

# **YAMATAKE**

## **in Process Industries**

**Leading you to the next generation  
measurement and control paradigm**

**May 2003**

**International Business HQ  
Yamatake Corporation**

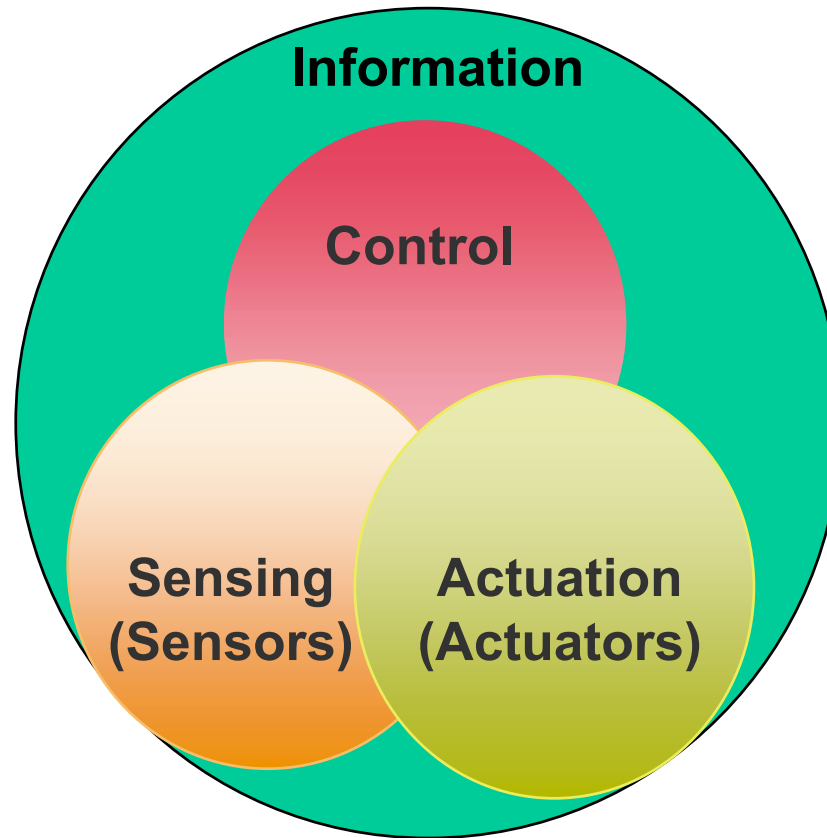
# Fieldbus Challenges

*Intelligent Field Devices and Digital Communication Technologies is changing Process Automation and Control System Architecture.*

**Tightly Coupled Elements**

- Sensing
- Control
- Actuation

**Autonomous Decentralized Architecture**



**Total Information Integration**

# Fieldbus Challenges

---

- **The Fieldbus should not be analyzed on any conventional system image. A narrow focus on things like communication chip cost and speed may miss the whole scope.**
- **Intelligent Field Devices and Digital Field Communication Technologies will Change The Future Process Automation Paradigm.**
- **The key technology areas are:**
  - **Intelligent Field Device Modeling**
  - **Digital Field Communication Specification**
  - **Application Modeling and Interoperability**
  - **Plant/Process Diagnostic Application**

# Fieldbus Enablers

## ■ Yamatake has developed Fieldbus Key Technologies

- Producing the High Quality Fieldbus Devices
- Providing High Quality of Integration Services
- Meeting Future Requirements (Flexible and Adaptable)



Fieldbus “Round-Card”



