

APPLICATION NOTE

An Alternative to the Moore 352PLUS™ & 353

OVERVIEW

Are you in the dilemma of retraining your instrument technicians and engineers since Moore Products has discontinued the Moore 352B & 352E? Are the Moore 352PLUS™ or 353 really your only choices? We have a better solution for you. Yokogawa's new US1000 digital PID loop controller provides more bang for the buck. Let's take a look at features of the US1000 to start.

- ◆ Large LED numerical and bar graph displays of the process variable (PV), set point value (SV) and manipulated variable (MV).
- ◆ Easy front panel configuration or use the Yokogawa LL1100 Configuration Tool or LL1200 Custom Computation Tool with your PC.
- ◆ IP65 front panel allows installation in harsh environments.
- ◆ The controller weighs less than 2 lbs. and the depth is only 7 inches. Same panel cut out as the Moore 352.
- ◆ Integral DC power supply for two-wire transmitters.
- ◆ Optional RS485 communications includes Modbus protocol. Any software package with Modbus capability can communicate with a network of US1000 controllers.
- ◆ Up to thirteen resident control strategies and custom computation capabilities.

The single loop US1000-00 has more versatility than the Moore 352B ever had.

Analog inputs:

- ◆ 1 isolated universal input (T/C, RTD, mV or VDC) used as the process variable (PV).



- ◆ 1 isolated auxiliary input (VDC) for remote set point, feed forward or tracking input.

Analog outputs:

- ◆ 1 universal output (voltage pulse or 0-20mADC/ 4-20mADC).
- ◆ 1 retransmission output (0-5VDC or 1-5VDC).

Discrete inputs

- ◆ Two dry contact inputs for Auto/Manual switching and pre-set output selection.

Discrete outputs

- ◆ Three contact outputs for PV high, high-high and low alarms using 115VAC relays rated at 1 amp resistive.

Transmitter power supply

- ◆ US1000 can provide a 25.5VDC power source for a two-wire transmitter.

Simple configuration

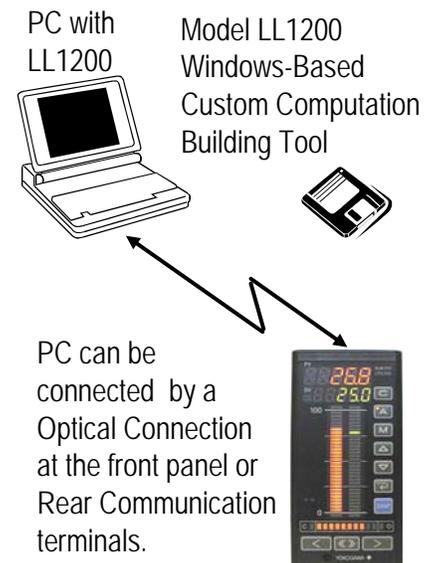
- ◆ US1000-00 is pre-configured for a 4-20mADC input and 4-20mADC output.
- ◆ Set the appropriate parameters to display engineering units,

alarm set points (if used) and initial PID settings and you are ready to go. You can perform front panel configuration or use the LL1100 Configuration Tool on your PC and download to the US1000-00 using our unique optical interface.

- ◆ On-board Auto Tune and Super Control (fuzzy logic) makes start up a breeze.
- ◆ Zone PID control allows different PID tuning parameters to be used throughout the input range.

Need more control functionality or input/output capability? The US1000-11 replaces the Moore 352E... at a much lower price than the Moore 352PLUS™ or 353.

Thirteen control strategies are available and you can develop your own control strategy using the LL1200 Custom Computation Tool. Up to 60 user defined function blocks can be linked for those unique math, logic and/or control applications.



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Dual loop control, single station cascade, ratio control, combustion control, mass flow computation, you name it.

Analog inputs

- ◆ Two universal inputs (T/C, RTD, mV or VDC) for process variable (PV) and one auxiliary VDC input for feed forward or remote set point input.

Analog outputs

- ◆ Two universal outputs (voltage pulse or 0-20/4-20mADC) and one VDC retransmission output.

Discrete inputs

- ◆ Seven unpowered or VDC discrete inputs are available.

Discrete outputs

- ◆ Seven discrete outputs, three 115VAC 1 amp relays and four solid state transistors rated at 30VDC and 200mADC.

Transmitter power supply

- ◆ US1000-11 can provide a 25.5VDC power source for two transmitters.

Let's talk about digital communications.

The US1000-00 or -11 can be supplied with an optional RS485 communication interface. PC-Link is a protocol developed by Yokogawa for communication to a PC. Modbus RTU or ASCII protocols may be selected during configuration. There is no need to be tied down to a proprietary protocol. Any software package with a Modbus driver can talk to the US1000 controllers. Up to 31 controllers can be connected to one communication port. Versatility is the key to connectivity and this protocol selection makes it easy.

SUMMARY

The US1000 is the newest process automation controller developed by Yokogawa. Universal inputs and outputs, multi-loop PID control capability and the custom computation option provides the power needed for most any process control application.

With the withdrawal of the Moore 352 B & E from production, are you, as a Moore Products user, forced to jump into the new configuration procedures required to implement the Moore 352PLUS™ or 353? Why not take a look at the newest control technology from Yokogawa, the US1000, with easy front panel setup and PC-based configuration tools.

We have a better control solution!

