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Single/Dual Loop Controller EC300

Connection to PC or PLC via
MODBUS(1:N) or ECBUS(N:N).



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Multi-Loop Controller LC500

The LC500 series controller is born out of the V-Series Integrated controller platform and repackages the functionality of the Model 1000 product into a 'DIN' size controller profile.

- 8 PID Loops (8- AO)
- 128 Analog Inputs
- 96 DI and 96 DO
- 7 additional Loop Displays
- Tosline S-20 or MC Bus Comms

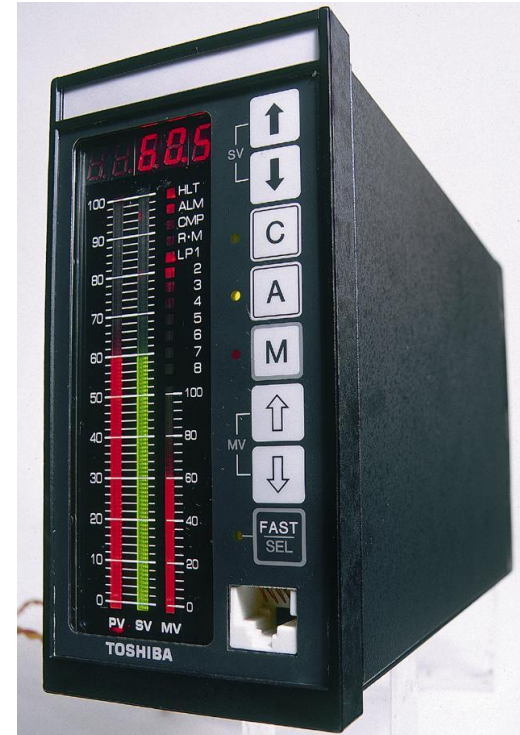


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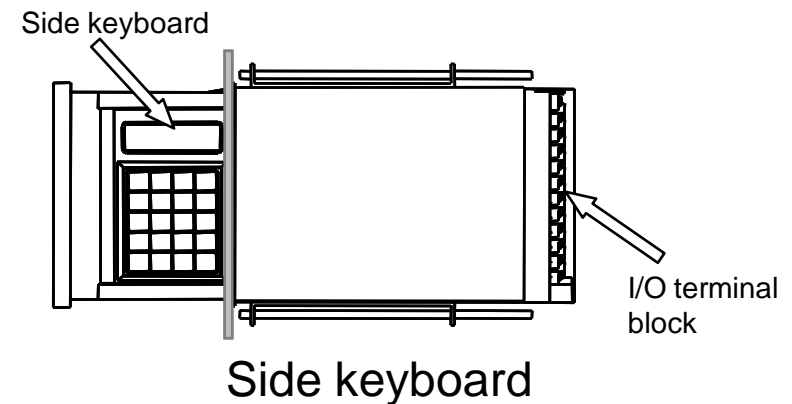
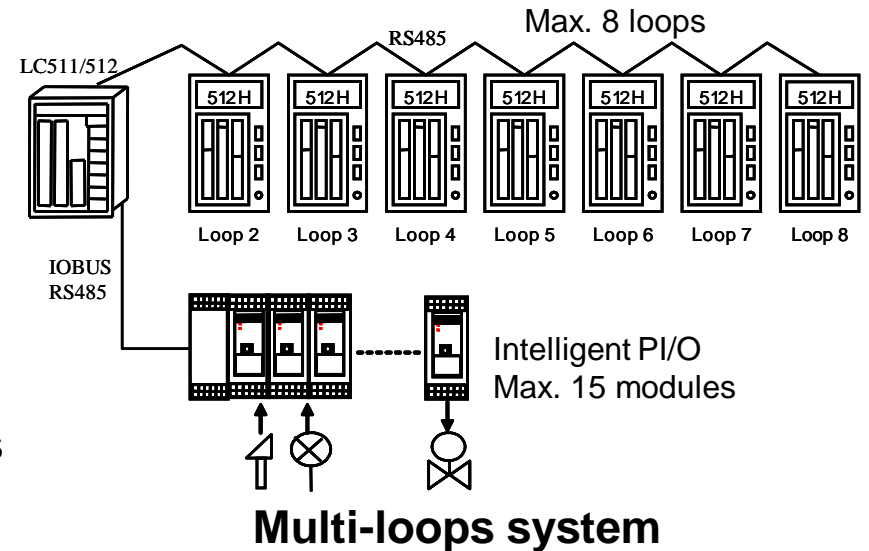
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New One-loop controller LC500