Fieldbus Power Supply

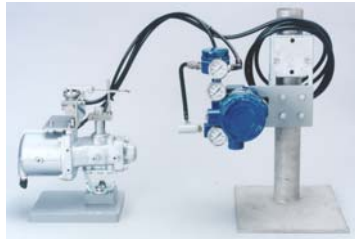


Communication LSI and Protocol Software



Fieldbus Interface Board

# Fieldbus Product Line



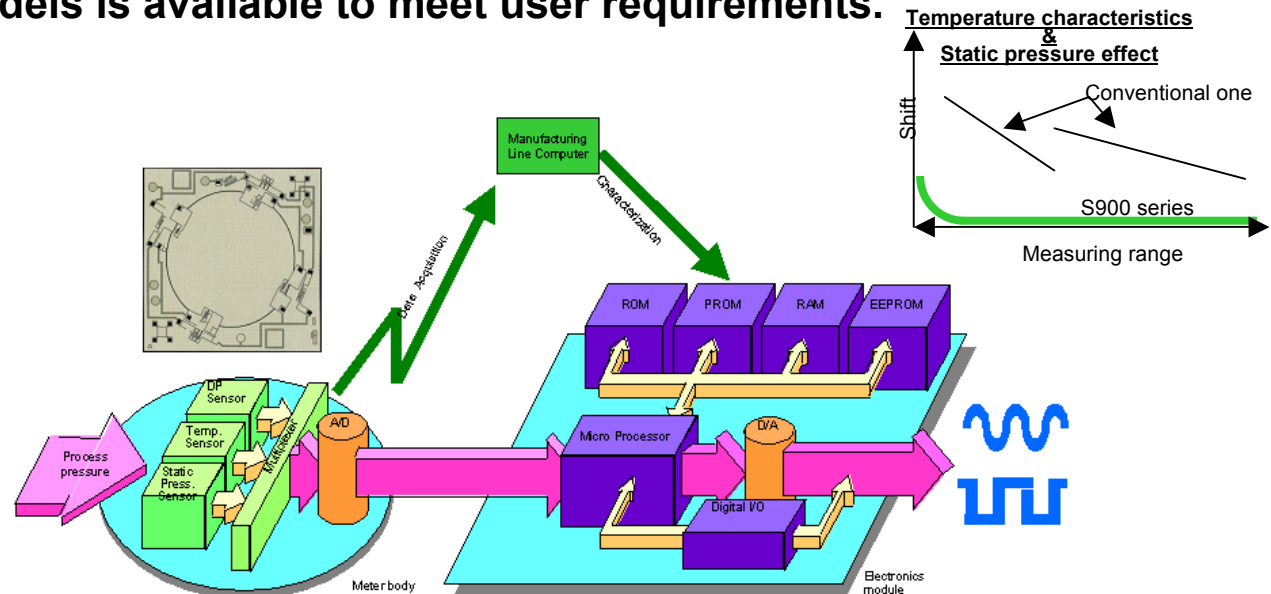
## Robustness & performance improved

- **ST3000**
  - Smart Pressure Transmitter
  - Differential Pressure Transmitter
- **MagneW Plus 3000**
  - Smart Magnetic Flowmeter
  - Smart Magnetic Flowmeter
  - “High Energy Noise Resistant”
- **SVP3000 Alphaplus**
  - Smart Valve Positioner
  - Smart Valve Positioner Remote
  - Smart Valve Positioner “SVD-type”
- **ATT3000 Themoplus**
  - Smart Temperature Transmitter
- **HGC303**
  - Heat value Gas Chromatograph



# ST3000 Series900

- Yamatake first introduced “Smart type” electric transmitters to the world in 1983.
  - Long term stability is proven in over 2,000,000 installations worldwide.
  - Composite semiconductor sensors and unique characterization realize excellent temperature and static pressure stability.
  - The S900 series has twice the accuracy of conventional one over a wide turndown. (Range-ability 1:135)
  - Either analog output(4 to 20mA), or digital output (DE protocol) is available.
    - HART protocol communication is available as an option.
  - A wide range of models is available to meet user requirements.



