1 Weighted Average)</td>
</tr>
</tbody>
</table>

### Built-In Functions

<table>
<thead>
<tr>
<th>Schedules</th>
<th>4 Internal Schedules; 7 weekday &amp; 4 holiday templates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real-Time Clock</td>
<td>1 NVO (SNVT_time_stamp)</td>
</tr>
<tr>
<td>PID</td>
<td>10</td>
</tr>
<tr>
<td>Logs</td>
<td>24; 12288 events in total</td>
</tr>
<tr>
<td>Timers</td>
<td>15; Counts in seconds, minutes or hours up to 32767</td>
</tr>
<tr>
<td>Optimum Starts</td>
<td>4</td>
</tr>
</tbody>
</table>

1. See relevant controller datasheets for further details on which controllers support these features.
2. For temperature type inputs it is recommended that a 10KΩ thermistor be used due to better accuracy over the PT1000 or PT100.
3. May require programming for NV type conversion.

### Functional Profile Example (ECP-400 Series)

#### ECP-400/403/410/413

**Node Object Type #0**

- **Manufacturer Network Variables**
  - mOut1
  - mOut2

- **Optional Network Variables**
  - mOut1
  - mOut2

- **Configuration Properties**
  - Location (optional)
  - Device Major Version (optional)
  - Device Minor Version (optional)
  - Hardware Information

- **Manufacturer Configuration Properties**
  - Maximum Flood Time

**ECP-400/403/410/413 Hardware Input Object Type #1**

- **Configuration Properties**
  - mOut1
  - mOut2

**ECP-400/403/410/413 Hardware Output Object Type #3**

- **Configuration Properties**
  - mOut1
  - mOut2

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**ECP-400/403/410/413 Freestanding Object Type 20600**

**Configuration Properties (NV & NVO)**

- Network Variable Type
- Real-Time Clock
- 1 NVO (SNVT_time_stamp)
- Optimum Starts

**Configuration Properties (mFPP_ID & mFPP_F18)**

- Network Variable Type
- Maximum Flood Time
- Weight Average Maximum In/Off

**Configuration Properties (mFPP_ID & mFPP_F18)**

- Network Variable Type
- Maximum Flood Time
- Weight Average Maximum In/Off

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**Specifications subject to change without notice.**

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