- A unified display function and Intelligent I/O based on model 1000
 - IEC61131-3 V-Series engineering tool
 - High-speed redundant optical loop TOSLINE-S20LP
- I/O:
 - Analog input: 4 points
 - Digital input: 3 points
 - MV output: 1 point
 - Analog output: 2 points
 - Digital output: 3 points



- **Flexible addition and integration of loops**
 - Max. 8 PID loop control
- **Multi-loops system**
 - Display unit and I/O can be extended
- **Side keyboard**
 - Parameter display and setup on the site
- **New Instrument Function Block and Model Driven - PID Control**
 - Supported



Micro-Size Series [model 1000]



- Up to 8 loops can be controlled
- Toshiba's exclusive 2-degree-of-freedom hyper PID is installed
- L1 module may be used for not only loop control but also sequence control
- I/O modules (LP01/LP02) equipped with I/O points corresponding to TOSDIC-215D to permit use as a one-loop controller

model 1000



- Connectable to TOSDIC-CIE series
Tag variables used in the Integrated Controller system
TOSDIC-CIE are available. Connection to OIS-DS SMART
serving as HMI through an Ethernet connection permits OIS
display and setting.
- Computer link port provided
An RS-485 port is provided for communication with a graphic
panel or higher-level computer through a computer link.

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model 1000



- 15 kinds of I/O - loop, analog, digital, pulse, etc. - are available.
- I/O modules can be connected to the terminal unit and mounted by DIN rails to maximize the use of space.
- I/O modules may be placed as desired within a range of 1 km, and be expanded to meet your needs. (15 modules maximum)

Loop Display Unit

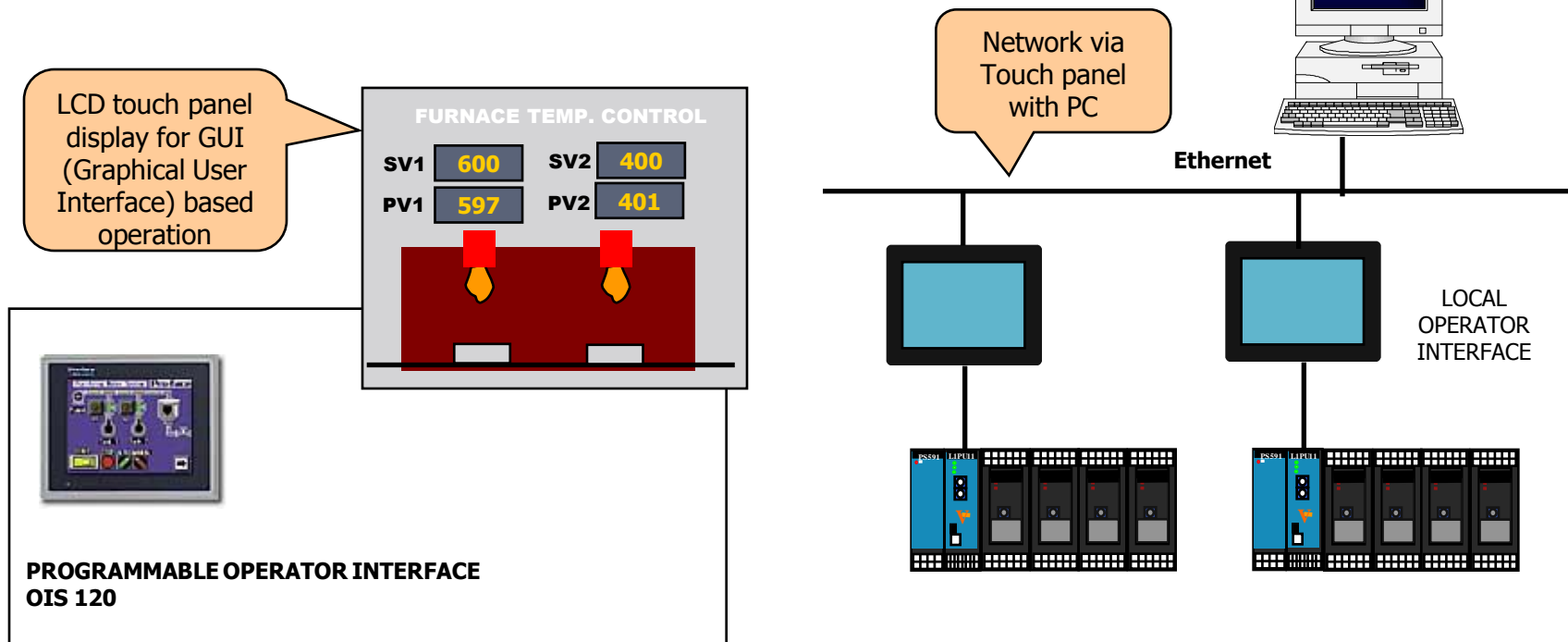
A loop display unit which displays information of PV, SV, MV for one loop and is used for selection of operation modes is available. It can monitor up to 8 loops by means of a loop switching function or multiple Loop Display Units may be connected by RS-485.