**YAMATAKE**

# ST3000 Series900

## ■ Type

- Fieldbus H1 bus powered device

## ■ Function Block

- AIx2, DIAG, PID, TB, RB

## ■ Explosion proof

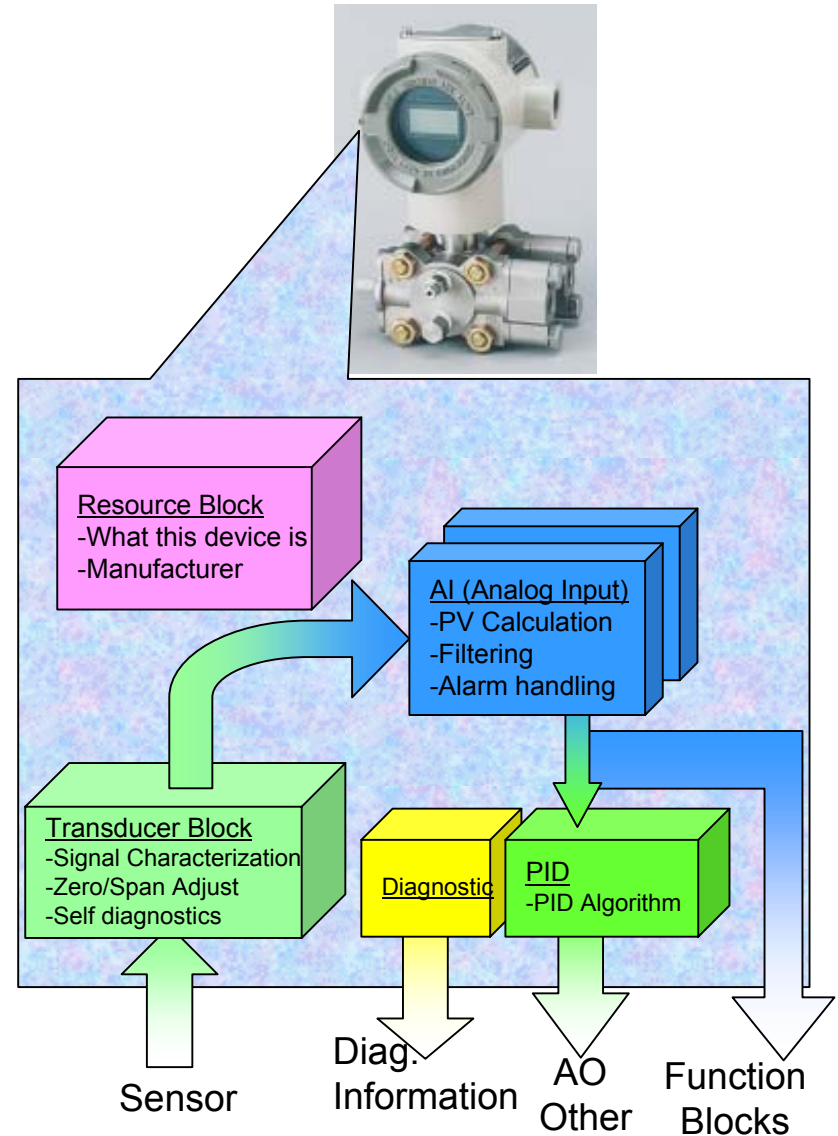
- JIS and FM

## ■ Intrinsic Safe

- FISCO(2003)

## ■ Interoperability

- Fieldbus Foundation ITK4.0 compliance



# MagneW Flowmeter

- **Suitable for measuring the flow rate of liquid and slurry**
  - Exclusive high quality lining technology and a special mirror finish PFA lining offer higher anti-adhesive performance than existing models.
  - Backlit smart indicator eases reading in direct sunlight or in a dark room.
  - Setting parameters is available by optional infrared touch panel.
  - Rotating display improves visibility of integral models mounted on pipes up to 90 degrees from standard.
  - Variety type of model is available to meet user requirements.



