

FB Series

FB900 / FB400 High Performance Controller

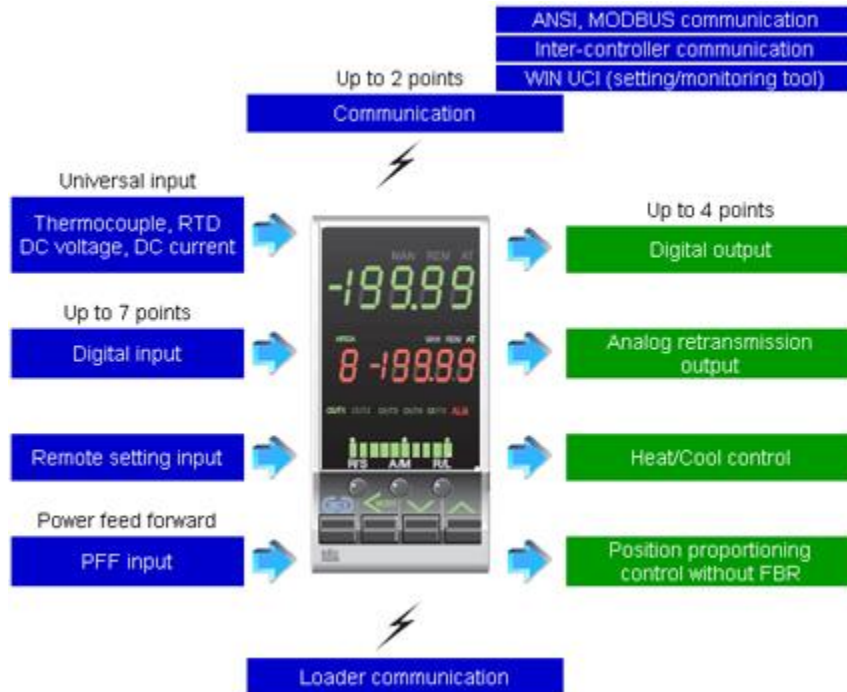
The FB Series is a high performance process controller with a more advanced Brilliant II PID, autotuning, advanced tuning, selectable sampling cycle time of 0.05 / 0.1 / 0.25 second and 0.1 % of accuracy in short depth housing.

60mm depth

The FB Series has very short depth as a 1/8 or 1/4 DIN size controller. The series was designed with a mounting bracket that allows close horizontal mounting of as many as six units.



The internal assembly of the FB Series can be removed from the front.



A More Advanced Brilliant II PID

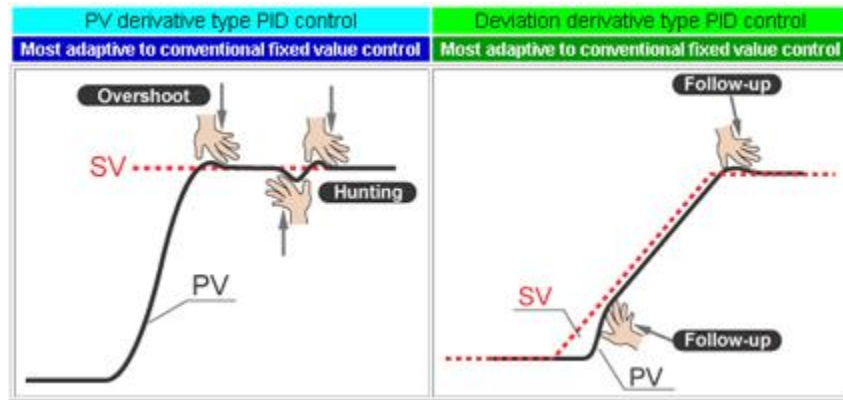
PV derivative type PID control and Deviation derivative type PID control

Selectable PID control algorithm

PID control algorithm is selectable in the FB Series to achieve the most precise control for various applications.

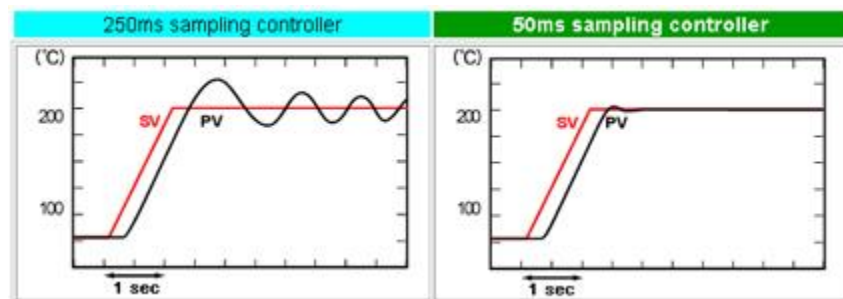
PV Derivative PID : suitable for fixed setpoint control (Factory setting)

Deviation Derivative PID : suitable for ramp control using ramp-to-setpoint function and cascade control.