model 1000

Model 1000 with Touch Panel Graphic Display

- LCD Touch Panel for graphically aided operation
- Network among Graphic Display
- Integration with PC package

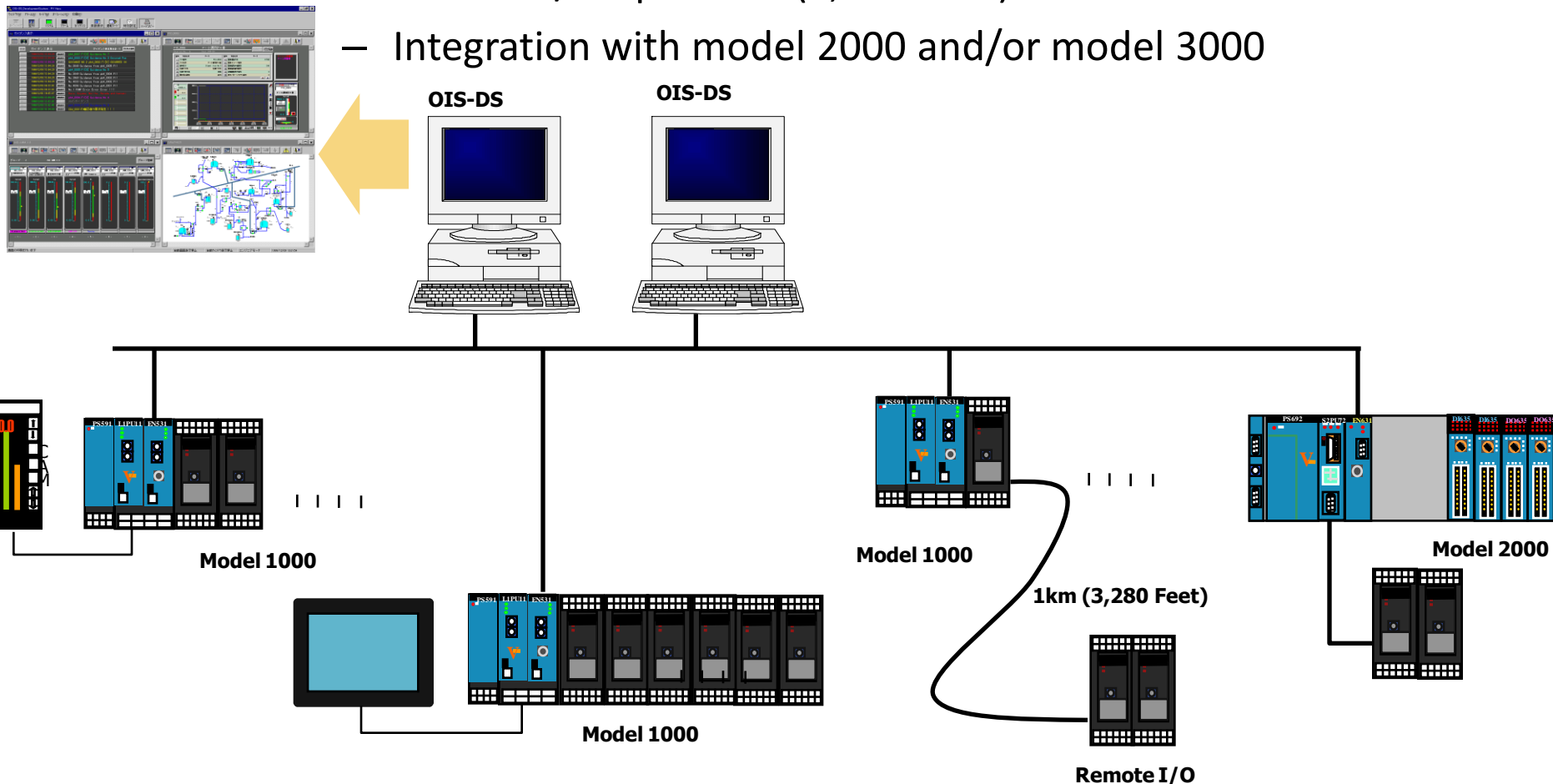


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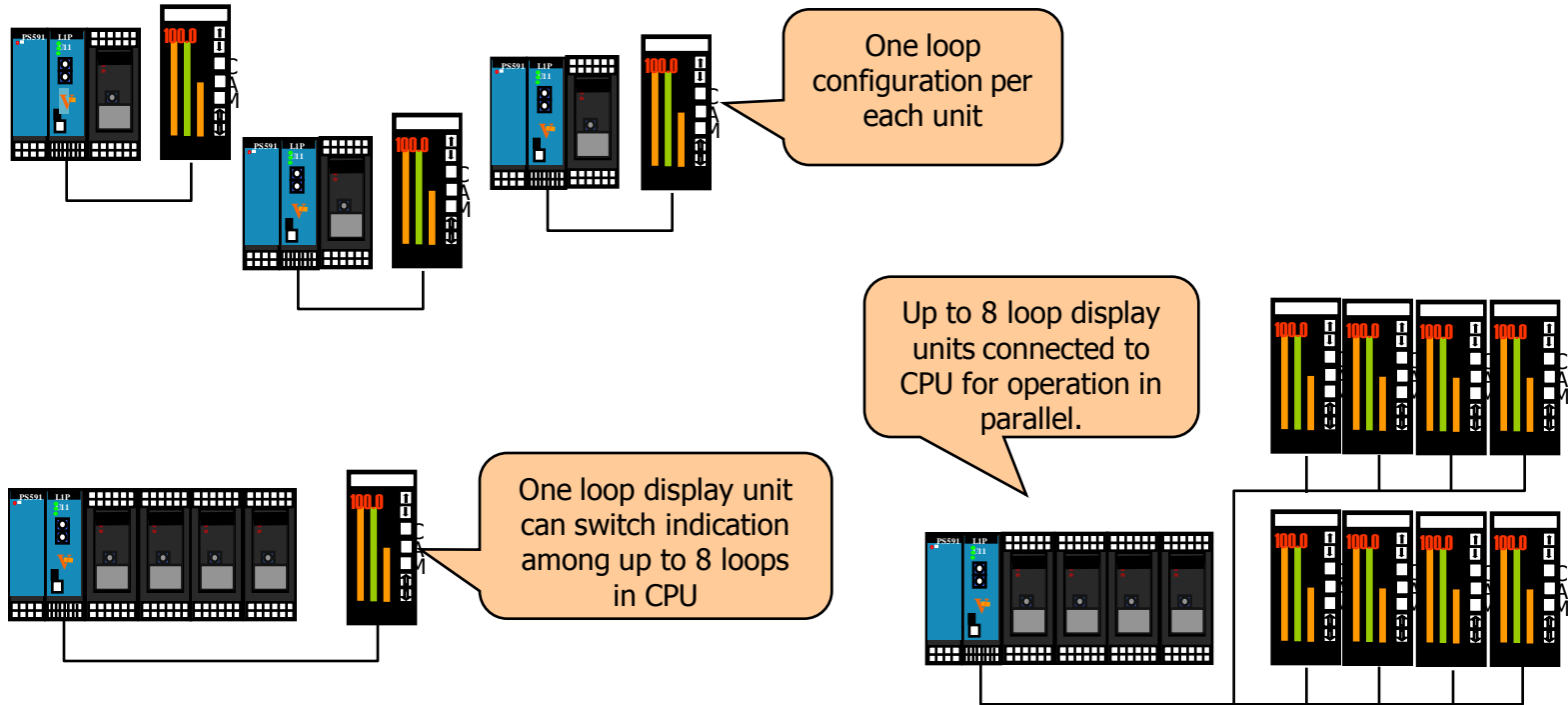
Model 1000 with Human Interface Integration

- OIS-DS Human Machine Interface
- Remote I/O up to 1km(3,280 Feet).
- Integration with model 2000 and/or model 3000



Model 1000 with Loop Display Interface

- Conventional panel-instrumentation-based operation
- One loop display shared by multiple loops



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Thermal Energy Corporation

Central Plant and Med Center



Thermal Energy Corporation

- Serving the Texas Medical Center for 30 years
- The largest District Energy Chilled Water System in the nation
- 80,000 Tons of Chilled Water Capacity
- 700,000 lbs/hr of Steam Capacity
- Over 30 Miles of underground distribution piping

Thermal Energy Corporation

- Installed DPCS with 246 operator interface approx. 1986.
- Field mounted control panels for boilers and chillers with 211D loop controllers.
- Updated Operator interface to OIS6000 in 1996.
- Begin adding EC321 loop controllers on the MC-Bus since 211D and 215D controllers were obsolete.
- In 2004, we installed V-series L2 in a new plant area.
- In 2006, we began replacing the loop controllers with the model 1000.
- By the end of this year all DPCS and Loop Controllers will be replaced by V-series.