# MagneW Flowmeter

## ■ Type

- AC powered device with transformer coupling isolation

## ■ Function Block

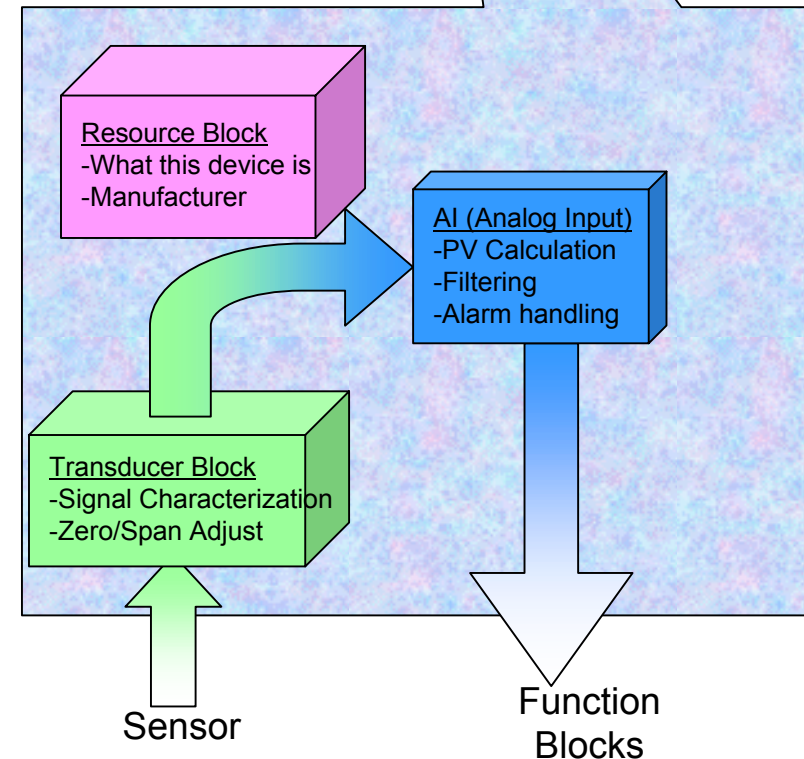
- AI, TB, RB

## ■ Explosion proof

- JIS and FM (Detector pipe)

## ■ Interoperability

- Fieldbus Foundation ITK4.0 Compliance



# Smart Valve Positioner

## ■ Yamatake is providing Smart Valve Positioner with being a specialist of Control Valves for 70 years.

- A fully automatic Auto-setup program is available
- using only a flat-head screwdriver.
- User-definable flow characteristics fits any pattern of line flow
- Function can be selectable through software configuration. →Possible to lower spare parts inventory
- Main parts, such as electronics board, EPM, travel sensor, and pilot, are modularized for easy maintenance and good for vibration.
  - Vibration capacity 2G, 5 to 400Hz for integral model and 10G, 2000Hz for remote model
- SVP can be mounted on practically any brand or make control valves.