Selectable sampling time among 50ms, 100ms, and 250ms.

Selectable sampling time makes the FB Series suitable for any application ranging from pressure control requiring fast response to precise control requiring highest resolution. The selections are 100ms (factory setting) usually suitable for most of standard applications, 50ms for fast response applications, and 250ms for precise control requiring high-resolution. The PID parameters can be set in 1/10 unit which supports fast and accurate control. Ramp-to-setpoint and output-change-limiter functions are each settable for UP and DOWN so that a special heater can be controlled precisely.



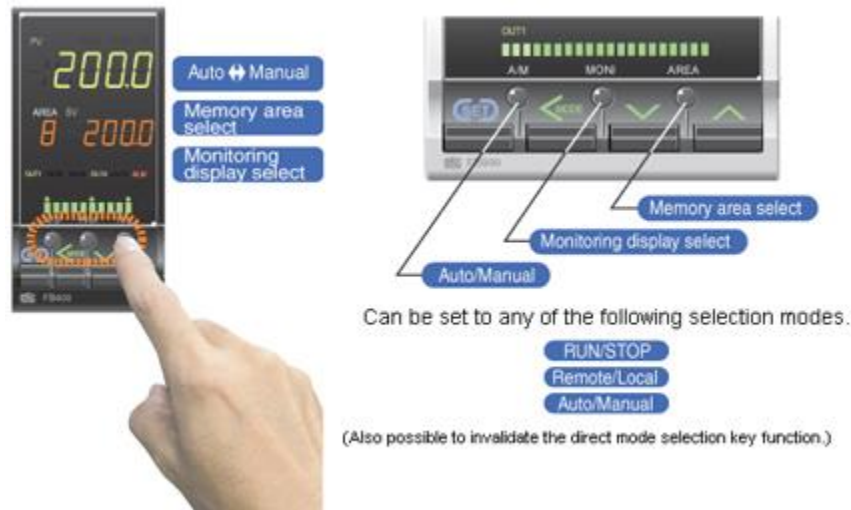
Advanced Heat/Cool PID algorithm with Undershoot Suppression

Advanced Heat/Cool PID algorithm achieves stable control by the Undershoot Suppression (USS) function, and independent P-I-D settings for both Heat and Cool which are effective for applications with strong cooling gain. Control Response type selection is settable to avoid

overshoot at start-up and against external disturbance. The FB Series also offers selection of water cool and air cool PID control algorithm.

Direct Function Keys

Three direct function keys enable one-touch operation on frequently used functions such as Auto/Manual, Monitoring display scroll, and Memory area selection. The keys can also be configured as RUN/STOP, Remote/Local, and Auto/Manual keys.



Large, Crystal Clear 5-Digit Display Unit

The FB Series features an easy-to-read 20mm height five digit display which can show a range between -19999 and 19999. (The display range varies depending on the input type.)



Bar Graph Display

The bar graph on the front panel can display control output value (factory setting), deviation between SV and PV, measured value, or CT1/CT2 input value. The FB900 bar graph display resolution is 20 LED segments and there are 10 LED segments for the FB400.



Inter-Controller Communication

The FB Series has a second communication port (COM2) for inter-controller communication. It

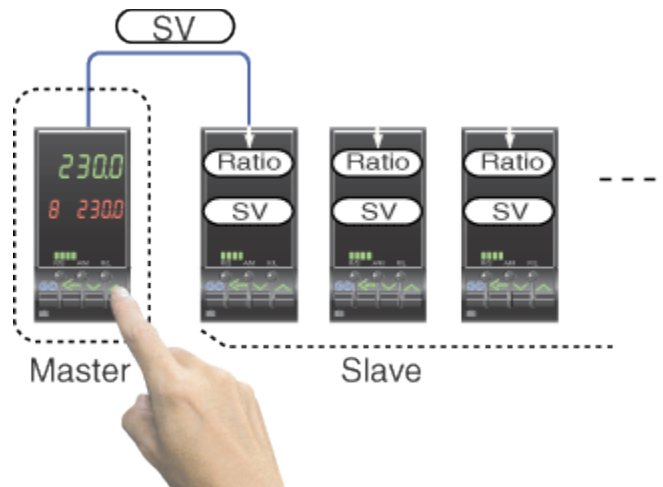
achieves more precise cascade control and ratio control by sending data via digital communication while conventional cascade controllers send data to slave controllers by analog signal with less resolution.



Temperature Ratio Setting

If the master controller changes the control set value, the slave controllers will also change the set values by following preset ratios to the master.

* Up to 32 controllers with 16 groups can be configured.



Cascade Control

It is effective when a thermal time-delay exists between the heat source and a control point. A maximum of 30 slave controllers can be connected to one master controller.

Group RUN/STOP Function

When RUN/STOP mode is changed on one controller in a group, the mode of all the other controllers in the same group will be also automatically changed.

*Up to 32 controllers with 16 groups can be configured.