Central Plant 211D/215D and EC-321 Controllers



Central Plant Chiller 10 (8000 ton York)



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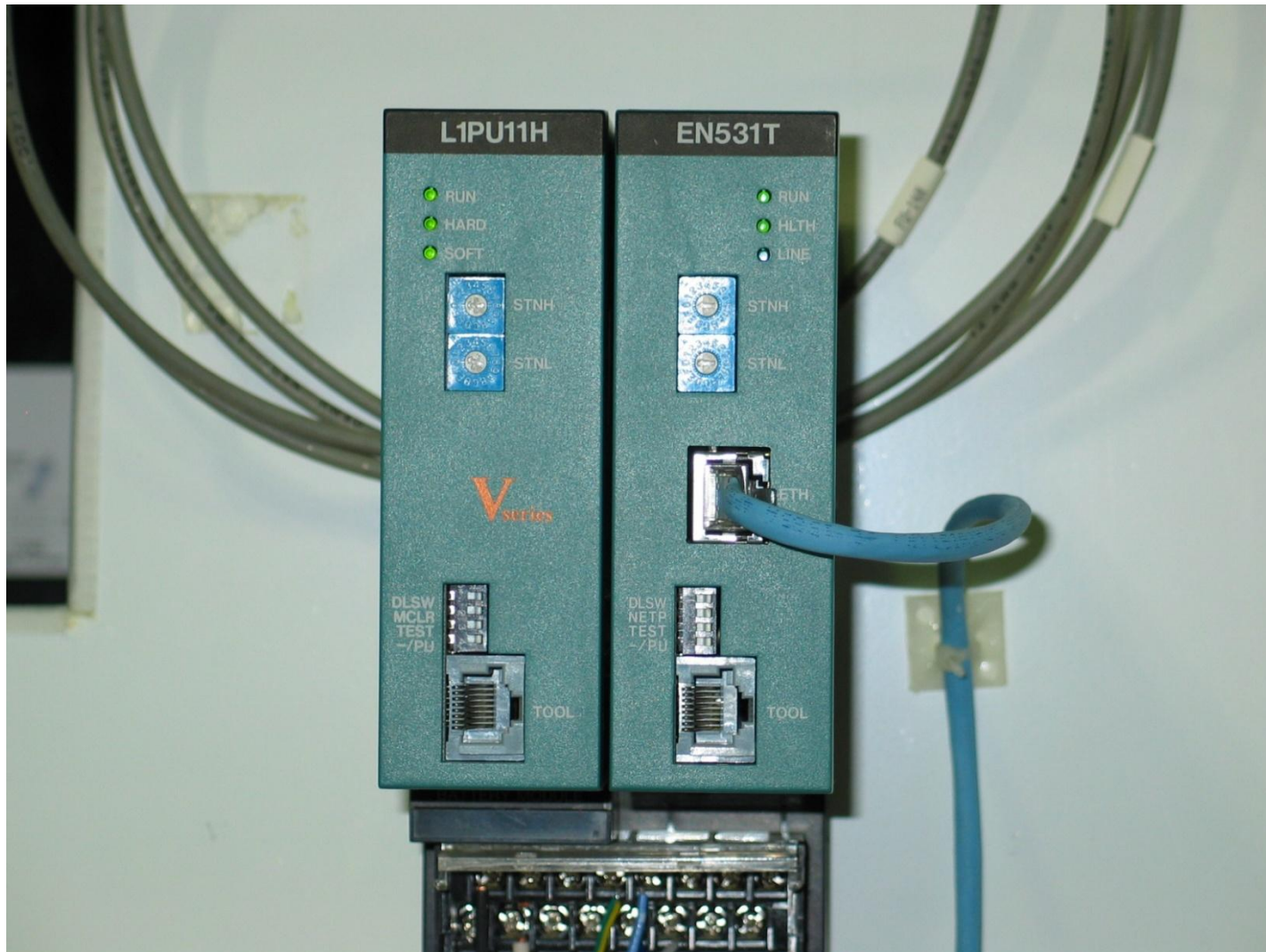
Central Plant 211D/215D Controllers