# Smart Valve Positioner

## ■ Type

- Fieldbus H1 bus powered device 4-20mA input capable

## ■ Function Block

- AO, DIAG, PIDx2, TB, RB

## ■ Explosion proof

- JIS and FM

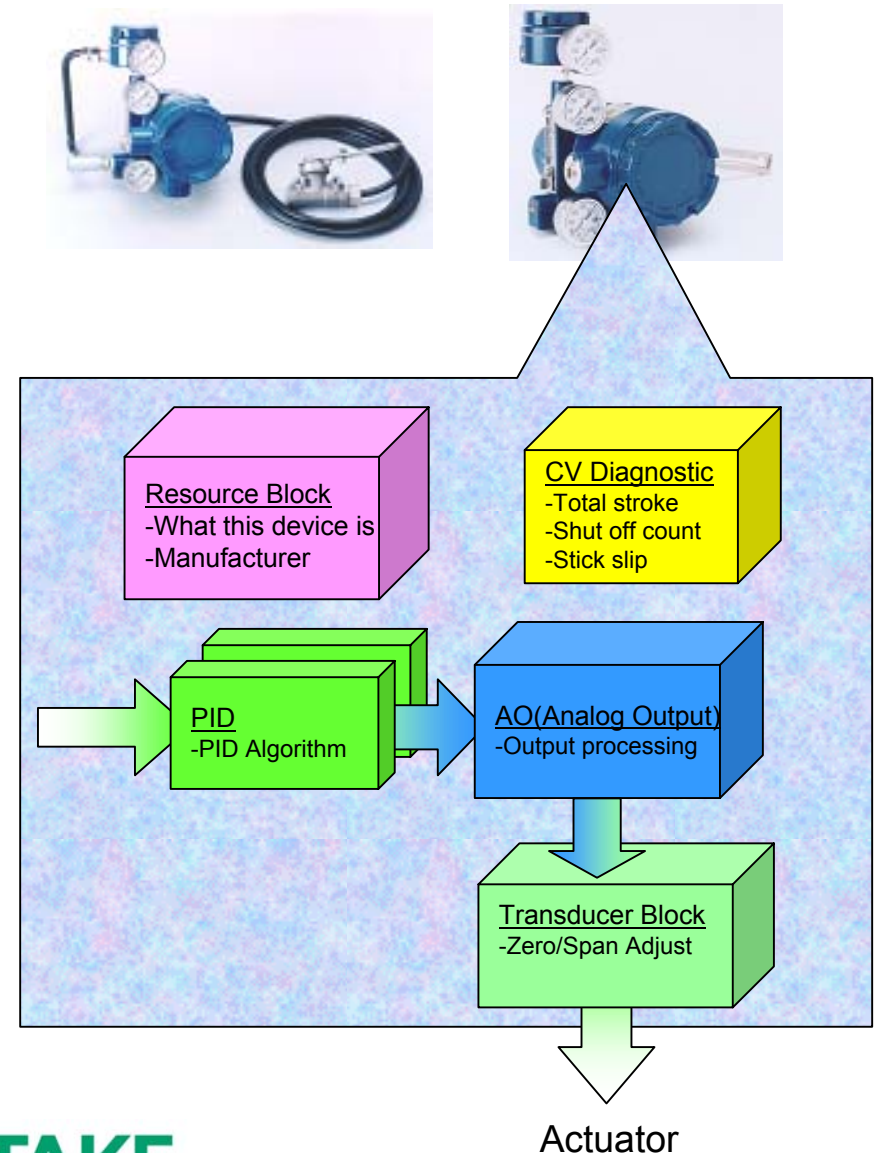
## ■ Intrinsic safe

- FISCO(2003)

## ■ Interoperability

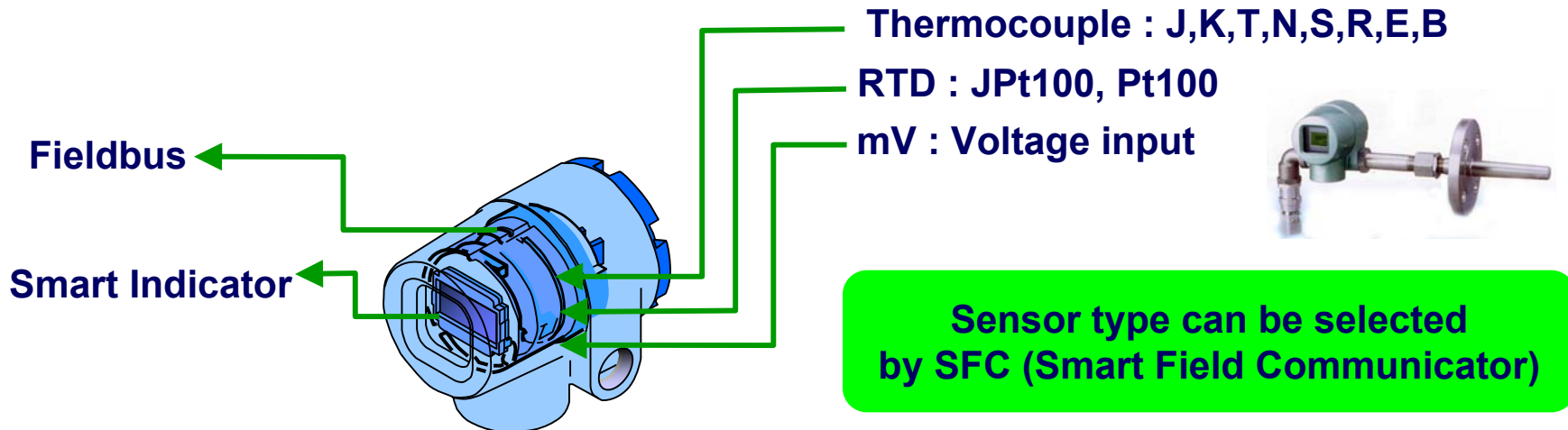
- Fieldbus Foundation ITK4.0 compliance

## ■ Remote model is available for highly vibrated installation



# ThermoPLUS (ATT)

- The ATT ThermoPLUS Temperature Transmitter is the smallest, lightest, full-function industrial temperature transmitter on the market.
  - ATT's 2-wire system requires no compensation wire or field cable.
  - ATT can receive any thermal sensors and apply to any temperature range.
    - Settings, adjustments and self-diagnosis can be done easily by SFC.
  - The most compact (80 x 80 x 80mm) and the lightest (900g) in the world.
  - Convenient integral digital indicator is available as optional allowing simultaneous field indication and signal transmission.



