

**DESCRIPTION**

The **GEFCO Select #EE140-11-ETH Series Programmable Fountain Controller** is a computerized switch board consisting of a combination of: CPU with ETHERNET port, D/I and D/O Modules including:

- Model #EE140-PM554\_ETH CPU : Master Unit, 8 inputs, 6 outputs.
- Model #EE140-DI561: 8 binary inputs.
- Model #EE140-DO561: 8 binary outputs.
- Model #EE140-AX561: 4 analog inputs + 2 analog outputs
- Model #EE140-AO561: 2 analog outputs, 0-10V and/or 4-20mA
- Model #EE140-TA562RS: COM2 module using RS485

The purpose in utilizing these controllers is to reduce the total amount of control devices such as water level monitors, wind control units, other programming devices and time delay relays and incorporate all these units into one especially for animated fountain projects.

These controllers feature backup on Flash or SD-Card memory without the need of a battery, 128 kB accessible memory open PLC architecture with timers, shift registers, markers and comparators as needed. Sub-routine programs like programmed valve & lighting sequences for display changes can be accomplished using a standard customized MICROSOFT EXCEL® spreadsheet programming method and transferred to the PLC on a standard commercially available SD Smart Card.

Basic function block programming occurs at the factory but can also be accomplished in the field with any laptop computer, an ETHERNET connection, a GEFCO Select #EE140-TK503 SERIAL CABLE and PLC knowledge. Back-up program storage is also available on a standard commercially available SD smart card. The system is designed to self boot after any power failure.

Following functions can be connected to these units:

**INPUTS to receive signals from:**

- Special Events Switches
- Automatic Backwash / Initiation Switches
- Water Level Control Sensors/ Switches
- Wind Sensors
- H-O-A Switches for Pumps and Lighting
- Low Pressure/ Vacuum Switches (Fountain & Filter Pumps)
- Low Flow Switches (Fountain and Filter Pumps)
- Program Override Switches
- Programmable Fountain Test Bridges
- Emergency Shut-off Switches

**OUTPUTS to control:**

- Fountain Pump Starters (START - STOP).
- Filter Pump Starters (START - STOP).
- Fountain Light Contactors (START - STOP).
- Automatic Filter Backwash.
- Wind control.
- Fill valve.
- Programmed Fountain Valves (AC only recommended).
- Programmed Lighting Contactors.

**TYPICAL SPECIFICATIONS:**

- \* **GEFCO Select #EE140-11 ETH** Programmable Controller
  - DIN - rail & stand-alone mounted.
  - Operating temperature: -20 to 60 deg.C.
  - XX ea. 24VDC digital inputs.
  - XX ea. digital (specify: relay or 24VDC) outputs.
  - XX ea. analog inputs.
  - XX ea. analog outputs
  - Max. input frequency on input 0: 30 kHz.
  - Mathematical functions including floating point math.
  - 1 ea. ETHERNET port
  - 1 ea. RS485 interface port.
  - 1 ea. sd card slot interface adaptor.
  - Interface w/ MICROSOFT EXCEL
  - cycle time for 1000 instructions: 1 ms.
  - programming: instruction set and ladder diagram.
  - max. connected load per output: 0.5A @ 24VDC
  - expandable to 128KB memory.
  - programming: all IEC61131.3 languages including: ladder, structured text, function block diagram, instruction list, sequential function charts and continuous function charts.

- \* **GEFCO Select #EE140-6** Program Storage card:
  - Master unit plug-in mounted.
  - read- write memory only.
  - 1 ea. 2 GB storage unit.

**OPTIONS:**

- \* **GEFCO Select #EE140-1410 MMI** Series Interface Panels
  - Function line types (inquire at Factory)
  - Graphics types (inquire at Factory)

**IMPORTANT NOTE:**

*The designers, installers and end users utilizing the electrical equipment described herein assume full responsibility for the compliance with the N.E.C and it's applicable articles, intents and consequences. Where the manufacturer and/or the supplier of the electrical equipment described herein does not control the application or usage, he assumes no responsibility whatsoever for any consequences arising out of the application, installation and/or usage of this or any other equipment and/or materials*