Central Plant Chiller 5 Control Panel



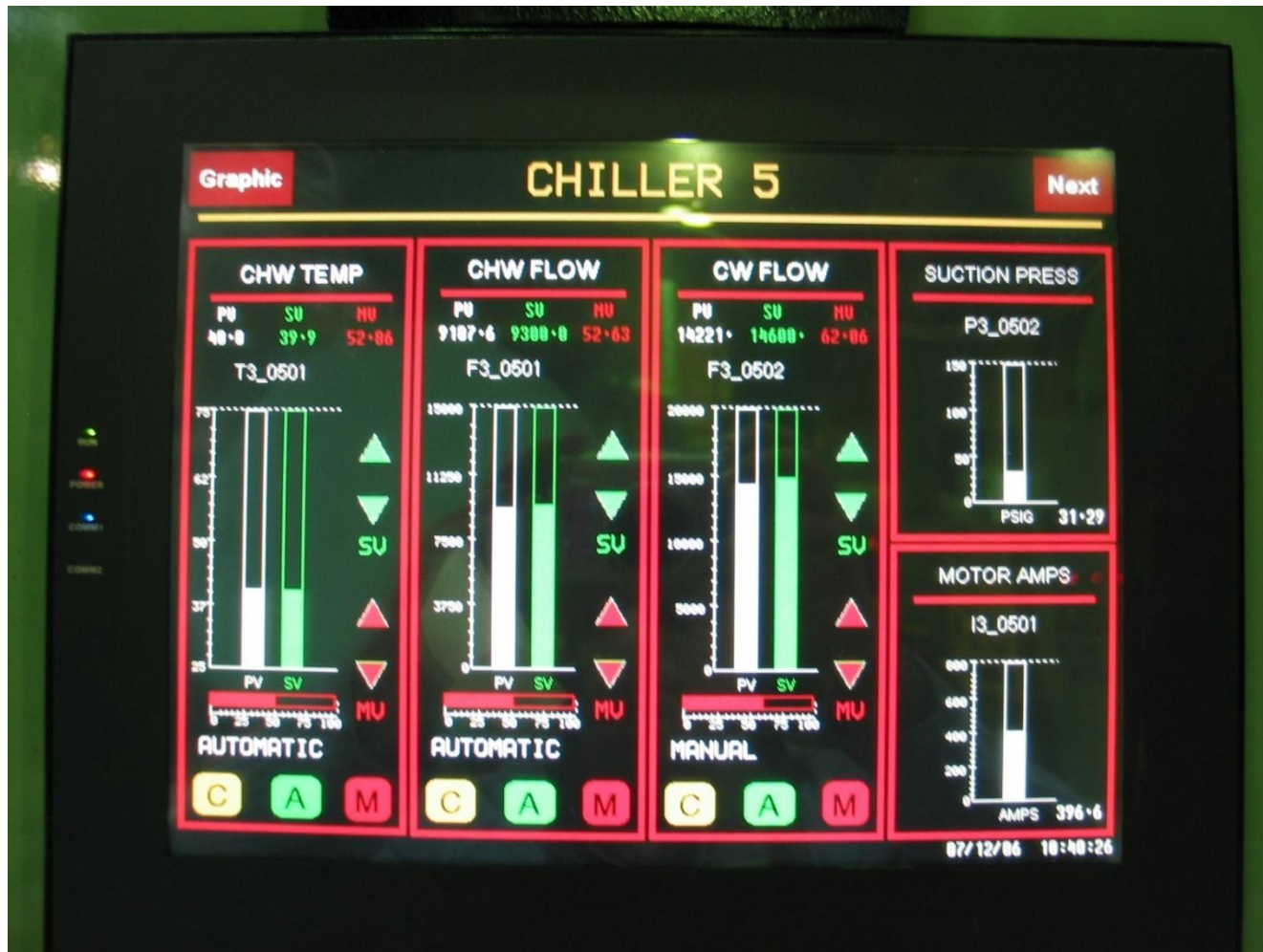
Central Plant Chiller-5 L1 Processor



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Central Plant Chiller-5 OIS-120 Display
Connected by RS-485 Computer Link



Central Plant Control Room



S.Main Plant Floor OIS