# ThermoPLUS (ATT)

## ■ Type

- Fieldbus H1 bus powered device

## ■ Function Block

- AIx3, PIDx2, IS, SCx2, DIAG, TB, RB

## ■ Explosion proof

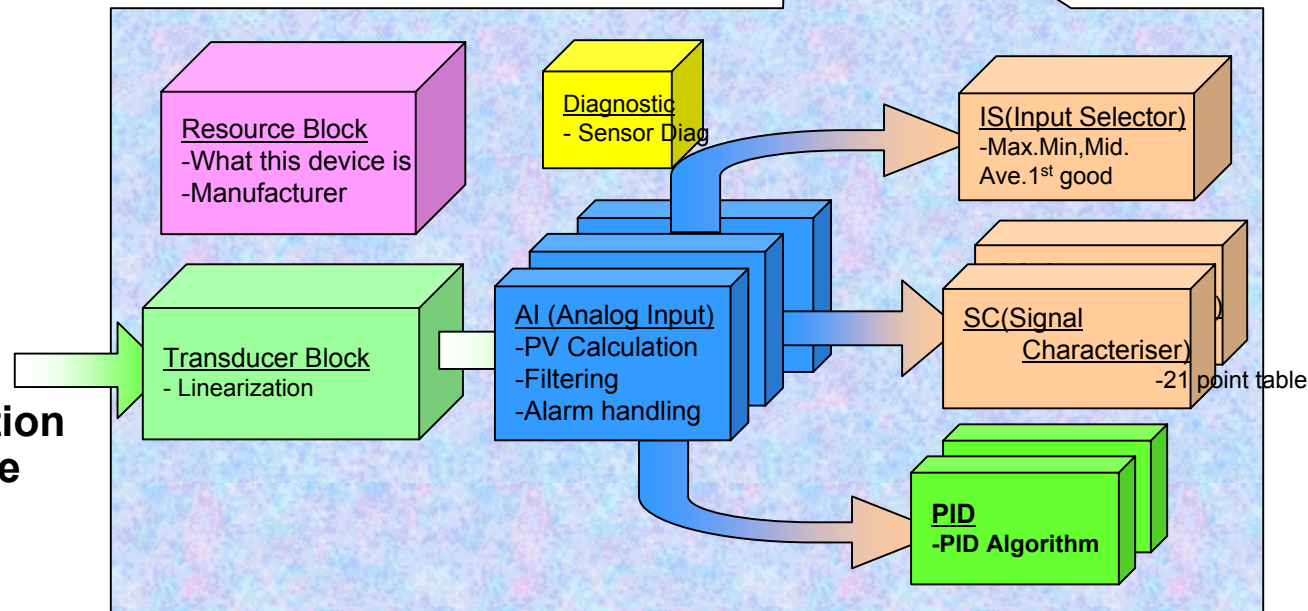
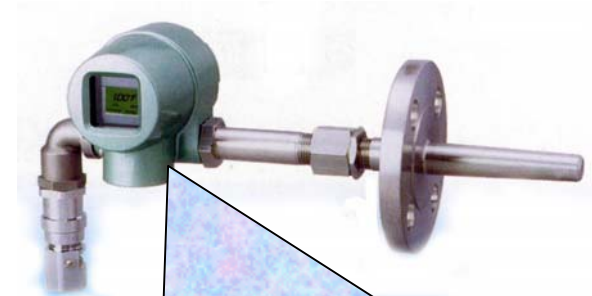
- JIS and FM

## ■ Intrinsic safe

- FISCO(2003)

## ■ Interoperability

- Fieldbus Foundation ITK4.0 compliance



# Commitment

---

## Contribution to Process Industries by;

- Feasibility study for modernizing plant operation.
- Renovation from conventional installations to “state-of-the-art” instrumentation.
- Industrial Automation Solutions for new projects based on the latest technology.
- Service & Support for FI/CV